

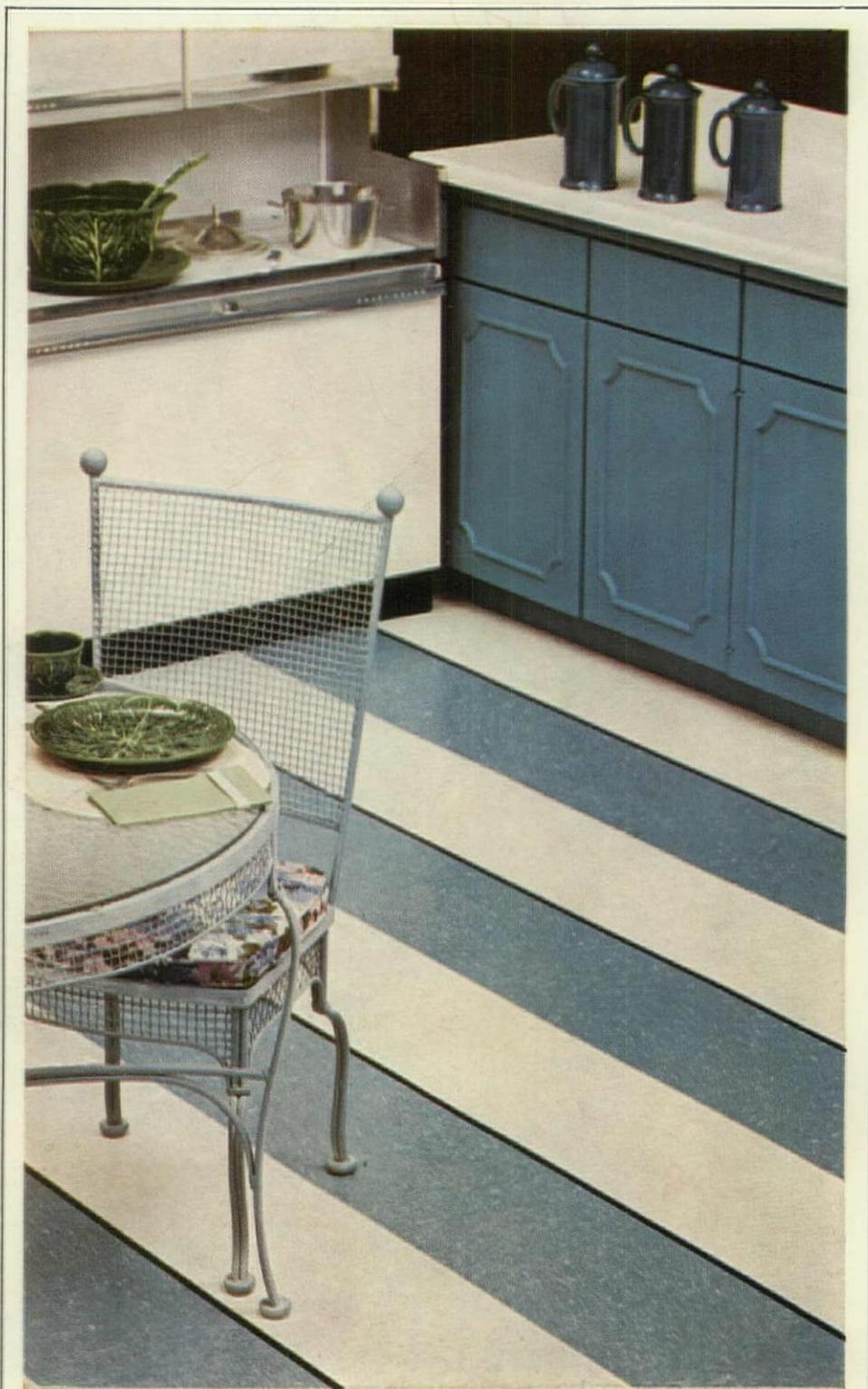
House & Home

MANAGEMENT PUBLICATION OF THE HOUSING INDUSTRY

MARCH 1966



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House & Home

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VOL. XXIX NO. 3

MARCH 1966

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It is designed to show building code officials that today's engineered structural products can drastically—and safely—reduce current framing requirements.

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SIMPSON

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WASHINGTON WIRE

Tighter money

The Fed's mid-February move toward more restrictive money policy provokes fear of a squeeze of near-crisis dimensions. Tight money becomes top national issue next to Viet Nam. Fed member banks' "minus" reserves dove from \$72 million to \$120 million in a week. Housing will now find money scarce—as well as more costly.

More GI house buyers

Some 3.5 million veterans are now eligible for VA loans. All with 180 days service since Jan. 31, 1955 qualify. But VA rate, still at 5¼%, may hold down loans now.

Now to site picketing

Labor lobbyists, smarting from last month's defeat in the fight to repeal Sec. 14b of the Taft-Hartley Act, are stepping up their pressure to get their "common situs" picketing bill approved; it would let unions strike multi-employer sites when only one union was aggrieved. Sen. Everett Dirksen (R., Ill.) talks of a filibuster on this bill, too, but prospects seem slim. Outlook: the bill is likely to be passed this year.

Busting Realtors' trust

Justice Dept. attorneys are considering the possibility of using antitrust laws to stop alleged racial discrimination by real estate boards in some areas. Expected allegation: conspiracy in restraint of trade to keep Negroes away from white neighborhoods, and exclusion of pro-integration real estate brokers. On another front, the Justice Dept. has filed its first suit against construction trade unions for alleged job bias in St. Louis. Named: The Building Trades Council, the Sheet Metal Workers, the Pipefitters, Electrical Workers and Plumbers.

New standards, or else—

The Commerce Dept. has given softwood lumbermen until Sept. 15 to devise new standards to end the green-vs.-dry lumber dispute. The old standards will be withdrawn on Sept. 15.

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1966 bargaining test: will the Johnson wage-price guideposts work for housing?

As Washington warmed with talk of inflationary threats last month, President Johnson's policy makers began hand-wringing over the most conspicuous wage-price guideline-breakers—the building trades unions.

The White House Economic Advisers discovered with cries of alarm what housing men have long known: building tradesmen have been winning hourly wage increases outrunning most other industries.

The increases have far exceeded the famed wage-price guidelines first formulated by advisers to the late President Kennedy. The guidelines pegged wage rises on productivity increases and were generally interpreted as justifying 3.2% yearly wage increases. But almost from the day they were formulated, the guidelines were used mainly as a springboard by building trade unions (see "Building Unions, 400,000 strong, stray from leash," H&H, June '62).

Fatter and fatter. Last year's pay hikes were well above other industries, the White House economic advisers reported last month. "Construction is clearly an industry that raises serious problems for wage-price stability," they noted.

Causes for concern: new pacts called for average 3.9% wage hikes last year, and increases negotiated in prior years boosted wages actually paid by 4.5%.

The economists blame these and "some possible widening of profit margins" for driving prices of finished residential construction upward by 3.3% last year.

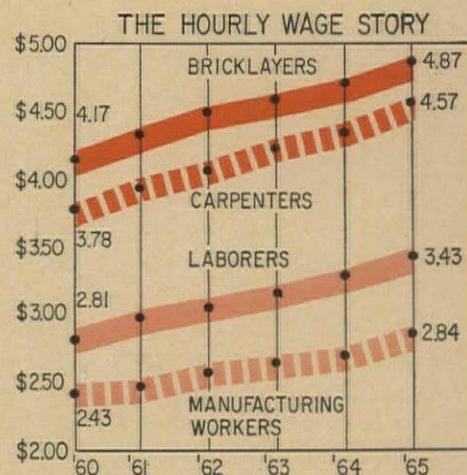
Gardner Ackley and his White House economists suggest three long-range cures: 1) better technology, 2) more craftsmen, provided by stepped-up apprentice programs and Negro entry into unions and 3) increased mobility of building labor through national pension and welfare plans that would let workers keep the same benefits when they shift jobs.

Tougher table manners. The crucial test of the wage-price guideposts for 1966 is just ahead, at the bargaining table. Twenty major labor contracts covering nearly 200,000 building tradesmen expire or carry wage reopeners this year, nearly all in April and June.

Labor Secretary Willard Wirtz asked President Johnson for first crack at trying to flatten the 1966 wage spiral for building. He talked with building trade union chiefs and asked Prof. John Dunlop of Harvard, an oft-used construction industry intermediary, for solutions.

But at mid-month Wirtz confessed he had no specific plans and indeed expected "strong opposition in particular cases."

Homebuilders and building contractors are generally trying to hold to the Administration's 3.2% wage rise limit in their bargaining, but are bitterly disappointed that the White House and Labor Dept. have not backed up contractors' tough words at the bargaining table.



SOARING WAGES of construction tradesmen compared to industrial rates draw Washington ire.

The case in point: New Jersey highway contractors have just given a 13% to 17.8% wage boost over three years to Operating Engineers Local 825 covering all of New Jersey. Large crane operators would make \$7.75 hourly under the pact.

The New Jersey Building Contractors' Assn., representing light construction contractors and some homebuilders, has refused to pay the inflated rate and instead called for a Presidential fact-finding investigation. The White House economists took advantage of a delay in signing the pact to summon the heavy contractors and unions to Washington for additional talks.

More is less. The New Jersey settlement is already being used in other cities to justify similar wage demands—demands falling within allowable limits according to labor's arithmetic.

How? In Chicago, operating engineers demanded a 7.1% increase; contractors offered 3.2%. But, said the union bargainers, a 7.1% hourly boost will only net engineers about 3.2% annually since they work an average seven months yearly. The engineers settled for 6.6% hourly.

The AFL-CIO has never agreed to the guideposts, and President George Meany is now publicly berating Johnson's economists for not lifting the figure to 3.6%.

Leverage. The heads of the national craft unions go one step further: even if they did support the guideposts, they say they cannot enforce them on independent locals, who do the actual negotiating. They control a hefty share of the labor supply for subcontractors (and thereby the prices quoted to all homebuilders using subs).

So far neither builders nor government has been able to match that leverage. The New Jersey contractors want Uncle Sam to enforce wage restraint by withholding funds for public construction and federally aided housing. Threat of withdrawal of the federal dollar rolled back a steel price increase, they point out; it could do the same for building.

LBJ kicks off a sweepstakes for housing innovation

The Depression-born notion that urban housing ills can be cured simply by lodging slum dwellers in new public housing and urban renewal projects died quietly during President Johnson's message on the cities last month. Bricks-and-mortar, yes, said the President, but only when buttressed by concentrated welfare aids and city services. The combination can make "1966 . . . the year of rebirth of American cities."

The Great Society blueprint for the cities and housing is no blueprint at all; it is a call for city officials and housing professionals—builders, architects, planners, developers—to reach to the outer limits of their imagination in devising new ways to improve housing.

The President does not promise federal bankrolling for vast tall new buildings, mass transit lines or utility lines; rather he calls for cities to do the grimy work of improving slum neighborhoods by concentrating spending and services there.

Competition, not handouts, is the new Johnson stance. A new bonus program of federal aid will go only to 60 or 70 "demonstration cities" of various sizes whose officials and citizens can present the best plans for improving housing. The chosen 70 may receive an average of \$30 to \$40 million each over six years, or a total of \$2.3 billion. Other cities will con-

tinue to receive regular renewal and public housing aid under existing programs. Still others will get money to show how metropolitan planning can improve suburban growth.

The pendulum has swung back to housing. For 15 years, federal officials pushed downtown urban renewal which produced gleaming centers like Constitution Plaza in Hartford; now federal efforts will concentrate on housing, particularly for low- and moderate-income families.

To enter the sweepstakes, cities must aim at upgrading 10% to 20% of their substandard units, using a combination of physical improvement and social programs to aid residents. For a city of 100,000 population, this could mean 3,000 rehabilitated units and 1,000 new units to rehouse families from razed buildings.

Some 1965 Housing Act innovations like rent supplements and instant public housing—both of which sprang from federally financed small-scale demonstrations—are already being used piecemeal. The housing men and city leaders who find ways to bundle such innovations into a meaningful whole, drawing on nonhousing programs from antipoverty to waste disposal, will win the accolade of "demonstration city" for their metropolis. Below and on p. 8 are some possibilities.

For near-slums: new ways to break the bottlenecks in fixup

While demonstration cities may pick any methods they please to upgrade neighborhoods, President Johnson left no doubt he expects rehabilitation of existing dwellings to produce the biggest number of units. Yet renovation is housing's problem child.

The Administration is counting on the Public Housing Administration to supply the cash to develop two new concepts for rehabilitation enacted in the 1965 laws:

- **Leasing.** Local public housing agencies have asked PHA for authority to lease roughly 10,000 existing units; more than a thousand commitments have already been made.

- **Renovation.** More than 2,000 existing units have been purchased—or committed for purchase—for modernization since last summer.

Leasing route. The lease plan, originally included in the 1965 Act as Rep. William Widnall's (R., N.J.) "rent certificate" program to distinguish it from the Administration's rent-supplement scheme, lets local housing agencies contract with landlords to rent units to poor families.

PHA encourages local agencies to deal with landlords who are willing to upgrade their housing units to code standards. "Such an approach has the dual advantage of adding to the effective supply of decent housing and upgrading neighborhoods," PHA says. But PHA warns that slumlords who view the leases as a bailout bonanza are in for surprises.

To guard against an inflationary effect, PHA will not lease units if the program would "reduce a vacancy rate to less than 3% for any unit size." One exception: "A critical immediate need for relocation

housing" could justify leases.

So far, roughly 1,000 units have been committed by PHA. Washington, D.C., received commitments on 350 single-family row-house units, including 50 that had been test projects prior to the new law. New Haven, Conn., got commitments for 100 three-family walk-up units.

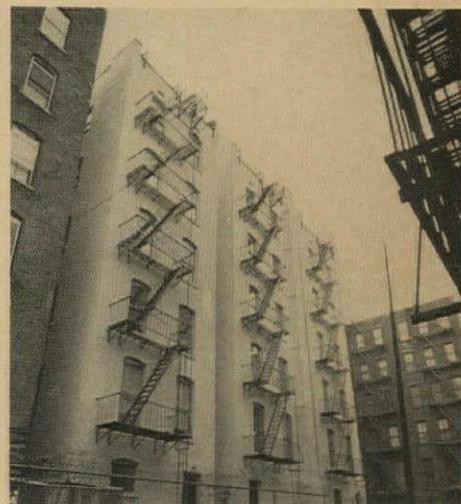
Buy and rehab. Or cities could have their public housers buy renovated units.

PHA particularly urges local agencies to contract with homebuilders to buy houses the builders have renovated (NEWS, Dec.). Builders would buy houses on the open market (they must reveal the purchase price), repair them and resell them to public housing.

Under the new plan, PHA has given local agencies authority to buy nearly 2,000 units, some of which are FHA-defaulted housing. Biggest single authorization is for Oklahoma City, where 1,100 units are tentatively approved. Most of them involve rehabilitation.

Using these two plans, PHA may produce 100,000 units of instant public housing in four years—all done with conventional construction methods.

Blue-sky rehab. Other FHA and renewal experts are tinkering with some far-out methods. In New York City, the city's Rent and Rehabilitation Administration and a private Community Improvement Corp. of Manhattan are trying to renovate 450 slum tenements in a single block on W. 114th St.—without displacing a single tenant. The delicate operation—buildings are emptied as normal vacancies occur—has yielded three sparkling refurbished structures (see photo) and eight others



NEW YORK TENEMENTS on W. 114th St. were renovated without moving families from block. Neighboring buildings will be improved.

are currently under construction.

On Manhattan's lower East Side, the Carol W. Haussamen Foundation hopes to refurbish a five-story tenement in 48 hours. A 10' x 10' hole will be cut in the roof of a five-story tenement and in each floor below. Then prefinished material packages will be lowered to each floor by crane, saving countless man-hours of delivery through narrow stairways. Finally 10' x 10' plumbing cores with new baths and kitchens will be lowered through the roof and installed on each floor.

Says President Johnson pointedly: "Neither the structure of real estate taxation, cumbersome building codes, nor inefficient building practices" should deter the rehabilitation program.

For cities: new ways to take slums out of slum-dwellers

President Johnson called for cities to demonstrate not only physical improvement of housing (see p. 6) but also social upgrading of residents. Cities "must make use of every available social program . . . New opportunities for work training must be offered," said the President.

Much of this work will be done by public welfare agencies and antipoverty programs. But the Johnson Administration is stressing involvement of private nonprofit and limited-dividend corporations to build and rehabilitate a good share of the housing provided by "demonstration cities."

It is this intimate intertwining of housing and social work that is causing some new headaches, notably in Sec. 221d3 sub-market interest rate projects for middle-income families.

Hardware-vs.-software. Managing d3 projects isn't much different from taking care of luxury apartments, says C. Franklin Daniels, FHA's Assistant Commissioner for multi-family housing.

"It's not as easy, perhaps," he says, "But the income levels are such that you're not dealing with problem families." He points to FHA's insistence that recreational facilities be provided as one example of how

the government is aware of management problems.

But the social services—"software" in Washington's vernacular—are more likely to be required for rent supplement projects, Daniels says, since the income levels are commensurate with those of public housing. (Congress is expected to provide \$30 million for rent supplements shortly). "We'll be making sure the community provides social services," he adds.

Not so easy. Some housing execs involved in developing d3s feel the social problems involved in management are deeper than those showing on the surface.

John Vaughn, Executive Director of Citizens for Better Housing, a Washington group designed specifically to foster and encourage nonprofit groups to sponsor d3s, points to FHA's rent-supplement regulations.

"They're fine for an insurance company, and that's what FHA is, but you've got to say more than just turn over management of a rent-supplement project to a management company." FHA's regulations suggest the sponsor should hire a "management organization which is capable of dealing effectively with the type of problems likely

to arise," but adds no explanation.

To illustrate his point, Vaughn recalls that a new tenant in a Washington d3 project had to be given specific advice on limiting the size of her family. Otherwise, he explains, project managers feared overcrowding the apartment.

Foundation aid. Builders and nonprofit groups wishing to innovate in this field may be able to tap some new pools of foundation money.

The huge Ford Foundation a year ago granted \$2,250,000 to Action Inc. (now Urban America Inc., NEWS, Feb.) to aid local nonprofit groups in organizing and building new housing. Ford has also helped Action-Housing Inc., a local group in Pittsburgh, provide so-called "urban extension" services in three neighborhoods.

In New York City, the Lavanburg Foundation has joined with public housing agencies and middle-income builders to provide a socially mixed community in the South Bronx.

In Boston, the Permanent Charity Fund Inc., joined with settlement houses and the federal government to help rehabilitate dwellings and provide social services for neighborhood residents.

For suburbs: new towns and new power for planners

President Johnson has renewed his pitch for new-town legislation—but at press time he still hadn't sent the legislative draft to Congress.

The new proposal is expected to be last year's concept warmed over.

In resuming his fight for the new-town law, Johnson re-committed his Administration to the goal of economic mixing within any new towns.

"We must . . . offer a variety of homes to a wide range of incomes," he said. "We must make possible new efficiencies in construction, land development and municipal services."

Indirectly, Johnson praised the efforts of such developers as Robert Simon and

James Rouse. Some new communities, the President said, "already in existence, promise dramatic efficiencies through size and new construction techniques, without sacrificing beauty."

"Obviously such a development should be encouraged."

Johnson made his commitment on the premise that existing cities, even when improved by "demonstrations," "cannot accommodate all the urban Americans of the next generation."

Planning power. The President proposed that several metropolitan regions demonstrate how effective planning can improve the character of suburban growth.

In recent years the federal government

has poured \$115 million into planning grants for states and local agencies. But "efficiencies from metropolitan planning are still unrealized in most urban regions," said the President. Reason: most regional planners are powerless to carry out their plans. Hence demonstrators will have to devise "new arrangements for coordinating decisions of local governments."

The experiments are likely to center on zoning, the major power to enforce or destroy an abstract plan. One arm of federal government, the Advisory Commission on Intergovernmental Relations, is already urging state legislatures to curb the zoning power of small cities and townships within metropolitan areas.

And for those who stay on the farm: color-coded prefabs

Part of the Johnson Administration's effort to provide housing for the poor is coming from an agency not usually concerned with housing: the Office of Economic Opportunity.

OEO has sponsored part of the Harlem 114th street rehabilitation project (see p. 6), is fostering nonprofit groups to build Sec. 221d3 housing in urban areas and is innovating in housing for rural areas.

OEO's pet project is a panelized, low-priced house designed by Berea College experts for initial use in eastern Kentucky. Six houses built so far cost \$5,400 to \$6,000, including septic tank and well, but minus lot.

Each house was erected in 15 days by one supervisor and four unskilled laborers.

The five-man crew used a color-coded jig, designed by Prof. Rudy Osolnik, to cut and build wall panels at the site.

But even these low-priced houses faced buyer resistance. Of 41 qualified low-income prospects interviewed by OEO, only seven said they would be willing to buy.

"They were suspicious," says OEO's housing expert, Al Walsh.

Walsh sees three major tasks for builders: 1) to mobilize the poor themselves to help assemble color-coded housing components; 2) to increase demand through selling efforts aimed at allaying suspicions; 3) to educate prospective owners to the benefits of conveniences like plumbing.

Says Walsh: "Builders may have to start acting like social workers."



EXPERIMENTAL HOUSE in Kentucky was built by four unskilled workmen with color coded jigs.

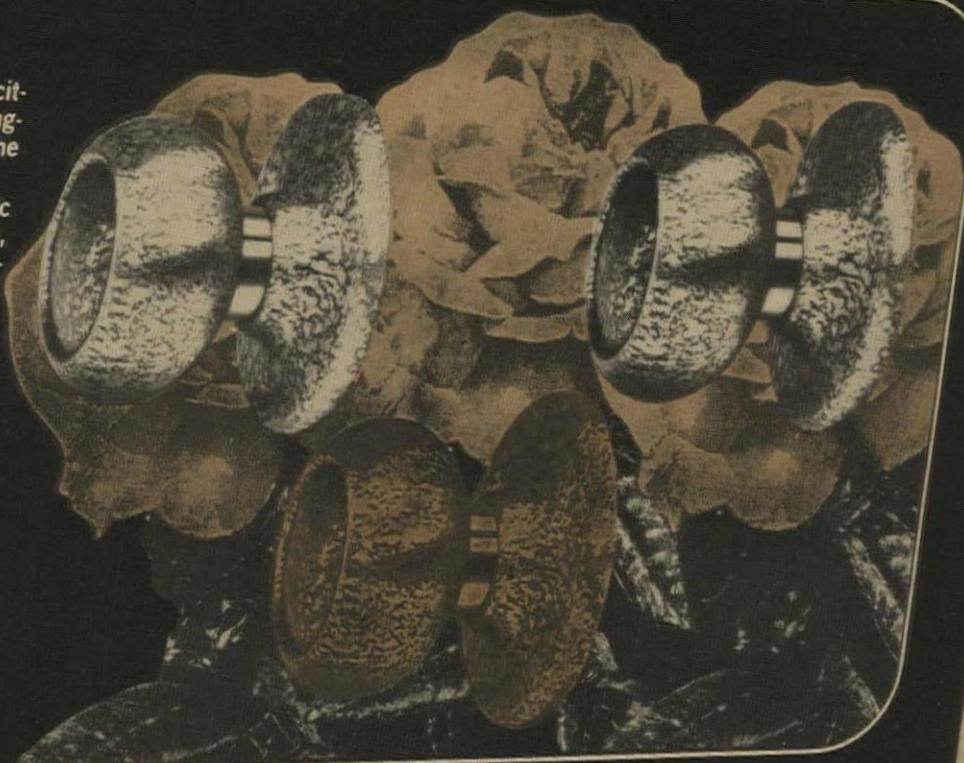
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Vacancies and loan delinquencies rise, but housing economists are unworried

Economists are watching the two indicators for any warning that tighter money and the Viet Nam war are harming housing.

Both indicators rose at year-end, following the Federal Reserve Board's tightening of commercial bank credit Dec. 7.

Mortgage delinquencies went to 3.29% of loans surveyed by the Mortgage Bankers Assn.—up from 3.21% a year ago and only .01% below the all-time high in December 1963. But MBA Research Director Dr. Oliver Jones sees the figures as evidence that mortgage delinquencies may be leveling. All the increase, he notes, is centered in loans only 30 days delinquent. Too, delinquencies rise seasonally in December, and the latest boost is smaller than any fourth-quarter rise in four years.

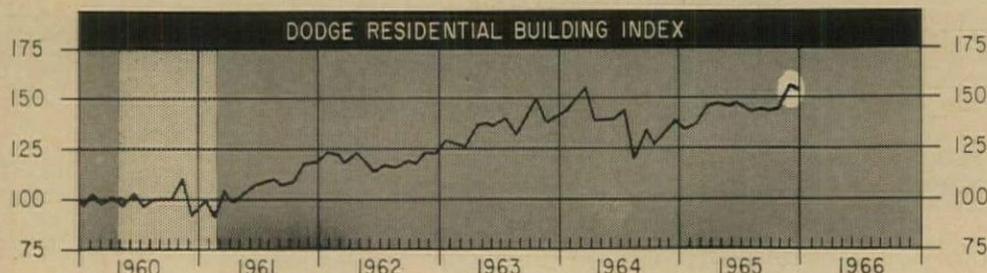
Housing men, especially mortgage bankers, have been watching the delinquency figures because they fear many owners of existing homes may let their houses go into foreclosure rather than pay the deep discounts (up to 6%) needed to sell existing houses with FHA financing. One million homeowners had negative equity in their houses last year, the Advance Mortgage Co. of Detroit estimated (NEWS, Apr.). Any marked upsurge in foreclosures would depress local markets for new one-family houses.

FHA, which accounts for nearly 40% of all nonfarm foreclosures, is predicting a slight rise in foreclosures through June 1967. In presenting its budget to Congress, the agency said it expects to acquire 45,500 foreclosed houses in the fiscal year ending June 30 and another 46,750 homes in the following 12 months.

Apartment vacancies rose to 7.7% at year-end—up from 7.2% in September. But the Census Bureau says the rise is not significant because rates have ranged from 7.4% to 7.9% for the past six years.

The Viet Nam war is stepping up draft calls to about 30,000 a month—and these are young men who make up a good share of the apartment market. Apartment starts could slump 15%, predicts one economist, Assistant Prof. Jerome Dasso of the University of Illinois. But apartment builders are filling new units, and Census says only one-fifth of rental vacancies are in units built since 1960. The West, still suffering from overbuilding, has the highest vacancy rate, 11.7%, but this is down from last summer's 12%.

Building contracts are firm, reports F. W. Dodge Co., division of McGraw-Hill. Dodge's residential building index entered 1966 at 152 (see graph), only slightly below the all-time high of 154 in November.



Based on contract value, 1957-1959=100 (seasonally adjusted). Lighter shaded areas represent general business recessions.

F. W. Dodge Co., a division of McGraw-Hill Inc.

Loan discounts peril repeat sales

Uncertainty about discount schedules on FHA mortgages (see p. 12) may hit hardest at the quality-house market.

"FHA existing-house loans have supported the new-house market by letting a homeowner sell his old house and upgrade into a new dwelling easily," reasons Research Director Oliver Jones, of the Mortgage Bankers Assn.

"The second-time buyer is a discretionary buyer. Now he suddenly finds he will have to pay deep discounts, perhaps 4% on the new 5½% FHA loans, to sell his old house. Faced with that cost, he is very likely to postpone buying."

Because of this fear, Jones says "it is time to take a second look at housing forecasts for 1966." He has not yet predicted a cutback but says he foresees a slump in starts this spring followed by a rebound in the second half of the year.

Other housing economists share Jones' fear. Michael Sumichrast, NAHB economist, says there is no doubt deep discounts could depress the quality-house market. He foresees a possible 10% drop in housing starts for the first quarter of 1966.

The unanswered question is how deep discounts will go on the new FHA 5½% loans and whether Jones' script will unfold. Many observers expect discounts to level between 3% and 4%, and both MBA and NAHB hope for further FHA rate rises to trim discounts to the 1%-to-2% range.

Assistant Housing Secretary Philip Brownstein, who heads FHA, is sensitive to the distress deep discounts can cause in the upgrading house market. His postponement of an FHA rate increase until two months after the Federal Reserve tightened credit leads many observers to expect another watch-and-wait period.

Robert Steinau, Louisville Courier-Journal



Here's a trailer park in the sky: Now to get it off the ground

Mobile-home maker Elmer J. Frey wants to build these 20-story trailerpark towers in downtown Milwaukee, and so 30 backers in the mobile-home industry are contributing \$300 each for market and building research.

The Marshfield, Wis., manufacturer, widely credited with substituting the name "mobile home" for "trailer coach," would build these variations on Chicago's Marina City theme with three floors of auto space, a shopping center and "pigeonholes" (see photo above) for 504 mobile homes.

Walter K. Zell of California, Swiss-born architect, designed a seven-story skypark for 56 trailers four years ago (NEWS, June '62). Zell patented the plans for his three-wing design but never built it.

How to egg on a homebuyer

Denver Builder Lester W. Yoder offers \$45,000-to-\$60,000 rural homes equipped with houses for 6,000 egg-laying hens to help the buyer pay off the mortgage.

Yoder will supply the pullets. He says each chicken can lay 20 dozen eggs in 14 months at a profit of 6¢ a dozen, or \$7,200. That would let a buyer pay off his mortgage and all home costs in 12 years.

The catch: at least four hours a day—and perhaps eight for neophytes—collecting eggs and tending chickens. But Yoder has already sold one \$45,000 house.

Apartments full of personality

Only single college grads in their 20s need apply. They must have outgoing personalities. Take it or leave it.

Those are the requirements set by Apartment Owner J. Harmon Cohen for the 56 suites in his three Cleveland buildings. Prospects must pass a pre-admission exam consisting of an interview with Cohen and with other occupants of any suite to be shared.

"There's no other operation like this in the country," he says. "When my tenants transfer to other cities, they write back in sorrow to say they can find nothing like it."

"We get a lot of marriages from our buildings," Cohen adds. "Then of course, the couples have to move."

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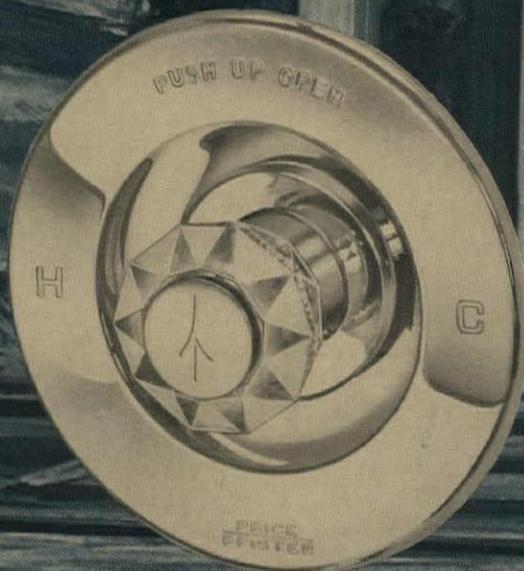
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Newspaper asks: Is Gulf American too big for Florida law?

The *Miami Herald* suggests the answer is yes.

The paper has just devoted an eight-part series to the state's apparent inability to cope with the world's largest installment land sales company, \$260 million Gulf American Land of Miami. Writer Juanita Greene's findings:

- Florida's Installment Land Sales Board, set up in 1963 after *HOUSE & HOME* and other magazines exposed nationwide scandals in mail-order land sales (*NEWS*, Mar. '63), is controlled by the industry it is supposed to control. The legislature decreed that three of the five members be land developers.

- One of the three is Gulf American's chairman, Leonard Rosen. Gov. Hayden Burns appointed Rosen in November, although Gulf American was generating the largest number of complaints of any of Florida's 233 land companies. Three private lawsuits had been filed against the company in Miami courts and Gulf American had become one of the watchdog agency's major preoccupations.

- One of the board's two "lay" members is Howard Hirsch, former Gulf American lawyer.

- The board, meeting Jan. 28, withheld any action on complaints that Gulf American had refused to provide property reports, the documents that describe the actual condition of lots for sale and tell when and what improvements will be made. Only seven months earlier the board had cancelled a hearing on its order to Gulf American to show cause why its sales license should not be suspended.

- Eight years after Gulf American's move-in, Lee and Collier counties can't agree with the company on surety bonds high enough to guarantee improvements for all land being sold. In February Collier demanded an insurance company bond as well as Gulf American's own bond, but Gulf American is protesting.

Asks the *Herald*: "Is the government machinery of these small counties geared to cope with an organization as big, aggressive and sophisticated as Gulf American?"

And a *Herald* headline adds: "State Watchdog Has Dull Teeth."

Big and rich. Gulf American organized in 1958 and is selling \$100 million worth of installment contracts annually. More than 90,000 persons in every state mail in \$50 million a year, and Gulf American's 1965 net was \$13.4 million. The company is selling 325 square miles of Florida at these sites:

Cape Coral—a sandy beachhead of 5,000 souls in 2,000 houses near Fort Myers on the Gulf.

Golden Gate—a section of Big Cyprus Swamp 18 miles east of Naples, which is 40 miles south of Fort Myers.

River Ranch—a projected development near Lake Wales, 50 miles east of Tampa in central Florida.

Hard sell. The company's salesmen are past masters. They ferret tourists out of



HOW CAPE CORAL ROSE from forest land is shown by 1957 and 1965 views of Florida gulf



coast near Fort Myers. City has 5,000 people but 77-acre site contains many vacant lots.

Florida's motels, take them on boat rides, show them movies of company land. Pretty girls in bathing suits accost visitors on beaches and invite them to cocktail parties. Gulf American flies them across the state to its sites. Twenty girls and 50 salesmen operate phones at the Miami headquarters, calling every state. The 1965 sales program cost \$30.5 million.

A *Herald* reporter went through the motions of buying a Golden Gate lot for \$2,545. Most salesmen stress land appreciation, and the reporter's salesman promised that the lot would be worth \$10,000 in five years. But the reporter asked five times for a property report and got none.

The small print. A property report would show that the lot is not in a building-site subdivision scheduled for homesite development; that it is in an area covered by surface water part of the year, and that drainage will not be guaranteed until the contract is paid off.

The company's own financial reports suggest that the buyers may find it difficult to obtain clear title. Mortgages for \$22 million encumber much of the company acreage. Its Lake Wales property is being sold with no guaranty that a buyer can get either title insurance or mortgage money.

As for improvements, Gulf American will have to pay \$70 million to improve the land it has already sold—plus \$120 to \$148 million if it sells the rest of the land at Cape Coral and Golden Gate, not to mention River Ranch. The figures give pause to analysts, but Gulf American says improvements are and will remain on schedule.



THE ROSENS—LEONARD AND JULIUS J. They own 66.3% of Gulf American

There is yet another concern. Lee County can now count 200,000 platted vacant lots—66,000 of them at Cape Coral and 100,000 at Lehigh Acres, a subdivision in the interior that preceded Cape Coral but that has no connection with Gulf American. It would take a million people, or the population of the entire Miami metropolitan area, to fill those lots. Lee County's total population in 1960 was only 54,539.

Ode on a salesman. The truth-in-sales issue is not new to Gulf American. Chairman Rosen addressed himself to it in a lyric memo to all company hands last March:

"Beauty is truth, truth beauty—that is all

"Ye know on earth, and all ye need to know,"

"So said poet Keats* and so say I."

Many Floridians feel that this tolerant interpretation has spread to the land board itself. Even the law setting up the board is based on the theory that there are limits to the protection the government should offer buyers. Marshal Criser, former board chairman, lacks Rosen's poetic felicity but he speaks more clearly about property reports:

"If a person reads that report and has an honest representation, that's as far as the government should go. You can't protect a fool from himself."

Will Uncle Sam step in? The *Herald* says the most meaningful inquiry into land sales is now being conducted not in Florida but in the U.S. Senate's committee on aging, which has been investigating virtually all mail-order selling. Its subcommittee on frauds has proposed a federal statute to force promoters to make "full disclosure" of pertinent facts on company finances and on the condition of the land being sold (*NEWS*, May).

Such legislation may represent the only solution for Florida and the tiny communities too economically dependent to risk offending a land giant. For Gulf American is not only Florida's biggest land peddler; it is now the state's sixth largest industry with 3,500 employees.

* "Ode on a Grecian Urn."



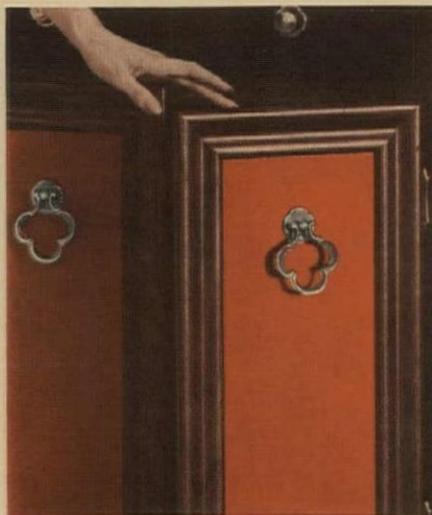
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FHA's new 5 1/2% mortgage rate—'Too little and too late'

That's the reaction among mortgage bankers and builders to FHA's decision to raise the interest rate from 5 1/4% to 5 1/2% on the single-family home mortgages it insures*.

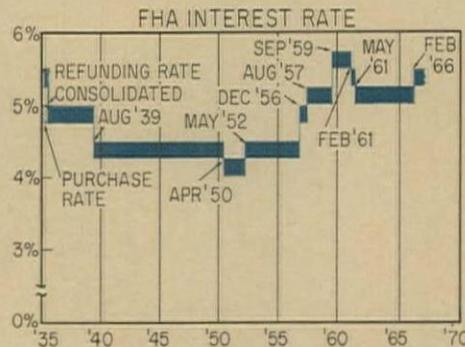
"It's not enough," says Vice President Everett Mattson of Houston's T. J. Bettes Co., the world's largest mortgage banker. And the National Assn. of Homebuilders warns that it doubts that the increase "goes far enough to ease the discount situation." It says discounts would remain "intolerably high" in the South and West.

Sums up Robert M. Morgan, president of the Boston 5¢ Savings Bank and the National Association of Mutual Savings Banks:

"Now there is every expectation that rates will go even higher. The new mortgage only half meets the situation and doesn't leave room for what is in the wind."

Half a loaf for builders. A 1/4% increase in interest at the originating end of the mortgage production line translates into 2% of "price" or discount—in theory. The mortgage banker, buying a mortgage from a builder and reselling it through the secondary market to an investor, can ask 2% more in "price," and he can charge his builder 2% less in discount. Yet Vice President Jack E. Crozier of Murray Investments, a Dallas mortgage banking

*The increase affects home mortgages written Feb. 7 and later. It does not apply to FHA's multi-family or land-insurance programs, to the 4 million FHA home loans currently outstanding, or to the VA's 5 1/4% single-family loan.



MORTGAGE INTEREST RISE to 5 1/2% is tenth rate change since FHA was organized in 1935.

house, is careful to warn the industry:

"My guess is that the discount will go down only about one point."

And in fact, that's what is happening.

Many of HOUSE & HOME's mortgage-banker advisers in 18 key cities posted discounts on new FHA 5 1/2% loans at only a point or 1 1/2 points less than that on the 5 1/4% (see chart). The reason: the private mortgage secondary market, in virtual suspension for the last two months, resumed limited operation with the FHA move, and investors began asking that half of the 2% of "price" be returned to them in yield—acting just as mortgage experts had predicted they would (NEWS, Feb.). Yields asked on the old 5 1/4% FHA had risen to 5.44 in New York and Chicago in anticipation of the FHA raise, and savings banks came back into the market asking an

average 5.56% or 12 points more, on the equivalent 5 1/2% loan. That ate up half of the 2% price increase or discount cut.

Banks' position. Says Vice President John L. Westney of the nation's fourth largest savings bank, the New York Bank for Savings:

"We had written business into the millions with escalation clauses providing for a 5 1/2% rate. We agreed to pay 1% more and take 12 points more on yield. The market seems to agree that this is fair and equitable."

Builders. "The FHA hasn't even brought discounts back where they were," said Vice President James C. Latta, senior vice president of Associated Mortgage Companies in Washington. And at a glance at HOUSE & HOME's mortgage chart proves his point. As late as September the highest discount quoted on the old FHA 5 1/4% loan was 2 1/2%. Discounts just posted on the 5 1/2% mortgage run up to 4 in Dallas and Los Angeles.

"They raised it but they didn't" says President Harry Brown of Gibraltar Construction, a Dayton tract builder. "It won't reduce discounts enough to matter, and it will make it harder to qualify buyers."

And, says Elmer Vorhof, a St. Louis builder who sells 400 homes a year at \$16,900 to \$23,000:

"FHA would have to raise to 6% to eliminate costly discounts. We are not submitting any of our sales for FHA loans. We use conventionals. We simply cannot absorb the discounts."

NEW YORK WHOLESALE MARKET

FHA, VA 5 1/4s
 Immediates: 94 Futures: 94
 FHA, VA 5 1/4 spot loans (On homes of varying age and condition)
 Immediates: 94
 FHA 5 1/2s
 Immediates: 95 1/2-96 Futures: 95 1/2-96
 Note: Prices are net based on a servicing fee of 1/2%. Majority of loans being sold today include concessions made by servicing agencies which would be reflected in higher prices. Prices cover out-of-state loans, reported the week ending Feb. 11 by Thomas P. Coogan, president, Housing Securities Inc., New York City.

SECONDARY MARKET FHA & VA 5 1/4% and FHA 5 1/2%

Money center	Sec. 203b & VA houses		Sec. 207 Apts.	
	Yield to Investor	Trend	Yield to Investor	Trend
Boston	5.56	Up .16	a	a
Chicago	5.44-5.56	Up .06	5.12-5.16	Steady
New York	5.44-5.56	Up .06	5.12	Steady
Philadelphia	5.45	Up .10	a	a

a—No activity

CONVENTIONAL LOANS RESALE MARKET

Packages of conventional loans, privately insured by MGIC, available for purchase by S&Ls. Loans are in metropolitan areas, originated by mortgage bankers and commercial bankers and listed with Mortgage Guaranty Insurance Co., 600 Marine Plaza, Milwaukee. Address inquiries c/o Jack Dittmann. Typical offerings reported the week ending Feb. 11

Loans available (millions)	Location	Net % Yield to investors*
\$1.0	Alabama	5.75
3.0	Arizona	5.75
4.0	California	5.50
0.5	California	5.60
4.3	California	5.75
2.0	California	6
0.5	Georgia	5.6
3.0	Hawaii	5.75
1.0	Iowa	5.75

*—Net after insurance fees and servicing.

HOMEBUILDER'S MORTGAGE MARKET QUOTATIONS

Reported to HOUSE & HOME in week ending February 18.

City	(Sec. 203b) Discount paid by builder				FHA 207 Apts. Firm Commit.	Conventional Loan Rates			Construction Loan Rates
	FNMA Scdry. Mkt.†	FHA 5 1/4s		FHA 5 1/2s		Comm. banks, Ins. Cos. 75%	Savings banks, S&Ls 80%		
		Min. Down*	30-year				Min. Down*	30-year		Savings banks, S&Ls Over 80%
Atlanta	4 3/4	4-6	Up 2	3-5	a	6-6 1/4	6 1/4-6 1/2	6 1/2-6 3/4	6-6.5+1
Boston	3 3/4	par+1-par	Steady	a	par+1-parb	5 1/4-5 1/2	5 1/4-5 1/2	5 1/2b	5 1/4-6
Chicago	4 1/4	3-5	Up 1	1 1/2-3 1/2	a	5 1/4-5 1/2	5 1/4	5 3/4-6	6-6 1/2+1-2
Cleveland	4 3/4	4-5	Up 1	2-3	a	5 3/4-6	6-6 1/4	6 1/2	6+1-2
Dallas	4 3/4	4 1/2-5 1/2	Up 1	3-4	a	6-6 1/4	6-6 1/2	6 1/4-6 1/2	6 1/2+1
Denver	4 3/4	3 1/2-4	Up 1	2-2 1/2	a	5 3/4-6	5 3/4-6	6 1/4-6 1/2	6 1/2+1-2
Detroit	4 1/4	3-3 1/2	Up 1/2	2 1/2-3	2 1/2	6	6	6-6 3/4	6-6 1/2+1
Honolulu	4 3/4	4 1/2-5	Up 1	3	a	6-6 1/2	6 1/2-7	6 3/4-7 1/4	6 1/2-7+1-3
Houston	4 3/4	5	Up 1	3	a	5 3/4-6 1/4	6 1/4	6 1/4-6 1/2	6+1 1/2
Los Angeles	4 3/4	5-5 1/2	Up 1	3 1/2-4	a	5 3/4-6 1/4	6-6.6	6 1/4-6 3/4	6 1/4-6 3/4+1 1/2-2 1/2
Miami	4 3/4	5	Steady	3	a	5 3/4-6 1/4	6	6	6+1-2-1
Newark	3 3/4	2 1/2	Steady	1 1/2	1	5 3/4	5 3/4-6	6	6+1
New York	3 3/4	2-2 1/2	Up 1/2	1	1 1/2	6	6	6	6+1-1 1/2
Okla. City	4 3/4	4 1/2-5	Up 1	2 1/2-3	a	5 3/4-6 1/4	6-6 1/2	6-6 1/2	6+2
Philadelphia	3 3/4	1 1/2-2	Steady	1 1/2-2	1	5 3/4	6	6	5 1/2-6+1
San Fran.	4 3/4	5	Up 1/2	3-3 1/2	1-1 1/2	6	6 1/4-6 3/4	7	6-7+1-2
St. Louis	4 3/4	4 1/2-6	Up 1 1/2	3	1 1/2	5 3/4	6-6 1/4	6-6 1/2	6-6 1/2+1-2
Wash., D.C.	4 3/4	4-5	Up 2	2-3	1-2	6	6	6b	6+1 1/2-1

* Immediate covers loans for delivery up to three months, future covers loans for delivery in three to twelve months.
 † Quotations refer to prices in metropolitan areas, discounts may run slightly higher in surrounding towns or rural zones.
 * Quotations refer to houses of typical average local quality.
 † 3% down on first \$15,000; 10% of next \$5,000; 25% of balance.
 Footnotes: a—no activity. b—limited activity. w—for comparable VA loans also. x—FNMA pays 1/2 point more for loans with 10%. y—discounts quoted are net after seller pays 1/2% marketing fee and 1/4% adjustment for stock purchase. Seller must pay 1% of mortgage for stock calculated in \$120 units, of which \$20 is contribution to FNMA capital and \$100 is for a share trading at about \$84. z—applies to 66% loans.
 Sources: Atlanta, Robert Tharpe, pres., Tharpe & Brooks Inc.; Boston, Robert Morgan, pres., Boston 5¢ Savings Bank; Chicago, Robert H. Pease, pres., Draper & Kramer Inc.,

and Robert H. Wilson, pres., Percy Wilson Mortgage & Finance Corp.; Cleveland, David E. O'Neill, vice pres., Jay F. Zook, Inc.; Dallas, M. J. Greene, pres., Southern Trust & Mortgage Co.; Denver, Clair A. Bacon, pres., Mortgage Investments Co.; Detroit, Sherwin Vine, vice pres., Citizens Mortgage Co.; Honolulu, H. Howard Stephenson, vice pres., Bank of Hawaii; Houston, Everett Mattson, vice pres., J. Bettes Co.; Los Angeles, Christian M. Gebhardt, vice pres., Colwell Co.; Miami, Lon Worth Crow Jr., pres., Lon Worth Crow Co.; Newark, William W. Curran, vice pres., Franklin Capital Corp.; New York, John Halperin, J. Halperin & Co.; Oklahoma City, B. B. Bass, pres., American Mortgage & Investment Co.; Philadelphia, Robert S. Irving, vice-pres., First Pennsylvania Banking & Trust Co.; St. Louis, Charles A. Keller, vice pres., Mercantile Mortgage Co.; San Francisco, John Jensen, vice pres., Bankers Mortgage Co. of California; Washington, James C. Latta, sr. vice pres., Frederick W. Berens Inc.

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2 INDUSTRIAL BOULEVARD, PAOLI, PENNSYLVANIA



A peek into the red hot market in conventional loans

"I'll offer 6.10% yield on one-to-fours. I'm Bill Corse. Room 1144."

It was the bear pit.

Buyers and sellers from the country over were crowded into this annual bid-ask session at the U.S. Savings & Loan League's secondary market conference in Miami last month. It's the nearest thing the nation's 6,325 S&Ls have to a centralized participation loan market, and the fevered atmosphere is often reminiscent of Chicago's commodities marts.

"I'm Kim Fletcher. Home Federal in San Francisco. Offer 5¾%-6%, prime one-to-fours."

"Glendale Federal offers 5¾%-6% net on residential. Packages half-million up."

"Don Callahan. Northern Federal of St. Paul offers 5¾% yield on one-to-fours, 6% on multiples. Ten million going."

A score of sellers joined the frenzied bidding while buyers sat silent, pencils racing. All sellers were hopeful, but at session's end it was the fast and aggressive young Bill Corse of Standard S&L in Concord, Calif., who found himself surrounded.

"I took \$4 million in net deals out of that pit," he was to reveal later. "I had the loans, pictures, everything right there to show. We'll deliver 6.10% to buyers in Florida and Chicago."

Bill Corse's deal—and a couple of others at 6.10%—set a new upper limit. Going yield runs 5.75%-5.85% on conventional one-four family loans, up ¼% since a year ago. The quotations above show the pressure toward 6%.

The rates define the participation market, brainchild of the U.S. League's elder

statesman in mortgaging, Wyn Warman. He won legislation to establish it only nine years ago, and it has since traded \$6 billion in one-four family paper. The market has made the funds available to thousands of builders in capital-short areas where local S&Ls might otherwise have been unable to meet needs. An S&L can buy 40% of assets in participations.

S&Ls can also trade in FHA-VA loans, and they can market in the nationwide lending program authorized July 1, 1964. Associations buy complete conventional loans, usually from mortgage bankers. Only a scattering of S&Ls have taken advantage of this permission so far, even at yields ¼% above the conventional market. Estimates of volume are \$25-\$50 million in trades of one-fours and multiples since trading was approved.

Canada's contented builders: a slowdown in '66? So what?

They grin and bear it, and they can afford to. Canadian housing broke all records in 1964 with 165,600 starts, and latest 1965 figures (November) show it running 1.9% ahead of even that pace.

So there was never a murmur when 800 delegates heard Housing Czar Herbert W. Hignett tell the National House Builders Assn. not to expect another rise in 1966.

"It would be more prudent to look for a decline," he warned, and he cited a shortage of skilled workmen, rising labor and materials costs and some limitations on the availability of mortgage funds.

Hignett, who directs housing policy as president of the government's Central

Mortgage & Housing Corp., said the agency had just acted to attract more money into building. It raised the rate on National Housing Act mortgages—the equivalent of FHA loans in the States—from 6¼% to 6¾%. The move makes the NHA loans competitive with conventional mortgages, which have gone from 7% to 7¼%-7½% in the last six months.

The NHA rise will add a total of \$1,000 to a 20-year, \$15,000 mortgage in the single-family house sector. There will be a corresponding rise in apartment loan rates, but it can be hidden in small increases in rent. That explains much of the builder complacency: Canada's rentals out-

stripped the single-family market years ago, and November apartment starts ran at an annual rate of 75,000 vs. 51,000 for single-family homes.

If the comfortable Canadian builder does have a care in the world, it concerns labor and land. Outgoing President Charles B. Campbell told the NHBA that land costs rose from \$2,473 to \$3,082 for the average single-family dwelling and that craft rates went from \$2.13 to \$2.47 an hour between 1960 and 1965. Construction labor is working at near capacity, so the builders expressed a note of mild concern in a resolution urging wider apprenticeship programs and a lenient immigration policy.

They're engaged: Atlas Credit (money) and Sunset Pet. (land)

After three months of courtship, Atlas Credit Corp. of Philadelphia and Sunset International Petroleum Corp. of Los Angeles have agreed on housing's biggest marriage of convenience in this decade.

They will unite as a new concern, as yet unnamed, to form housing's biggest operating company with assets of \$276 million, stockholders' equity of \$40 million and fiscal 1965 earnings of \$7.5 million. Atlas has stressed package financing in its expansion (NEWS, Sept.), and Atlas President J. L. Wolgin says the combined company will be able to offer in one package land for development, financing for builders, construction loans and title insurance and mortgages for homebuyers.

The 25,000 shareholders of both companies must give their blessing, and the Internal Revenue Service must deliver a favorable tax ruling before the union is legalized.

Atlas will be the surviving corporation, but Sunset shareholders would control about 70% of the 3.1 million shares of



WOLGIN

STERLING

the new company. The marriage partners will have two household heads: Atlas' Wolgin and Sunset President Morton Sterling will be "co-chief executive officers" as chairman and president respectively.

Atlas brings to the union its considerable skill as a money supplier. Founded as a home improvement finance company in 1955, Atlas deepened its housing involvement in 1962 by buying Colonial Mortgage Servicing Corp., now the nation's seventh largest mortgage banker with \$735 million servicing. Last year it bought Hilco Homes, a Philadelphia pre-

faber (NEWS, June) and State Mortgage Co. of Los Angeles.

Sunset, a petroleum company turned community developer, is building planned communities on 25,771 acres in eight different locations near San Francisco, Los Angeles, and Sacramento. About 70% of its sales come from real estate. The company has been able to generate considerable cash flow because its income has been substantially tax free, due to a tax loss carryforward and a 27% depletion allowance from 1,200 producing oil wells it still retains. But it must continue drilling to receive this credit.

The two companies have "a tremendous amount of compatibility," says Sterling. Plans call for Sunset to operate as a subsidiary from its Los Angeles headquarters, relying on Atlas as "an in-house financial arm" to provide the complete range of financing Sunset needs. Atlas, through State Mortgage, already operates four offices in California.

The new company will apply for listing on the New York Stock Exchange.

If somebody tries to tell you that all range hoods are alike, tell him to look into a Puritron



(He'll see the light)

New Puritron Electronic Range Hoods help purify the air in the entire kitchen—quickly, electronically. Also help remove smoke, grease, and cooking odors without vents or ducts.

The secret: Puritron's patented GOLD-ION tube.



**HANGS LIKE A PICTURE;
INSTALLS IN MINUTES**

Simply drill two holes, insert studs, set hood in place, tighten two wing nuts, connect wiring...and you're in business!

Unlike other ductless range hoods, Puritron's new Electronic Range Hood helps remove air-borne impurities in the *entire* kitchen—and not just the area directly above the range. It's actually a dual appliance that traps cooking odors, smoke and grease and acts as a room air purifier, as well. The secret: Puritron's exclusive GOLD-ION electronic tube that assures instant action, greater range. Get the complete facts on Puritron's great new line of range hoods (both ductless and ducted). **Write: Puritron, Dept. HH-3, New Haven, Connecticut.**

HAMILTON BEACH **SCOVILL**
BUILDER PRODUCTS DIVISION

Levitt sees profits 'as big as housing' in equipment options

The only U.S. homebuilder with 70,000 sales to his credit is planning to start selling optional furnishings and equipment in a big way to his homebuyers.

Bill Levitt thereby hopes to profit from the peripheral spending done by new-house buyers, and his venture into the field marks a significant milestone in emergence of the institutionalized builder (H&H, Apr.).

Plans are still sketchy, Levitt told the New York Society of Security Analysts last month, but "the projection is that in five years we could net as much on optional equipment as on the construction operations." Profit margins will be "considerably more" than his hoped-for 5% net, he said. (In fiscal 1965 Levitt earned 4.3%.)

When other builders were turning to making custom changes to satisfy buyers, Levitt & Sons prospered during the first half of the 1960s in spite of a policy of building only basic models. In the year ended February 28, Levitt sold 3,800 houses. Beginning about five years ago, customers could get a deluxe range or larger refrigerator by paying extra.

Gradually, the list will be expanded until the acknowledged king of U.S. house-building will offer a dozen items—carpets, draperies, dishwashers, venetian blinds, etc. He has now given his go-ahead to offering a full range of optional equipment and



LEVITT'S LEVITT
"Talent is our No. 1 problem"

furnishings, including even term life insurance that decreases in amount along with the mortgage payments.

Talent hunt. "Talent is our number-one problem," Levitt told the analysts. "We could open in 25 domestic metropolitan areas if we could find the men."

The executive shortage particularly limits the overseas market. "We could build 25,000 houses a year in France and sell them—the market is limitless, but we

don't have the talent," he observed. He has also turned down requests to build in West Germany because "we would be stretching ourselves too thin."

Most openings are for corporate executives, he said, displaying a table of organization showing vacancies for national sales manager, marketing research manager and manager of systems procedures.

Easy expansion. Although "it is a good bet" that Levitt will enter one or two major U.S. metropolitan areas in the next two years, Levitt said his drive to decentralization (H&H, Oct.) has uncovered an easy way to grow: spin-off tracts.

Levitt likened it to operating a postal substation: an existing Levitt branch starts a new subdivision near its primary operation. In this way Levitt has now opened four subdivisions surrounding Washington, D.C., "our best market." Similarly the Stony Brook, L.I. subdivision has generated two others. "In effect we are operating in 12 locations," said Levitt.

First townhouses. Levitt will start its first townhouses under Levittown, N.J.

Levitt considers higher density housing the coming trend in U.S. housing. In France, he noted, officials are talking of banning four-unit-per-acre zoning (ten units per hectare) for a ten-unit-per-acre ratio.

NEWS continued on p. 22

Unsettled money market drops mortgage and S&L stocks

Continuing turmoil in the mortgage market (see p. 14) has investors jittery. HOUSE & HOME's monthly reading of stock prices, taken the day FHA jumped its mortgage rate to 5½%, found mortgage companies and S&Ls off sharply.

Two mortgage trusts were hit hard. Continental Mortgage Investors of Boston dropped 2 points to 30⅞, despite a record net income of \$816,000 in the December quarter. First Mortgage Investors of Boston fell 1¾ to 17⅞.

Two private insurers of home mortgages fell also. Mortgage Guaranty Insurance Co. of Milwaukee dipped 2⅞ to 25⅞, despite a 28% earnings jump to \$2.9 million last year. American Mortgage Insurance fell from 12 to 9.

Nearly all S&Ls dropped, with First Charter Financial, largest of the holding companies, off 1¾ to 18¼. Charles Wellman quit as First Charter president, citing "policy differences." American Financial jumped 3⅞ on news of a four-for-three stock split. HOUSE & HOME's averages:

	Dec. 10	Jan. 13	Feb. 7
Building	3.72	4.17	4.16
Prefabrication ...	6.21	6.11	6.01
S&Ls	10.63	10.43	10.34
Mortgage banking	13.67	13.90	13.29
Land development	6.05	6.49	6.46
Average	7.82	7.98	7.86

HOUSING'S STOCK PRICES

COMPANY	Feb. 7 Bid/Close	Chng. From Prev. Mo.	COMPANY	Feb. 7 Bid/Close	Chng. From Prev. Mo.	COMPANY	Feb. 7 Bid/Close	Chng. From Prev. Mo.
BUILDING			First West Fin. ^c	5	- 1/2	Christiana O. ^b	47/8	- 3/8
• Adler-Built Inc.	1/8	- 1/16	Gibraltar Fin. ^c	19	- 3/8	Coral Ridge Prop.....	45/8	- 3/8
• Capital Bld. Ind.....	69¢	- 1¢	Great West. Fin. ^c	97/8	- 1/2	Cousins Props.	123/4	+ 1/2
Cons Bldg. (Can.).....	2.10	- 45¢	Hawthorne Fin.	77/8 ^d	- 3/8	Crawford	23/4	.....
• Dev. Corp. Amer.....	k	.....	Lytton Fin. ^c	81/2	- 3/8	Deltona Corp. ^b	133/4	+ 3/4
Dover Const.	2	.....	Midwestern Fin. ^b	33/8	- 1/2	• Disc Inc.	212 ^d	+ 1/8
Edwards Eng.	21/2	- 3/4	San Diego Imp. ^c	71/4	- 1/8	Fla. Palm-Aire	21/8	+ 1/8
Edwards Inds.	11/8	+ 1/8	Trans-Cst. Inv.	37/8	- 1/2	Forest City Ent. ^b	53/8 ^d	- 1/4
Eichler Homes ^b	2,65 ^d	-47 1/2¢	Trans Wrld. Fin. ^c	9	- 3/8	Garden Land	41/2	.....
• First Hartford Rty	6 1/4	+ 1/4	Union Fin.	81/8	+ 1/8	Gen. Devel ^b	47/8	- 3/8
First Nat. Rty. ^b	13 1/2 ^d	+ 1/8	United Fin. Cal. ^c	83/8	.....	Gulf American ^b	97/8	- 3/4
• Frouge	5	- 1/8	Wesco Fin. ^c	18 3/8	- 7/8	Holly Corp. ^b	11/8	+ 1/8
General Bldrs. ^b	23/8	+ 1/8				Horizon Land	33/8 ^d	+ 1/8
Kavanagh-Smith	3 3/8	- 1/8				Laguna Nig. A. ^h	103/8	+ 1/4
Kaufman & Bd. ^b	13 1/2	+ 7/8				• Laguna Nig. B. ^h	41/4	+ 3/4
Levitt ^b	12 3/8	+ 3/4				Lake Arrowhead	71/2	- 7/8
Lou Lesser Ent. ^b	33/4	+ 1/4				• Macco Rty.	13	+ 1/4
Lusk	31/8	+ 1/8				• Major Rty.	38¢	+ 3¢
Pres. Real. A. ^b	9 3/4	+ 1/4				• McCulloch Oil ^b	9	- 7/8
• Sproul Homes	23/8	- 1/4				So. Rty. & Util. ^b	3 3/8	+ 3/8
U.S. Home & Dev. ^c	5 1/8	+ 1/8				Sunset Int. Pet. ^b	71/8	- 1/4
Del. E. Webb ^c	43/8	- 1/2						
PREFABRICATION								
Admiral Homes	11/8	- 1/8						
Albee Homes	21 1/2 ^d	+ 3/4						
Continental Homes	23/4	a						
Gt. Lakes Homes.....	11/2	.....					
Inland Homes ^b	53/4 ^d	.....					
Madway Mainline	11 1/2	- 1/2						
Modern Homes	31 1/8 ^d	+ 5/8						
Natl. Homes A.9.	43/8	.....					
• Nationwide Homes..	41/8	+ 2 3/4						
• Schoiz Homes.....	51/2	+ 1/2						
• Seaboard Homes....	5¢	.....					
Steel Crest Homes....	51/2	- 1						
Swift Industries	21/4	+ 1/4						
Jim Walter ^c	22 1/2	- 1/2						
S&Ls								
American Fin.	19 1/8	+ 33/8						
Calif. Fin. ^c	41/2	- 1/8						
• Columbia	41/2	.....					
Empire Fin.	8 3/8	.....					
Equitable S&L	16 1/4	- 1 1/4						
Far West Fin. ^c	127/8	+ 1 1/4						
Fin. Fed. ^c	21 1/2	- 5/8						
First Char. Fin. ^c	18 1/4	- 1 3/4						
First Fin. West.....	6 1/8	.....					
First Lincoln Fin.....	85/8	- 1 1/8						
First Surety	33/8	- 1/2						

a—stock newly added to table. b—closing price ASE. c—closing price NYSE. d—not traded on date quoted. g—closing price MSE. h—closing price PCSE. k—not available. p—formerly Wallace Investments. *—not included in averages.

Sources: New York Hanseatic Corp., Gairdner & Co., National Assn. of Securities Dealers, Philip Beer of Russell & Saxe, American Stock Exchange, New York Stock Exchange, Midwest Stock Exchange, Pacific Coast Stock Exchange. Listings include only companies which derive a major part of their income from housing activity and are actively traded.

SHORT-TERM BUSINESS LOAN RATES

LOAN SIZE (000)	New York City	7 other Northern & Eastern cities	11 Southern & Western cities
\$1-10	5.74 (+.15)	5.95 (+.11)	6.07 (+.11)
\$10-100	5.59 (+.24)	5.80 (+.22)	5.80 (+.13)
\$100-200	5.34 (+.26)	5.56 (+.25)	5.59 (+.13)
\$200 & over	4.99 (+.33)	5.19 (+.31)	5.23 (+.17)

Source: Federal Reserve Board, December, 1965.



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New Gemstone! Rich appearance that's a "first" in asphalt tile!

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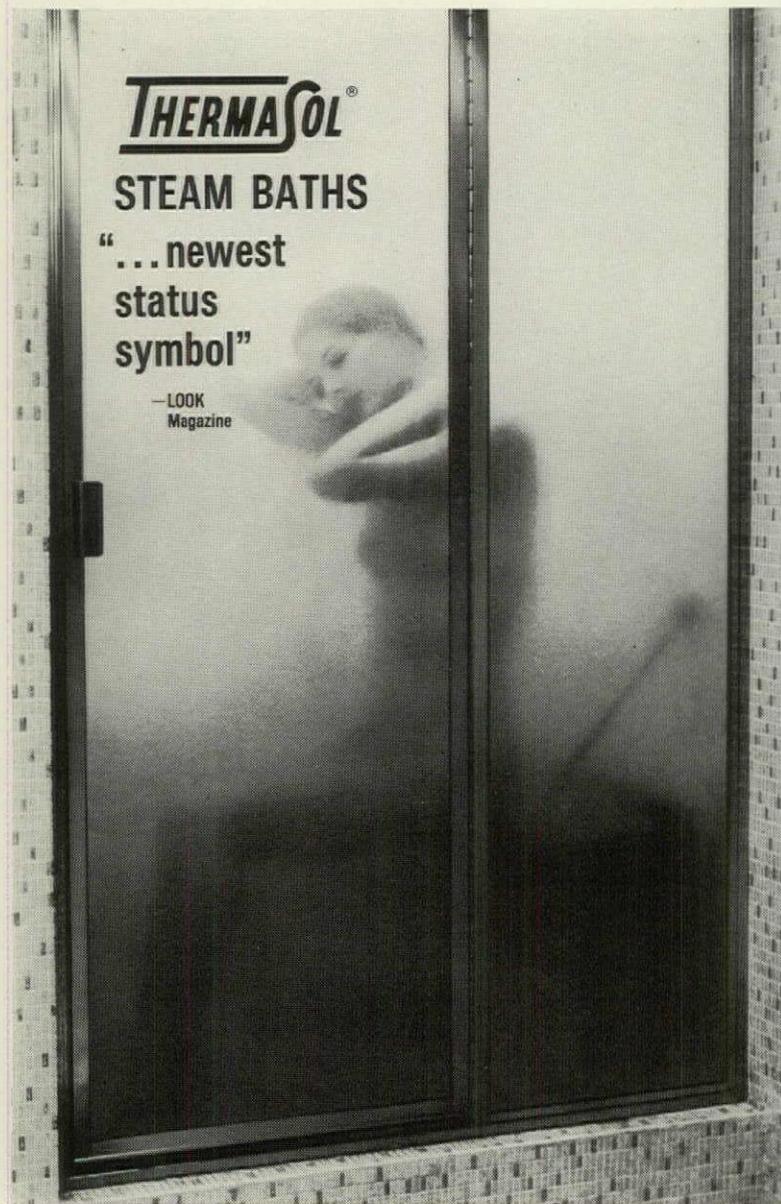
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NEWS

continued from p. 18

New York's mid-income housing law benefits its authors, inquiry learns

New York State's Mitchell-Lama Law was a 1955 landmark that provided below-market-interest loans to builders of middle income housing. Co-sponsored by attorney **MacNeil Mitchell** (a Republican state senator) and Architect **Alfred A. Lama** (a Democratic Assemblyman), the legislation was a direct ancestor of today's FHA Sec. 221d3 program, and has been hailed for making \$1.5 billion in housing available to families of limited income. Two incomes definitely not limited by the way the law worked were those of co-sponsors Mitchell and Lama.

Mitchell testified to the New York State Investigating Commission that his Manhattan law firm got \$427,633 in fees from 21 state-financed housing projects he helped organize under the law bearing his name.

The firm also received other fees, Mitchell said, "paid by the builder or the entrepreneur out of their own funds." A profit and overhead allowance of 7½% of total cost is permitted to builders under the law.

Commission records showed that co-sponsor Lama served as architect on five housing projects developed under the law. His firm's fees were \$368,920.

The investigating commission queried principals after an 18-month inquiry into the program's "excessive profits and fees." Mitchell testified that there was no conflict of interest in his acting as a developers' lawyer while he was still chairman of the state's joint legislative committee on

housing, but *The New York Times* commented in an editorial entitled "Profiteers in Housing:"

"The evidence . . . makes it clear that there is something rotten with the law . . . the legislation has proved to be a bonanza for lawyers and builders and others with the right political connections."

Four days later the joint legislative committee, with Lama still its vice-chairman, asked the investigators for suggestions on corrective legislation.

The hearings turned up other big names and some revealing quotes. Former City Councilman **Earl Brown** testified that an old Harlem political foe, Councilman **J. Raymond Jones**, told him:

"There is enough money in housing that everyone can get rich—in or out of office."

Brown was a member of the Housing and Redevelopment Board when the alleged conversation took place. He quoted Jones as saying:

"You commissioners ought to make millions with all that housing involved in New York City." Replied Jones:

"I'll do more than deny it. I'll call it mean and vindictive. I don't have his Harvard education, and he resents me."

The exchange exposed a contest for control of Harlem's \$40 million Esplanade Gardens apartment project. Jones said Brown asked him to back Rep. **James Scheuer** (D., Bronx), then a nationally prominent housing developer, as sponsor. Jones said he refused.

Luxury builders unite; pick Landau

Benyas-Kaufman

Builders catering to the carriage trade have organized as the American Institute of Master Luxury Builders. **A. Joseph Landau**, 30, Oak Park, Mich., builder, who specializes in houses for automobile executives, is the first president.

Upper-bracket builders from 25 cities make up the initial membership, but Landau estimates 2,000 U.S. builders operate in the high price market. Founding members generally build at the plus-\$60,000 level and Landau himself builds about 15 houses yearly at an average \$100,000 plus land.

"We feel the luxury builder is sadly neglected by the national and local homebuilder organizations," says Landau. "We are in no way trying to usurp these groups, but we do feel the need of



FOUNDER LANDAU
Organizing for the luxury market

more specialized service in such areas as financing, merchandising and legislation." The group plans a Chicago gathering in advance of NAHB's December convention and exposition.

NEWS continued on p. 27

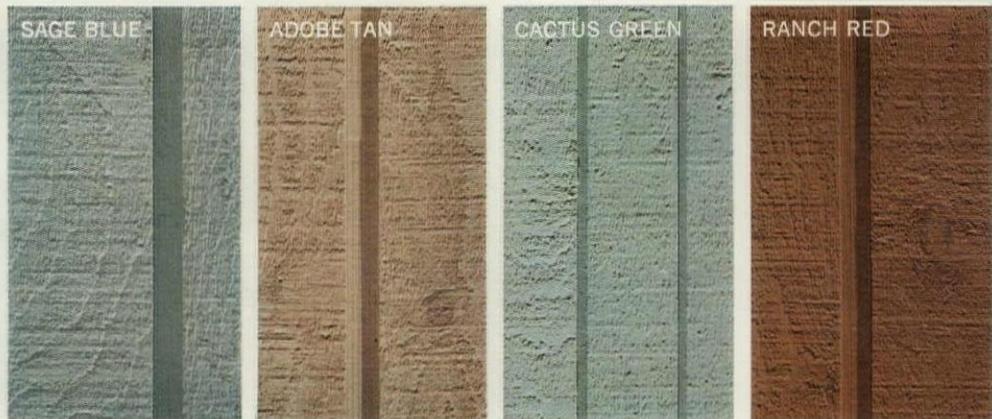
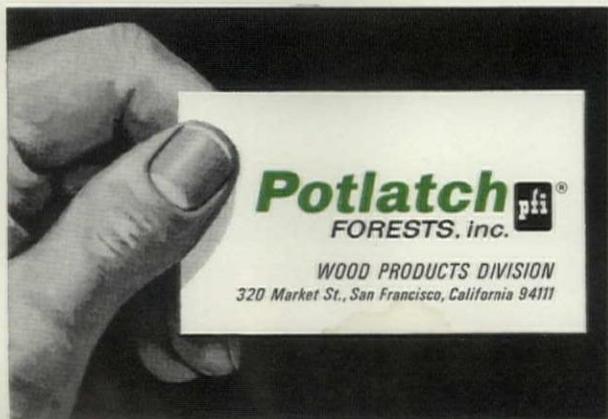


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TrendTex sidings are economical and easily installed. Kiln-dried solid sidings are available in 4 standard patterns in random 6' to 16' lengths. Plywood panels are 4'x 8' in 3/8", 1/2" or 5/8" thicknesses. Matching battens, 1 1/4" channels or accent grooves are optional. All TrendTex sidings are treated with Dri-Pfi water repellent preservative. For more facts, see your lumber supplier or write for full color folder.



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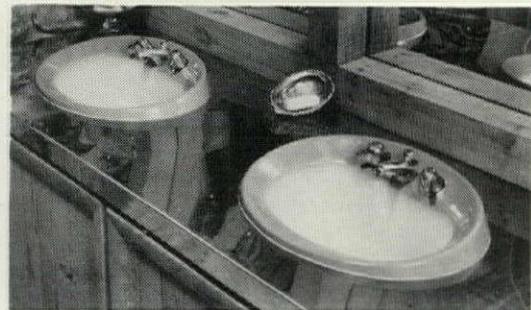
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These Eljer Master Crafted fixtures turn bathrooms into salesrooms.

Eljer fixtures are designed to be the best looking on the market. And they are. But that's not all. They function as well as they look. Note the Delray square bath. It gives you design flexibility. And it spells comfort for the customer, with its built-in seat. Now take a look at the Easton toilet. It's wall-hung, easy to install, and makes cleaning a breeze for your buyer. And the oval Brenda lavatories are time- and money-savers because they're easy to install on the job, they're compact too (20" x 16"). Use Eljer fixtures in your model homes and see how easy it is to make a bathroom a salesroom. For more information, call your Eljer representative or write Wallace-Murray Corporation, Eljer Plumbingware Division, Dept. HH, P.O. Box 836, Pittsburgh, Pa. 15230.



Now! The Brenda self-rimming vitreous china lavatory, available in Eljer pastel colors and white, is also available in new, exclusive Eljer Halo-Tone treatment (above) in brown or green. Halo-Tone consists of a darker contrasting color on the outer rim of the lavatory blending into Eljer's regular pastel color in the bowl area.

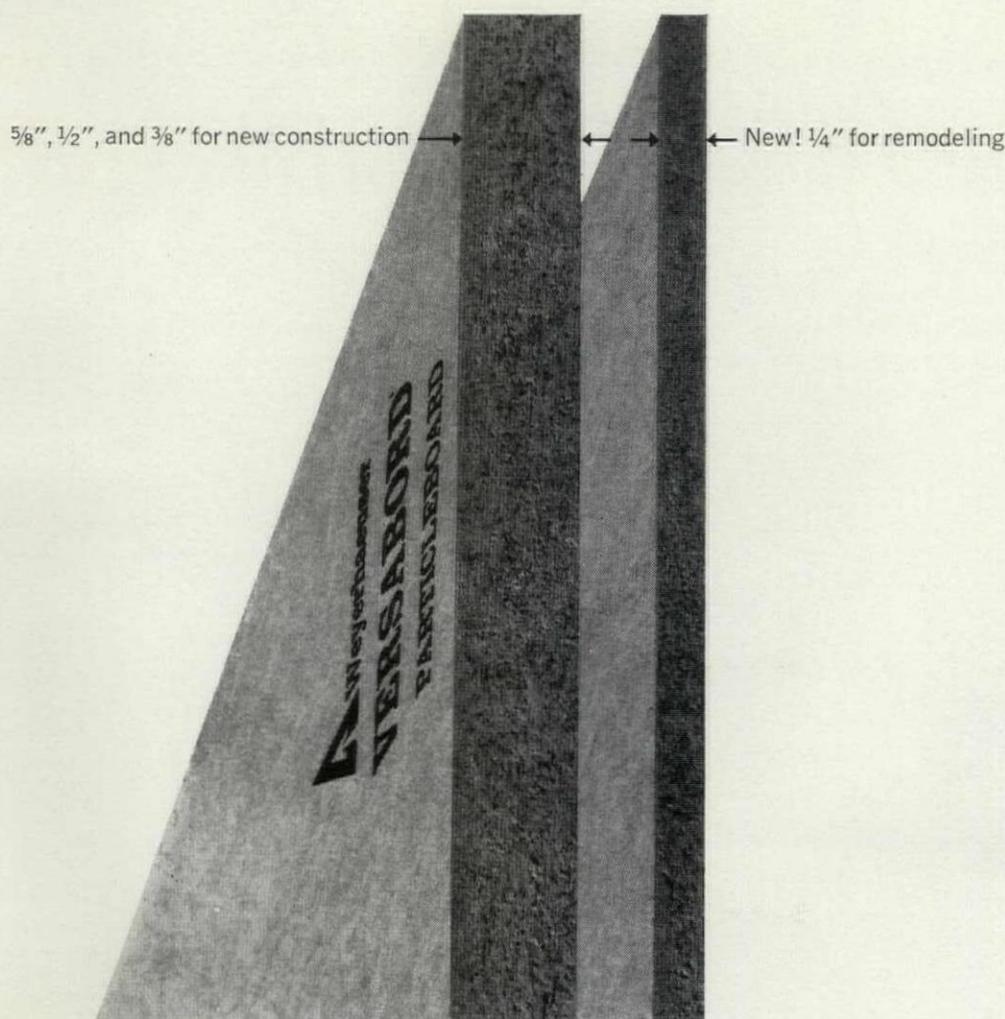
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Pictured below: Three new BrucePly Lauan Panelings: Laguna, Bacarra, Mindoro. Prefinished moldings to match.





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expense of on-the-job sanding and finishing, too, since Fireside Plank is prefinished. The remarkable Bruce Prefinish is baked into the wood to give this distinctive floor lasting beauty that resists marring and fading. E. L. Bruce Co., Memphis, Tenn.

Pictured above—Floor: Bruce Fireside Plank. Wall: BrucePly Colonial Cherry Paneling.



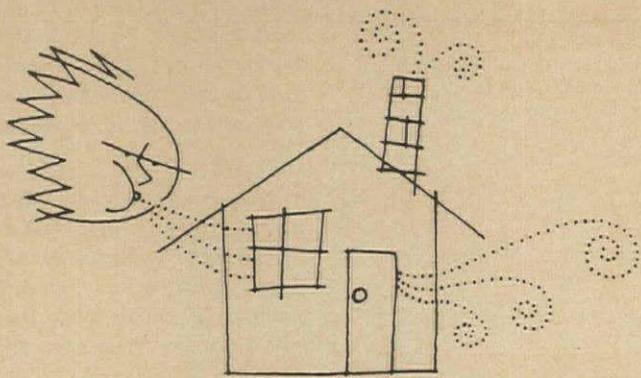
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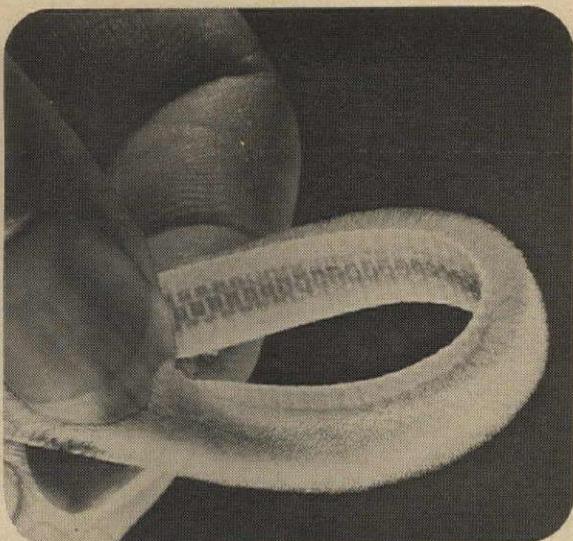


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some windows and doors don't have any weatherstripping at all
even though heat loss may average from 17% to 25%

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HOUSE & HOME presents locations, sponsors, architects and estimated costs of representative new projects costing over \$500,000 as gathered by ENGINEERING NEWS-RECORD and F. W. Dodge Co., division of McGraw-Hill Inc. to alert builders, lenders and contractors to new business.

ALABAMA—HUNTSVILLE: 30 houses, \$750,000. Builder: Alderman Building Co. MONTGOMERY: 30 houses, \$510,000. Builder: Dunn Guy & Stowers. PRATTVILLE: Apartment & swimming pool, \$600,000. Sponsor: Skidmore Construction. Plans: George Hicks, Dallas, Tex.

CALIFORNIA—ESCONDIDO: 20 houses, \$500,000. Architect: Emmett E. Stewart, San Diego. MARINA DEL REY: Apartment, \$2 million. Sponsor: Regis Development Co., Los Angeles. Plans: Abraham Shapiro & Assoc., Los Angeles. SAN DIEGO: Apartment & swimming pool, \$1 million. Sponsor: Dunham & Morneau Development. Plans: Davis & Moises Assoc.; Apartment, \$3 million. Sponsor: First Congregational Church. Plans: Tucker, Sadler & Bennett. SAN FRANCISCO: Apartment, \$1,295,677. Architect: Thomas Hsieh. SANTA FE SPRINGS: Apartment & swimming pools, \$1.5 million. Sponsor: Key Management Inc., Downey. STOCKTON: 150 unit housing development, \$1.5 million. Sponsor: Marie Norton. VENTURA: Condominium development including 87 houses, \$2.5 million. Sponsor: Labisco Corp., North Hollywood. Plans: Richard Dorman & Assoc., Beverly Hills.

CONNECTICUT—BETHEL: 40 houses, \$1 million. Builder: Steiners Inc., Fairfield. HARTFORD: Apartment & swimming pool, \$2 million. Sponsor: Gampel Realty. Plans: Kane & Fairchild Assoc. WATERBURY: Apartments, \$1 million. Architect: Henry T. Moeckel, Naugatuck.

DELAWARE—WILMINGTON: Apartment, \$500,000. Sponsor: Allfried Assoc., Princeton, N.J.; Apartment, \$2 million. Sponsor: Benson & Benson, Upper Darby, Pa. Plans: Gerd H. Ruoff, Upper Darby; Apartments, \$1 million. Sponsor: Cynwood Club Apartments. Architect: Donald W. Duncklee, Allentown, Pa.; 125 houses, \$2.25 million. Builder: Magness Construction.

DISTRICT OF COLUMBIA—Apartments, \$1.5 million. Sponsor: Blake Construction. Plans: Alan J. Lockman; Apartment, \$700,000. Sponsor: Karl Corby Construction. Plans: Donald H. Drayer; Apartment, \$3.5 million. Architect: Herbert H. Johnson Assoc.; Garden apartments, \$1,560,000. Sponsor: Sixth Avenue Joint Venture. Plans: Zubkus & Zemaitis.

FLORIDA—HOLLYWOOD: Apartments & swimming pool, \$1.3 million. Sponsor: Sherwood Park Apartments. Plans: A&E, Fort Lauderdale; Apartment & swimming pool, \$2 million. Sponsor: Hollywood Beach Hotel Co. and AIA. Plans: Thor Amile, Fort Lauderdale. JACKSONVILLE: Apartment, \$2 million. Architect: Broleman & Rapp, Orlando; Apartments & swimming pool, \$1.2 million. Architect: Trent Wakeling. MIAMI: Apartment & swimming pool, \$1.7 million. Sponsor: Alesam Corp., Hialeah. Plans: Harvey Ehrlich, North Miami Beach. TITUSVILLE: 57 houses, \$855,000. Builder: Appollo Homes, Jacksonville. Plans: Ellis-Naeyaert Assoc.

ILLINOIS—CHICAGO: Apartment, \$1 million. Architect: Harry B. Carter & Assoc.; Apartments, 108 row houses, \$5 million. Sponsor: Chicago Dwelling Assoc. Plans: Stanley Tigerman; Apartment, \$2.4 million. Sponsor: Benjamin Markle. Plans: Blivas & Page; Apartment, \$1 million. Architect: A. L. Salzman & Son, DEKALB: Apartments, \$2 million. Sponsor: Elruth Corp. Plans: Robert Stauber, Madison. DES PLAINES: Apartment, \$1 million. Architect: Dewey & Pavlovich Inc., Chicago. JUSTICE: Apartments, \$5.5 million. Sponsor: Inter Continental Development Co., Chicago. Plans: Raimund Shlautas, Chicago. MATTESON: 142 houses and apartments, \$36 million. Sponsor: Valley Development Corp. Plans: Burnham & Hammond Inc., Chicago.

INDIANA—FORT WAYNE: Apartment, \$1 million. Sponsor: Gellman Construction, Milwaukee, Wis. INDIANAPOLIS: Apartments, \$2.5 million. Sponsor: c/o Charles R. Marcum; Apartment, \$6 million. Sponsor: Riley Center Corp. Plans: Ther Perkins & Will Partnership, Chicago, Ill.

KANSAS—LEAVENWORTH: Apartment & swimming pools, \$3 million. Sponsor: Shanco Inc., Bonner Springs. Plans: Martell & Bacon, Kansas City. MANHATTAN: Apartment, \$1.5 million. Architect: Design Enterprises, North Kansas City, Mo. WICHITA: Apartments, \$1 million. Architect: Roc Calvin; Apartment, \$500,000. Sponsor: W. W. Taylor Construction Co.

KENTUCKY—FLORENCE: 60 houses, \$840,000. Builder: Mill Mar Development, Eranger. HOPKINSVILLE: 142 houses, \$2 million. Builder: Mark Baker. LEWISPORT: 200 houses, \$2.5 million. Builder: The Hancock Corp., Owensboro. LEXINGTON: 78 houses, \$1,560,000. Builder: Carr Builders; Apartments, \$1 million. Sponsor: McLoney & Tune. Plans: McLoney & Tune.

MARYLAND—BEAVER HEIGHTS: Apartments, \$3 million. Sponsor: Cafritz Construction, Washington, D.C. Plans: Cohen-Haft & Assoc., Silver Spring. COLLEGE PARK: Apartment, \$1.5 million. Sponsor: Martin L. Weil, Silver Spring. Plans: Leo Kornblath & Assoc., Washington, D.C. ELLICOTT CITY: Garden apartments, \$500,000. Sponsor: c/o Orman Manahan. Plans: Bartley Davis Assoc., Wheaton. GAITHERSBURG: Apartments, \$1.5 million. Sponsor: Berk Enterprises, Silver Spring. Plans: Cohen-Haft & Assoc., Silver Spring. LAUREL: Apartments and townhouses, \$2 million. Sponsor: Imperial Woods Joint Venture. ROCKVILLE: 35 houses, \$1.4 million. Builder: Bradley Development, Washington, D.C. Plans: Howard Greenhouse, Wilmington, Del. SILVER SPRING: Garden apartments, \$3 million. Sponsor: Laughlin Rozansky & Waghelstein Construction, Forestville. Plans: Mayne-Oseroff-Van Beisen & Assoc., Arlington, Va.; Apartment, \$2 million. Sponsor: Sligo Avenue Assoc., Washington, D.C. Plans: Vlastimil Koubek, Washington, D.C. TOWSON: Housing development, \$8,225,000. Sponsor: Woodlands Assoc., Randallstown. Plans: Stanley Klein, Jamaica, N.Y. and A. E. Assoc., Baltimore. UPPER MARLBORO: 30 townhouses, \$600,000. Sponsor: Bojan Construction. Plans: Donald J. Olivola, Falls Church.

MASSACHUSETTS—LEE: Apartment, \$500,000. Architect: Edward Cherry, Hamden, Conn. RICHMOND: 28 houses, \$560,000. Builder: Arthur D. Yerkes. SOUTH WEYMOUTH: Apartments, \$2 million. Sponsor: Edward M. Anderson, Needham. STONEHAM: Apartments, \$2 million. Sponsor: New England Sanitorium & Hospital. Plans: Latiemer Assoc., Taunton. TAUNTON: Garden apartments, \$3 million. Architect: Gilbert Switzer, New Haven, Conn. WELLESLEY: Apartment, \$3.5 million. Architect: Donald C. Freeman & Assoc., Cambridge; 70 townhouses, \$900,000. Architect: Ashley Meyer & Assoc., Cambridge. WOBURN: Apartments, \$2,750,000. Sponsor: Mahony Co., Brookline. Plans: Donald C. Freeman Assoc., Cambridge.

MICHIGAN—ANN ARBOR: Apartment, \$550,000. Sponsor: Irwin Construction, Detroit. Plans: Greene & Heinrich, Cleveland, Ohio. BATTLE CREEK: Apartments & swimming pool, \$1.5 million. Sponsor: Alco Construction, Lansing. Plans: Munson Mattern & Barber Inc., Lansing. BIRMINGHAM: Apartments, \$500,000. Architect: Pottle Assoc., Mt. Clemens. DETROIT: Apartments, \$500,000. Architect: John Allen, Farmington. DUNDEE: Apartment, \$2.4 million. Sponsor: c/o TwinValley Corp., Detroit. FARMINGTON: Apartments, \$10 million. Sponsor: Mel Construction, Detroit. Plans: Havis-Glovinsky Assoc., Detroit; 270 houses, \$8.1 million. Builder: George H. Pastor & Sons, Detroit. FENTON: Apartments, \$600,000. Sponsor: Lake Side Building Co. LANSING: Apartments, \$2 million. Sponsor: Joe Max Smith & Dr. Earl L. Carr. MOUNT MORRIS: Apartments, \$500,000. Sponsor: Schafer Realty Co., Flint.

READ THE

This advertisement was read by more than 15,000,000 persons throughout the country when it ran in the full circulation of LIFE magazine on November 12, 1965

Result? Thousands upon thousands of inquiries. Not only from consumers, but from builders, architects, distributors, contractors, utilities . . . everyone interested in truly the best heating system on the market today.

Read the ad, then the checklist below. And finally, use the pertinent portion of the coupon to write in immediately for more information.

COMPARE THESE FEATURES WITH ANY HEATING SYSTEM ON THE MARKET TODAY

COMFORT

The only method of heating that provides less than a 3° F. floor-to-ceiling temperature differential. No cold floors. No cold drafts.

ECONOMY

Test ceiling temperature. Every degree above 72° F. increases costs 3%. See why our 3° temperature differential between floor and ceiling saves up to 25% and more in annual operating costs, over other methods of heating.

SAFETY

New York City Building Code will allow only International to be placed behind the filmiest drapes, furniture, doors, etc. Units available for hazardous locations and are listed by U.S. Coast Guard, U.L., CSA, NEMA and Commonwealth Edison.

CLEANLINESS

Low hot water temperature eliminates the burning of lint and dust particles in the air, which turns them into carbon cinders. At the same time constant balance of temperature at outside walls makes this the only electric heater guaranteed to eliminate condensation and smudging.

HEALTHFULNESS

Since unlike other electric heaters, lint and dust particles are not burnt into carbon cinders, fine relief is provided for sinus and allergy sufferers.

Business continued on p. 44

LIFE Magazine ad that electrified the nation

For families truly concerned with comfort, healthfulness, and absolute safety, a remarkable heating invention from International...

HOT WATER HEAT WITHOUT PLUMBING

THE STORY OF ONE OF THE FASTEST GROWING HEATING SYSTEMS IN THE WORLD... MORE THAN 100,000 INSTALLATIONS IN SIX YEARS... AND THE MAN WHO MADE IT POSSIBLE.

Just over six years ago, a plumber and an electrician from Seattle, Washington, flew to St. Louis to see Sidney J. Heiman, president of the International Oil Burner Company.

They had with them an invention. A hot water heating baseboard that required no plumbing for its installation.

Quite simply, it was a hermetically sealed copper tube containing water. Inside the tube was an electrical element which, when heated, caused the water to circulate, creating hot water heat.

They came to Sid Heiman to get a straight answer on the worth of their invention. They knew him as a dedicated veteran of the heating industry. They knew he had pioneered the concept of perimeter warm-air heating.

And they knew he had guided his company from its beginning as a small maker of oil burners into one of the nation's largest manufacturers of heating and cooling equipment... and the world's largest maker of this equipment for the mobile home industry.

After six months of intensive testing, Sid Heiman gave the two gentlemen his answer. He said, simply, that their invention would revolutionize accepted heating methods.

He asked for the opportunity to manufacture the equipment. An agreement was subsequently reached, in which the two gentlemen were to be given royalties on the sales.

For the next five years, Sid Heiman spent the greater part of his life in an airplane. He flew to every section of the country to give seminars to consumers, electrical contractors, builders and architects.

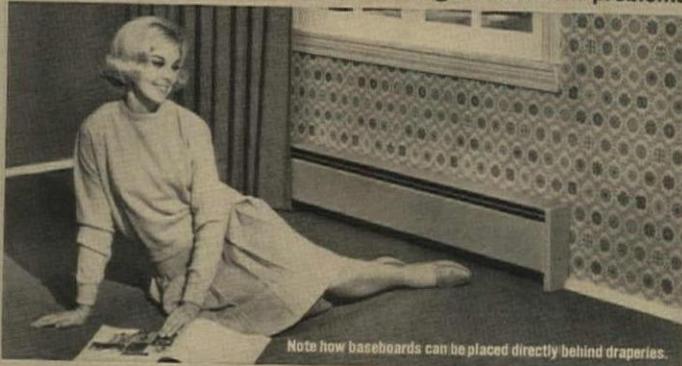
By 1962, 50,000 Installations

By 1962, his new equipment began to sell in substantial volume. At the end of 1963, he could count more than 50,000 installations in homes, apartments, motels, offices, etc.

Then, in 1964, Jim Price, chairman of the board of National Homes Corporation, the world's largest producer of manufactured homes, learned that one of his home dealers in Indianapolis, Indiana, was offering International's hot water electric heat as an option to gas heat.

He personally investigated, and found that of 55 homebuyers given this option, 52 had selected International. He also learned that this builder was offering a third option: ordinary electric resistance heat at \$200 less. There wasn't one taker.

For entire homes, apartments, and single cold room problems



Note how baseboards can be placed directly behind draperies.

Soon after, National Homes put into motion plans to adopt International hot water electric heat for all of its plants, including its subsidiaries: Lesco Homes, Martinsville, Virginia; and Best Homes, Effingham, Illinois.

In the meantime, other builders had begun using International. Electrical contractors throughout the country started recommending it to their customers.

Portable Model Sales

And many of the nation's leading department stores began selling International hot water electric heat in portable models, which can easily be carried from room to room. These stores include Hammacher Schlemmer in New York City; Hechinger's in Washington, D. C.; L. Grossman & Sons in New England; Famous-Barr in St. Louis, and Brueners on the West Coast.

What makes this heating equipment so remarkable and worthwhile?

One reason is its economy. Take the case of Argyle Gardens Apartments in Elmhurst, Illinois, a suburb of Chicago. There, the first year's operating costs averaged more than 25% below the estimates of the local electric utility. In some apartments, the cost was as much as 60% below estimates.

To fully understand how this is possible, let's take a closer look at the heaters themselves.

In the first place, the temperature of the water in the heaters actually changes according to how cold it is outside.

For example, on a mild day, the water temperature may not get much over 90° F. On a very cold day, it will rise to over 200° F.

This means that cold air coming off walls and windows is exactly balanced by heat emitted from the heaters. Never too much heat... never too little. There is no waste.

As a result, there is less than a 3° F. difference between floor and ceiling temperatures. No heat bunched at the ceiling where it isn't needed.

Because temperatures are so uniform throughout the rooms, thermostat settings can be lower. This means definite money savings. According to research of the Coal Institute, for each degree above 72° F. on the thermostat, heating costs rise 3%.

These same facts account for the remarkable comfort of International hot water electric heat. No cold floors, because the floor is practically as warm as the ceiling.

In addition, there are no cold drafts. And no "on again... off again" heat. Air circulates slowly and refreshingly at all times.

Then there are the advantages of healthfulness and cleanliness. Dust and lint particles in the air will scorch and turn into carbon cinders when heated to 325° F. These scorched particles are the culprits that cause your walls to smudge. They also irritate the nose and throat membranes of allergy sufferers. Unlike other heating methods, International baseboards never reach 325° F., even on very cold days.

In addition to the advantages of economy, comfort, health and cleanliness, (no moving parts, so silent, too) there is still one more. That is the heater's absolute safety.

International hot water electric baseboards, unlike ordinary electric resistance baseboards, can be placed behind the filmiest drapes. As a matter of fact, New York City will not only allow International to be placed behind draperies, but behind doors and furniture as well.

Safest for Children

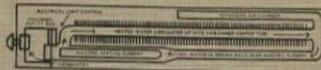
Mischiefous children can stuff gauze, tissue, what have you, in the heaters without the slightest danger.

These are the reasons why Sid Heiman considered this heating system so revolutionary, and why we sincerely believe that you can have no better permanent or portable heating whatever your needs.

Here, briefly, is how the baseboards operate.

When the water (which includes an anti-freeze solution that protects to 50° F. below zero) is heated by the electric element in the permanently sealed copper tube, it begins to circulate, releasing warmth.

Even when the thermostat shuts the unit off, warmth continues to be released by the circulating water.



Each unit is self-contained. There is never need to add water or to refill. And each heater contains an electric limit control and air expansion chamber.

So call your department store if you're interested in a portable model that plugs into any electrical outlet. Or call your local electrical supply wholesaler for the name of the outlet or electrical contractor nearest you... if you're interested in a permanent installation.

If they don't have it (Sid Heiman still hasn't seen everyone), then send the coupon below directly to the company for fast and complete service.

HOT WATER ELECTRIC HEAT DIVISION
INTERNATIONAL OIL BURNER CO.
3800 Park Ave., St. Louis, Mo 63110



Exclusive U.S. Patent Nos. 272242, 3150250. Canadian Patent No. 696903.

MAIL THIS COUPON TO
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3800 Park Ave., St. Louis, Mo. 63110

For Rooms Watt Heater Portable Permanent

OUR CHALLENGE TO YOU:

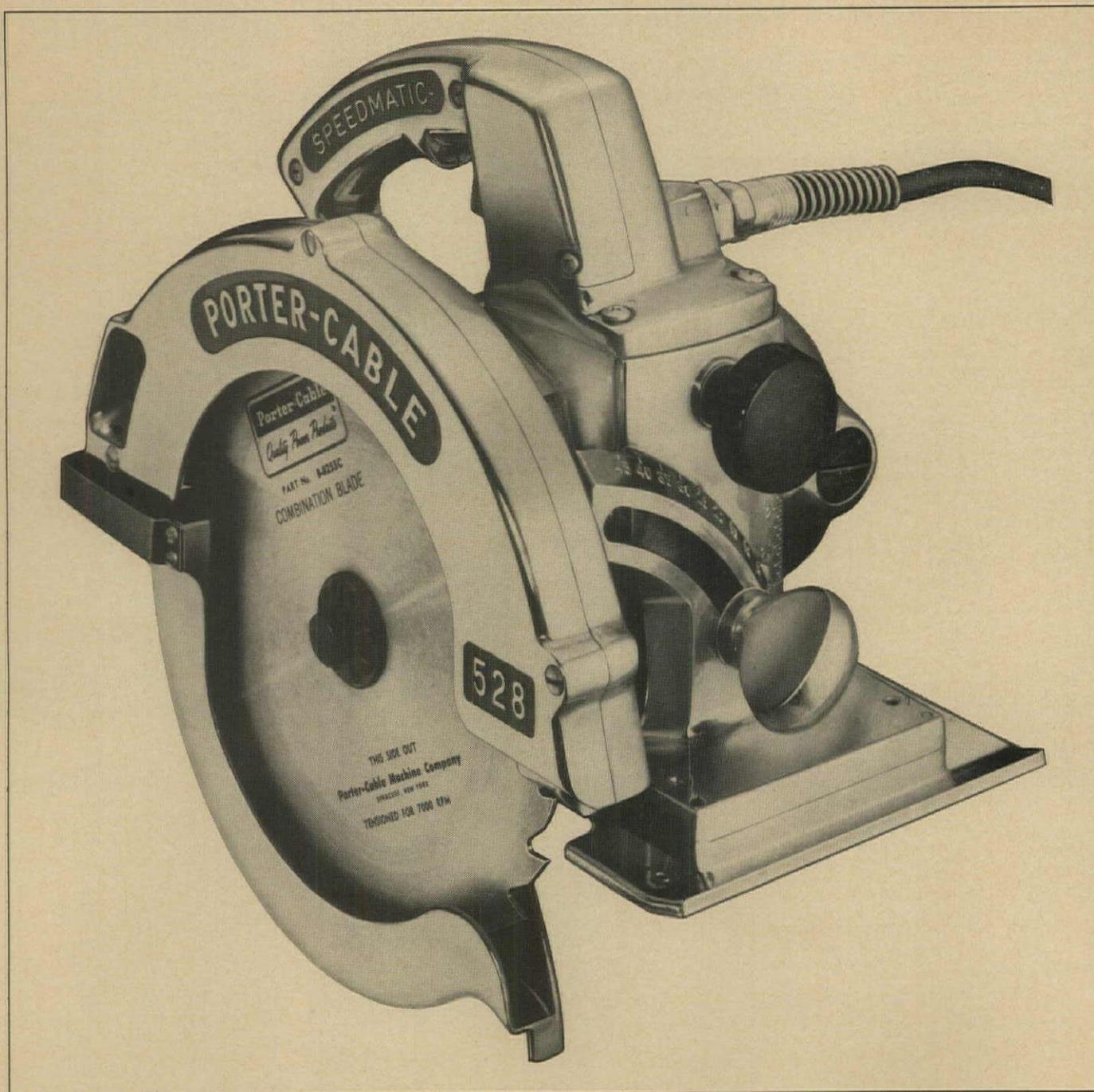
Unless International hot water electric heat sells your homes faster, don't waste your time or money on it. Just install the system in one home. Then run an ad with our insert. If you don't experience faster overall sales on your homes, the heaters will cost you nothing. We'll take them back. In addition, we'll pay the cost of the entire ad. If you're interested, send us plans and specifications for a free heating layout, today.

Name _____
Position _____
Firm _____
Address _____ City _____ State _____

Can't take advantage of your offer now, but may later. Please send me a free brochure.

Mail to: Sidney J. Heiman, Chmn. of the Bd., Int'l. Oil Burner Co., 3800 Park Ave., St. Louis, Mo. 63110

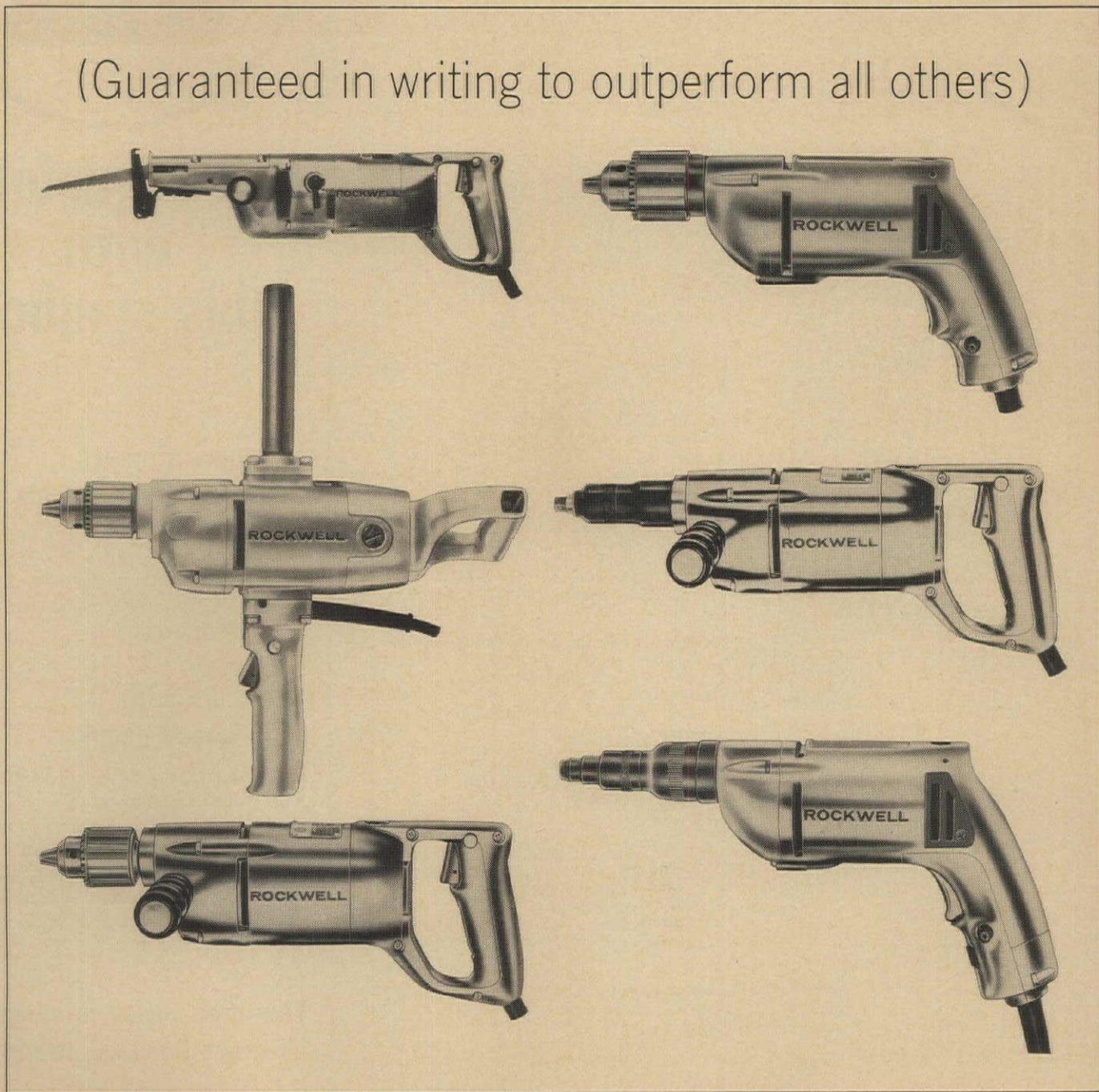
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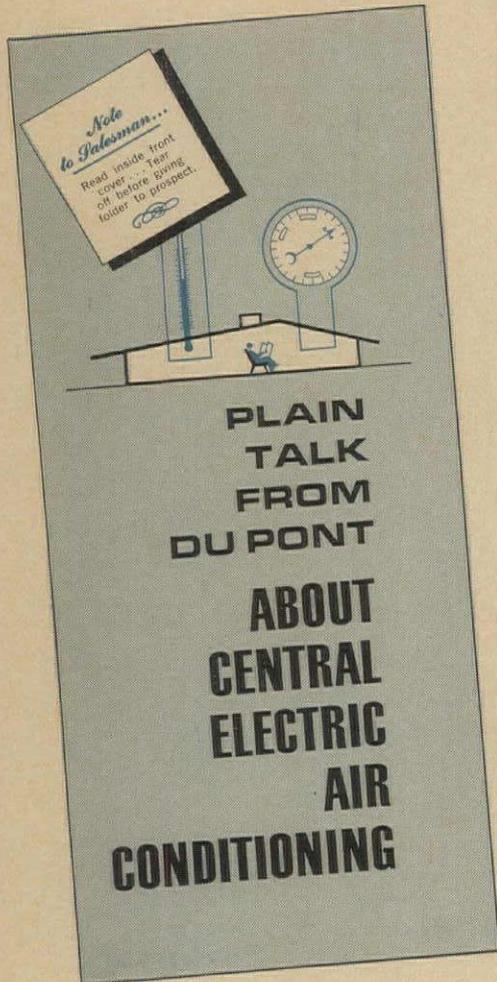
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Please send me a copy of your booklet on central residential air conditioning.

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BUSINESS

starts on p. 40

YPSILANTI: Apartments, \$1 million. Sponsor: E. Edwards. Plans: Z. T. Gerganoff.

MINNESOTA—HOPKINS: Apartments, \$750,000. Sponsor: Richard Neslund, Minneapolis. Plans: James Stageberg, Minneapolis. **MINNEAPOLIS:** Apartment, \$1.5 million. Sponsor: c/o Daum Development Corp. Plans: Fashl Hillstrom & Horty Inc. **ST. PAUL:** Apartments, \$750,000. Sponsor: Wallace M. Mailand. Plans: Associated Architects & Engineers. **SPOREVIEW:** Apartments and townhouses, \$3.5 million. Sponsor: c/o Northeast State Bank, Minneapolis. Plans: Larson & McLaren, Minneapolis.

MISSOURI—COLUMBIA: Apartments, \$1.5 million. Architect: Design Enterprises, North Kansas City. **LAKESHIRE:** Apartments and 38 houses, \$5 million. Builder: Lakeshire Development Co., Afton. **OVERLAND:** Apartments & swimming pool, \$1,750,000. Sponsor: Goralnik Realty Co., St. Louis. **RICHMOND HEIGHTS:** Apartment, \$1.5 million. Sponsor: United Construction & Development Co., St. Louis. Plans: Stanley Glantz, University City. **ST. LOUIS COUNTY:** 60 houses, \$2 million. Builder: Grimes Building Co., Dellwood. **UNIVERSITY CITY:** Apartment, \$700,000. Architect: Martin Bloom & Assoc., Clayton.

NEW JERSEY—MAHWAH: 80 houses, \$2 million. Builder: Voorhees Estates, Clifton. Plans: Rudolph Novak, Clifton. **MONTVALE:** 26 houses, \$1 million. Builder: Chestnut Ridge Estates, Bergenfield. **MOUNT OLIVE:** 300 houses, \$2 million. Architect: Burton Appel, Newark. **OLD TAPPAN:** 49 houses, \$1 million. Builder: Zorn & Jackman Realty & Construction, New York City. **PARAMUS:** 35 houses, \$1,820,000. Builder: Country Club Estates; 22 houses, \$572,000. Builder: Joy Homes. **PARSIPPANY:** Garden apartments, \$920,000. Sponsor: Dartmouth Village. Plans: Raymond R. Wells, Paramus. **PASSAIC:** Townhouses, \$500,000. Sponsor: Town Houses of Passaic, Clifton.

NEW YORK—BINGHAMTON: Garden apartments, \$1 million. Sponsor: LaMonica's Restaurant. **COMMACK:** 41 houses, \$850,000. Builder: Burr Ridge Estates. **LAKE GROVE:** 56 houses, \$850,000. Builder: Harwood Homes, Jamaica. **LAKE RONKONKOMA:** Garden apartments, \$640,000. Sponsor: John Kreteras. Plans: Anthony J. Lorio, Port Jefferson Station. **NEW WINDSOR:** Garden apartments, \$4 million. Sponsor: Squire Village Inc. Plans: Martin, Gebhardt & DiPaola, Fairview. **NORTHPORT:** 28 houses, \$600,000. Builder: Red Barn Estates, Huntington. **PATTERSON:** Garden apartment, \$1.9 million. Sponsor: Migliore Assoc., New York City. **SOUTHEAST:** Garden apartments, \$1.8 million. Sponsor: Brewster Hill Land Development, Putnam Valley. **YORKTOWN:** 30 houses, \$600,000. Builder: Joseph Bushman Construction. Plans: Harsen, Johns & Fermery, Mt. Kisco.

NORTH CAROLINA—CHAPEL HILL: Apartments, \$800,000. Sponsor: Jack Carlisle, Raleigh. Plans: City Planning & Architects. **GREENSBORO:** Apartment, \$3 million. Sponsor: S&C Developers, Norfolk, Va. **KITTY HAWK:** Houses, \$5 million. Sponsor: East Coast Properties Inc., Winston Salem. **MONTREAT:** Dormitory, \$525,000. Sponsor: Anderson College. Plans: Anderson & Dracon.

OHIO—COLUMBUS: 50 houses, \$500,000. Builder: Jack Esper; 60 houses, \$1 million. Builder: Ryan Homes. **DAYTON:** 50 houses, \$1 million. Builder: R. H. Bowers Construction; 80 houses, \$3 million. Builder: R. H. Bowers Construction. **KENT:** Garden apartments, \$1 million. Architect: Trefon Sagadencky, Cuyahoga Falls. **MENTOR:** 24 houses, \$500,000. Builder: Hallmark Building Co., Edgewood. **PARMA:** 114 houses, \$2.3 million. Builder: Coventry Builders.

OKLAHOMA—BROKEN ARROW: Townhouses, \$1 million. Builder: James Heidler, Tulsa. **LAWTON:** Apartment, \$1 million. Sponsor: John McKee &

Business continued on p. 48



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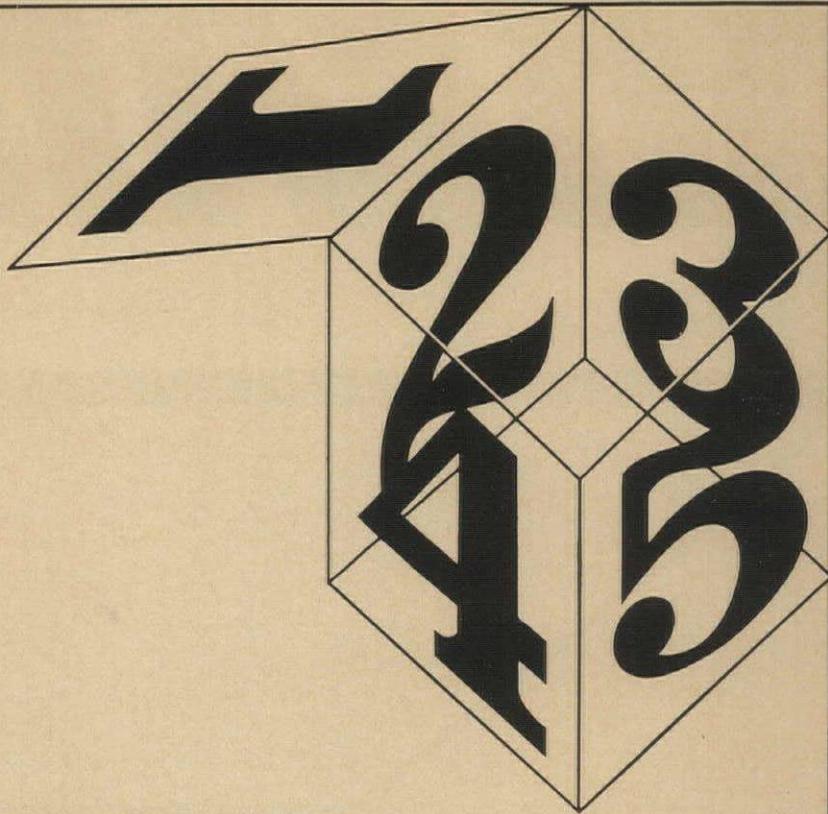
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The answer to your problem can come directly from a Carrier Dealer. He's an air conditioning specialist with access to a broad equipment line.

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dence in both temperature selection and payment of utility bills.

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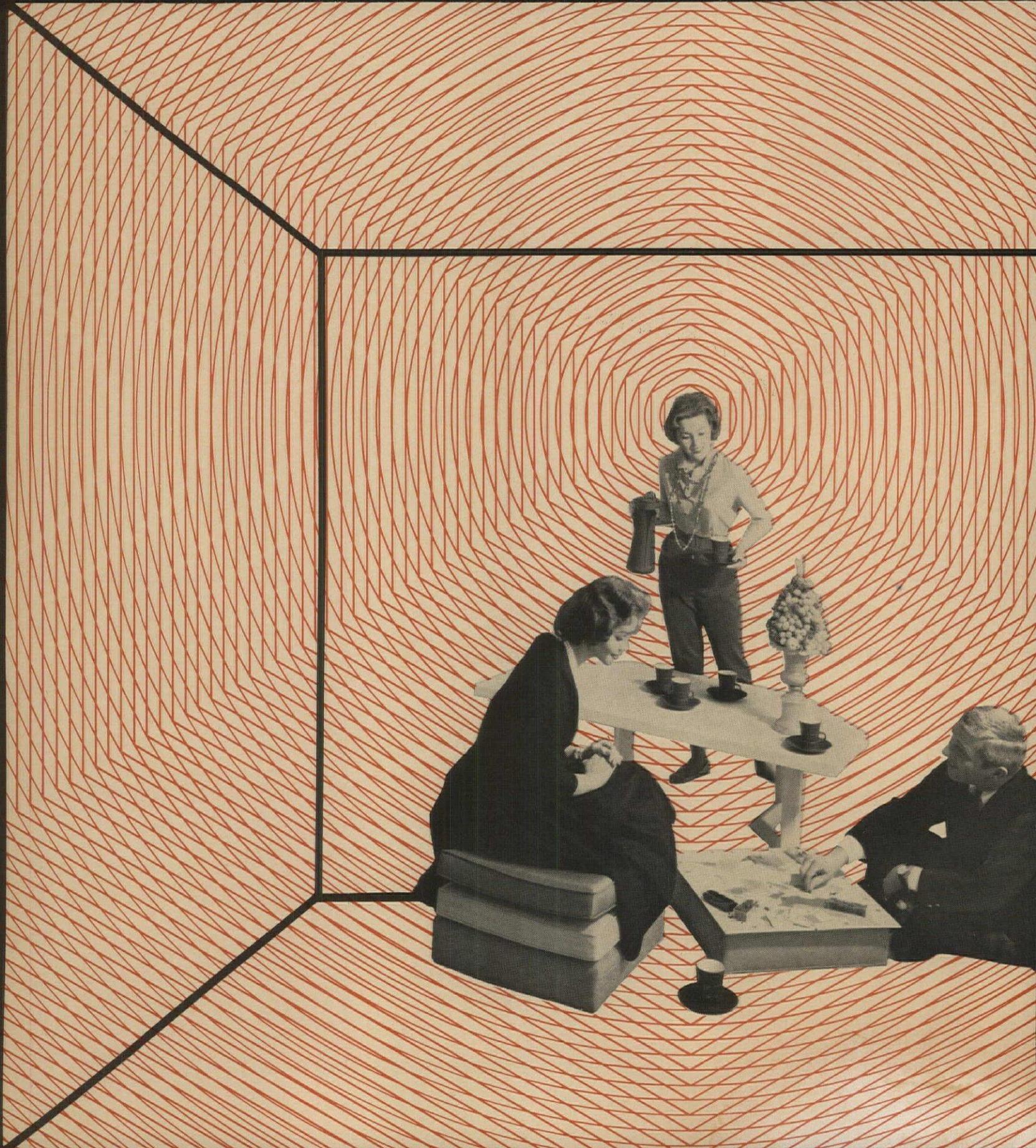
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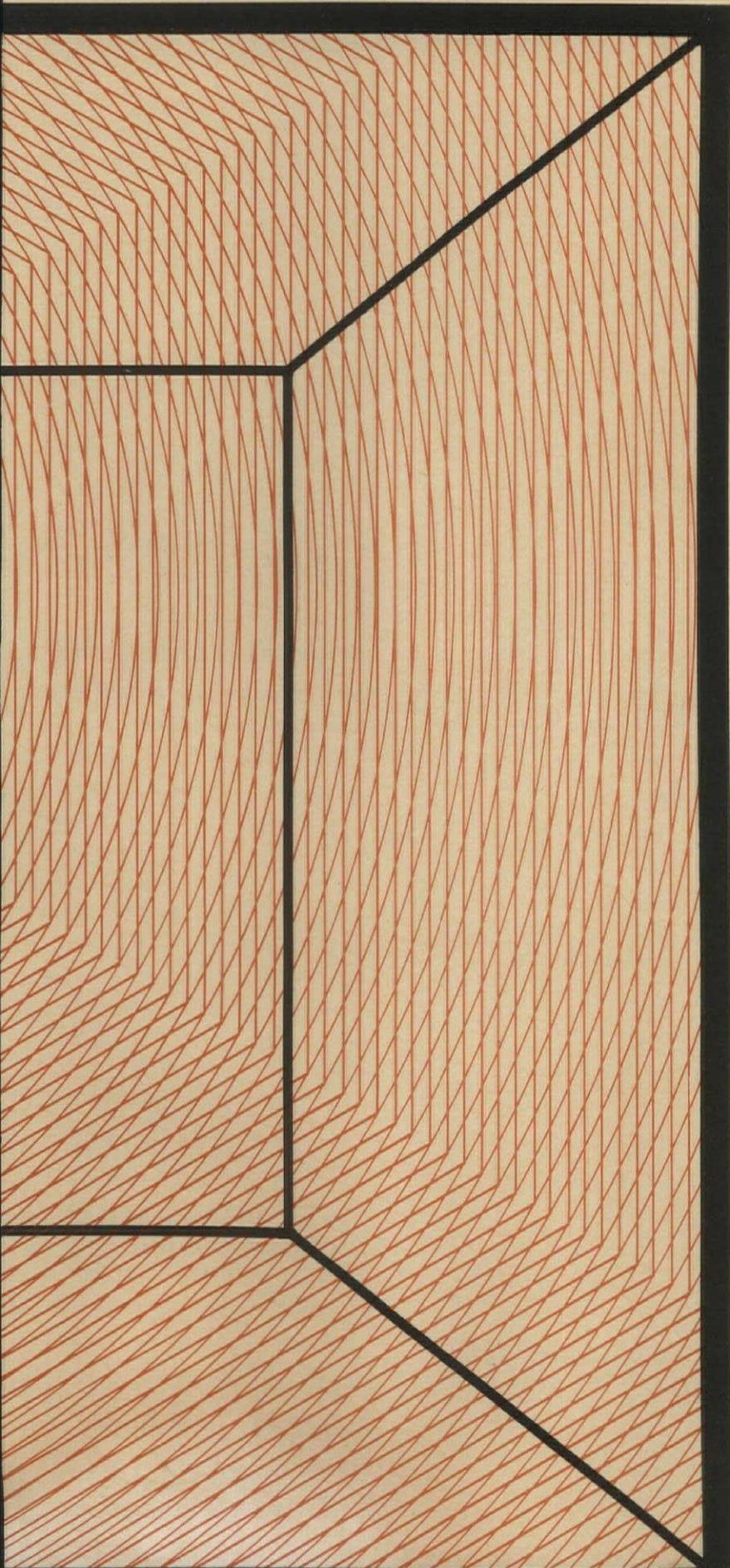
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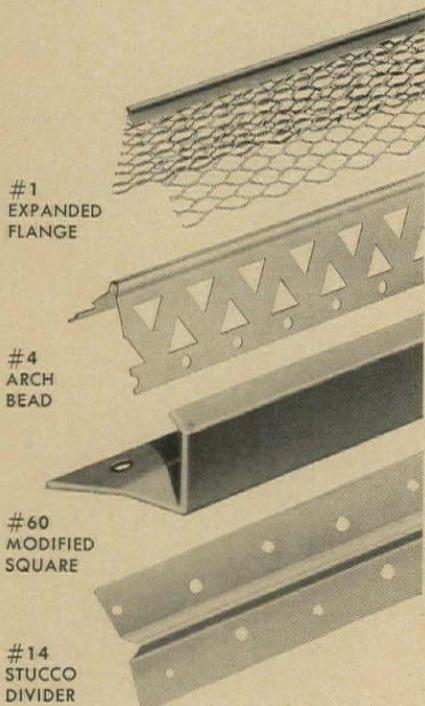
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BUSINESS

starts on p. 40



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Sequoyah National Management, Stillwater. Plans: Piland & Assoc., Tulsa. **TULSA:** Condominium apartment, \$500,000. Sponsor: Paul Baker & Don Grier; Apartments, \$5 million. Architect: Jack Butz, Bartlesville; Townhouses, \$2 million. Builder: Preferred Property Inc.; Apartment and commercial facilities, \$6 million. Sponsor: William Coe, Kenneth White, F. Jack Allen, Lawton. Plans: Bishop & Quinn, Oklahoma City.

PENNSYLVANIA—AUDUBON: Garden apartments, \$4 million. Sponsor: Mill Grove Assoc., Morristown. Plans: Lester H. Weckesser, Erlton. **EASTON:** Garden apartments, \$500,000. Sponsor: Leonard Abrams, Oreland. **HARRISON TOWNSHIP:** Apartments, \$4.2 million. Sponsor: Tichnor Hill Inc., Kingwood, W. Va. Plans: Deeter, Ritchey & Sippel, Pittsburgh. **LOWER PROVIDENCE TOWNSHIP:** 235 houses, \$5.17 million. Builder: Joseph F. Cusumano Inc., Norristown. Plans: John Bower, Abington. **MCCANDLESS TOWNSHIP:** 20 houses, \$600,000. Builder: Pedone-Dixon Agency, Pittsburgh; 25 houses, \$600,000. Builder: Richard E. Hartung, Pittsburgh. **PITTSBURGH:** Apartments, \$2.72 million. Sponsor: Klingbeil Co., Columbus, Ohio. Plans: Robert J. Schwinn, Silver Spring, Md; 37 houses, \$1.1 million. Builder: Walton Homes, Glenshaw. **POTTSTOWN:** Garden apartments, \$650,000. Sponsor: Pottstown Cemetery Development & Assistance Corp. Plans: Richard Frantz & Dana W. Gangewere, Reading. **SPRINGDALE TOWNSHIP:** 32 houses, \$544,000. Builder: Val Star Homes, Burrnell.

TENNESSEE—ANTIOCH: 180 houses, \$2.16 million. Builder: R. B. Woodruff. **MEMPHIS:** Apartment, \$800,000. Sponsor: Bauman Realty. Plans: Edward R. Johnson; Apartments, \$571,000. Sponsor: Boshwit Bros. Plans: Edward Johnson.

TEXAS—ARLINGTON: Townhouses, \$1.4 million. Sponsor: Ray Foster. Plans: Milton Barrick. **DALLAS:** Apartments, \$7.5 million. Sponsor: Lincoln Properties. Plans: Hub Miller. **HALLSVILLE:** 130 houses, \$1.7 million. Builder: D. H. Snyder, Marshall. **HOUSTON:** Apartment, \$1.5 million. Sponsor: Cummings & McRae. Plans: Jenkins Hoff Oberg & Saxe; 160 houses, \$2.4 million. Builder: Norwood Homes. **RICHARDSON:** 100 houses, \$3 million. Builder: Blanchard-Hand Construction. **SAN ANTONIO:** 250 houses, \$2.5 million. Builder: J. J. Homes. **WICHITA FALLS:** Apartments, \$1.5 million. Sponsor: Robert Seabury and Arthur W. Beck Co., Dallas.

VIRGINIA—ALEXANDRIA: Apartments, \$1.5 million. Sponsor: Apartments Inc., Silver Spring, Md. Plans: Montgomery Green & Assoc., Silver Spring, Md.; Apartment, \$900,000. Sponsor: Lustin-Ottenstein & Young, Washington, D.C. Plans: Gitlin & Canton, Washington, D.C. **ARLINGTON:** Apartments, \$500,000. Sponsor: Carl Freeman, Silver Spring, Md. Plans: Nelson & Daft, Washington, D.C.; Apartments, \$6 million. Architect: Richard Malesardi & Assoc., Washington, D.C. **CHESAPEAKE:** 800 houses, \$10 million. Builder: Zealander Corp. & Dunedin Ltd., Norfolk. **FAIRFAX:** Garden apartments, \$6 million. Sponsor: Bedford Assoc., Washington, D.C. Plans: Morton W. Noble, Washington, D.C.; Garden apartments, \$2 million. Sponsor: Carl M. Freeman Inc., Silver Spring, Md. Plans: Albert Girard Mumma, Washington, D.C.; Townhouses, \$2.5 million. Sponsor: Eugene N. Hooper, Falls Church. Plans: Vosbeck-Vosbeck & Assoc., Alexandria. **PORTSMOUTH:** 112 houses, \$1 million. Builder: West Park Homes, Norfolk. **QUANTICO:** Garden apartments, \$2 million. Sponsor: Goldsten Bros., Washington, D.C. Plans: Victor Smolen, Washington, D.C. **RICHMOND:** Townhouses, \$1.5 million. Architect: Tiffany Haley Armstrong. Plans: H. Louis Salomonsky.

WISCONSIN—GRAFTON: Apartment, \$760,000. Architect: Edmund J. Schrang, Milwaukee. **KENOSHA:** Apartment, \$500,000. Architect: Frank W. Cauley, Evanston, Ill. **MANITOWOC:** Apartments, \$500,000. Sponsor: Krueter & Yunker Construction. **SOUTH MILWAUKEE:** 80 row houses, \$800,000. Builder: Droback Investment, Milwaukee. Plans: Shepherd Assoc., Milwaukee.

Leaders start on p. 50

Slim, trim
Chromalox
electric
baseboard
heaters
—save you
space, time
and
money

Plan and build your homes with Chromalox Electric Heat . . . Exceptionally easy to install, low first cost, low installation costs . . . these are just two of the reasons cost conscious builders select Chromalox electric baseboard heating units. Other good reasons include attractive styling to fit any wall dimensions and home buyer preference for clean, quiet heat.

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Andy Place says **“Majestic® Thulman® fireplaces reduced our costs 30 to 40 percent”**

Andrew Place, President, Place and Company, Inc., South Bend, Ind. — a leading advocate of modern ideas in building.



Any room—any design treatment! Complete package, base to chimney! No need for masonry, mortar or footings! Saves time, labor and money!

Andy Place, nationally known home builder and a past Chairman of the NAHB Research Institute, has profited from the ease, speed and economy of Majestic Thulman fireplaces since the very beginning of this unique, popular line of built-ins!

Andy writes, “Being your oldest user of the Majestic Thulman Fireplace, we would like to tell you how pleased we are with their performance over the past 12 years.

“Our first units . . . are as good as the day they were installed . . . Needless to say, the units have reduced our costs from 30 to 40 percent . . . It is a pleasure to be able to put a fireplace in the second floor master bedroom without installing a masonry base clear down to the basement footing.”

Like Andy Place, many other successful home builders across the country have long enjoyed, or have lately discovered, the sound economic sense of using Majestic Thulman pre-built fireplaces in their home designs. And, like Andy, they look to Majestic for equally buy-appealing, cost-cutting building products in the future. Send for 8-page color brochure and other details on the Majestic Thulman line of 36” and 42” wide front-opening and corner model pre-built fireplaces!



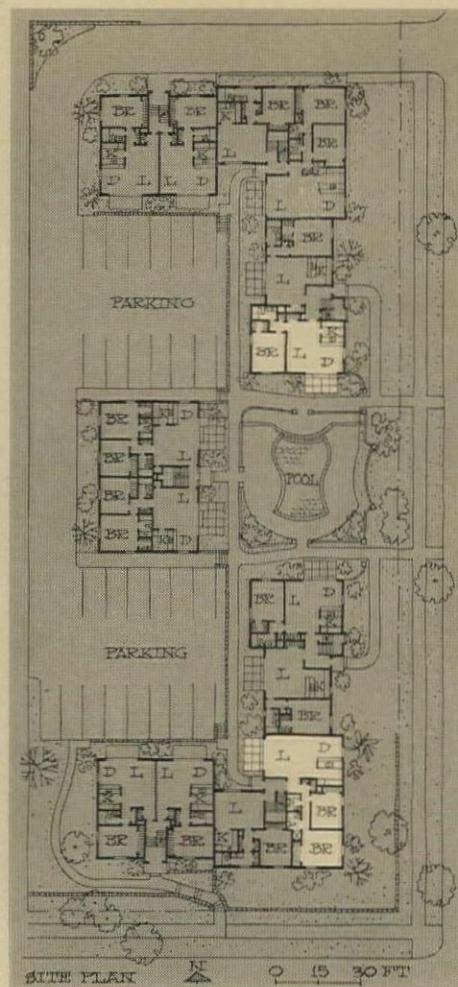
The Majestic Co., Inc.
 413 Erie St., Huntington, Ind. 46750



A new-fallen snow blankets this pleasant, rolling community of Place and Company homes in South Bend, Indiana.

WHAT THE LEADERS ARE BUILDING

Photos: R. H. 'Pat' Hayes



E-SHAPED SITE PLAN has two parking bays for 28 cars at rear of one-acre lot.

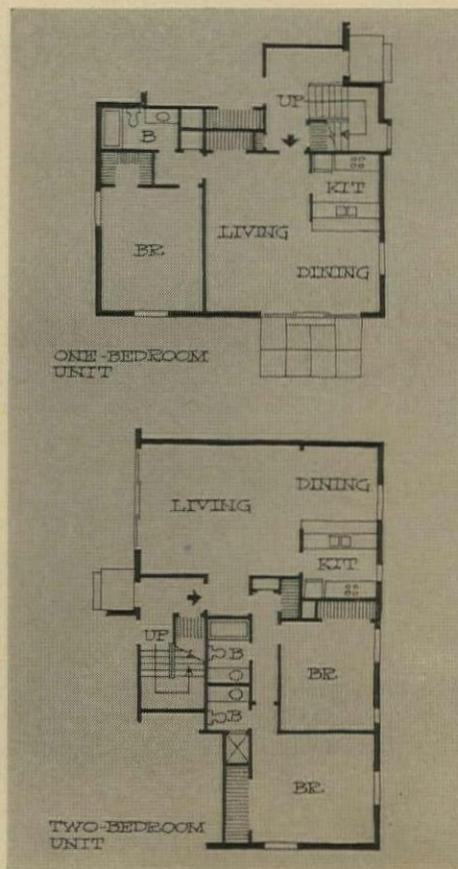
Traditional apartments for an established area

This garden apartment project won the approval of the same neighboring homeowners who had opposed several earlier applications for rezoning. In fact, 90% of them signed Developer Donald Alpert's petition for rezoning after he showed them his plans and designs.

Architect Herbert Duncan Jr. kept the three buildings in scale with surrounding houses by limiting them to two stories and

reducing their apparent height further with mansard roofs. Sunning areas around the swimming pool are screened from the neighbors' view by brick walls.

The 34 one- and two-bedroom units near downtown Kansas City, Mo., rent from \$135 to \$210 and are fully occupied. And last year the project won an urban design award. Builder: E. J. Straub Construction Co.



TYPICAL FLOOR PLANS show one- and two-bedroom units ranging from 694 to 1,176 sq. ft.



RESIDENTIAL SCALE is maintained by shingled roofs, shutters and stone retaining walls.



TRADITIONAL DETAILS appear in colonial lighting fixtures, massive brick entrance gates.

Leaders continued on p. 54

Vent-a-System... must prevent every attic ventilation problem...

or we'll remove it entirely at our expense!

Vent-a-System \$1,500,000 WARRANTY

This is to certify that this home, built by _____ and located at _____

has been designed and built with complete, balanced attic ventilation, using Home Comfort Products Co. Vent-a-Ridge and Vent-a-Strip and is warranted

TO MAINTAIN AN ATTIC TEMPERATURE NO MORE THAN 15° F. ABOVE THE OUTSIDE AIR TEMPERATURE YEAR AROUND
THIS CONDITION PROVIDES THE FOLLOWING BENEFITS:

1. Summer comfort increased by reducing the cooling load as much as 40 to 50%, and removing 75 to 95% of the attic heat due to sunshine.
2. Air conditioning operating cost reduced... with no increase in heating cost.
3. Year around efficiency of insulation maintained by eliminating moisture condensation in attic during winter.
4. Elimination of attic condensation deters rot of wood structural parts.
5. Condensation control helps eliminate paint peel on exposed painted wooden members.
6. Uniform roof temperature eliminates uneven melting of snow, icicles on overhang and ice dams causing water to back up under roof shingles and leak into attic.
7. Reduced roof temperatures help prolong life of composition shingles.

This warranty is valid only if the home in which Vent-a-System is installed is properly and adequately insulated* and the attic space is closed off from the conditioned space of the home. H C Products Co. neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with Vent-a-System. This warranty does not apply and no warranty either expressed or implied shall be applicable to malfunction of the attic ventilation system resulting from accidents, alterations, misuse or abuse, or failure to keep the home in which the system is installed in a proper state of repair.

Verify that Vent-a-Ridge and Vent-a-Strip have been installed in accordance with the manufacturer's recommendations

*Ceiling insulation shall have a minimum resistance R-11 in accordance with ratings established by the insulation industry.

Vent-a-System must be installed in accordance with manufacturer's recommendations.

hc products co.
home comfort
Box 68, Princeville, Ill.

BUILDER

Any problem that can be traced to faulty attic ventilation is prevented when you install Vent-a-System. That's a strong statement... but H C Products Co. (a corporation with net assets over \$1,500,000) stands behind it with a Warranty builders can issue to every home buyer. After a solid record of Vent-a-System SUCCESS in hundreds of thousands of homes, we make

this offer: If Vent-a-System doesn't maintain an attic temperature within 15°F. of outside air temperature... if problems can be traced to attic ventilation... H C Products Co. will take Vent-a-System back, return the purchase price and pay the labor costs for removing it!



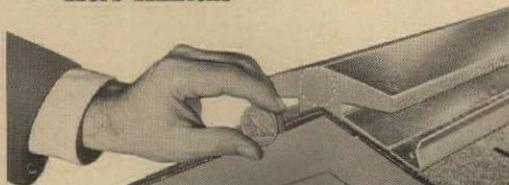
Herb Hinrichs

HOW CAN "MR. VENTILATION" HELP YOU?

No company in the world knows more about attic ventilation than H C Products Co.—developer of Vent-a-System after exhaustive tests on scores of homes including a specially-built research residence. Our Chief Ventilation Engineer Herb Hinrichs is

available to analyze specific ventilation problems you may have and advise solutions—at no cost to you. Ask your H C Products sales representative about this unique service.

Send coupon below for your free copy of the outstanding attic ventilation manual written by Herb Hinrichs, "Ventilation Fact & Fallacy."



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because warm air rises...
Vent-a-Ridge® at the top...
Vent-a-Strip® at the bottom...
keep air flowing continuously... evenly...
the entire length of the attic!



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PHONE 309 385-4323

HH

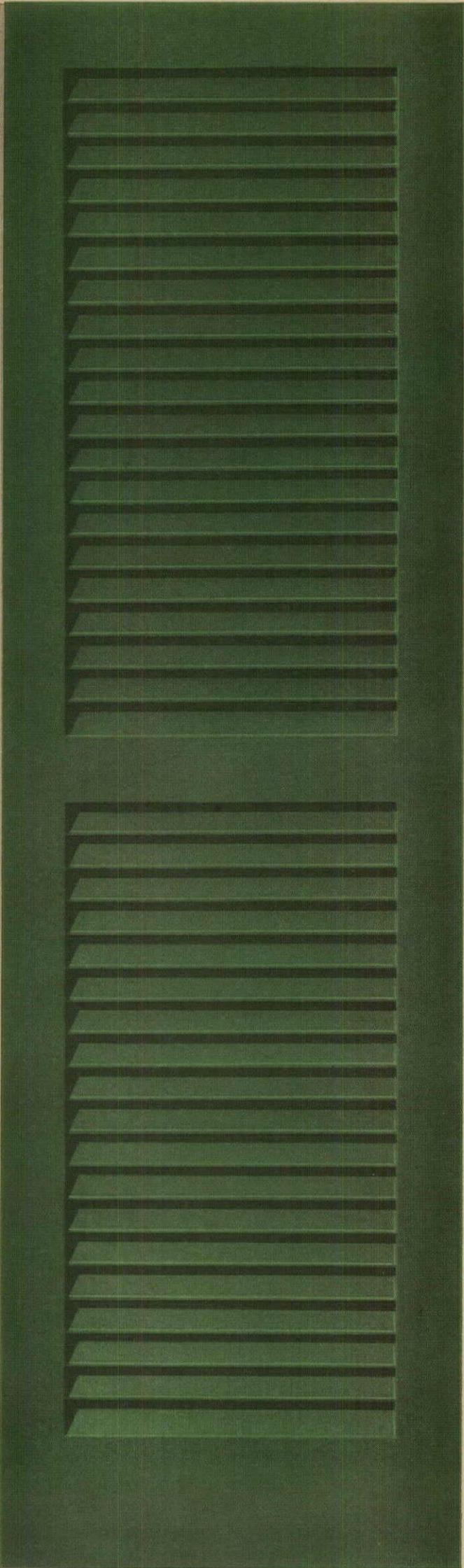
Please send Vent-a-System information including literature, prices, and free manual "Ventilation Fact and Fallacy".

Name _____

Address _____

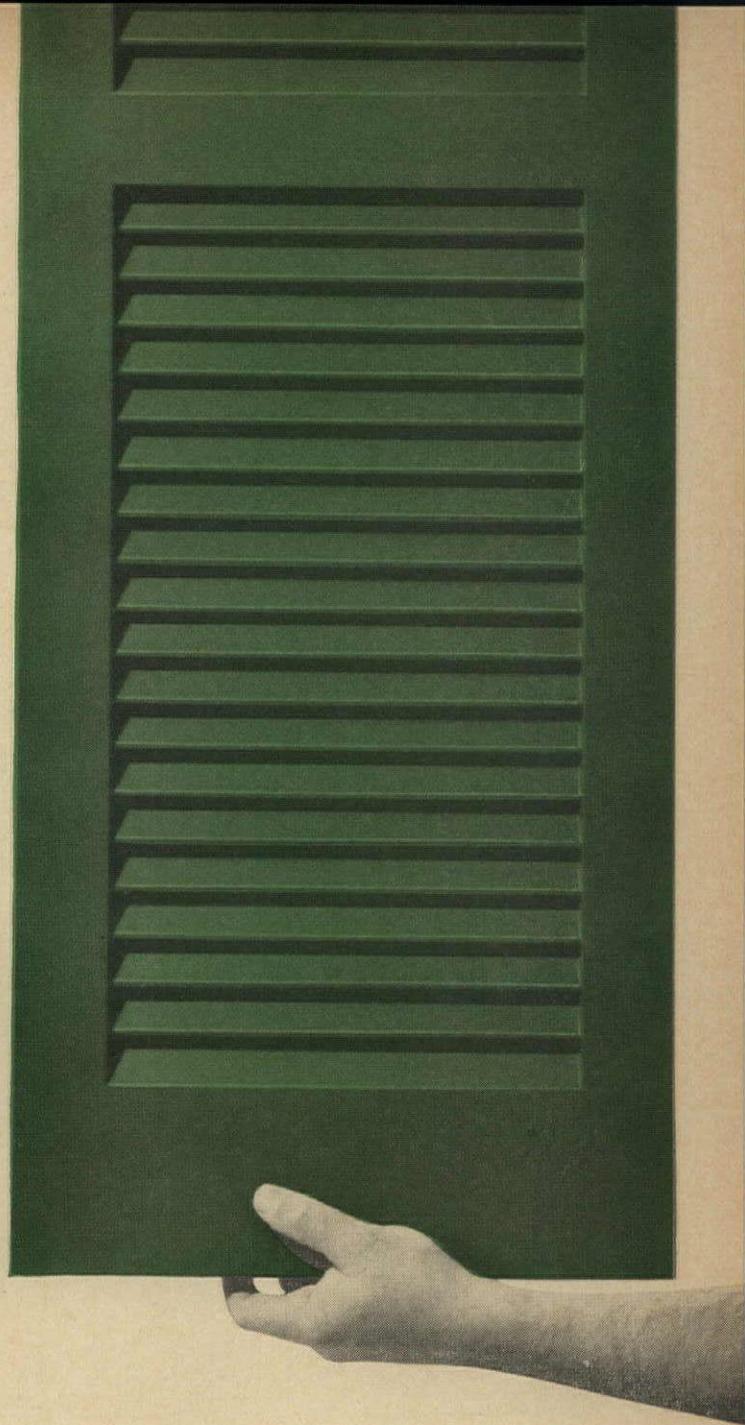
Firm _____

City _____ State _____ Zip _____



Wood?
No,

Nylon!



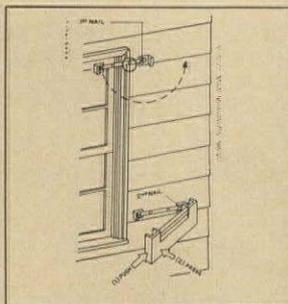
New Du Pont Nylon Shutters meet demand for low-maintenance, pre-finished, high-quality materials... give you fast, easy installation.

Made of tough Du Pont Nylon, these pre-finished shutters are sturdy one-piece construction—won't rot, crack or dent. Slats can't fall out.

They're easy to install. One man can put up a pair in 5 to 6 minutes on any siding or masonry. Everything you need is in the package. No special tools needed. All priming, painting, puttying are eliminated. And they have the look and detail of fine millwork.

The durable factory finish—in black, white or dark green—won't blister, chip or peel. Once installed, there's practically no upkeep. If the home owner ever wants to change colors, they can be easily repainted.

On your next job—whether homes or apartments—include the most practical, durable shutter on the market—Du Pont Nylon Shutters. They'll save you money. For more information contact Du Pont Building Products, Room N-2521, Wilmington, Del. 19898.



Hidden hangers make installation a snap. Nail the rust-resistant hangers in place, "snap on" the shutters, and the job's done. No screws or nails in the shutter face. Shutters fit securely, won't rattle in strong winds.



"We converted 100% to Du Pont Nylon Shutters," says Bob Scarborough, builder of 1,500 homes, selling up to \$40,000 at Cherry Hill, N. J. "They cost a little more initially, but fast installation, elimination of call-backs, and improved construction efficiency quickly get that back for us."

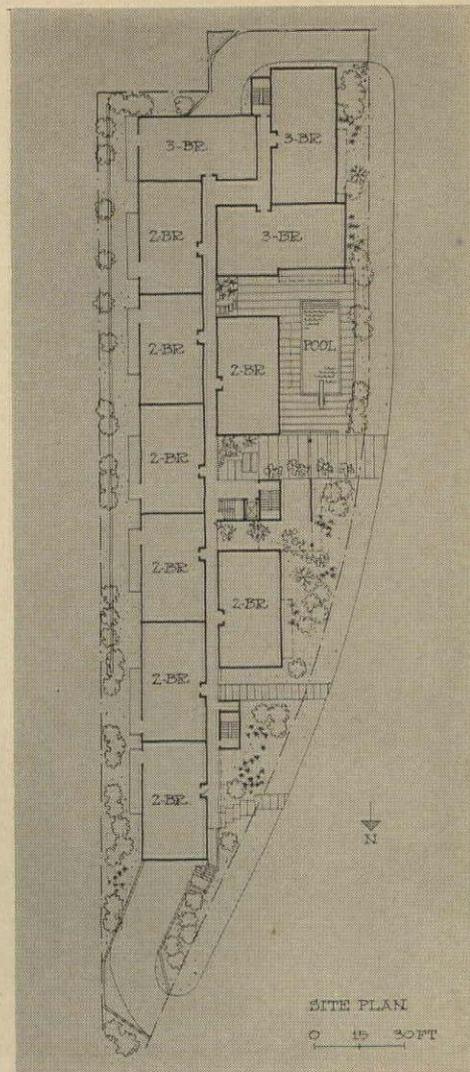


BUILDING PRODUCTS

Circle 61 on Reader Service Card

WHAT THE LEADERS ARE BUILDING

starts on p. 50



TRIANGULAR SITE PLAN shows driveways at either end which lead to subterranean garage.

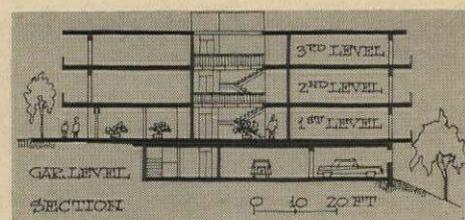
Contemporary apartments in a nonresidential area

This 34-unit project is in a section of Los Angeles containing a mixture of open fields, a park and some nearby government administration buildings.

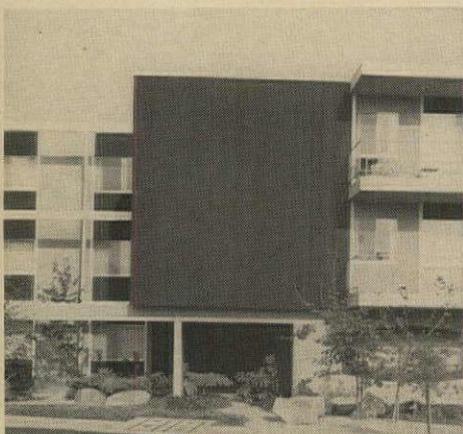
Architect Richard Dorman designed a contemporary building with staggered setbacks for the 3/4-acre site along a busy street. There are several entrances from

the street to the long central corridor (*site plan, right*), and the central entrance, sheltered by the projecting upper levels, has a landscaped fountain and reflecting pools.

Rents for the two- and three-bedroom units range from \$225 to \$315. Builder-owner: Keller-Indictor.



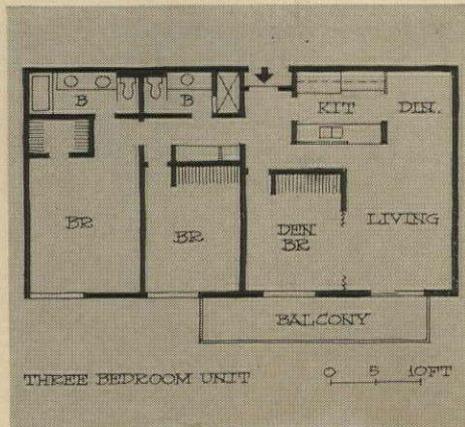
FOUR-LEVEL BUILDING has underground parking for 46 cars on downhill side of site.



CENTRAL ENTRANCE from street leads through to an open court and stairwell to upper levels.



PROJECTING BALCONIES on all units have views of fields, parks, or central swimming pool.



TYPICAL FLOOR PLAN shows third bedroom or den. Units range from 1,106 to 1,334 sq. ft.

Letters start on p. 66



With Mosaic Tile, color compatibility is Traditional.

Or Early American.

Or Contemporary.

Or any other motif you care to come up with. When you specify Mosaic Tile, color compatibility is part of the package. It's automatic.

Mosaic goes along with anything (from way-out wallpaper to bold, brassy fixtures).

The bath above is a good example. Notice how the broad expanse of Medley Random floor never overpowers the soft tones of the cabinetwork.

And how our sprightly new Champagne Glaze 1823 white

scored wall tile harmonizes so gracefully with the countertop of Faientex 1091 midnight blue. And with the vibrant accessories. And with the subtle tub enclosure of Satin-Glaze 1001 light blue and its inset of Bright-Glaze 1012 dark blue.

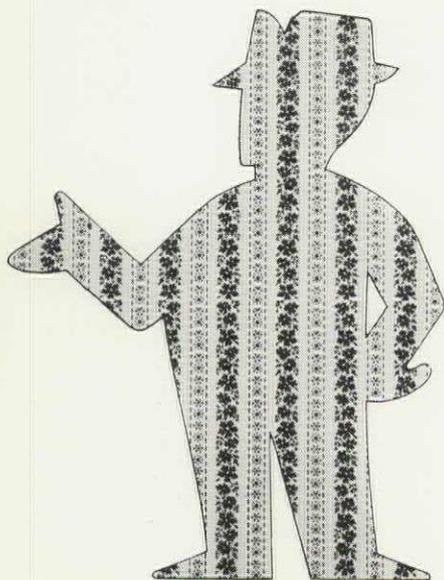
For prices, samples and availability, contact any Mosaic Representative, Service Center or Tile Contractor.

See Yellow Pages "Tile-Ceramic-Contractors". Or write: The Mosaic Tile Company, 55 Public Sq., Cleveland, Ohio 44113. For comparable colors in the West: 909 Railroad St., Corona, Calif.



"Mosaic" is the trademark of The Mosaic Tile Company

Need a good salesman to hang around the house all day?



Try wallpaper

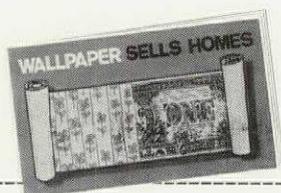
We're serious. Wallpaper does sell homes. Not all by itself, of course. But, everything else being more or less equal, wallpapered homes have the warmth and individuality that stimulate a quick sale.

Who says so? Builders. We asked 1000 of them. For the record, two-thirds of new home builders replying said wallpaper helped them sell homes they'd built. Faster. And easier. Therefore, more profitably. That's what they said.

Maybe it was just their money talking.

Talking of money, we have a new builder booklet that will help you make more. Just fill out the coupon and send for your free copy today.

Of course, we expect you to make an initial investment. A 5¢ stamp.



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LETTERS

Credit reporting

H&H: I concur most heartily with the complaints about credit reporting agencies that were voiced at your Round Table on low-cost housing [Jan.]. But all of the gentlemen missed my biggest gripe. Why must we wait two and three weeks for reports?

If \$7.50 isn't enough to do the job properly, I'd be willing to pay more but I want service—\$5, \$10 or even \$25 is a small price to pay when you figure it costs about \$4 a day for interest on a \$20,000 loan, let alone the cost of taking a property off the market while waiting for a complete report.

HERMAN LAVINE, broker
Twin Cities Realty
Herald, Calif.

Lusk collapse

H&H: I must congratulate you for the excellent job you did on the Lusk debacle. The lucidity of your story is outstanding, and in my book, it should be an award winner.

It teaches a few lessons, too, and I hope many of us in the industry get the point!

PHILIP I. EMMER, president
Lincoln Estates, Inc
Gainesville, Fla.

Heat installation costs

H&H: I believe an error has been made in the heating cost figures presented in "Where the building dollar goes—a new cost guide" [Jan.].

Assuming a theoretical house has a heat loss of 100,000 Btu an hour, the figures represented would indicate that warm-air heating would be installed at figures of \$351, \$373, \$300 and \$362 respectively. Under the same situation, based on the figures published, hot water radiant heating would cost \$4,800 and \$4,400 respectively, and we believe an error in the decimal point has been made in that these figures should be \$480 and \$440 respectively.

A. R. NIEWELD
Hydrotherm, Inc.
Northvale, N.J.

Reader Nieweld is right. The costs of hot-water radiant heat per 1,000 Btu of heat loss should have read \$4.80 and \$4.40—not \$48 \$44.—ED.

Retirement town

H&H: Thanks for your excellent report on Ross Cortese's Leisure World retirement community in New Jersey [Jan.]. It is a wonderful presentation of our architectural story.

Prices of our manors [apartments] are now set and will range from \$12,500 to \$30,500. Monthly payments—from \$140 to \$267—will include 80% of the cost of each resident's outpatient medical services.

THOMAS A. MITCHELL, sales manager
Rossmoor Leisure World
Cranbury, N.J.

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USO IS THERE ... ONLY IF YOU CARE

Who cares if he's up to his neck in a rice paddy, six thousand miles from home?

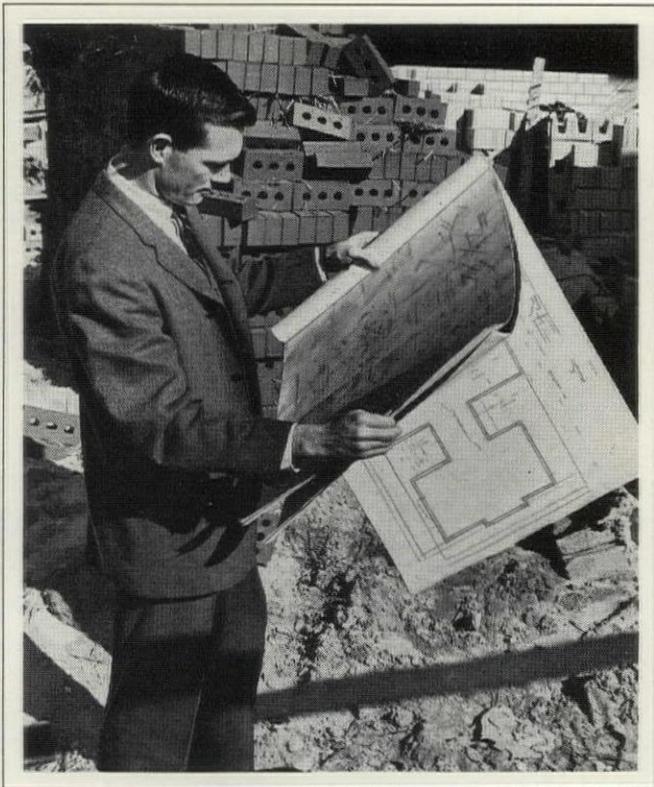
Who cares what he does, when his ship comes in to that teeming foreign port?

You care, when you give to USO. Because USO is there, bringing the grateful hand-clasp from home to faraway places. Bringing entertainment and laughter to our loneliest outposts. Offering a choice of conduct in overcrowded cities and camp towns here and overseas.

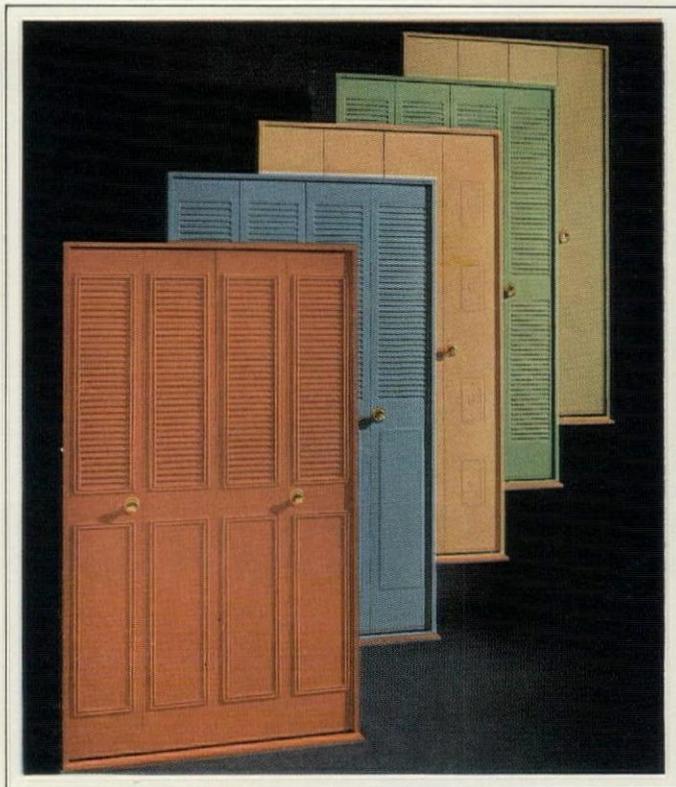
Know a better way to say you're grateful to them, for helping to safeguard you? Remember, civilian-supported USO depends entirely on your contribution to your local United Fund or Community Chest. Give, because USO is there, only if you care!



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 Certi-Split Handsplit/Resawn Shakes, 24" x 3/4" to 1 1/4" with 7 1/2" to the weather.



Red Cedar Handsplit Shakes: Very much at home in Samoa.

When the architects began planning some new government buildings at Pago Pago, American Samoa, they faced two major roofing problems. First, what would survive more than 10 years in Samoa's hot, moist, salt-laden air (and occasional hurricane winds)? Second, what would complement the local native thatch roofs? Their attention was steered to red cedar when someone discovered some island buildings with red cedar shingle roofs still in place after 28 years. Further investigation led to life expectancy predictions of 30 to 40

years for handsplit shakes, and to a decision to use them for the roofs of 11 new government houses, 200 individual school units, an airport terminal and an auditorium (shown above). Detailed information on Certi-Split handsplit shakes (and Certigrade shingles) is available in our Sweet's Catalog listing, 8d/Re. Or give us a call. Or write.

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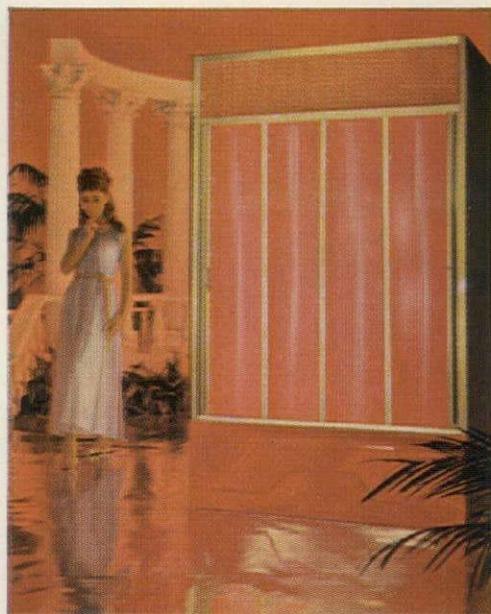
Only Showerfold offers such a decorator range of color—bold new Red Apple and Blueberry Blue, plus 7 soft-tone pastels. Rich gold or silver trim in polished or satin finish.

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The perfect match! Deville® Marbled Shower Floor—will not stain, mold or mildew—available in 7 colors to harmonize with Showerfold Enclosures. Available for corner angle, recessed and standard corner enclosures.

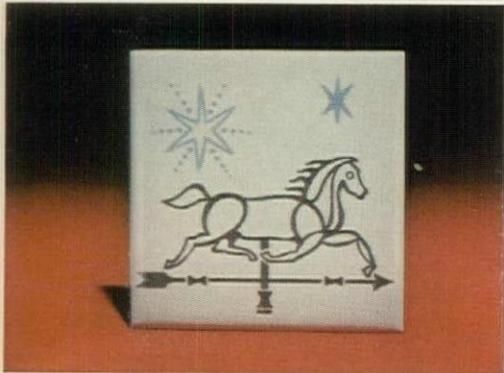
SHOWERFOLD® *Leader in Bathroom Fashion*

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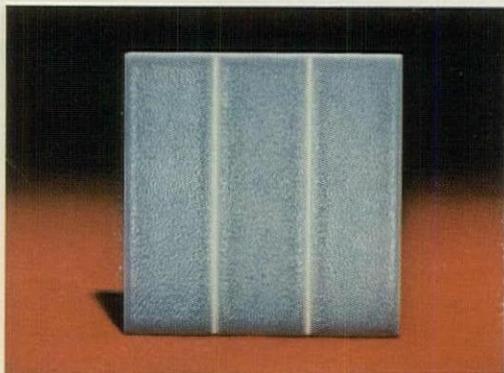




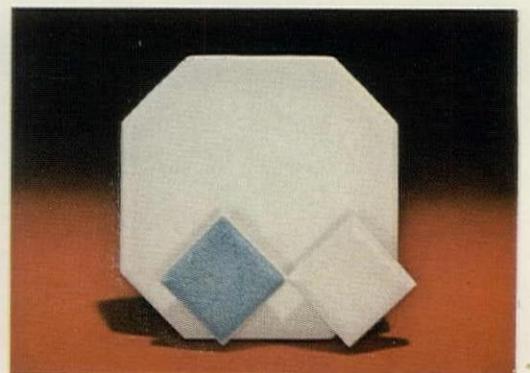
"I LOVE THE BATH...WE'LL TAKE THE HOUSE!"



"I love its individuality!" She'd never guess it, but it takes just a few extra dollars to give any bathroom the uniqueness of Decorated Tiles. American Olean features 70 original designs. This is Weathervane, AD-5.



"I love its newness!" And well she might, for the lustrous new crystalline tile colors add excitement to baths and powder rooms. Wall tile here is scored design SD-4, 321 Cr. Cornflower . . . a top seller in today's market.



"I love its distinctiveness!" Says she as she steps on the gleaming crystalline glazed tile floor, made up of Octagon 365 Cr. White, with dots of 321 Cr. Cornflower and 365 Cr. White, subtly textured . . . everlastingly beautiful . . . so quickly salable!

A beautiful bath like this is bound to put prospects in a buying mood. Use the new look in ceramic tile to give your models individuality and extra sales appeal. Send for free Booklet 471 . . . it's full of decorating ideas and color schemes for baths, kitchens and everywhere the new tiles can stir sales excitement. Write: American Olean Tile Company, 2104 Cannon Ave., Lansdale, Pa.

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EDITORIAL

Renewed cities for the Great Society:

Is the President's intent too lofty a dream or an attainable goal? Very probably the latter

In his message to Congress on cities, President Johnson set stiff goals for the Department of Housing and Urban Development:

Convert the nation's cities into "masterpieces of our civilization," and provide "clean room and a patch of sky for every person . . . and cities of spacious beauty and lively promise, where men are truly free to determine how they will live."

You might compare those noble aspirations to whistling Dixie, if it were not for the following considerations:

- The nation is finally aroused about pollution, slums, transportation and the general deterioration of our cities. Most city people are painfully aware that there are some things private money simply cannot buy, that the public must be willing to pay for doing what private enterprise obviously cannot do.

- The Administration's new plans for cities will start on a modest scale with federal planning grants for demonstration programs in 60 to 70 metropolitan areas in the next six years (*see p. 6*). In other words, no one will make the almost always fatal mistake of shooting a big federal wad in a crash program.

- Physical and social problems of neighborhoods scheduled for rebuilding and rehabilitation will be equally weighted in the demonstration programs. Uprooting people, even temporarily, from old neighborhoods has been the major source of bitterness and opposition to urban renewal. It is the most delicate human-relations problem in the ambitious new plans for cities.

- Programs will be planned and executed at the local level under a single authority in local government. These authorities will be federal coordinators—but not federal czars. Programs may be initiated in Washington, but without local approval and local administration they won't exist.

Unquestionably, the sweeping scope of these plans will require greater coordination than ever of local, state and federal governments. In choosing Robert C. Weaver as Secretary of HUD, President Johnson picked the most able and experienced man available for this task. And HUD's No. 2 man is almost as well qualified. Robert C. Wood, former chairman of MIT's Political Science Dept., headed the task force created to detail the scope of HUD and is a leading advocate of better city government.

Let there be any question about the need for Johnson's bold new plans, take a look at the dimensions of coming urban crises. By 1975 more than 80% of us will be clustered on 1½% of our land, and in the next 35 years we will add 150 million people to our cities and suburbs.

But legislative roadblocks of orderly metropolitan growth are still staggering. Most state legislatures, still dominated by rural blocs, have yet to bring our urban problems into proper perspective. And across the U.S. there are more than 90,000 individual units of government, few of them equipped to handle the problems of the country's 212 major metropolitan areas.

Added to these legislative problems are the more specific problems of local administration. Within 50 miles of Times Square are more than 500 zoning commissions, and few of them can transcend their parochialism to effect a meeting of minds with neighboring communities. The allegiance of zoning commissions to home rule often makes it easy to buy just about any zoning you want in half the towns and cities in America.

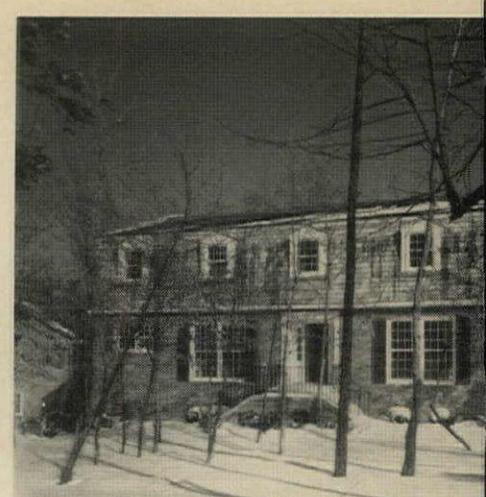
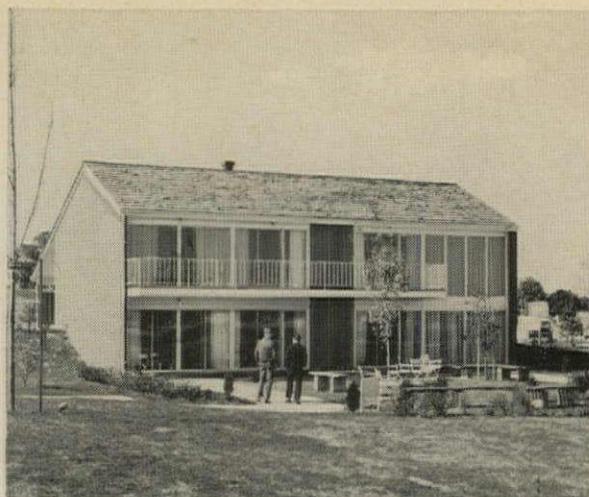
In short, zoning as it's practiced today is largely a farce. And the higgledy-piggledy land use fostered by this farce is clearly the root of our urban mess. If you doubt that point, consider Houston, which, with no zoning whatsoever, is neither better nor worse in urban design than almost any other American city. The truth is that we leave the job of shaping our urban environment largely to speculators and zoning boards—in fact, to those whose private interests have created our current urban mess. The decline of the American city actually is rooted in the popular belief that any government regulation is bad regulation.

Then, too, our cities face the mushrooming need for municipal facilities. To meet this need, our cities have increased their debts fourfold since World War II. Yet today the supply of local public works is less adequate than it was more than a quarter of a century ago, when depression-spawned public works caught up with most local needs.

Obviously, local property taxes do not meet the need for local revenues because they do not—and cannot—tax intangible wealth effectively. The federal income tax and various other state and federal taxes are the primary instruments for taxing intangible wealth, and we will turn more and more to them to supply necessary community facilities in the next decade. If the federal tax base does not change by 1976, the government will take in \$50 billion more a year in taxes than it does now. Just a portion of this would amply supply our cities with needed community facilities. But we will need highly coordinated metropolitan planning if we are to make effective use of that money at the local level.

There are two major pitfalls we hope the Administration will avoid in its attempts to improve our cities. The first: to forget that any program which ignores economic feasibility will not get off the ground. It's better to come up with only a few dreams that work than 50 dreams that don't.

The second pitfall: to ignore the housing industry in the planning stages of the new program. In the next three decades, the housing and light construction industry will design, build, and rehabilitate almost 90% of our total urban environment. The responsibility for that environment lies as much in the hands of the housing industry as in the hands of the planners. We can only hope that HUD and the Administration will turn to men who are true leaders in our industry to help plot our future urban growth.—RICHARD W. O'NEILL



16 IDEA HOUSES FOR MERCHANT BUILDERS

Don't misunderstand the word "idea." There is nothing experimental about the houses pictured at left and detailed on the next 32 pages; all of them have been proven in the marketplace. The ideas are the qualities of plan and/or design that set the houses apart and give them a sales edge over the competition.

Nor are these ideas merely merchandising gimmicks. They are indeed merchandisable, but only because they reflect the blend of practicality and luxury demanded by today's soundest and most profitable market—buyers of the over-\$25,000 house.

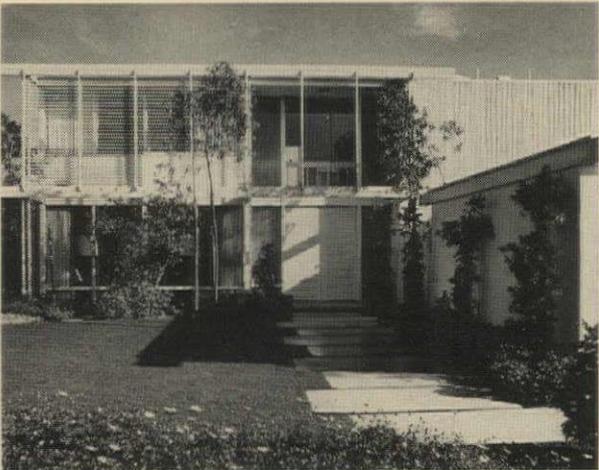
It is difficult—and often misleading—to try to extract general trends from a group of specific houses. But it is safe to say that each of these 16 houses displays one or more of these qualities:

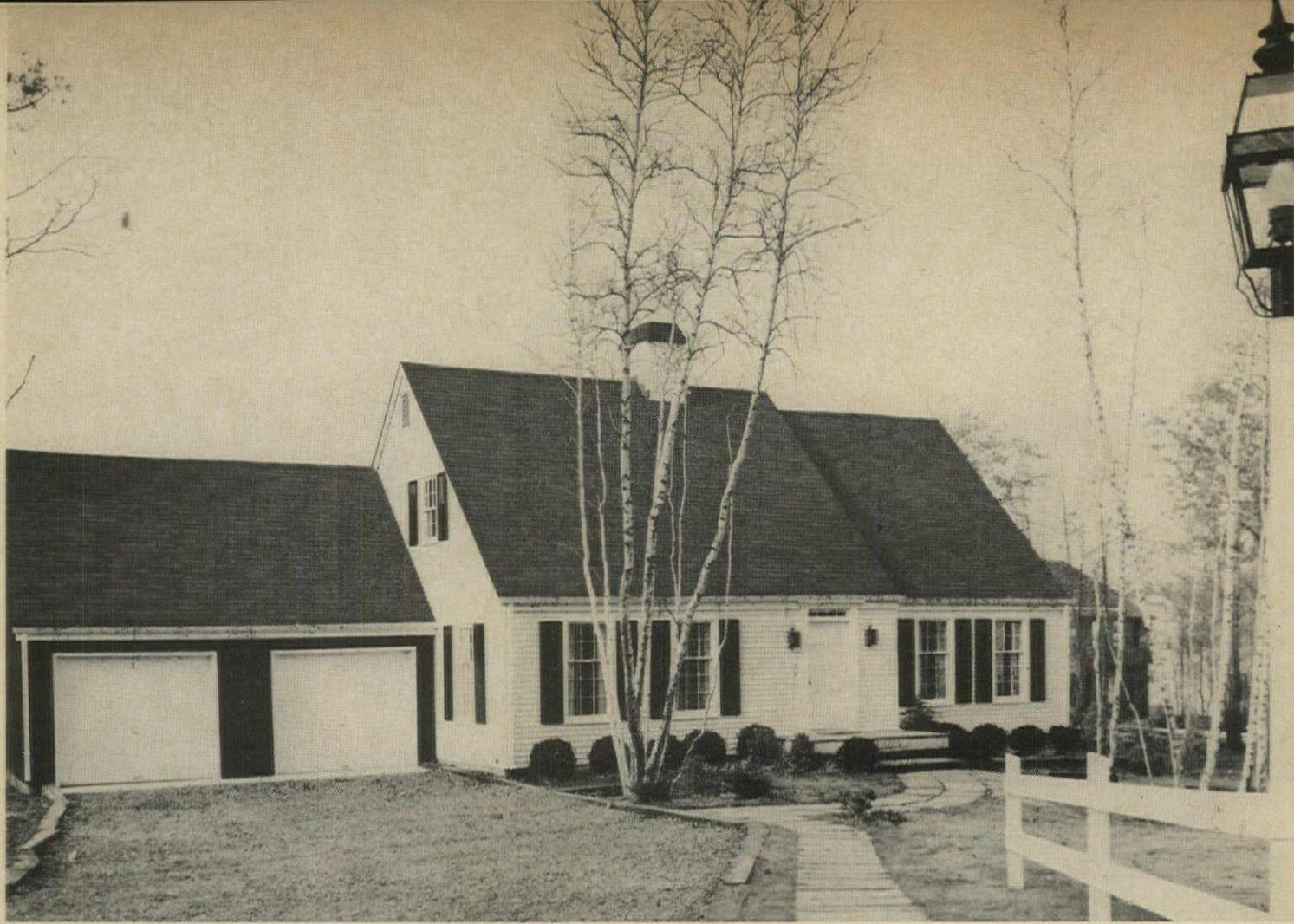
Better design. There are some fine examples of both traditional and contemporary architecture. And even in houses of less esthetic merit, design reflects real function and is not merely haphazard decoration.

Better planning. There is strong emphasis on efficient traffic flow, separation of children from adults and balance between living and sleeping areas.

Better relationship with the outdoors. In Northern as well as Southern areas, patios, terraces and courts are integral plan elements, not merely appendages.

To see the first of the 16 houses, turn the page.





AUTHENTIC DETAILING shows up in narrow clapboards, 6/9 windows and simple door frame with overhead lights. Garage has dark-stained vertical siding.

1. A big house with the appeal of a small Cape Cod

Seen from the front, this is an authentic reproduction of an old Cape Cod half house with a small extension on one end. Seen from the rear—and from the inside—it is a big two-story house with 3,000 sq. ft. of area including four generous bedrooms, an enormous family room and an integration of indoor and outdoor living seldom found in traditional models.

A rear two-story wing is the key to the indoor-outdoor living. The angle formed by the wing and the main house permits a rear patio (*photo, bottom right*), which is private, protected from wind and directly acces-

sible from the family room, breakfast room and living room.

Builder Joseph P. Lenny of Cherry Hill, N.J., says the combination of rear patio and beamed family room (*photo, bottom right*) is the biggest sales asset of the house. Lenny originally chose this model for a corner lot, but it proved so popular that he is building it on other lots as well, and he intends to incorporate the protected-patio idea into other models.

Price of the house: \$49,500 on a \$10,000 lot. Architect: William M. Thompson.

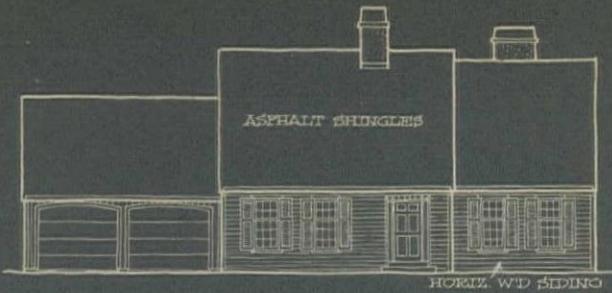
Photos: Joseph W. Molitor



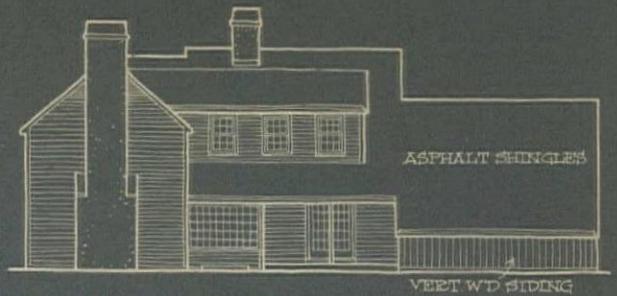
REAR PATIO is sheltered by two-story wing. French doors maintain traditional appearance. Small-paned picture window is in breakfast room.



FAMILY ROOM has rough-sawn 8 x 10 ceiling beams which are structural as well as decorative, permit use of light 2 x 8s as second-floor joists.



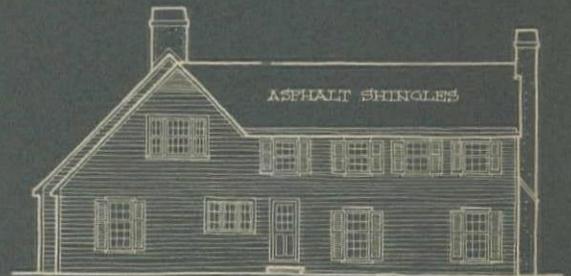
FRONT ELEVATION



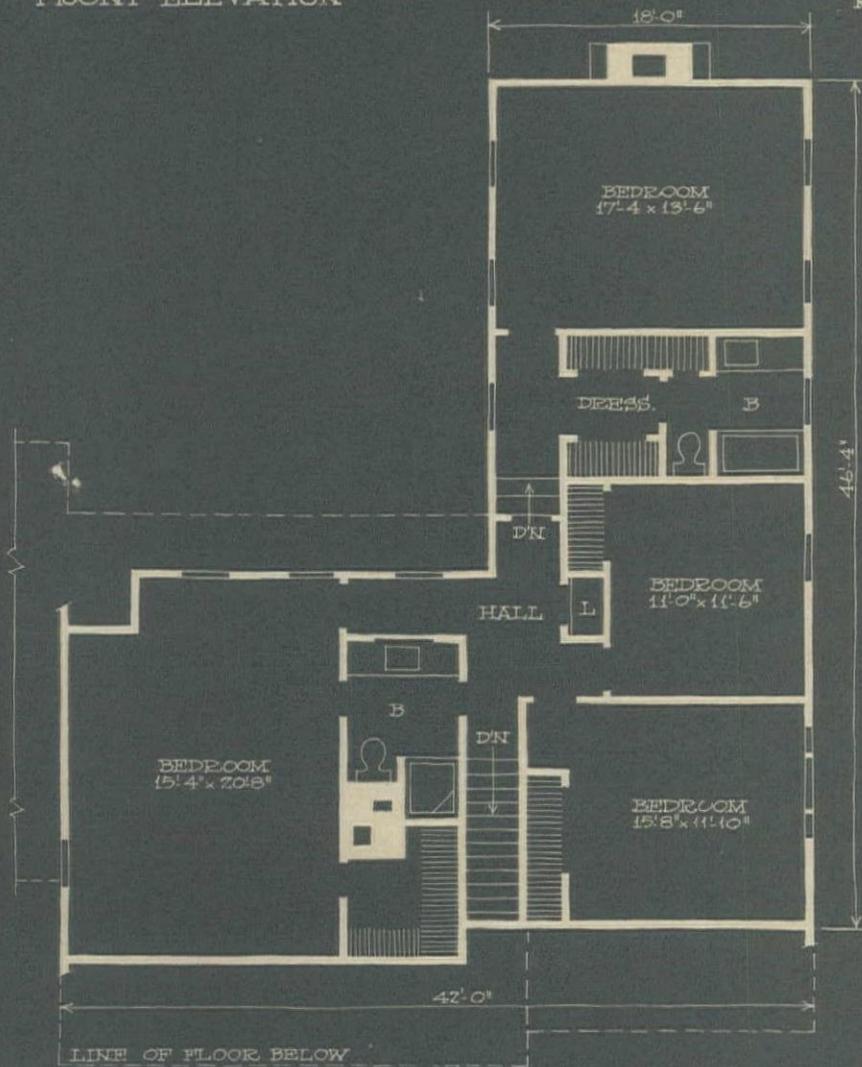
REAR ELEVATION



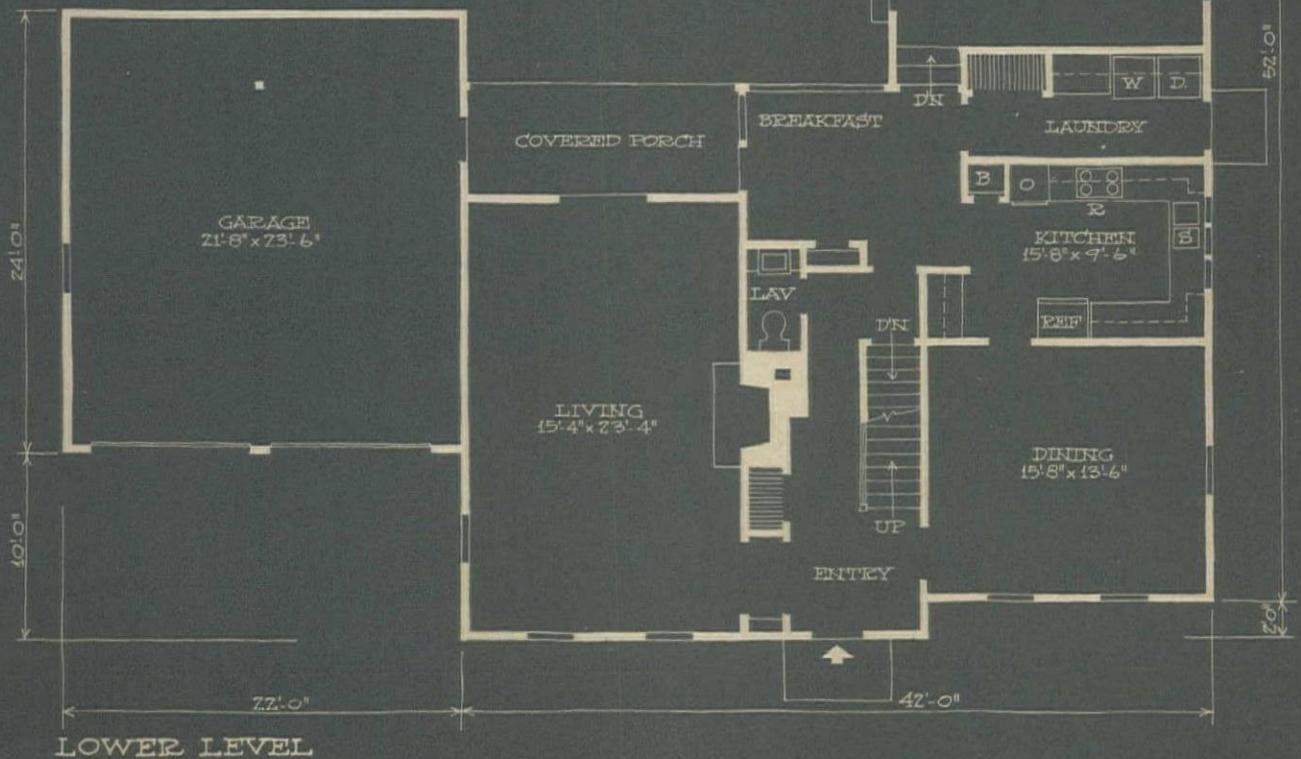
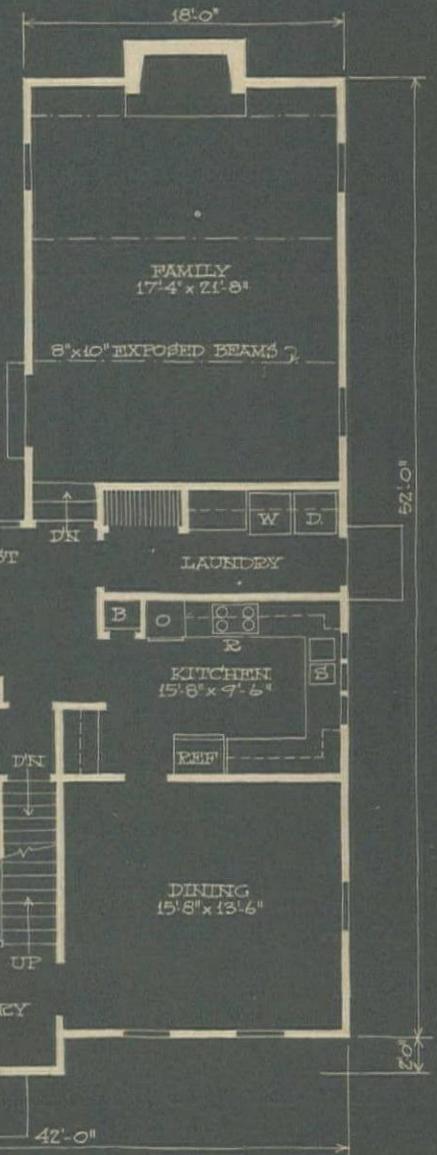
LEFT SIDE ELEVATION



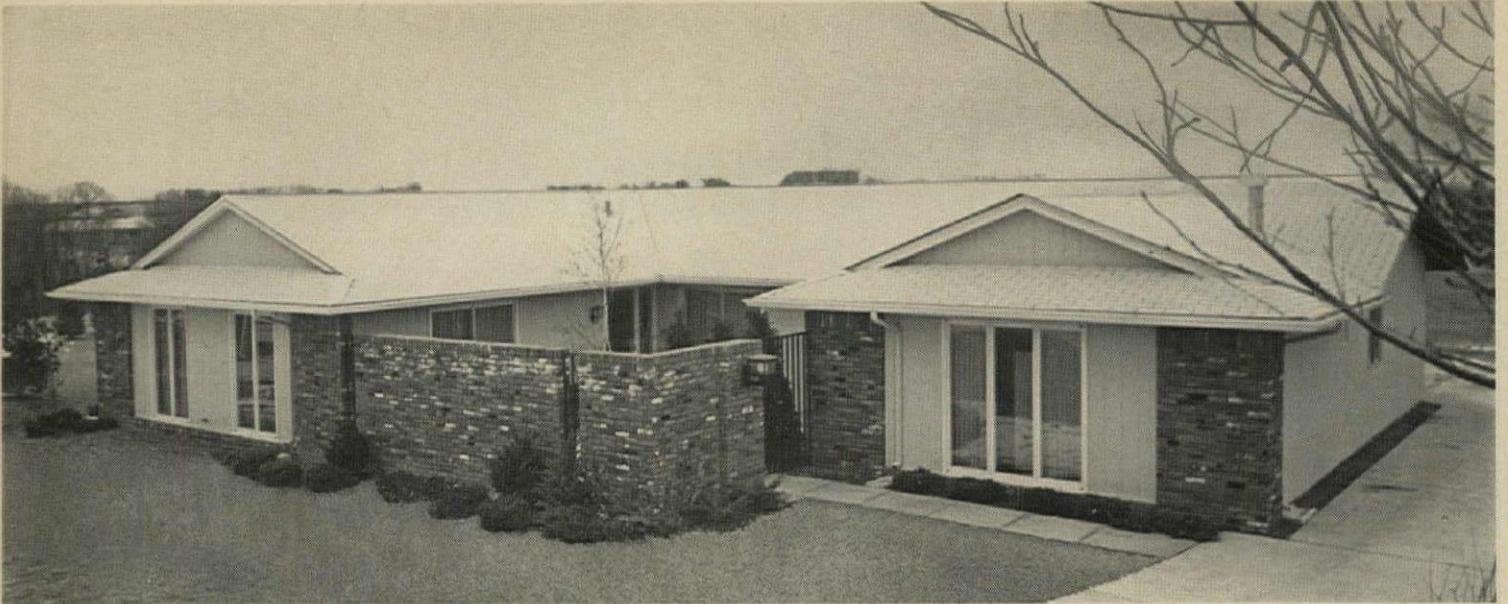
RIGHT SIDE ELEVATION



UPPER LEVEL SCALE OF PLANS ONLY $\frac{3}{32}$ " = 1'-0"



LOWER LEVEL



WALLED ENTRY GARDEN is between living-room/master-bedroom wing, left, and recreation-room wing, right. Driveway leads to rear-entry garage.

2. A U-shaped ranch wrapped around an entry court

This house was designed to offer the sales appeal of an atrium but to avoid the awkward floor plan that an atrium often produces. Basically, it is an L-shaped ranch with a walled garden in front, but the standard ranch plan has been altered considerably to take advantage of the garden. Specifically:

The living room has been moved into the L, where it is dead-ended and adjacent to the front entry.

The dining room has been moved from the rear of the house to the front. And since the garden is a part

of the formal living area, the family room has been moved into the space normally used by the dining room.

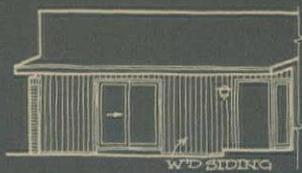
The breakfast room has been moved from the back to the front, where it overlooks the garden.

The recreation room has been moved from the back of the garage to the front, where it serves as part of the garden enclosure. The garage doors are in the rear.

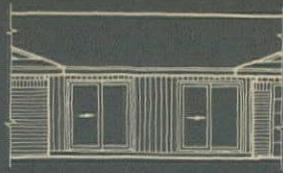
Contemporary Homes of St. Louis has sold 42 of these models at \$26,650 on a \$4,500 lot. Area of the house: 1,940 sq. ft. Architect: Joseph Ward.



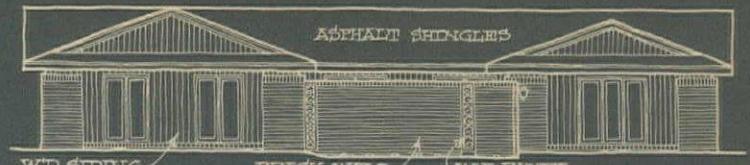
WROUGHT-IRON GATES (above) lead into garden which is accessible from living and dining rooms (top right). Brick wall (bottom right) cost \$800.



LEFT SIDE

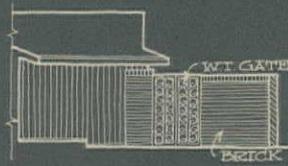


FRONT

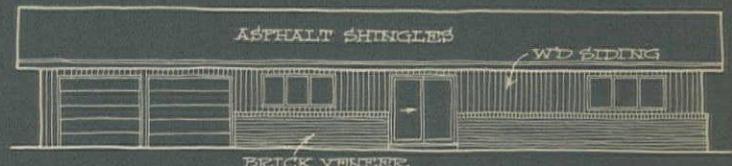


FRONT ELEVATION

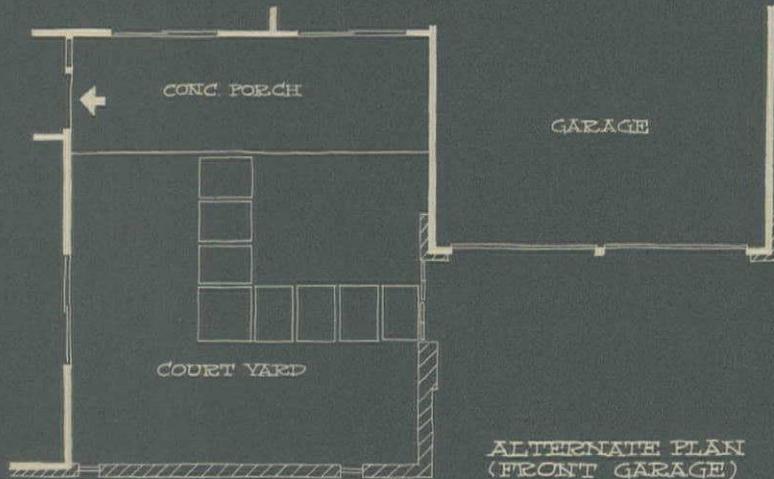
COURT YARD ELEVATIONS



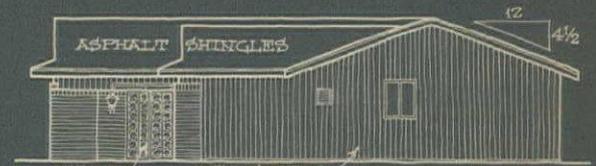
RIGHT SIDE



REAR ELEVATION



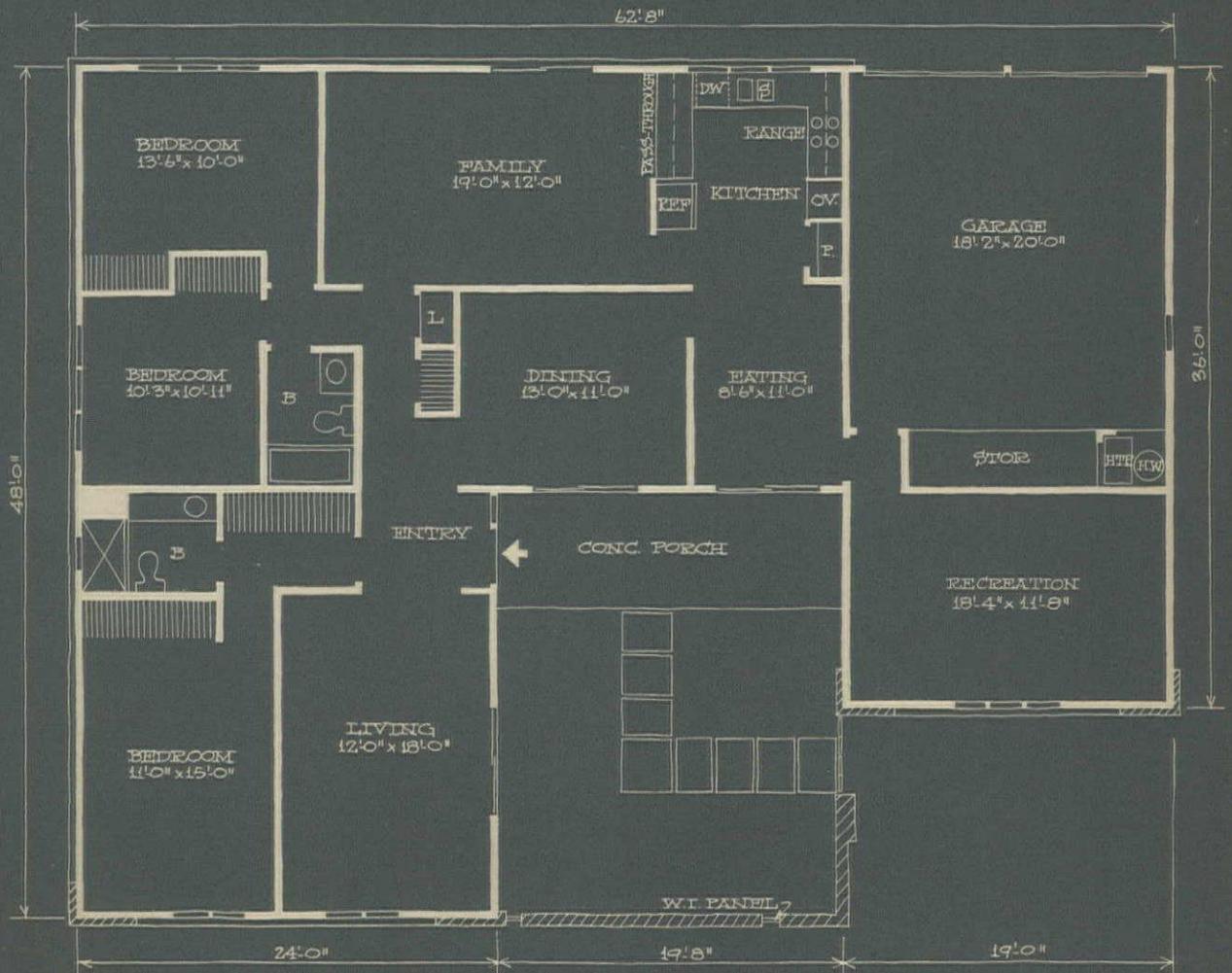
ALTERNATE PLAN
(FRONT GARAGE)



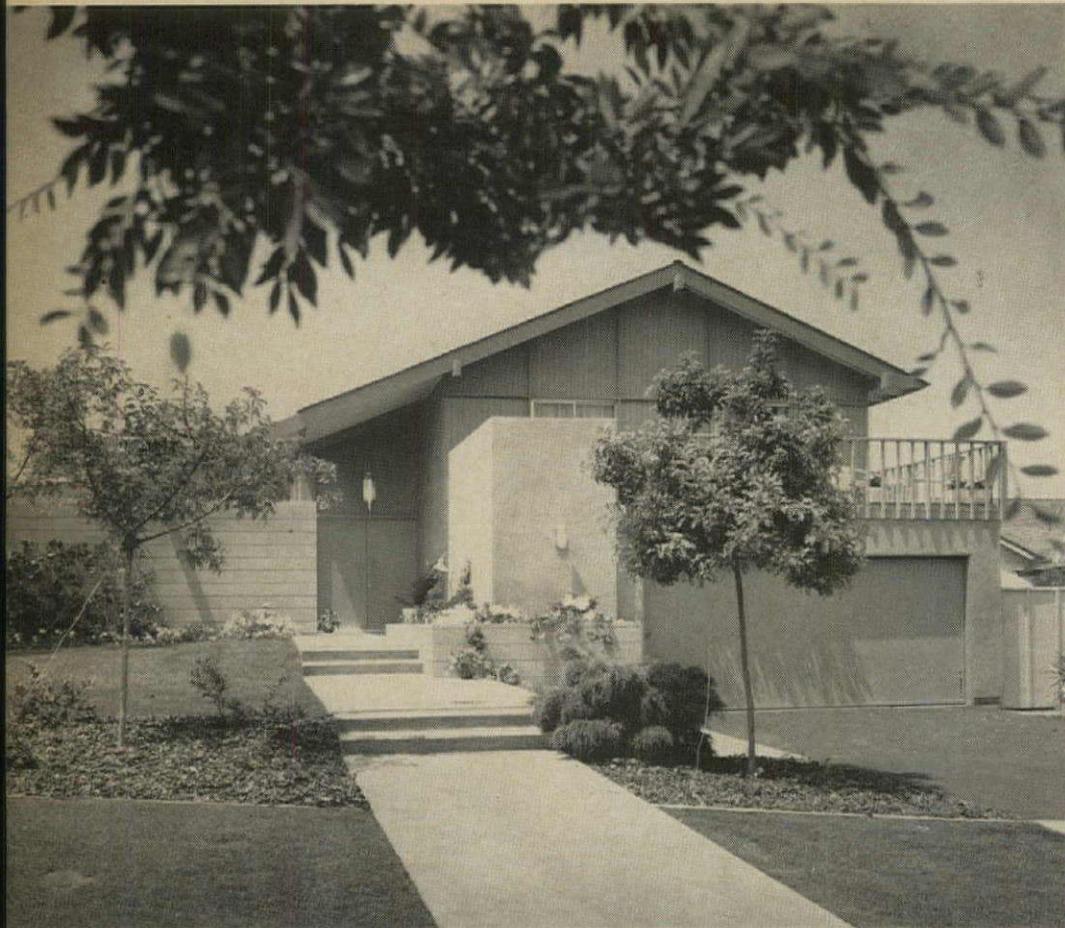
RIGHT SIDE ELEVATION



LEFT SIDE ELEVATION



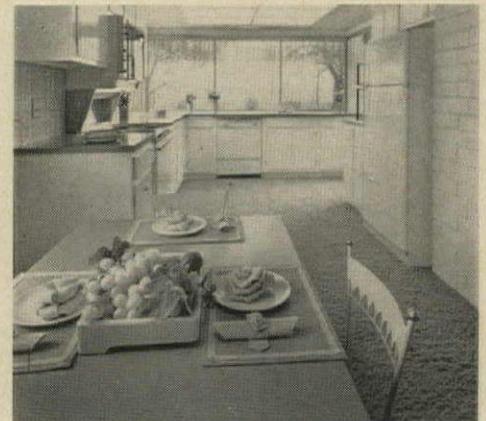
PLAN SCALE OF PLAN ONLY 3/32" = 1'-0"



LOWER-LEVEL GARAGE extends out from facade, provides space for a deck off two front bedrooms.



GARDEN KITCHEN has big sliding windows that open to an outdoor snack bar (*photo above*), plus a spacious breakfast nook (*foreground, photo below*). Brick is rear of living room fireplace.



3. A split-level geared to indoor-outdoor living

Every major living area in this house opens to the outdoors. The living room has a full glass gable end opening to a patio; the family room opens to another patio through a sliding glass door; and a garden kitchen, one of the most popular features of this model and others by the same builder, opens to an outdoor eating bar through sliding glass windows. If the buyer installs a swimming pool, the bath off the family room provides a convenient dressing area.

One serious problem in many side-to-side splits—

traffic from the front entry—has been solved in this house without sacrificing the openness of the plan. The living room has been pushed farther to the rear than usual, so traffic from the entry to the upper-level bedrooms or lower-level family room touches just a corner of the living room, and traffic to the kitchen crosses only one end.

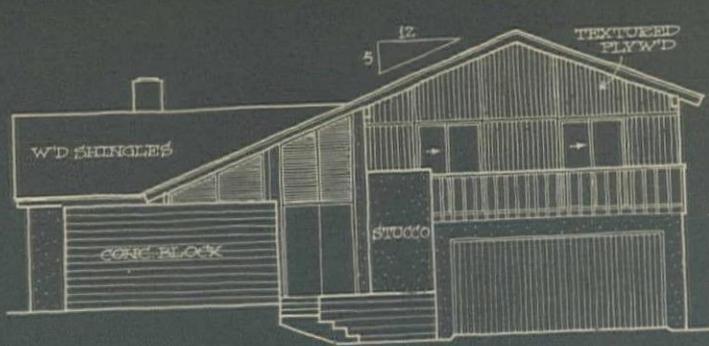
Deane Bros. has sold 58 of these houses in Mission Viejo, Calif.—45 of them in a single week. Price: \$28,900 on a \$5,000 lot. Architect: Norman Bloom.



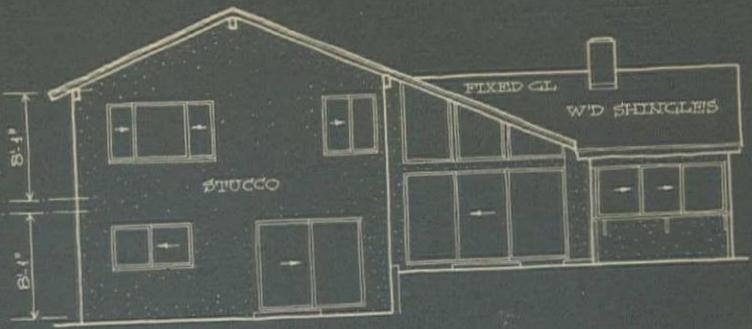
LIVING ROOM opens to rear patio through a 10' glass wall with sliding doors. Nylon wall-to-wall carpeting is included in price of house.



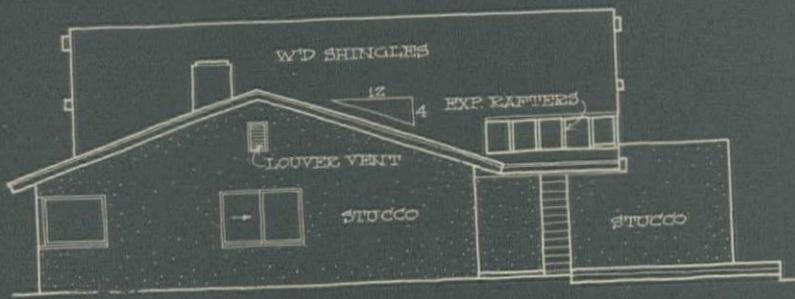
FAMILY ROOM has more than 230 sq. ft. of area. Retaining wall, visible beyond glass doors at right, separates upper and lower patios.



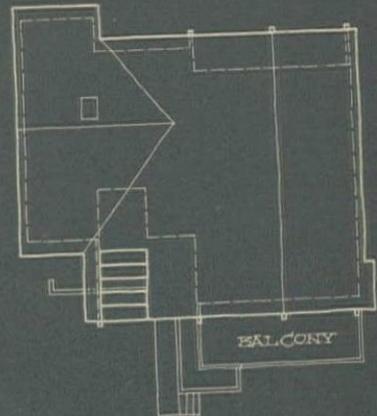
FRONT ELEVATION



REAR ELEVATION

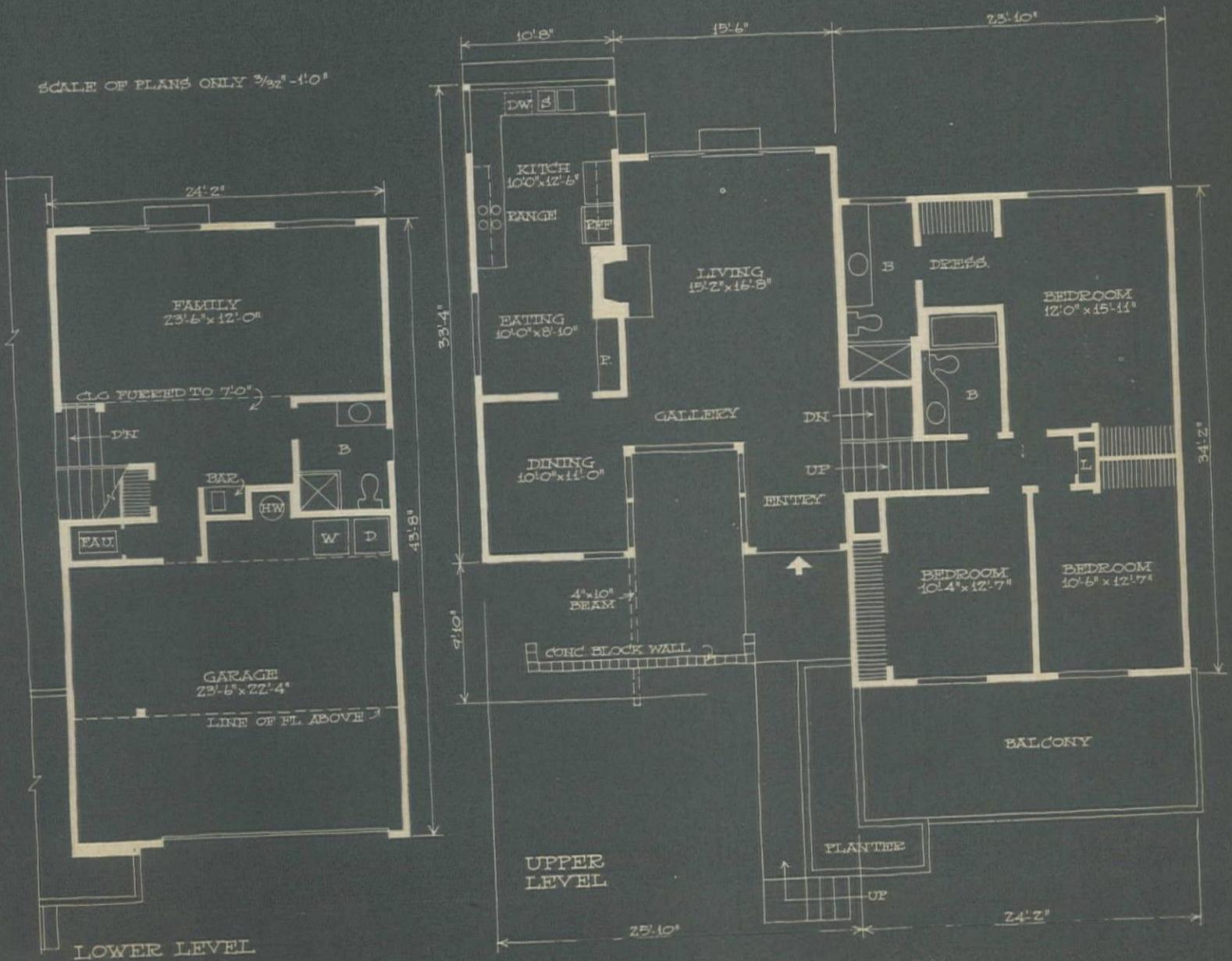


LEFT SIDE ELEVATION



ROOF PLAN

SCALE OF PLANS ONLY 3/32" = 1'-0"





UPHILL ELEVATION has high strip window areas. Carport can be eliminated to save \$1,000.



DOWNHILL ELEVATION has a projecting wall and deck section to enlarge the living room.

4. A plank-and-beam house for a custom prefab system

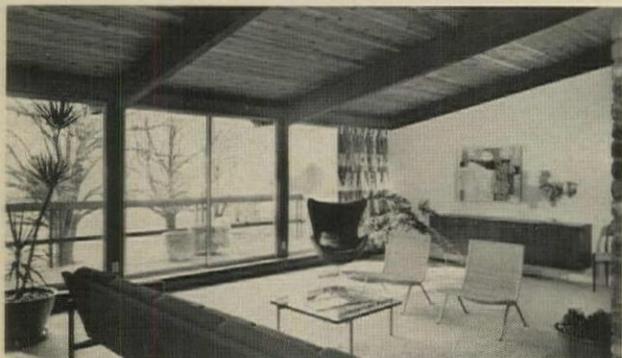
This split-entry model is displayed in key markets by Deck House Inc., a Massachusetts-based home manufacturer that sells custom contemporaries throughout the Northeast. It was picked for display because it best exemplifies the planning and design stressed by the company. Specifically:

It is a spacious house—2,800 sq. ft. of living area include four bedrooms, huge living and recreation rooms and a big utility room. It is planned for indoor-outdoor

living—glass walls on the downhill side open the living room to a 24' deck, the dining room to a screened porch and the lower-level recreation room to a terrace. And it has a feeling of warmth—interior brick and plank-and-beam ceiling desks complement the glass walls and the openness of the plan.

The model shown here is in Ridgefield, Conn., where it is priced at \$38,500 without land. Architect: William J. Berkes.

Photos: Fred Rola



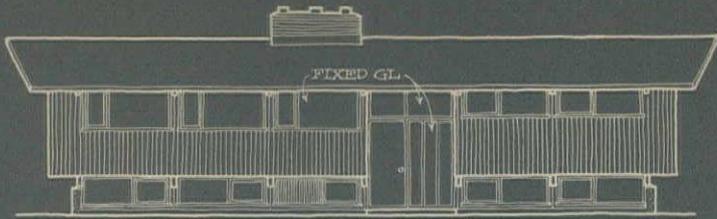
LIVING ROOM opens to upper-level deck through full-length window wall. Sliding glass door is shown in center.



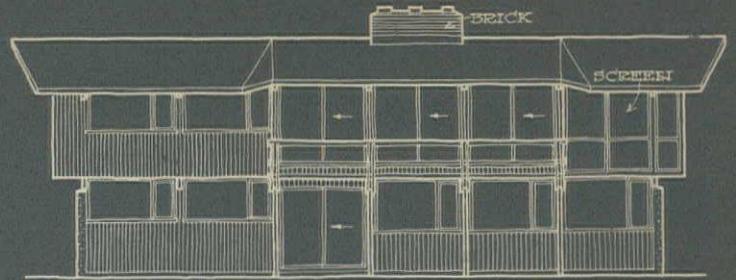
KITCHEN, seen here from dining room, has wall opening over sink to give view of entry hall. Cabinets match dark ceiling.



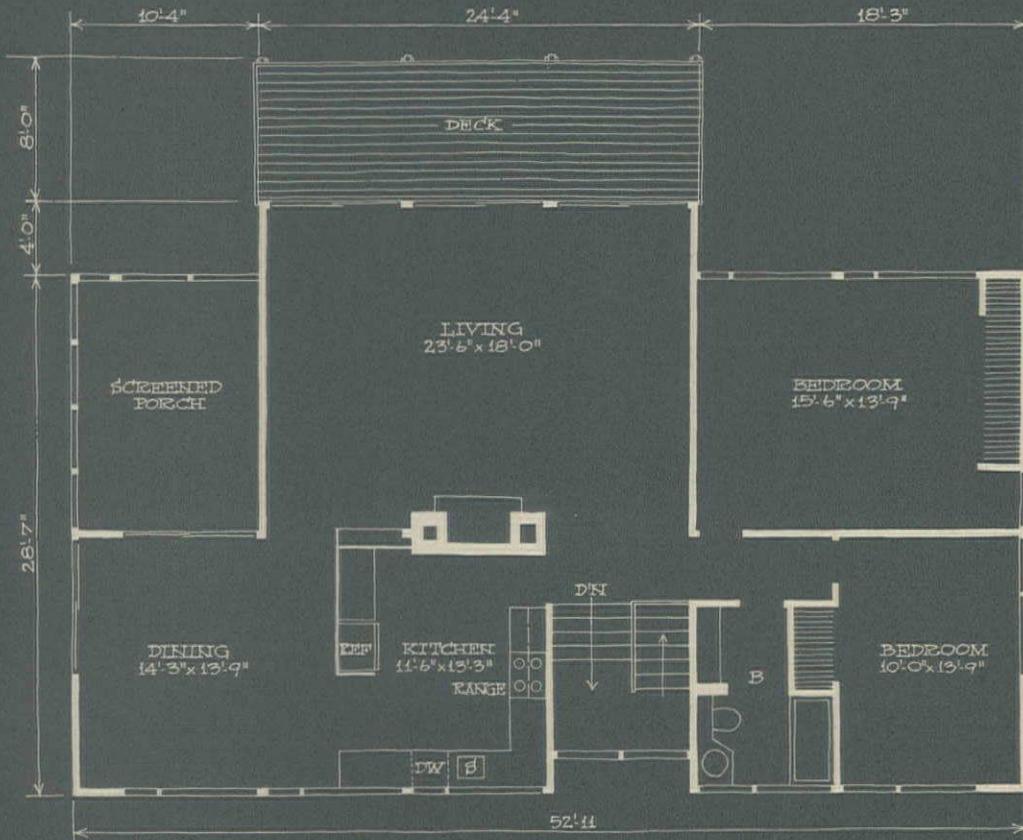
PLANK-AND-BEAM CEILING, shown here in the living room, is uncluttered because wiring for overhead fixtures runs through chases routed in the roof.



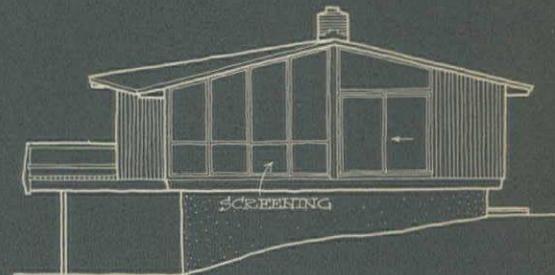
FRONT ELEVATION



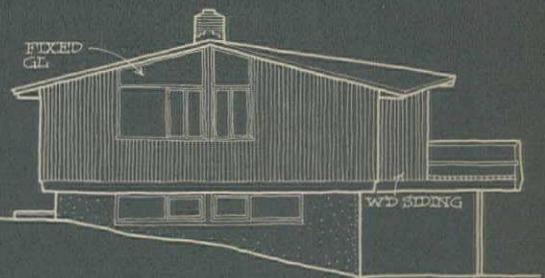
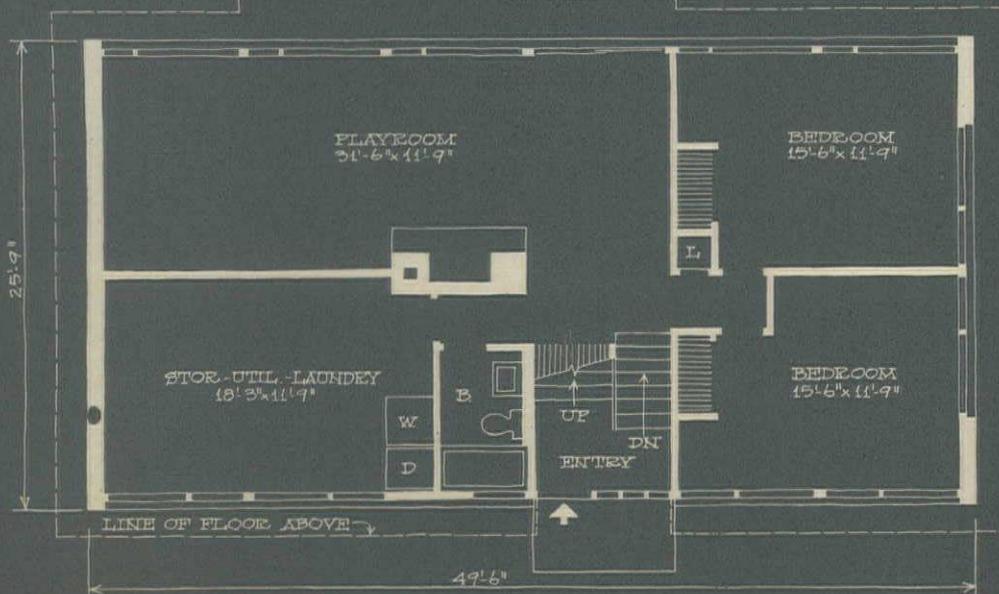
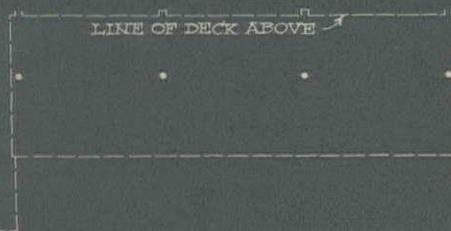
REAR ELEVATION



UPPER LEVEL



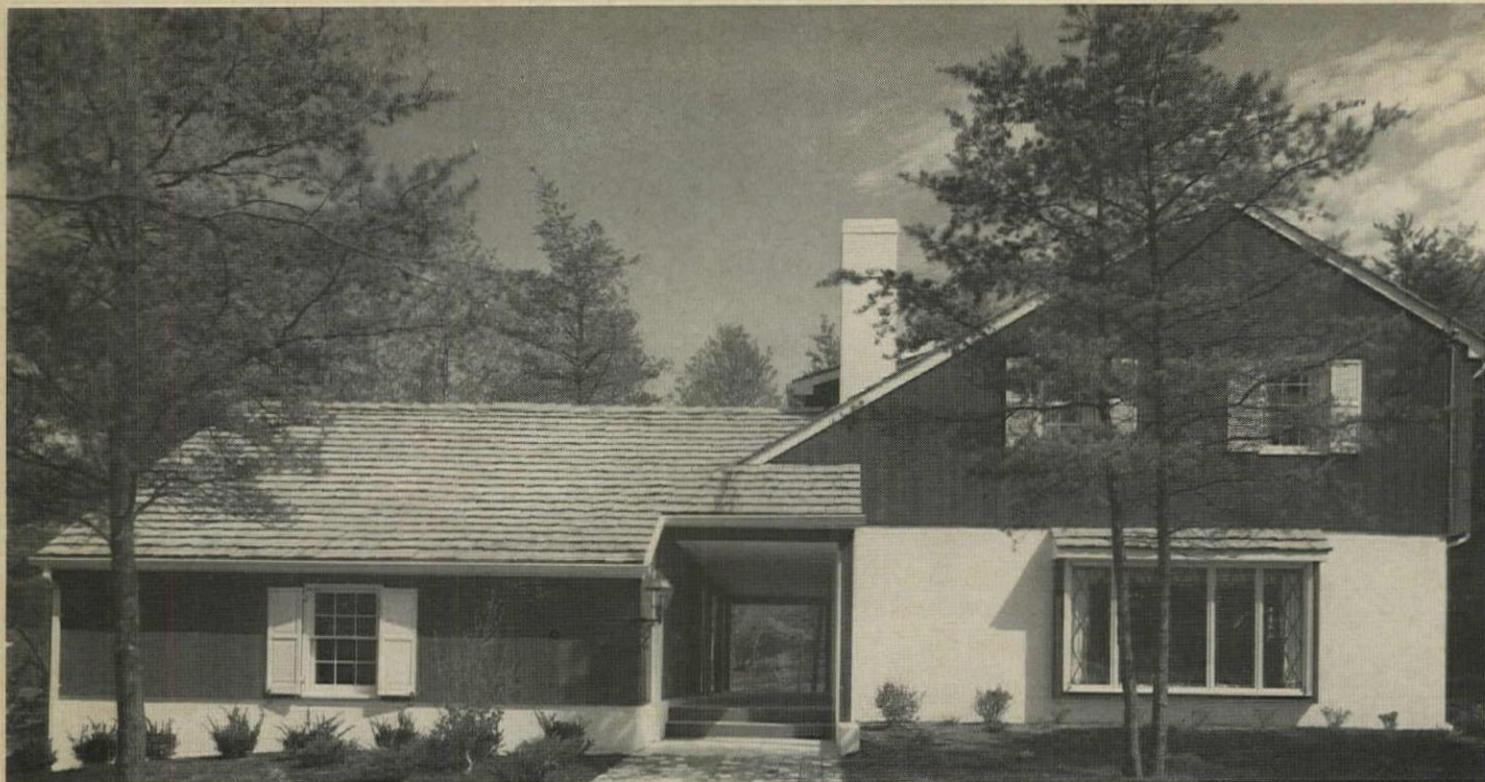
LEFT SIDE ELEVATION



RIGHT SIDE ELEVATION

SCALE OF PLANS ONLY $\frac{3}{32}$ "-1'-0"

LOWER LEVEL



ENTRY BREEZEWAY between garage, left, and house leads to front door and family-room porch. Dark siding and white stucco give old English appearance.

5. A traditional two-story with an exciting master suite

This model's design motif is old English, and Builder Laurance Nilsen of Moorestown, N.J., has included a typically English interior feature: an inglenook in the master bedroom suite, which also has a big bathroom, a generous dressing area and more than 450 sq. ft. of space.

Nilsen says the inglenook has not only popularized this model—he calls it the “Mill House”—but also stimulated sales of his other houses. In four months,

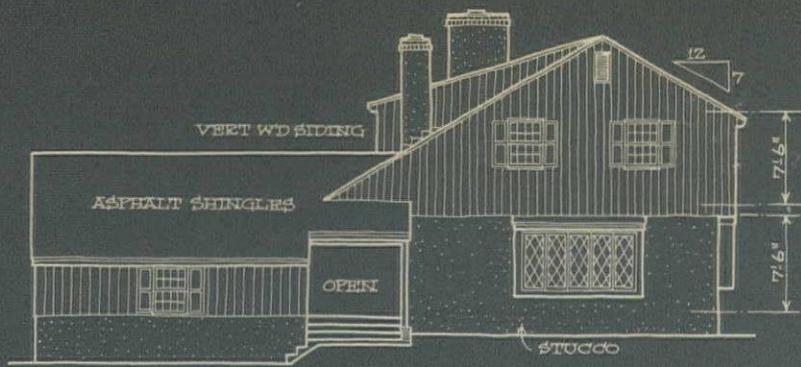
he has sold seven slightly different versions of the “Mill House” at an average price of \$42,000 on a \$10,000 lot. And buyers of his other models have asked him to include inglenooks in several of them at an extra cost of about \$1,500.

Another popular feature of the 2,300-sq.-ft. house is the entry breezeway, which extends past the front door to form a porch off the rear family room.

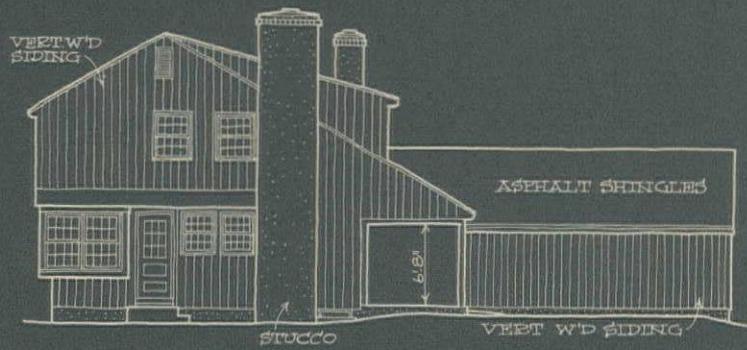
Architect: John T. Oliver Jr.



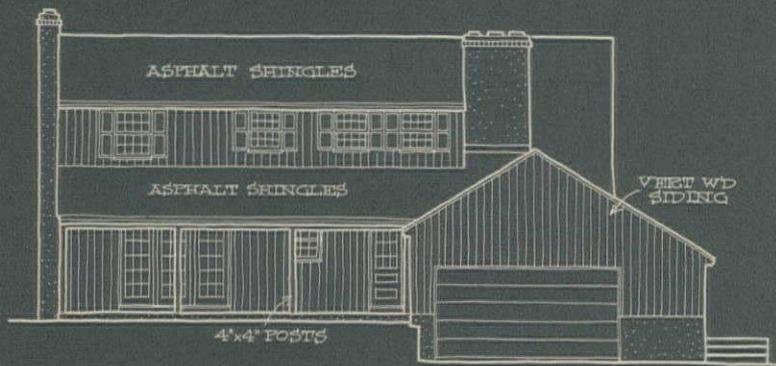
MASTER-BEDROOM INGLENOOK, (left) is trimmed with heavy beams. The huge bedroom (bottom right) also has a luxurious dressing area (top right).



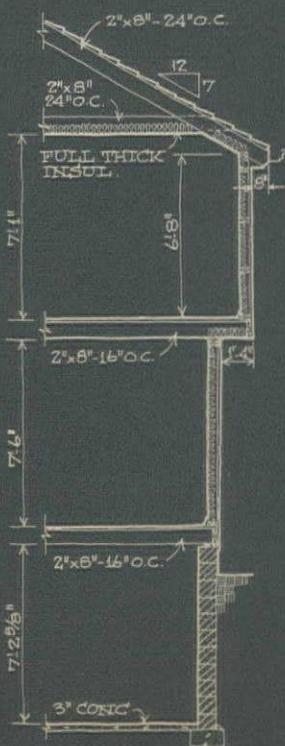
FRONT ELEVATION



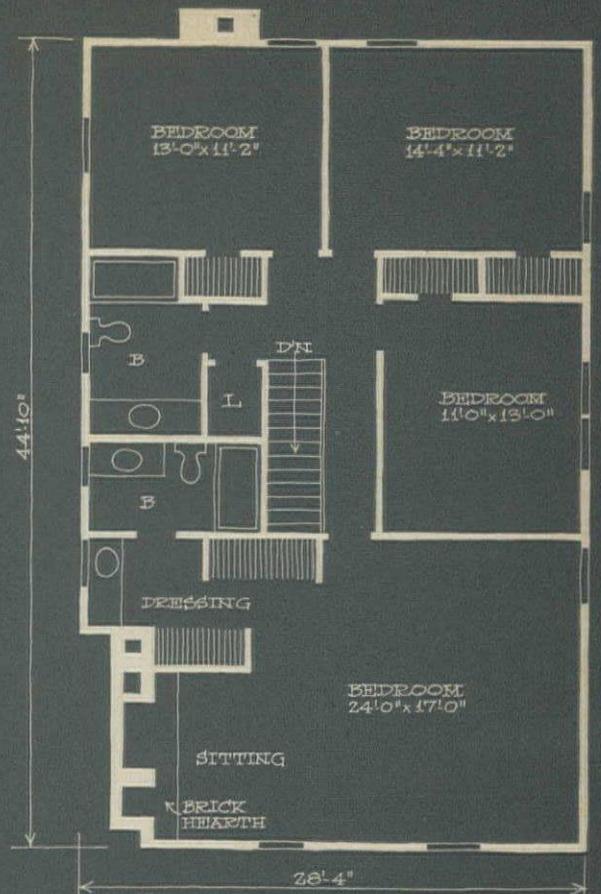
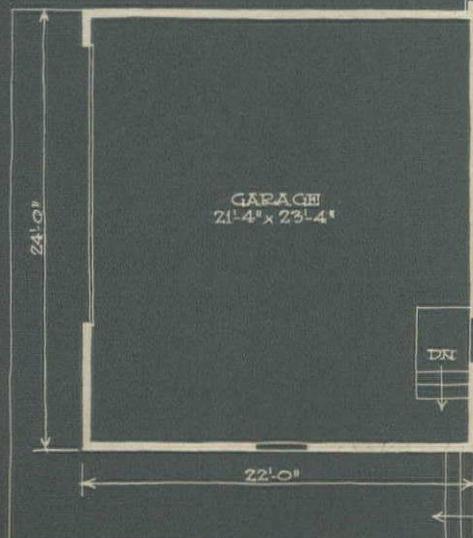
REAR ELEVATION



LEFT SIDE ELEVATION

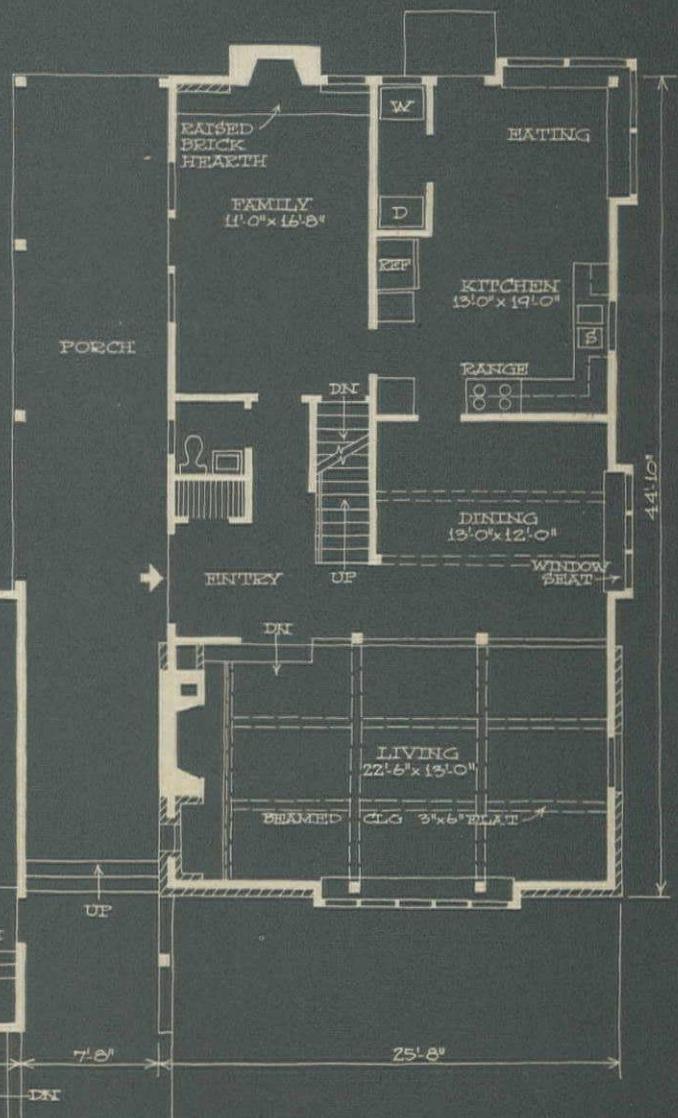


SECTION



UPPER LEVEL

SCALE OF PLANS ONLY 3/32" = 1'-0"



LOWER LEVEL



DEEP ENTRY COURT is flanked by side-entry carport and living areas at left and bedroom wing, right. Low-maintenance exterior is mostly glass and brick.

6. An H-shaped house that guarantees family privacy



DOUBLE CARVED DOORS are set into glass walls of entry hall, which form cross bar of H plan. Gray glass is used to reduce glare from outdoors.

In fact, this Houston contemporary is actually two houses connected by a glass-walled entry corridor.

One house contains the living areas and is laid out so that the kitchen is adjacent to the dining, family and breakfast rooms. The other house includes four large bedrooms (the smallest is 12'x14'), two baths and utility rooms. And the bedrooms gain added privacy because their windows face away from the living areas.

Other features include: gray glass in lieu of drapes in the entry, family room and living room; a plank-and-beam ceiling in the big (24'x16') family room and walk-in closets with at least 9 lin. ft. in every bedroom.

Despite the amount of perimeter wall, the 2,800-sq.-ft. house was built for only \$11.50 a sq. ft. Builder Al Fairfield sold this model for \$43,500 on an \$11,000 lot the first week it was shown and has sold two additional houses from the model.

The architect was Walter Poage.



FAMILY ROOM EXTERIOR is dominated by a massive chimney wall. Sliding glass doors on left wall open the room to a private rear patio.



FAMILY ROOM INTERIOR has a cathedral ceiling with wood planks supported by transverse beams. All interior walls are finished in wood.



FULL GLASS WALLS on two levels face the water. Three bedrooms on upper level open to a deck through sliding doors. Living room is at right.

7. A split-entry designed to take advantage of a view



LIVING ROOM opens to view through a 16'-high glass wall. Second-floor landing is at right.

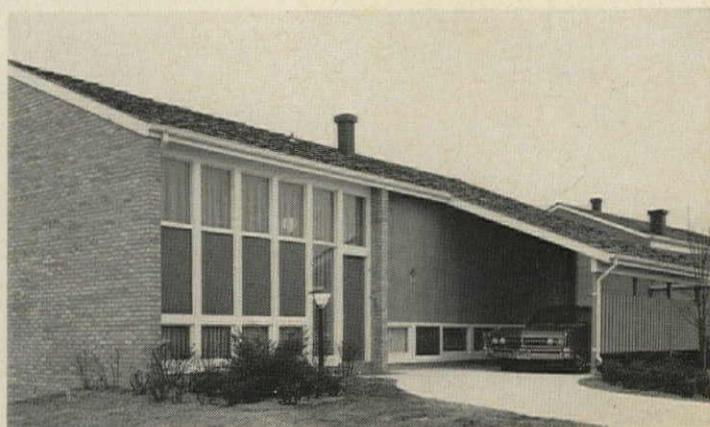


The site, on Rumsey Island, Md., overlooks upper Chesapeake Bay. So the builder, Panitz & Co., made one side of the house almost completely of glass and faced seven of its eight rooms toward the bay.

The success of the plan is due largely to the shape of the house—50' long and only 24' wide—and the placement of utility areas. All baths, the heating room, the master dressing room and the laundry room are on the street side, leaving the bay side free for bedrooms and the living area.

Although the living room is only 12' wide, it feels much larger because it is a full two stories high and because it is open to the dining room.

Priced at \$39,900 on a \$7,000 lot, the house has 2,100 sq. ft. of area. Architect: Tippetts-Abbett-McCarthy-Stratton.

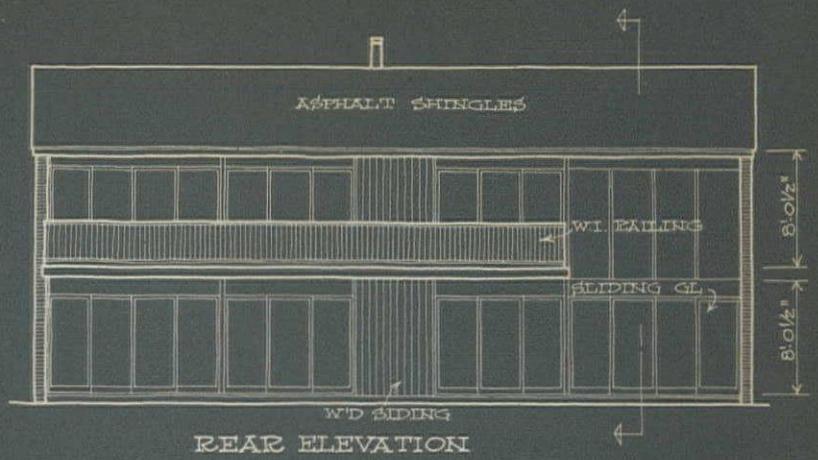


STREET ELEVATION has carport with through driveway. Windows at left open to living room.

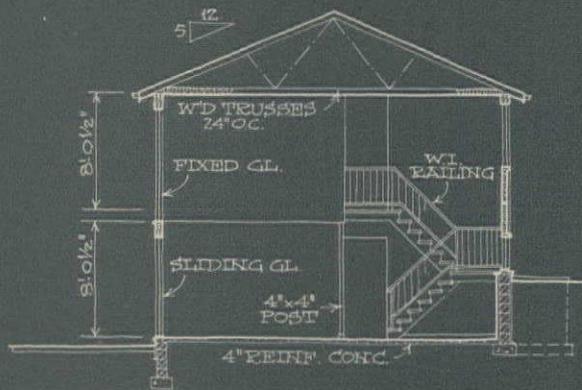
DINING ROOM is separated from hall by divider at right. Kitchen is beyond wall at rear.



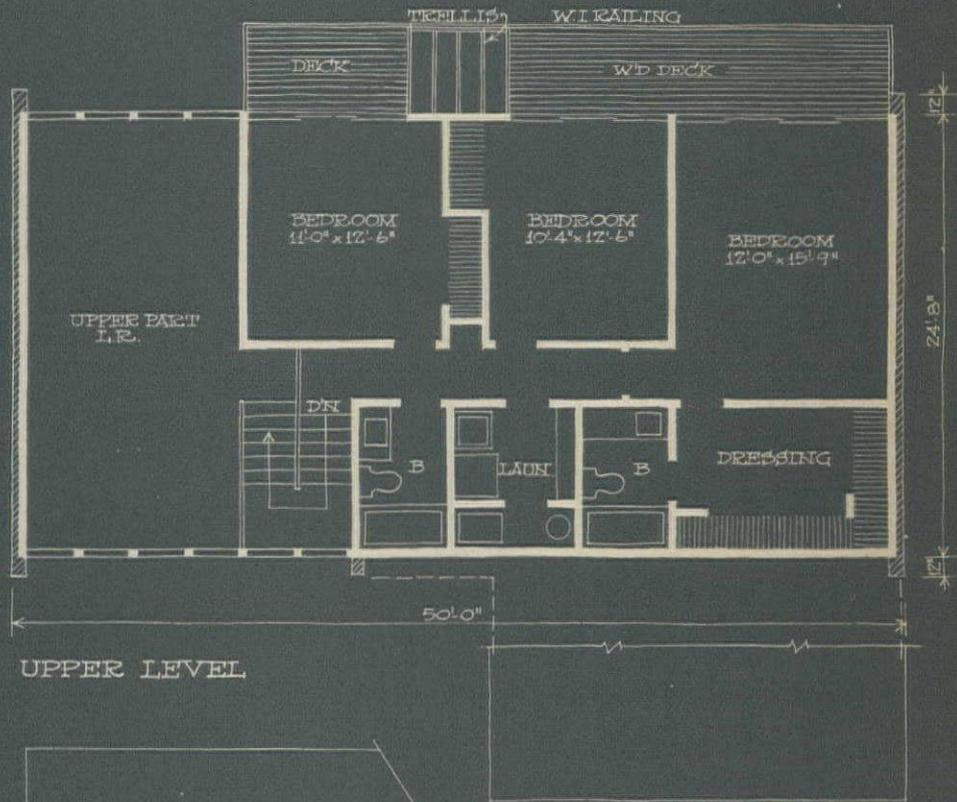
FRONT ELEVATION



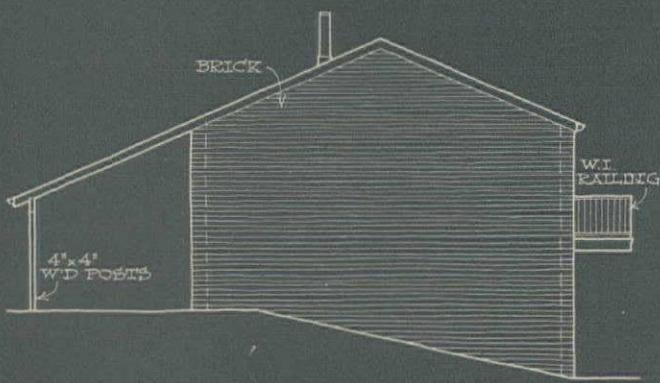
REAR ELEVATION



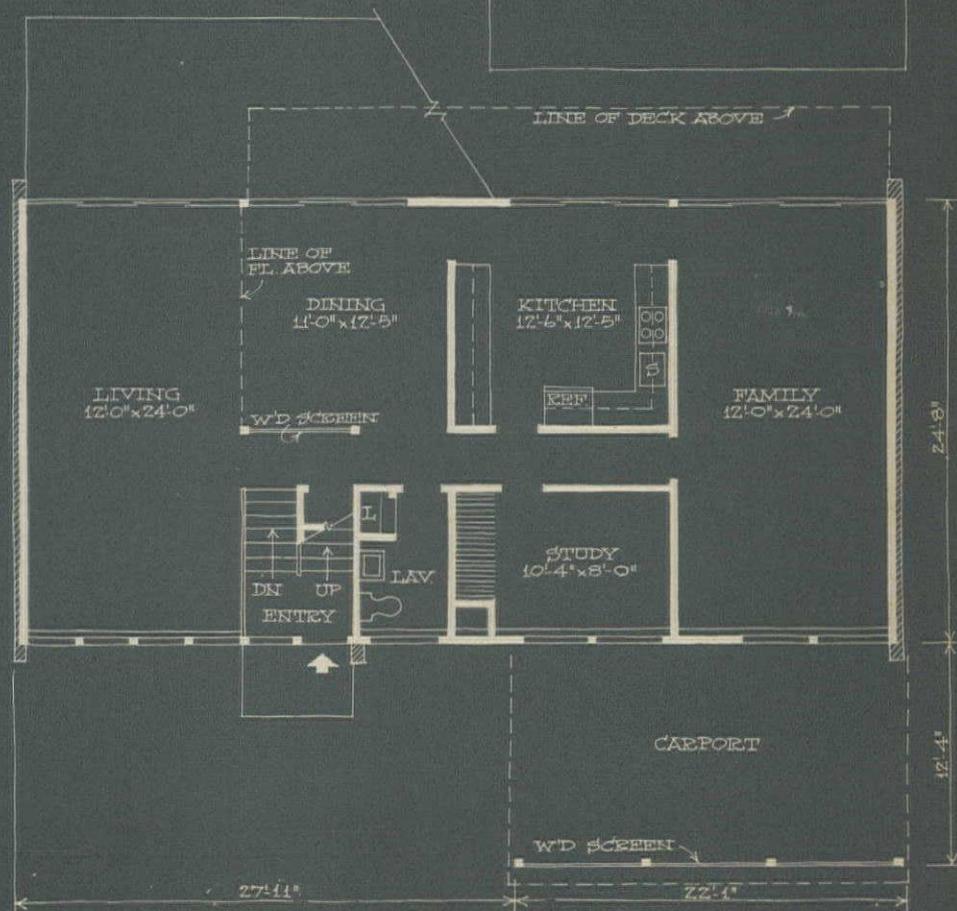
SECTION A-A



UPPER LEVEL

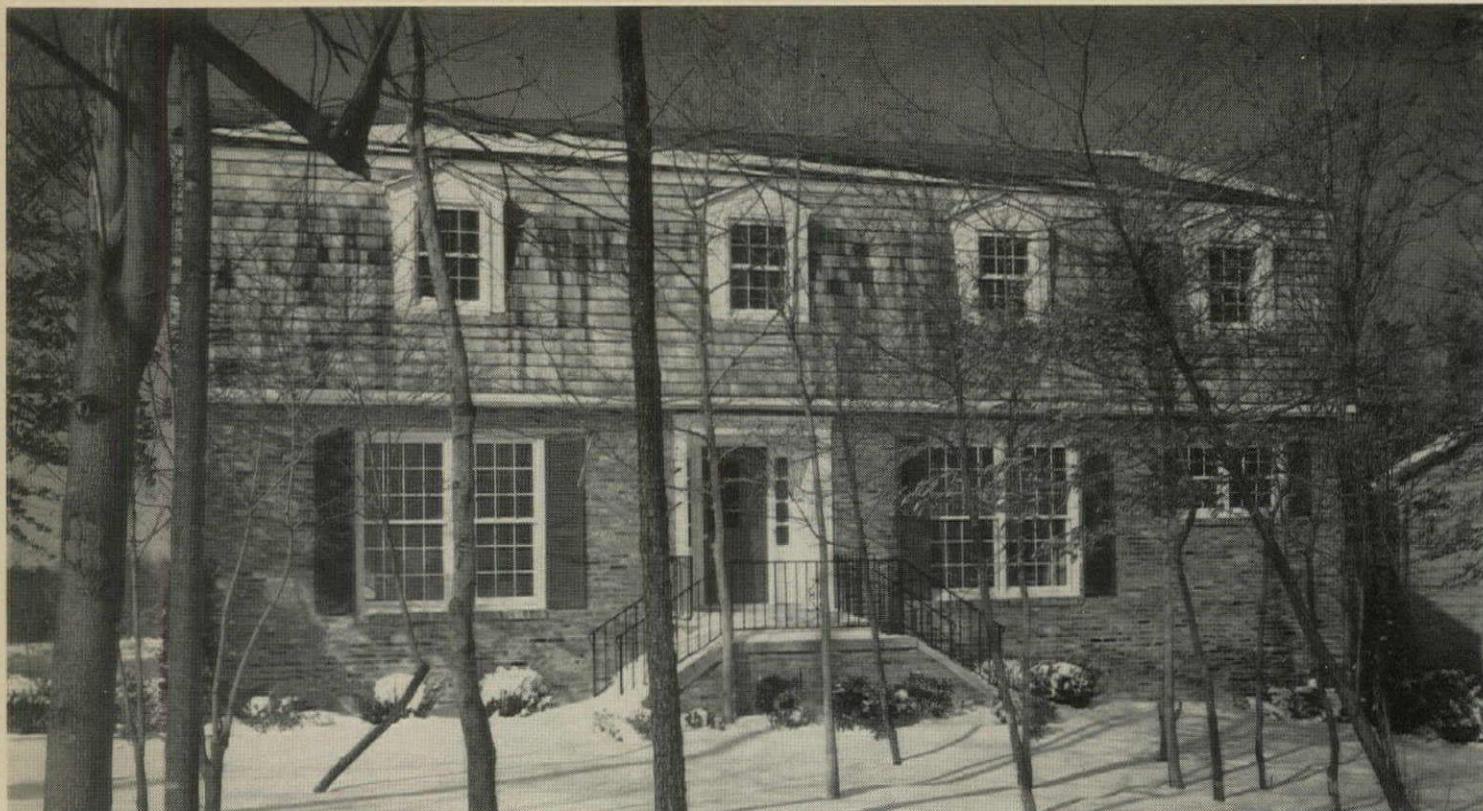


RIGHT SIDE ELEVATION



LOWER LEVEL

SCALE OF PLANS ONLY 3/32" = 1'-0"



DUTCH COLONIAL FACADE is actually a full two-story wall with sloping falsework built out on the second floor. Garage is in the basement.

8. A gambrel-roofed two-story for the big family

This model started life as a story-and-a-half house with a master bedroom suite downstairs and three bedrooms and a bath upstairs. But the builder, Minchew Corp., has its salesmen make continuous informal surveys of model-house visitors, and in this house the salesmen reported an unusual number of requests for more bedrooms. So Minchew changed the roof from a gable to a gambrel, making room for two more bedrooms and another full bath upstairs. Result: a six-bedroom, three-and-a-half bath house that sold 12 times from plans

before the first model was officially opened.

The model shown here, built in Annandale, Va., has 2,800 sq. ft. of living area and a two-car garage in the basement; it sells for \$42,100 on a \$7,500 lot. Options include an on-grade, two-car garage for \$2,000, electric-powered air conditioning for \$975 and gas-powered air conditioning for \$1,900.

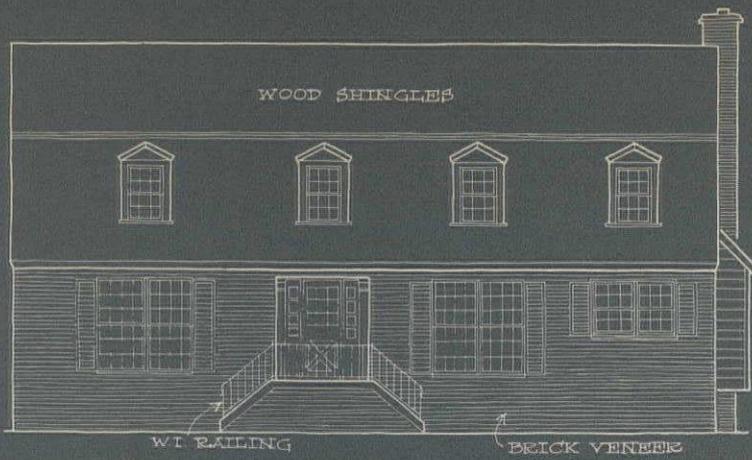
Item for economy-minded builders: all four baths—two upstairs and two down—are grouped around a single vent stack.



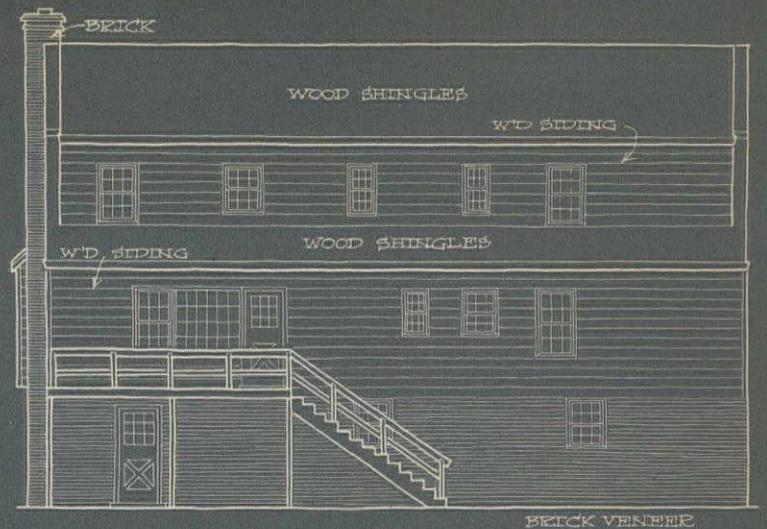
LIVING ROOM is pictured in foreground, with entry hall beyond it and formal dining room at far end of house. Entry floor is quarry tile.



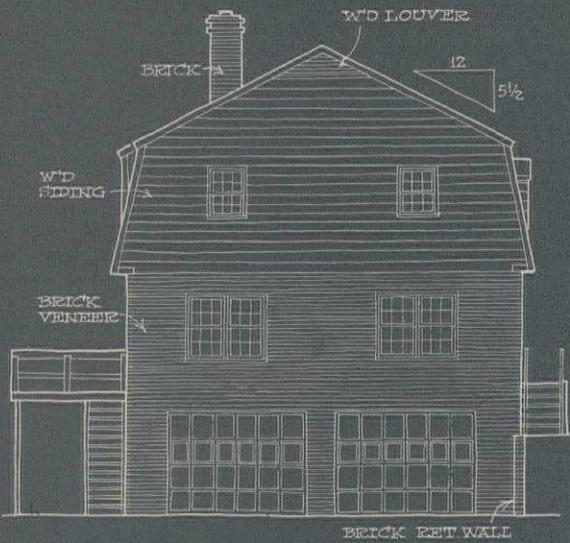
L-SHAPED KITCHEN has a bay-windowed breakfast nook, at right beyond doorway, which projects out from the house. Family room is in foreground.



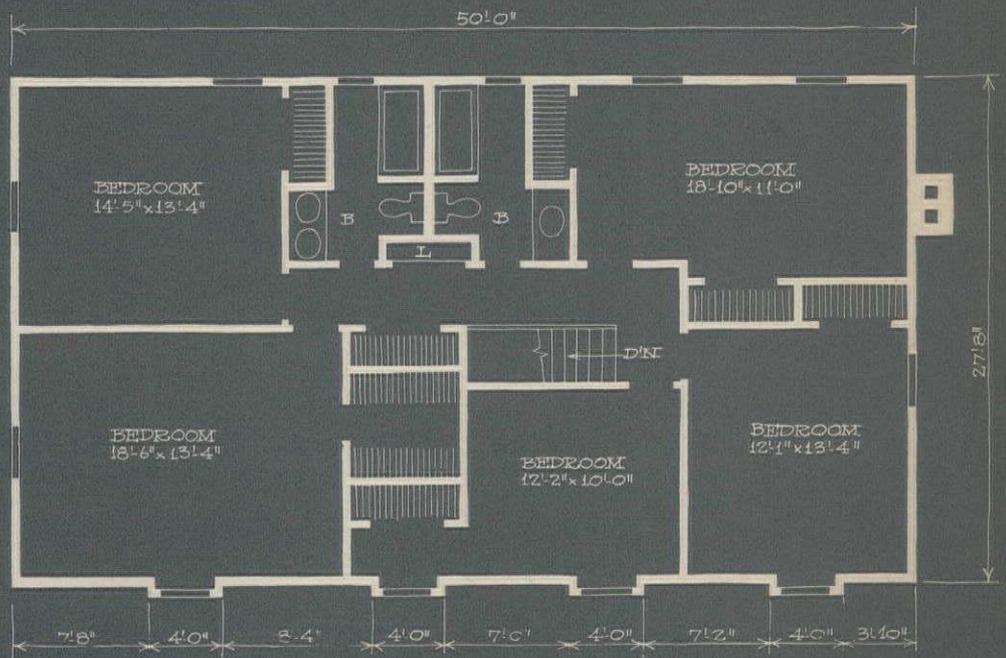
FRONT ELEVATION



REAR ELEVATION

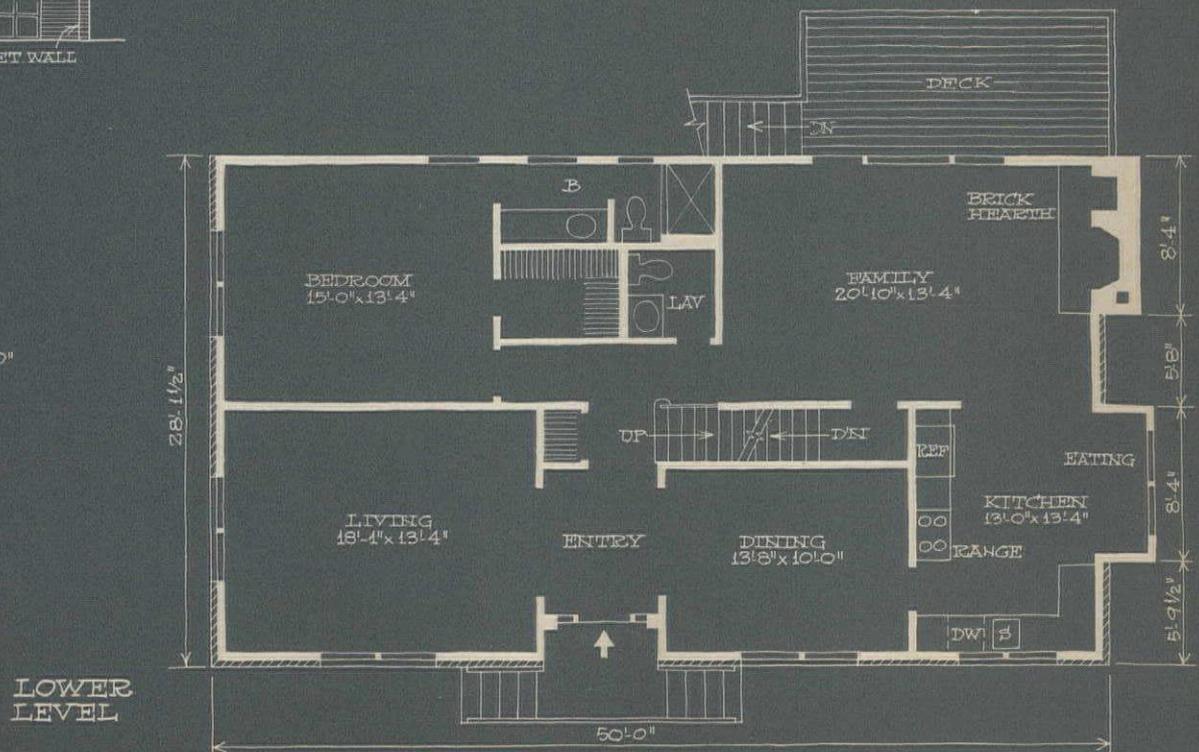


LEFT SIDE ELEVATION

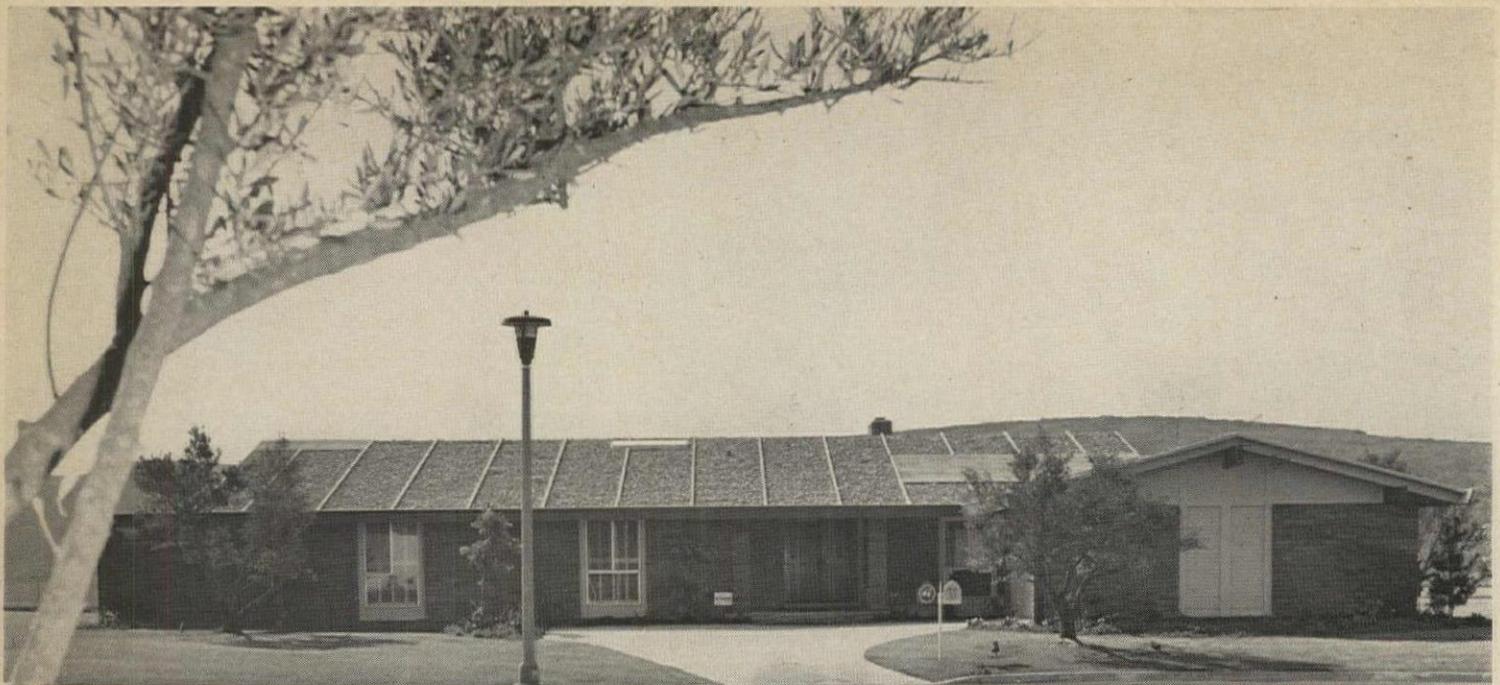


UPPER LEVEL

SCALE OF PLANS ONLY 3/32"-1"0"



LOWER LEVEL



LONG, LOW SILHOUETTE gets design relief from redwood battens on roof, which has colored rock topping. Entry terrace, right, extends behind garage.

9. A sprawling ranch that puts all its space to work

There is no wasted hallway area in this house—in fact, there are almost no halls.

The bedroom area has been widened by about 8', so what normally would be a long dark corridor from the entry to the rear bedrooms has been turned into a 300-sq.-ft. family room. The side wall of the bedroom wing has been set in 10' to create a private court, screened from the outside by a brick wall and reached through a sliding glass door from the family room. And additional light is brought in through a skylight.

The plan includes three other outdoor living areas: a walled court off the master bath, a walled patio behind the living and dining rooms and a partly roofed entry terrace between the garage and the main house.

This 2,345-sq.-ft. ranch is one of the few speculative models built in La Costa, Calif, a recreational community developed primarily for high-priced custom homes. It was built by La Costa Homes Inc. and is priced at \$50,500 on a \$22,000 lot. Architect: Edward Fickett.

Jim England

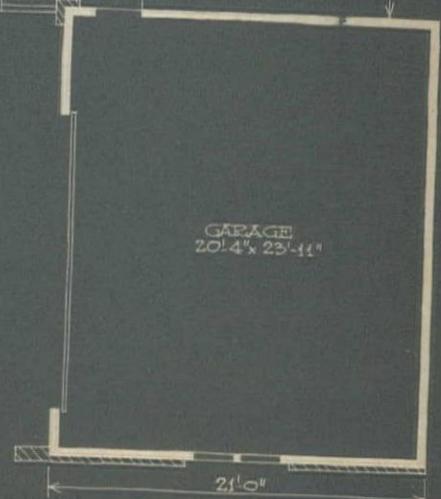
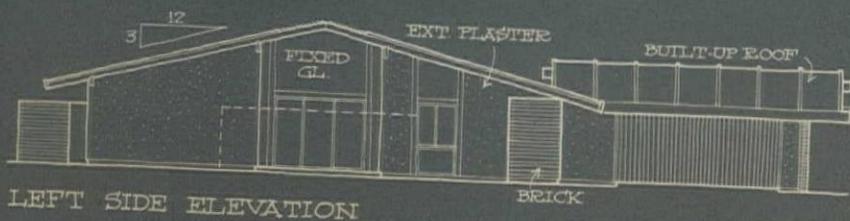
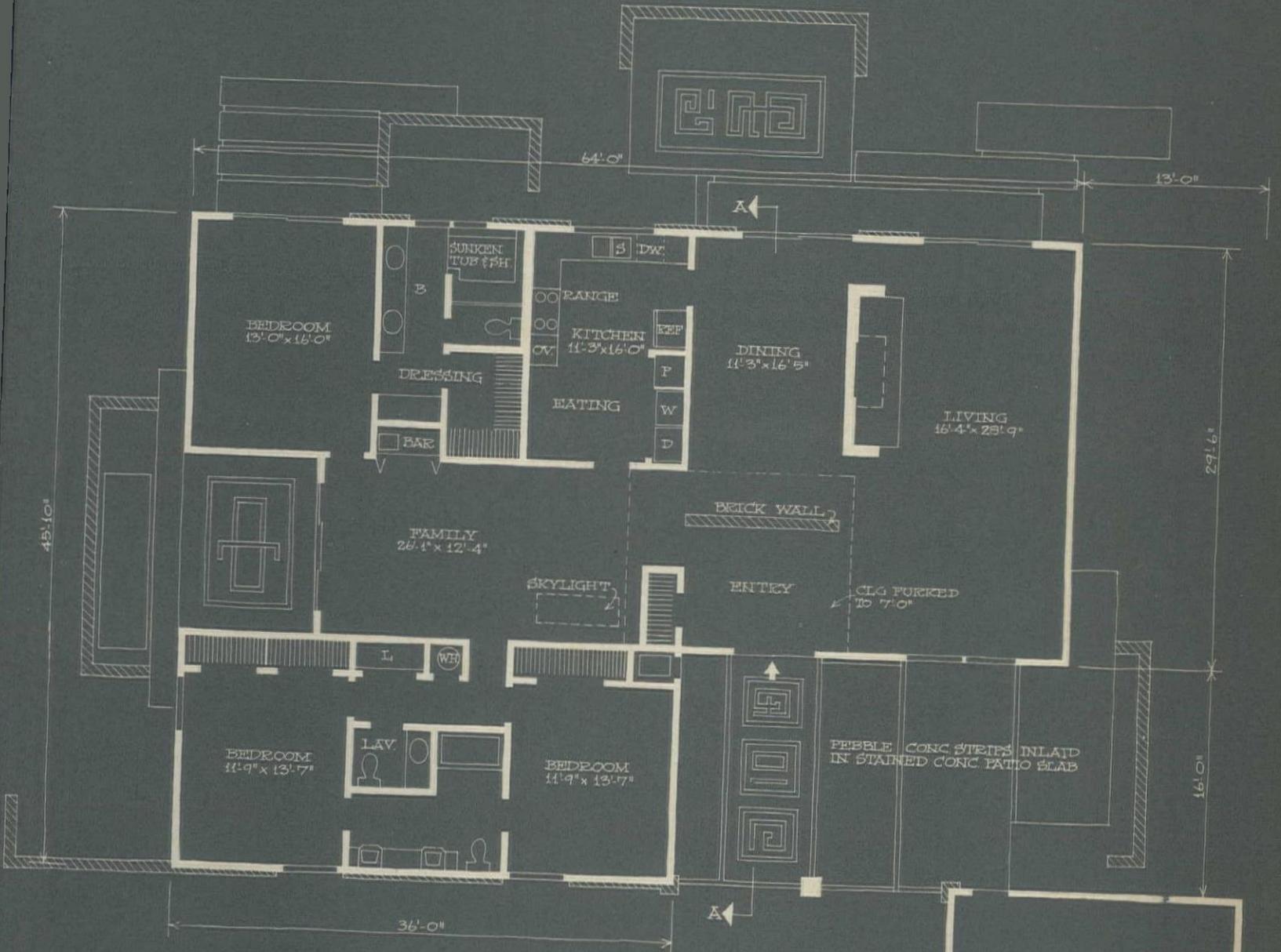
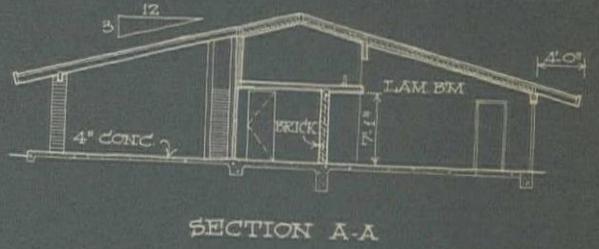
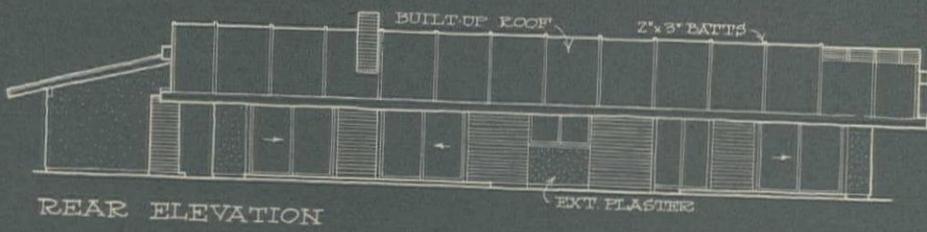
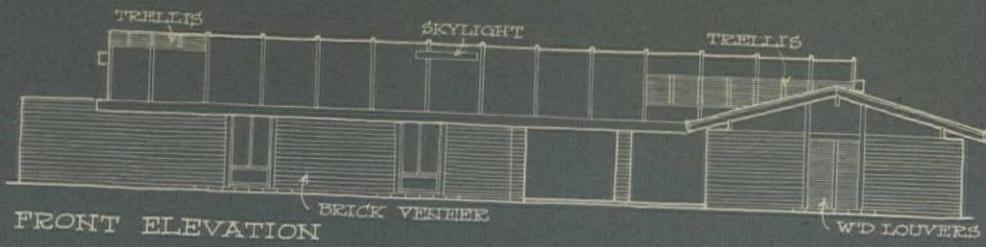


FRONT FOYER has a dropped ceiling, which contrasts dramatically with beamed cathedral ceiling

of living room, right. Divider wall at left is made of old Mexican tecate brick.



DINING ROOM is on opposite side of brick wall from foyer. Kitchen is behind wall at right.





EXTERIOR DETAILING includes narrow stained clapboards, heavy gutter hangers and shutterless windows. Angled garage at right has board siding.

10. A garrison colonial planned for today's family

The heavy garrison overhang—1½' at both the front and back of this house—is more than just an authentic design element. It permits a 29'-wide second floor to be built above a 26' foundation, providing room for five ample-sized bedrooms, two big bathrooms and a dressing area off the master bedroom.

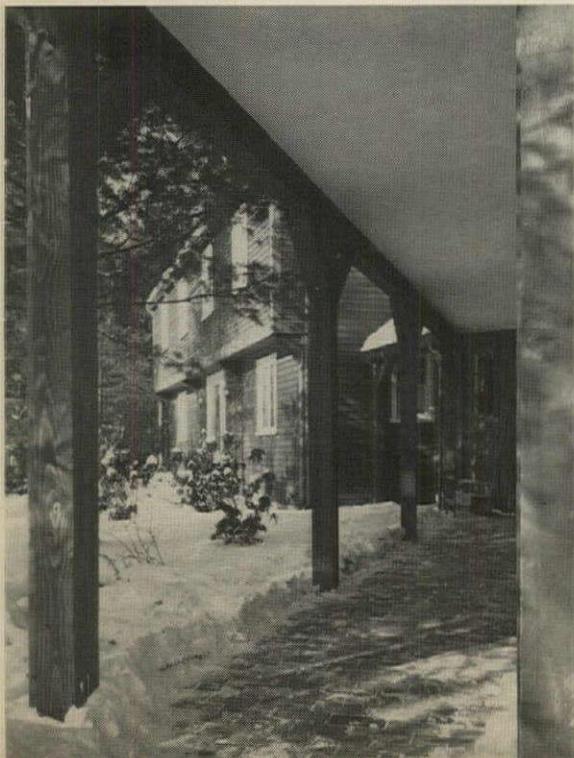
A five-bedroom house requires plenty of room for large-family activities, and in this model extra first-floor space was added with a connecting structure between the main house and the garage. The one-story

wing includes a 175-sq.-ft. family room and a mud room with a half bath, laundry and clothes closet. Along with the 26' country kitchen, it creates an informal living area just as big as the formal living and dining rooms.

The simple New England farmhouse design contributed to the moderate cost of the 2,450-sq.-ft. house: \$45,000 on an \$8,000 lot. One exception to the simplicity: the angled garage with its side walkway.

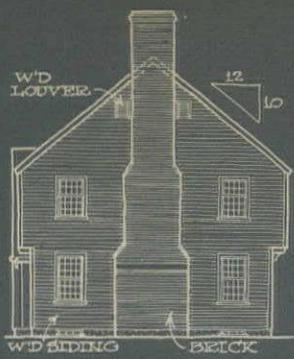
Located in Norwell, Mass., the house was built by Walter Almquist. Architect: Claude Miquelle Assoc.

Photos: George Zimberg



LIVING ROOM has 360 sq. ft. of area, features a fireplace with deep mantel and surround. Small-paned picture window overlooks rear yard.

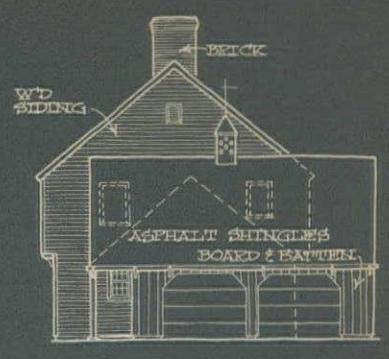
SHELTERED WALKAWAY from front of garage to mudroom is covered by roof extension. Posts and beam are stained timbers.



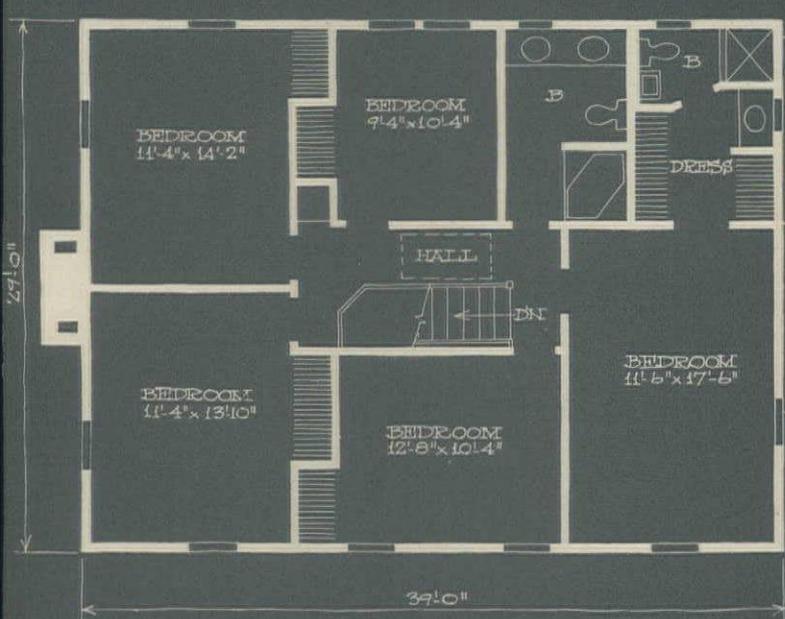
LEFT SIDE ELEVATION



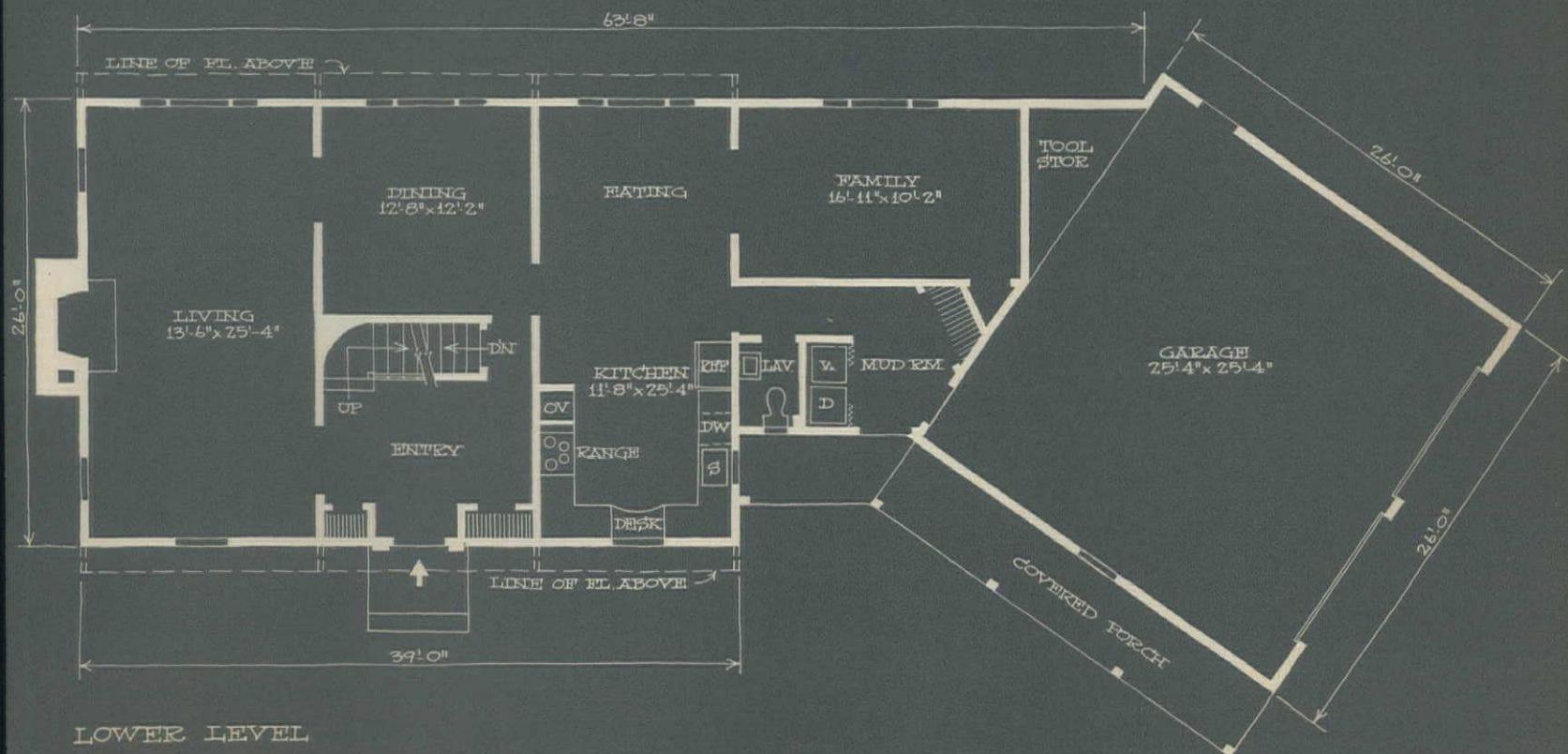
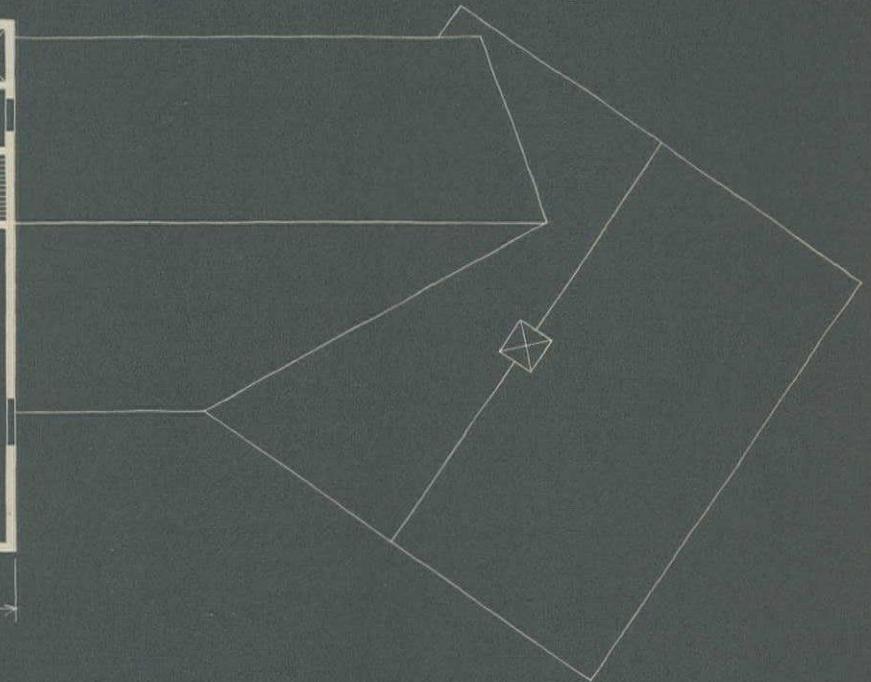
FRONT ELEVATION



RIGHT SIDE ELEVATION



UPPER LEVEL



LOWER LEVEL

SCALE OF PLANS ONLY 3/32" = 1'-0"



CLEAN LINES and uncluttered exterior treatment contribute to a well-proportioned appearance. Roof pitch is 5 in 12. Wrap-around deck starts at left.

11. A hillside contemporary that belies its size

Appearance to the contrary, this is a very big house. It is 70' long and 34' wide, and its two levels include 3,750 sq. ft. of area plus an oversized (1,020-sq.-ft.) garage. But it does not seem ungainly because the key elements of its design have been scaled up to match its over-all size. Specifically:

Sidewalls are 8'6" high rather than 8'. This extra height also adds interior spaciousness.

Windows are oversized—4' high in front and 5'6" on gable walls.

Rough-sawn redwood siding consists of wide boards—(1x10s) and wide battens (1x3s).

Fascias are 12" deep, rather than the normal 6" or 8".

The size of the house, coupled with its simple rectangular shape, made it relatively economical to build. The price, excluding a \$19,000 lot, was \$48,000. If the garage is figured at \$3,000, the price per square foot of living area is a low \$12.75.

Located in Westport, Conn., the house was built by Jonathan Aley Co. Architect: Thomas E. Bates.



FRONT ENTRY shows spacious effect of high ceiling. Flooring is terra cotta tile.



FAMILY ROOM on lower level has 380 sq. ft. of area. Partial cellar below houses utilities.

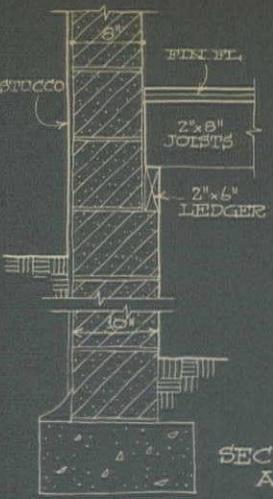


STEEP SITE is apparent in downhill view. Deck encircles living area on second level.

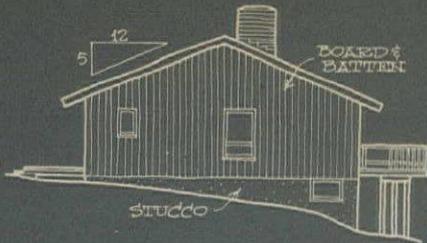


EFFICIENT KITCHEN, dead-ended and thus free of any through traffic, provides ample working

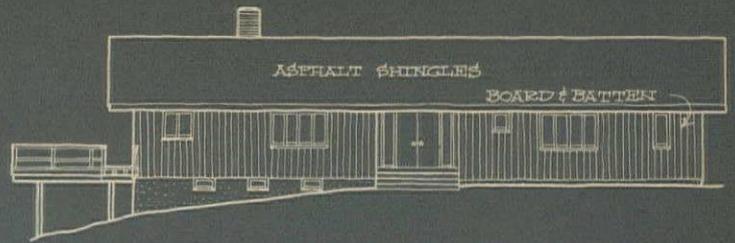
space. Photo is taken from breakfast area. Dining room door is at left of refrigerator.



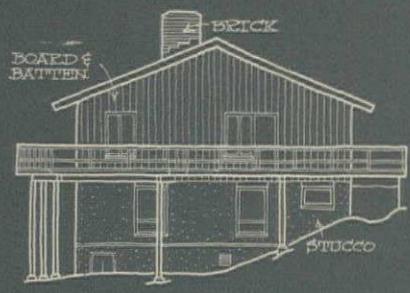
SECTION A-A



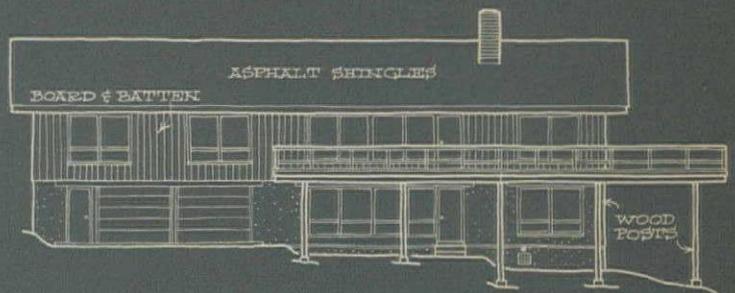
LEFT SIDE ELEVATION



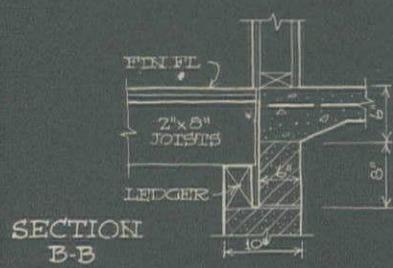
FRONT ELEVATION



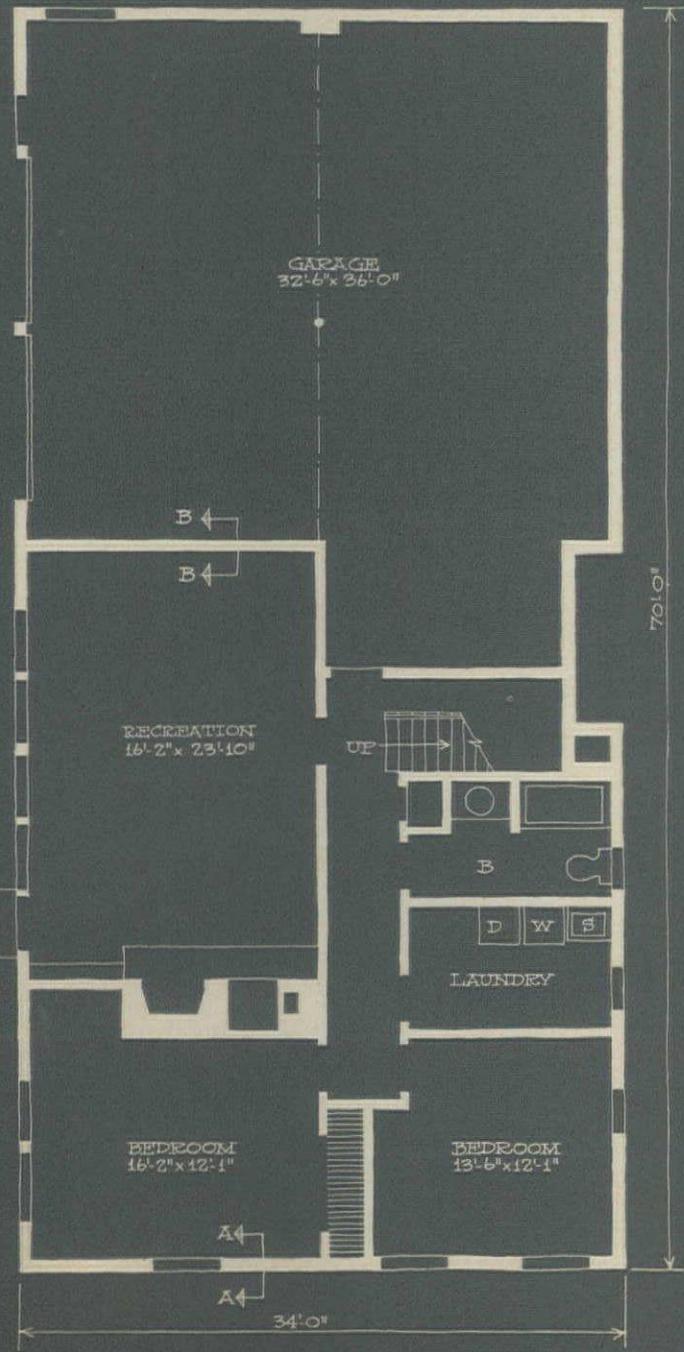
RIGHT SIDE ELEVATION



REAR ELEVATION

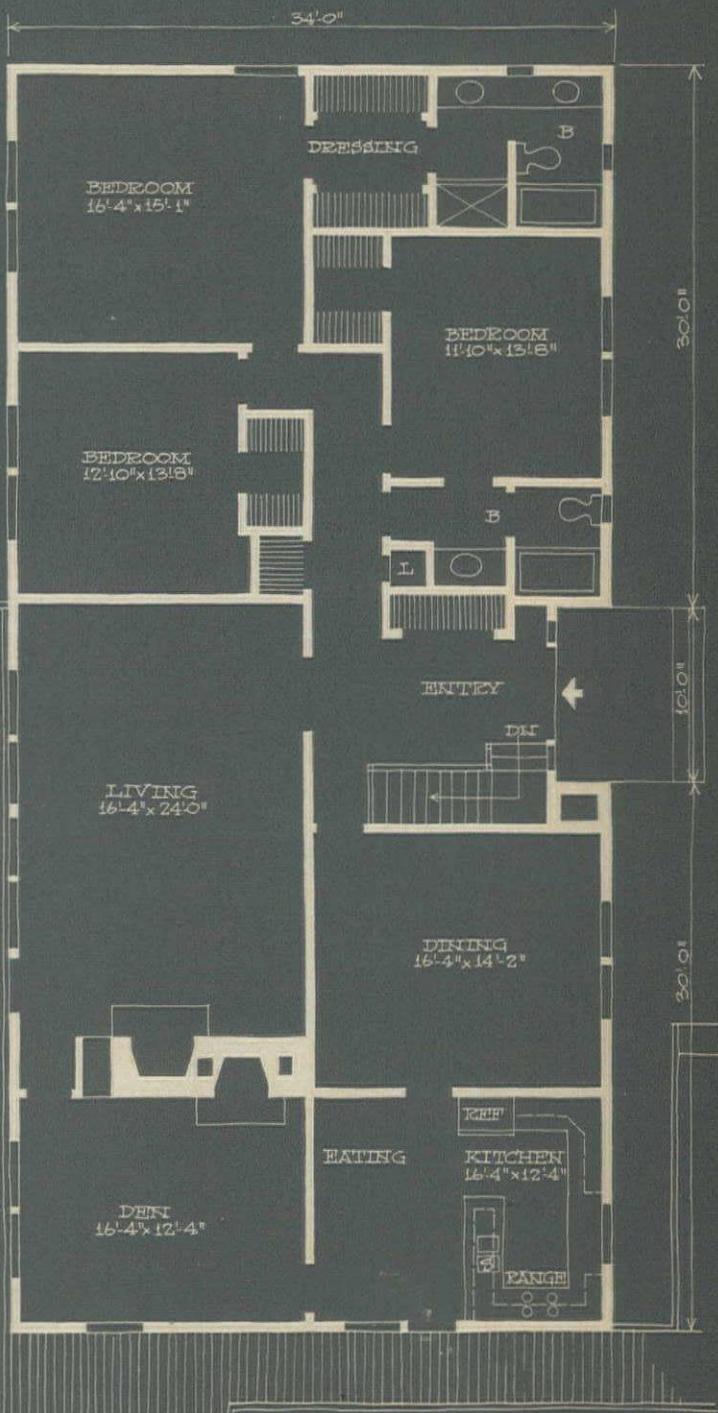


SECTION B-B

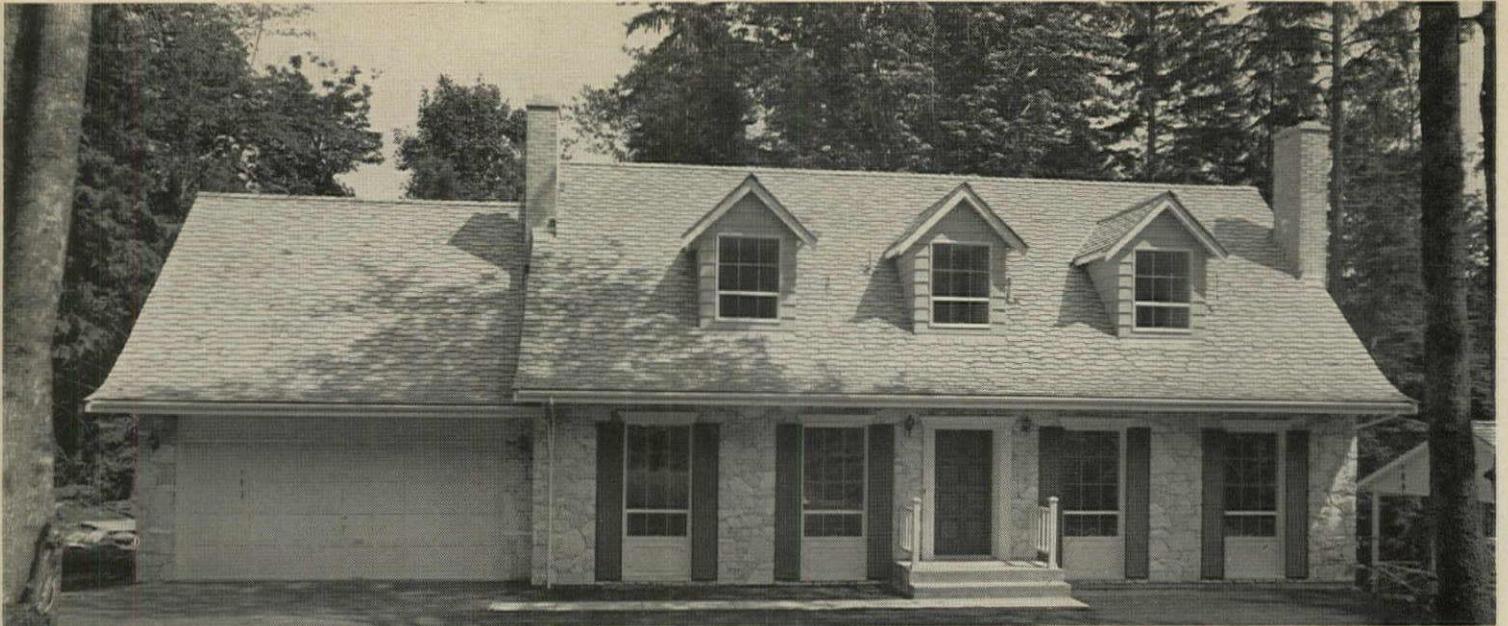


LOWER LEVEL

SCALE OF PLANS ONLY 3/32" = 1'-0"



UPPER LEVEL



HISTORICALLY CORRECT DESIGN is based on old French farmhouses. Roof of the model, in Vancouver, B.C., is made of cedar shakes.

12. An authentic French cottage that really pulls traffic

This model has served two purposes for its builder, Alcan Design Homes of Quebec. In French-Canadian Montreal, where it was introduced last year, it has accounted for 12 sales even though its price—\$36,900 on a \$7,000 lot—is well above the company's \$29,000 average. And although it has not sold well in Alcan's Vancouver and Calgary projects, it has noticeably increased traffic and boosted sales of the company's other models.

The house's strong suit, says the builder, is its curb

appeal: a fieldstone facade, well-detailed windows and roof overhangs on the pup dormers and the main roof—the latter with a slight upward curve at the edge. But the plan is also excellent: good circulation on both floors, effective separation of formal and informal living areas and a compact, efficient mud room-laundry area next to the back door. A notable point: the use of pup dormers for the upstairs bathrooms.

The house has 2,400 sq. ft. of living area. Consulting architect was Dennis S. Deskin.

Selwyn Pullan



FIREPLACE WALL in family room has two unusual openings, one for wood storage, left, and one for grate. Brick wall goes across entire 17' width of the room. Flooring is prefinished oak.

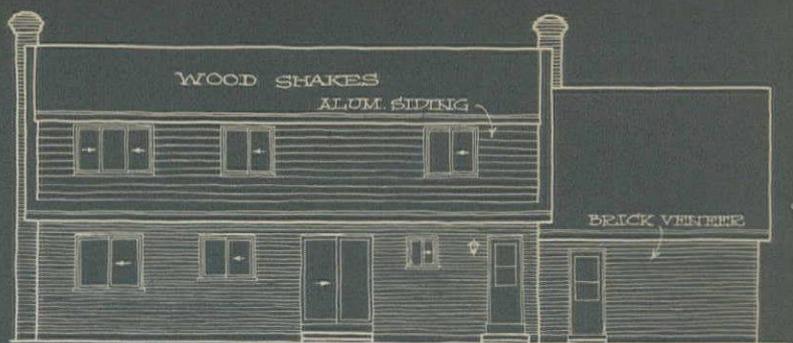
Selwyn Pullan



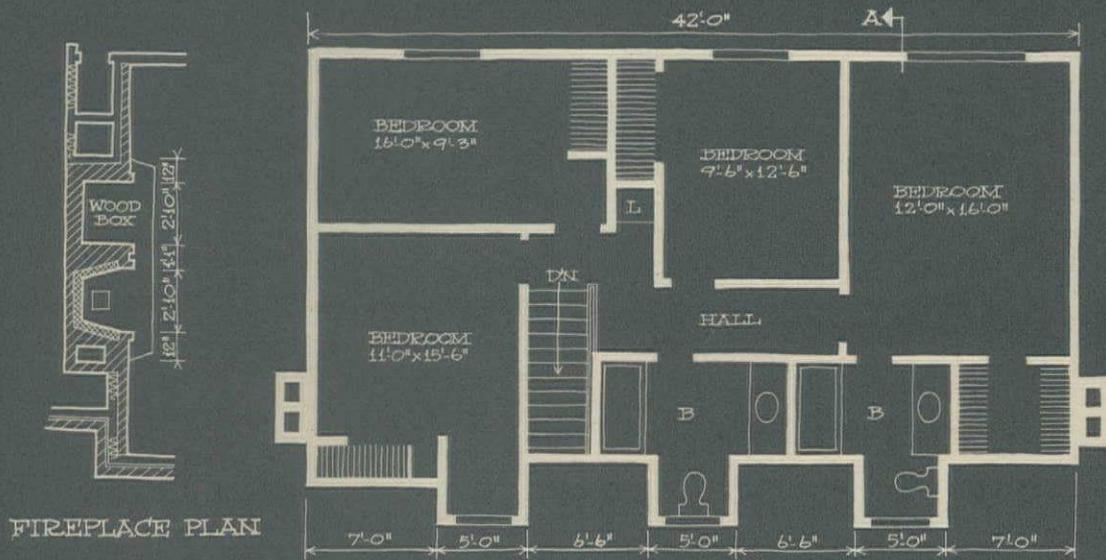
U-SHAPED KITCHEN has free-standing cabinet peninsula that separates it from dining area.



FRONT ELEVATION

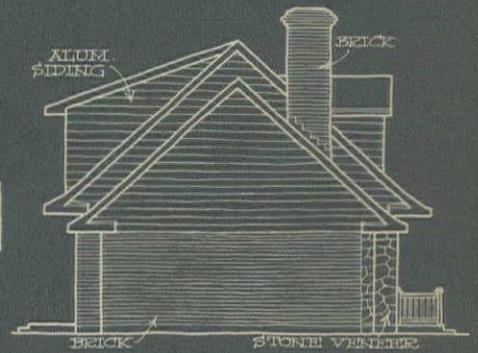


REAR ELEVATION

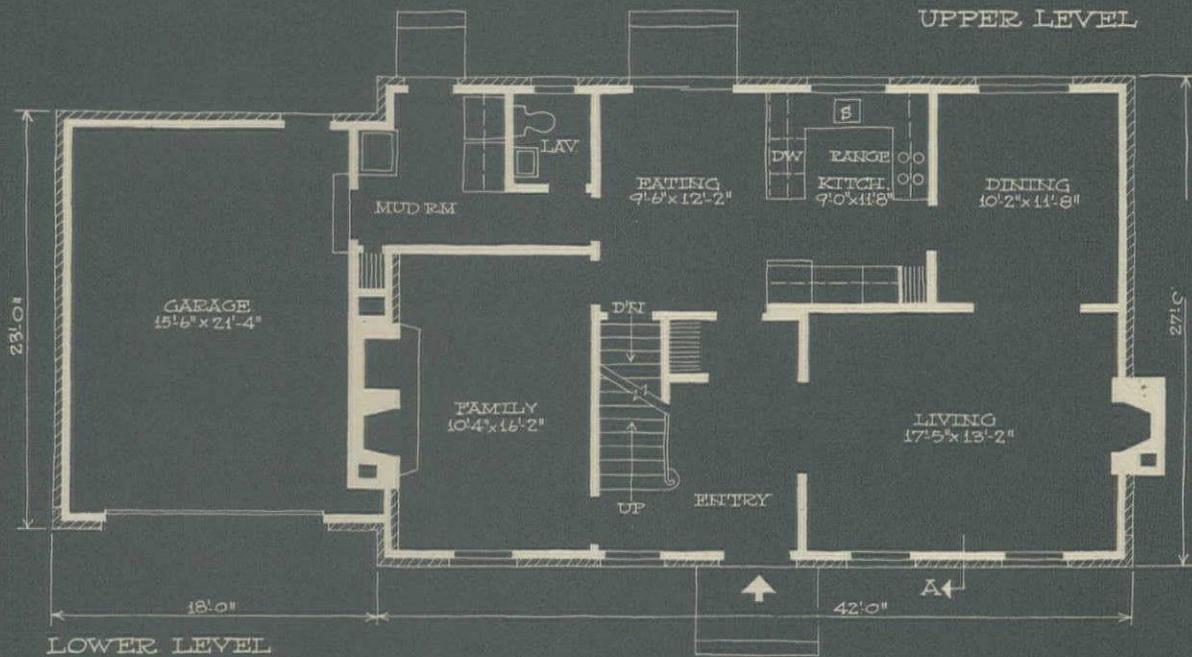


FIREPLACE PLAN

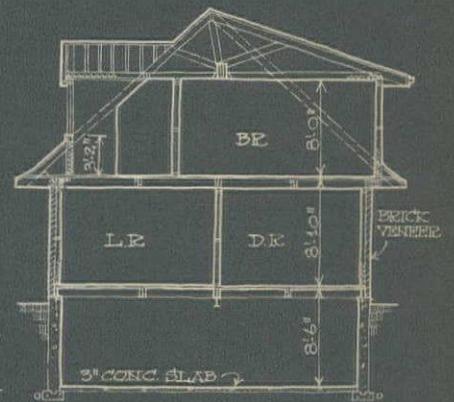
UPPER LEVEL



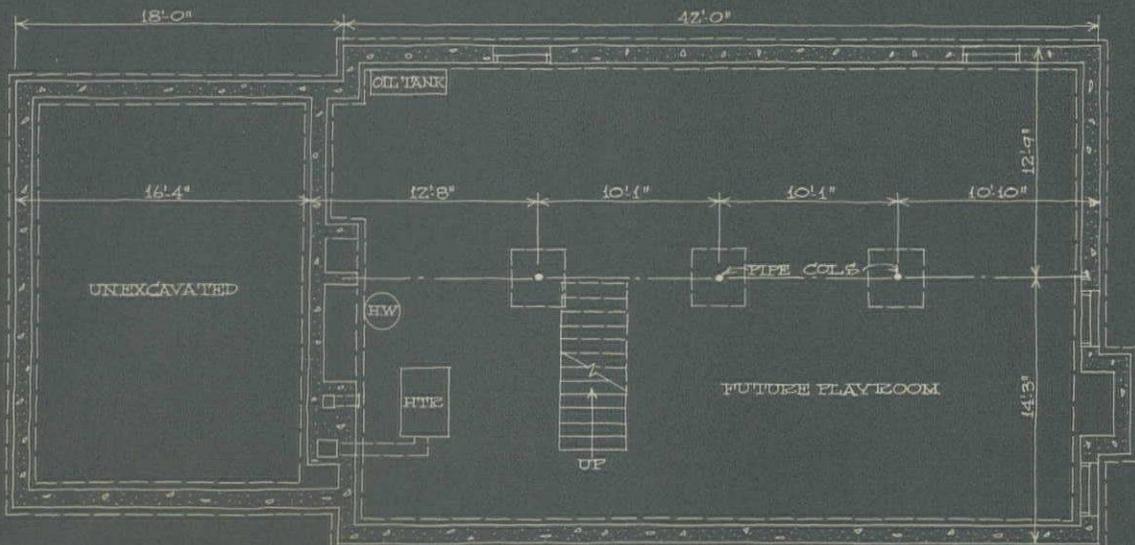
LEFT SIDE ELEVATION



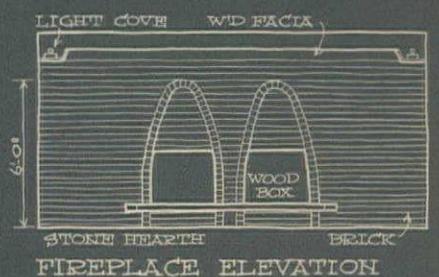
LOWER LEVEL



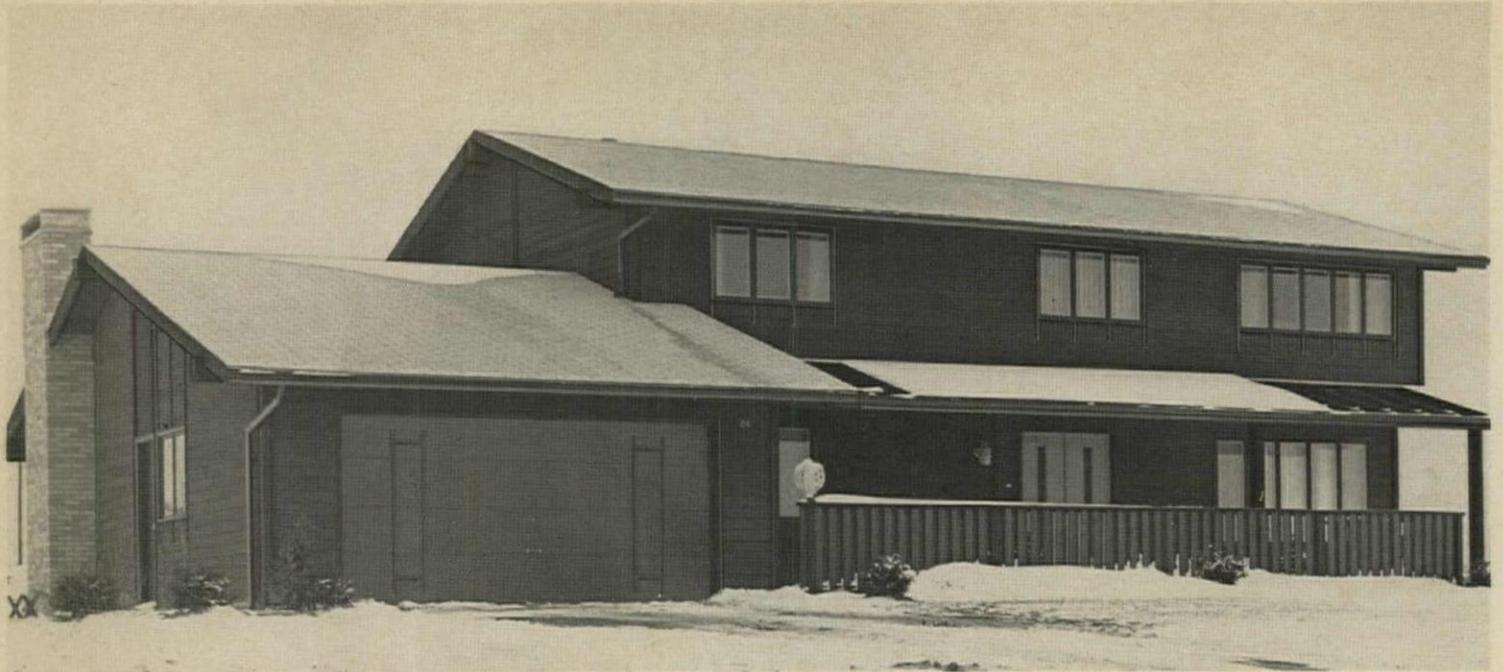
SECTION A-A



BASEMENT & FOUNDATION PLAN



FIREPLACE ELEVATION



FRONT ELEVATION has a full-length porch roof that hides the 2' overhang of the second story and also blends the jutting garage into the facade.

13. An up-to-date version of the traditional two-story

Essentially, this is a standard center-entry colonial. But the builders have dropped the small-paned-window-and-shutter treatment (although it is still available as an option) and substituted an uncluttered exterior with groups of big casement windows. And they have changed the conventional center-hall plan just enough to conform with today's buyer demands. Items:

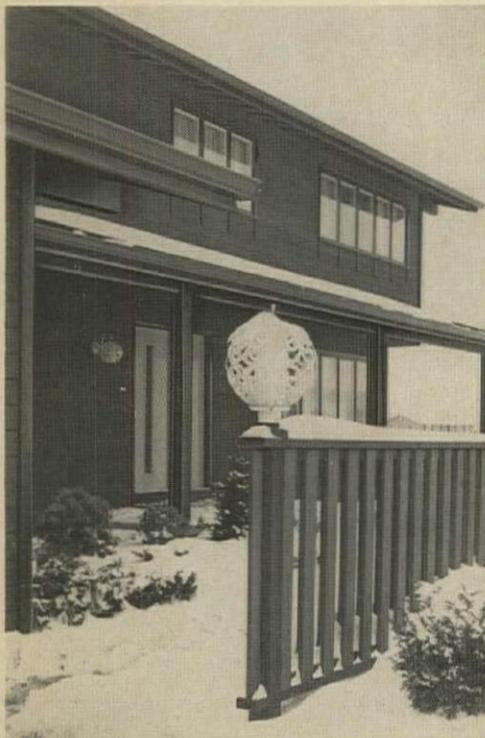
A mud-room area that includes a laundry and half bath, with the bath positioned midway between the formal and family living areas.

An entry with direct access to all major areas.

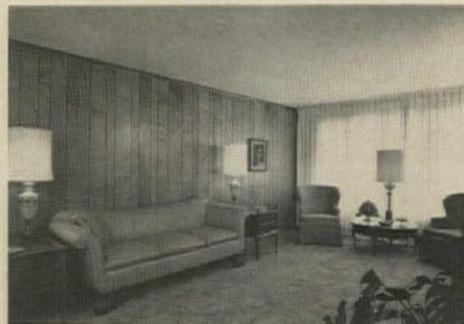
A big family room located behind the garage so that teen-age entertaining interferes with neither formal entertaining nor sleeping.

A 230-sq.-ft. master bedroom suite with a big walk-in closet.

The house offers 2,470 sq. ft. of living area and sells for \$39,800 on a \$6,000 lot. It was built by Caldwell and Cook of Rochester, N.Y., and designed by Architect John Anderson of Seattle.



VERTICAL LINES of front fence and window trim contrast with the horizontal line of siding.



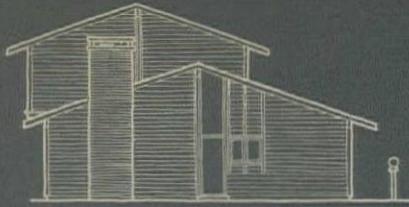
LIVING ROOM has one wall paneled in dark plywood to echo the house's dark-stained exterior.



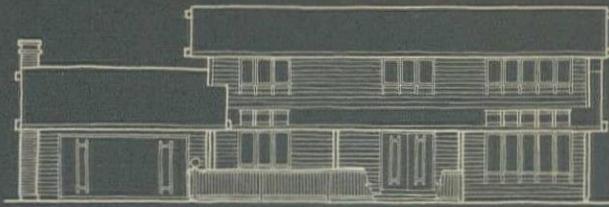
U-SHAPED KITCHEN, seen here from eating area, has unusually generous cabinet and counter space.



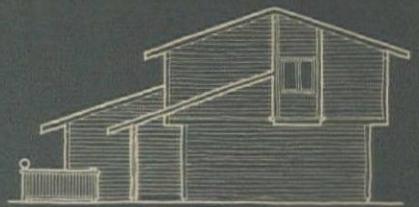
STAIRWAY has contemporary balusters and rails in keeping with the over-all design of the house.



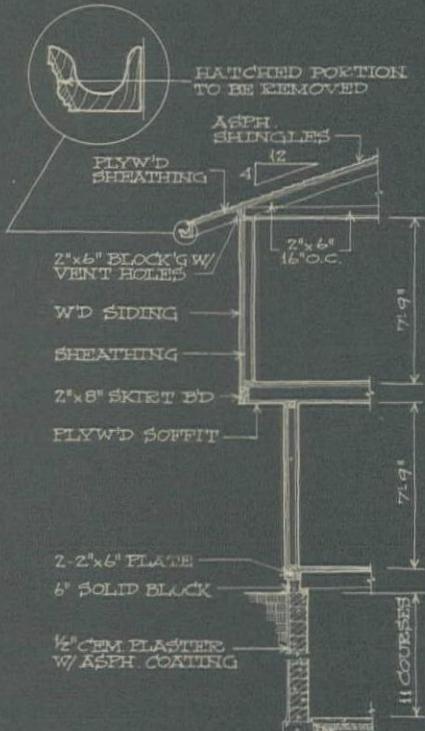
LEFT SIDE ELEVATION



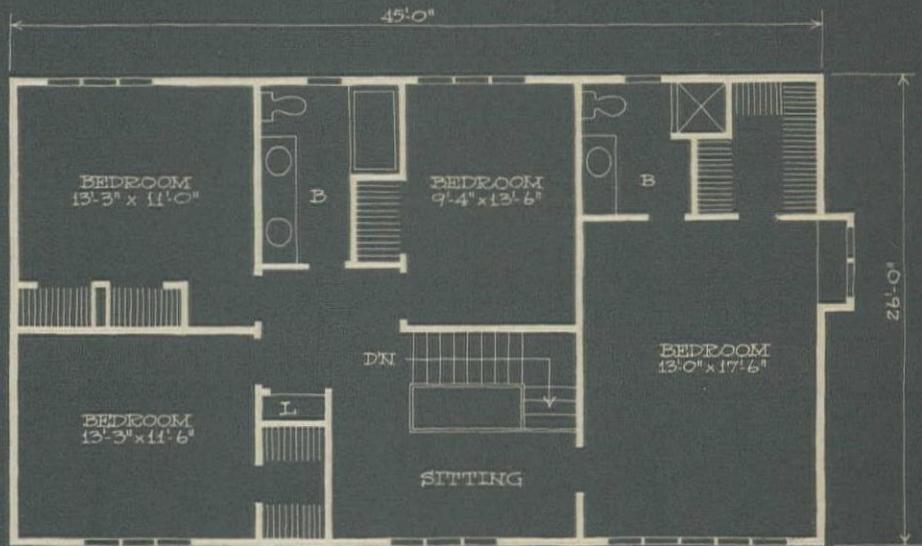
FRONT ELEVATION



RIGHT SIDE ELEVATION

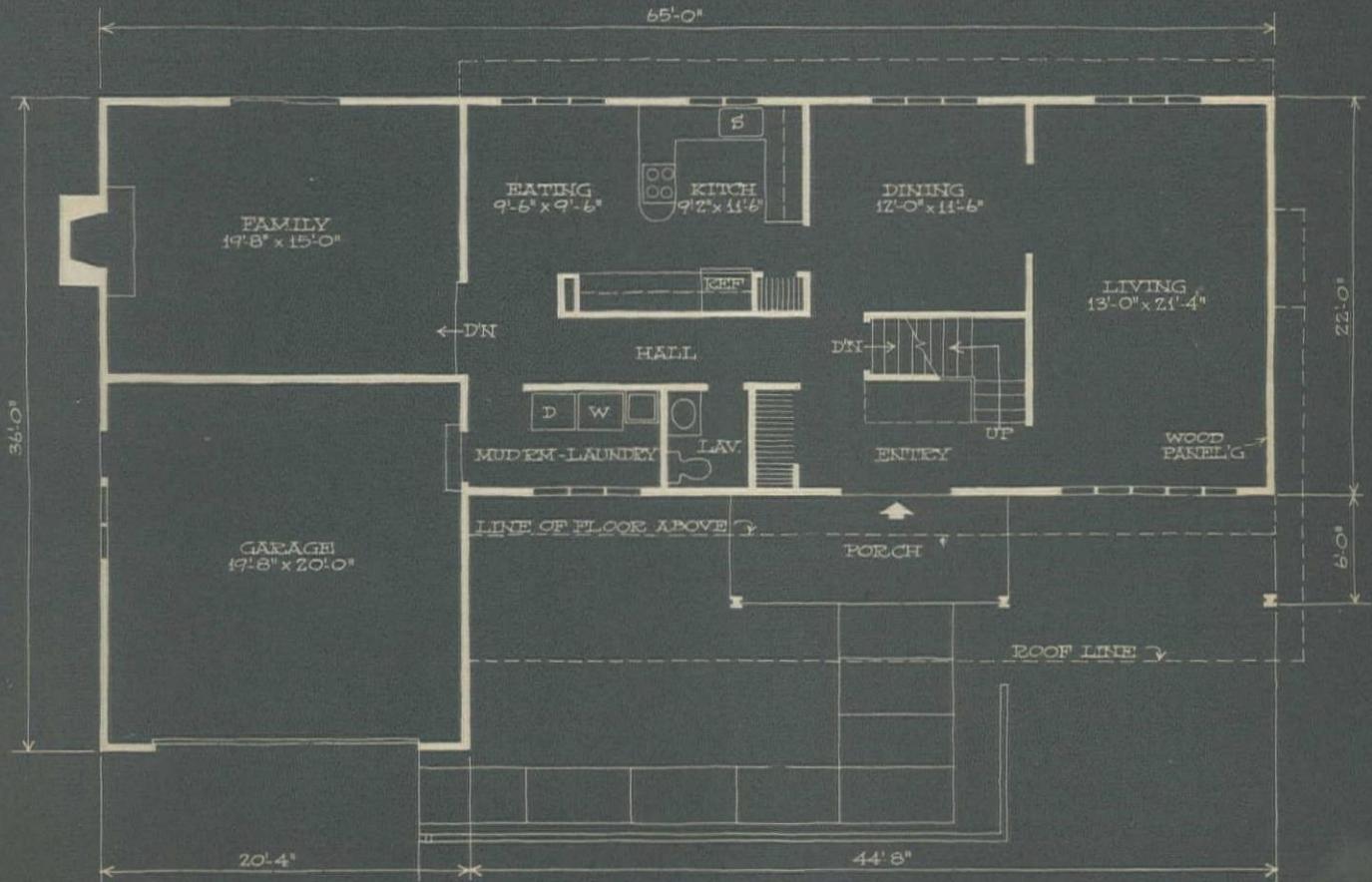


REAR WALL SECTION



UPPER LEVEL

SCALE OF PLANS ONLY 3/32" = 1'-0"



LOWER LEVEL



IMPRESSIVE FACADE has helped make this model the builder's bestseller. Formal living area and master suite are at right, children's bedrooms at left.

14. A two-story that gives parents a chance to breathe

The plan of this house is divided down the middle. One side is laid out for children's activities—four bedrooms and two baths on the second floor, and a family room and mud room next to the garage on the first floor. The other side of the house is strictly for grownups—the living room and formal dining room downstairs and a 460-sq.-ft master bedroom suite with lots of storage upstairs.

Two rooms are common to both parts of the house: the kitchen, which adjoins both the dining room and

the family room and also has its own eating area, and the foyer, which opens directly into the family room as well as the living room.

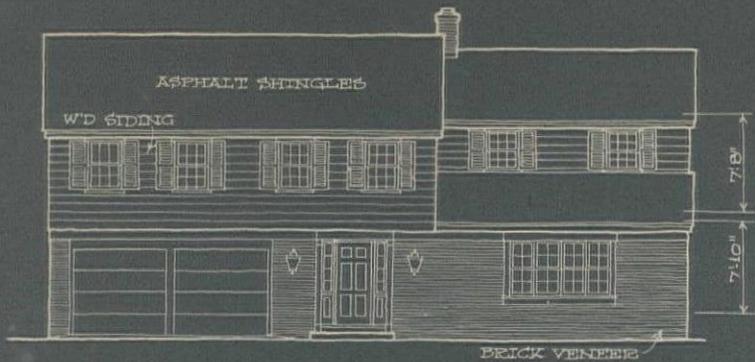
Parents apparently appreciate this concern for their privacy. Bob Scarborough of Haddonfield, N.J., has sold 20 of these houses since last September. Price is also a factor. The 2,400-sq.-ft. house sells for \$30,700 on a \$4,200 lot. One reason for the low price: the formal living area is over a basement, and the rest of the house is on a slab. Architect: Lester H. Weckesser.



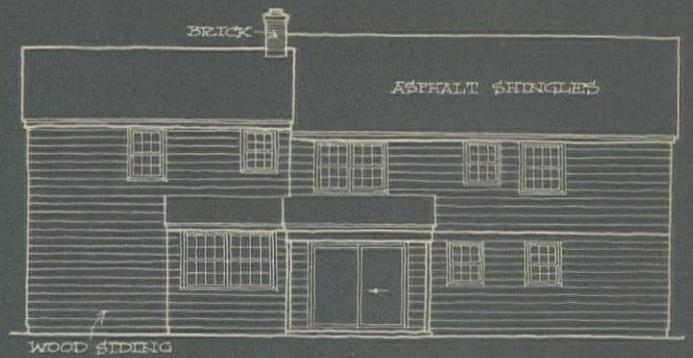
U-SHAPED KITCHEN has 190 sq. ft. of area, including breakfast nook in foreground. Brick wall is back of fireplace in family room at right.



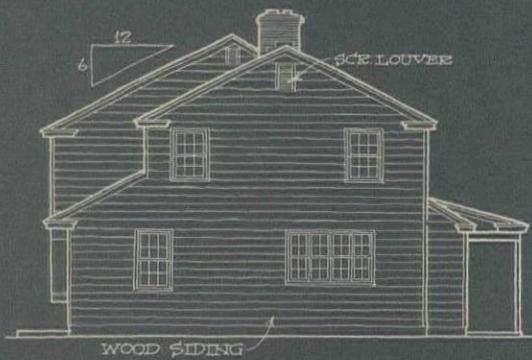
FAMILY ROOM has 250 sq. ft. of area, features a 9' fireplace wall with a full-length mantel. Louvered doors in rear open into front entry.



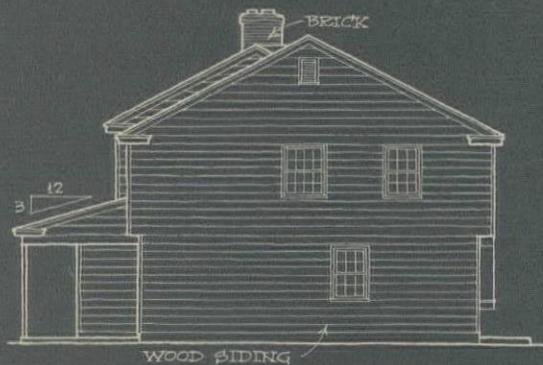
FRONT ELEVATION



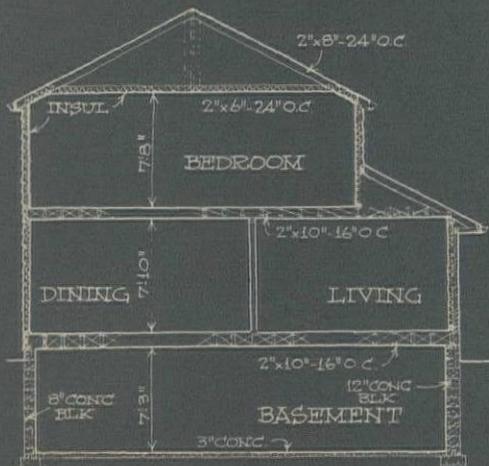
REAR ELEVATION



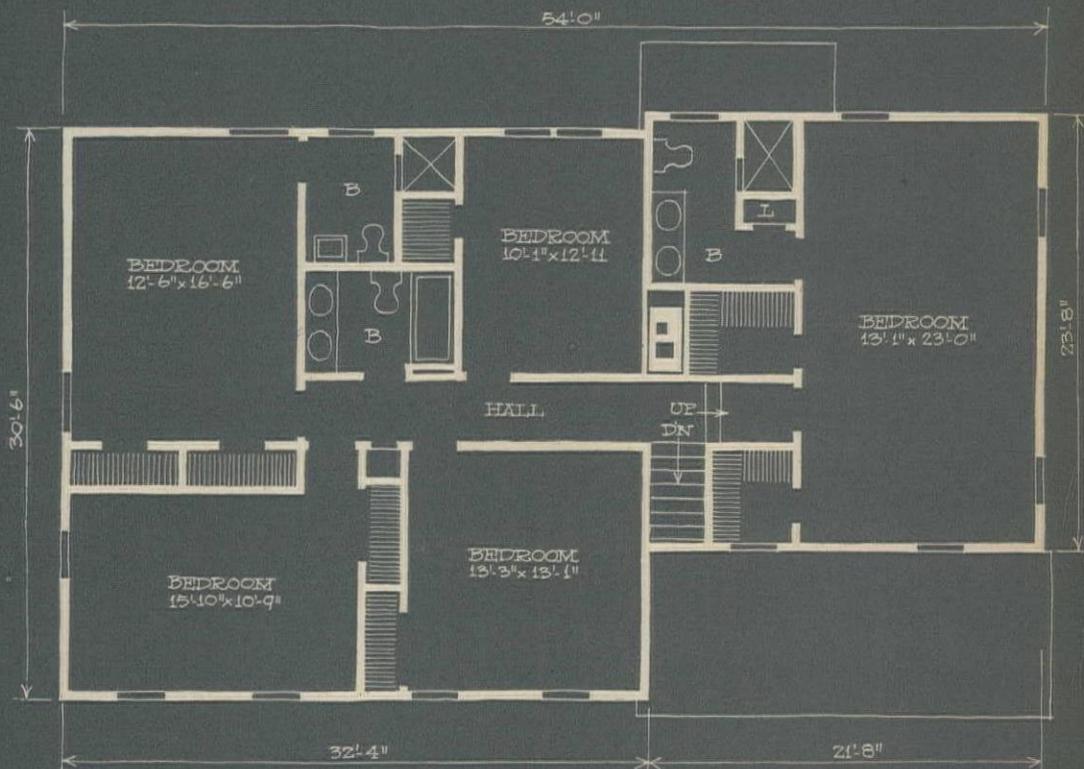
RIGHT SIDE ELEVATION



LEFT SIDE ELEVATION

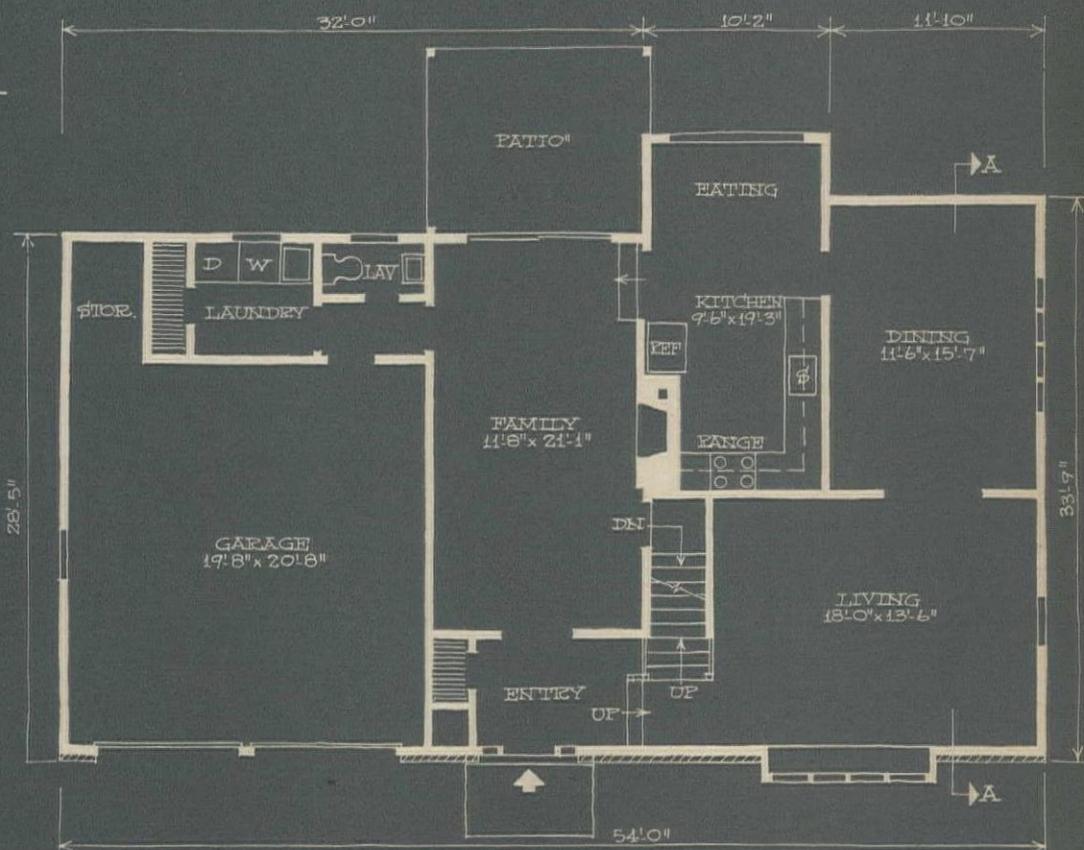


SECTION A-A



UPPER LEVEL

SCALE OF PLANS ONLY 3/32" = 1'-0"



LOWER LEVEL



SIMPLY DETAILED FACADE achieves design interest through alternating areas of glass and wood, unity through repetition of strong vertical lines.

15. A two-story contemporary that stresses openness

In plan, this house is merely a well-executed version of the traditional two-story rectangle. But its design is something else again. In keeping with the location, Huntington Beach, Calif., Architect Richard Dorman has opened up the rectangle both indoors and out, giving it a most untraditional spaciousness. Items:

Large glass areas are used on the street elevation. To preserve privacy, a screen of horizontal slats is built in front of the master bedroom windows.

The entry hall is two stories high and glassed on

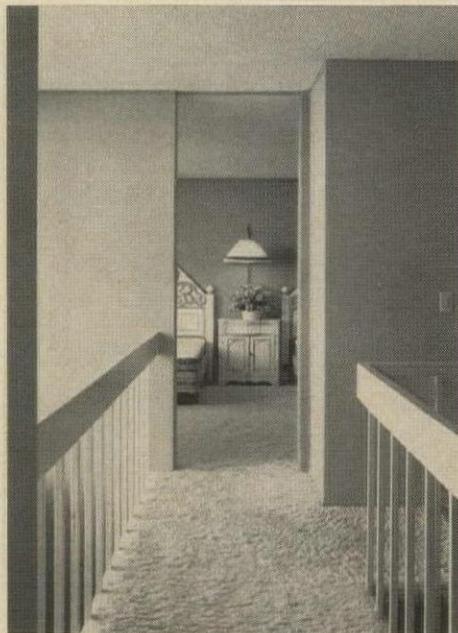
both levels. To maintain the feeling of space, the staircase has narrow balusters and open treads (*photo, bottom left*), and a railed bridge (*photo, bottom center*) serves as the second-floor hallway.

A sliding-screen wall permits the dining room to be opened to the living room, creating one big entertainment area.

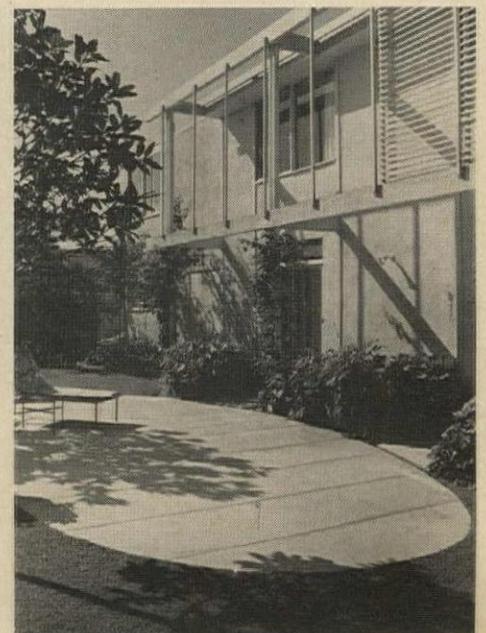
The 2,700-sq.-ft. house, built by Classic Development Corp., has accounted for 12 sales in six months. Price: \$51,000 on a \$22,000 lot.



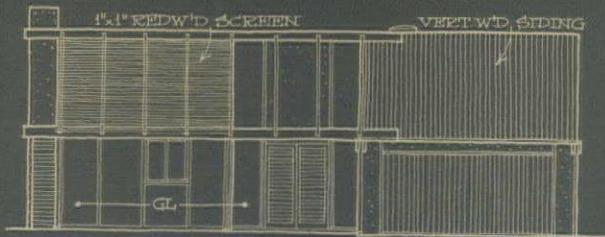
OPEN STAIRCASE is both attractive and inexpensive. Upper bridge is visible at right.



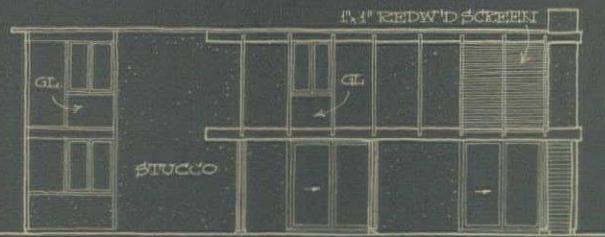
BRIDGE HALLWAY carries bedroom traffic on second floor. Carpeting is an optional extra.



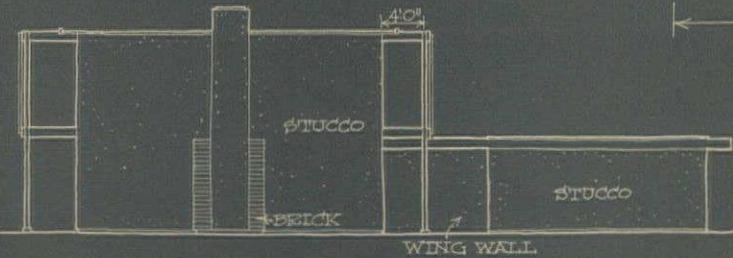
REAR PATIO is screened by heavy planting. Outriggers on second floor echo the facade.



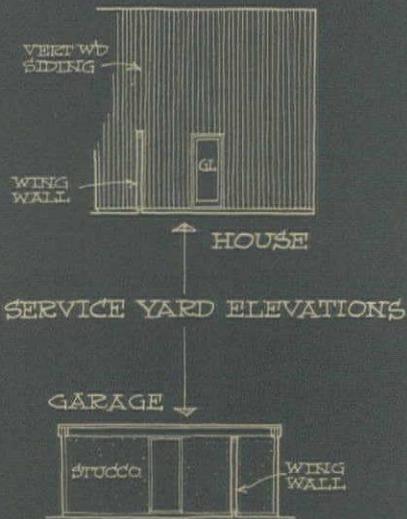
FRONT ELEVATION



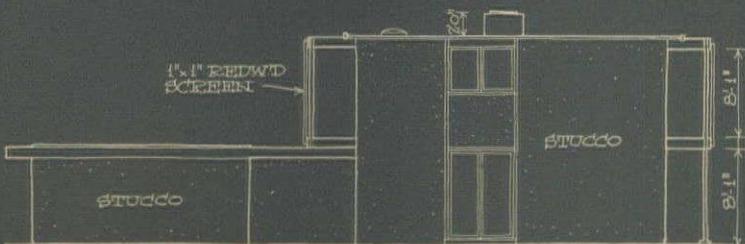
REAR ELEVATION



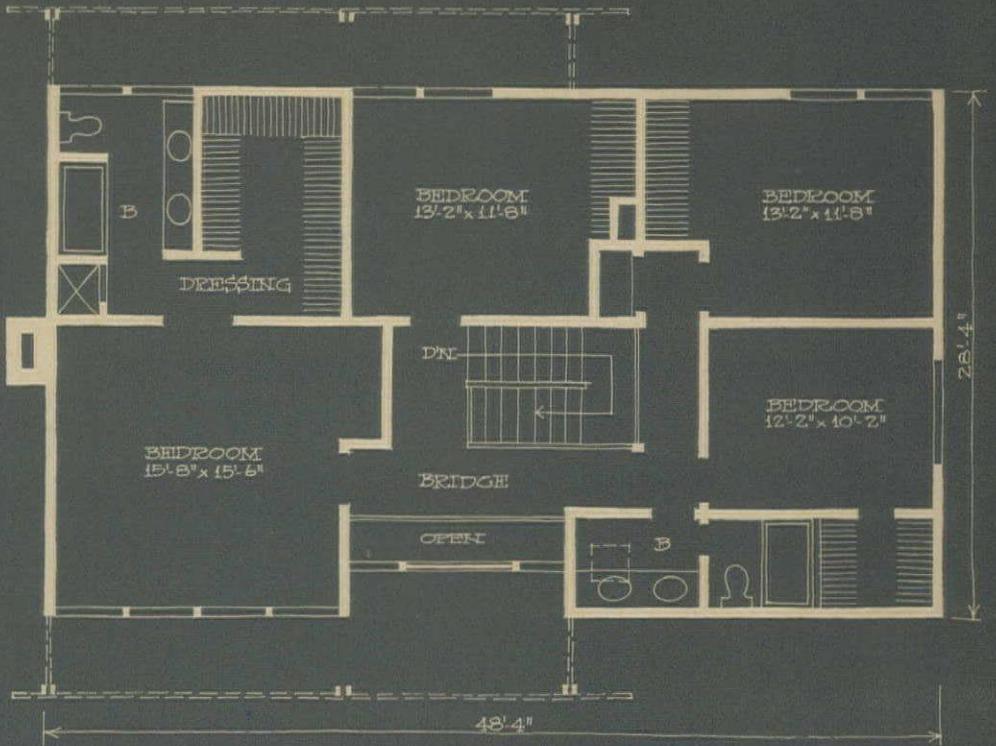
LEFT SIDE ELEVATION



SERVICE YARD ELEVATIONS

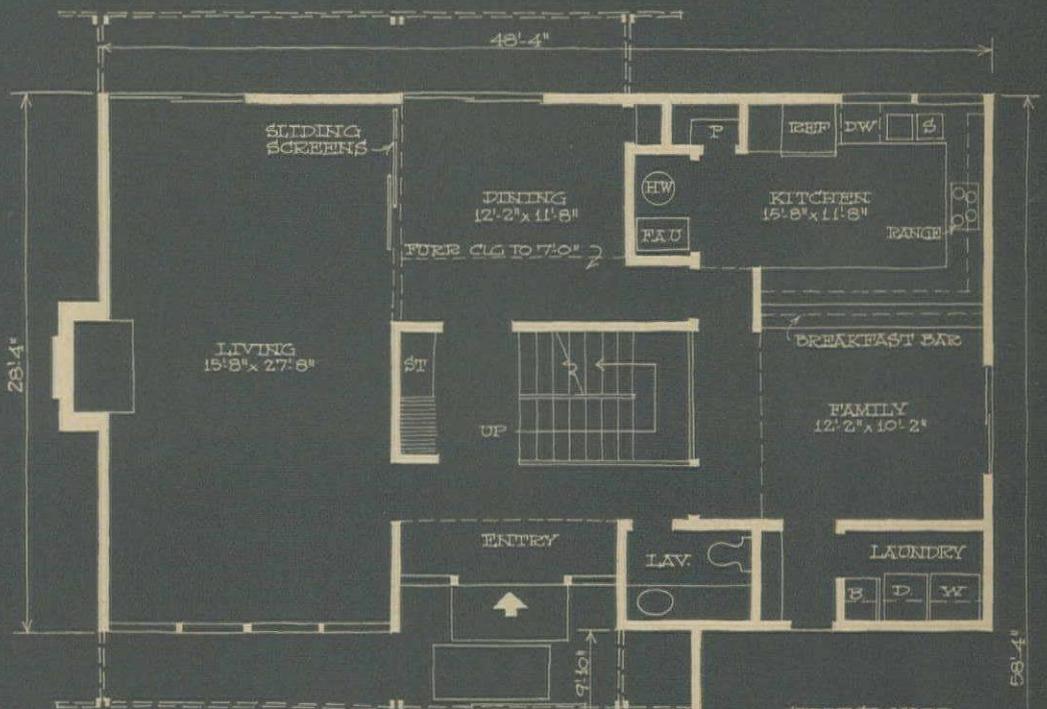


RIGHT SIDE ELEVATION

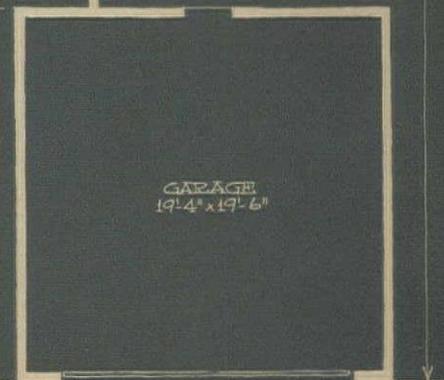


UPPER LEVEL

SCALE OF PLANS ONLY 3/32" = 1'-0"



LOWER LEVEL



GARAGE

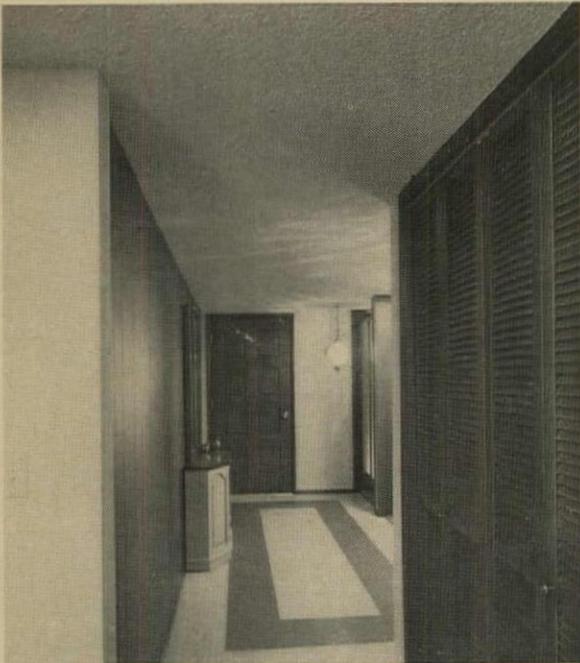
SERVICE YARD



SIMPLE RECTANGULAR SHAPE of 2,500-sq.-ft. house is key to its low cost. Wall area is the same as on an L-shaped ranch of about 1,800 sq. ft.

16. A king-sized version of the expansion-attic house

Barton L. Attebery



LONG ENTRY HALL has wood paneled wall, at left, and stained louvered bi-fold doors for coat closet at right.

Barton L. Attebery



FAMILY ROOM has 290 sq. ft. of area. Door at right leads to formal dining room; kitchen is out of photo at left.

United Homes Corp. of Federal Way, Wash., calls this house the Spacemaker—and with good reason.

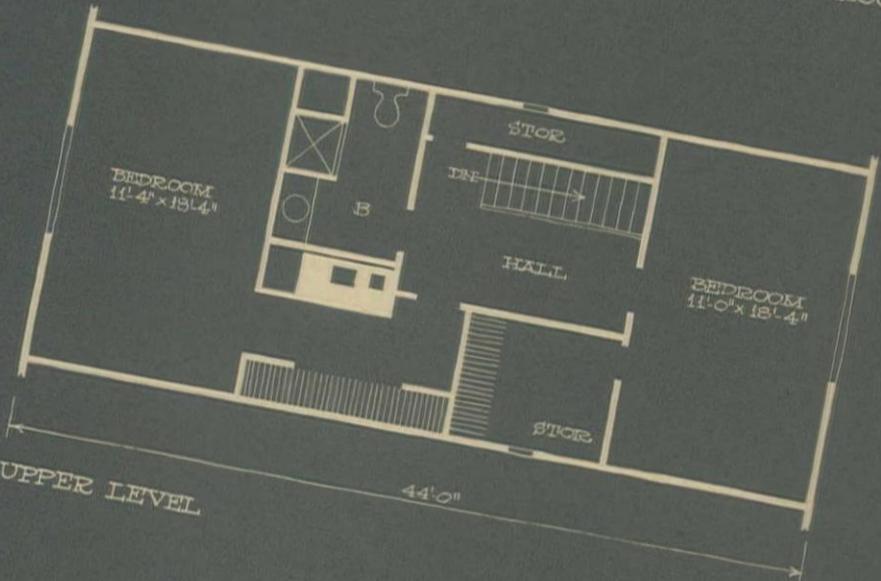
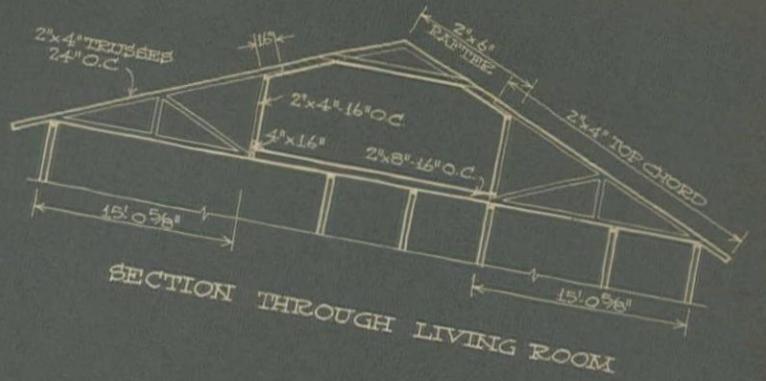
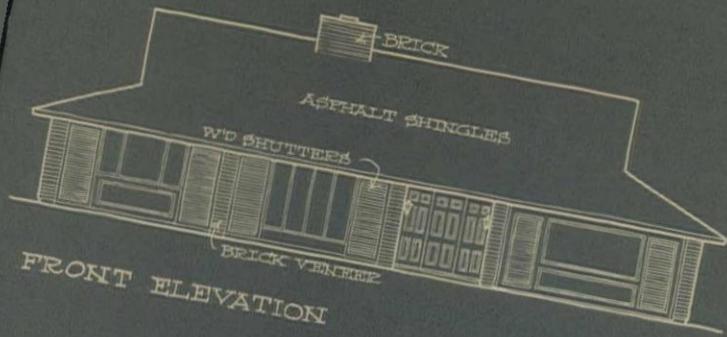
On the main level are more than 2,500 sq. ft. of living area plus a big two-car garage; this version of the house is priced at \$27,800 on a \$4,000 lot. For \$2,700 more, the buyer gets 1,000 sq. ft. of finished second floor with two bedrooms and a bath. And if this isn't enough, the house is available with a mansard roof and 2,500 sq. ft. of second floor—enough for six bedrooms and two or three baths—for a total of \$35,800.

United has sold 100 Spacemakers—as many as it feels should be built in its existing subdivisions—and has a long waiting list for the model in future projects. One problem: FHA requires lots at least 10,000 sq. ft. for the house—bigger than for United's other models.

Barton L. Attebery



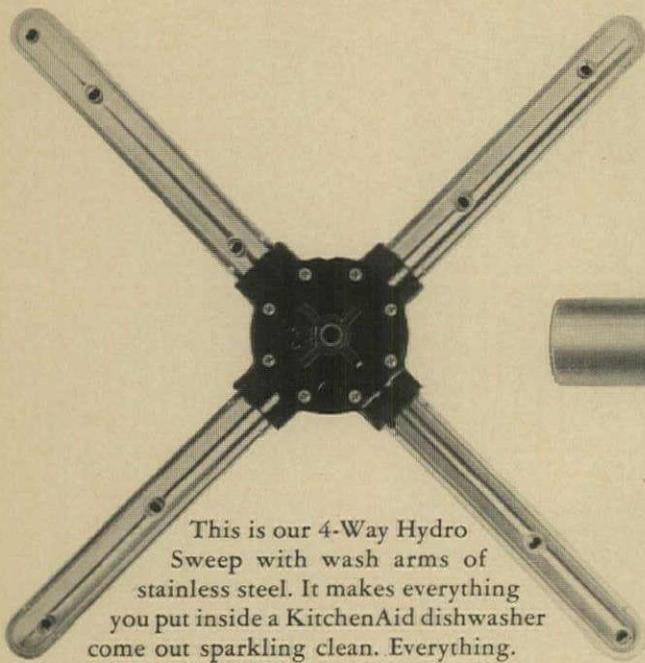
LIVING ROOM has 330 sq. ft. of area. Entry hall is beyond room dividers in background. Standard flooring is vinyl, but many buyers pay extra for wood.



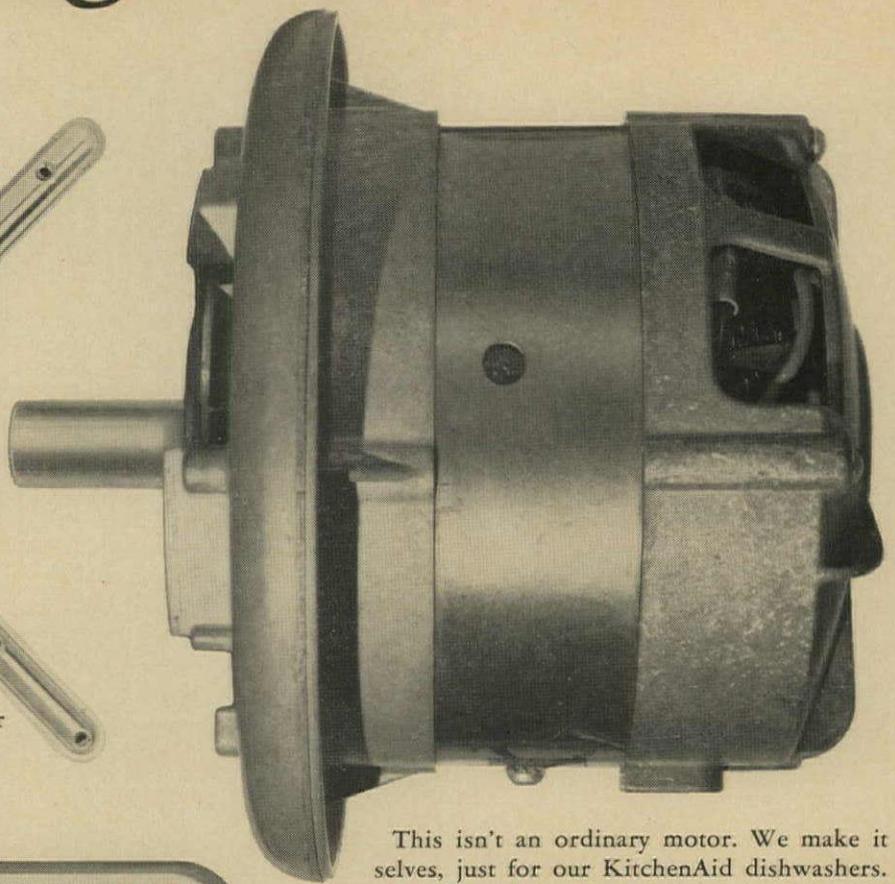
ALTERNATE
 PLAN COPYRIGHTED BY UNITED HOMES CORP.

SCALE OF PLANS ONLY 3/32" = 1'0"

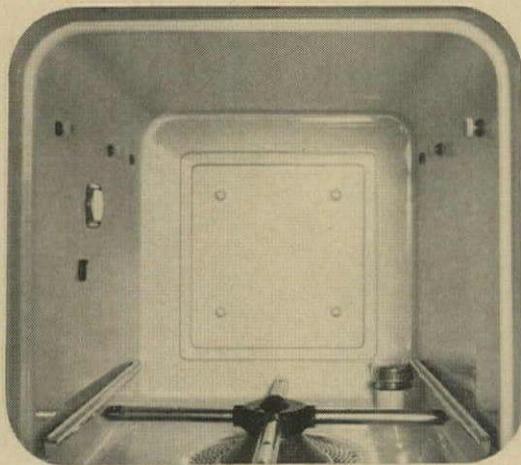
Little things mean a lot.



This is our 4-Way Hydro Sweep with wash arms of stainless steel. It makes everything you put inside a KitchenAid dishwasher come out sparkling clean. Everything.



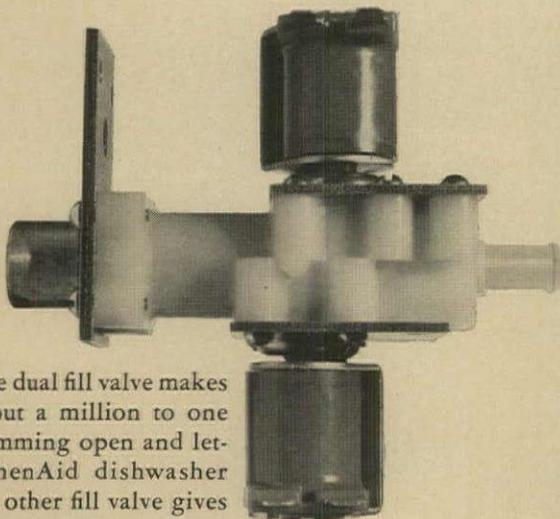
This isn't an ordinary motor. We make it ourselves, just for our KitchenAid dishwashers. And we've been making motors for almost 70 years now. It's rugged, heavy-duty, dependable and $\frac{1}{2}$ hp. Most others are only $\frac{1}{4}$ or $\frac{1}{3}$ hp.



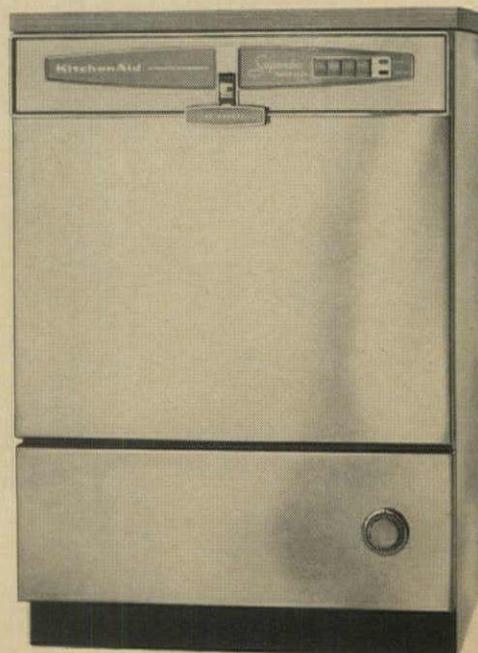
At KitchenAid, we deep-finish the inside and outside of our wash chambers with porcelain enamel so they'll wipe clean, resist stains, scratches, fading and rusting, and look nice for years. Any woman knows how important this is.



This special SaniCycle on a KitchenAid Superba VariCycle dishwasher gives extra protection against bacteria by giving dishes a final rinse in water preheated to 180°.



This exclusive dual fill valve makes the odds about a million to one against its jamming open and letting a KitchenAid dishwasher overflow. No other fill valve gives as much protection.



This is the package these little things come in. The KitchenAid Superba VariCycle dishwasher.

These are some of the little things that give KitchenAid dishwashers a reputation for quality. A reputation that can help sell your kitchen, and your whole house, too. See your distributor for the model best suited for you. Or write Dept. 6DS3, KitchenAid Home Dishwasher Division, The Hobart Manufacturing Company, Troy, Ohio 45373.

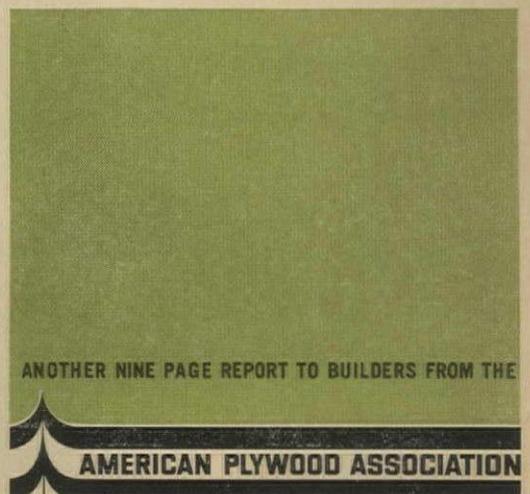
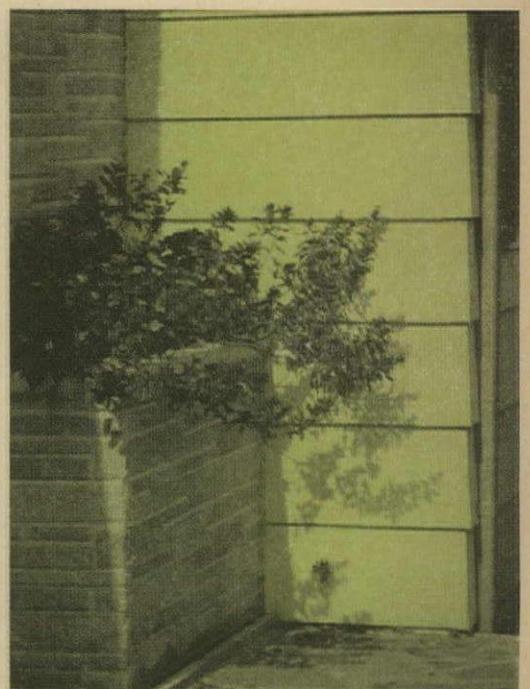
KitchenAid
Dishwashers

KitchenAid dishwashers are products of The Hobart Manufacturing Company

New ways to build better

(and save money to boot)

with plywood siding



ANOTHER NINE PAGE REPORT TO BUILDERS FROM THE

AMERICAN PLYWOOD ASSOCIATION



1.



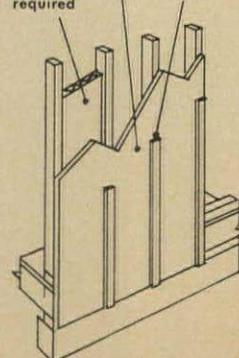
2.

TYPICAL STURD-I-WALL APPLICATIONS

Plywood with Battens

Medium Density
Overlaid plywood;
rough-sawn plywood; etc.

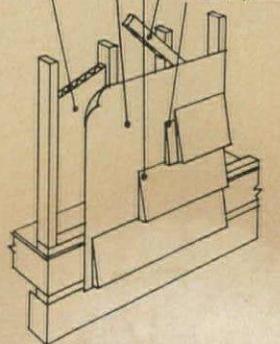
Insulation as
required Batten



Lap or Bevel Siding

Overlaid, preprimed or
coated plywood

Building paper
Insulation as
required Corner bracing
Shingle
wedge under
vertical joints



3.

Note: No diagonal wall bracing
or building paper
required with panel siding.

With plywood siding you can completely eliminate sheathing

...that saves you up to \$200 a house right there

"Sturd-i-wall" is what the American Plywood Association calls the system of using one thickness of plywood as both siding and sheathing. No matter what you call it, it's bound to save you money because it completely eliminates the entire sheathing process. And it's the most modern, efficient way to get a strong, rigid wall — even stronger than most ordinary construction.

1. NAHB Director George Barclay was one of the first big builders to adopt the Sturd-i-wall system. He figures it saves anywhere from \$175 to \$200 a house.

Barclay is trying several new plywood products at his Mayfair development, Parkland, Wash. On this house, it's a preprimed overlaid plywood that needs only one coat of paint on the job. It goes directly on studs, with batt insulation to be applied between studs later.

Barclay says he saves enough from time-saving plywood building systems like this to pay for good design, landscaping and other extras that attract home buyers.

2. Here's a house that couldn't have happened without Sturd-i-wall construction.

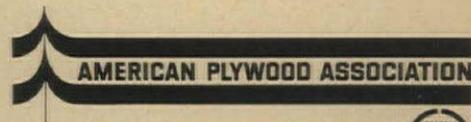
Jewel Builders, Berwyn, Ill., built it for a family limited to a \$22,000 budget. Yet the house had to look right in a neighborhood of homes that cost several thousand dollars more.

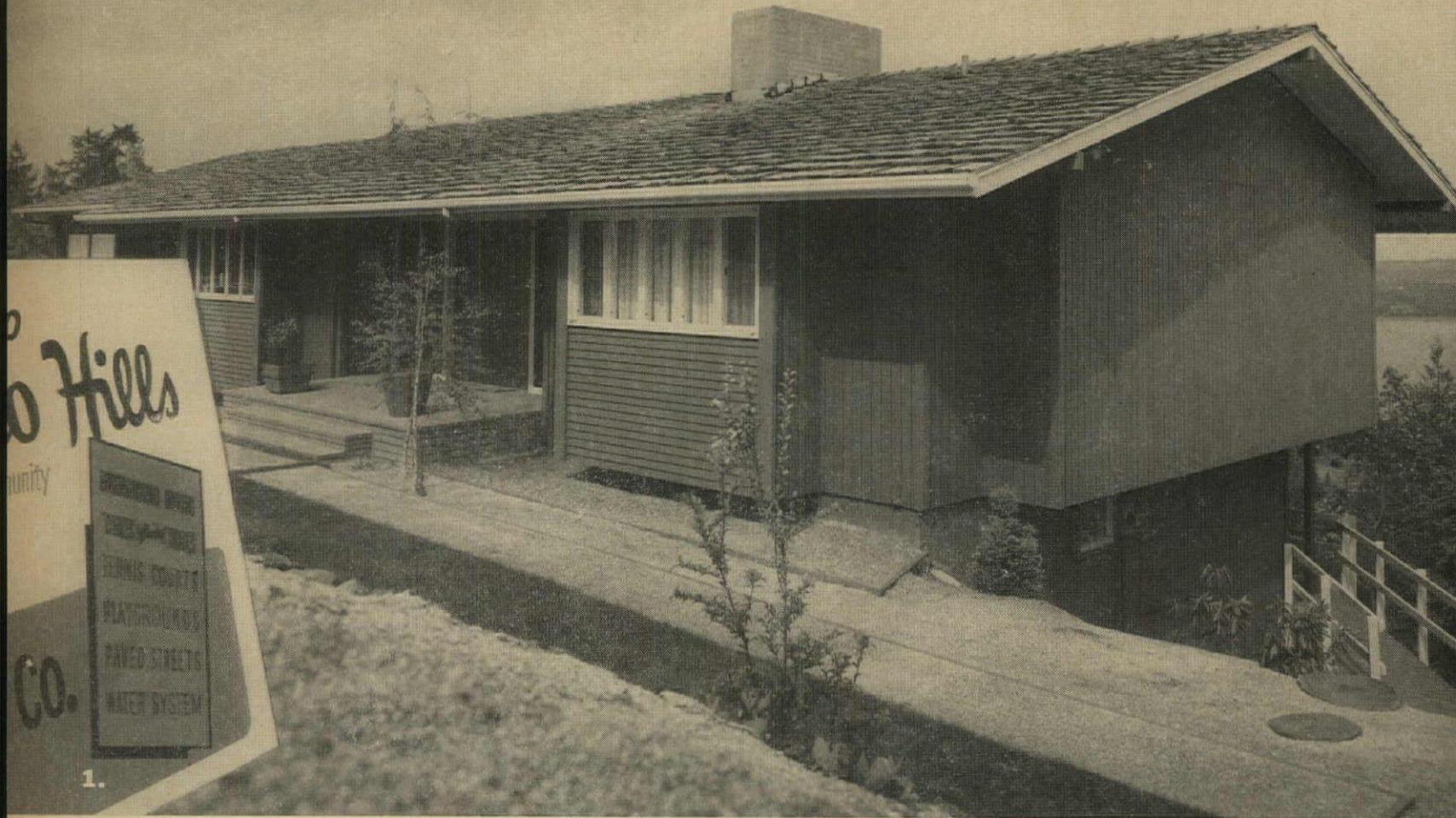
"Using plywood as combination siding-sheathing was the answer," says Tom Simon, Jewel president. "It's a great labor saver — you just go around the house once instead of twice." He used grooved cedar plywood with a reverse board-and-batten effect for the lower level, preprimed plywood lap siding for the upper.

Subfloors, soffits and roof sheathing are plywood too. All in all, Simon estimates he saved about \$1,000 by using plywood.

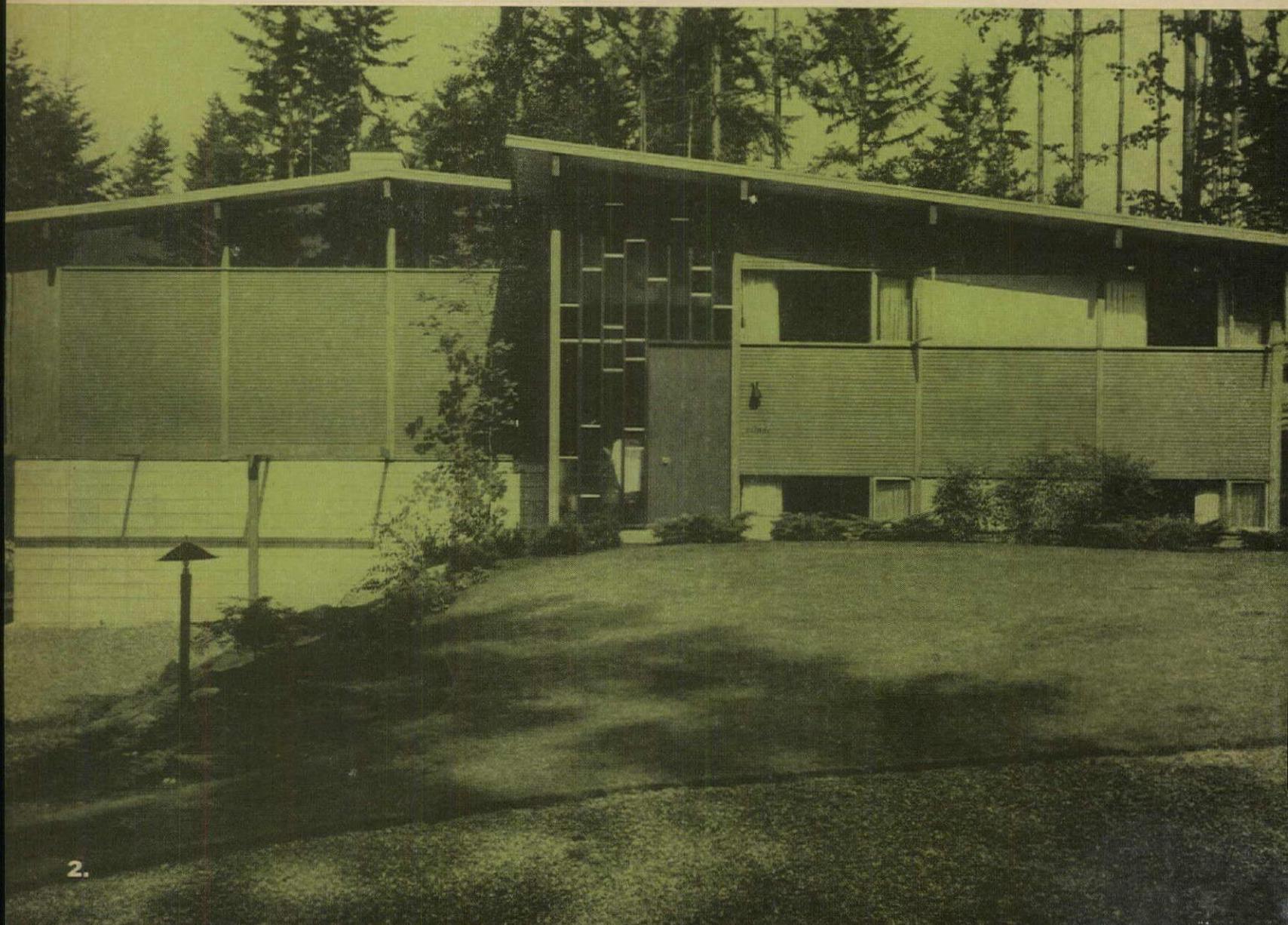
3. These drawings show two of the most frequent plywood Sturd-i-wall applications. When used as shown at far left but without battens, suitable plywood sidings would also include Texture One-Eleven®, grooved, etc.

For a free 12-page booklet with complete information on Sturd-i-wall construction, write American Plywood Association, Tacoma, Washington 98401. (US only.)





1.



2.

Plywood siding helps your sales by making a good first impression

No other material gives houses such a look of quality – at such low cost

1. Like most of today's successful builders, Joe Mentor knows the importance of choosing the right siding to conform with the design of the house. Here's an example: a *Better Homes & Gardens* award-winner in his Eldorado Hills development near Bremerton, Wash. It was sold before completion, as is the case with nearly all the 20 or so houses he builds each year.

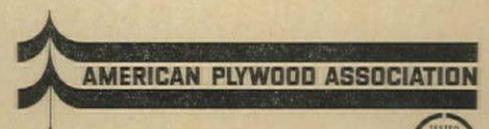
"First you've got to catch the prospect's attention," says Mentor. "That's where plywood siding like this Texture One-Eleven® really pays off. Almost everyone likes it, and it has the kind of style that never goes out of date."

But Mentor uses plywood for other reasons than appearance. He depends on it for quality construction at low cost, too. Floors are ¾-inch T & G plywood, glued and nailed to avoid any chance of squeaks. His biggest savings come from using plywood as combination siding-sheathing. That cuts labor by 30 to 40 per cent.

2. Thomas Borgford had just completed and sold this Bellevue, Wash., house, when a prospective home buyer drove by and was so impressed he asked him to build another exactly like it.

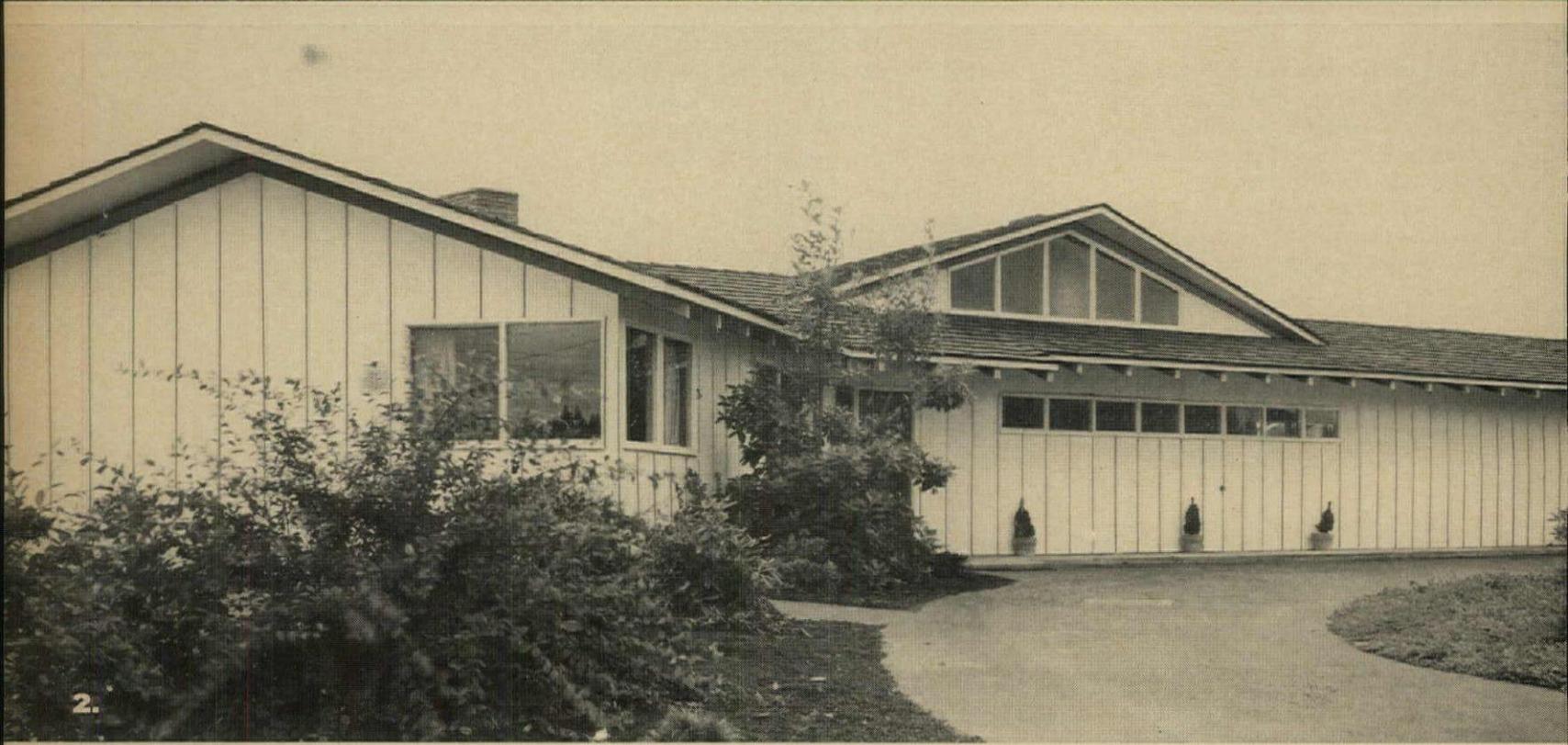
Borgford thinks the use of Texture One-Eleven applied horizontally had a lot to do with the appeal of the house.

Architect Harold J. Nesland, Seattle, capitalized on the horizontal lines by contrasting them with strong verticals around the entrance and battens at panel joints. Borgford reports he got just as much satisfaction from building the second house as the first. For one thing, he likes to build homes with style. For another, he saved about 20 per cent in labor costs, through use of Texture One-Eleven on studs without sheathing.

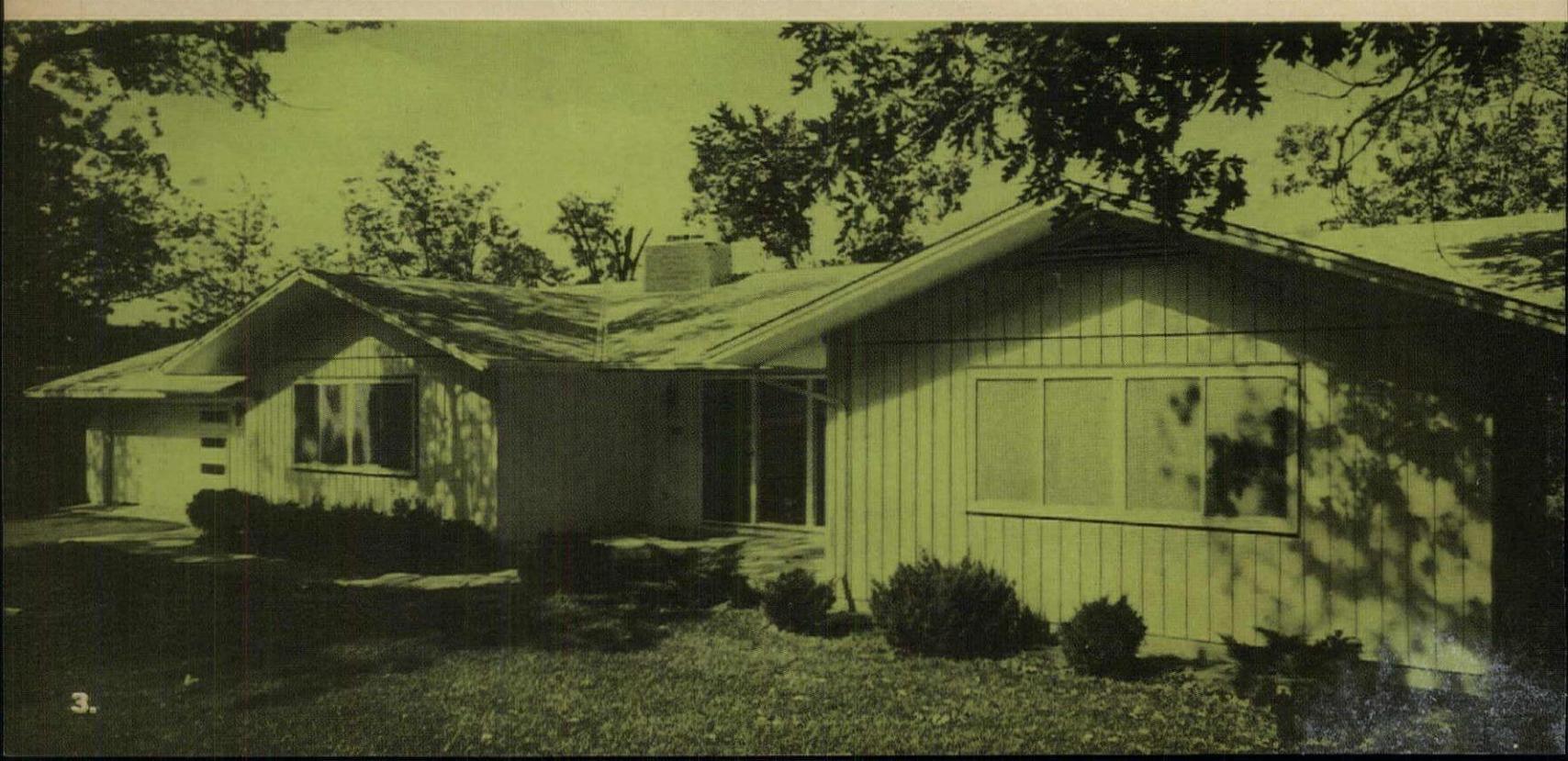




1.



2.



3.

Look into these new plywood sidings for finishes that really last

Overlaid, preprimed or coated plywoods virtually eliminate maintenance — and save you money, too

Research in plywood coatings and finishes is coming up with dozens of new products that cut on-site labor sharply and promise an end to home buyers' maintenance problems.

1. Coated plywood: Phillip Q. Kershner, Norristown, Pa., replaced the faded, 12-year-old asbestos shingles on his house with this new siding. It's EXT-DFPA® plywood, factory-finished with a tough, permanent, weatherproof coating. It comes in several colors, in lap siding or 4 x 8 panels. It needs no paint at all, and is guaranteed by the manufacturer not to need any for 15 years.

2. Medium Density Overlaid plywood: Harold Stroeberger, Portland, Ore., gave this house two coats of paint when he built it 15 years ago. The owners have repainted once — after ten years. That's typical of the superior performance of overlaid plywood. The permanent resin-fiber overlay gives you the best possible surface for a smooth, fast, long-lasting paint job.

3. Texture One-Eleven Overlaid plywood is siding on this Edina, Minn., house. In spite of the severe climate, builder Bruce Yund could apply plywood directly to framing, with insulation between studs.

Besides the familiar smooth panels and T 1-11, overlaid plywood comes in these styles: grooved, lap and bevel, and reverse board-and-batten.

Several new finishes can be applied to Medium Density Overlaid plywood, to give it more resistance to wear and weather than any conventional paint. (Write for more information — see below.)

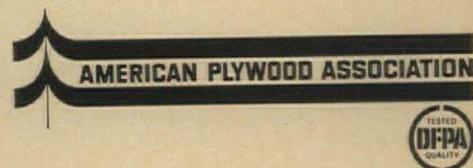
Other new sidings: Be on the lookout for these new labor-saving plywood sidings, too.

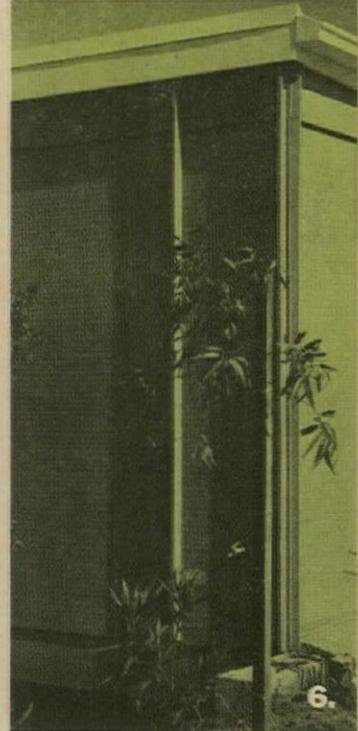
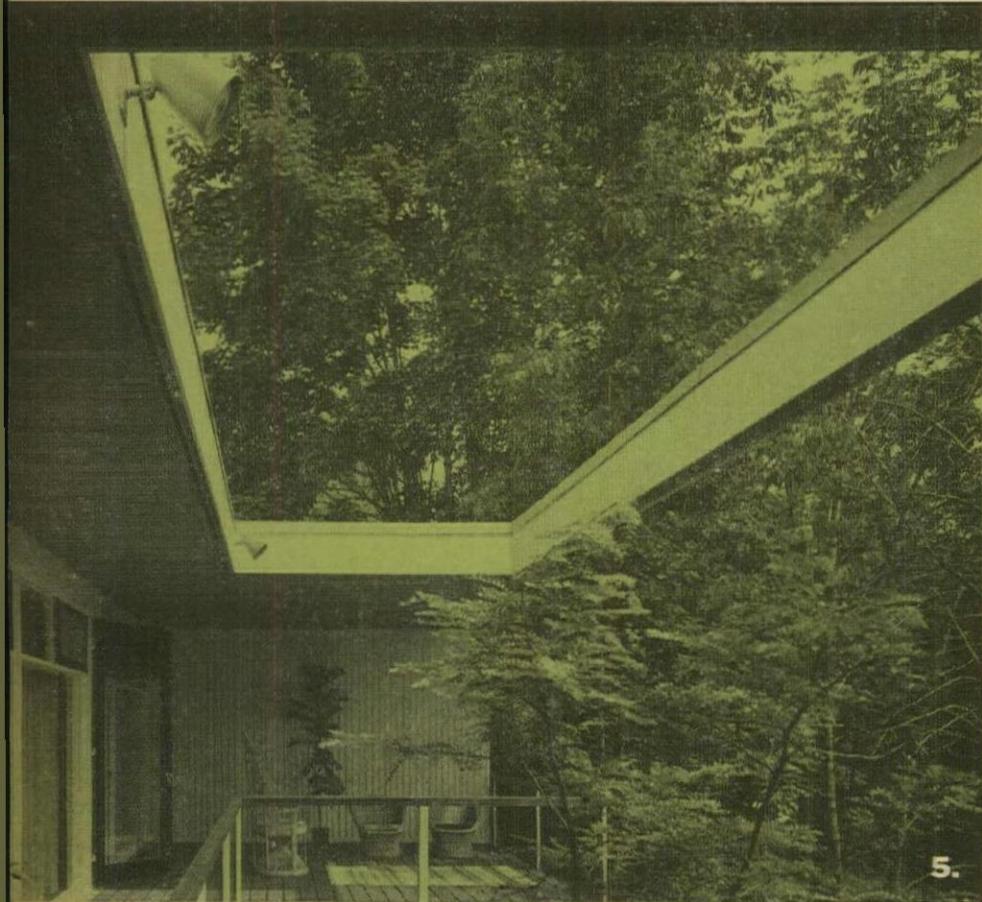
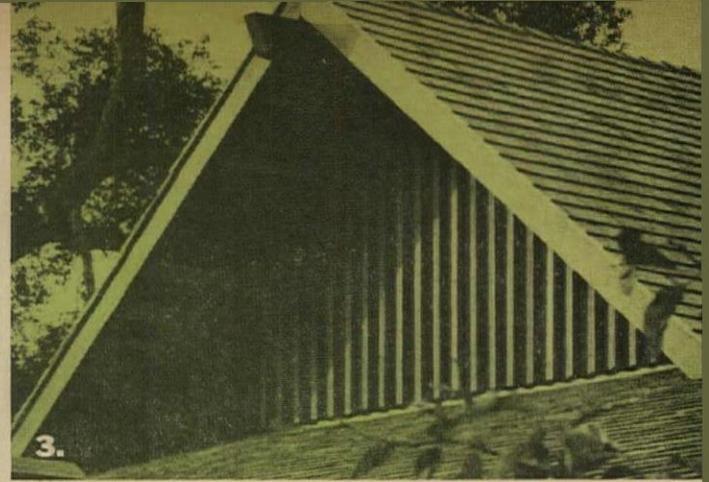
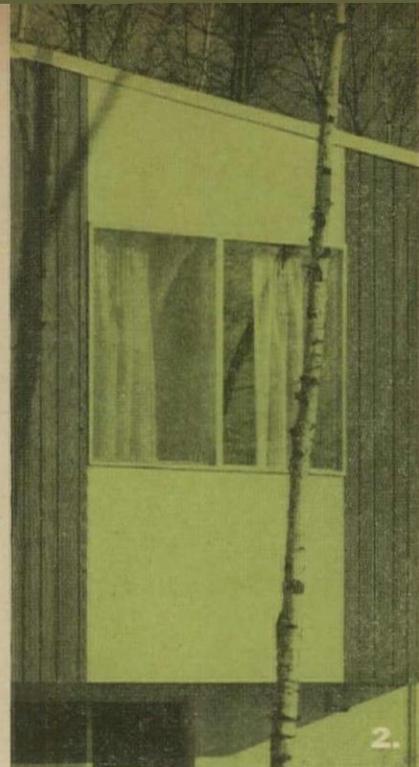
Preprimed overlaid plywood: Cuts painting costs in half. It's Medium Density Overlaid plywood, v a new special prime coat applied under controlled conditions right in the mill.

Aggregate-surfaced plywood: Standard EXT-DFPA® plywood, finished with an epoxy resin and any of several decorative aggregates, ranging from fine sand to marble chips. Comes in a variety of colors. Tremendously resistant to abrasion and weathering.

Aluminum-overlaid plywood: For the warmth, durability and impact resistance of plywood, and no maintenance problems.

For a list of sidings and coating products that have been qualified by the American Plywood Association, write us at Tacoma, Washington 98401.





Free Sidings Guide

Send for your Guide to Plywood Sidings, a free, 24-page manual with dozens of color photographs. Shows how plywood sidings adapt to all architectural styles. Includes application recommendations, technical data on strength and insulation values, finishing techniques. Also, a list of specialty siding manufacturers. Write: American Plywood Association, Tacoma, Washington 98401.

The DFPA grade-trademark on plywood assures you of strong, durable siding.

It's essential to use the highest quality plywood in all your building. But it's especially important with siding. You must be sure the appearance will stand up — and you must be able to depend on the waterproof glueline and the durability and strength of the whole panel.

So it's good business to specify only plywood with the EXT-DFPA® grade-trademark. That means it was manufactured according to the high standards of the DFPA quality control program. Always insist on this grade-trademark on every panel.

Plywood exterior features like these mean a lot to second-time buyers

Attention to the little details can lift your houses out of the ordinary

Today's home buyer cares about good design and the "extras" that make a house more fun, more convenient. With so many styles of Exterior plywood available, there's almost no limit to the ways you can add these touches:

1. Plywood soffits are faster to install than boards and you have a wider choice of patterns. These are Medium Density Overlaid plywood for a smooth, glossy painted surface. Or use Texture One-Eleven® or rough-sawn plywood for a natural, rustic look.

2. Plywood accent panels, when harmoniously combined with other sidings, can do a lot for most contemporary houses. Dutch Construction Co., Marysville, Mich., used gleaming white panels of overlaid plywood at windows to set off the charcoal-stained T 1-11 siding.

3. Gable ends get an unusual treatment: redwood resawn plywood, with 2 x 2 redwood batts, 5 inches o.c. This award-winning house is by Stoneson Associates, San Francisco.

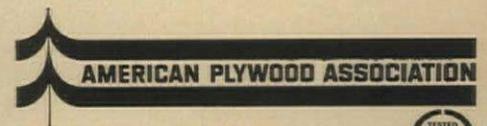
4. Plywood screens can be decorative and useful. This windbreak panel at an entry is overlaid plywood, painted white and framed with 1 x 2's.

5. Atriums and decks attract buyers. Architect Jay Fleishman, N.Y., specified plywood several ways for the atrium-style deck of this Poughkeepsie, N.Y., house: for siding (seen at end of deck) and for plywood-faced "flying beams."

6. Carport screens and siding can help sell the house, too. Resawn redwood plywood, with an interesting horizontal pattern and strong, vertical battens, is carport siding of this Los Angeles house designed by Elda Muir.

7. Patios and outdoor privacy areas are easy to create with plywood. Architect Homer Delawie made a small private patio for the master bedroom of this La Jolla, Calif., house simply by extending the T 1-11 wall.

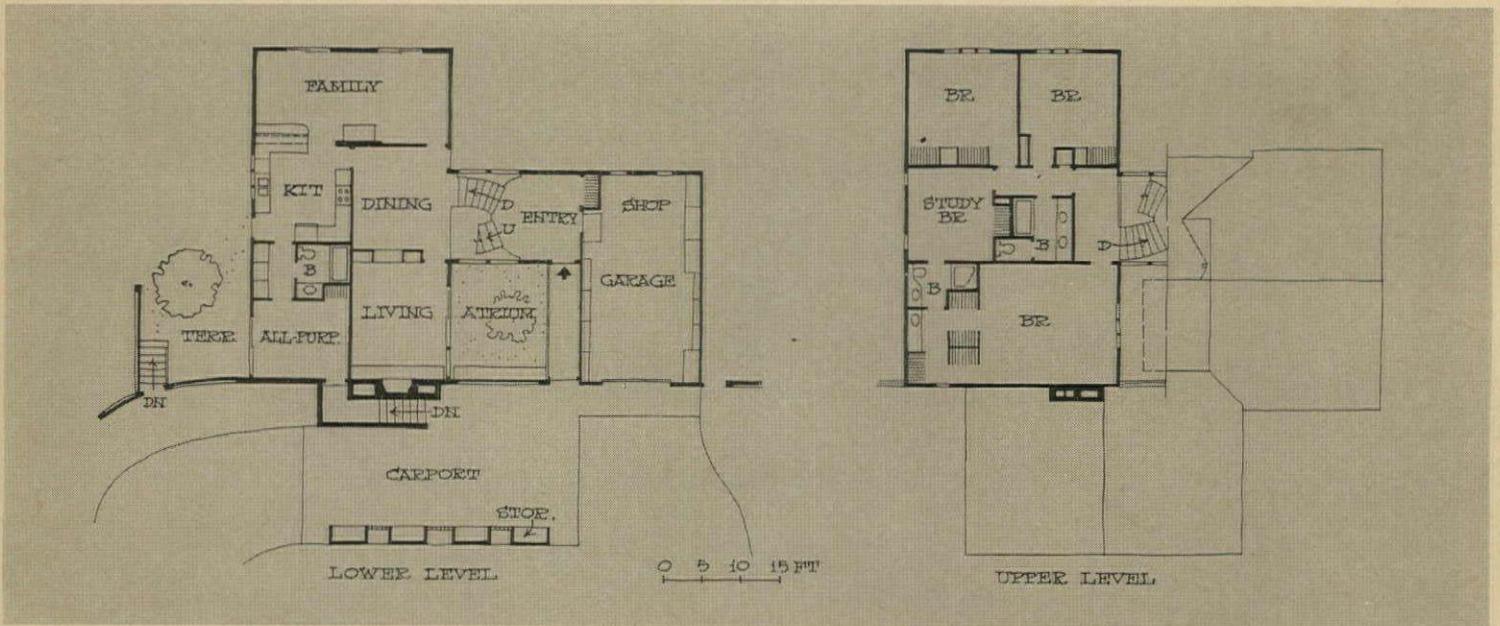
For a free booklet on finishing these and other sidings, write American Plywood Assn., Tacoma, Wash. 98401.



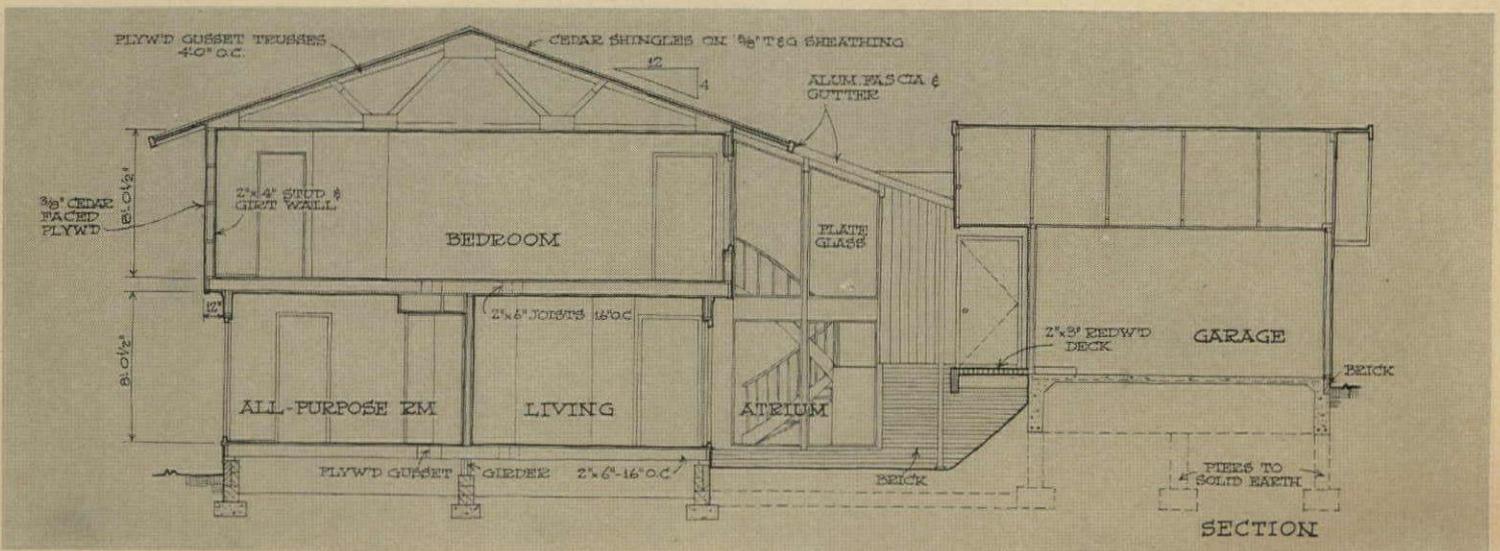


BRICK WALL at front of house screens drive-through carport. Prefabbed house was erected by small builder in big Builder Ed Bennett's Potomac, Md., tract.

NAHB's new research house: how it will help



TWO-LEVEL PLAN puts active living downstairs, bedrooms upstairs. Lower-level atrium is enclosed by foundation wall, living room, entry stairs and garage.



SPLIT ENTRY is concealed from street because it is set back in a side wall. Foyer, glassed on two sides, is reached by crossing atrium on a redwood bridge.

builders rewrite archaic construction codes

NAHB's No. 6 research house is a showcase of homebuilding innovations that most building codes prohibit. They range from spacing roof trusses 4' apart to burying sewer, water, power and telephone lines in a common trench. Many of the ideas have been around for years but are still too progressive for the average code. NAHB's aim: to prove once and for all—in a conventional-looking, two-level house in Montgomery County, Md.—that the ideas really work.

For the first time, NAHB will follow up its research house effort with long-term performance tests under real-life conditions. For three years after No. 6 is completed, the association's Research Foundation will keep tabs on major systems and products in the house and will issue the findings in semi-annual reports. For example: sound-testing equipment will be moved into the house to measure impact and air-borne noises through walls and floors; and power consumption will be measured by four separate submeters—one each for two different electric heating systems, one for appliances and one for lighting.

In the past, NAHB lacked the personnel and the equipment to do such an ambitious job. The closest it came was in follow-up testing of the steel foundation used in the 1963 research house. But since then the Research Foundation has expanded its facilities and enlarged its staff.

There are three major structural variations in the new house. Each involves a dramatic reduction in framing members—in floor, walls and roof. The object: to reduce over-all building costs but at the same time provide a stronger structural system.

How is this possible? By making framing skins work harder through the use of glued joints. More than 10,000 sq. ft. of plywood went into the house—compared with 3,461 sq. ft. in today's average new house—and most of it is so thoroughly glued that it is virtually monolithic.

Strict laboratory controls governed both the design and the production of the house. NAHB engineers chose the most advanced wood products available and, with the aid of elaborate testing equipment, put them together in ways that make full use of their rated capacity. The engineers deliberately spliced framing members at critical loadbearing points to prove the strength of glued joints. And they built all the major components in their laboratory in nearby Rockville, Md.

But despite the lab's close involvement, the house is not meant to be just a test-tube study.

This is a house with a practical component system designed especially for the small-volume builder. And by small volume, NAHB means as few as six houses a year. The structural components are simple in design. Each could be built easily in an improvised shop in an unfinished garage, then carried and set by two men. (Example: no panel is more than 8' long).

In fact, a typical do-it-yourself builder—Edward J. Phelan of College Park, Md.—handled all on-site construction. With two helpers, he did everything but prefabricate the components.

In supplying Phelan with the lab-built components, NAHB engineers learned an interesting lesson: the most effective way for a small-volume builder to avoid arguments about who's to blame for dimensional mistakes in components is to make

sure that the men who erect the components are the same men who prefabricate them.

Unlike some past research houses, No. 6 has a very salable design. Builders in many parts of the country could adapt it to their own markets. It is a split-entry house, but with a difference. Instead of burying half of the first floor, this split-entry has only one lower-level wall below grade. Its lower-level side walls are entirely above grade because retaining walls on both sides of the front wall permit a deep cut across the sloping site. Another plus: the split foyer is concealed (see plan), so it doesn't interrupt the horizontal lines of the house.

But the plan has one unorthodox feature that looks like a drawback. The stairs to the lower level open directly into the dining room. This could be alleviated somewhat by furniture arrangement—but not solved.

Many of the research-house ideas, both in construction and design, could be adopted today by any builder. Others, while practical, can't be adopted because they involve products that aren't yet available. Some will never be adopted because they simply don't make sense. A prime example: the house requires two separate air-conditioning systems because it has two dissimilar heating systems; the second floor is heated by electric ceiling panels, which require supplementary cooling, while the first floor is served by a heat pump, which both heats and cools.

For a sampling of these ideas in the three major testing areas—1) engineered framing, 2) structural accessories and 3) plastics and adhesives—see the following three pages.

continued

Test I: every piece of wood performs at full rated capacity

All the lumber in the research house is electro-mechanically stress-rated. So, while the house displays some dramatic examples of maximum wood engineering, the engineers have easily avoided over-stepping accepted safety margins. They applied the precisely rated lumber in four ways:

1. *Widely spaced bearing members support the walls and roof.* Studs are 4' apart, instead of the conventional 16", though girts are placed between them on 2' centers to provide adequate backing for drywall and for glue-nailed $\frac{3}{4}$ " plywood siding-sheathing.

Trusses are also 4' apart (instead of the normal 2'). They were easily spanned by nail-glued $\frac{5}{8}$ " t&g plywood sheathing but not by the gypsumboard ceiling. Furring strips of 2x2s had to be nailed across the bottom chords to carry the ceiling panels, which are screwed on.

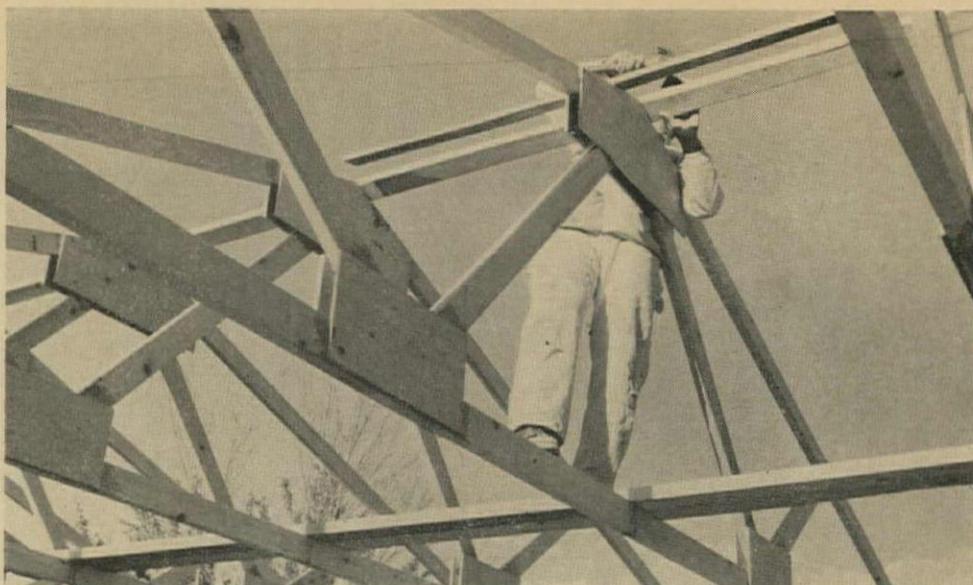
2. *Lightweight bearing members support the floors and roof.* Floor joists at both levels are 2x6s with a 13' double span. Truss chords, spanning 28' and overhanging 3' at the eaves, are 2x4s.

3. *Butt joints are used extensively in bearing members.* The bottom chord of each truss is spliced at the center by impression finger-jointing (see p. 124). And each joist is spliced by glue-nailed gusset plates offset so the joints do not bear on the center girder.

4. *Glue-nailed plywood skins help compensate for lighter, wider-spaced framing.* Reason: they increase wall, floor and roof stiffness. And in so doing, they permit walls and floors to be covered by only one skin. For example, nail-gluing and also butt-gluing the $\frac{5}{8}$ " single-layer subfloor produced a 60% increase in stiffness. Nail-glued roof sheathing overhangs 2' at gable ends without added structural supports.

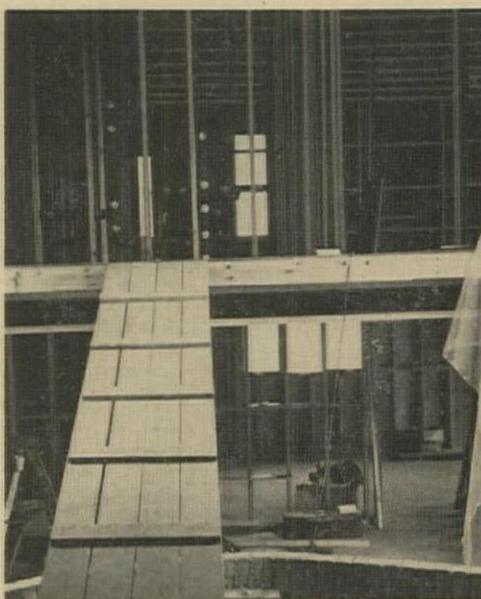
NAHB engineers knew in advance how well the framing members would perform in combination. Each component was loaded to failure in NAHB's Rockville, Md., research lab. The wall system was tested to 7,000 lbs., the roof system to 102 lbs. per sq. ft. Joist splices supported 1,000 lbs., and the finger joint held up at 7,000 lbs. per sq. in.

But not all the components proved as economical as hoped. One disappointment was the wall system. Because of the girts and additional framing requirements around windows, the 4' o.c. studs were not significantly less expensive than studs on 16" centers. What's more, the wider spacing was used only on the second floor. Reason: If used in the first floor walls, the 4' o.c. studs would have required a 2x8 header to carry the second-floor joists.

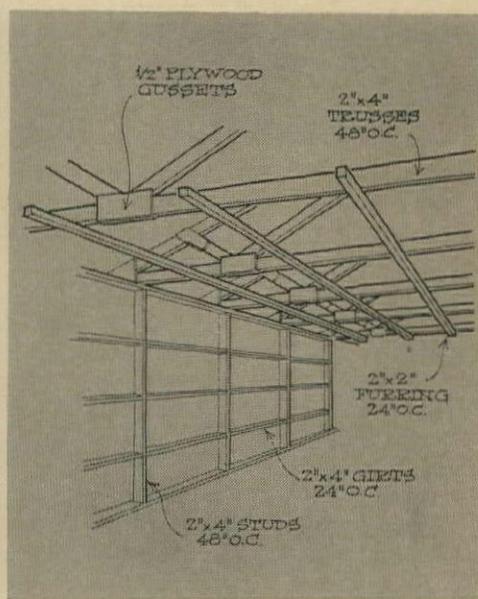


ROOF SYSTEM is framed by 2x4 trusses on 4' centers. Bottom chord of each truss spans 28', is spliced at the center by a factory-made finger

joint. Wide spacing required heavy sheathing, so NAHB used $\frac{5}{8}$ " nail-glued plywood with glued t&g joints to eliminate blocking or clips.



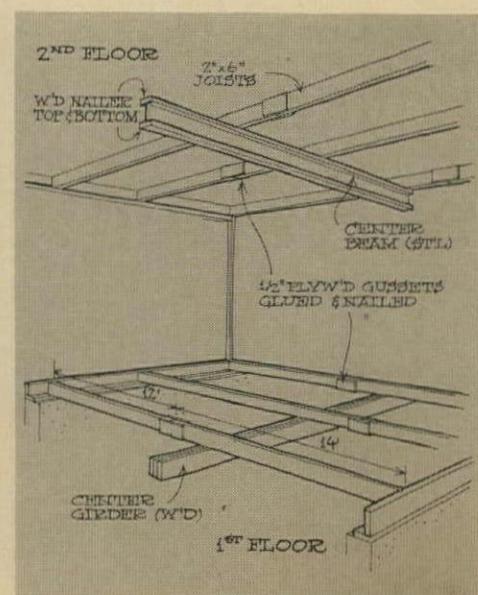
WALL SYSTEM differs at each level. First-floor studs are 4' apart, but second-floor studs are on conventional 16" centers because 4' stud spacing



under floor joists would have required 2x8 header. Cost difference between new and conventional wall-framing systems is not significant.



FLOOR SYSTEM of in-line joists demonstrates strength of glue-nailed splice joints and ability of 2x6 members to perform as well as 2x8s when



combined with $\frac{5}{8}$ " t&g glue-nailed subfloor. Splice joints, produced in NAHB's lab, were safely loaded with 1,000 lbs. Floor holds 180 lbs. per sq. ft.

Test II: accessories are part of structure —not just tacked on

And these functional accessories are built into both wood framing and load-bearing masonry walls. Items:

1. *Unobtrusive gutters are built into the deep roof overhangs.* An aluminum manufacturer (Reynolds Metals) designed the gutter system for the research house. Here's how it works:

A 2x8 is spiked continuously against the butt ends of the overhanging rafter tails. It projects above the surface of the roof, and its face is rabbeted to receive a slight overlap in the roof sheathing. A preformed aluminum channel is fitted over the full length of the 2x8, and aluminum flashing with a preformed angle—the gutter trough—is laid on the sheathing against the back of the 2x8. The channel, or fascia cap, is hooked to the flashing-gutter by a continuous flange.

No metal fasteners are used in the aluminum—the parts are bonded to the wood with double-faced adhesive tape.

2. *A low-cost roof-vent system—one that any builder could adopt today—eliminates a built-in tool shed.* The wall (see perforated soffit panels. Here's how it's built:

Sheathing-siding is applied at gable ends so it falls 6" short of the truss top chord. The gap is covered with insect screening. Over the gap and the screening, short lengths of 2x2s are nailed vertically at 16" and 32" intervals. Then a wide frieze board—cut from panels of overlaid plywood—is nailed to the 2x2s to conceal the vent opening. This system is continued under the eaves, where the 2x2 spacers are nailed to the sides of rafter tails.

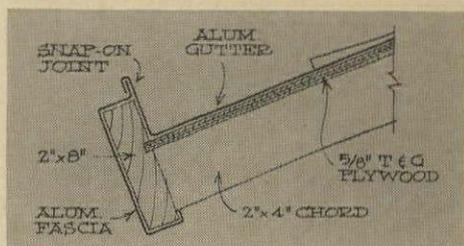
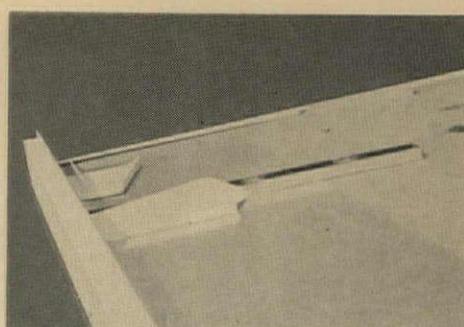
3. *The high brick carport wall incorporates a built-in tool shed.* The wall (see p. 120) is structural—it carries the open-beam carport roof. But its perforations and configuration also make it decorative. And its four shallow recesses, enclosed by doors and accessible from inside the carport, provide closets for tools and lawn chairs.

4. *Brick walls are expanded into functional brick ledges.* One ledge, cantilevered from the living-room fireplace wall, serves as a hearth. A second ledge, cantilevered from a wall of the atrium, is a bench for sitting.

Both ledges are tied into the reinforced brick cavity wall that forms a below-grade foundation at the front of the house. To cantilever the ledges, 1/4" reinforcing rods are extended horizontally from the wall's vertical rods. The horizontal rods are spaced to fall between alternate courses of brick in the ledges.



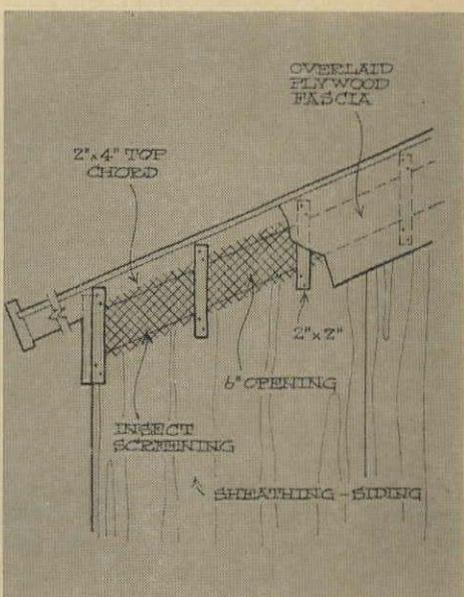
BUILT-IN GUTTERS are constructed around continuous 2x8 nailed to rafter ends and interlocked with roof sheathing. This serves as rain stop and



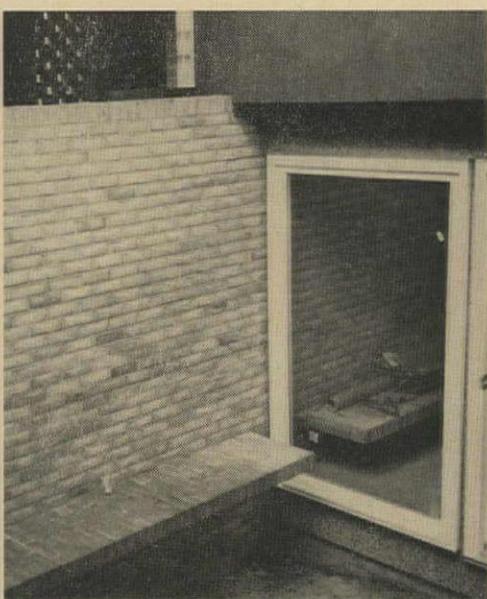
gutter trough. Aluminum fascia cap, factory-finished with white baked-on enamel, is snapped over 2x8 and continued up gable ends.



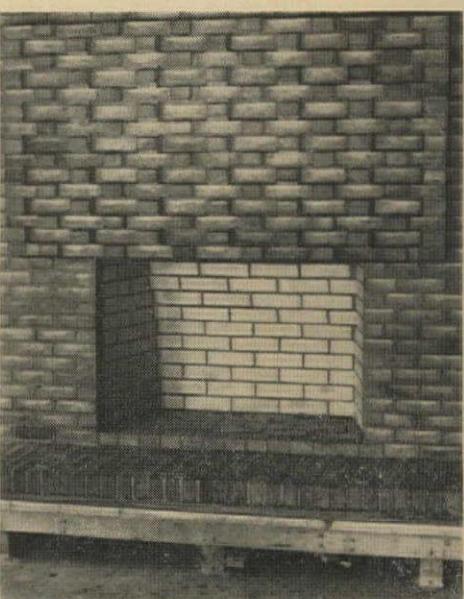
BUILT-IN VENTS open up roof continuously on all four sides. Sheathing-siding is cut short to leave a 6" gap under eaves. Gap is covered with



insect screen and concealed by wide frieze board on 2x2 spacers. Frieze is cut from overlaid plywood which is prestained in on-site shop.



BUILT-IN LEDGES cantilever from below-grade brick cavity wall. Horizontal rods are tied to vertical reinforcing rods in wall, and brick ledge



is laid up on temporary platform shown at right in photo of cantilevered hearth. Photo at left shows ledge used as bench in atrium.

continued

Test III: plastics and adhesives get big jobs in frame and finish

Adhesives are tested most dramatically in the research-house framing.

At least two types of framing joints are held solely by adhesive. One is the finger joint at the center of each bottom truss chord—an end-glued joint formed in a factory by a new heated-die process (H&H, Jan.). The other is the vertically laminated beam used to frame the carport roof. It is a factory-glued sandwich consisting of three 1x8 boards faced on each side by 1/4" wood veneer.

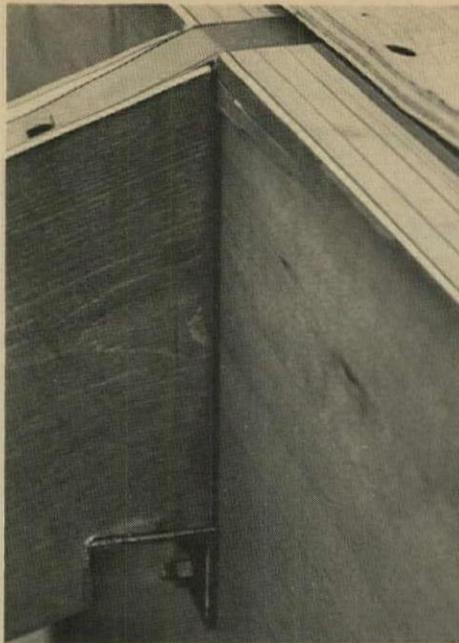
And, as mentioned earlier, glue-nailed splice plates permit offset joints in floor joists, and glue-nailed sheathing compensates for a sharp decrease in framing members.

Some non-loadbearing applications of adhesives are as critical as the framing uses. For example, the foundation is waterproofed with a glued-on film of 6 mil. ethylene vinyl acetate, which extends under the slab and up the walls to grade. The adhesive chosen for this job bonds film to film and film to concrete, brick or block. Roof drainage, too, is dependent on adhesives. All the flashing in the built-in gutter system, shown on the previous page, is fastened to the sheathing by double-faced adhesive tape.

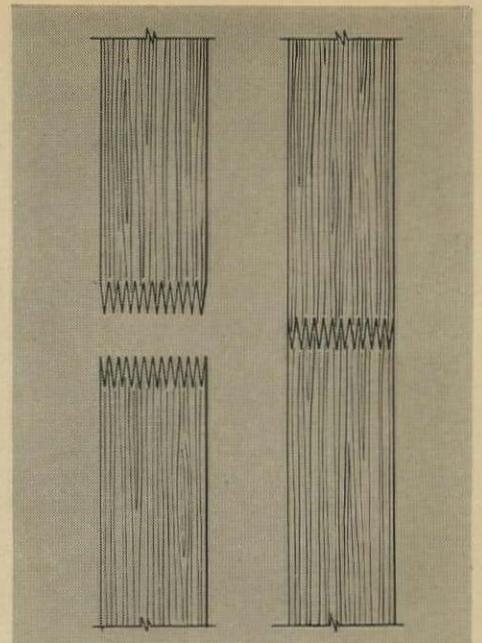
Adhesives are the basis of the house's partition and ceiling systems. Interior non-loadbearing walls are made of laminated, double-faced gypsum board panels. And the second-floor ceilings contain a laminated drywall system incorporating electric heating. Base panels with built-in electrodes are nailed to firing strips on the trusses, and an outer layer of drywall panels is glued to the base.

If adhesives are the key to the research house's maximum engineering, plastics are the key to its low-maintenance finishing. A new finish—vinyl latex stain—covers the brushed-cedar sheathing-siding on the second-floor walls. Combining the best features of paint and stain, this factory-applied finish gives the wood grain a translucent appearance. Wood sash and frames of all windows and sliding doors are clad with factory-applied white vinyl. And the plywood sheathing-siding of first-floor walls is finished with a factory-applied coating of gravel aggregate embedded in epoxy.

Plastics also contribute to easier construction in several unseen ways. One example is unbacked vinyl paper applied over semi-finished drywall joints to simplify joint-finishing. Another is the neoprene gasket that seals the joints in the house's cast-iron waste and vent pipes, eliminating the usual hub joint.



LAMINATED BEAM over carport is three 3/4"-thick boards and two thin veneers bonded together. Detail shows rafter strapped to ridge beam.



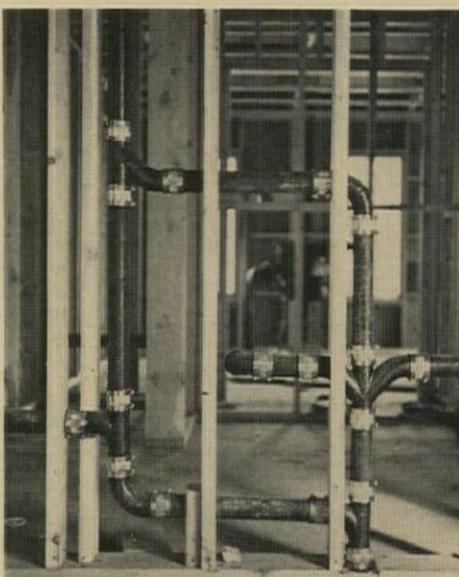
END-GLUED FRAMING, used in truss chords, is a product of impression finger-jointing machinery operated by seven Western lumber firms.



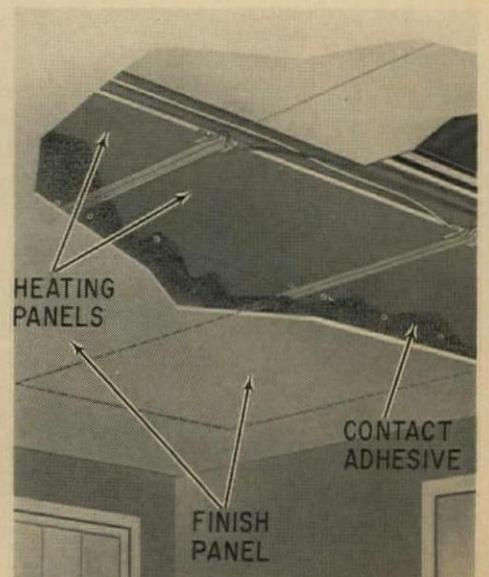
PLASTIC-CLAD WALLS and windows practically eliminate outside maintenance. Factory-applied aggregate-on-epoxy finish on lower walls leaves



an exposed seam (above) between 4"-wide panels, but manufacturer supplies a touch-up kit of matching aggregate to avoid use of batten strips.



PLASTIC-SEALED JOINT in cast-iron pipe is enclosed by metal sleeve. System eliminates cumbersome hub joint, makes pipe more flexible.



LAMINATED CEILING on second floor incorporates electrodes for electric resistance heating. Heat for first floor is by heat pump and ducts.

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Posed by actress Wanda Hendrix





The Edward H. Coxes, Richmond, Va.: "I'm a builder, and have electric heat myself. All the good things they say about it are true."



The Edward Whites, Palenville, N.Y.: "Electricity is to heat as FM is to music. Cleanliness and comfort make it most desirable."



The Robert V. Clendenens, Worthington, Ohio: "We appreciate electric heat's extreme cleanliness, and we've never been as comfortable."



The Rouse Baileys, Forest Hill, Md.: "For our money, electric heat's the best there is—nothing else is so clean, quiet or even."



The Jeff Ettingers, Altamonte Springs, Fla.: "With electric heat, there's no work involved and no fuel worries. And it's really clean."



The Bob Latches, Tulsa, Okla.: "As a builder myself, I wanted the best I'd seen for my own home—and that meant electric heat."



The Larry G. Gordons, Des Moines, Iowa: "We won't ever again be without electric heat—it's the perfect answer for true comfort."



The Holland K. Foxes, Topeka, Kan.: "Every modern home should have electric heat: It's hard to imagine how we ever did without it."



The Lloyd Chessers, Chelsea, Ala.: "Electric heat's the best—and the cheapest! We've never before been so happy with anything."



The Walter D. Christensens, Wethersfield, Conn.: "After one apartment with electric heat, we never considered anything else for our home."



The Lowell Harmons, Kansas City, Mo.: "For our new home, the thing that really sold us on electric heat was room-by-room control."



The Nicholas G. Guarinos, Belmar, N. J.: "We like electric heating because it's cleaner, more economical and more efficient."

Homeowner enthusiasm like this market for modern flameless

In every part of the nation, in every income bracket, more and more families like these are looking for—and buying—new homes with modern flameless electric heating. And their enthusiasm and satisfaction are helping to create an even bigger market for the future.

Whatever size, style or type of home you build, now's the time to cash in on this growing popularity. By installing electric heat, you add a ma-

ior selling feature with proven sales appeal. And in the bargain, you'll also speed construction and cut initial costs.

Right now, electrically heated homes are going up at better than 800 a day—and selling just as fast. So why not find out how you, too, can profit more with flameless electric home heating? First chance you get, talk it over with your local electric utility company.



The John W. Burleys, Pittsburgh, Pa.: "For sure, electric heat is the finest system going. We wouldn't trade it for anything else."



The Cyrus M. Humphreys, Toledo, Ohio: "We're absolutely delighted with our electrically heated home. It's the best we've ever had."



The Ernest Hilfikers, Black Mountain, N. C.: "Without reservation, electric heat's the most economical and satisfactory we've seen."



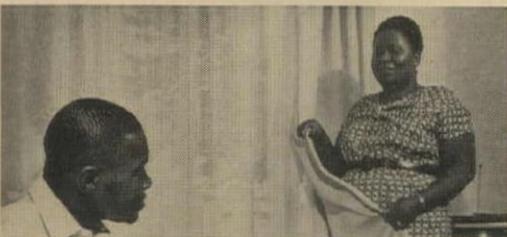
The John K. Fergusons, Fordyce, Ark.: "For real comfort, nothing tops electric heat—and its reasonable cost makes it a bargain!"



The A. Loikas, Somersworth, N. H.: "After our first year with electric heat, we're in complete agreement over its many benefits."



The Robert D. Estrems, Fergus Falls, Minn.: "Electric heat is a big plus in any home—the next time we buy, we'll want it again."



The Curtis Pharrs, Inkster, Mich.: "After two years, we're so pleased with electric heat we recommend it to everyone we know."



The Richard S. Bennetts, Wilmington, Del.: "Electric heating is wonderfully clean and comfortable. It's a very versatile system."



The Merle E. Byers, Ft. Wayne, Ind.: "We're completely satisfied with our electric heating system—particularly its reasonable cost."



The Guy O. Andersens, Duluth, Minn.: "We've lived with all types of heat, and electric heating is far superior—we're sold 100%."



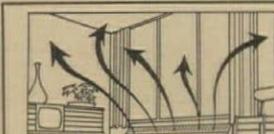
The Charles C. Wetmores, Northboro, Mass.: "Electric heat gives us far more benefits than our last system—and our bills are lower, too."



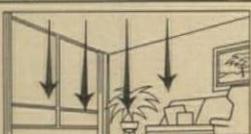
The Jim Andrews, Farmers Branch, Texas: "We have had electric heat now for three years, and we just couldn't be more pleased with it."

is building a bigger nationwide electric home heating

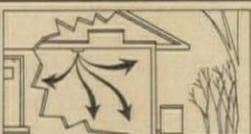
Only flameless electric home heating offers you so many different types of equipment to choose from!



Baseboard units take up little space, permit room-by-room temperature control. Two types are available: radiant or convective.



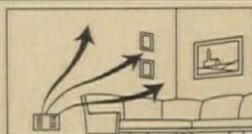
Radiant ceiling heat uses small wires concealed within ceilings, ceilingboard or wallpaper. Each room has individual temperature control.



Heat pump heats home in winter, cools it in summer. One thermostat setting maintains any desired year-round temperature.



Wall panel heaters, with heating coils behind decorative grilles, provide radiant heat with natural or fan-forced convection.

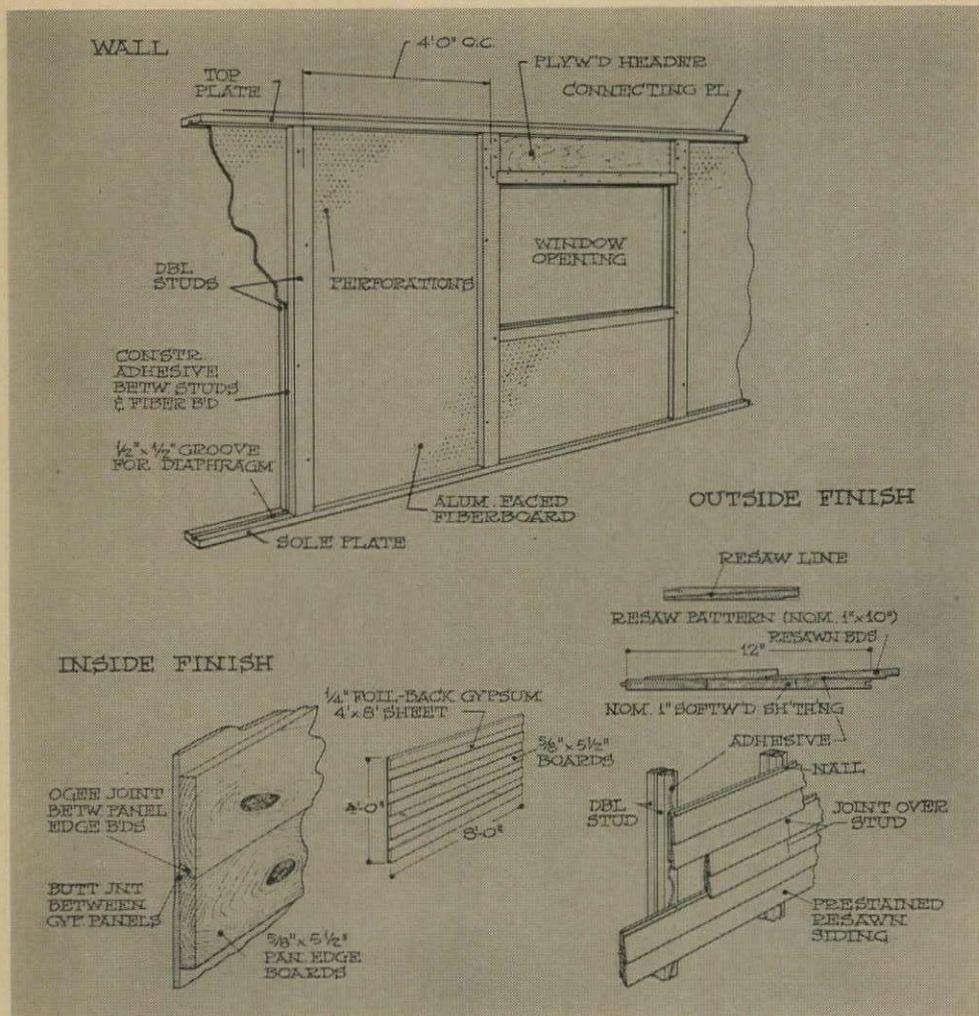


Central systems are available for either hot water or warm air heating in which flameless electric units supply the heat.

LIVE BETTER ELECTRICALLY

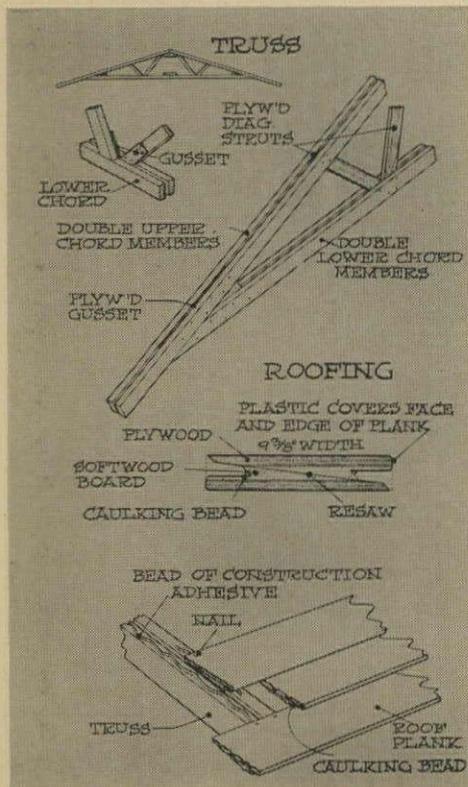
Edison Electric Institute, 750 Third Avenue, New York, N.Y. 10017





WALL SYSTEM combines three glue-laminates: stud-fiberboard, siding-sheathing, drywall-stiffeners.

Here are five new ways to prefabricate a house



ROOF SYSTEM is framed by sandwich trusses, finished by laminated boards with lapped joints.

All five components are laminated wood sandwiches which, put together, comprise a radically different house-building system. It was designed by U.S. Forest Products Laboratory and offers these advantages: 1) structural diaphragm that doubles as soundproofing, 2) a lifetime plastic-covered roof and 3) a wider use of lower-cost grades of lumber.

Only conventional materials are used in the system. Wall framing consists of a fiberboard diaphragm glued between pairs of 2"x4" studs placed flat on 4' centers. The diaphragm is faced on both sides with perforated aluminum foil—providing both thermal insulation and sound-deadening. Interior wall surface is 1/4" drywall faced with aluminum foil and stiffened by 1"x6" boards glued 6" apart. Exterior wall surface is bevel siding bonded to edge-glued sheathing boards cut in 12"-wide lengths and site-joined by tongue-and-groove. Roof trusses are made of double chords with webs and gussets sandwiched between. Roofing is a glued-up sandwich of 1" board between two pieces of plywood covered by polyvinyl fluoride film. It is produced in 9 3/8"-wide planks and glue-nailed to the trusses. For full details, write to the lab at N. Walnut St., Madison, Wis. 53705, and ask for research paper FPL-47.

Gas beats electricity by 50% in Ohio heat-comparison test

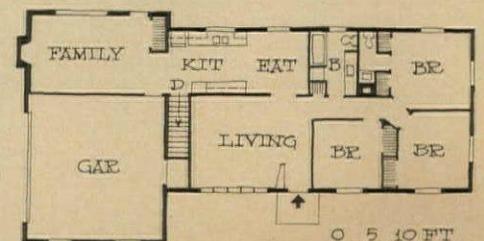
And that figure is conservative, according to hourly statistics now being collected around the clock by East Ohio Gas Co. of Cleveland.

The gas company has built two identical houses—one heated by gas-fired warm air, the other by electric baseboard—on a street in North Canton. Midway between the houses is an instrument station manned by agents of an independent testing service. The houses contain enough meters, counters and assorted gauges to provide 7,200 heat-test readings a month, and these are relayed to the instrument station by the hour, 24 hours a day, seven days a week. Then the findings are tallied and compared by a data-processing machine and publicized in monthly reports.

First results: in October, November and December the gas-heated house used \$38.20 worth of fuel, the electric house used \$97.85 worth—a 61% saving.

No one, electric utility competitors included, has accused East Ohio Gas of not playing fair. The houses are insulated to electric heating standards. Their thermostats are locked at 72.5°. Their compass orientations—and even their furnishings—are identical. Also, the two families picked to live in the houses for the one-year test are the same size and ages.

But electric heat supporters are disclaiming this carefully controlled test as too artificial. Ohio Power Co. of Canton—confronting the test in its own backyard—is countering with a series of case history advertisements stressing "Real People . . . In Real Life . . . In Their Own Homes." And out on the West Coast, Pacific Power & Light Co. is publicizing a year-long study of 300 houses—half with electric heat, half with gas—spread over Oregon and Washington. Results: compared on a sq. ft. basis, all-electric houses cost 10% less to operate than gas-heated houses.



TEST HOUSE in Ohio gas company's twin-house heating study has seven rooms and \$25,000 price.

URETHANE FOAM PROJECT REPORT

Builder News III

Part of a series of product-use bulletins published by Mobay to keep architects, engineers, builders and contractors informed on new developments in urethane foam materials for the commercial and residential construction industries.

MOBAY

BN-3

RIGID URETHANE FOAM UNIFIES PLASTIC AND METAL STRUCTURAL COMPONENTS INTO STRONG, EASILY ERECTED, INSULATED MODULE

Using rigid urethane foam-filled prefabricated aluminum wall and roof sections, two men reportedly can erect a complete 432 sq. ft. building or add a 12' x 36' room to an existing structure in less time than it usually takes to put in the wall studs by conventional building methods.

Developed by the Security Aluminum Co., Detroit, the wall system is composed of foam-core sandwich panels, 4 ft. wide and up to 16 ft. long. The thickness of 5 $\frac{1}{8}$ inches was chosen as a coordinate module of the standard 16-inch building dimension on which all the structural design features are based.

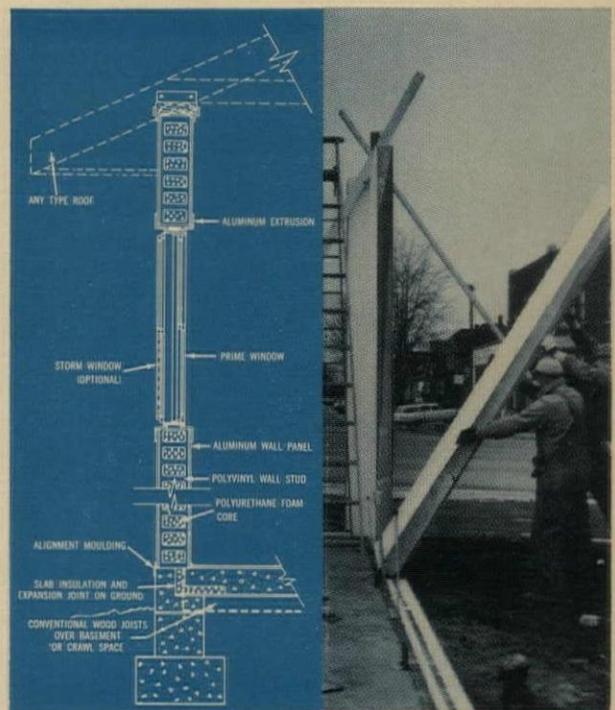
The panel skin is 0.032-inch vinyl-coated aluminum sheet, finished on exposed sides. The studs or cross members are of extruded vinyl, specially slotted to interlock with the aluminum sheet to maintain uniform spacing between the skins prior to foaming, and to impart some rigidity to the finished panels.

But the essential element of the whole idea, according to the manufacturer, is the rigid urethane foam core which provides structural properties that exceed building code requirements for snow and wind loads in any part of the country and a U factor of 0.03—equal to 16 inches of glass fiber.

Other advantages of the urethane foam contribute measurable benefits to the end user. The owner gains by elimination of maintenance expenses caused by corrosion, rotting, rusting, cracks, leaks or termites; lower insurance rates owing to the nonburning classification of urethane foam (ASTM 1692-59T); and lower heating and cooling costs due to its near-perfect insulating properties.

Using factory mass production methods, the panels are fabricated in 10 to 12 minutes each. The metal skins and plastic cross members are assembled in forms with doors and windows set in place. The urethane formulation is then injected into the box void formed by the facing skins.

As the urethane foam expands, it envelops the internal bracing members and completely fills every space. As the foam hardens, it forms a permanent bond with the aluminum skins to create a strong, fully insulated, monolithic structural unit.



(Left) Cross section shows structural detail of typical modular panel unit positioned on pre-installed footings and floor.

(Right) Wall panels are aligned and fitted into pre-caulked and drilled metal channel, secured with self-tapping screws.

During the initial foaming operation, a 2 $\frac{1}{2}$ -inch void is left on either side of the panel. When the panels are connected at the job site, plumbing, wiring and other fixtures are installed in the 5-inch space, which is then filled with urethane foam to unify the entire wall.

Advantages of Foam Core Wall

- Adaptable to residential and commercial buildings
- Stronger, more rigid than conventional structures
- Offers architect complete design freedom
- Provides excellent sound barrier
- Erected easily, quickly and economically
- Excellent barrier for heat, cold, moisture
- Eliminates maintenance problems

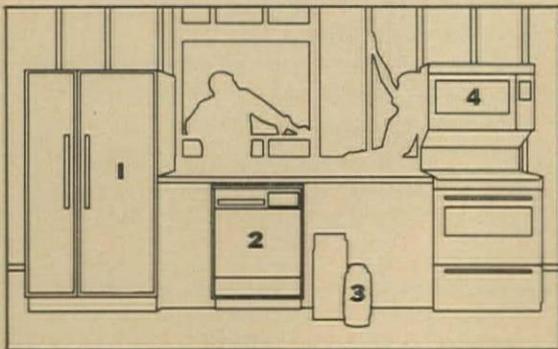
Further information on this application may be obtained from Security Aluminum Co., 385 Midland Ave., Detroit, Mich.; or Callery Chemical Co., Callery, Pa., manufacturer of chemical system.

For additional information on the use of urethane foam in other insulation and construction jobs, write on your letterhead to:

MOBAY CHEMICAL COMPANY, CODE HO-6, PITTSBURGH, PA. 15205



Build in



1. Tappan Refrigerator-Freezer: Tell her it's like having a 20-cubic foot supermarket right in her kitchen, and no defrosting ever. Fits in a space just 36 inches wide, and has a built-in look with cabinet-matching door inserts. Also white, coppertone or Lusterloy finish.

2. Tappan Reversa-Jet Dishwasher: The built-in dishwasher with reversing spray arms that work in one direction, then the other—to remove sticky foods most dishwashers can't get. Choice of three models, which Tappan thoughtfully made very easy to install.

3. Tappan Disposer: Cutting blade with 60-degree setting makes short work of hard-to-handle foods. Power reverse clears jams quickly, easily. The quiet food waste disposer with more do's than don'ts!

4. Tappan "Holiday 400" Range: Give her what she likes—a choice of *either electric or gas*. Two ovens, one at eye level and one below. Infinite heat control on surface units. And Tappan's easy cleaning features.



Tappan Time Machines

Today's housewife has better things to do than cook food and wash dishes. She runs a family taxi service, plunges into civic activities, shops, entertains. And often she has a full time job outside the home.

So, she needs and wants a kitchen she can get out of. Tappan can help you give her just that, in the home you want her to love and buy.

Feature Tappan Time Machines—appliances designed to save her time and do more of the kitchen work automatically.

Set and forget cooking, more thorough dishwashing, fast garbage disposal, big refrigerator and freezer storage that never needs defrosting. And all made so that they clean like new in minutes instead of hours.

You get what you want from Tappan: a wide variety of models and prices, including Tappan's new Profile Line range in gas or electric. (You've never had a range this good at prices so low. It's a built-in that slips in. And helps you sell houses.)

Remember Tappan when you plan your models. Because once she loves your kitchen, can a sale be far behind? For information on Tappan Time Machines (and how to merchandise them) write, Dept. HH3, The Tappan Company, Mansfield, Ohio.

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Dressing Room



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First look shows you a handsome, smooth, seamless, quiet door with a snap-in glazing bead feature to tickle your creative fancy. With IMPERIAL you can get any glass or louver treatment you want — and you do it with thrifty production line speed.

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See our IMPERIAL door line both ways and you'll look forward to virtually unlimited "custom" opportunities with standard, stock line economy. It's reversible—no "handing." It hangs square, stays square — won't sag, bind, warp or split, ever. It comes to the site preprimed and prepackaged with a patented universal frame that always fits, all ways.

And, if you have to look fast, remember Republic is the only steel door maker with stock in 15 warehouses, 38 factory offices, and 250 "Men from Manufacturing" at your service — anywhere, anytime.

Send literature on the new Republic IMPERIAL Door so I'll know all about its fully welded complete perimeter channel, its five-step phosphatized rust-inhibiting process, baked-on prime coat, continuous hinge and lock reinforcement, interlocking corners and lots of other reasons to make clients approve my specs.

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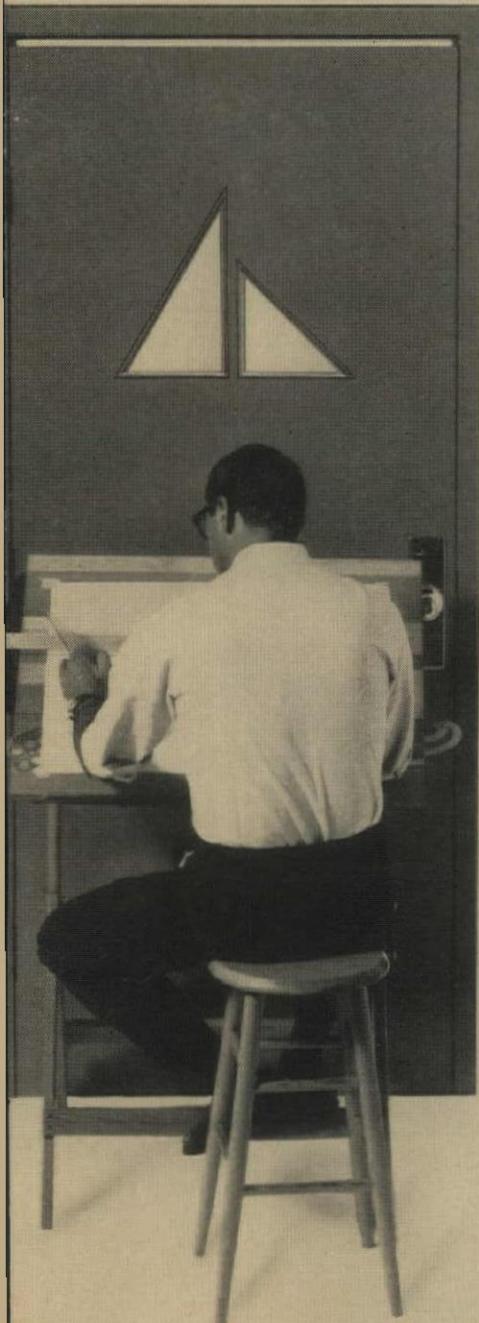


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This STEELMARK of the American Steel Industry on a product assures you it is modern, versatile, economical Steel. Put it on products you sell. Look for it on products you buy.



Fleetside 4x4 pickups are offered in two wheelbases, two weight ratings. Half-ton models come in 115" and 127" wheelbases with 6½- and 8-foot bodies. The ¾-ton model is an eight footer on a 127" wheelbase.

**Chevrolet four-wheel
drives—a dozen ways
to do the impossible
(without even taking
a little longer)**



Stepside pickup models offer the same choice of sizes as Fleetside models with flush interior sides in the pickup box and convenient running-board steps on the outside.

Got a tough job to do in a place that's hard to get to? Chances are there's a Chevy 4x4 made to measure for it. They come in twelve shapes and sizes, and all have the go-anywhere hauling ability that won't take no-go for an answer. With up to double traction you'll find tough terrain, mud or snow are taken in stride. Chevrolet 4-wheel drives are built extra rugged to take rough going as a way of life.

A two-speed transfer case lets you select two- or four-wheel direct drive, or four-wheel under-drive, with a single control lever. A power take-off can be attached to the transfer case, or you can order a 4-speed main transmission with side PTO opening. Select either a Chevrolet High Torque Six or V8, and you have a going proposition—anywhere. Your Chevrolet dealer will be glad to give you full details. . . . Chevrolet Division of General Motors, Detroit, Michigan.



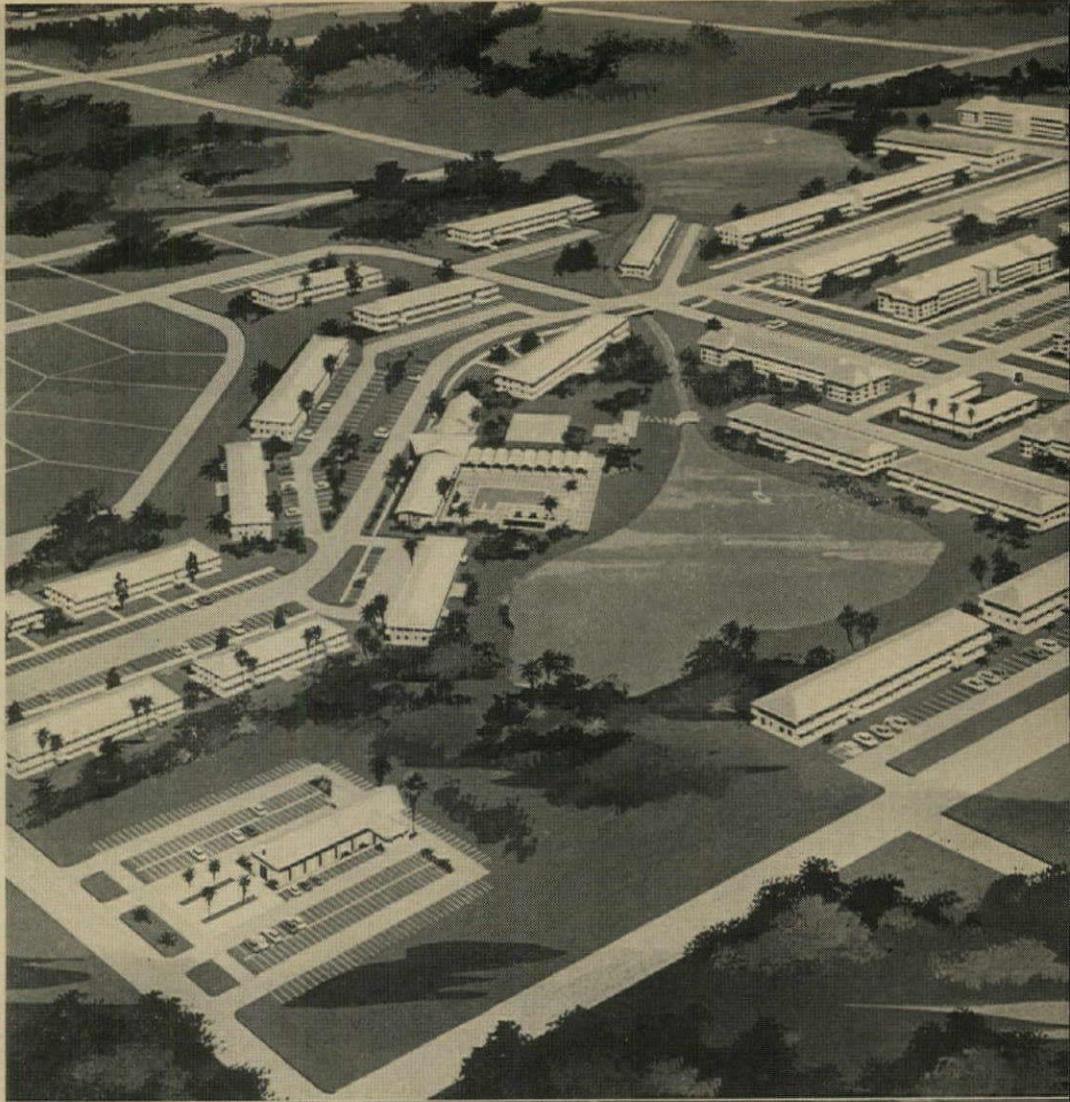
Suburban Carryall 4x4's offer you a choice of panel or station-wagon-type rear doors; they're unbeatable as back-country crew and equipment carriers. Wheelbase is 115". Also available are a 7½-foot panel model plus ½-ton and ¾-ton chassis-cab models.

CHEVROLET NEW '66 WORKPOWER TRUCKS



S. H. Vuncannon

developer of the vast Seminole Garden Apartments, St. Petersburg, Fla., said two main requisites led them to choose RCA WHIRLPOOL appliances for this luxurious 1210-unit complex. One was a brand name that is well known and accepted; the other was prompt, dependable service. "The RCA WHIRLPOOL brand gives us both," said Vuncannon. Operated as a non-profit cooperative, it will include a heated pool, a separate recreational building and boating facilities.



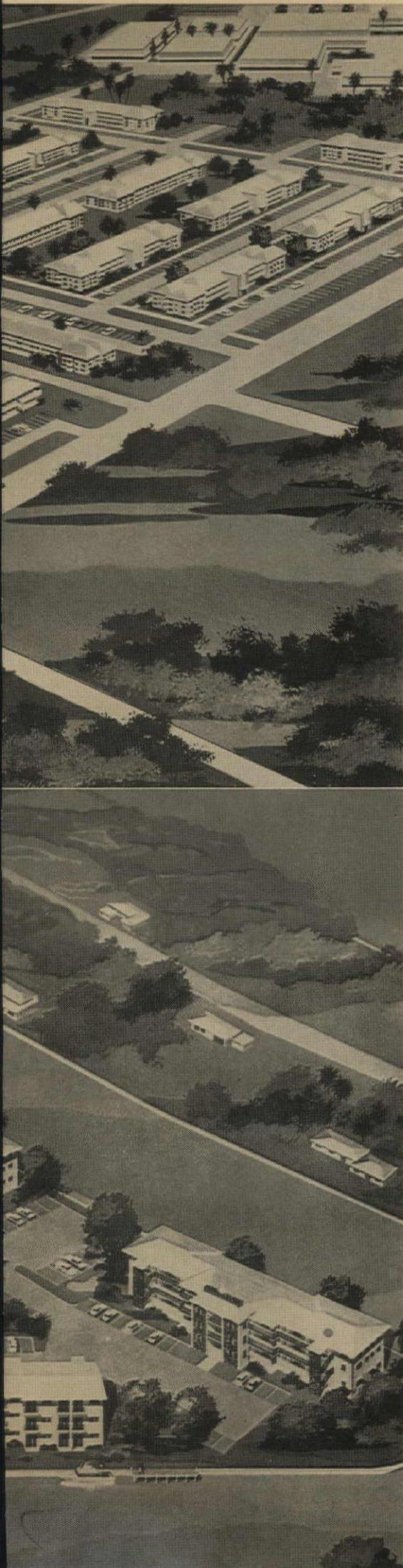
J. A. Hotchkiss,
President



A. J. Gluckstern,
Vice President

builders of the lush Isle of Paradise Apartment complex in Hallandale, Fla., selected RCA WHIRLPOOL appliances for this \$2,500,000 development because they added more appeal to their kitchens, and meant less paper work for them. Six Early American styled buildings form the perimeter with a recreation area in the center of the isle. It has its own bridge and all utilities are underground.

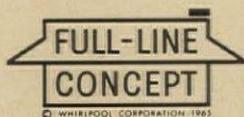




Two dynamic developments

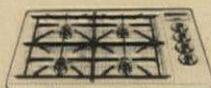
with one thing in common...
WHIRLPOOL'S Full-Line Concept

Success to these Florida developers doesn't just happen... they work at it. They figure and plan every job down to the most minute detail. That's why Whirlpool's Full-Line Concept of gas and electric appliances appeals to them.



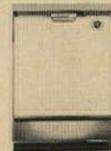
minute detail. That's why Whirlpool's Full-Line Concept of gas and electric appliances appeals to them.

For instance, just because you might change fuels from one job to the next you don't have to change your appliance supplier. You work with *one man* instead of three or four, because you have one dependable source for any appliance a kitchen



might need. By dealing with one man, signing one order you receive undivided responsibility and service. Pick and choose

from a tremendous selection to match any project need and budget. Another plus, with the RCA WHIRLPOOL brand, all appliances are beautifully coordinated by design and color, so there's



no mismatching. Call your distributor now for the full story about RCA WHIRLPOOL gas and electric appliances.



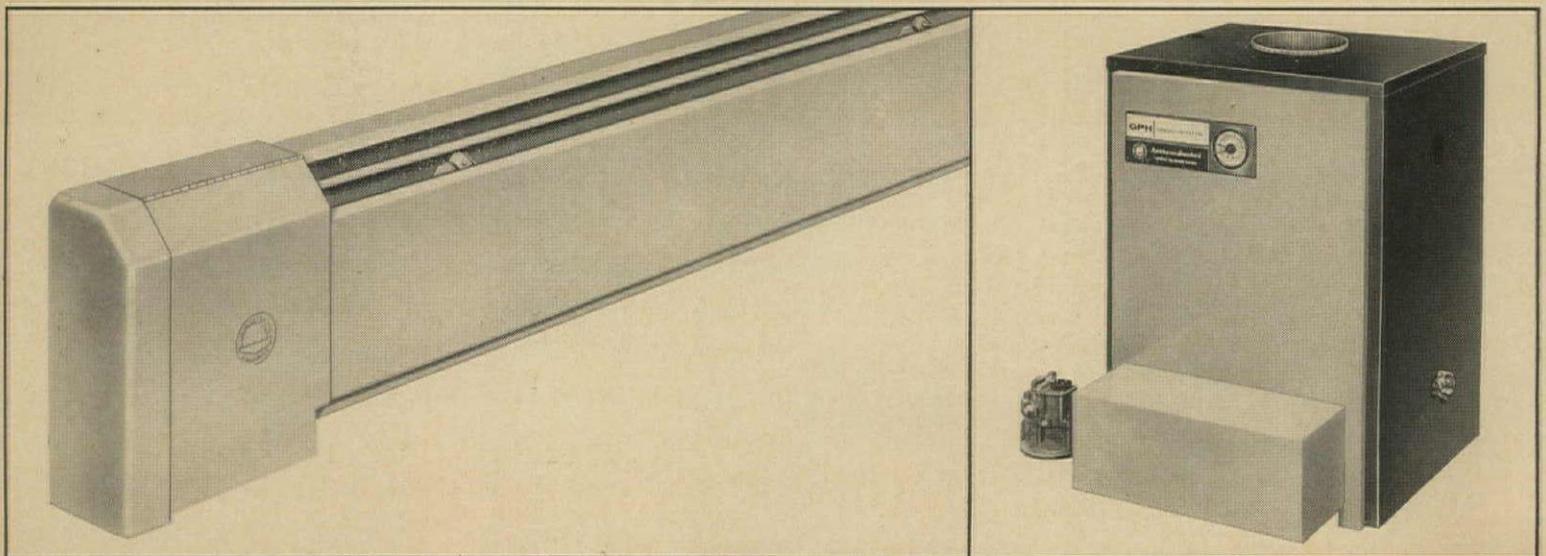
RCA WHIRLPOOL Appliances are Products of Whirlpool Corporation, Benton Harbor, Michigan.
Trademarks  and RCA used by authority of trademark owner, Radio Corporation of America.

Hydronic heat at warm air prices with a name that's a selling plus

Show prospects the American-Standard trademark on the boiler and Heatrim* baseboard panels

When you give your homes the best in heating—hydronics, with the best-known name in heating—American-Standard, you have a tremendous selling story. (1) **Point out the baseboard panels.** They assure rooms of uniform warmth with no sudden blasts of heat or chilling cold, no interference with drapery or furniture arrangement. (2) **Point out the cast iron boiler** that is designed to give years of clean, quiet, economical heat, while occupying as little as 2 by 3

feet of space. (3) **Point out the American-Standard name** on both the baseboard and boiler. This is a real selling "plus." It proves that yours is a completely planned system of uniform quality from top to bottom. Ask your American-Standard heating contractor about new hydronic heating at warm air prices—and economical central air conditioning to go with it. Or write American-Standard, Plumbing and Heating Div., 40 W. 40th St., N.Y., N.Y. 10018.



*Trademark AR&SS Corp.

AMERICAN-STANDARD





Broan has 6 Swingin' New Hoods!

The swing is to increased air delivery — quietly. Higher CFM ratings and new standards of solid construction. Modern design, to meet the growing trend towards fashion in the kitchen, features mitered corners. Lifetime aluminum grease filters. Built-in backdraft dampers. Handsome, easy-to-use fan and light controls. Durable, baked-enamel and genuine stainless steel finishes — more glamorous than ever. And every one is completely pre-wired, ready to install!

- Series 15000. 3-speed, dual-blower. 325 CFM. • Series 18000. 2-speed, Mixed-Flo. 200 CFM. • Series 17000. 1-speed, Mixed-Flo. 160 CFM.
- Series 13000. 2-speed, duct-free. • Series 14000. 1-speed, duct-free.
- Series 19000. 1-speed, round discharge. 225 CFM.

The hood market is growing up—looking for improvements. And we've got 'em! Find out more about the first all-new hood line to come along since hoods were invented. Help our coupon collection or give us a call.



Best in the House since 1932 ®

Broan Manufacturing Co., Hartford, Wisconsin

I'd like to see more details on the Swingin' new BROAN line.

NAME.....

ADDRESS.....

CITY..... STATE..... ZIP.....

I AM A: BUILDER ARCHITECT CONTRACTOR
 DISTRIBUTOR DEALER

Want to help America reduce its balance-of-payments deficit? Start exporting.

Who knows? You may even show a profit.

One of America's largest chemical companies started to export and ended up with an overseas business equal to their business at home. There are dozens of other companies—large and small—that have done extremely well in the expanding export market.* So what are you waiting for?

If you're already exporting, export more. Expand your current markets...develop new markets...add to your product lines.

The Dept. of Commerce will help. Here's why: despite a favorable ratio of exports to imports, United States has a balance-of-payments

deficit. That's because our total dollar "outgo" is greater than our total dollar "income" from abroad.

Some of this is due to military and other necessary government expenses overseas plus economic assistance to our world neighbors and future trading partners. And some is due to other factors, such as the dynamic expansion of American business in foreign markets...investing in factories and equipment overseas, building for the future.

All these are good causes. But too many dollars are going abroad compared to the amount coming

back. The President has called on the Congress, bankers and businessmen to do what they can to reduce our balance-of-payments deficit by repatriating earnings, deferring overseas projects or financing them abroad, and, most of all, by expanding exports.

Here's your chance to get into the act. The Department of Commerce will be happy to help you get started as an exporter. For further information, call your local office of the U.S. Department of Commerce. You'll be doing yourself and your country a big favor.



*Case histories on request from Department of Commerce, Washington, D.C.

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★ ★ ★
USO
★ ★ ★
IS THERE...
ONLY IF YOU CARE

The USO is a marine's chance to unwind over a cup of coffee 200 yards from the barbed wire edge of trouble. If you care.

The USO is a warm American greeting for a lonely sailor away from the teeming streets of a foreign port. If you care.

The USO is a smile lighting up a soldier's tension-creased face as Bob Hope entertains on a Southeast Asian battleground. If you care.

The USO is there, only if you care. Only your donations enable the USO to bring a little touch of home into the

lives of our 2,300,000 citizens in uniform—lives they are pledged to risk wherever freedom is threatened. Someone you know needs the USO. Someone you know wants a choice of conduct during his off-duty hours. Someone you know wants a haven in a hostile world. Someone you know needs a reminder that folks back home really care.

Show him you care. Give to the civilian-supported USO through your local United Fund or Community Chest.

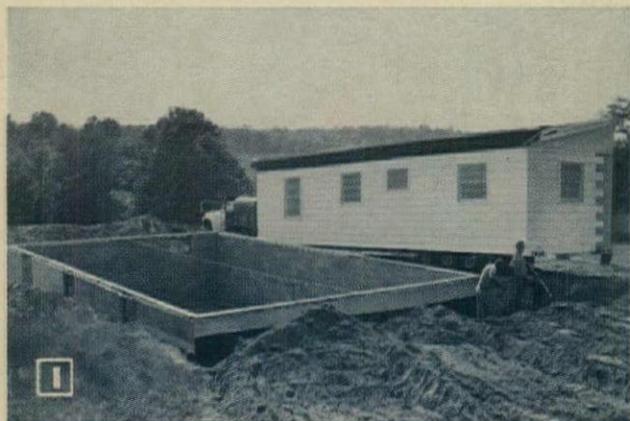
USO is there, only if you care.





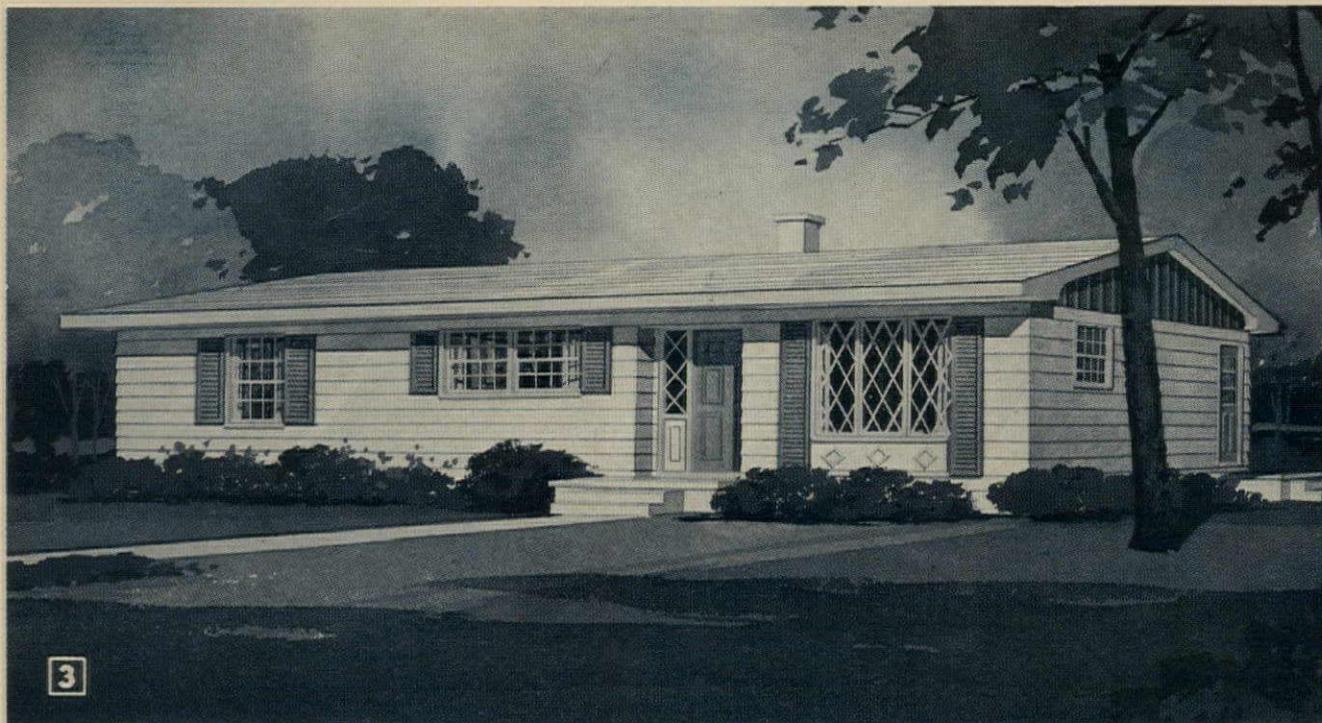
That's right! These revolutionary, factory-built, custom homes can be ready for occupancy in just a few days. Continental Homes manufactures the house for you . . . right in the factory . . . delivers it . . . erects it on the basement or crawl-space you provide. The plumber and electrician make their connections . . . and your customer is ready to move in.

Continental delivers two halves of factory-built home to your lot. No supervision is needed on the house structure, there are no quality control problems.



Continental's unique equipment eliminates the use of cranes, makes permanent joining of the 2 halves a quick and easy operation. Continental personnel are experienced, efficient.





With 2 halves of house joined, you hook up utilities and complete landscaping. A week after delivery to site, the

house is ready for occupancy or sale. All Uni-Structure homes meet or exceed FHA or VA requirements.

Uni-Structure[®] offers a wide variety of price ranges

These quality custom homes are consumer-priced from \$8,000 to \$15,000. Uni-Structure has many optional features, including a complete General Electric built-in kitchen. And is designed to meet local building, plumbing and electrical codes. More elaborate doors, shutters and other features can be added to give each home a different, distinctive appearance.

Many designs to choose from!

Colonial, Ranch, Contemporary Models . . . one, 1½ or two baths . . . three bedrooms . . . Built-In Kitchens . . . Ceramic Tile Baths . . . Siding applied or prepared for brick veneer . . . lengths from 38' to 47'.



Uni-Structure is Unique

- ELIMINATES OVER 10 SUBCONTRACTORS
- NO GUESSWORK ON STRUCTURAL COST
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Send Coupon for Free Information

Please rush complete information on Continental's Uni-Structure line of factory-manufactured homes.

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COMPANY _____

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Check here if also interested in literature on the Continental package home line.

Continental Homes, Inc.

O. Z. Oliver, Executive Vice President
Box 25, Boones Mill, Virginia 24065
Telephone: 703/334-3331

The college contribution



is a two-
way street

There are two ways to look at it.

There's the contribution the colleges make to business.

That's crucial.

Business employs about 42% of all college people. It uses their brainpower and skill in developing new products and methods. It fills management posts.

In the other direction, there's the contribution business makes to colleges.

The colleges welcome it. They need all the funds they can get. They're helping to prepare leaders for management, but the cost of education is going up.

In fact many colleges are having to turn away applicants—100,000 a year, says one estimate.

If business wants college talent, it must keep colleges in business. It can help finance their need for classrooms, facilities and especially teachers.

In this light, your aid-to-education program is an aid to your company.

SPECIAL TO CORPORATE OFFICERS—A new booklet of particular interest if your company has not yet established an aid-to-education program. Write for:

"How to Aid Education— and Yourself"
Box 36, Times Square Station
New York, N. Y. 10036



College is Business' Best Friend

TEXTURES IN A

WIDE

VARIETY FROM Shakertown®

CEDAR SHAKE PANELS TO FIT ANY DESIGN OR BUDGET



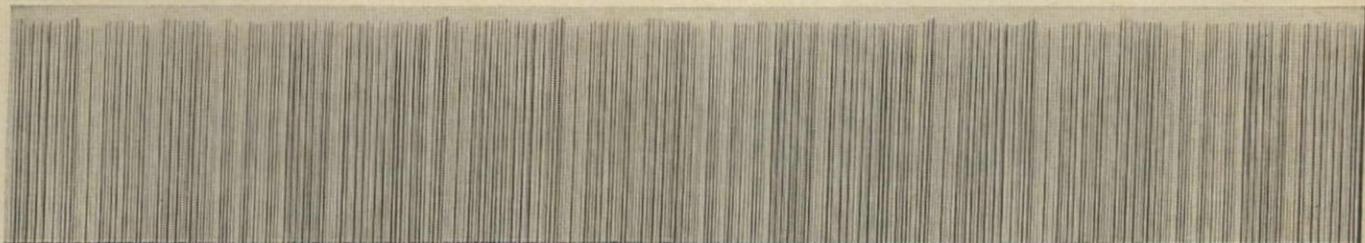
GLUMAC SHAKE PANELS

Uniform, machine grooved Western Red Cedar Shakes electronically bonded to insulated backer board. Panels are 46¾" wide... in a choice of 12 colors. Ship-lap edge.



BARN SHAKE PANELS

Rustic cedar shake texture of Barn Shakes now in convenient 46¾" panels. The shakes are enhanced by staggering the butts. Choice of special colors that give a weathered appearance.



E-Z PLY SHAKE PANELS

Eight feet of shakes applied at one time with these 3-ply wood panels. For single wall or double wall construction. Economical to buy and apply. Available in natural cedar or grey primed... striated or smooth surfaces.

SURF-PLY PANELS

Brushed cedar surfaces that are unusually distinctive. Now available in four and eight foot panels for homes or apartment construction. Combines handsomely with other products. 3-ply wood... in colors for a weathered effect.



Write today for free literature

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FIRST NAME IN CEDAR SHAKES

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Shakertown Barn Shake Panels
 Shakertown Glumac Shake Panels

Shakertown E-Z PLY Shake Panels
 Shakertown Surf-Ply Shake Panels

Name _____

Address _____

City _____ State _____ Zip _____

**Last year Kevork Hovnanian thought
Consultron was the greatest.**

This year he'll be beside himself.



Beside himself with joy—Because Barrett's Consultron Service Systems for 1966 are even greater. Do more. Offer more. Have a new twist that'll excite not only Mr. Hovnanian (President of Hovnanian Brothers in Manalapan Township, N. J.) but the hundreds of builders who were so pleased with Consultron in 1965. And who so overwhelmingly asked for it again in '66.

What makes Consultron so much greater for 1966? House plans. That's right. House plans. Last year, Consultron told builders what types of homes best suited their projects. This year, Consultron includes the simplified plan sheets for five separate and distinctive models. Each carefully selected for your individual project. And they all come from the drawing boards of three of the country's leading residential architects: Herman York, A I A; Henry Norris, A I A; Irving Palmquist, A I A; and Richard Pollman, Designer.

What's more, they will send you work-

ing blueprints, specifications and lists of materials for the plans you prefer, at nominal cost—thanks to the special arrangements made by Barrett.

The Consultron Report itself is expanded for '66. Updated. You get 17 pages of authoritative data. Operating budgets. Price ranges. Advertising and promotion programs. Vital statistics on population, migration and construction in your area.

If you build 15 or more houses a year, it'll pay to fill out a Consultron Data Card. Your personal Consultron Report will be prepared by William R. Smolkin & Associates, well-known building consultants. And delivered by your Barrett Representative.

And if you're planning an apartment project, there's a special new apartment Consultron Service System to provide you with a comprehensive report and a detailed, complete program.

So call your Barrett Representative or get this coupon into the mail today and hold onto your hat. You'll be beside yourself over Consultron too.

BARRETT
BUILDING MATERIALS



Consultron Service Systems

HH-3

Barrett Division, Allied Chemical Corporation
40 Rector Street, New York, N. Y. 10006

I am a builder. Please send me the Consultron Data Card so that I can get a free report on my project:

Residential _____

Apartment _____

Name _____

Company _____

Address _____

City _____ State _____

Consultron is a service mark of Allied Chemical Corporation.

Formability and solderability allow artistic uses such as in this TI-GUARD cupola roof.



Easily handled TI-GUARD can be hung quickly. Aluminum core gives section half the weight of comparable solid copper.



TI-GUARD Copper Clad Aluminum gutters and downspouts are used on the Silver Skillet in Lancaster, Pa. The split wood shingles and traditional copper in roofing materials carry out the quality appearance as well as beauty in this restaurant.



NOW, beauty and economy with NEW TI-GUARD* building materials

Permanently bonded TI-GUARD* copper-clad aluminum combines in one material the age-old beauty and durability of copper with the light weight and lower cost of aluminum. For ten years its excellent corrosion and erosion resistance has made it ideal for a wide range of applications. Now it is being applied to building materials.

The secret of TI-GUARD copper-clad

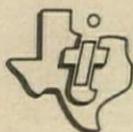
aluminum superiority is in the bond. Two outer layers of solid copper (10% each by thickness) are bonded metallurgically to an aluminum core. This reduces weight, cuts costs. Also, because the bond is permanent (will last as long as the metal itself), TI-GUARD can be freely shaped.

It can be easily soldered, too! And TI-GUARD copper clad aluminum can be

used directly in mortar or concrete and also be lead coated per ASTM B-101-40. On buildings everywhere TI-GUARD is demonstrating its beauty, durability and economy. For samples and specifications of this amazing new material, see your local TI-GUARD distributor or write Manager, Building Construction Service Center.

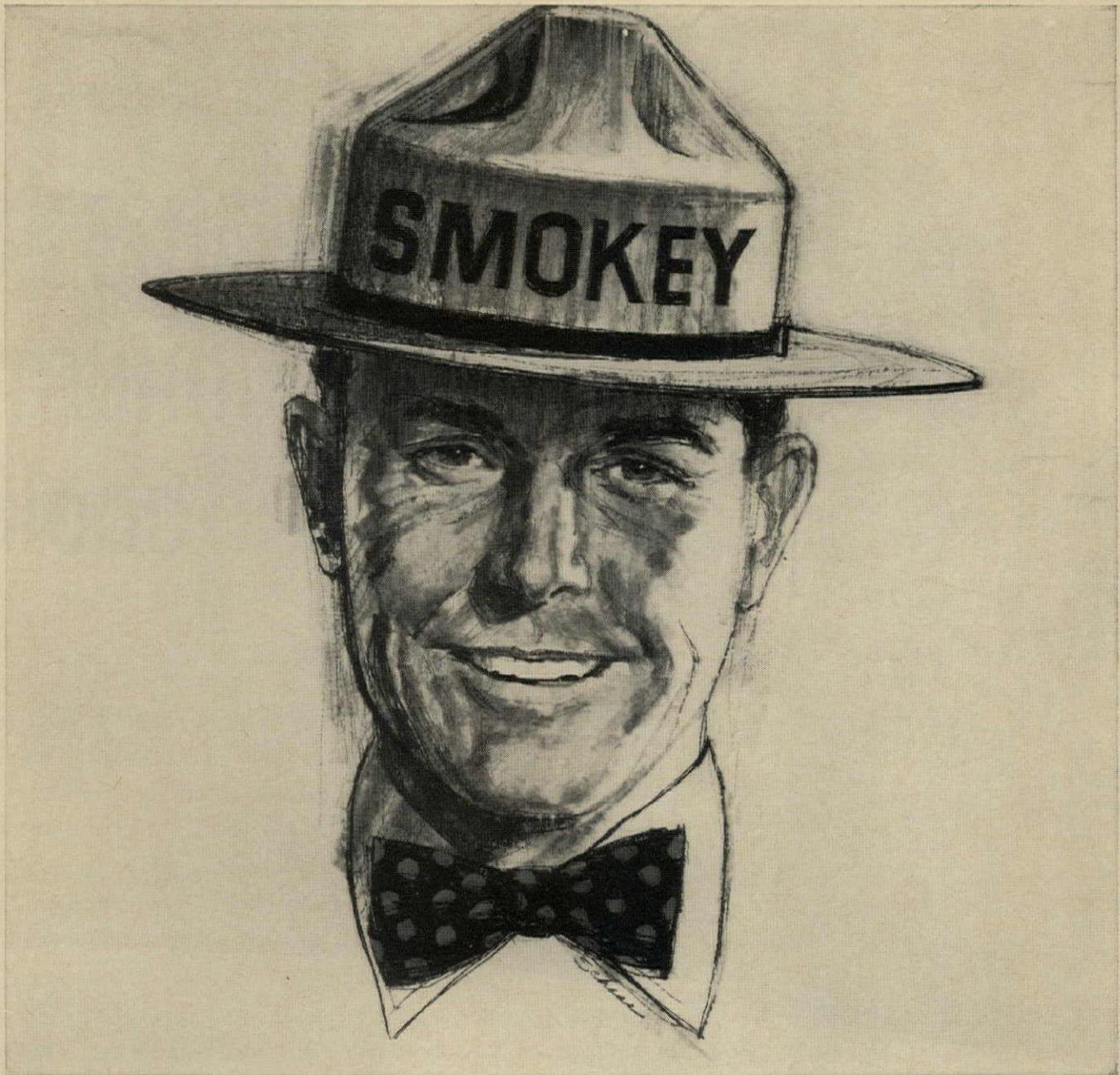
*Trademark of Texas Instruments Incorporated

Another modern clad metal from TI.



METALS & CONTROLS INC.
9903 FOREST ST., ATTLEBORO, MASS.
A CORPORATE DIVISION OF
TEXAS INSTRUMENTS
INCORPORATED

Distributors in the Northeast are: North American Brass & Aluminum Inc., 1580 North 52nd Street, Philadelphia, Pennsylvania ■ Cop-R-Lum Industries Inc., 150 Vincent Avenue, Lynbrook, L. I., New York ■ Lamb Ritchie Co., 250 Albany Street, Cambridge, Massachusetts



This hat does things for you

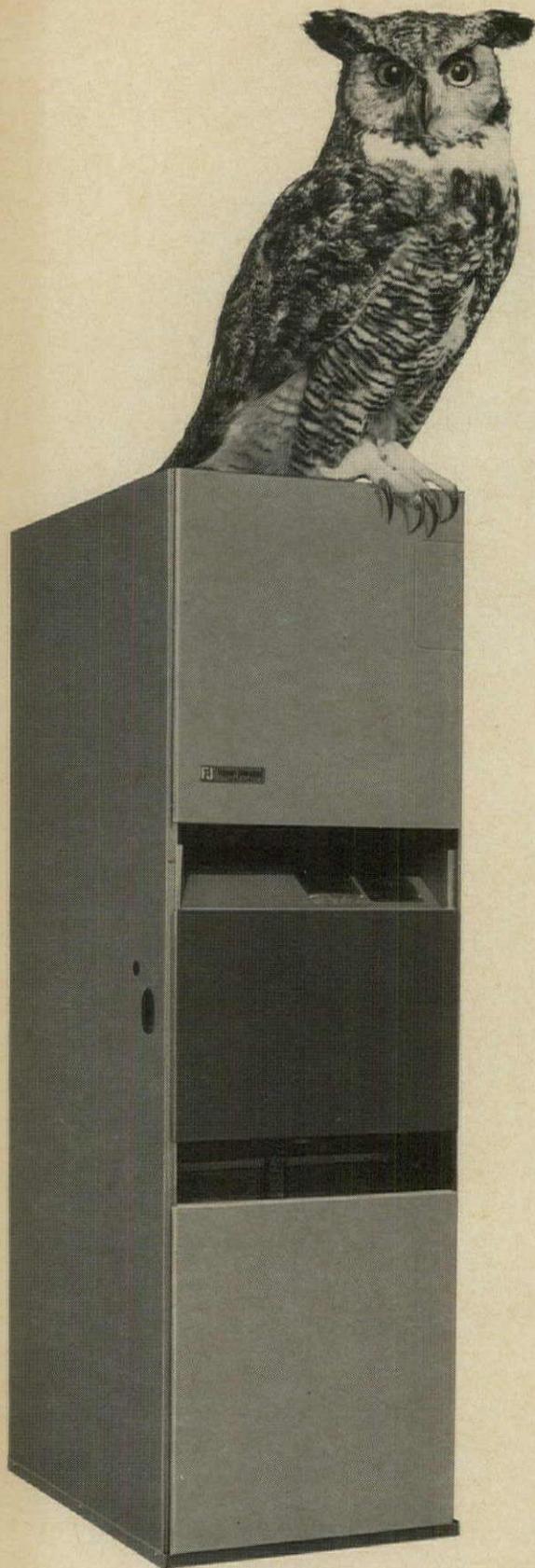
It represents the forest fire prevention campaign serving every American business that depends on wood or wood products — *your* business, very likely. It's been pretty successful, too. Since this campaign began in 1942, there have been over 272 thousand acres that did *not* burn, more than 1 million fires that did *not* happen, and 10.1 billion dollars worth of damage that did *not* occur. But Smokey's job will never end, and he needs your help. *You* can wear that hat, too, by urging your employes and the people in the communities in which you do business to be extra careful with fire — *every* fire.

remember—only you can prevent forest fires

Material for posting on your bulletin board available from your State Conservation Department or the nearest office of the U. S. Forest Service.

Published as a public service in cooperation with the U. S. Forest Service and The Advertising Council!





value-wise

it's FRASER-JOHNSTON heating and cooling

Who? Fraser-Johnston, that's who!

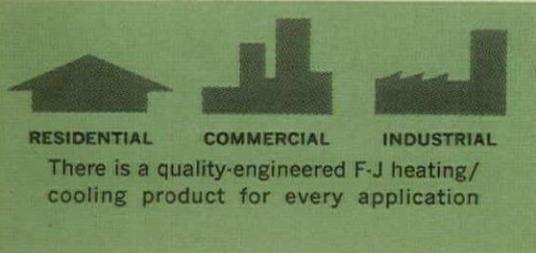
Why? Because Fraser-Johnston quality-engineered heating and cooling products are built better . . . last longer. They're easier to install and call backs are almost unheard of (F-J works hard to make it easy for you). And speaking of "unheard" . . . F-J units are the absolute quietest, thanks to exclusive sound conditioning features like: the unique new Control-A-Flame burner with its safe, noiseless ignition and extinction . . . and the patented expansion joint that eliminates contraction/expansion noise (whether it's heating or cooling, F-J's quiet operation always impresses prospective home buyers).

There are dozens of other extra-value features that Fraser-Johnston builds in to help you sell. Take F-J's revolutionary new "Silent 67", for example . . . it's the *only* furnace that comes completely pre-engineered for all-season air conditioning! To add a precisely balanced cooling system—now *or* later—simply slide an F-J cooling coil into the built-in compartment and hook up to an F-J condensing unit (there just isn't a better way to offer your buyers the joy of year-round comfort!).

Illustrated: F-J's "Silent 67" air conditioning furnace with built-in coil compartment. Heating to 200,000 BTUH, cooling to 6 nominal tons.



Chances are, you can have F-J quality for no more than you're now paying. For complete details on the benefits of buying the best in heating and cooling equipment, contact your local F-J distributor or Fraser & Johnston Co., 1900 17th Street, San Francisco, California 94103.



Fraser-Johnston

SAN FRANCISCO, CALIFORNIA

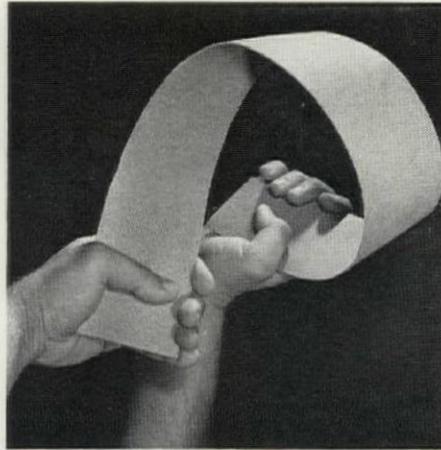
Industry leadership in heating and cooling — since 1928

NEW PRODUCTS

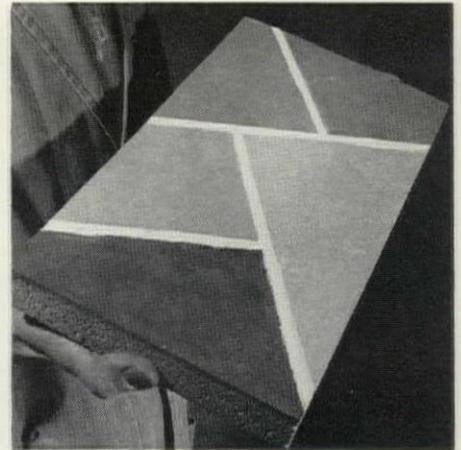
For more information, circle indicated number on Reader Service card p. 141.



THIN COAT of silicone topping—usually $\frac{1}{8}$ " thick—is troweled on for \$1.00-\$1.75 per sq. ft.



FLEXIBILITY of new topping keeps it from cracking. GE guarantee backs it for five years.



FIVE COLORS—white, red, green, medium and dark gray—let topping be used decoratively.

A brand-new topping—rubberized concrete

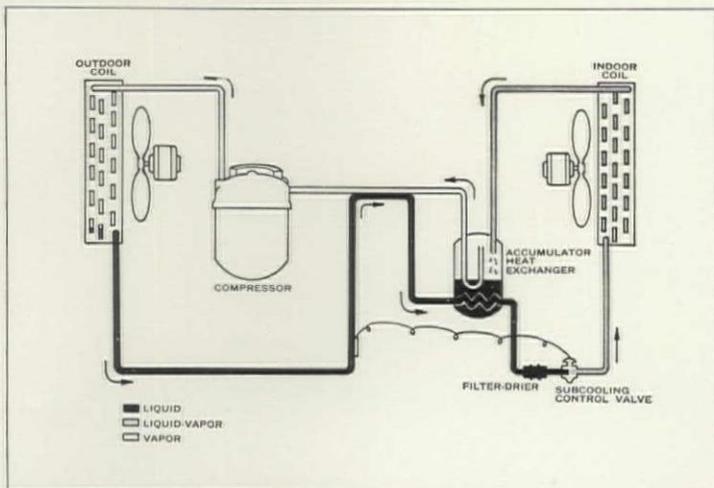
Flexible like rubber, hard like concrete—that's General Electric's new silicone topping compound. It bends, stretches, doesn't crack, doesn't absorb water, and survives freezing, acids and other extremes.

Specifically, the new compound is silicone rubber combined with specially treated reinforcing materials. It is mixed with a vulcanizing agent before application, then troweled into place like concrete.

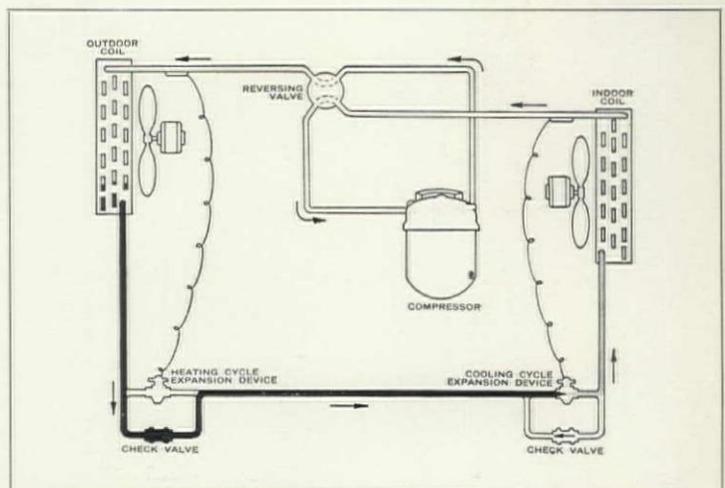
The new topping adheres equally well to concrete or wood. It has been tested as high-traffic road surfacing in hot and

cold climates and as plywood surfacing on roofs and in swimming pools. Its flexibility also makes it an excellent grout for tile and patio stones.

But there are limitations. The topping can only be applied to a horizontal surface—it will not stick to vertical or angled surfaces until cured (16 hours). And it adheres best to bare wood or bare concrete. So its application to wood is largely limited to the prefab shop, and it will probably not be big in remodeling. (Circle 201 on Reader Service card)



NEW COOLING CYCLE for heat pumps introduces heat exchanger control.



CONVENTIONAL COOLING CYCLE is regulated with expansion valve.

Heat pumps get a boost from this new departure in cooling-cycle design

The new design—introduced in January by Westinghouse Electric Corp.—promises to give the heat pump greater heating-cooling capacity, longer life and lower maintenance.

Specifically, Westinghouse has developed a new way to control the flow of refrigerant in the heat pump's reverse-cycle system. Conventional heat pumps (and other air-conditioning units that run by compression refrigeration) use a capillary tube or

thermal expansion valve to regulate the flow of refrigerant to the evaporator and prevent liquid floodback to the compressor. Westinghouse's system uses a different control device—a liquid subcooling control valve in combination with an accumulator-heat exchanger.

A heat pump using this system is so much more efficient, says Westinghouse, that it will heat in subzero outdoor operating conditions (down to minus 20° F).

Also, it can be switched to cooling when outdoor temperatures are as low as 0° F.

Other advantages: 1) a builder has more flexibility in positioning the split system's indoor and outdoor sections because refrigerant charging and distribution through parallel-circuited coils are less critical; 2) liquid subcooling makes the heat pump's filter-drier more efficient for removing moisture and contaminants. (Circle 202 on Reader Service card)

New products continued on p. 148



TERRA 15'x8"

LIVING

RECEPTION

DINING

FAMILY

KITCHEN

Bed Room

HALL

DRESSING

BATH

Bed Room

W3N4

W3N4

W3N5

W3N4

W3N4

W3N5

W3N5

W3N5

W3N5

W3N5

64'-0"

14'-6"

50'-0"

12'-0"

12'-0"

50'-0"

50'-0"

Andersen Windows and Gliding Doors comprise almost half the exterior wall area of this modern home. Plan by Johnson & Nordblom Inc., Architects, St. Paul, Minnesota.

When half the walls will be windows, can you afford the "callback" kind?

This demonstration is shocking only if you've been taking your windows for granted.

Only if you've been content to "get along" with whatever is available . . . the ordinary kind of windows that can cause troublesome callbacks and cost you money.

But if you think seriously about windows, you know that they occupy a third or more of the outer wall area in nearly every home you build.

You recognize every window opening as a potential trouble spot.

And you know that **Andersen Windows** are designed and built to spare you the cost of window callbacks. Pre-assembled for a lifetime of **smooth, easy operation.**

Experience has shown you that Andersen Windows help make your homes more pleasing . . . help you **create a good first impression** . . . because they're a brand your customers respect.

You probably even know that Andersen offers a **complete range of styles** and sizes, both windows and gliding doors, to enhance any design.

And whether you use it as a selling point or not, you know that **fuel savings of 15%** or more is a ready-made advantage of every Andersen home. Because Andersen Windows are **extra weathertight** (up to 4 times as tight as ordinary windows).

But there may be a few new wrinkles in the Andersen line that you don't know about. **Customer-pleasing convenience** features like welded insulating glass that eliminates all storing, handling, and cleaning of storm windows. Or snap-on grilles that pop out for **easier window cleaning.** And many more.

Why not let an Andersen dealer or distributor point them out to you. **Call him today.** Andersen Corporation, Bayport, Minnesota 55003.

Andersen Windowalls™

Window Beauty is Andersen



Printed in U.S.A.

NEW PRODUCTS

start on p. 145

Kitchens



General Electric presents new major appliances

The refrigerator-freezer (*left*) with two doors has a net volume of 15.6 cu. ft. with a freezer capacity of 145 lbs. No Frost 16 never needs defrosting. It also includes a self-refilling icemaker. The undercounter dishwasher (*center*) can accommodate 15 complete table settings. It includes a special device for cleaning silverware. The electric range (*right*) is self-cleaning. The 27" model has an automatic rotisserie and a backsplash with push-button controls. The range hood is lighted. General Electric, Louisville. (Circle 203 on Reader Service card)



Consoweld shows Total Look kitchen design

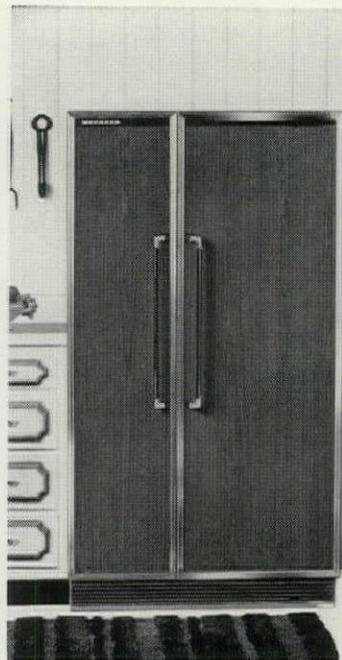
The Total Look concept in kitchen design involves use of Consoweld laminated plastic on all wall and outside counter surfaces. The patterned plastic, designed to blend with cabinet facings, is installed on the soffit, backsplash and counter edges. Consoweld is available in tones of blue, gold and brown in four patterns. Consoweld surfaces can be cleaned with a damp cloth and are resistant to fading, chipping and staining. Total Look can also be used in bathroom decoration. Consoweld, Wisconsin Rapids, Wis. (Circle 204 on Reader Service card)



Built-in gas waste disposer will dispose of up to 1/2 bushel of refuse. Installed under a standard 36" counter, the unit requires 15"x24" of floor space. The door comes in colors to match any kitchen decor. Magic Chef, Cleveland, Tenn. (Circle 205 on Reader Service card)



Slip-in range has a 25" wide oven and a recessed cooking top. Designed to fit any type of counter, it has an adjustable chrome trim strip for easy installation. The gas range has a lift-off top and removable oven door. O'Keefe & Merritt, Los Angeles. (Circle 206 on Reader Service card)

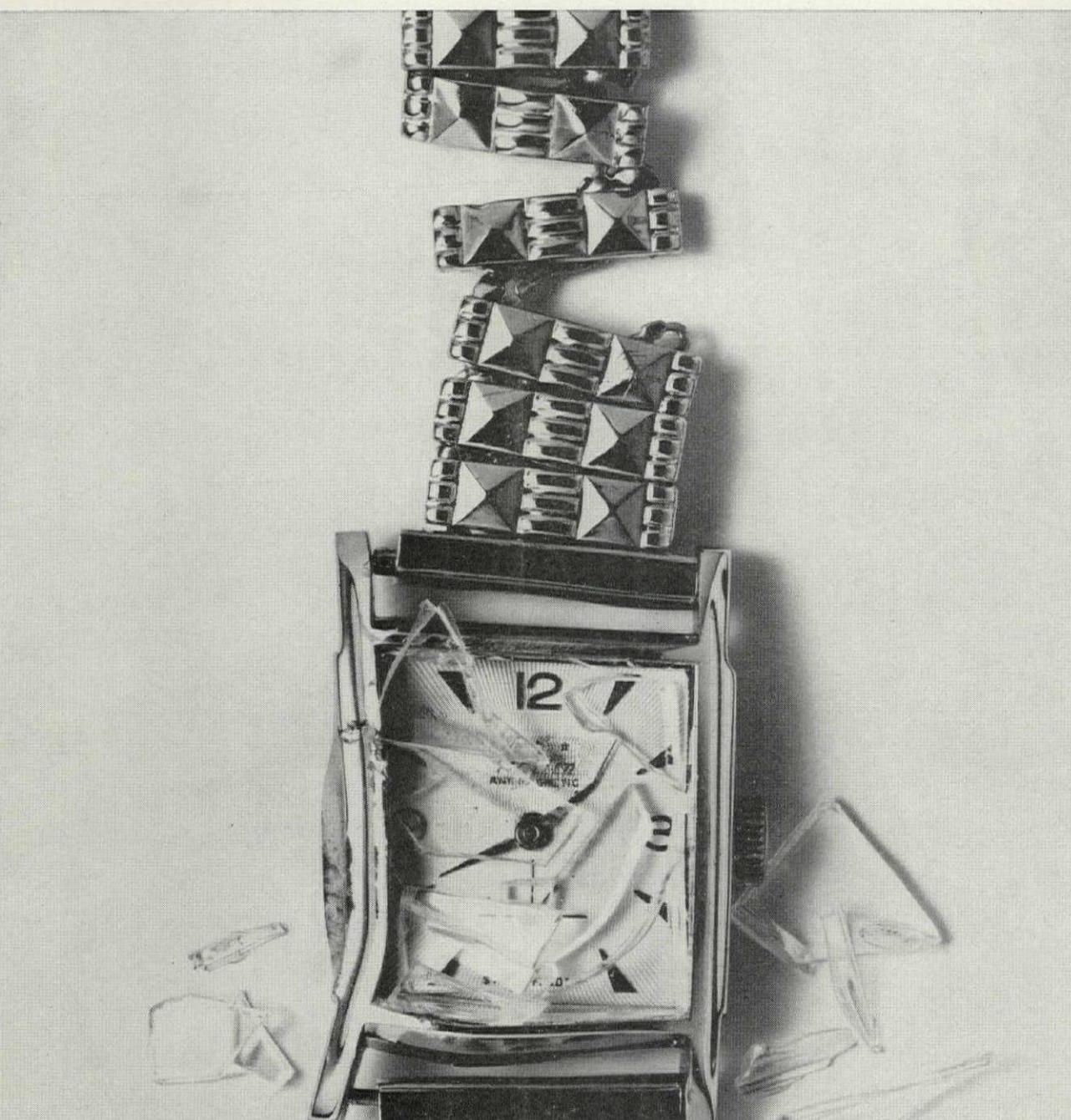


Refrigerator-freezer, called Twin-Temp Combo, has a capacity of 20.7 cu. ft. and is 35 3/4" wide. Units are available with individual trim kits that can adapt the standard model to various color schemes and wood tones. Tappan, Mansfield, Ohio. (Circle 207 on Reader Service card)



Refrigerator with combined freezer has sculptured handles and linen-like silver vinyl trim. The 41" unit never needs defrosting. A storage unit for fruits and vegetables is included at the top of the refrigerator compartment. Kelvinator, Detroit. (Circle 208 on Reader Service card)

New products continued on p. 154



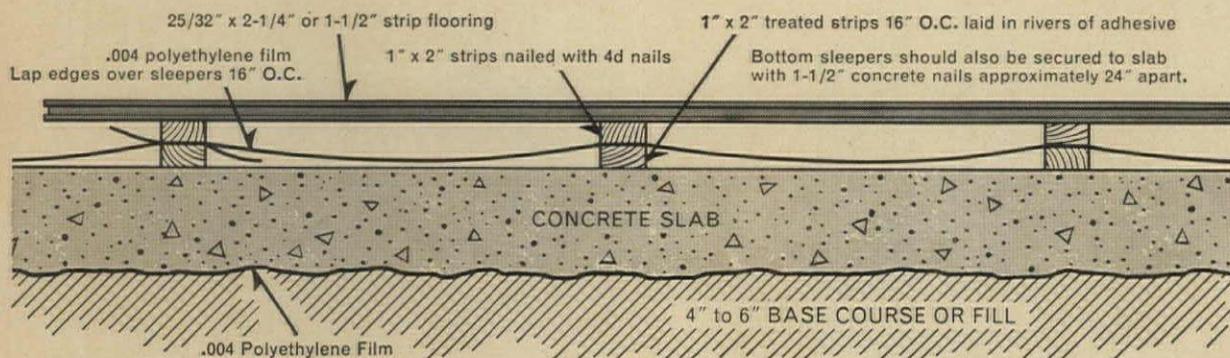
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ON TIME**

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How to warm up a cold concrete slab

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NEW PRODUCTS

start on p. 145

Floors



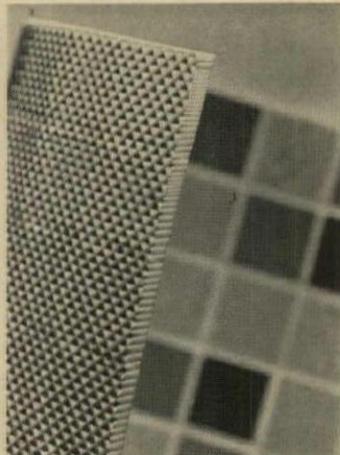
Sheet vinyl flooring is designed to look like hand laid brick. Coronelle Vinyl Corlon is made up of red textured bricks set in pairs in a parquet arrangement. It comes in 6' widths in .090" gauge. Armstrong, Lancaster, Pa. (Circle 209 on Reader Service card)



Vinyl asbestos tile is embossed with a marble-like tracery said to help conceal heel marks and subfloor irregularities. Textured Florentine comes in four marble shades—Java, Magenta, Jade and Mimosa. Azrock, San Antonio, Tex. (Circle 210 on Reader Service card)



Vinyl tiles, called Blossom, form a rose pattern. Each segment of the floral pattern is outlined with a dark color. The tiles are available in 12"x12" size in white, golden beige, gray, beige, olive and wood. Goodyear, Akron, Ohio. (Circle 211 on Reader Service card)



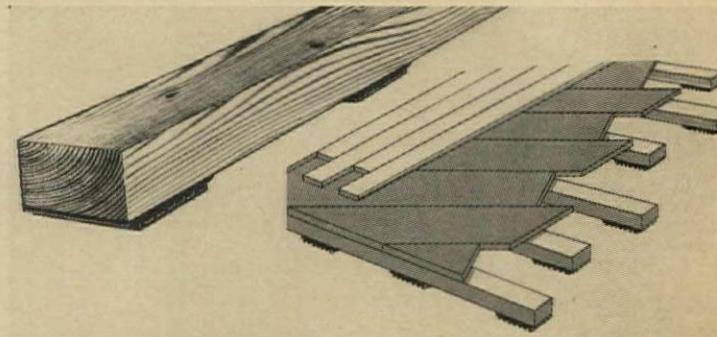
Vinyl-ceramic tile combination flooring can be installed over virtually any type of subfloor. Ceramolok sheets, which can be bent during application, are installed with a special adhesive. Flooring can be used immediately. Amsterdam, New York City. (Circle 212 on Reader Service card)



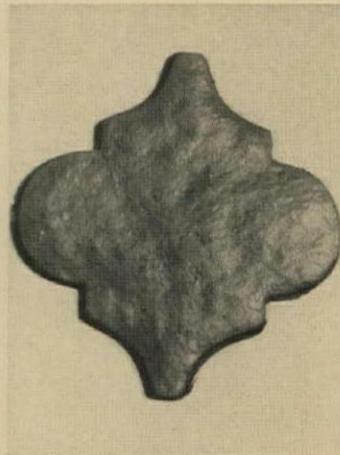
Solid vinyl tile has a built-in feature strip and beveled edges designed to simulate custom-designed floors. Feature Travertine is available in four colors—Off White, White, Moss Green and Old Ivory. Tiles are 12"x12" and .080" thick. Kentile, Brooklyn, N.Y.



Embossed vinyl tile is designed to resemble Pueblo Indian sun-baked brick. Adobe Terraflex is available in Mesa White, with a beige chip; Mojave White with a greenish chip; Canyon Grey and Alamo Beige. Johns-Manville, New York City. (Circle 214 on Reader Service card)



Cushion-soled sleepers are screeds which, when placed on 12" centers above a moisture barrier on a concrete slab, serve as nailers for subfloor and finish floor. The sleepers come in 3', 4', 5' and 6' lengths. Potlatch, San Francisco. (Circle 215 on Reader Service card)

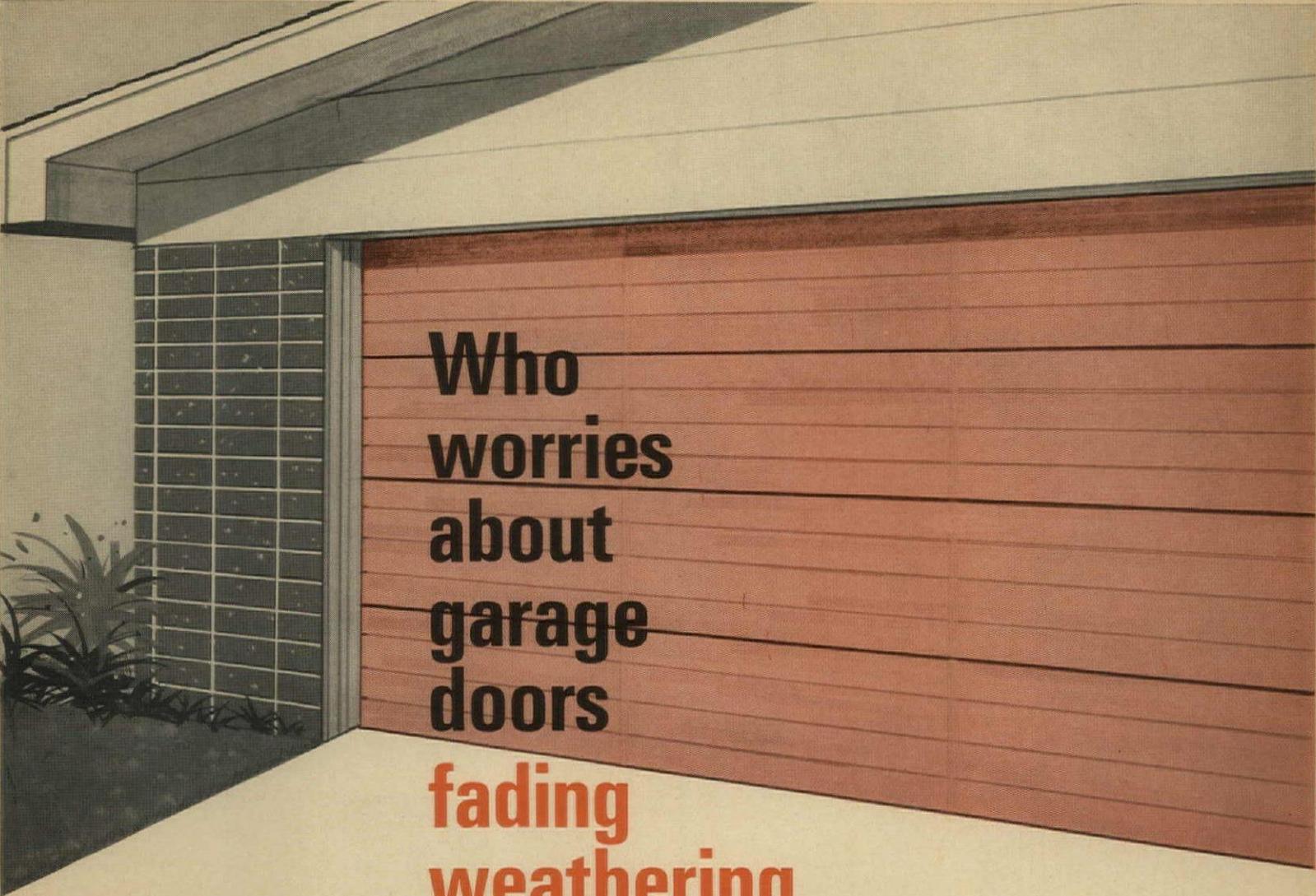


Cement-based tiles are hand made. The Classic series includes six shapes available in six standard colors with a lightly glazed textured finish. There are approximately eleven tiles to the sq. ft.; they are 3/8" thick. Designers Flooring, Miami. (Circle 216 on Reader Service card)



Cement bonded tile comes in square and hexagonal shapes 5 3/4" x 5 3/4" with a recommended 1/4" joint. Franciscan Promenade tiles are available in a wide range of colors with matching grout. International Pipe & Ceramic Corp., Los Angeles. (Circle 217 on Reader Service card)

New products continued on p. 156



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weathering
shattering
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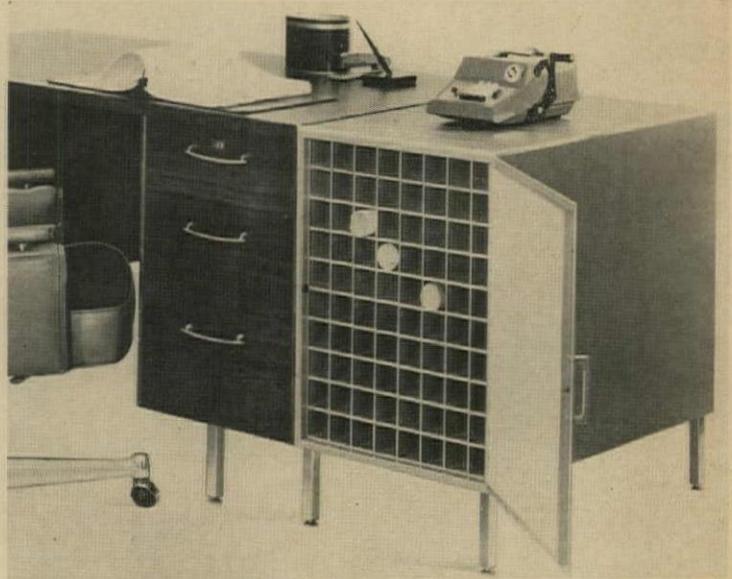
NEW PRODUCTS

start on p. 145

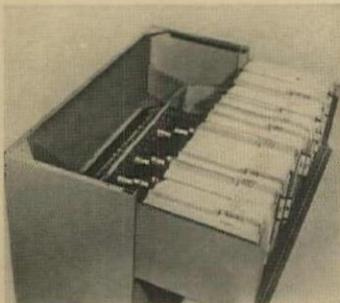
Office equipment



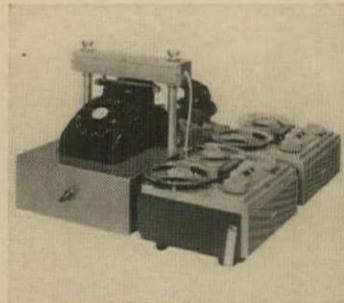
Transistorized two-way radio has a compression amplifier that electronically eliminates audio blasting and compensates for changing voice levels. Parallel consoles may be used for multi-office locations. General Electric, Lynchburg, Va. (Circle 228 on Reader Service card)



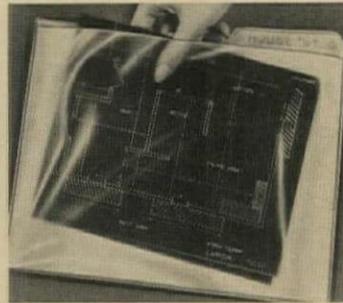
Desk-high filing cabinet provides storage space for rolled drawings and other large sheets. One model has twenty 4½" square tubes, another has eighty 2½" tubes. Tops are wood-grained vinyl over steel. Plan Hold, Torrance, Calif. (Circle 232 on Reader Service card)



Lateral file has hinge-supported drawers. The hinges extend outward when drawer is open and fold against cabinet back when drawer is closed. The unit occupies 15"x36" of floor space and has 34¼" of interior space. Art Metal Inc., Jamestown, N.Y. (Circle 229 on Reader Service card)



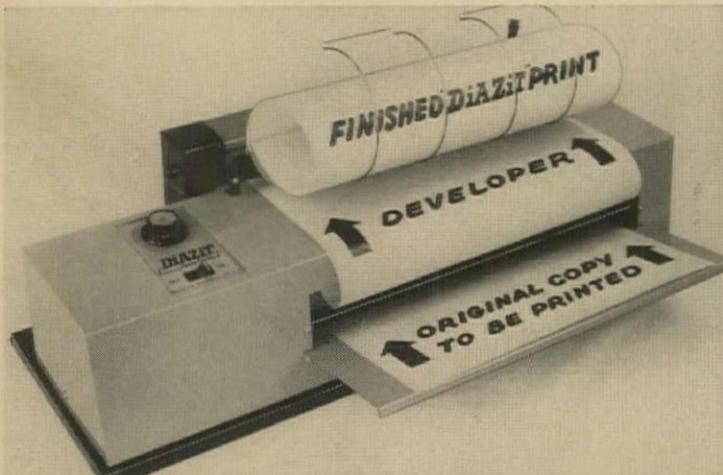
Telephone answering device requires no wiring connections. Telephone is placed on the unit's cabinet. Ansey Robot can record incoming and outgoing messages from 30 seconds to 5 minutes. Up to 120 calls can be taken. Gasolair, New Haven, Conn. (Circle 230 on Reader Service card)



Vinyl filing envelope has a clear front permitting contents to be seen without being removed. The envelope's back and projecting tab come in ten colors for color-coded filing. Envelopes are standard file size. Eagle Binders, Los Angeles. (Circle 233 on Reader Service card)



Office trailer can be towed by almost any vehicle. The trailer has a sub-floor storage compartment and peg-board tool panels on the interior sides. Work Wagon can be used for storage, headquarters offices, tool cribs, etc. Wells Cargo, Elkhart, Ind. (Circle 234 on Reader Service card)



Combination whiteprinter and developer is 18" wide. Unit is said to produce sharp, dry copies from translucent or semi-opaque originals. The copier can be wall or table mounted. Diazit Co., Monmouth Junction, N.J. (Circle 231 on Reader Service card)



Dual-roll diazo copier has an electronic exposure computing device. Ozamatic 360 automatically selects the correct width diazo paper (up to 19") and cuts it to the length of the original. General Aniline, Binghamton, N.Y. (Circle 235 on Reader Service card)

New products continued on p. 158

From Plant

Save Time

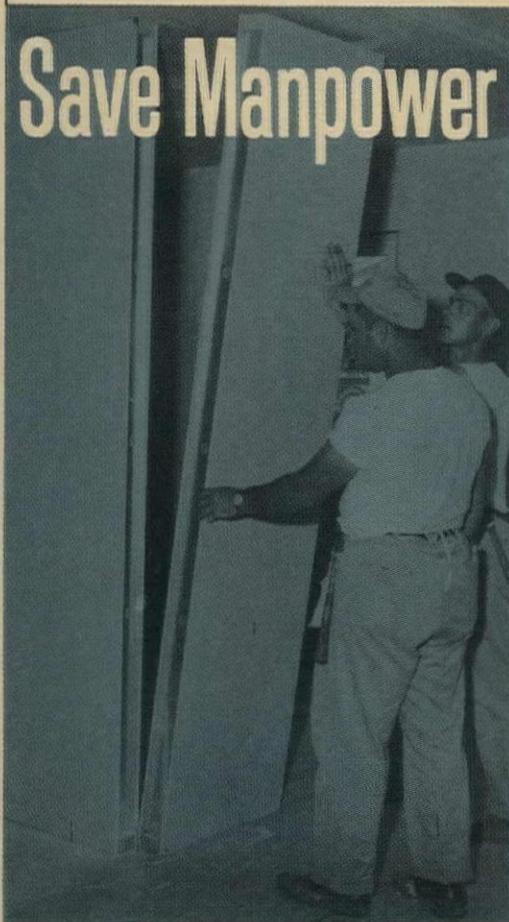


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To Site

Save Manpower

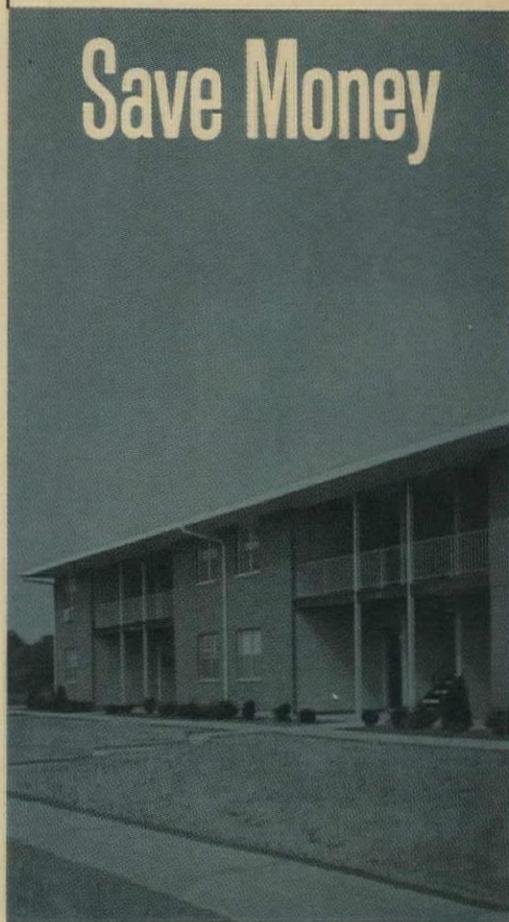


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Cabot's Old Virginia Tints provide a pleasing flat finish for all types of hardboard. They are particularly attractive for the new exterior sidings with the "rough-sawn" look.

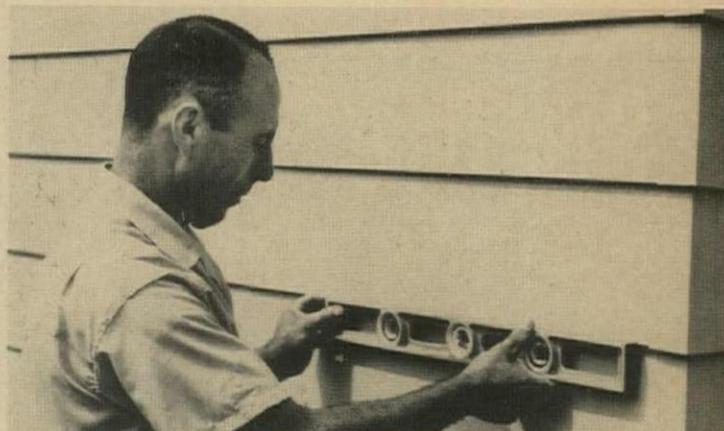
- Cabot's Old Virginia Tints are trouble-free flat finishes for shakes, shingles, masonry, and hardboard. Equally effective on pre-treated or untreated surfaces.
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Circle 92 on Reader Service Card

Exteriors

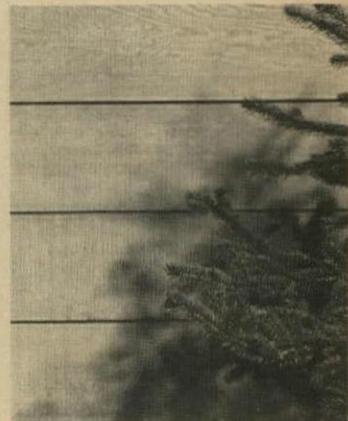


Aluminum siding has a weave pattern surface. The siding is finished with a nonchalking acrylic enamel paint available in six colors. Panels have a self-aligning snap lock to reduce installation time. U.S. Aluminum, Franklin Park, Ill. (Circle 236 on Reader Service card)



Plywood siding of white pine has a rough-sawn surface. Trend-Tex siding is available in six factory applied stain finishes with battens or decorative grooves. The surface is treated with a water repellent preservative. Potlatch, San Francisco.

Circle 237 on Reader Service card



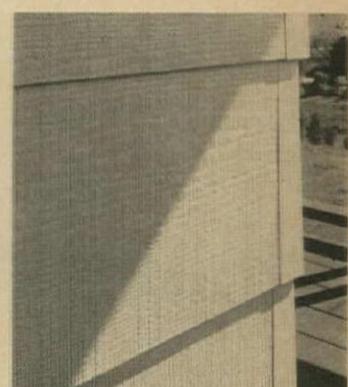
Prefinished redwood siding has a deep-penetrating stain that eliminates the need for on-site finishing. The rough-sawn bevel siding comes in three shades—Silverado Gray (above), Natural Penta and Colorado Russett. Simpson Timber, Seattle.

Circle 238 on Reader Service card



Hardboard siding, called Textured Shadowcast, is backsealed and factory primed, permitting a 60-day wait for finishing. Lap siding (above) has a horizontal texture and extra thickness. Vertical and U-Groove panels are available. Celotex, Tampa, Fla.

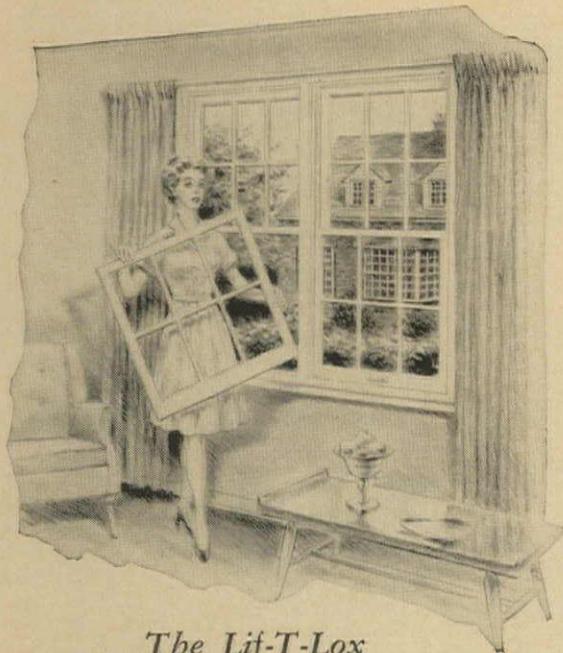
Circle 239 on Reader Service card



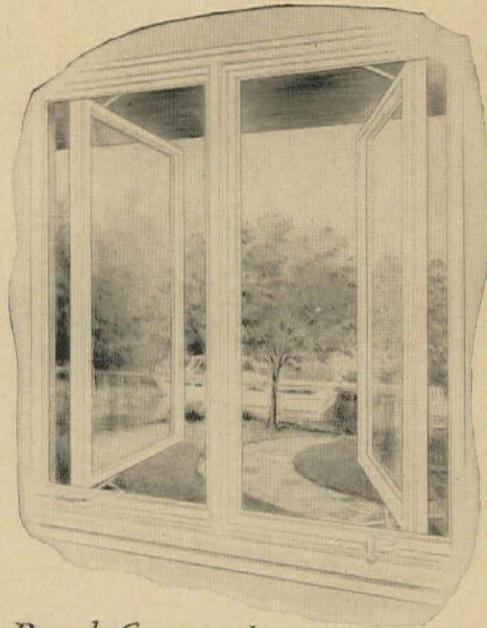
Rough-sawn siding, available in lap style, plain and grooved types, is called Ruf-X-ninety. The lap siding comes in 12" widths in 16' lengths. Plain and grooved panels are 4'x7', 8', 9' or 16'. All siding is 7/16" thick. Masonite, Chicago.

Circle 240 on Reader Service card

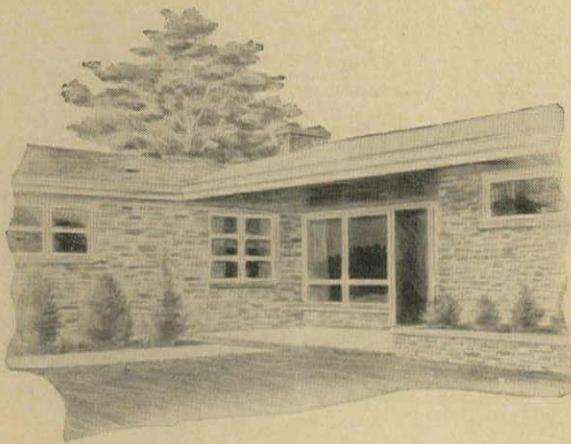
New products continued on p. 160



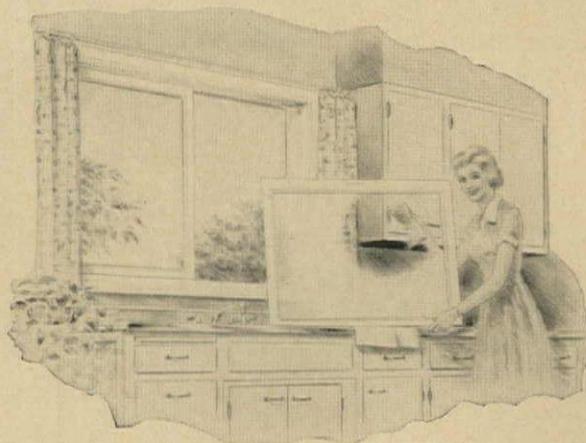
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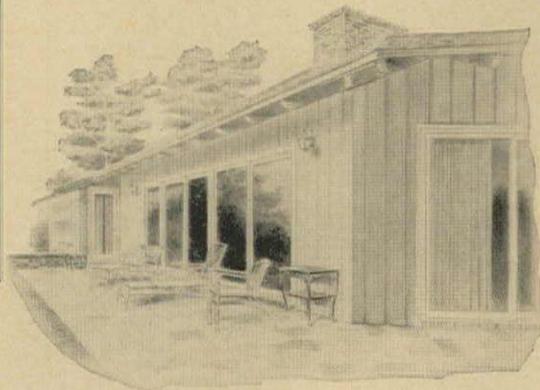
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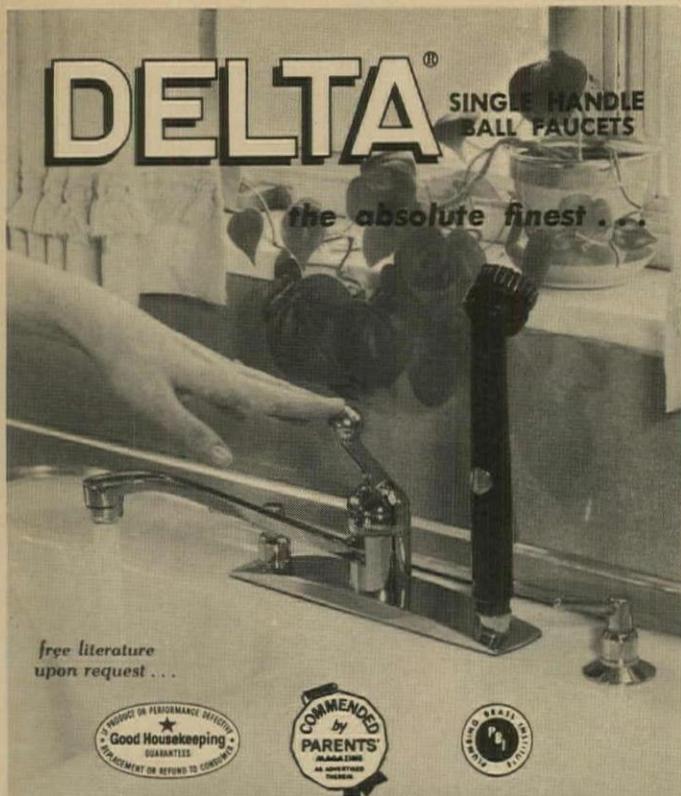
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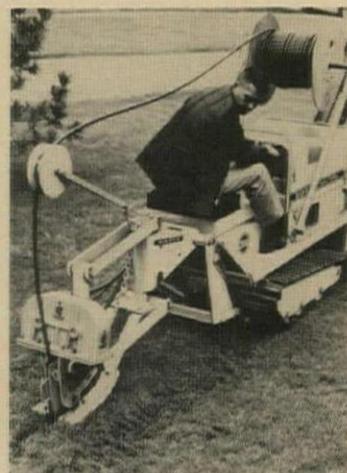
160

Circle 95 on Reader Service Card

Tools and equipment



Hydraulic-cushioned backhoe digs to 12½', operating at 2,100 psi. It has full feathering control and simultaneous crowd, lift and curl action. Two other models dig to 14' and 15'. Bucket widths: 12" to 36". Int'l Harvester, Chicago. (Circle 218 on Reader Service card)



Direct burial line-layer plows in ¾"-diameter cable, wire or tubing to 18" depth. An hydraulically powered knife slices the soil, spring-loaded skid shoes mend the cut. The unit fits the manufacturer's trenchers. Davis, Wichita, Kan.

Circle 219 on Reader Service card



Vertical router widens and deepens random cracks in cement or bituminous concrete for proper sealing. Tungsten carbide bit, available in a variety of widths, cuts V-groove; engine exhaust blows out particles. Clipper, Kansas City, Mo.

Circle 220 on Reader Service card

NEW PRODUCTS

start on p. 145



Vehicle trailer has spring-loaded ramps to speed up loading and unloading. Three-position tow hitch simplifies truck hook-up. Trailer shown carries 15 tons, other models range from 1- to 35-ton capacity. General Engines, Thorofare, N.J. (Circle 221 on Reader Service card)



Quick-disconnect ladder is a standard aluminum extension ladder whose sections can be disengaged while standing in a working position. The new feature comes on all models in the manufacturer's 1500 series. R.D. Werner, Greenville, Pa. (Circle 222 on Reader Service card)



Protective chains for wheel tractors reduce tire wear in rocky soil by shielding tread and side walls from objects over 3" in diameter. Chains may be turned over for longer wear. Tire sizes: 33.25x35, 29.5x29, 23.5x25, 20.5x25, 17.5x25. Caterpillar, Peoria, Ill.



Low-profile wheel loader offers choice of three bucket sizes, diesel or gas three-cylinder engine, eight forward and four reverse speeds to 16.2 mph. Breakout force: 3,000 lbs. Lift capacity: 2,000 lbs. to 9'9". John Deere, Moline, Ill. (Circle 224 on Reader Service card)

New literature starts on p. 166

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Circle 96 on Reader Service Card

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Of course there are some similarities. The important *difference* is that Olympic Stain penetrates. Unlike paint, Olympic sinks in and actually becomes part of the wood—coloring, protecting, accenting the natural grain and texture. Olympic doesn't form a film. So it can't

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Here's how zone control can solve your heating and cooling problems with little additional cost

Successful builders are finding that a slightly unusual feature or floor plan makes their homes stand out from the competitive homes. It can capture the prospect's imagination and often is just enough to clinch the sale. But these same features can create heating and cooling problems, too. And of course, no matter how exciting the feature, if the home is uncomfortable, you'll have a dissatisfied customer.

Chances are, you have some of these features in the homes you are building now.

Here's a list of six common design features and the problems they can cause with heating and cooling systems.

- 3. **Large glass areas** provide a great view, but they cause inside temperatures to vary with the outside weather changes . . . even with double-pane windows.
- 4. **With a spread-out floor plan**, sun, shade and wind in different areas cause widely differing heating and cooling needs.
- 5. **Rooms over unheated areas**, such as garages, often have cold floors and walls.
- 6. **A finished basement**, because it is below ground level, places unusual demands on heating and cooling systems.

Lots of potential problems, but zone control solves 'em all

Dividing your homes into two or more areas with accurate temperature control in each provides maximum comfort. Your buyers can have different temperatures in different zones, or the same temperatures in all zones under varying heating and cooling requirements.

You will be pleasantly surprised at the cost of zone control

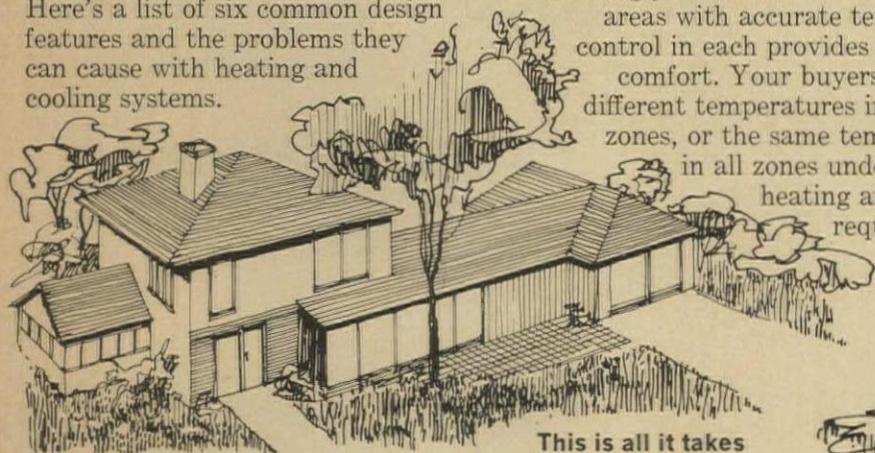
As you can see, zone control makes a lot of sense, and it isn't very complicated. The cost of additional equipment is nominal.

Compare the cost with the problem it solves, such as cold floors or uncomfortable bedrooms, and zone control becomes a necessity.

Speaking of unusual features . . . you've just added another one

Honeywell zone control not only solves problems connected with unusual features—it *is* one all by itself. It's an interesting talking point and attracts attention.

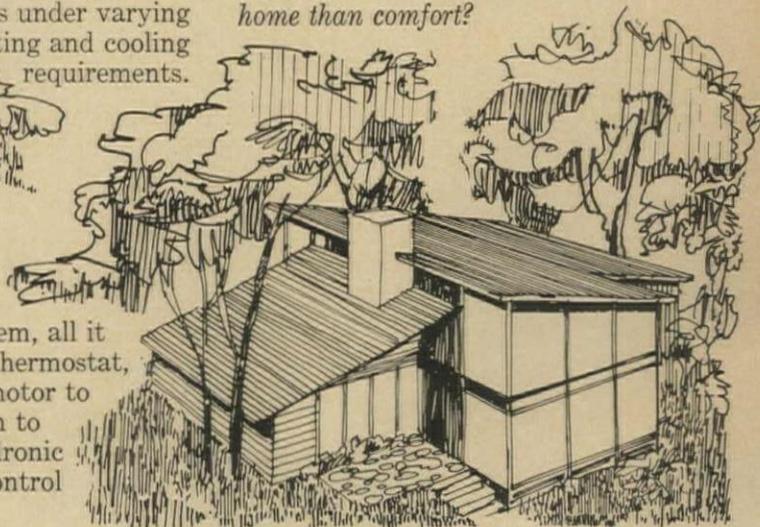
After all, what's more important in a home than comfort?



- 1. **In any two or three level home**, warm air tends to rise, leaving cooler air in the rooms on the lower level.
- 2. **Special activity rooms.** It is obvious that bedrooms call for cooler temperatures than living areas for real comfort, but game rooms and family rooms can create comfort problems, too.

This is all it takes

With a forced air system, all it takes is a Honeywell thermostat, damper and damper motor to control air distribution to each zone. With a hydronic system, zone valves control the water flow.



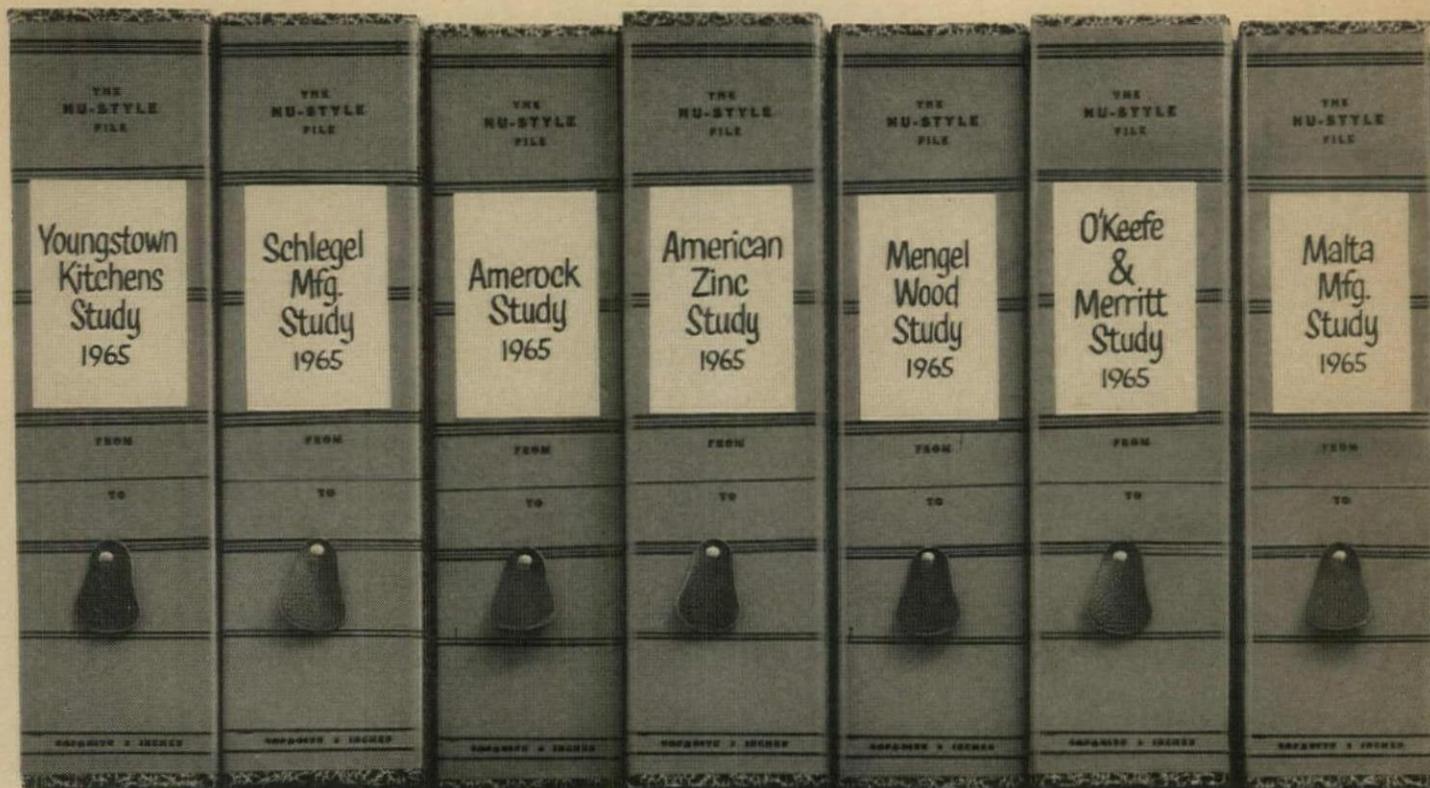
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Builders have voted House & Home their #1 publication

■ In 1965 builders voted HOUSE & HOME their #1 publication in 35 separate studies sponsored by building product manufacturers and their advertising agencies.* This finding has been true since HOUSE & HOME first began publication — fourteen years ago.

Of even more significance to advertisers than HOUSE & HOME's 2-to-1 lead in preference votes, however, is its 4-to-1 lead in units built. For example, in the above independently sponsored studies, the builders who chose HOUSE & HOME put up four times as many houses and apartment units as those preferring any other publication in the field!

This consistent preference for HOUSE & HOME by active builders stems from its balanced and thorough editorial attention to everything affecting their operations and profits from preliminary planning through design, construction, legislation, marketing, management, and construction to final sale.

By its consistent attention to these subjects HOUSE & HOME has also attracted close readership by those experts who work with builders—and par-

ticipate in product selection — in each stage of the building process. They too, from architects to subcontractors, have voted HOUSE & HOME their #1 publication.

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NEW LITERATURE

For copies of free literature, circle the indicated number on the Reader Service card, page 141.

CERAMIC TILES. 32-page catalog has four-color photographs of 1966 line. Color palette of 136 glazed, ceramic mosaic and Murray quarry tile colors is included. American Olean Tile Co., Lansdale, Pa. (Circle 302 on Reader Service card)

CABINET HARDWARE. 8-page catalog includes pictures and descriptions of hardware available. Ajax Hardware Corp., City of Industry, Calif. (Circle 303 on Reader Service card)

LIQUID LEVEL. Product bulletin describes nine basic measuring operations that one man can make with Selleck level. Price & Rutzebeck, Hayward, Calif. (Circle 304 on Reader Service card)

PLASTIC LAMINATES. 8-page brochure shows in-place photographs of Pionite. Information on properties, grades, finishes and sizes is included. Pioneer Plastics Corp., Auburn, Maine. (Circle 305 on Reader Service card)

WALLPLATES. 16-page product bulletin shows and describes Medalist line. Products covered include wallplates without grooves or ridges, metal and stainless steel plates. Slater Electric, Glen Cove, N.Y. (Circle 306 on Reader Service card)

PLYWOOD SIDING. 4-page folder shows Vari-Sawn panels that don't have continuous horizontal ridges. Check-Free and Verti-Line textures are also pictured. Long-Bell, Portland, Ore. (Circle 307 on Reader Service card)

WALL PANELS. 6-page technical bulletin describes use of adhesive to apply furring strips to masonry and bonding of Royalcote paneling to furring. Masonite, Chicago. (Circle 308 on Reader Service card)

RESIDENTIAL LOCK. 2-page sheet describes "owner guard" feature that permits construction keys to be knocked out and homeowners' key alone to open lock. The feature is available with all manufacturer's 800 series locks. Weslock Co., Los Angeles. (Circle 309 on Reader Service card)

STEEL BIFOLD DOORS. 8-page brochure describes plunger-type door hardware that can be installed quickly. Steel K-Doors come fully assembled. Ekco Building Products, Canton, Ohio. (Circle 310 on Reader Service card)

FIREPLACES. 8-page brochure shows installation photographs of wood-burning fireplaces and gives specifications. Majestic, Huntington, Ind. (Circle 311 on Reader Service card)

BATHROOM ACCESSORIES. 8-page catalog pictures and gives information about medicine cabinets, mirrors and lighting panels of aluminum and vinyl. United Metal Products, Los Angeles. (Circle 312 on Reader Service card)

HARDBOARD PANELS. 6-page product bulletin shows Wormy Chestnut wood panel with textured surface available in light and dark tones. Marsh Wall Products, Dover, Ohio. (Circle 313 on Reader Service card)

FLOORING. 116-page hardcover catalog shows manufacturer's complete line of cushioned vinyl, inlaid vinyl, resilient tile, vinyl cushionflor, congoium and other products. Congoleum-Nairn, Kearny, N.J. (Circle 314 on Reader Service card)

REDWOOD SIDING. 8-page booklet has in-use photographs of siding. A selection guide is included. California Redwood Assn., San Francisco. (Circle 315 on Reader Service card)

METAL BUILDING PRODUCTS. 24-page catalog includes dampers, ventilators, sewer and drain accessories and incinerators. Donley Bros., Cleveland, Ohio. (Circle 316 on Reader Service card)

DECKING. 2-page brochure shows and describes Bond-Deck white fir panels 21" wide and up to

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24' long. Tarter, Webster & Johnson, San Francisco. (Circle 317 on Reader Service card)

WATER COOLING AND HEATING COILS. 60-page catalog includes engineering and performance data. Charts, photos and diagrams are included. Westinghouse, Boston. (Circle 318 on Reader Service card)

URBAN RENEWAL. 131-page annotated bibliography lists 1,500 articles in books, magazines and other publications. An author index is included. To receive copy: send \$5 to National Housing Center Library, 1625 L Street, N.W., Washington, D.C.

SIDING. 24-page booklet has complete descriptions of manufacturer's sidings and accessories. The publication includes an introductory basic information guide in front. More detailed installation information follows. U.S. Plywood Corp., New York City. (Circle 319 on Reader Service card)

STRUCTURAL WOOD FASTENINGS. Catalog shows complete line and includes information on sizes, packaging, suggested applications and recommended safe working values. Timber Engineering Co., Washington, D.C. (Circle 320 on Reader Service card)

SCAFFOLDING. 12-page catalog shows complete line of scaffolding, components and accessories. Assembly techniques and suggested applications are discussed. Deal Products, Easton, Pa. (Circle 321 on Reader Service card)

WALL FURNACES AND GAS HEATERS. Catalog shows and describes vented wall furnaces and vented and unvented gas area heaters. Other heating and cooling products are also discussed. Dearborn Stove Co., Dallas. (Circle 322 on Reader Service card)

LUMINAIRE CEILING SYSTEM. 16-page product bulletin shows C-60 system that has lighting efficiency, draft-free ventilation and high level of sound absorption. Armstrong Cork, Lancaster, Pa. (Circle 337 on Reader Service card)

ELECTRIC BASEBOARD MANUFACTURERS. Directory includes 33 companies and a listing of their catalog numbers, data on watts, volts and length of each unit available. For copy: send 25¢ to National Electrical Manufacturers Assn., 155 East 44 St., New York, N.Y. 10017.

STEEL FRAMES. 4-page brochure includes installation information and detailed isometric drawings. Amweld Building Products, Niles, Ohio. (Circle 324 on Reader Service card)

MASONRY REINFORCING. Catalog includes information on wall reinforcements and reinforcing ties for masonry walls. Data on reinforcing ties for cavity walls are included. AA Wire Products, Chicago. (Circle 325 on Reader Service card)

STAINLESS STEEL KITCHEN SINKS. 22-page catalog gives specifications and sizes of over 200 sinks. Elkay Manufacturing Co., Broadview, Ill. (Circle 326 on Reader Service card)

SPRINKLER SYSTEM. Brochure describes Rain-Clox 8, an eight-station electronic residential sprinkler system. Unit can be installed indoors or outdoors. Rain Bird, Glendora, Calif. (Circle 327 on Reader Service card)

JOIST HANGERS. 16-page catalog includes information on post bases, header hangers, framing clips and porch-patio-fence hardware. Simpson Co., San Leandro, Calif. (Circle 328 on Reader Service card)

SIDING. 4-page technical bulletin gives data on 12 lumber species. Charts and installation information are included. Western Wood Products Assn., Portland, Ore. (Circle 338 on Reader Service card)

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