House & Home

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MAY 1968



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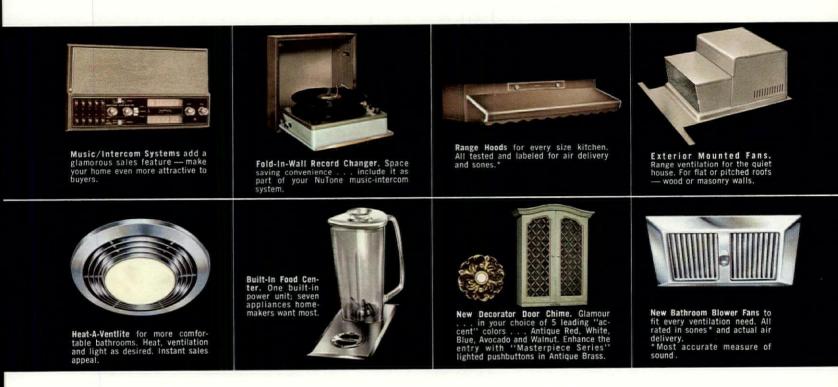
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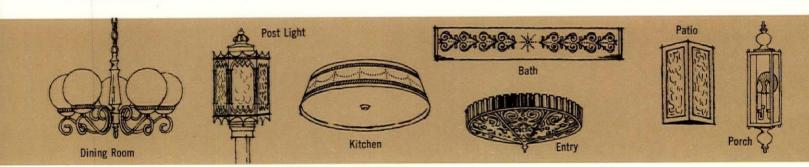
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EDITORIAL

More low-income-housing solutions—and why they won't work

Add these to the list of fuzzy-minded theories: 1) the nonprofit syndrome, 2) the rehabilitation cure-all and 3) landbanks—the planners' utopia

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Top builders in Southern California—the country's toughest market—are setting a new standard of excitement in model-house presentation

For sale: a big builder's townhouse success formula

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Hallcraft Homes, with 3,000 condominium units under its belt, shows other builders and developers how to do it—and provides the management tools

\$18 million in odd-lot housing

A combination of autonomous branches and pay incentives has made Rutenberg Homes one of the nation's biggest and fastest-growing homebuilders

Plastic plumbing makes new strides in housing

Metal-pipe producers join the action as plastics grab 17% of new-house pwv plumbing, and FHA gives a nod to plastics for hot-and-cold water supply

How to clean up the busy-busy exterior

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An architect who specializes in redesign shows how typically messed-up facades can be simplified to look better-and cost less in the bargain

NEWS

The nation gets a law opening housing to all of its citizens

Congress passes and the President signs a landmark civil-rights bill; it will bar race discrimination in 80% of all houses and apartments by 1970

Ricemanship-or, FHA takes hard second look at housing research

Promoter Ed Rice puts up magic-box buildings with lots of razzle-dazzle, but is it low-cost housing? Are FHA's low-income experiments getting anywhere?

Those red-hot mobile-home stocks run into a caution light

The fastest-growing segment of housing has had things its own way so long that it's hard to imagine a slowdown. But beware Truth-in-Lending

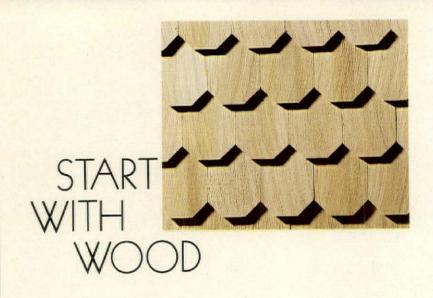
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Cover: Living room of a model house in Cypress, Calif. Builder: Larwin Co. Architect: Barry Berkus. Interior Designer: C. Tony Pereira. Photo: Julius Shulman. For story, see page 96.

NEXT MONTH

Golf courses: What you should know about one of the fastest-growing features in project building . . . A look at what's new in apartment security systems . . . Surprise: Union tradesmen needn't fear most prefabrication . . . How buildingproduct manufacturers are faring in urban rehab.



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HOUSE & HOME



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Circle 32 on Reader Service card

In atmosphere of crisis, open housing comes to the nation

As the country mourned the slain Martin Luther King Jr. and racial violence flared in 111 cities, the House passed a nationwide open housing law.

The law, which will affect 80% of the country's 65 million housing units, was immediately signed by President Johnson, who had urged passage for years.

Said the President: "This is a victory

Said the President: "This is a victory for every American. Through the process of law, we shall strike for all time the shackles of an old injustice."

The housing industry itself welcomed the measure. President Lloyd Clarke of NAHB emerged from the House gallery after the vote and said: "It is a bright, new day in American history. I think this bill will work, and I know all builders will cooperate."

But the real estate industry still had reservations about what it considers "forced housing." The president of the 85,000-member National Association of Real Estate Boards, Lyn Davis of Dallas, promised to abide by the new law. But he added:

"We feel that it is a loosely drawn and unsound legislative attack on the human right of private property ownership."

Civil rights leaders generally hailed the law, but they were quick to add that "much more must be done immediately."

Proud moment. In enacting the law, the House swallowed its pride and voted the Senate's version of the bill word for word. Had the House changed one comma, the bill would have been forced into conference. Then it would have gone back to the Senate, where a filibuster might have killed it.

The House passed the bill 250 to 171 in a bipartisan effort.

The House's dramatic action was spurred quite clearly by the assassination of Dr. King, the nation's foremost spokesman for civil rights, and by the week of coast-to-coast rioting that followed (40 dead, \$45 million in property damage).

Indeed, thousands of armed troops still patroled Washington's streets as the House



ALERT TROOPS with machine guns ringed Capitol as House voted. Washington riots killed 11.

voted (photo, above).

Getting votes. "Last Thursday morning (before Dr. King's murder)," said William Colmer (D., Miss.), an open housing foe, "the Administration didn't have the votes to get that bill out of committee."

But on April 9, the day Dr. King was buried in Atlanta, the House Rules Committee voted 9 to 6 to force the Senatepassed bill to an immediate House vote. In an unusual move, floor debate was limited and no amendments were allowed.

The hero of the hour for bill supporters was normally conservative John B. Anderson (R., Ill.) who cast the swing vote in committee. Said Anderson, whose own constituents opposed the bill by 2 to 1:

"I legislate not out of fear but out of concern for the America I love."

Stage by stage. The law, which will be enforced under civil law, will become

effective in stages. By Jan. 1, 1970, coverage will be extended to 80% of all housing—that is, all but private homes sold without a broker.

The law will not dramatically affect the housing industry for eight months.

For questions and answers on how the law will affect homebuilders, see p. 44.

Cautious NAHB. Although NAHB did not officially endorse the bill, insiders reported that "a growing number of local associations were urging NAHB support."

Historically, NAHB has shied from such legislation for what it considered a sound business reason: Homebuilders did not want to be the only segment of the housing market forced to integrate.

Said President Clarke:

"Such laws that distinguish between new houses and existing houses would place the burden of achieving nondiscrimination on homebuilders, though in any one year we add only 2% to 3% to the total housing supply."

The Des Moines builder added that community acceptance of open housing, and in turn the law's success, will be helped "in no small part by the educational efforts of our 40,000 NAHB members."

Even more caution. In a careful statement, the co-directors of the National Committee Against Discrimination in Housing, called the law "one step in the right direction."

But the NCDH leaders warned: "It would be cruel and dangerous to raise expectations of [ghetto dwellers] to believe that the new legislation will have any immediate impact on housing conditions or restrictive housing market practices."

According to an NCDH survey, fifteen states and about 100 localities already have local laws with broader coverage than the new civil rights act.

—F.L.

Bill Levitt does his part by announcing his own open-housing policy

The day after Martin Luther King was slain in Memphis, the nation's largest homebuilder decided to end discrimination in all his subdivisions.

Levitt's announcement came five days later, the day Dr. King was buried, in full-page advertisements in five big-city newspapers, including *The New York Times*.

The ad described the Levitt decision as the company's "tribute to Dr. King." And in a press release issued that day, William Levitt noted that "open housing was one of Dr. King's greatest hopes."

The newspaper ads went on to urge all homebuilders to follow Levitt's example:

"We ask all our colleagues to adopt a similar policy without delay. The forces of bigotry and prejudice must not be permitted to prevail any longer, and we urge all builders—large and small alike—to do

their part in making America once again the ideal of the world."

Levitt & Sons had been selling to Negroes in 14 of its 18 tracts. Like many builders, the company followed "local custom," so its four subdivisions in the Baltimore-Washington area were segregated.

In general, Levitt's stand was praised by the press, civil rights leaders and the public. "We got 100 phone calls in one day," said a Levitt spokesman, "and 99 of the callers praised us."

Some newspapers, however, seemed skeptical. The Wall Street Journal's article left the false impression that the change was dictated by the parent, International Telephone & Telegraph. And the article added that Levitt's frank admission of discrimination "publicly bares a practice that is widespread in homebuilding."

Some builders had even harsher words— "It was a cheap publicity trick. The new law will cover his tracts anyway."

Levitt's public relations director, Richard Gunderson, refuted the criticism:

"We reached our decision days before even the House Rules Committee acted."

A civil rights spokesman, who asked not to be named, said, "If builders are yelling, they must already feel the impact of his stand. So it's a welcome sign."

The National Committee Against Discrimination in Housing said:

"William J. Levitt has set an example that every homebuilder and real estate man should be proud to follow."

And in an editorial, the Washington Post said that Levitt's decision "vastly improves the moral position of the industry."

NEWS continued on p. 8









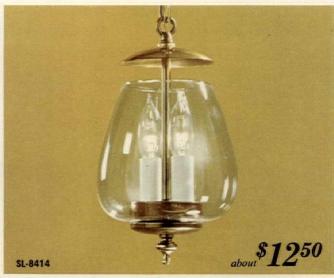


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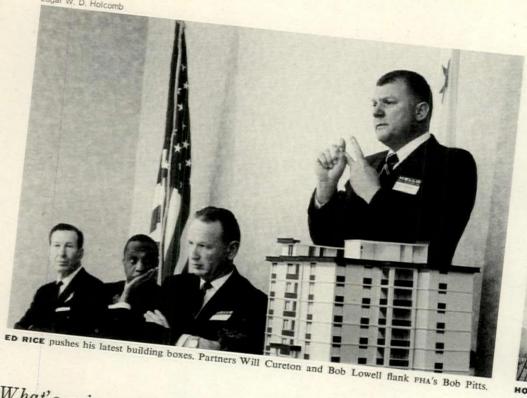
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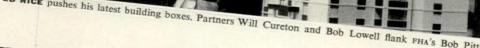
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Edgar W. D. Holcomb







APARTMENT BOX in California has 2"



HOUSE BOX is tested. No others were built.

What's going on in low-cost housing research?

FHA takes a hard second look at Ed Rice's magic boxes

had the government's housing research all but boxed up for three years.

With high-power Ricemanship, a confident smile and promises of cost breakthroughs, the persuasive promoter has won government financing for three low-cost building and rehab systems featuring his factory-built boxes (photos, above and facing page).

The experiments, backed by more than \$2 million in government money, have propelled the 42-year-old Rice and his Conrad Engineers of Van Nuys, Calif., "to the forefront of the government's housing experimentation"—as one employee puts

But some high-ranking officials are beginning to reassess Rice's accomplishments. And by implication, they have posed this important question: Has government research gotten anywhere at all with low-cost housing?

The lowdown. As his critics see it, Rice's systems have a serious flaw. None of his low-cost boxes, whether for houses on the prairie or apartments in the city, has produced low-cost shelter (box, facing page).

Until recently, officials at the Housing and Urban Development Dept. betrayed no alarm. Says one: "Let's face it, [Housing Secretary] Robert Weaver doesn't give a damn about costs."

And though Rice has not built lowcost housing, he has built up HUD's image. With imaginative ideas and bold promises, he has created the impression that HUD is getting things done in the low-cost field.

But now, with President Johnson demanding that HUD triple low-income housing production this year, the agency has

ing camp will decide the future of Rice's

New pragmatism. Older bureaucrats like HUD's James R. Simpson—a Ricebox champion—bristle under questioning about Rice's accomplishments. Simpson, who will help distribute \$10 million in research grants this fiscal year, insists there can be no failures in housing research.

"Every housing experiment is a success," says Simpson, who is HUD's building technology director. "Either you learn that the system works or that another system is needed."

Younger men like Charles A. Diemanhe directs the Federal Housing Administration's own research—take a more Says Dieman:

"Mr. Rice must demonstrate much lower costs if he wants to do any more business with me. On his last project [a six-story apartment in Richmond, Calif.], he first promised to build at \$10 a sq. ft. But when we processed the apartment's mortgage insurance, he was up to \$15.



CONCRETE APARTMENT, Rice's T. Y. Lin & Assoc., buckled in Alaska engineered by Ed quake. Nearby house survived. To inspect failure, FHA sent an engineer-T. Y. Lin & Assoc.

Now we learn he is building at \$24.

"That isn't low-cost housing. "Furthermore, his building system, called Uniment, runs counter to our efforts to develop simple technology that builders around the country can copy."

Strange story of Uniment. The curious evolution of Uniment indicates how Rice has brought his boxes into the public eye and his pipeline into the public treas-

The Uniment tale features an unusual collection of personalities (a Chinese inventor, a war hero turned stock promoter and cooperative housing officials) and a new building cement that experimenters call a "laboratory curiosity."

The main character is Rice himself, who is widely regarded as a structural engineer, though officially, by his own testimony a year ago, he is not a licensed engineer. In the last ten years, the former college lecturer has woven himself into a string of interrelated companies, including his own ten-man Conrad Engineers and consulting engineers T. Y. Lin & Assoc.

At the center of the Uniment tale is Chem Stress, an experimental cement in which Rice has a financial interest. Lightweight, thin-walled boxes can be made with the cement, which stresses itself by expanding as it dries. Such boxes can be transported inexpensively in wide markets.

The concept is fine. But experimenters at the Portland Cement Assn. call selfstressing cement, with its complex chemistry, "an unknown quantity." Says one: "Engineers want to know a lot more about its long-term durability." A member of an American Cement Institute committee that has studied such cement since 1965 says, "None of us have ever discussed commercial applications. Self-stressing cement is still a laboratory curiosity." And an ACI past president, Clyde Kesler, says Chem Stress (which has no ASTM performance criteria or commercial standards) is "at least five years from general use."

FHA's Dieman concedes: "No one at FHA challenged the cement." But HUD's Simpson—who mistakenly claims self-stressing cement "has proved quite effective for highways"—says the cement is ready for its first commercial application: "My engineers say it is perfectly safe."

Chinese invention. Uniment began to evolve in 1963, when Colorado stock promoter John H. Lowell and Dallas builder Edward T. Dicker (H&H, Jan.) approached Rice with a building system prepared by a Chinese inventor. Rice advised them to develop the system with his cement.

The Chinese, named Lum, faded quickly from the deal.

Rice became solidly involved. As a vice-president of Lowell-Dicker's International Homes Inc., Rice was promised a percentage of the profit. And through a cement-licensing company, Rice was to get a royalty on each barrel of cement used. Further, he was paid \$100,000 as engineering consultant to build and test a prototype house (photo, left).

After inspecting the prototype, FHA agreed to insure \$6,000 mortgages (\$8 a sq. ft.) for 183 houses under its experimental low-cost housing program (Sec. 233). The houses were to be built in Brownsville, Tex.

The non-buildings. But those first box houses were never built. Investors reviewed costs and concluded that 1,000 houses would have to be built to amortize \$1 million worth of box-forming equipment.

In addition, when the prototype was a month old, Dicker discovered wall cracks. According to Dicker, Rice, when questioned, replied: "There are bugs in everything." (Shortly afterward, the prototype was destroyed. Rice says it was tested to destruction. Dicker says it was simply leveled by a wrecking crew.)

In 1966 Dicker dropped from the deal. But Rice and Lowell continued to develop technology aimed at stacking the concrete boxes into apartments.

Box by box. A year passed, and the surviving corporation, Stressed Structures Inc. (SSI), proposed the Uniment building—the six-story Richmond apartment.*

Last October FHA made a Sec. 233 mortgage commitment for \$390,000, or \$15 a sq. ft. Dieman, who approved the mortgage, says, "Simpson pushed hard for it." Dieman did refuse to award ssi a \$40,000 insulation-research grant, though his assistant, Joseph Sherman, favored the grant.

The investors, who have put \$1.5 million into Uniment over the years, are reportedly disappointed. Richmond's construction pace has dragged, while costs have skyrocketed. Rice has told FHA that investors will spend \$300,000—over and above the \$390,000 mortgage—to complete the 24-unit building.

A better Habitat. But Rice is still finding buyers for his Uniment idea.

Instant rehab: Doubts haunt Ed Rice's masterbox

Instant rehab—the idea that created an instant reputation for Edward K. Rice and his Conrad Engineers—is now under fire from some powerful HUD officials.

Reason: Instant rehab reportedly cost \$25,000 a unit, even after developmental costs are discounted.

This project showed off Rice's boundless imagination. Rice himself ran the show from a specially built platform as his hand-picked workmen rehabilitated a five-story Manhattan tenement in less than 48 hours. The crowning touch: Workers lowered preassembled bathroom-kitchen boxes into place through a hole in the tenement roof.

The announced cost: \$13,000 a unit, or half the cost of new construction.

Housing Secretary Robert Weaver went to the site to hail the federally fi-

The New York Times



REHAB BOX is hoisted through the roof.

nanced effort (\$597,300 in mortgage insurance and a \$1.2 million research grant).

Fed by hourly press releases from a 24-hour publicity headquarters at the site, newspapers and magazines broke into eager praise ("Instant Rehab Proves Instant Success"). In an instant, criticism of Weaver's HUD for inaction faded in new enthusiasm for the agency's daring innovation.

That was a year ago.

Late last year the Institute of Public Administration, a private group, gave HUD a secret—and deeply pessimistic—evaluation of instant rehab. The report said costs were actually \$25,000 and questioned whether such rehab would ever be economical.

That report has not been released. Says an IPA source: "Some HUD officials still want to think of instant rehab as a success."

James R. Simpson, HUD's director of building technology and instant rehab's biggest booster, refuses to discuss the IPA "draft." He promises to release a "finished report" within a month.

Rival HUD sources claim Simpson has "taken over the rehab report" and attempted to collect his own cost figures. Needless to say, housing officials expect optimistic conclusions.

Instant rehab does, in fact, have defenders. New York City housing officials are making plans for Conrad and Tishman Construction to rehab 20 more tenements this summer.

"The first project," says one official, "didn't produce meaningful costs."

Yet HUD sources say Tishman has already pegged unit costs at a discouraging \$17,000. And some top-ranking officials insist:

"Instant rehab is dead."

Last August he teamed up with architect Moshe Safdie, who created Expo's Habitat. By manufacturing lighter boxes with Rice's cement, Safdie hopes to cut costs from Habitat's \$100 a sq. ft. to \$15.

Safdie proposed a Uniment-Habitat for Washington, D.C.'s in-city community (H&H, OCT. '67). At first District officials said they had no time for experiments.

Enter Jim Simpson. He assured officials that some new systems were ready to go. And then he arranged a meeting between the officials and eight innovators—including Safdie and Rice.

Result: In February Safdie and two other innovators received \$22,500 each to prepare a feasibility plan.

Although final costs have not been submitted, FHA's Dieman says, "Safdie's units will cost \$30,000 each to build. It is a high-cost building system." Without Dieman's Sec. 233 mortgage insurance, the project cannot be built.

More to come. Safdie and Rice have informally proposed luxury housing for New York City. Giant Utah Construction & Mining Co. has an option to build it.

Questioned about New York, Joe Sherman, the FHA assistant whom Rice hired in January as a Conrad vice president, showed some Ricemanship of his own:

"We can't discuss that project because the Mayor wants to make the first announcement. But don't print that."

This month Conrad Engineers is preparing an application for HUD's largest research contract to date (\$5 million). The winner will evaluate new building technology for two years.

Does Ed Rice have a chance for this contract?

Ask Jim Simpson. It will be partly his decision.

—Frank Lalli

*Rice holds at least 10% of ssi's shares. His Conrad Engineers holds ssi's design and construction contracts for the Richmond apartment.







Chicago high-school students build a builder's \$50,000 model

Except for pouring the foundation, the 15 teenagers are doing all the work themselves (above) in three hours after school each day.

Similar projects are under way in Salinas, Calif., and Irving, Tex., but the young Chicagoans are undertaking the largest and most expensive teen homebuilding project on record. It's a three-bedroom-house with 2,300 sq. ft. and it will sell for \$50,000 when completed in June.

The tyro building craftsmen attend Glenbrook North and Glenbrook South High Schools, where they take courses leading into architecture, engineering and the building trades. Their project began last September when Harry Schwaegerman, a North High instructor, and builder William Kennedy, a North graduate and vice president of Kennedy Development Co., decided that onthe-job building for students would serve two ends:

- Replenish the shortage of carpenters, plumbers and electricians.
- Offer practical experience to students interested in the building trades.

Kennedy furnished a site in his Charlemagne development in suburban Northbrook, along with materials and plans.

"The profit from this year's house will be used to finance another next semester," says Kennedy. —Terry Sharpe

McGraw-Hill World News, Chicago.



Inflation is taking house costs up, up—and away

The cost of the average house rose 10% in 1967, the sharpest increase in a decade. That was more than twice the increase in the consumer price index—4%—and two-thirds more than the average pay raise in unionized industries—6%.

And a nationwide survey of housing markets by Advance Mortgage Corp. of Detroit projects similar cost increases this year.

President Irving Rose of Advance warns that inflation is now taking most singlefamily housing out of the reach of families of modest income.

"There is a growing disparity between housing supply and demand," he points out. "There is a great demand for homes under \$20,000, under \$25,000 in the West, and for apartments under \$150 (monthly rental). But neither are being built."

Vacancies. Advance also disclosed that, although vacancy rates are declining in some areas, they are not falling as fast as might be expected.

"The affluent adjust to inflation," Rose observes. "The poor double up."

Here is a comparison of vacancy rates in the available housing supply, both rental and homeowner units, in ten metropolitan areas at year-end 1966 and 1967:

	1967	1966
Atlanta	2.4%	2.7%
Chicago	3.3	3.3
Cleveland	3.1	3.0
Detroit	2.1	2.0
Houston	4.7	5.5
Los Angeles	3.6	5.1
Orange County, Calif.	3.1	5.4
Pittsburgh	2.5	2.6
San FranOakland	2.2	2.7
Seattle	2.8	2.9

Detroit's vacancy rate is still the lowest for any market. But vacancies increased for the first time in five years.

Vacancy rates in Atlanta, Houston and Seattle and in the California markets of Los Angeles, San Francisco-Oakland and Orange County were the lowest in ten years.

The rental vacancy rate is 1.5 times the rate of total vacancies for most metropolitan areas. The homeowner vacancy rate is 50 to 65% of the total rate.

The '67 market. The survey traces the housing market's turn toward recovery in 1967. After starts touched a postwar low of 850,000 in October 1966, they bounced back to an annual rate of 1.58 million in the fourth quarter of 1967, a rate comparable to that of the prosperous years of 1963-65.

The sales-and-starts recovery was regional, not national. A few major markets were booming, and they included Atlanta, Chicago and Detroit; but others, including New York, Los Angeles and San Francisco-Oakland, were at or near postwar

The vigor in the 1967 market was concentrated in apartments. The only booms were apartment booms.



Both new-home and modernization prospects are now seeing advertising for new Kentile® Wedge-Stone™ Vinyl Asbestos Tile in Life, The Saturday Evening Post, Better Homes and Gardens, and other leading magazines. These 12" x 12" tiles install fast and easy. Colors: 6.

Looks expensive, but isn't: New vinyl Wedge-Stone tile!

Whether you're building new homes—or remodeling—this textured Wedge-Stone floor is a sure customer-pleaser. And for a quality Kentile vinyl tile floor that's greaseproof, easy to clean, quiet and comfortable underfoot—Wedge-Stone's cost is amazingly low. Ask your flooring man to show you samples.



For the red-hot mobile-home stocks, an amber caution light

Mobile-home stocks are giving the most exuberant performance of any issues in housing—just when legislative developments are raising new questions (below) about the future of this fastest growing segment of the shelter industry.

The leading mobile issues are selling at or near their 1967-68 highs. All housing stocks have staged strong recoveries from lows of that period, set in January of 1967, but the mobile rally has been far more spectacular.

House & Home's value average of 25 key housing issues peaked one month ago at about twice its '67-'68 low (chart, p. 16). Two of the strongest categories of stocks on the index, building and land companies, were selling at 2½ times their lows after excellent gains. The mobiles were at 4½ times their lows.

Top results. The mobiles are closely held * and meagerly capitalized, but they ride high, wide and handsomely on a seemingly boundless tide of good news.

The industry has managed to shed a house-trailer image and fashion a reputation as the true prefabber of tomorrow. The Mobile Homes Manufacturers Assn., in convention in Chicago in March, listed more than 300 companies with total sales of \$1.37 billion in 1967. That was up from \$1.24 billion in 1966 and \$518 million in 1960.

The mobile companies shipped 241,000 units last year, and they quite seriously expect to be delivering 400,000 annually by 1972. Average price is \$5,700 but luxury models range to \$12,000-plus, and more than 65% of the market is already in homes 12' wide (as opposed to yesterday's eight-footers). Builder John Long (H&H, Jan. '68) has just unveiled the industry's first three-section model at the Arizona Home Beautiful Show. It has seven rooms and 1,920 sq. ft., and it sells at \$18,000 to \$20,000.

Eight major companies do 40% of the industry's dollar volume, and reports from these leaders continue to glow. Some examples:

DMH (Detroiter): Sales estimated at \$41 million for calendar '67, up 20%.

Fleetwood: Sales up every year for ten years, to \$31.7 million in 1967 (April). Nine-month sales to Jan. 31 up 50% and profit more than doubled, to 93¢ a share, from same period a year earlier. Fifteen plants operating, three under construction.

Guerdon: Sales up 17% to \$66.8 million in same nine months, earnings up to 62¢ a share from 13¢ in comparable period. Eighteen plants operating since acquisition of Magnolia Homes in 1966.

Skyline: A record nine months to Feb. 29 on sales of \$69.3 million, up 46%, and share earnings of \$2.12, up from 91¢ in same '67 period. \$2.5 million expansion program begun last year will expand the present four plants and add five. Says

* Examples: Insiders own 63% of Champion Home Builders, 62% of Guerdon Industries, 56% of Redman Industries. President Arthur J. Decio: "We can only view the fourth quarter and the year as a whole with the greatest optimism."

New horizons. More than one of every five new single-family dwellings is now a mobile, but the industry's activity ranges far beyond this private market.

The industry claims it is ready to stack units to create high-rise housing somewhat like that shown in House & Home's April issue.

Guerdon has already bid for the federal low-cost housing market with a modular construction system. It got FHA insurance for 28 two-story townhouses it built as an experimental project in Vicksburg, Miss. (News, Dec. '67).

And Ritz-Craft Corp. has led the industry in a public-housing breakthrough in Chicago. It has sold the city 30 mobiles as interim housing for families displaced by 144 apartments that are going into rehabilitation (H&H, Apr.). The three-bedroom mobiles were recommended by the Chicago Housing Authority. Says Chairman Charles Swybel: "The governing factors were speed and cost. We needed housing that would go up quickly."

The official explanation is that interim means a few months; but street lights are going up, sewage and water lines are being trenched in, and an official from Chicago's bureau of sewers hazards an educated guess that the mobiles will be on their present site a year and a half from now. By that time the mobile industry will have had a chance to demonstrate its ability to shelter rehab or renewal refugees.

The interim technique has already spread. Atlanta will buy 60 mobiles for residents whose homes are being razed, and Washington plans to purchase units.

Fever of expectancy. For years the mobile makers have sought a key to unlock FHA financing, and the industry's new ventures have brought a flurry of reports that the agency was ready to take mobiles under its wing. Much of a recent bid-up in mobile stock prices was probably the result of this speculation.

But the agency refuses to confirm any such talk. It says only that it is interested in all new low-cost housing ideas and might insure any system that proves workable. Unless they know something that FHA isn't telling, the mobile-home investors may be letting wishes run away from horse sense Their buying has taken some mobile-stock

prices to 25 times earnings.

The hard facts. The mobile industry seeks help for good reason. Across its rainbow has surged a cloud no larger than a Senate bill—labeled Truth in Lending. The legislation's effect would be to focus attention on the high-cost financing behind this low-cost housing.

Finance companies and commercial banks finance most mobiles with five- to seven-year chattel mortgages at about 7% add-on interest. A borrower of \$10,000 for seven years has \$4,900 added to his loan and signs for \$14,900. He pays \$177 a month and, because he has the use of the \$10,000 for only about half of the seven years, simple interest figures to about 14%.

A conventional mortgagor would pay 7% simple interest on a declining balance. Each of his 84 payments would be \$151 instead of \$177, and his total interest would be \$2,684, not \$4,900.

The contrast is startling, and the problem intensifies as the prices of mobiles increase along with their size and their owners' demands for new luxuries.

Longer maturities are not the answer, for payments must be raised too sharply to accommodate any appreciable increase in the loan amount. Simple 6% interest and a \$75 monthly payment will finance a five-year conventional mortgage for \$3,900 or a 20-year mortgage for \$10,500. At 6% add-on, the payments would have to be \$85 and \$96.

And any effort to hold monthly payments constant reduces the amount that can be financed. A \$75 monthly payment at 6% add-on interest will finance \$3,475 for five years and only \$8,200 for 20 years.

Lower down payments might suggest a solution were it not for galloping depreciation. In conventional mortgaging the lender's risk is hedged by the property value, and the borrower's equity usually rises fast enough to offset depreciation. A foreclosure thus brings the lender a property roughly equal in value to the amount owing on the mortgage.

But a mobile home depreciates 20%-25% of its wholesale cost the first year and 5%-10% each year thereafter. Mobiles are worth only 50%-60% of their wholesale price after five years. Any reduction in the customary 20%-25% down payment would substantially increase the lender's risk of loss.†

The bitter truth is that there is not much the mobile makers can do about this financing problem. The industry needs FHA, for a specter of the alternative has already arisen in Massachusetts.

The Bay State passed its own truth-inlending legislation a year ago. Since then, says Executive Secretary Ed Tufts of the Massachusetts Bankers Assn., mobilehome financing has virtually halted.

NEWS continued on p. 16

SINGLE FAMILY STARTS

OTHER NONFARM PRIVATE STARTS

447.500

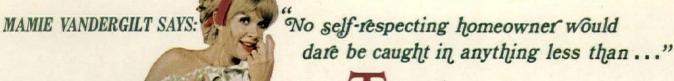
MOBILE HOME SHIPMENTS

241,000

1960 61 62 63 64 65 66 67

SOURCE: U.S. DEPARTMENT OF COMMERCE, MHMA

[†] One fourth of the buyers of new mobile homes pay cash, however. About half of these buyers already own mobile homes, so the industry must conduct a market for trade-ins. Five million Americans now live in mobile homes.



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This new, exciting shower concept combines a one-piece, stainproof floor with smooth surfaced walls that make hard-to-clean grout joints a thing of the past. Crowning its other advantages is the sparkling, tempered glass enclosure that does away with metal edge moldings. Just mail coupon today for colorful, explanatory brochure.

*TRADEMARKS OF CYANAMID BUILDING PRODUCTS



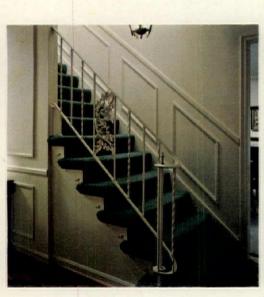
Cutaway photograph shows the rugged sandwich panel construction and reveals the extruded aluminum channel within is factory attached and concealed within the wall panel. This channel back wall. Requires no caulking or mates with flange of shower floor to form perfect water barrier.

A water tight triple barrier wall connection is formed by the slotted side wall panel as it engages the aluminum extrusion attached to each side of the back wall. Requires no caulking or sealant. Note matching corner molding that makes cleaning easy.



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A new company offers equity money to homebuilders

Eight major companies have just invested \$8 million in a corporation that will try to increase housing starts by providing builders with 80% of the equity needed to begin a project. The corporation would then receive 50% of the project's profit.

The new concern, Builders Resources Corp., is negotiating its first contract with Miller & Smith Assoc., homebuilders in the Washington, D.C. area. The project, Wessynton, will contain 130 single-family houses priced at \$38,000 to \$48,000. The financing company will provide equity of approximately \$150,000.

Equity capital is the money a home-builder must have in hand before he can get a loan from a financial institution. For example, a builder seeking a \$1 million loan might be required first to raise \$150,000 on his own. In such an arrangement, Builders Resources would provide \$120,000 and the builder the remaining \$30,000.

Profit motive. Len Harlan, a Builders Resources board member and an associate of Donaldson, Lufkin & Jenrette, the New York investment bankers who organized the venture, says the eight companies had two reasons for participating:

"There is a need for more equity financing for small and medium builders to meet the needs for housing construction in the next several years, and this is also a good investment with good profit potential."





ARIS SI

The seven other investors, besides DL&J, are Property Research Corp., a Los Angeles land developer; CNA Financial Corp., a Chicago insurance holding company; and five building suppliers: American Standard, National Gypsum, the Stanley Works, U.S. Plywood-Champion Papers and Whirlpool.

Second in field. Builders Resources, with headquarters in Los Angeles, is headed by former homebuilder Robert Medearis of Tucson, Ariz. The company is a second attempt by suppliers to ease financing problems in residential construction. Last year 12 corporations founded Home Capital Funds to make 90% conventional loans by adding 15% to the 75% mortgages that most institutional investors provide.* Home Capital has generated

* The system is called piggy-back lending. Canada's Central Covenants Ltd., formed under auspices of Aluminium Ltd., has made 7,000 such loans since 1964.

nearly 1,200 loans totaling \$32.5 million; it will report profit of \$32,000 for the first three months of 1968, more than offsetting the \$9,502 loss it took in its first nine months. The company is headed by C. W. Smith, former senior vice president of Mortgage Guaranty Insurance Corp. of Milwaukee, and operates in 24 states. It has just added the Bank of America as a participating investor along with Metropolitan Life and Investors Diversified Services of Minneapolis.

Mortgage Guaranty net up; insurer to form new company

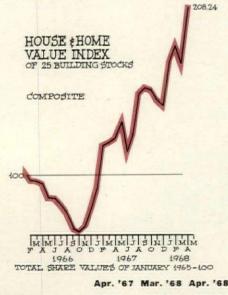
Mortgage Guaranty Insurance Corp. earned \$1,259,016, or 70 cents a share, in the first quarter, a 50% gain over the \$838,717, or 47 cents a share, earned in the same quarter of 1967.

The Milwaukee company is the nation's largest insurer of conventional mortgage loans. Its stock closed at 91½ the day after President Max Karl announced the quarterly figures.

Karl also disclosed that MGIC will form a holding company, MGIC Investment Corp., to control MGIC and two other operating companies, MGIC of Australia and Commercial Loan Insurance Corp., a subsidiary formed recently to write commercial mortgage and lease guarantee policies.

HOUSE & HOME's stock index adds mobiles, drops prefabs

Why? Because of the new importance of the mobile-home industry. The index of 25 issues has been recomputed, dropping prefabbers and adding the mobile-home companies whose names are dotted (*) in the tables at right. The new composite:



	Apr. '67	Mar. '68	Apr. '68
Builders	136.34	225.86	278.73
Land develop.	188.73	244.11	296.16
Mortgage cos.	157.44	251.55	272.45
Mobile Homes	63.14	210.42	278.66
S&Ls	107.31	109.48	136.41

HOUSING'S STOCK PRICES

	Close	Month
	Olose	month
BUILDING		
Capital Bldg. (Can.)	2.15	+ .55
Cons. Bldg. (Can.)	1.45	+ .20
Dev. Corp. Amer.	21/2	- 1/4
Edwards Inds	71/4	+ 43/4
First Hartford RIty	71/4	- 1/2
First Nat. Rlty.b	21/2	+ 5/8 + 11/4
•General Bldrs,b •Kaufman & Bd,b	53/4	+ 11/4
-General Bldrs.b	51/8	+ 1
- Kaurman & Bd.º	313/8 63/8 d	+ 6¾ + ¾
Key Co. (Kavanagh-Smith)	0.78	+ %
Nationwide Homes	23/8	- 3/8
-Pres. Real.b	12	7.8
Sproul Homes	53/4	+ 31/4
U.S. Home & Dev	61/4	+ 31/8 + 21/2
-Jim Walter o	70%	+145/8
+Del + Wehh e	83/8	+ 13/8
Western Orbis b	23/4	- 3/4
(Lou Lesser Ent.)		
S&Ls	00	1 01/
American Fin	28	+ 2½ + ½
Calif. Fin.	63/8 121/4	+ 23/8
Empire Fin	161/8	+ 1/2
Far West Fin:	111/2	+ 2"
-Fin Fed e	211/4	+ 31/8
-Fin. Fed -First Char. Fin	315%	+ 61/8
First Fin. West	81/4	- 1/4
First Lincoln Fin	83/4	+ 3/4
First Surety	53/4	+ 11/8
First West Fin	35/8	+ 3/8
Gibraltar Fin. Great West Fin.	321/2	+ 21/2
•Great West Fin.	193/4	+ 3%
Hawthorne Fin	83/4	+ 3/8 + 3
-Imperial Corp.c	103/8	+ 1/4
-Lytton Fin. Midwestern Fin.	51/4	T 74
Trans-Cst, Inv.	31/4	+ 21/2
Trans World Fin.c.	131/4	+ 2½ + 2¼
Union Fin	12	- 1/2
United Fin. Cal.	171/8	+ 43/8
Wesco Fin.	213/4	+ 31/2
MORTGAGE BANK		
-Advance	10	- 11/4
-Associated Mtg	83/4	+ 1/2
Charter	15 17	+ 61/4 + 3
-Colwell	54%	51
Cont. Mtg. Ins.	121/4	+ 2 1/2
FNMA.		- 1/2
1 Attin Accommendation	10	12

COMPANY	Bid/ Close	Prev. Month
First Mtg. Inv.	171/4	+ 5/8
Kissell Mtg.b	71/2	+ 3/4
Lomas & Net. Fin.	45/8	- 1/4
·MGIC a	83	+10 1/8
Mortg. Assoc	71/4	- 1/4
Palomar Mtg	41/2	
Southeast Mtg. Inv		- 1/8
United Imp. & Inv.b	93/4	+ 3/4
LAND DEVELOP		
All-State Prop	1.50	+ 90¢
American Land		***********
Arvida	131/8	23/8
Atlantic Imp	17	- 21/2
Canaveral Int.b	63/4	+ 3/8
Christiana O.b	51/2	+ 1/8
Cousins Props.	31	+ 61/4
Crawford Deltona Corp.b	51/2	+ 1%
Deltona Corp.b	241/4	$+5\frac{3}{4}$
DISC HIL	378	+ 1/4 + 3/8
Fla. Palm-Aire	3/8	+ 3/8
Garden Land	41/2	74
-Gen. Devel.	191/8	+ 4
-Gulf American b	9	+ 11/8
·Holly Corp.b	29/4	- 1/4
Horizon Land	11/4	+ 1/8
Laguna Nig	53/8	- 1/8
Major Rity	41/2	- 1/4
Major Rity. -McCulloch Oil b	231/8	+ 41/2
So. Rity. & Util. b	5/8	+ 1/4
Sunasco o	7½	- 1/4
DIVERSIFIED C	OMPANI	ES
City Invest ex	441/8	*********
Forest City Entr.b	131/8	+ 3/4
Rouse Co	201/4	+ 61/4

COMPANY April 8 Chng.

COMPANY	April 8 Bid/ Close	Prev. Month
Tishman Rity.	41	+ 45%
MOBILE HOMES & Con Chem Co.b Champion Homes b a DMH (Detroiter) b Fleetwood a Guerdon b Frincess Homes a Redman Indus b Rex-Noreco a Skyline - Town & Country Mobileba	20 35 1/8 10 3/8 26 1/4 25 1/4 24 1/2 27 1/8 34 76 1/2	+ 21/8
Albee Homes. Natl. Homes A.s. Scholz Homes. Swift Industries a—stock newly added to	63/8 121/8 3	- 1/4 + 1/2 + 3/8 + 1/8

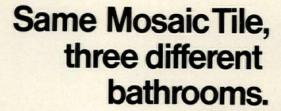
a—stock newly added to table. b—closing price ASE. c—closing price NYSE, d—not traded on date quoted. g—closing price MSE. h—closing price PCSE. k—not available. —Computed in HOUSE & HOME's 25-stock value index. x—adjusted for 2-for-1 split, y—tender offer. (NA) not applicable.

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

Average per cent per year LOAN SIZE (000)	N.Y. City	7 other North- east	8 North Central cities	7 South- eastern cities	8 South- western cities	4 West Coast cities
\$1-9 10-99 100-499 500-999	6.37 6.22 5.95 5.70 5.63	6.59 6.69 6.42 6.19 5.95	6.67 6.46 6.18 5.87 5.74	6.46 6.25 5.96 5.75 5.68	6.61 6.36 6.09 5.95 5.82	7.08 6.79 6.34 5.89 5.76









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Fanny May's free-market auction will open on May 6

The Federal National Mortgage Assn. will now entertain offers of mortgages until 2:30 p.m. on Mondays for the money it has available for purchasing that week.

The agency will announce on Tuesdays the names of successful bidding companies and the prices it will pay.

Fanny May thus puts its new auction into operation May 6. The agency sets the volume of money it will spend for mortgages, and the free market sets the price -but only up to a point. The new practice replaces and reverses the secondary market operation under which FNMA set prices and the market set the volume by its mortgage offerings.

The first auction will offer \$40 million. Operating details. The market will operate under rules set forth in House & HOME in February, except for final details that had not then been arranged: 1/2 % of the funds committed if the mortgages are scheduled to be delivered in 90 days, 3/4 % on six-month delivery and 1% on delivery a year off. The seller must pay another 1/2 % for an initial subscription to FNMA stock and an additional 1/2% if he delivers his mortgage to the agency.

Any seller can make up to three bids, one for each of the commitment periods.

Sellers will offer mortgages in multiples of \$1,000 on FNMA's Form 425. Bidders in actual competition must offer packages from \$10,000 up to \$750,000 if \$60 million is available for purchases, or up to \$500,000 if less than \$60 million is available. The total of one seller's bids must not exceed these limits.

Sellers may bid noncompetitively, i.e., agree to take whatever price the auction establishes. Such bidders will be held to maximum offers of \$50,000.

Bids will be offered in decimals rather than the fractions traditional to the secondary market: 92.25 or 92.38 instead of 921/4 or 923/8. Bids cannot exceed 100 (par) and must be rounded to two decimal places.

Dry-run auctions. The agency's dryrun auctions in 11 cities have gone far to dispel the myth of a geographical spread in prices.

Fanny May received 784 trial bids in representative cities from Atlanta to Seattle, and the price level established in the 90day category was 94.19 to 94.57. The prices are not as significant as the spreada mere 38 points nationwide.

So the agency will adhere to its original decision against splitting its market into regional operations.

A price ceiling. Fanny May has disclosed, almost inadvertently, that it will establish a ceiling on the prices it will pay. It let drop this admission at a briefing session for 150 members of New York City's mortgage community at the Chase Manhattan Bank.

Former broker Max Pringle asked the FNMA panel of five: "Will you fix a maximum price that can't be exceeded?"

President Ray Lapin conceded that FNMA



CANADA MORTGAGE RATE TO 91/8 %

The interest ceiling on government-insured mortgages rose to 91/8% April 1 under the formula that sets the rate 21/4 % above Canada's government bond yields. And the government is now committed to free the mortgage rate entirely in the next three months. Paradoxically, bond yields have turned down (on Vietnam peace prospects) since their rise triggered the increase in the mortgage rate.

would, and he explained:

"Fanny May has been a successful financial organization and intends to go on being one. We can't accept bids that would give a vield very far below the price we must pay for money, for example. We face financial squeezes, just as you do."

So the FNMA auction is not, as Walter Russell of the big New York brokerage of Huntoon-Paige was quick to point out to the assembled mortgage men, a fully free market. It is instead a controlled market. Russell suggested that FNMA make the ceiling public.

Fanny May will not announce the ceiling. It will be, as Lapin put it, a ceiling known only within the agency. But it can be applied, in his words, "to knock out those bids that are inordinately high."

Experts at the briefing suggested a better method of control, however. Fanny May need only limit the amount of its purchases in any offering period in order to discourage overpricing. The less money offered, the keener the competition for it and the lower the bid prices.

Pringle advisory service will move to West Coast

J. Maxwell Pringle, one of the pioneer FHA mortgage brokers in New York and long an elder statesman of the national mortgage banking community, moves the Pringle Advisory Organization Inc. to Walnut Creek, Calif., in mid-June.

Pringle's Mortgage Market Analysis, widely recognized as one of the most authoritative newsletters on mortgage developments, was published independently from April 1965 to December 1967, when it became a supplement to the financial newsletter Bankers Research, published in Westport, Conn. NEWS continued on p. 22

HOMEBUILDERS' MORTGAGE MARKET QUOTATIONS Reported to HOUSE & HOME in week ending April 19.

FHA Sec. 203b—
Discount paid by builder
Min.-Down* 30-year immed.*
FNMAxy Private mkt.
Car 6% Trend Conventional Loan Rates Savings banks, S&Ls 221d3&4 Savings banks, Ins. Cos. 75% Apts., Discount 6% banks, S&Ls Interest+fees 80% Over 80% City 71/2+1-2 7-71/2 Atlanta Up 2 63/4-71/4 Steady 5-6 Boston 63/4 +21/2 61/2-63/4 71/2 7-8 63/4 Chicago 71/2 Up 1 7+1-2 63/4+1 61/2-7 6-7 Cleveland 71/2 Steady 6¾ +2-7+1 7-7¼ 7-8 5-61/2 Up 1 Dallas 7+1-11/2 63/4-7 Up 1-11/2 63/4 Denver 7+1-2 71/2 61/2-7 Up 11/4 6-8 63/4-7 63/4-Detroit 71/4-73/4+1-3 7-71/4 71/2-81/2 Up 11/2 a Honolulu 7-71/4 7+11/2 63/4-7-8 Up 2 a Houston 63/4-71/4+11/2-21/2 63/4-71/4 71/6-71/2 71/2 63/4-71/4 Up 1 Los Angeles a 7-71/4 7-71/4 7-71/4 b 63/4-7 Up 21/2 Miami a 71/2+1-11/2 7+3 5-7 Up 1½ 5 63/4-71/4 $6\frac{3}{4} - 7$ Minn.-St. Paul 71/2 71/2+1-2 6+2 51/2-6 7-8 6+1 6+2 Up 3/4 Newark 6+3 Up 1/2 86 6+3 New York 7+1-2 63/4 +1-2 61/2+1 63/4 +1 6-8 Okla. City Up 3/4 a 7+11/2-3 Philadelphia Up 2 71/4+11/2 63/4-71/4+11/2-2 61/4-61/2 Up 1½ 63/4 San Fran. 7-71/2+1-2 63/4-7+1 7+1-2 61/2-7 St. Louis 71/4-71/2 71/4-71/2 7-71/2 7-71/2 Up 1½ 7-71/2 Seattle 71/2 Up 1 Wash., D. C

* 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; 20% of balance.

Footnotes: a—no activity. b—limited activity. c—Net yield to investor of 6% mortgage plus extra fees. w—for comparable VA loans also. x—FNMA pays ½ point more for loans with 10%, y—discounts quoted are net after seller pays ½ % marketing fee and ½ % adjustment for stock purchase. Seller must pay 1% of mortgage for stock calculated in \$130 units, of which \$30 is contribution to FNMA capital and \$100 is for a share trading at about \$70.

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, pres., T. J. Bettes Co.; Los Angeles, Christian M. Gebhardt, vice pres., Colwell Co.; Miami, Lon Worth Crow Jr., pres., Lon Worth Crow Co.; Minneapolis-St. Paul, Walter C. Nelson, pres., Eerhardt 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., and Robert Kardon, pres., Kardon Investment Co.; St. Louis, Charles A. Keller, vice pres., Mercantile Mortgage Co.; San Francisco, John Jensen, vice pres., Bankers Mortgage Co.; San Francisco, John Jensen, vice pres., Bankers Mortgage Co.; San Francisco, John Jensen, vice pres., Bankers Mortgage Co.; San Francisco, John Jensen, vice pres., Bankers Mortgage Co.; San Francisco, John Jensen, vice pres., Associated Mortgage Cos. Inc.

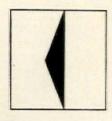
Even if you don't need creative financing, call on Kardon.

We're good at ordinary mortgages, too.

The local mortgage banking subsidiaries of Kardon Investment Company have well-earned reputations for making your difficult mortgages easy. Being able to work with complex creative financing techniques like sale-leasebacks, leaseholds and wrap-around mortgages helps. So does not having any maximum loan limit.

For example, among recent Kardon mortgages: \$2,200,000 for construction and permanent financing of 132 garden apartments in Newark, Delaware; \$490,000 for a Syracuse, New York office building; \$500,000 for a church in Nashville, Tennessee; \$3,300,000 for an Atlantic City motel; and \$3,500,000 for 179 homes in southern New Jersey.

The alert Kardon subsidiaries are just as eager to help you with an uncomplicated 5-digit mortgage as they are when you need intricate 8-digit financing—just as efficient with spot residential loans as they are with loans on large residential tracts and major income-producing properties. That's saying a lot.



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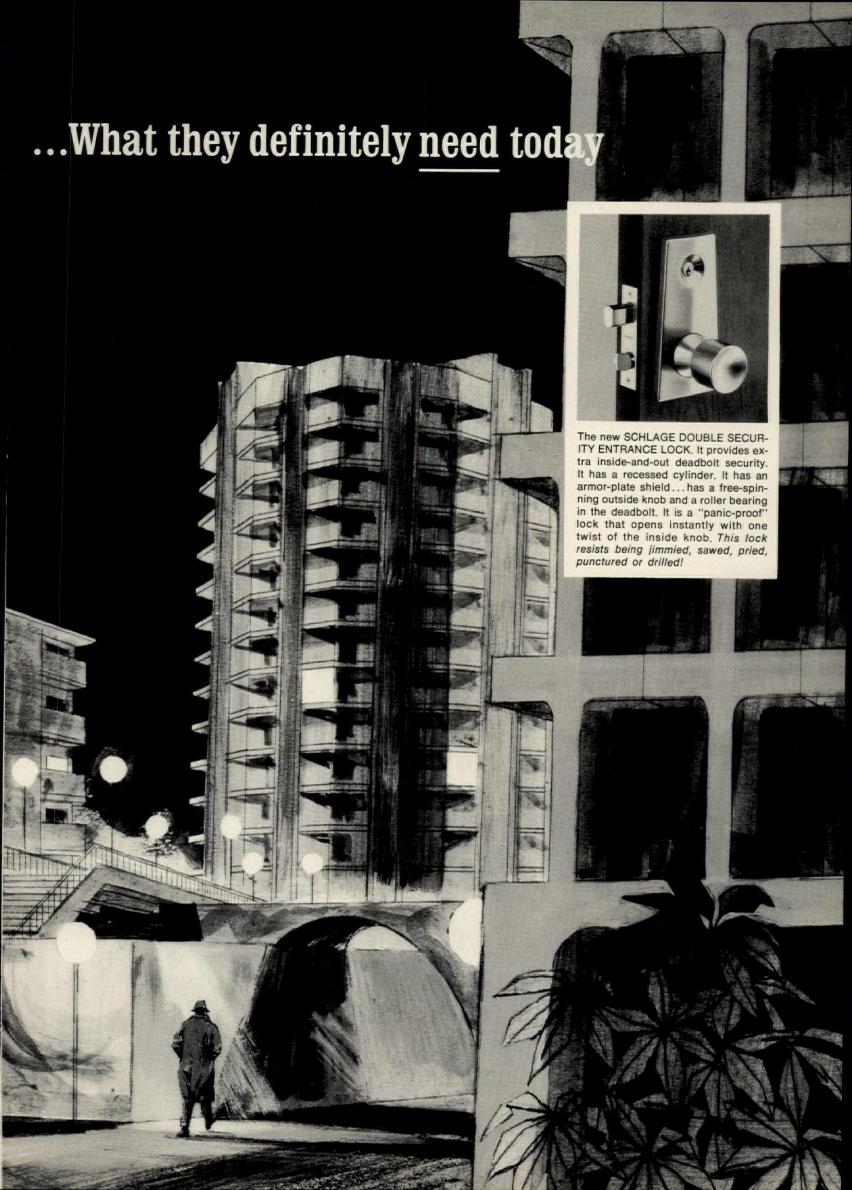
Security underlies many Schlage locks which are specialized for different needs—for all residential and commercial applications. Attractive finishes, too, are diverse and readily available.

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Mortgaging's wheeler-dealer Jerry Hoffman hits a roadblock

Jerome D. Hoffman burst upon the financial scene during the tight-money crisis of 1966 with an incredible offer to bring the vast riches of pension funds into mortgaging.

The New York Supreme Court has now forbidden Hoffman and his Institutional Monetary Corp. to sell \$25 million in securities to finance mortgage purchases. Court papers disclose just how well Hoff-

Court papers disclose just how well Hoffman did, during the intervening two years, with one of the most flamboyant operations ever attempted in the mortgage market.

The big league dream. Jerry Hoffman's story starts in St. Louis, where he pursued a vague sort of career into young manhood. He "attended" Washington University, where he was something less than a Big Man on Campus, and he did a short stretch as a catcher in the semi-pro time. The university's records show him only as a summer student (Classes '53 and '56) and an exhaustive inquiry turns up nobody on the sports desks of either the Post-Dispatch or Globe-Democrat who ever heard of him.

Hoffman appears in the Middle East in 1956 as a CBS exchange correspondent, and it was then that he got the pictures that make his office a gallery of the potentates of the lands beyond the Nile. He had himself photographed with them all.

He made it to New York and worked, successively, for two of the city's most respectable real estate houses, winning an instant reputation as the man who knew where the money was. By 1962, at 29, he had organized National Realty Investors as a trust and arranged for Swiss bankers to buy the Hilton and Sheraton Hotels, a deal that died in the stock market crash of that year.

Off on his own. Hoffman set up his monetary fund in 1963. Private pension funds had just attained assets of \$63 billion, a tidy 2,100% gain in 20 years.* Every mortgage man on the North American continent was trying to pipe a line into the well, and Hoffman thought he had a way—participations. In 1964 alone, said Hoffman in one of his direct-mail broadsides, he would place \$100 million in such shares.

One of Hoffman's most telling boasts of this period, as events would reveal, was of familiarity with the mortgage market: "Financing is not as mysterious as some people think."

The IMC mailings recounted a dizzying succession of successes—Hoffman was forming a mortgage guaranty insurance group, he was organizing 100 pension funds to buy \$3 million in mortgages apiece—but the feats seemed never to move onto his balance sheet.

For all its grand plans, IMC had set up with a TO&E of two: Jerry and a part-time secretary. In 1965 they were still struggling along with a tiny staff in cubbyhole offices in New York's old Lincoln Building on East 42nd Street.



"Financing isn't as mysterious as some think"

Run for the big money. Then came the New York State Banking Law of 1965, permitting trustees to mingle the monies of their several pension funds when they invested. Surely here was a gold mine for participations.

Hoffman took magnificent new offices at 295 Madison Avenue. He summoned Paul A. Nalen, former vice president of Mutual Benefit Life, to recruit a panel of the best mortgage inspectors he could find, and Nalen organized Criterion Marketing Report Inc. with a score of highly prestigious names.†

Attorney General Louis J. Lefkowitz of New York now takes over the story. His affidavit in Supreme Court, New York County, sets forth this chronology:

In June of 1966, with the tight-money crisis nearing its peak, Hoffman mailed thousands of offers to provide mortgage funds in million-dollar lots.

Lefkowitz says replies came from 630 individuals or businesses in 42 states and five Canadian provinces. They asked for \$1.1 billion.

Hoffman charged \$500 to send an employee to inspect the property. Then the client visited Hoffman in his new offices, where he was told the amount he might get. Finally one of Criterion's experts

† Panel, and positions prior to retirement: Andrew H. Alexander, commercial mortgage mgr., Northwestern Mutual Life; Frank Audino., v.p., Dime Savings Bank, Williamsburg, B'klyn; Arnold Bower, asst. v.p., Nat. Shawmut Bank, Boston; Edwin Burrow, pres., Hamilton Fed. s&L, B'klyn; Eugene S. Cox, mortgage loan mgr., Pacific Mutual Life; Carl Davis, v.p., First Nat. Bank, Seattle; John Foulkes, mortgage officer, Seamen's Bank for Savings, NYC; Walter M. Harvey, v.p., Equitable Life; O.J. Helburn, exec. v.p., Eagle Insurance Co.; Hugh M. Henry, mortgage loan manager for Florida, Travelers Insurance; Frederick W. Jackson, sr. v.p., Dime Savings, B'klyn; M.J. Jackson, v.p., Lafayette Nat. Bank, B'klyn; Robert E. Kerr, sr. v.p., N. Carolina Nat. Bank; Allen T. Murphy, exec. gen. mgr., Prudential Insurance; John B. Robinson, v.p., West. & South. Life; Wayne Sudderth, regional supervisor, Jefferson Standard Life, and Marvin W. Wynne, associate mortgage loan manager, Jefferson Standard.

made a feasibility study, for which Hoffman charged \$2,500 to \$25,000. All applicants paid the inspection fee, and 300 paid a total of \$741,000 for feasibility studies.

Lefkowitz told a press conference that one client was the Del Webb Corp. of Phoenix, which had lost \$13 million in 1965 and sorely needed cash. Webb sought \$38 million. Hoffman offered only \$28 million at 8½% after Webb paid a \$25,000 fee, and Webb then found that it could get a larger mortgage elsewhere at a lesser rate.

The debacle. Every client, says Lef-kowitz, was ultimately offered less than he had been promised in conference with Hoffman. And on the requests for \$1.1 billion, Hoffman delivered only \$4.3 million, or about 0.4%, to three applicants. Yet he netted \$1 million in fees.

The Attorney General told the New York Supreme Court that Hoffman had engaged in a "reckess, improvident and fraudulent" advance-fee scheme, and he added that he was calling the operation to the attention of postal authorities, the SEC and U.S. Attorney Robert Morgenthau. Justice Arthur Markewich signed the permanent injunction forever barring Hoffman and his three defendant companies (IMC, Criterion and Institutional Monetary Trust) from selling securities in New York State. Hoffman himself has applied to withdraw an application to register the issue with the SEC, but the agency must approve. It has not done so.

What went wrong? The mortgage community draws two lessons from the bizarre story of Jerry Hoffman.

One lesson is obvious. He could not deliver. In 1966 virtually nobody could.

The other lesson is more subtle.

Hoffman's assertion to the contrary, mortgage financing is "as mysterious as some people think"—indeed, more so. It is a complicated endeavor whose success turns on a sophisticated knowledge of the money and credit marts, of mortgage supply and demand, and of personalities.

Hoffman wrote repeatedly to virtually all of New York's top mortgage dealers, and his communication with them shows a lack of familiarity with many of the complexities of the mortgage market.

A story told by one of New York's most respected brokers is revealing.

"We were desperate in 1966," he relates. "Clients all over the country were calling us, saying 'Hoffman says he can get money. Why can't you?"

"So we wrote out a check for \$50,000 and I put it in my pocket, and two of us went up to see him.

"We didn't tell him we had the check. We just sat and listened. He talked—and talked—and with each word that check went deeper into our pocket. After half an hour we left—with the check."

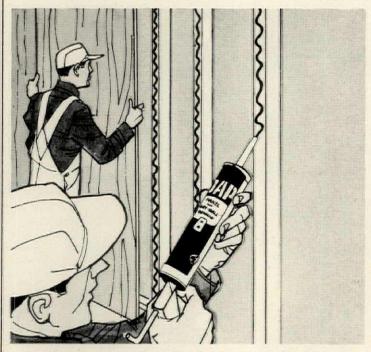
Hoffman had not convinced them that he knew the business well enough to do the impossible.

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^{*} Latest figures: assets over \$100 billion, with about 5% in mortgages.

NEW DAP FASTENER

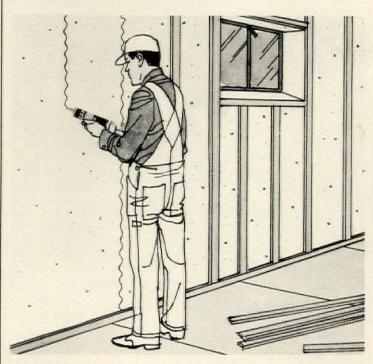
4 ways it can bring new cost savings to you!



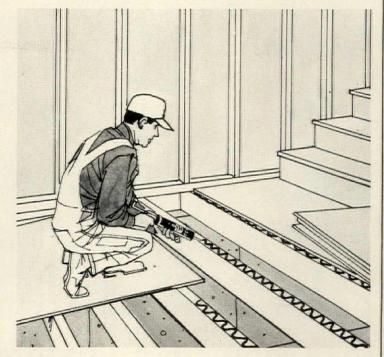
It's DAP Panel and Drywall Adhesive—the faster fastener. Installs drywall and pre-finished panels up to 50% faster. Eliminates hammer damage, countersinking, nail pop.



Prevents wavy walls caused by out-of-line studs—automatically bridges gaps up to 3/8". Gives a neater, tighter fit. Actually becomes stronger with age.



Completes furring strip installation faster, safer. No steel fasteners to ricochet. No chipping to weaken blocks. Water-proof — assures a solid, permanent bond.



Cuts nailing time on sub-flooring jobs. Gives you a solid, squeak-free unitized floor. Deadens sound transmission. Equally effective for stair treads.



And that's just the beginning. DAP Panel and Drywall Adhesive does much more because it's heatproof, waterproof, bleedproof. Grips tight to virtually any surface (even bonds shower stall frames to porcelain). Maybe it's hard to believe an adhesive will do so much so well. This one does. Contact your building materials supplier now.



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How many painters do you know who'll



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Chances are you can't name a single painter. That's not surprising. The only reason we're able to go out on the limb for a full five years is our meticulous factory-applied process.

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This broad line of primed exterior products includes bevel siding, lap siding, panel siding and soffit. All available from one single source. From one reliable dealer in your area.

These products can go up in all kinds of weather because they are protected until the finish paint coat is applied. Finish coats of all types go on faster, with better paint coverage.

With no culls you get maximum utility of material. Every piece is usable. No broken pieces or knotty problems. It comes pre-packaged making it easier to handle and protect on the site.

Can we give you more facts (or do you already have a painter lined up who'll give you a 5-year guarantee)? Write us at Box B-2817, Tacoma, Washington 98401.

Weyerhaeuser® Primed Exterior Products 5-YEAR PERFORMANCE GUARANTEE imber: Hardboard: Plywood:

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Siding/Soffit

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The factory applied primer on the above listed Weyerhaeuser Primed Exterior roducts is guaranteed for FIVE YEARS after initial installation to be peel proof and blister-proof, provided a finish paint coat is applied within 50 days the control transfer of the second second

Also, the entire product is guaranteed for the same period to give satisfactory serformance as exterior siding when installed in accordance with instruction ecompanying each shipment and when finished as indicated above.

Should any of these primed products not comply with this guarantee, Weyernacuser will, at its option, repair, replace, or make a fair allowance for same, up to the original price of the material as delivered for the installation. However, Weyerhacuser must be given written notice within 90 days after distowers, Weyerhacuser must be given written notice within 90 days after distowers, or well as the second of the second properties of the second of the second product of the second of

Weyerhaeuser's sole responsibility is as stated herein, and it shall not be liable for consequential, indirect or incidental damages.

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This performance pursuents exhibitative standed to purplesse iron. Wegethequest of those primed products, it may be elemented upon reade of such products, in which case any claims are to be processed through the intermediate party or parties.

processed through the intermediate party or parties.
This guarantee is in addition to the standard product quality guarantee set forth in the Weyerhaeu



MAY 1968

Lennox puts the comfort inside...

and the equipment outside



Look what's new for homes (and other buildings):

A single-package heating, cooling, ventilating system that's installed *outside*. On a grade-level slab. Or on the roof.

There's no flame indoors. No chimney needed. Nor inside space. You gain sales appeal.

The only thing brought inside is Total Comfort. Fresh, Living Air, warmed or cooled to fit the season. Humidified—or wrung dry of dampness. Cleaned electronically. Circulated continuously.

It's a fully weatherproof system, with insulated cabinet and electric ignition system.

The unit can—in its larger commercial capacities—offer 100% ventilation with outside air. And cool free when that air falls below 57°F.

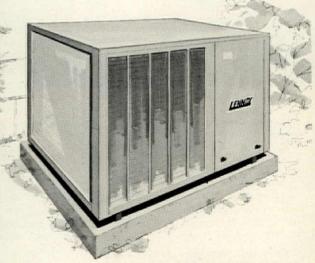
Available for homes in sizes as small as 2 tons cooling and 80,000 Btuh heating. Commercial sizes range up to 22 tons cooling, 500,000 Btuh heating.

Electric cooling. Gas or oil heating.

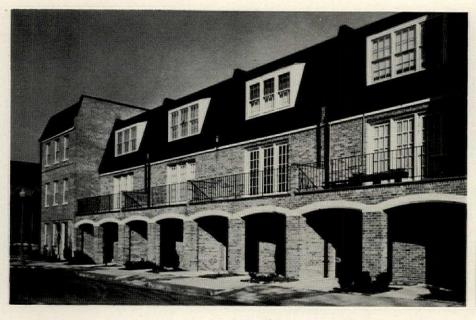
The system is completely factory assembled, wired and tested, including controls. Finest quality...and a single source of responsibility.

It's an ideal single-zone system for homes, apartments, schools, churches, offices, and other buildings.

For details, see Sweet's—or write Lennox Industries Inc., 384 S. 12th Ave., Marshalltown, Iowa 50158.









Something-for-everybody package clicks in D. C. townhouse society

Capital idea: D. C. developer uses 1/4" urethane foam insulation to pare costs; boost comfort, floor-space and profit in townhouse units.

Town Square Townhouses, a creation of architects Macomber & Peter, masters of the Federal style, is an ambitious urban renewal project in Washington, D. C. Being built by Bresler and Reiner, when complete it will consist of 116 garden apartments and 180 3-story, single-family units, priced up to \$54,500.

Of brick construction, nearly all of the townhouse units are insulated with sprayed-on urethane foam applied by Bilton Insulation & Supply, Inc., D. C. specialists in this type of contract insulation since 1952.

Because of urethane foam insulation, each Townhouse unit gained a living space bonus worth \$572-\$1144* to the buyer.

Here is how the urethane foam gains were measured by the principals involved:

C. V. Davenport, Bilton executive vp and gen. mgr.: "The arithmetic is there for all to see. Urethane enabled

*Computed on basis of 2400 sq ft of living space in unit selling for \$54,500. Buyer is paying about \$22 per square foot. Better insulating ability of rigid urethane foam saves 26 sq ft to 52 sq ft or \$572 to \$1144. the developer to gain up to 52 sq ft of extra floor space per unit. Ure-thane foam is a cryogenic insulant. With a k factor of 0.11 and as used in this instance (1" wall space consisting of ¼" of urethane foam and a ¾" air space), urethane foam replaces a 35%" glass fiber batt. In addition, ure-thane foam is moisture-proof, the need for a vapor barrier is eliminated, and it safeguards electric wiring and plumbing fixtures against fire, freeze-ups and corrosion."

Potomac Electric Power Company determined that this wall design met their Gold Medallion insulation requirements. They estimate it will cost the average Town Square Townhouse owner about \$305 a year to heat his home, \$60 to cool it. A dollar a day for a \$54,500 home investment isn't bad.

B. Reiner, Bresler & Reiner builders: "There is no question about the cus-

tomer benefits of urethane insulation. I would be sold on it just for the space savings it offers. Most home-buyers don't care what insulation is used, but we publicize urethane as a key selling

point. We translate the measurable extra floor space, consistent comfort, warmer wall areas, lower heating and cooling bills, and they are impressed."

R. A. Dwyre, Bilton sales mgr.: "With batt-type materials, builders often have an expensive, irksome problem of securing dry wall to the studding. Because of the slick vapor barrier necessary, nails keep popping out. With urethane, one man can complete two walls each on three floors (1140 sq ft) in about 30 minutes."

H. White, project mgr. and supt.: "I've been in the construction business for 30 years and I have never seen an insulating material that provides a better seal than sprayed-on urethane. It's clean, simple and fast in application, and leaves no mess of scraps to clean up."

The foam chemicals system for this project was supplied by Isocyanate Products, Inc., New Castle, Del. 19720. For the full story on urethane foam insulation in a wide range of projects, write MOBAY CHEMICAL COMPANY, Code HO-58, Pittsburgh, Pa. 15205.

DEPENDABLE SEWAGE TRANSFER AND TREATMENT EQUIPMENT

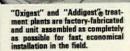
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A Smith & Loveless fielderected "Oxigest"® plant is the most dependable, economical solution for the sewage treatment needs of 500 to 10,000 population equivalent. Multiple installations serve greater capacities.

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NEWS

continued from p. 22

Heavy debt perils Lytton Financial; Bart Lytton sells 13% of S&L firm

Lytton Financial Corp., one of the largest publicly held s&L holding companies, is facing a critical financial squeeze.

The company has \$2.8 million in debts due this month and, its annual report says, it "presently does not have the funds available to meet all of these obligations."

Bart Lytton, president and chairman, has nevertheless expressed confidence in raising the money before the deadline.

The financial problem affects only the holding company, not the two s&L subsidiaries: Lytton s&L in Los Angeles and Lytton s&L of Northern California in Palo Alto. Yet Lytton has admitted that the sale of one of the two s&Ls to satisfy the debts is a "likely possibility."

A spokesman for Preston Martin, California's s&L commissioner, said: "The capital and liquidity of the two s&Ls are unimpaired."

Lytton also said that he did not know what action the creditors would take if the financial obligation were not met on time, but he added that the creditors realized that "foreclosure is not an appropriate response."

The debts include \$1.6 million owed to the United Automobile Workers Union and \$1.2 million owed to institutional investors, of which the largest is Investors Stock Fund Inc., a mutual fund managed by Investors Diversified Services of Minneapolis.

Lytton has faced a financial crisis of his own. He has just sold 13% of the company's shares from his personal portfolio to "settle personal obligations." He retains 8% of the ownership.

Asked if the sale would mean a change in the name of his company, he quipped in reply: "It might—when they change the



"It's an awfully well-known name"

name of the Lincoln or Washington s&ls. Lytton is a good name, and it's awfully well known."

Lytton Financial, with assets of \$730 million, has lost \$12.5 million in three years—\$3 million in calendar 1967, more than \$2 million in 1966 and \$7.5 million in 1965.

Lytton refused to disclose the identity of the group of buyers who purchased the estimated 334,449 shares or the price paid. But based on the closing price of Lytton Financial at the time of sale, \$6.50 a share (NYSE), 13% of the company's outstanding stock would have been worth \$2.1 million.

Lytton also would not say whether the sale was arranged to satisfy personal debts at the Union Bank, Los Angeles. Los Angeles businessman Henry Salvatori confirmed that he had been approached "some time ago" about buying some of the stock but said he had nothing to do with the current sale.

Bankers Mortgage gets new chief

Bankers Mortgage Co. of California has chosen Kent L. Colwell as president to succeed Harland G. Keller, who is retiring.

Colwell has been financial vice president of Bankers since 1964, when founder Ray Lapin (now president of the Federal National Mortgage Assn.) sold it to Transamerica Corp., San Francisco's big "department store" of finance (News, Apr. '64). Colwell had been assistant to the president of Transamerica. He is treasurer of the California Mortgage Bankers Assn.

Bankers has also announced the promotion of John R. Jensen and Harold Granger to senior vice presidencies. Both men had been vice presidents.

The company is the ninth largest mortgage banking house in the



Into the president's chair

country. It services \$735 million in mortgage loans.

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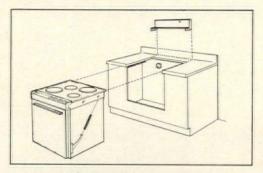
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more help in selling today's prospects who demand easy-clean kitchens.

You probably know the hottest, most wanted idea in built-ins. The Electri-clean Oven idea. Now it's yours in a Frigidaire Compact 30 range. In just 30" of space, you can add a complete, contemporary cooking center. Surface units. Automatic controls. Plus an oven that goes from dirty to clean automatically. Cost per cleaning for your prospects: just about the same as a cup of coffee. This is the range for kitchens that create more leisure, not more work.

more help with fast, easy installation.

We know installation time is money. Your money. We try to save you both. Example—the Compact 30 installs with just 4 screws.



An easy-to-follow installation guide is yours for subcontractor use on this and every Frigidaire built-in.

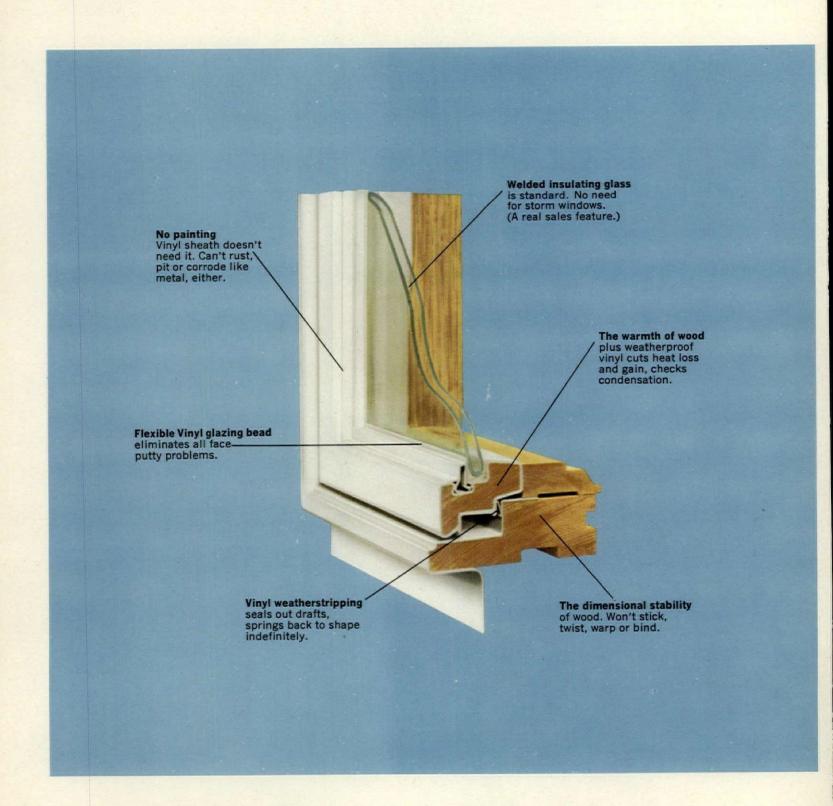
more help with customer satisfaction . . . factory-trained service available everywhere.

Coast to coast, one of our authorized service outlets is available to take over the service responsibility. You're free to concentrate on building and selling. This is another reason Frigidaire-equipped kitchens can help you build traffic. Boost rentals. Or close sales. Call your Frigidaire representative and let him show you.





New Andersen Perma-Shield value of wood plus a rigid vinyl



New Andersen

Windows offer the insulating shield that needs no painting.

(No wonder you're seeing more of them lately.)

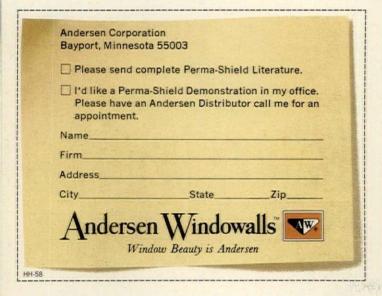
Inside a Perma-Shield sash there's a core of warm, stable wood. Outside, there's a thick sheath of rigid, weatherproof vinyl. And the glazing is welded insulating glass.

Is it the perfect window? You'll have to decide about that for yourself. We're proud of it, and we're pleased that Perma-Shield windows are being specified for some of the *best* new commercial buildings and residences.

Wide range of styles and sizes.

Choose casements, awning style, fixed types, single or multiples right from stock. There are 26 basic Perma-Shield sizes and 3 sizes of gliding doors—6, 8 and 12 feet.

For more information check Sweets file. Or mail the coupon below for literature or a Perma-Shield Demonstration in your office.





Washington Club Inn, Virginia Beach, Virginia, features 40, 8-foot Andersen Perma-Shield Gliding Doors. Guests get a sweeping view of the ocean through snuggly weathertight gliding doors. No problems ... even under the most severe salt-air conditions.

Architect: Evan J. McCorkle, Virginia Beach, Va.



Emma Norton Methodist Girls' Residence, St. Paul. Difficult elevation could make window maintenance a nightmare, but there's little or no maintenance with Perma-Shield. They've been performance proved on thousands of residential and commercial jobs like this one—exposed to every climate over the last 9 years.

Architect: Progressive Design Associates, St. Paul, Minn.



Low maintenance home, Long Lake, Minn. The Perma-Shield Windows in this home won't need painting, or storm windows, and they won't pit or corrode like metal. They combine the insulating value of wood and the maintenance savings of a rigid vinyl shield.

Architect: George F. Panuska, Virgin Islands.

Perma-Shield Windows



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Where ceramic tile is to be a feature of the bath, the economy of COMPOTITE results in a desirable, fully-tiled shower area at no more cost than that of a tub or open-base receptor.

COMPOTITE's waterproof, corrosion-proof, asphaltic membrane seals shower moisture away from vulnerable areas more economically than any other shower pan material. Send for your brochure today.



Kennedy offers a slum-housing plan, attacks the President's as defective

Sen. Robert Kennedy (D., N.Y.) announced a new slum-housing proposal and gave HUD Secretary Robert Weaver his best one-liner of the year: "It's a rich man's bill for poor man's housing."

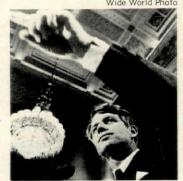
The Senator, speaking before the Senate Housing subcommittee, outlined his new proposal and attacked the Administration's slum-housing bill, based on subsidized mortgage interest rates, for having "major defects."

The Kennedy plan provides a profit incentive to builders of lowrent housing in urban ghettos in the form of direct subsidies paid by the federal government. A new debenture issued to the builder when he receives federal mortgage insurance would obligate the government to pay him, each year during the life of the project, a supplementary and tax-free amount equal to 6% of his net equity investment.

The effect of this payment, Kennedy states, would be to raise a builder's annual after-tax profit to about 12%, or 6% more than he is allowed to make under existing 221d3 bylaws.

The Kennedy proposal also incorporates below-market-rate mortgages financed through government channels and reduced rentals through low-interest rates, 50-year terms, property-tax abatement and subsidized land

The Senator's criticism of the



NEW YORK'S KENNEDY

Offers a profit incentive

Administration's slum-housing bill (News, April):

- · It does not require that new low-income housing be built in urban poverty areas.
- It doesn't spur employment of low-income residents in rebuilding their housing.
- · It doesn't involve local residents in community planning.
- · It doesn't provide for improved relocation facilities.

Capitol Hill forecasters say Kennedy's proposal, in bill form, does not stand a chance of pas-

"It's too complicated and implies changes in the tax laws," says one legislator. Others, including Secretary Weaver, contend that the Kennedy proposal only serves to augment the concentration of Negroes in the ghettos.

Savings bankers nominate new chief

He is Robert J. Hill, president of the New Hampshire Savings Bank in Concord, and his nomination will be presented to the National Association of Mutual Savings Banks at its 48th annual convention in Washington May 17.

Hill succeeds Harlan J. Swift, president of the Erie County Savings Bank in Buffalo, N.Y. He is currently the NAMSB's vice president, a post to be taken by Richard B. Haskell, president of the Mechanics Savings Bank of Hartford, Conn.

Officers of the association serve one-vear terms.

The association represents 500 mutual banks in the 18 states in which they are permitted. The



SAVINGS BANKERS' HILL Taking a step upward

banks' combined assets approximate \$68 billion.

LENDERS: Clinton L. Miller, 62, has retired as president of The Dime Savings Bank of Brooklyn.

PUBLICISTS: Sam Justice, formerly an information director for the National Association of Mutual Savings Banks (story above), has been appointed a vice president in the New York offices of Booke & Co., a financial and in-

vestors relations firm that maintains branches in Chicago and Los Angeles.

BUILDERS: Levitt & Sons of Lake Success, N.Y., has named James E. McCarty Jr. to the new post of national sales manager. He had been a division sales manager for the Readers Digest in Pleasantville, N.Y.



What every over-confident builder should know about

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If you're already offering free refrigerator-freezer, dishwasher, washer, dryer, self-clean oven and free home owners' policy in your new houses . . . or all this plus pool and 9-hole golf course in your latest apartment building . . . you may think you're a big jump ahead of the competition.

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NEWS

A computer's projection for 1968: big rise in one-family homebuilding

Consultron, the service that analyzes the Census Bureau's housing permits each month by computer, now projects increases in single-family building for 168 of 192 metropolitan areas in 1968.

Consultron is a management and marketing service offered to builders by the Celotex Corp. and operated by the corporation's consultants, W.R. Smolkin & Assoc. of New Orleans.

Many of the latest 1968 projections show sharp percentage gains over 1967—Las Vegas up 312%—but they do not necessarily signal a boom market. Because 1967 was a poor year—Census estimates national totals at only 612,900 single-family permits—it provides a faulty base on which to measure increases.

The forecast is not strictly a prediction of the number of pri-

vate houses to be built this year. It is rather a projection of the totals to be reached if the housing market continues as it has done.

The second column (below) shows permits projected for 1968. The third cites the projection made a month earlier, and the fourth measures the change and indicates the most recent market trend. The latest 1968 projection (column 2) for a city may still exceed the 1967 permit total but fall below the 1968 projection made a month earlier (column 3). This circumstance indicates a weakening market. It applies in 111 cities (example: Akron, Ohio), not counting 23 cities whose 1968 permits will fall short of those in 1967.

The fifth column shows the second column's percentage gain or loss from 1967.

	Current 1968			
Name of Principal City of SMSA	Projection for SMSA	Previous Projection	Change in Projection	1968 vs 1967
				70
Abilene, Tex	3,044	53	- 322	- 21.7%
Akron, Ohio	719	3,366	16	112.1%
Albany, Ga Albuquerque, N.M Allentown, Pa Altoona, Pa	1,168	703 1,206 1,925	- 38	31.7% 112.1% 43.0% 42.4%
Allentown, Pa	1,989	1,925	64	42.4%
Altoona, Pa	138	127	11	- 13.2% 9.3%
Amarillo, Tex. Ann Arbor, Mich.	353 1,337	363 1,416	- 10 - 79	16.2%
Asheville, N.C.	242	309	- 67	3.8%
Atlanta, Ga	16,574	309 18,847	-2.273	3.8% 66.9%
Atlantic City, N.J.	1,250	1,113	137	45.8%
Atlanta, Ga Atlantic City, N.J Augusta, Ga	1,824	1,805	- 19 - 395	46.6%
Ratersfield Calif	2,327 1,431	2,722 1,254	177	39.6%
Austin, Tex Bakersfield, Calif Baltimore, Md	8,173	7,794	379	34.8%
Baton Rouge, La	3,219	3,599	- 380	45.3% 12.2%
Bay City, Mich.	424	485	- 61	54.4%
Beaumont, Tex Binghamton, N.Y Birmingham, Ala	940 813	899 794	41	.7%
Birmingham, Ala.	3.360	3,280	80	23.5%
Roston Mass.	5.288	5,193	95	8.5%
Bridgeport, Conn	1,760	1.763	- 3	25.1%
Brockton Mass	1.18/	1,302	- 115 98	63.7%
Brownsville, Tex.	255 3,610	3,997	- 387	72.2% - 1.8% 57.7%
Buffalo, N.Y. Canton, Ohio Cedar Rapids, Iowa	1,618	1,348	270	57.7%
Cedar Rapids, Iowa	1,155	1,263	- 108	26.3% 156.9%
Champaian III	381	273	108	34.9%
Charleston, S.C	1,640	1,736	- 96 - 18	10 707
		4,664	- 376	35.3% 10.0% 49.8% 52.7%
Chattanooga, Tenn. Chicago, Ill. Cincinnati, Ohio Cleveland, Ohio	1,437	1,576 24,923	- 139	10.0%
Chicago, Ill	1,437 26,706	24,923	1,783	49.8%
Cincinnati, Ohio	4,858	5,172 9,062	- 314 - 178	52.7%
Colorado Springs, Colo	8,884 3,492	4,091	- 599	50.5% 61.9%
		143	17	- 19.5%
Columbus, Ga. Columbus, Ohio Corpus Christi, Tex. Dallas, Tex. Davenport, Iowa. Dayton, Ohio	1,362	1,488	- 126	21.6% 125.7% 19.6%
Columbus, Ohio	8,491	8,495	- 4 - 21	125.7%
Corpus Christi, Tex	1,643	1,664	-1,389	48 307
Davennort lowe	2,337	2,339	- 2	37.9% 36.0%
Dayton, Ohio	5,318	5,659	- 341	36.0%
Decaror, III.	. 020	681	- 61	63.6%
Denver, Colo	8,879 2,427	8,670	209 220	48.8%
Detroit, Mich	24,638	2,207 27,066	-2.428	84.6% 44.7% - 25.3%
Dubuque, Iowa	156	158	- 2	- 25.3%
Dubuque, Iowa	. 234	270	- 36	- 16.9%
Durham, N.C.	1,533	1,809	- 276 - 227	84.0% 44.4%
El Paso, Tex. Erie, Pa.	2,140	2,367 706	- 67	12.9%
Eugene, Ore.	1,894	1,977	- 83	12.9% 54.3%
Eugene, Ore. Evansville, Ind.	1,043	1,224	- 181	56.3%
Fall River, Mass. Fitchburg, Mass.	. 393	448	- 55	- 15.2% 74.3%
Flint, Mich	362 3,254	3,490	- 28 - 236	40 197
Ft. Lauderdale, Fla	8,083	8,038	45	49.1% 79.7%
Fort Smith, Ark	469	516	- 47	50.0%
Fort Wayne, Ind.	. 690	667	23	- 5.3%
Ft. Worth, Tex	7,188	7,998	- 810 72	70.9% 15.8%
Fresno, Calif	2,072	2,000	- 45	21.9%
Galveston, Tex.	549	656	- 107	35.9%
Gadsden, Ala Galveston, Tex Gary, Ind Grand Rapids, Mich.	3,989	3,822	167	62.4%
Grand Rapids, Mich	3,024	3,257	- 233	30.4% 37.7%
Green Bay, Wis.	1.132	1,106	- 216	29.8%
Greensboro, N.C.	1,720	534	- 108	35.3%
Greenville, S.C. Hamilton, Ohio	1,622	2,021	- 399	35.3% 140.8%
Harrisburg, Pa.	1,053	993	60	28.8%
Hartford, Conn	3,682	3,916	- 234	38.0%
Honolulu, Hawaii	10,071	10,562	- 711 - 491	59.7% 40.4%
Harrisburg, Pa. Hartford, Conn. Honolulu, Hawaii. Houston, Tex. Hunfington, W. Va.	250	296	- 46	- 3.4%
gron, in rai	-30			
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NEWS continued on p. 42

TOMORROW'S DESIGN TODAY!

BYPRICEPFISTER



FLOW-MATIC single handle kitchen fitting

You can see at a glance why the Pasadena Art Museum chose to honor Flow-Matic for excellence of product design. The sculptured lines of Price Pfister's single handle water controlling device for the kitchen is a study in classic simplicity with a contemporary flair.

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and design superlority. And one more thing: every Flow-Matic single-handle water-controlling device features an unconditional five year warranty on the cartridge with a labor allowance included.



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"TOMORROW'S DESIGN TODAY"

38

His choice of

Kemper cabin

is based on fact

Here are the facts that motivate most successful builders to install Kemper kitchen cabinets and bathroom vanities in their homes and apartments.

protection of the NAFM Warranty. Fact: Kemper quality is Fact: Kemper offers a selection of cabinet styles and finishes to complement any home. Fact: Kemper is one of the most competitively priced quality cabinets available. Fact: Kemper engineering simplifies and speeds up installation. Fact: Kemper cabinets are the only ones offering the builder the full achieved through the use of the latest and best woodworking equipment and materials. Fact: Kemper's large warehousing facility and automated order processing procedures mean you get cabinets where and when you need them.

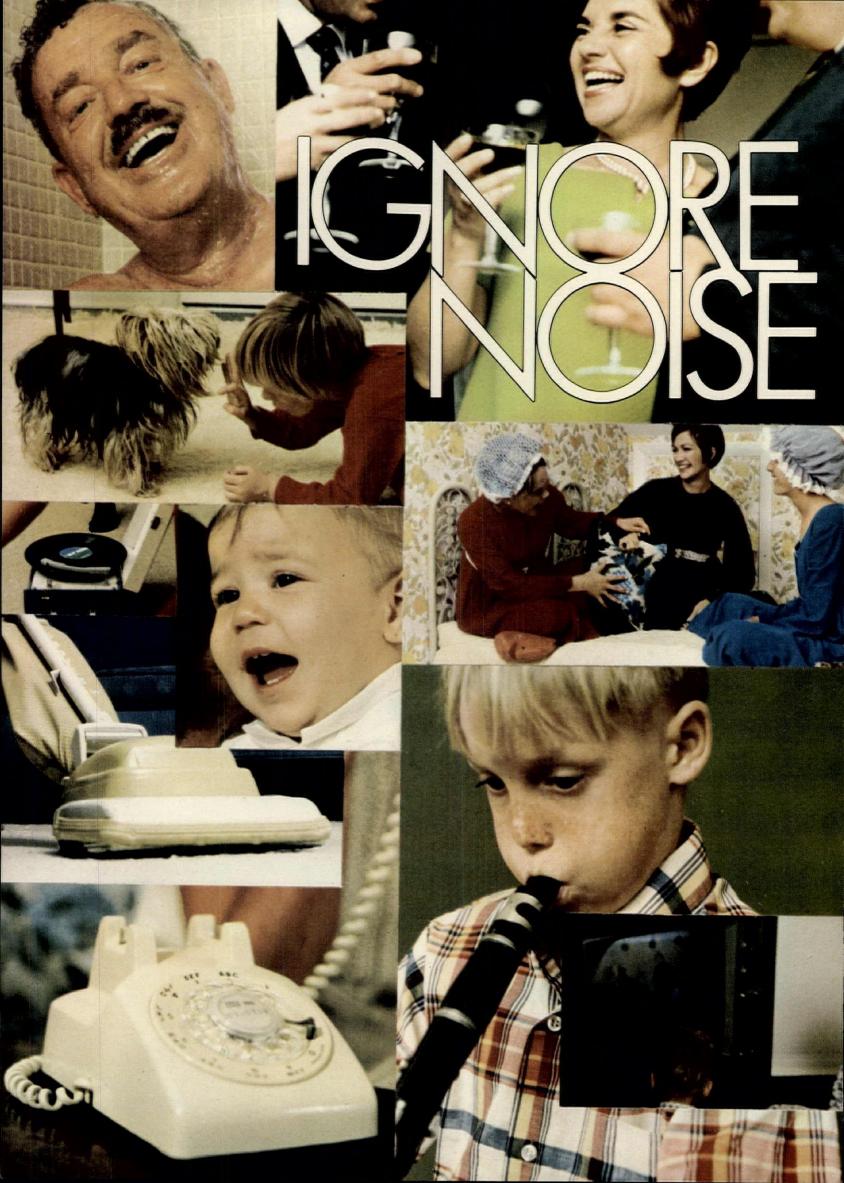
Kemper Distributor. He's in the Yellow Pages. And, for your per cabinets in your homes and apartments call your nearby free copy of an informative, 24 page booklet "Kitchen Ideas For more facts on how you can make more profit with Kemby Kemper," write to us. Kemper Brothers, Inc., Richmond, Indiana 47374.











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YUCATAN, MEXICO-Ca. A.D. 987. Detail of a workman/sculptor from one of a series of paintings depicting major achievements in the history of

Man the Builder.

The painting is one of three in Set B of the Celotex collection. For full-color reproductions (20" x 16") suitable for framing, send \$1.00 (for each set of 3) to: Historical Construction Paintings, Box 368A, Miami, Florida 33145. Important: please specify Set A or Set B.

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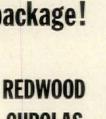
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NEWS

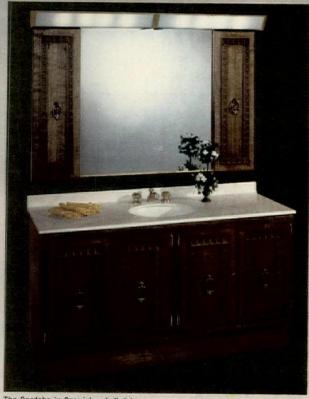
continued from p. 36

One-family homebuilding ... continued

Name of Principal City of SMSA	Current 1968 Projection for SMSA	Previous Projection	Change in Projection	1968 vs 1967
Huntsville, Ala	1,023 5,779	1,106	- 83 - 250	19.5% 55.6%
Indianapolis, Ind.		790 -	- 230	30.4%
Jackson, Miss	648	708	- 60	3.4%
Jacksonville, Fla	1,977	2,162	- 185 - 101	52.9% - 12.7%
Kenosha, Wis	150	151	- 1	- 9.3%
Knoxville, Tenn.		3,087	19 255	73.2% 137.2%
Lancaster, Pa	846	883	- 37	26.9%
Lansing, Mich	4,382	5,237	- 855 2	83.0% 17.1%
Laredo, Tex		3,188	- 240	312.3%
Lawrence, Mass	906	950	- 44 - 175	14.7% 30.3%
Lexington, Ky		2,801	- 658	71.3%
Lima, Ohio	. 187	219	- 32 178	9.6%
Lincoln, Nebr.	1.513	916 1,582	- 69	39.0%
Lorgin, Ohio	1,301	1,199	- 102 - 213	57.6% 77.3%
Los Angeles-Long Beach, Calif Louisville, Ky		6,757	- 904	53.3%
Lowell, Mass.	. 1,224	1,268	- 44 - 90	10.9% 37.2%
Lubbock, Tex	797	796	1	41.2%
Macon, Ga	. 1,212	1,313	- 101 26	38.0% 23.1%
Madison, Wis	1,557	423	9	24.9%
Memphis, Tenn.	. 5,314	6,019	- 705 29	25.0% 55.1%
Meriden, Conn	6,605	6,070	535	75.4%
Midland, Tex.	. 618	776	- 158 234	107.4%
Milwaukee, Wis.	11,392	10,721	671	72.3%
Mobile, Ala	. 1,134	1,192	- 58	34.3%
Montgomery Ala	1,699	1,796	- 97	- 5.8% 62.9%
Montgomery, Ala. Muskegon, Mich.	. 572	570	- 670	20.9% 42.6%
Nashville, Tenn	3,675	4,345 1,226	- 176	24.9%
New Britain, Conn	. 470	470	0	- 6.0%
New Haven, Conn		1,003	- 100 12	3.8%
New Orleans, La	5,095	5,000	95	19.6%
New York, N.Y	. 20,272	20,248 4,406	24 288	23.8% 28.5%
Newport News, Va	3,346	3,581	- 235	82.0%
Norfolk, Va	. 3,400	5,878 756	- 412 30	96.8% 41.9% 7%
Norwalk, Conn	. 152	1.53	- 1	7%
Ogden, Utah	. 983	1,056 3,237	- 73 47	115.2% 70.1%
Orlando, Fla	4,793	5,010	- 217	66.1%
Paterson, N.J.	. 3,462	3,353 1,840	- 109 - 26	27.0% 107.4%
Pensacola, Fla.		1,171	41	27.8%
Philadelphia, Pa	15,213	15,765 6,579	- 552 - 418	25.3% 22.7%
Phoenix, Ariz	8,965	10,164	-1,199	59.2%
Portland, Me	. 852	755 7,359	- 454	52.6% 38.1%
Providence, R.I.	3,747	3,790	- 43	16.4%
Pueblo, Colo	. 216	166	50 38	- 29.4% - 75.4%
Racine, Wis		2,158	- 224	44.8%
Reading, Pa	697	778 4,728	- 81 - 461	10.5% 56.3%
Richmond, Va	1,557	1,925	- 368	49.7%
Rochester, N.Y.	5,234	5,301 2,625	- 67 - 63	32.0% 80.5%
Rockford, III.	2,562 5,339	4,726	613	59.5%
Saginaw, Mich	. 651	639	12	- 34.4% 22.0%
St. Joseph, Mo	8,087	238 8,497	- 410	11.3%
Salt Lake City, Utah	3,065	3,182	- 117	70.6% 8.5%
San Antonio, Tex	3,196 7,856	3,317 7,234	- 121 622	67.9%
San Diego, Calif	13,093	13,561	- 468	100.8% 77.1%
San Francisco-Oakland, Calif	13,894	11,046	2,848 455	133.3%
Santa Barbara, Calif	1,101	1,211	- 110	78.3% 139.8%
Savannah, Ga.		1,543 21,063	- 44 - 512	53.3%
Shreveport, La	1,212	1,301	- 89	76.7% 153.1%
Sioux City, Iowa		516 258	268 32	87.6%
South Bend, Ind.	561	650	- 89	87.6% - 23.2% 56.8% 12.9%
Spokane, Wash		1,451	- 38 - 97	12.9%
Springfield, Mo	731	852	- 121	35.2%
Springfield, Mass	2,276	2,050	226 56	- 44.3% - 5.4%
Stockton, Calif	1,663	1,614	49	39.7%
Syracuse, N.Y	1,448	1,420 4,766	- 67	- 1.9% 60.6%
Tacoma, Wash	4,699 7,733	7,763	- 30	39.2%
Texarkana, Tex	561	641	- 80 - 75	98.3% 75.2%
Toledo, Ohio	3,279	3,354 1,282	- 215	5.1%
Trenton, N.J.	1,056	1,167	- 111	40.5%
Tucson, Ariz	2,553 5,851	2,635 7,039	- 82 -1,188	95.3% 137.6%
Tuscaloosa, Ala	587	597	- 10	37.1%
Tyler, Tex	314	390 359	- 76 - 42	48.4% - 21.8%
Utica, N.Y		206	0	- 6%
Washington, D.C.	16,589	18,479 1,568	-1,890 - 235	44.6% 56.0%
Waterbury, Conn	855	967	- 112	37.5%
West Palm Beach, Fla	2,530	2,528	- 442	42.4% 89.4%
Wichita, Kan	328	2,786 373	- 45	30.5%
Wilmington, Del		4,130	705	97.3% 78.7%
Winston-Salem, N.C	3,724	5,221 826	-1,497 23	9.7%
York, Pa	748	827	- 79	24.3%
Youngstown, Ohio	2,929	3,383	- 454	70.5%

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The Cordoba in Spanish oak finish



The Constellation with stainless or gold trim

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Satin Glide

For builders: The questions and answers on open housing

Congress and the President have made open housing the law of the land (see p. 5).

How does this affect builders, lenders and owners? Here are answers to some of the most urgent questions about the law, Title 8 of the new Civil Rights Act:

Q: We bought land a year ago, before this law was passed. The land is for a project we plan to open in 1969. Must we sell

to Negroes?

A: Yes. As of Jan. 1, 1969, you will be covered under the section that prohibits discrimination in the sale of a house that is not your personal residence. The new law states: "It is illegal to refuse to sell or rent after the making of a bona fide offer, or to refuse to negotiate for the sale or rental of, or otherwise make unavailable or deny, a dwelling to any person because of race, color, religion or national origin."

Q: Can we get around this law simply by informing a Negro that he can't inspect the house?

A: No. It is "forbidden to represent to any person, because of race, color, religion or national origin, that any dwelling is not available for inspection, sale or rental when such dwelling is in fact so available."

Q: Are builders of two or more dwellings a year affected immediately?

A: Not unless the dwellings were insured by FHA after Nov. 20, 1962, or built on land cleared by the federal urban-renewal program. President Kennedy's executive order already covers these 900,000 housing units, but enforcement has been lax (News, Jan. '63).

The brunt of the new bill will not be felt until Jan. 1, 1969, when discrimination in all apartments and newly built single-family homes will be illegal. The only exceptions: resident owners and builders who sell fewer than two houses a year.

Q: We built a 50-unit apartment in 1959 with a conventional loan. Can we discriminate in rentals?

A: Not after Jan. 1, 1969, when your apartments will be covered.

Q: Does the new law carry criminal penalties?

A: No. You can't be sent to prison for simply discriminating. Under civil law, you can be sued by the discrimination victim or the federal government and fined up to \$1,000 in punitive damages.

Q: Can the law indirectly result in a jail penalty without a jury trial?

A: Conceivably. If a violator defies a court order, a judge can rule him in contempt and send him to jail.

Q: What is the penalty if discrimination is proved in the sale or rental of housing?

A: First, you can be ordered to sell or rent to a complainant. If, while a complaint is pending in the courts, you sell the house to another buyer (provided the judge has not issued a restraining order against the sale), you can be required by the court to pay whatever actual damages were suffered by the complainant in addition to \$1,000 in punitive damages.

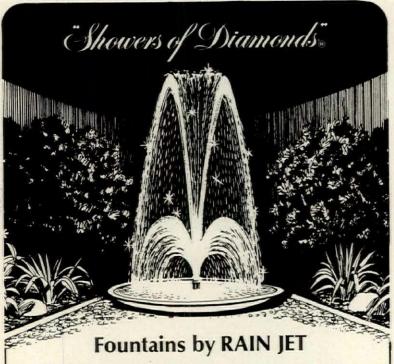
Q: Are mortgage lenders affected?

A: Yes. As of Jan. 1, 1969, banks, S&Ls, insurance companies or any other business engaged in making commercial real estate loans can not discriminate by denying a loan for the purchase, construction or repair of a building or by setting extra-high interest rates solely because of the applicant's race, color, religion or national origin.

Q: How fast will Negroes move into formerly all-white areas?

A: In certain suburbs, where large tract builders have been discriminating for fear of being at a competitive disadvantage, there may be an influx of Negroes, especially in suburban apartments.

But what the Negro can afford to buy or rent is directly related to what he earns. So, while Negro income remains substandard, there will be no mass exodus from the urban cores to the expensive suburban areas.



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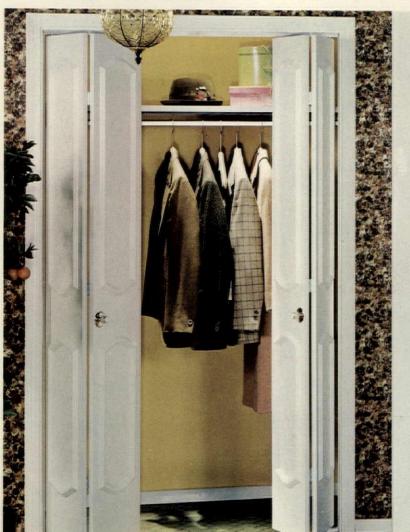
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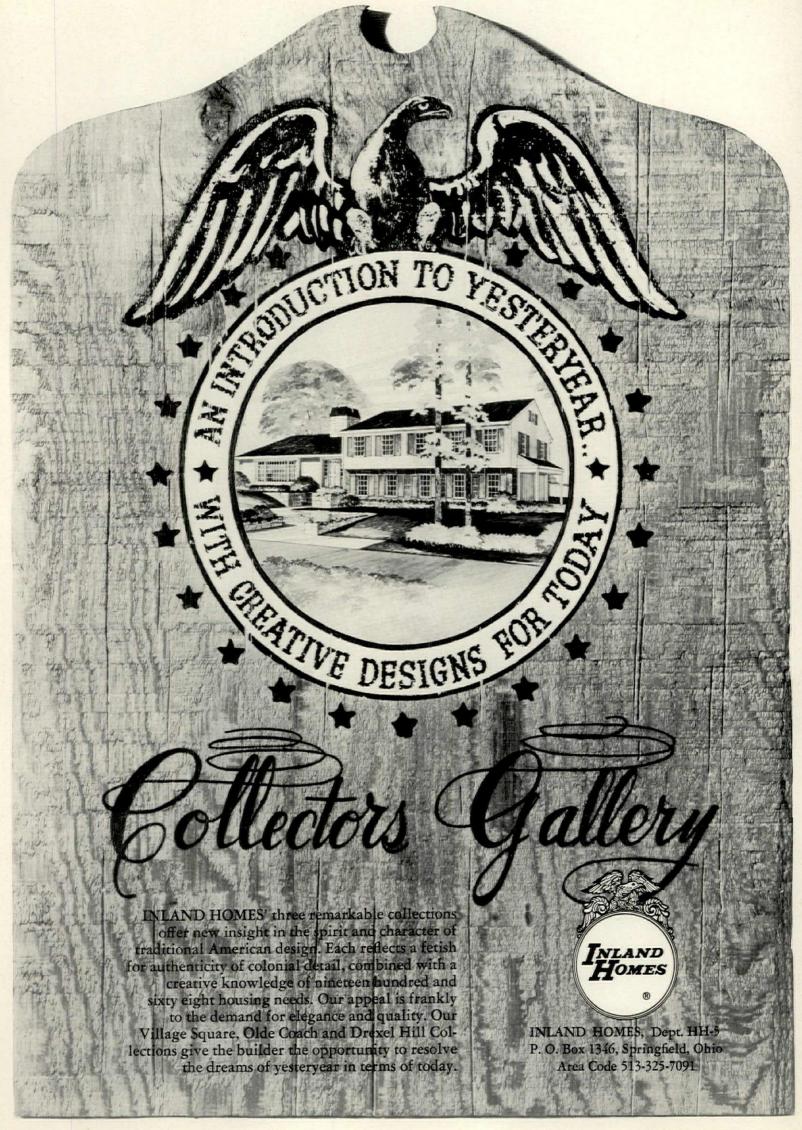
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Installation is fast . . . shelf and rod expand for a perfect fit with no waste.

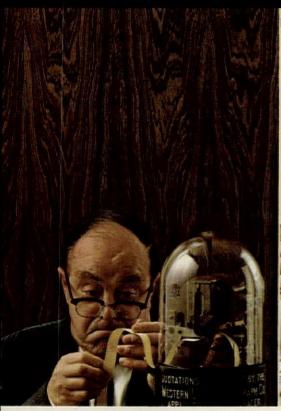




MAY 1968 Circle 56 on Reader Service card



How Marlite paneling gets involved in everybody else's business.



New Rosewood does wonders for a corporate image by capturing all the rich grain and color of hand-rubbed natural wood. Only difference: Marlite stays like new, Annual Report after Annual Report.



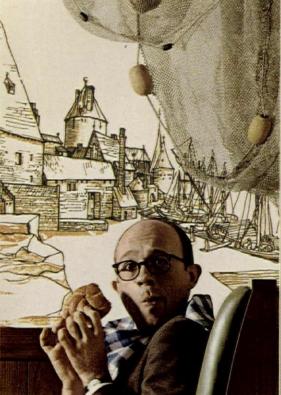
New American Tile is the answer where clean walls are the question. All the beauty of ceramic tile, but none of the problems of grouting. And like all Marlite paneling, this wall wipes clean with a damp cloth.



New Antique White Tapestry has texture you can see and feel—down to the most delicate thread. But Marlite texture can't peel off. It's deep-embossed in the panel for a lifetime of wash-and-wear beauty.



New Lombardy Travertine has been accused of looking like costly Italian limestone. That's the idea exactly. So if your customer wants magnificent walls without paying a heavy penalty, make a case for this Marlite paneling.



New Marlite Mural, entitled "Flemish Harbor," is crafted in deep brown and gold on a white background. Use this panel when you want pictorial effects in a hurry. (Marlite goes up fast without interrupting business.)



New Textured Oak gives you everything the real wood has except acorns. Authentic texture. Distinctive grain. Plus a rugged plastic finish that resists heat, moisture, stains and dents. A great background for any business.

See Marlite's new line of prefinished hardboard paneling (including new Fire-Test Panels) in Sweet's File or write Marlite Division of Masonite Corporation, Dept. 522, Dover, Ohio. 44622.

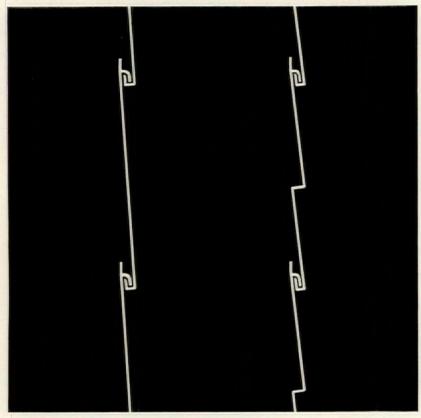


Marlite plastic-finished paneling

have you heard about

VILLAGER
SOLID VINYL SIDING

7



soon...everyone will

the newest product of **Philip Carey Corporation**

t's really something! Our own solid vinyl siding. The siding that won't do anything . . . except last and last . . . all the while looking its clean, smooth beautiful best!

Made of the best...B. F. Goodrich Geon® vinyls...in softly-rich colors: light gray, light green and white. Both 8" and double-4" types.

Now's the time to check up on this newest of all sidings. Decide how it can do a lot of good for your business. Get samples and literature.

Write or phone Philip Carey Corporation, Dept. HH-568, Cincinnati, Ohio 45215. Phone: 513—821-3000. It's worth it!

50

American-Standard
has the Hot Ones for '68!

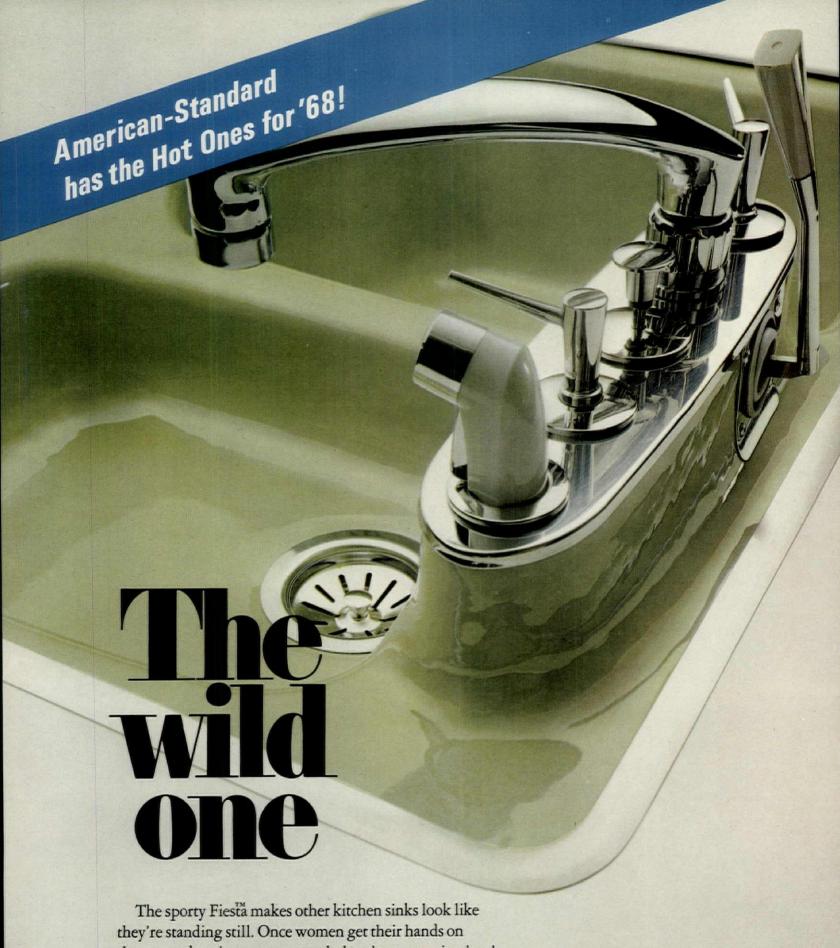
The fresh One

A toilet that ventilates itself?
This has to be the hottest bathroom feature since American-Standard moved plumbing indoors!
And we're making it even hotter with big, bold, bright ads in LIFE, TIME, NEWSWEEK, SUNSET, BETTER HOMES & GARDENS, HOUSE BEAUTIFUL and HOUSE & GARDEN. No wonder smart, successful builders like Gene May, of Evermay Homes, McLean, Va. are featuring the remarkable Compact/Vent-Away in their model homes right now!

PLUMBING & HEATING DIVISION



@ AMERICAN STANDARD Inc. 1968



The sporty Fiesta makes other kitchen sinks look like they're standing still. Once women get their hands on that souped-up instrument panel, there's no stopping 'em! And smart, successful builders like J. S. Hovnanian of Holiday-On-The-Green, Mt. Laurel, N. J., know it. He's turning prospects into home buyers right now with a Fiesta sink in each of his model homes. We're backing Mr. Hovnanian and you up all the way with advertising that's reaching (and pre-selling) 137 million people. That's pretty wild, too!



@ AMERICAN STANDARD Inc. 1968

American-Standard has the Hot Ones for '68!

The Safe One

The slip-resistant bottom on our Stan-Sure* tub makes stepping into the bath as easy as jumping into bed. Makes your homes easier to sell, too. (Just ask George McCormick, of Mac & Mac Inc., Pittsburgh, Pa. He's featuring Stan-Sure in his model homes for the second year now!) What more could you ask for? Big, bold ads like this making a splash with your best prospects in 14 of their favorite magazines!

*4 times safer than regular tubs.

These nationally advertised trend-setting products are being featured by builders all over the country. Reason? To help sell more homes faster. For more information and details on the special promotional program call your nearest American-Standard representative, or write us. American-Standard, 40 West 40th Street, New York, N.Y. 10018.



© AMERICAN STANDARD Inc. 1968

The round one. It's what's new in central air conditioning!



This new Carrier air-cooled unit says your homes are as modern as '68 . . . distinguishes them from others down the street.

Makes all other condensing units, well, kind of square.

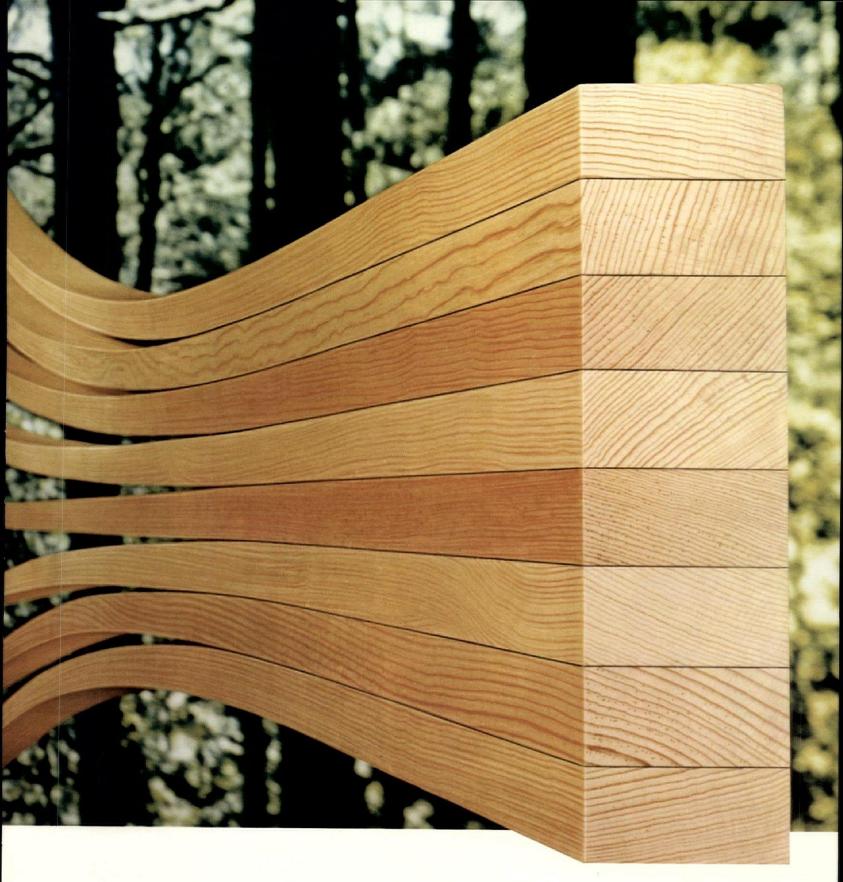
Is considerate of shrubs and neighbors, too, even close ones. Tosses heat and sound straight up—away from them, not at them.

And figure on low on-site labor costs. And Carrier quality through and through—at a very attractive low price.

The round one. Modern. Available in capacities from 17,500 to 49,000 Btuh. Well worth inspection—your Carrier Distributor is the man to see. Or write us at Syracuse, New York 13201.

Carrier Air Conditioning Company





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Potlatch Electro-Lam® beams are trees redesigned and rebuilt into superior load-carrying members. Each individual board is kiln-dried, then surfaced and scarf-jointed. Laminated together under tremendous heat and pressure into a continuous beam, they are stronger than a whole tree, carry more

load than steel I beams the same size or weight. And our continuous lay-up makes any desired lengths precisely available. Electro-Lam beams are typical of the advanced products produced from our perpetual forest resource. From over a million and a quarter acres, trees are selectively

harvested and remanufactured to solve some problem of business or industry. If you have a problem, we are finding answers, continuously. Potlatch Forests, Inc., P.O. Box 3591, San Francisco, California 94119.







Three models show the kind of excitement that space can create







The house shown here, and the two houses on page 58, are new models at Greenbrook, a Larwin Co. project in Cypress, Calif. They are already proving to be best-sellers chiefly because they appear far more spacious than their actual area. And this in turn is due to their imaginative use of vertical space.

The main entrance to the house above leads to a mid-level landing (plan, below) that looks down into a sunken living room and up to a soaring 2½-story ceiling and balcony on the upper level (top photo, left). By contrast, the dining room has a more intimate feeling because of the low ceiling. But the family room (center, left) appears larger than it is because it opens to the living room.

On the second floor, the master bedroom has a sloping ceiling (bottom, left) that rises to the ridge. And it is opened up even more by a high window and glass doors to its own sundeck.

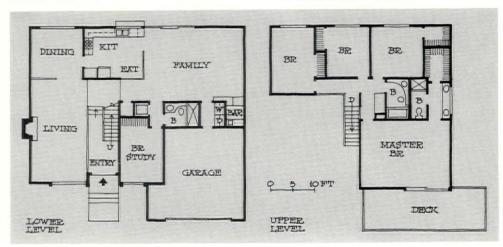
Other features include a compartmented master bath, large walk-in closets, a full bath on the lower level next to the den (or guest bedroom), a bar in the family room and a separate laundry room between the family room and two-car garage. The fifth bedroom can be eliminated to make space for a three-car garage and a larger laundry.

This model offers 2,983 sq. ft. of living area, including sun deck; it sells for \$35,-550. Opened in November, it has already accounted for more than 100 sales.

The two houses on page 58 are priced at \$35,990. Opened in February, they have accounted for a total of 50 sales.

All three houses represent the high end of Larwin's eight-model line, and they currently account for about 25% of total sales at Greenbrook. The project's total for the 16 months it has been open is 1,200 sales, with current delivery dates as far away as December.

Architect: B.A. Berkus.



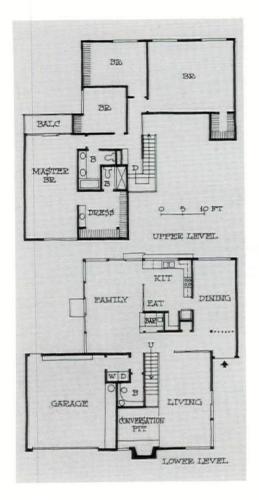


DECORATOR FINISHES IN PERFECT TASTE

WEISER LOCKS

WEISER COMPANY - SOUTH GATE, CALIFORNIA DIVISION OF NORRIS INDUSTRIES

WHAT THE LEADERS ARE BUILDING continued







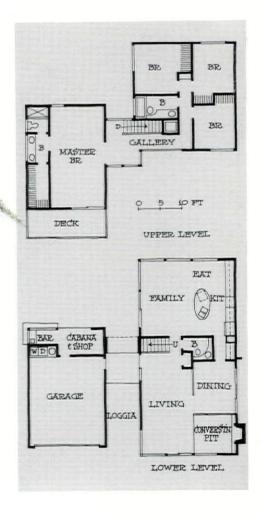
side-entry model at Greenbrook has a front fence to shield the living room windows and the entry court (plan, left). The kitchen—which has a walk-in pantry—opens into a large family room with two full walls of glass opening to rear patios. The two-story living room includes a conversation pit in one corner beneath the stair landing. The master bedroom (left) has its own rear balcony and a large closet-walled dressing room. Total living area: 2,764 sq. ft.



CENTRAL-ENTRY MODEL has a loggia leading through the house to the rear yard. Above it, a glassed-in gallery connects the master bedroom with the rest of the house. A sunken living room (*right*) has a view of the front door and open gallery above. One step down from the living room is a conversation pit (*plan*, *right*, *and cover*). The in-line kitchen has an island sink that overlooks glass-walled family room. Living area: 2,678 sq. ft., plus deck.

Other photos of this and the model above are shown on p. 96.







New from Ozite...lowest priced pattern carpet ever!

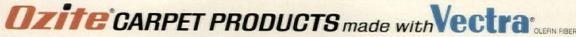


It's Ozite Outdoor-Indoor Pattern Carpet! Now get all the proven features of original Ozite Outdoor-Indoor Carpet made with Vectra fiber...and striking patterns, too! These aren't burned-in designs that catch and hold dirt. They're actual patterns...three in all...Brick, Wrought Iron and Mosaic...and each pattern comes in different colors. We call it Ozite Fiesta Carpet. Amazing Vectra fiber is colorfast...won't rot. Dense, firm surface resists soiling, is not affected by mildew. Low-cost installation. Seams beautifully. Face yarn will not ravel or sprout. There's no finer decorative carpet value for kitchens, baths, rec-rooms, patios, balconies, commercial installations...anyplace indoors or out!



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See Moenique at the Pacific Coast Builders Conference at Booth 101

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Check Kitchen Kompact's two distinguished cabinet lines – Mellowood and Fruitwood. You'll see why KK has been acclaimed "The Best Value in Cabinetry".

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Choose a Colony House Hood with rectangular duct, at 140 CFM (damper included) lists from \$33.50...the round duct model at 160 CFM lists from \$30.50...or the duct-free which lists from \$37.50

All three come in Coppertone, Avocado, Stainless Steel and White, and are available in either 30" or 36" widths.

Broan quality features include two-speed control, a lifetime washable grease filter (and in the duct-free, an additional activated charcoal filter), 100 watt light. In short, more hood for your money.

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From the manufacturers of custom-made Chuck Wagon hoods, Lo Sone fans, and the finest quality hood line led by dual blower ventilators . . . for more than 35 years.



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□ Builder

☐ Dealer

☐ Architect

☐ Distributor

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A new idea in vinyl floors that sells houses faster because it s a benefit buyers want.

Kid-Cushioned Floors aren't just plain, ordinary vinyl. But proved Congoleum-Nairn cushioned vinyl.

Proved because its extra vinyl cushions its beauty

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Fast & easy. Kid-Cushioned Floors won't crack or split in cold weather. They stay flexible. And many install on any grade. Thanks to our famous White Shield® backing.

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Kid-Cushioned Floors come in the widest range of color-pattern combinations to ease your decorating problems.

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And their performance and quality have the Good Housekeeping seal. (A mutual advantage: making the kind of products that improve your business is the only way we know of to improve ours.)

Why not try all of these products under one roof on your next job? You'll have 5 advantages going for you.

For complete information ask for "The Builder's Pack"-a complete set of full color catalogs on each of these lines. Address Dept. HH-568M, Miami-Carey Division, Philip Carey Corporation, Cincinnati, Ohio 45215.



LETTERS

College-trained talent

H&H: Your March article on hiring men with college degrees in building is exceptionally informative and dramatic.

As a direct result, we have just received several letter and telephone inquiries concerning our program, which you so kindly listed. We imagine that each of the other schools that you identified as offering building curricula will experience an equivalent response. Such constructive reporting is a positive way of solving the shortage of able young men for builders' organizations. As always, you serve the industry well.

EDWARD F. SHAIFER JR., chairman Construction Dept. Arizona State University Tempe

H&H: Everyone in our department at Michigan State is pleased with the article.

We have received numerous inquiries about the availability of our graduates and some letters from prospective students. We wish there were more of the latter so we could come closer to fulfilling the needs of the industry.

> E. A. Behr, acting chairman Department of Forest Products Michigan State University East Lansing

H&H:. . . well done and very timely. Please note that the University of Oregon should be listed among the colleges offering a degree in building construction.

JEROME DASSO, associate professor of real estate University of Oregon Eugene

Housing 'mystiques'
H&H: Your March editorial on the "mystique" of easy solutions to housing is superb. I hope you continue with the effort to get people to get their heads out of the clouds, get their feet on the ground and understand the realities of the situation.

You express very clearly my feeling about the mess created in housing by so-called experts from the academic field, none of whom have any basic knowledge and understanding of the housing industry and how it works.

THOMAS P. COOGAN, president Housing Securities Inc. New York City

н&н: Being generally considered a heretic with regard to housing and, especially, to government's role in housing, it is always nice to see clean, knowledgeable and refreshing exposition of like heresy.

Congratulations on your March editorial. Your promise of additional columns leads me to suggest that you seriously consider putting them in pamphlet form as an antidote to the panacea pamphlets that abound.

RICHARD E. BLAKLEY State of Illinois Housing Board Chicago

H&H: Your March editorial is not particularly earthshaking, but old-fashioned horse sense rarely is. What you say is vitally important, and I hope that you will keep on saying it and that your readers will somehow get the message to all of the people in this country who need to know the facts.

JOHN A. STASTNY, vice president and secretary National Association of Home Builders Washington, D.C.

WHEN YOU'RE THE FIRST TO SELL 4 MILLION DISPOSERS



YOU MUST HAVE AN E

We became first choice of 4 million buyers when the word got out: Waste King can take all the food waste any family can hand out—day in, day out for years—and do it quietly. Without jamming. Without annoying service problems. (Our warranty is one year parts and labor. And it's backed by over 900 factory-trained service agencies across the country.)

We hushed the irritating noises with our patented Hush Cushion suspension. And when people found it easier on the ears to

take the daily grind, they bought Waste King.

We made our disposers another cut above the others by giving them a better cut below. With an exclusive surgical steel undercutter blade that really tears into its work. When people discovered that we cut up stringy stuff like corn husks and celery, they bought Waste King. A disposer that's trouble-free, longer-lasting and quiet has the kind of selling points that help sell the kitchen that helps sell the house. We're telling 50

million readers of Look, Sunset and shelter magazines about it. Why not give your next project another edge on competition—Waste King's edge.

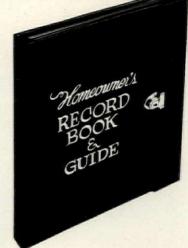


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Makers of America's finest disposers, dishwashers and cooking equipment
A subsidiary of Norris Industries.

We got to be the big noise in disposers by getting rid of the big noise in disposers. And for the perfect companion, a full line of Waste King stainless steel dishwashers. For information, write Dept. H-5.

Memo to Blog. Prod. advertising Dept. Subject: House + Home Planners Dige 51 Bob: It might be a good idea to look into this method of distributing our product literature to how planning families nett year. Here are some possible advantages: 1. The Digest can deliver our message daily throughout the year to custom- house planners identified by J. W. Dodge - over 50,000 a year! 2. Gach literature regrest would come from a pre-qualifie positive prospect. 3. We'd save money by sending literature only to bour - fike new custom - house planners. Why not give forse there a call for more information to day.

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GIVE THIS HANDSOME, LOOSE-LEAF BOOK TO YOUR NEW HOME-OWNERS — IT'S DESIGNED TO HELP THEM WITH DAY-TO-DAY MAINTENANCE PROBLEMS AND WITH ESSENTIAL RECORD KEEPING.

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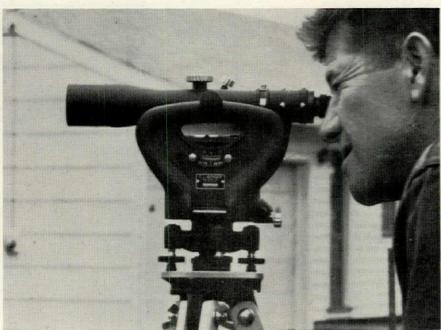
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Please send me the HOMEOWNER'S RECORD BOOK & GUIDE for 10 days free examination. In 10 days I will remit \$6.95 plus any local tax and postage. Otherwise, I will return the book postpaid.
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Keep the lid on building costs

-with the instrument of "101" uses

Which Berger is best for your needs?

(Not shown: Model 500 Optical Plummet Transit-Level. Same specifications as #320 but with optical plummet. \$290.*)



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For its moderate price you get big instrument features like a 22-power telescope with coated lenses that focuses 3 ft. to infinity, horizontal circle and vertical arc with double vernier reading directly to 5 min., plus all the other features and superb craftsmanship for which Berger has been known since 1871. See the Berger Convertible...get the feel of it, at your dealer. Or mail coupon for full information. C. L. Berger & Sons, Inc., 53 Williams St., Boston, Mass. 02119

BERGER

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LETTERS

continued from p. 65

H&H: In one section ("Mystique No. 1: Technology") of your March editorial, I am afraid you are indulging in a comparison of apples and oranges when you state that the cost per sq. ft. of most new merchant-built dwelling units is the same as the ex-plant cost of a mobile home (\$6 to \$7).

Sq.-ft. costs have always been an unrealistic method of comparing various forms of housing; they are seldom used by "experts" who are interested in truly evaluating noncomparative systems.

If we are going to make comparisons, perhaps the merchant builders could tell us their costs for a 600-sq.-ft., single-family detached residence with two bedrooms, 1½ baths, all appliances and all furnishings. Of course, merchant builders do not build homes this small, so we can only speculate. But I would venture that their best costs for such a home would be in the \$10-per-sq.-ft. range.

On the other hand, the "assembly-line boys" do build double-wides, which are essentially mobile homes comparable in overall size and floor plan with small merchant-built homes. Ex-plant costs of these homes (excluding furniture package, appliance package and profit) are \$5 a sq. ft. I think we "experts" do know what we are doing.

JOHN SLAYTER, president Slayter Associates Inc. Elkhart, Ind.

H&H:... You say well in much that needs saying, and I look forward to later editorials in the same series.

NATHANIEL H. Rogg, executive vice president National Association of Home Builders Washington, D.C.

For more housing "mystiques," see p. 89-ED

'Masterful job'

H&H: I just had to write and tell you what a masterful job was done on the apartment story in the March issue. You are to be commended for being able to distill all of the essentials of a very complicated subject in a few short pages.

I also want to commend you on your "Mystique" editorial. It was a pleasure at long last to find someone who knows what he is talking about with the courage to debunk some of these myths, which are apparently becoming as sacred as mother, home and flag. I am anxiously awaiting your session with rehabilitation, which is long overdue for a factual dissection.

Your magazine is greater than ever.

DONALD J. SCHOLZ, president Scholz Homes Inc. Toledo, Ohio

Buyer-motivation study

H&H: A detailed response to Norman Young's letter to you [Mar.] on Project Home is not possible. Its superficial and polemic character completely negates any attempt to discuss the issues. By quoting material out of context, by half-truths and outright distortions of the matter and purpose of the study, he throws dust in the public eye and doubt on his own qualifications as critic of serious scientific research.

Under its hysteria and confusion, one can see two basic preconceptions in Mr. Young's letter. Both of them are equally fallacious.

One: He is convinced that houses can be

Letters continued on p. 74

ADDRESS



This new Luxuria Mediterranean style is just one of seven styles available from Long-Bell's nationwide network of assembly plants.

Out of the carton and onto the wall...Long-Bell pre-finished cabinets save you time and money

No wonder this carpenter looks pleased!

He's winding up another quick installation of Long-Bell pre-finished, true-fitting kitchen cabinets. From rich exteriors to carefully crafted, factory-assembled "action convenience" interiors . . . Long-Bell design and quality construction lets him complete the job faster.

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For good reason. When the carpenter is done, there is no worry about temperature control and lost time for cabinet finishing. This kind of trouble-free speed means less building or remodeling costs—more units ready to show customers sooner. It all adds up to greater sales and profits.

"Action" conveniences intrigue, then sell.

Today's sophisticated homemaker insists on distinctive beauty—plus the latest in time and effort-saving efficiency.



INTERNATIONAL PAPER COMPANY

LONG-BELL DIVISION

Self-closing drawers, Lazy Susans, pop-up mixer shelves, sliding shelves in base cabinets and a pull-out vegetable rack are just a few of the favorite "action" sales-makers in the Long-Bell Luxuria line.

For added savings, use Long-Bell vanities.

Long-Bell's new line of pre-finished vanities will give bathrooms more sales power too. Available in three beautiful finishes, popular sizes.

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Builders gain competitive buyers a sensible solution



MR. DICK SMITH of Falls Church, Virginia

Mr. Dick Smith, President of Richard Air Conditioning, Falls Church, Virginia reports how he has used the tremendous recent publicity on air pollution to really sell air cleaners.

"People are well aware of smog and air pollution problems. It's a fact that more and more people are experiencing respiratory

problems. Without proper air filtration, the air inside the home is the same as the air outside. I figure if I can help my customer protect himself, I am doing him a great service.

"That's why on every air conditioning lead, I first send a brochure that talks Total Home Comfort with an air cleaner.

"Then I make a personal call. First I sell air conditioning, then I talk air pollution and the fact that for just four or five hundred dollars, he can have Total Home Comfort.

"I sell the Honeywell Electronic Air Cleaner at full markup and make good profits. I'll sell over 100 units this year.

"The secret is talk air cleaners. With all the air pollution publicity, prospects are very receptive. Most of them have already heard about the Honeywell Electronic Air Cleaner, and a simple presentation is all that's needed to close the sale."

MR. ART ROEHNER of Fairborn, Ohio

Hupp and Roehner, Inc., of Fairborn, Ohio is developing a housing area with about 700 homes, with prices ranging from \$18,500 to \$40,000. The blank frame for Honeywell Electronic

Air Cleaners is installed in every house they build.

Mr. Art Roehner says, "We offer the Honeywell Electronic Air

Cleaner as an optional feature in all homes. Also air conditioning. Over one-third of the buyers request the air cleaner—just a little less than those who install air conditioning. "We have a display of the Electronic Air Cleaner in our sales office. Most people are very interested in it because of the growing air pollution problem, and also because of

tronic Air Cleaner is a great help on both counts. Many people wait awhile and have it installed at a later date; that's why we always put in the Honeywell blank frame."

children who may have allergies . . . the Elec-

Mr. Roehner concludes, "The homeowners are very happy with the Electronic Air Cleaner. They say their houses are cleaner and more comfortable in many ways."

MR. MIKE ZAZOULINSKY of Aurora, Ohio

"We're really happy with the Honeywell Electronic Air Cleaner," says Mike Zazoulinsky of Aurora, Ohio. "We have two developments under way right now—one in Rootstown, the other in Kent, Ohio. In the Kent development, we offer Total Home Comfort as standard equipment. That is, central heating and air conditioning, humidity control, and the Honeywell Electronic Air Cleaner."





edge by offering home to air pollution.

"We feel that when a man spends over \$20,000 for a new home, he is entitled to the most comfortable home we can make for him. The Electronic Air Cleaner is definitely part of that comfort."

Mr. Zazoulinsky continues, "In our Rootstown Estates developments, we started offering this Honeywell Electronic Air Cleaner about eight months ago. And the last 4 out of 5 buyers had it installed immediately. *They* know its benefits, and the word spreads pretty fast.

spreads pretty fast.

"One family has a little girl with an allergy problem. They installed the Honeywell Electronic Air Cleaner, and it relieved her problems.

"I'm entirely sold on the Electronic Air Cleaner. It's obviously the coming item in home comfort."



MR. WILLIAM H. HIGHSMITH of Anderson, Indiana

"We install the Honeywell blank frame for the Electronic Air Cleaner in every home we build," says Mr. William H. Highsmith of Anderson, Indiana. "People who have had the Honeywell Electronic Air Cleaner before buy it readily again because they know of its advantages as far as dust, air pollution, allergies and cleanliness are concerned.

"About 30 or 35% of the new homeowners add the Honeywell Electronic Air Cleaner after they have lived in the house awhile. They not only realize that they will be living in a more comfortable home, but also that the resale value of their house will increase because of this feature."



Honeywell Electronic Air Cleaner mounts easily in return air duct of forced air heating-cooling systems. Catches up to 95% of airborne dust and dirt, 99% of pollen passing through it.

Honeywell

We were the first company to get scientific about air pollution...



... in attics

Air is polluted when there is something in it that nobody wants. Something that causes trouble. Like excess heat. Or too much moisture.

We fought it with science, becoming the only company to fully research and develop a properly balanced attic ventilation system. It's Vent-a-System, and it creates a uniform flow of air from soffit to ridge with no blowers, no motors, no moving parts. Already proven in thousands of fine homes,



Vent-a-System is backed by our \$1,500,000 warranty that says it *must* maintain attic temperature no more than 15°F. above outside air.

The result is air cooler in summer and dryer in winter. Air conditioning costs are lower. Moisture damage is eliminated. Paint doesn't peel. Roof shingles last longer. And ceiling insulation is kept dry to prevent winter heat loss.

Isn't science wonderful?

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	Name
didde	Firm
Venta-Strip.	Address
	CityStateZip
	I am: Builder Dealer Architect Distributor

LETTERS

continued from p. 70

built and sold only by trial and error.

Two: He seems to believe that Project Home was intended to provide a blueprint for building a successful house.

The American housing industry is working by trial and error. And it is not able to get its fair share of the consumer dollar. It wants to know why—and that was why Project Home was entrusted to our firm by 28 major firms involved in the industry.

Using tested and accepted techniques of market research (with which Mr. Young does not seem to be familiar), our organization produced a report on the basic human attitudes that influence Americans in the purchase or rental of homes. The results have not been seriously or convincingly challenged by Mr. Young or anyone else.

This report will not tell a builder how to construct a house. It was never intended to do so. But it does indicate things to avoid, qualities to emphasize, in building a communications platform that will appeal to a number of different housing markets. It does provide the fundamentals of motivation which automobile manufacturers, television distributors, makers of breakfast cereals, use every day, but which the housing industry has hitherto ignored—to its own detriment.

Mr. Young works for the Levitt organization, who are enormously successful builders. The pattern of their success was established long before Mr. Young joined them. His "expertise" gets a long ride on their coattails.

Project Home was an effort to bring housing out of the Neanderthal age. It is regrettable that Mr. Young sees fit to stand, stone axe in hand, at the entrance to the cave.

WILLIAM SNAITH Raymond Loewy/William Snaith Inc. New York City

For a report on Project Home, a buyer-motivation study by Raymond Loewy/William Snaith Inc., see House & Home's November 1967 issue. Critic Young is senior vice president-marketing of Levitt & Sons.—ED

Land policy Down Under

H&H: You may be interested to hear that a report on land taxation and land prices in Western Australia has been published by a select committee on which our agency, the Metropolitan Region Planning Authority, was represented. Material from House & Home [Sept. '64] helped the policy makers to be sympathetic toward the control of land prices.

DR. DAVID CARR, chief planner Metropolitan Region Planning Authority Perth, Western Australia

Model Cities: human factors

H&H: I was greatly impressed with "Business and the urban crisis" [Feb.]. It was a comprehensive, succinct and straightforward analysis and challenge to private industry. I share your feeling that urban slums and poverty are among the most critical problems we face today. If we are to overcome them, all of us—government, business, educators, private citizens—must learn to work together, and work hard.

You may be interested in an explanatory comment in connection with the brief statement concerning the Model Cities program. The \$11 million and \$300 million figures were correct, but the explanation that the funds

Letters continued on p. 78

Get your feet billion-foot marketwith Bird Solid Vinyl Siding

The market for residential sidings — for new and remodeled homes — should hit a billion feet annually within the next two years. Says who? Says the trade, in report after report. Get set for that tremendous, sure-profit market with Bird's Solid Vinyl Billion-Foot-Market Line.

BIRD SOLID VINYL SIDINGS — the news in the industry! Never needs paint. Double-4 and 8' and vertical. Choice of 3 colors. Won't dent, pit, rust or corrode like metal. Won't blister, rot, flake or peel like wood!

BIRD SOLID VINYL RAIN CARRYING SYSTEM.

Can't rust, rot, flake. No kinks in stock, transit, or installation, like metal. Available in 10', 16' and 21' lengths.

BIRD SOLID VINYL SHUTTERS.

No paint needed — easy installation. Available in 13 standard sizes and 3 colors.

Help me get my feet in that Billion-Foot Market.

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Please rush me news about your Solid Vinyl Products Line.

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75

Chevrolet <u>Job Tamers</u> come equipped

FOR CUSTOM-TAILORED EFFICIENCY AND LOW COSTS



Series 50 Conventional Model

You select from a broad range of gas or diesel engines, wheelbases, transmissions, axles... plus two cab designs. That's why Chevrolet Job Tamers keep costs low on your job.

There's no problem getting the right truck for your toughest jobs. Choose a Chevrolet Job Tamer. Series 40, 50 and 60 come equipped to handle practically any hauling assignment.

Specify single rear axle or big-muscled tandem models. Each offers a variety of wheelbases to fit

the body size that's best for your job. GVW ratings range from 10,500 lbs. all the way up to 32,000 lbs. with single axle — up to 45,000 lbs. on tandems. For tractor-trailer service, GCW ratings go as high as 60,000 lbs.

There's plenty of versatility in the power department, too. In gasoline engines, you select from both Sixes and V8s — from the standard 250 Six in some models to the 260-hp 427 V8 which is available for the big jobs. Or ask for diesel power — and get diesel savings — to match the most demanding tasks.

These engines can be teamed with a wide range of transmissions — manual or automatic. Everything from 4-speed to 10-speed manuals, depending on model.

Your choice of cab design, too. Chevrolet's famed conventional cab



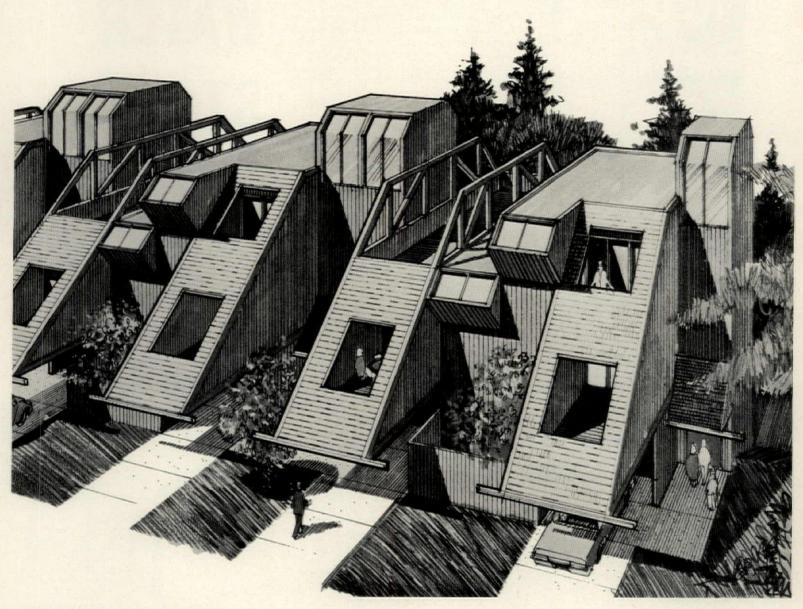
Series 50 Tilt Cab Model

measures a short 96 inches from bumper-to-back-of-cab. Accommodates a high cubage body on a shorter wheelbase for good weight distribution. Or select a tilt cab model for both maneuverability and excellent weight distribution.

Ask your Chevrolet dealer for the full Job Tamer story. He's equipped with all the facts. . . . Chevrolet Division of General Motors, Detroit, Michigan.



How to build townhouses that cost less & earn more.



Western Wood does it beautifully.

Apartment owners have found that the added warmth and character created by Western Wood appeals more to prospective tenants. So rental rates are tops, vacancy rates lower and the structure's resale value substantially higher . . . in essence, the builder/owner who makes use of Western Wood spends less to earn more.

With Western Wood as both framing and finish, structural elements become dynamic design elements. They work together to create the warm, total environment so necessary in today's multi-unit market competition.

But perhaps most important, Western Wood requires no special technique. It's familiar to your subs, and it's available anywhere in many grades, sizes.

Exciting ideas on multi-family dwellings are just part of the extensive Western Wood Urban Projection concept ... a program conceived and sponsored by the Western Wood Products Association to help guide the natural growth change and renewal that occurs in every community business district.

For more ideas, mail the coupon for the new Western Wood booklet "Western Wood Multi-Family Structures... More Profitable by Design." Also check the coupon for the Urban Projection booklet and information about a 20-minute full color 16 mm movie.

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Urban Projection	on Book				
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Firm					
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State	Zip				
Pine, Western Red Cedar, I	notty and clear grades of Douglas Fir, Ponc Incense Cedar, Western Hemlock, White Fir, E h, Lodgepole Pine, Idaho White Pine, Sugar				
One of a series of	resented by members of the For				



USE ANYWHERE.. including masonry blocks and hollow walls

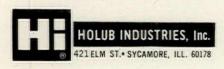
"Red-Cap" has all of the BIG HOLDING POWER and other important features of the original "Hi-Red" anchor . . . plus a collar that keeps it from falling into masonry block cores and bottomless holes. Use with slotted tapping or wood screws.

BUY 'EM IN HANDY KITS ... OR CARTONS





WRITE FOR FREE SAMPLES



LETTERS

continued from p. 74

were to be used for construction was erroneous. \$100 million will be spent for urban renewal, but the remaining \$200 million will probably be spent as much for social redevelopment as for physical improvements.

The Center for Community Planning is a new office responsible for coordinating and encouraging HEW's participation in the Model Cities program and other broad-scale urban improvement programs. Brick, mortar and pavement are necessary ingredients for any slum improvement plan. But without the human ingredients-education, health, jobs, and adequate income and confidence in oneself and in the future-these physical features are useless.

Each of the 75 Model cities will, of course, develop its own improvement plan according to its individual resources, problems and priorities. But discussions with city officials have thus far indicated a clear recognition that both human and physical redevelopment must occur simultaneously, and in close coordination.

I hope that your report stimulates the same interest and sense of urgency in the business community as it did within our office.

JAMES ALEXANDER, deputy director Center for Community Planning Washington, D.C.

How wise is good old Charlie?

H&H: Your February editorial on "why Charlie's happy now," is a delightful bit of speciosity.

Since he makes "22G per each and every," good old Charlie will probably buy a 50G house; and if he gets an 80% loan for 30 years at 7%, he will be paying \$266.20 principal and interest per month instead of the \$239.90 he would pay for a 6% loan. If he is in the 25% tax bracket, he saves one-fourth of the \$26.30 difference, or he is paying \$19.73 more per month.

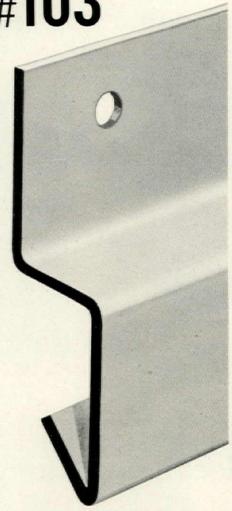
Since Charlie can't buy the daily pack of cigarettes, he will probably live long enough to fully amortize the loan. In 30 years he will pay an additional \$7,102.

I know why Charlie's happy-Charlie's stupid.

ROLAND S. ROSS San Francisco

Good old Charlie did buy a 50G house, but he made a \$28,000 down payment because this was his fifth house, and his equity on each one got bigger and bigger-not only because of his mortgage payments but also because of the appreciated price of the house when he sold it. Charlie improved each of his houses and saved all his canceled checks to show the improvement cost-and prove to the IRS that there was no capital gain on the appreciation. On only one house did Charlie find himself in a bind because he couldn't sell immediately. So he rented it for a year and took the sumof-the-years-digits depreciation on the income property, which gave him a nice rebate on his income tax. Charlie knows he probably will stay in his present house only five to six years, and while he's there he can deduct the interest on his mortgage from his income tax. If he didn't want to pay 7% for a mortgage at this time, he would wind up renting and would have no tax deduction. So Charlie is not so stupid. In fact, he's fairly smart.-ED

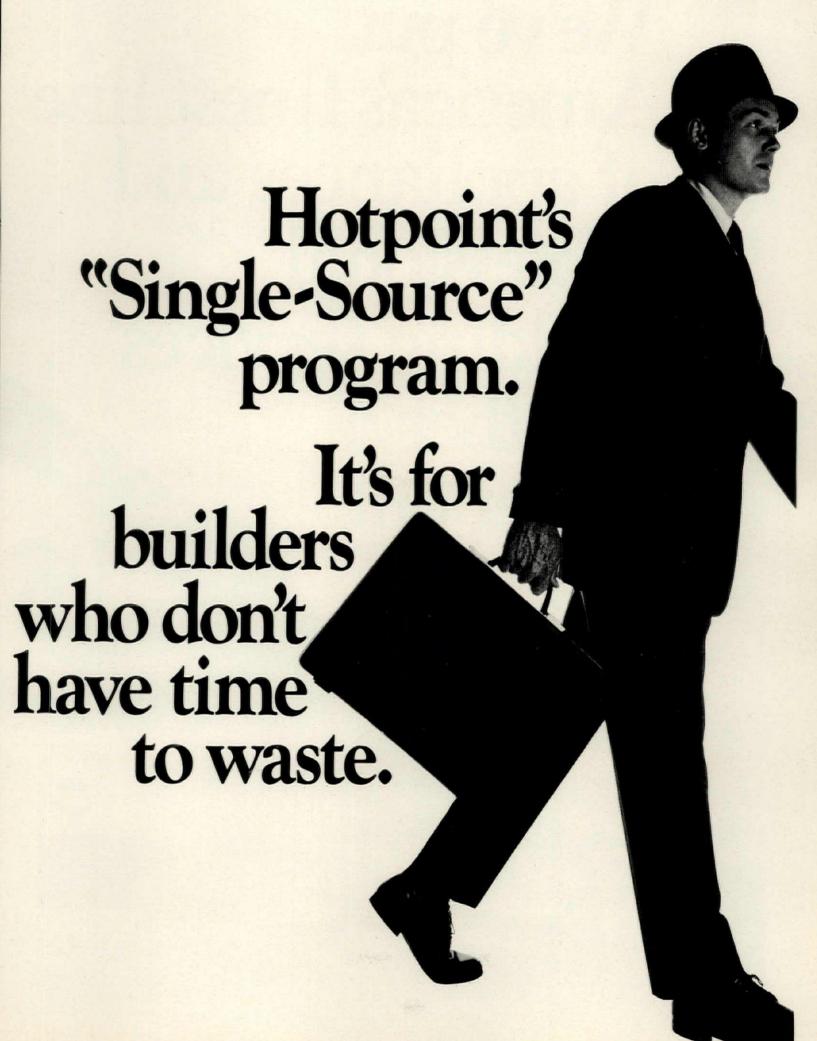
CASINGS POSITIVE WATER STOP #103



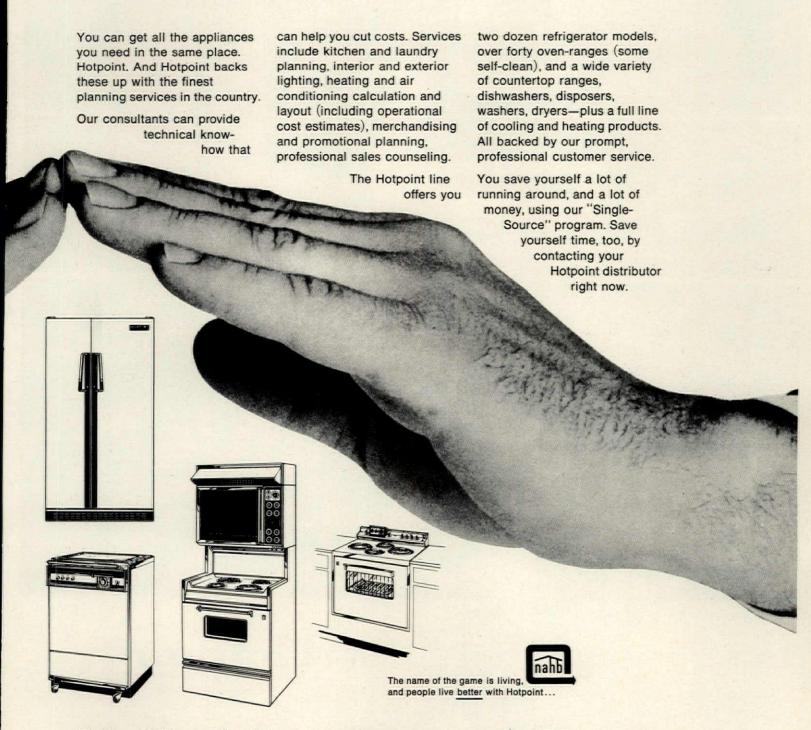
Positively Stops Water!

We would like to do business with YOU! Please-write for sample and latest catalog. They will be sent to you by return mail.



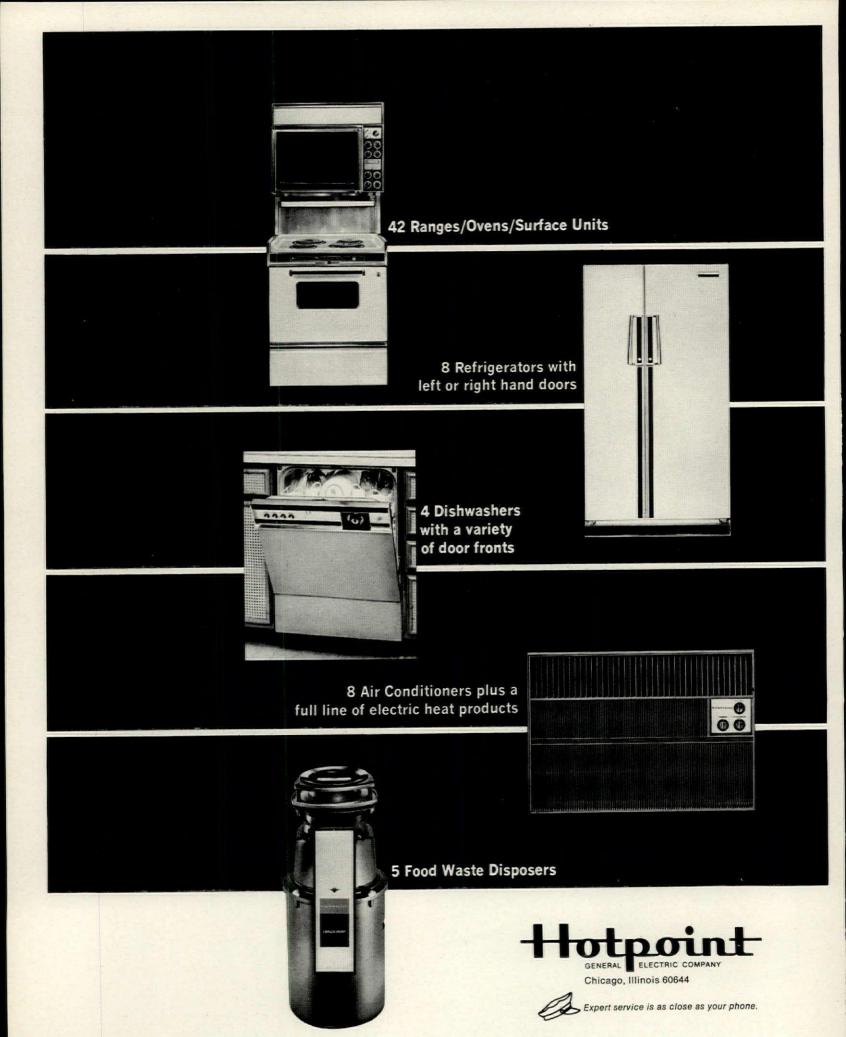






The "Single-Source" program by Hotpoint

See Hotpoint's complete Builder line insert in Sweet's catalog.







Successful builder of quality homes, Bill Ryan recommends those features he knows will appeal most to his home buyers. He knows first-hand how the direct access of a modern BILCO Door opens up a basement for recreation, hobbies and convenient storage — how it supplements the inside stair to keep "parades of traffic" out of first floor rooms. He knows, too, that no other single feature in his homes adds so much to the living pleasure of his buyers.

Start enjoying faster turn-over of your homes. Experience the satisfaction of having customers thank you for providing them with a useful, convenient, safe basement.

Send today for full information about nationally advertised BILCO Basement Doors and Stair Stringers (the fast, easy, low-cost way to build the steps under a BILCO Door) and free promotional material for use in your model home.



AMERICA'S FINEST BASEMENT DOOR

THE BILCO COMPANY, DEPT. B-55, NEW HAVEN, CONNECTICUT 06505

Now...you can get red cedar shakes & shingles



in a Koppers fire-protected super wood!

Here at last are red cedar shakes and shingles pressure-treated by Koppers to provide UL Class "C" protection. This means that beautiful western red cedar shakes and shingles may now be installed on commercial, institutional and apartment buildings in areas where their use had been restricted by fire codes.

Koppers pressure-treated shakes and shingles retain the charm and good looks of untreated cedar's soft, reddish brown tones. They offer the durability, strength, lightweight, weathering characteristics and distinctive shadow lines possible only with natural wood, hewn from fine, even-grain red cedar. Koppers super wood shakes and shingles have been tested by Underwriters' Laboratories, Inc., and carry a Class "C" label. For more information, write for Product Data, W-583. Forest Products Division,

Koppers Company, Inc., 795 Koppers Building, Pittsburgh, Pa. 15219.

KOPPERS

Architectural and Construction Materials

The war against ugly.

Maybe hearts and flowers went over big in 1928, but they don't belong on a 1968 plastic laminate.

But what do they keep showing you every year?

Patterns straight off Grandma's wallpaper, colors as vibrant as a paper bag and woodgrains that wouldn't fool a squirrel.

So we've developed over 120 contemporary designs that give you a fighting chance.

Wild, unpredictable abstracts like Paisley and Old Town.

Rich, luscious woodgrains like Coachwood and French Walnut.

Brilliant, eye-popping colors like Fuchsia, Poppy and Curry.

And we keep working on more.

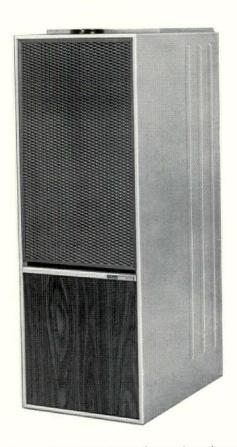
We want you to have more to work with than those same old museum pieces.

Want to see what we mean?
Write General Electric Company,
Laminated Products Department,
Section ABC, Coshocton, Ohio 43812.
And join the war against ugly.





Chrysler Airtemp deluxe gas furnaces look as good as they work.



Chrysler engineering know-how plus decorator design make this the best-working, best-looking gas-fired furnace line available. Get all the facts on the wide line of Chrysler-engineered cooling and heating products from your Airtemp distributor, or write Pete Fry, Airtemp Division, Chrysler Corporation, 1600 Webster Street, Dayton, Ohio 45404.





EDITORIAL

More mystiques

'There is no absurdity but that it may be firmly planted... by constantly repeating it with an air of great solemnity'

-Schopenhauer

On this page in March we outlined three mystiques—theories that seem to offer solutions to housing problems but actually make it more difficult to house all Americans adequately. Here are three more examples of the same kind of fuzzy thinking.

Mystique No. 4: the nonprofit syndrome. This has it that if one removes the profit motive from the development of low-income housing, it could be built at lower costs. Of course, no one has ever demonstrated that adequate housing can be built for low-income families with any more economy than adequate housing can be built for anybody.

But the real problem in nonprofit development is that such housing rarely stays low-income. In New York City, where there are now more than two million dwelling units, nonprofit groups have produced fewer than 25,000 units in the last hundred years for the ostensible purpose of housing low-income families. And today fewer than 400 of those units are occupied by families who could be called low-income under the broadest definition.

What happened? Almost all the nonprofit-produced units were sold to private owners who, wanting a reasonable return on their investment, raised the rents beyond the level of low-income families.

Why did the nonprofit groups sell out? Because, most experience shows, they had no financial incentive to keep, or keep up, the low-income units. Only permanent government agencies, set up to run low-income housing projects, have shown that they can do the job consistently for decades. A prime example: the local housing authorities that have managed public housing since 1937.

There is another problem, too. Most contractors who have taken on a job for a nonprofit sponsor are loathe to repeat the experience—and for a very good reason. Generally, the sponsor is so lacking in construction and financing expertise that keeping the job within the budget becomes a serious problem.

Mystique No. 5: the rehabilitation cure-all. Too many people who should know better see rehab as the answer to too many housing problems. To be sure, it does solve some housing problems. Where an area is clearly worth saving, for instance, rehab can do great things for a city. And the economies of massive rehab jobs can bring costs down to between 70% and 90% of

the cost of new dwelling units. But there is no magic way to reduce those costs still further. In fact, 1967's highly touted "Instant Rehab" job in New York City cost around \$25,000 a unit.

Where massive rehab would fall short is in hard-core slums. Reason: It would do nothing to change land-use patterns in these areas—would add no more recreation space, no more school space, no more commercial space or no more space for entertainment like movies and bowling. In effect, rehab would leave the slum gilded but still the same drab place with none of the amenities the rest of us expect in our everyday environment.

Then, too, massive rehab can do nothing about the problem of density. In New York's Harlem, for example, there are 50% more households than there are dwelling units. If all of Harlem could be rehabbed, people would still be cramped, three, four and five to a room. So the only workable solution is to provide more units in the same area with new construction.

Mystique No. 6: landbanks, the planners' utopia. Planners deplore urban sprawl, all the while ignoring the cheerful public acceptance since World War II of miles and miles of sprawl in every major U.S. city.

"But," say those who deplore, "you can't dismiss sprawl on those grounds. We must maintain green space to plan for the great urban centers of tomorrow, and we can do it by putting the land into landbanks."

That sounds fine, but such a proposal would involve federal use of the power of eminent domain in a sweeping and arbitrary program that could serve no immediate public purpose. If that power were used, the market value of land adjacent to the landbanks would skyrocket. And by the time the purchase could be made, Uncle Sam—meaning the taxpayers—would pick up an exorbitant tab, leaving a few landowners as rich as Croesus.

The whole landbank argument disregards a basic fact: We are not a needy nation. If the public decides it needs a great cultural center in the middle of some mammoth junkyard, for instance, we have the money and technical know-how to do the job. Such an approach—developing what we need when we need it—would be a lot cheaper in the long run than lining the pockets of a chosen few by pursuing the landbank theory.

-RICHARD W. O'NEILL



For years, the hotly competitive Southern California market has been housing's Mecca of merchandising ideas. Right now, this market's emphasis on furnishing and decorating can show you...

How to use COLOR to make your models memorable

Many builders in many parts of the country will find the pictures at left and on the next ten pages astonishing, if not downright unbelievable. They show models decorated in blazing colors and furnished with a wild variety of furniture and accessories; they show a degree of decorating sophistication far beyond the experience of most of the housing industry; and in some cases, they show such an overpoweringly colorful atmosphere that a builder could justifiably fear his prospects would never get around to noticing the houses themselves under all that glitter.

But the hard fact is that this kind of decorating is selling houses. The Los Angeles market is the country's biggest and most competitive, and it boasts the largest number of big, successful builders. These builders would not be paying hundreds of thousands of dollars to interior designers and landscape architects if there were a cheaper way to sell.

"In my opinion, this kind of model presentation is absolutely necessary," says James Manley, vice president of the Donald L. Bren Co., which is building 1,200 homes in Valencia, in Ventura County. "But I'll never be sure, because I wouldn't dare try a project without it."

The key idea behind this kind of decorating: Never let a visitor forget a model. Says John Martin, vice president and sales manager of the Mission Viejo Co., which is building 1,800 houses in Orange County: "We constantly have people come into the sales office to tell us they're interested in the red house, or the green house, or the house with the crazy blue mirror."

Says interior designer Pat Yeiser: "The decorating doesn't have to be entirely believable—the idea is to excite people enough so they remember the house."

And says interior designer C. Tony

Pereira: "Some people will love what we do with a model, others will think it stinks. But none of them will forget it."

This doesn't mean, however, that taste isn't important. On the contrary, the strong colors and color combinations that are going into these models demand an expert touch; otherwise the result could be an unlivable-looking mess.

"We're trying to produce impact," says Virginia Douglas of Douglas-Cottrell & Assoc., interior designers, "but we're also looking for emotional acceptance. The visitor has to feel he'd be happy living there, and he has to instantly see the relationship of the living spaces."

What about sex as a merchandising pitch? Is it true, as has been increasingly suggested of late, that the best way to sell houses is to decorate and furnish models in a manner strongly suggestive of a sort of domestic bordello?

The answer, at least in Southern California, is emphatically no.

"If you mean sex in the sense of sex appeal—color, excitement and so forth—then we use it," says John Cottrell of Douglas-Cottrell & Assoc. "But if you mean it in terms of suggesting physical sex—mirrors on the ceiling and that sort of thing—our builders don't want it."

Says Virginia Douglas: "We put a lot of emphasis on the master-bedroom suite, but we do it in terms of privacy—a mature relationship. I don't think a builder with real taste would be caught dead using that Playboy-type stuff in his models."

Says Jim Manley: "We don't want to offend potential buyers, and that sort of thing would."

And says Philip Riley, president of Mission Viejo Co.: "The heart of our merchandising is appealing to the whole family. The negligee-thrown-on-the-double-bed sort

of thing would hurt us far more than it would help."

Expert decorating costs a lot of money. It's not unusual for a \$25,000 model to have \$10,000 worth of decorating inside and \$10,000 worth of landscaping outside; so a seven-house model area could cost the builder \$140,000—in front money.

"We charge \$7.75 a sq. ft. to decorate a model," says John Cottrell. "About \$6 of that goes for furnishings, and the rest is our fee. But the builder will get most of that back, because somebody is almost sure to buy the whole furnishings package for his house."

And says landscape architect Courtland Paul of Courtland Paul/Arthur Beggs: "Typically, a builder can expect to get back about half of his landscaping and exterior furnishing expenses when the models themselves are sold."

High or not, the expense is worthwhile to Southern California builders. "During the worst of last year's housing slump, our decorating business doubled," says Virginia Douglas.

But can this colorful brand of model merchandising be effective in other more sedate parts of the country? This remains to be seen, but there are signs that it can. There has been a noticeable increase in the out-of-state-builder traffic through the Los Angeles market; some interior designers there are talking with out-of-state builders; and some very California-like merchandising ideas are beginning to pop up in other areas (see p. 98).

Perhaps the best indication was given by a former Tennessee housewife who had just bought a new home in Mission Viejo. She told Vice President John Martin:

"If Memphis builders did half the job on their models that you do, they'd be selling homes like hot cakes."

Colorful raised living room is in a model built by Robert H. Grant Developers Inc. Interior design is by Hamilton-Howe. For a tour of some of Southern California's most colorful models, start on the next page

A single dominant color can unify— Carpeting is the basic decorating element in these and identify-specific models

BUILDER: Mission Viejo Co.

LOCATION: Eldorado subdivision, Mission Viejo INTERIOR DESIGNER: Douglas-Cottrell & Assoc. LANDSCAPE ARCHITECT: Courtland Paul

houses. The same carpet color is used throughout each to give a sense of continuity, and furnishings and accessories are keyed to this basic color. Result: Visitors remember these models as "the red house," "the green house" and "the yellow house." Models are priced from \$18,000 to \$22,000. The project will ultimately have 1,000 houses; about 450 have been sold in the past year.

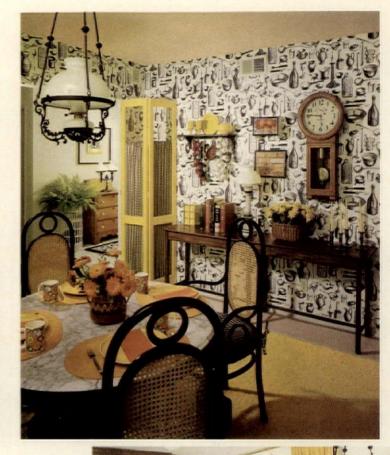






The red theme of this model could have been overwhelming, had it not been used with restraint. So walls and much of the furnishings were kept much lighter than the deep red carpet. Note how mirrored doors (lower right) open up a bedroom.

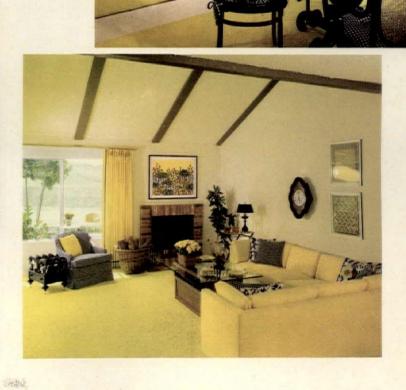








This green model features simple, gaily painted furniture. "In this price range," says interior designer Virginia Douglas, "we try to give buyers inexpensive ideas on how they could do their own decorating."



Busy decorating patterns are used in this yellow model. The old clock shown in the top photo is a feature that most visitors remember.

Photos: Julius Shulman





Bright colors in these kitchen-family room areas draw attention to the big expanses of glass opening to the rear outdoor areas.

Color can play up the relation between outdoors and in...

These pictures show two ways color can accentuate outdoor areas: by framing glass areas with strong contrasting colors, as at left, or blending with natural colors, as below.

Nearly 500 of these models, priced from \$22,495 to \$30,995, have been sold in Valencia, a 1,200-acre development north of Los Angeles.

BUILDER: Donald L. Bren Co.

LOCATION: Valencia

INTERIOR DESIGNER: Douglas-Cottrell & Assoc.

LANDSCAPE ARCHITECT: Courtland Paul





Green of the outdoors is echoed inside this model, and yellow decorating accents are used both inside and out.



Comfort and excitement are combined in this living room, with its deep, overstuffed furniture and contemporary tables and accessories.

... and accentuate the luxury of high-priced townhouses

Muted colors and dignified decor used to be the hall-mark of the luxury house. But these pictures show that brightness and imagination are just as much at home in the higher brackets as in the low—even though the appeal is obviously to the more urbane buyer who can afford to pay from \$32,000 to \$37,000 for a townhouse and to whom status is usually a high-priority requirement.

BUILDER: American Housing Guild

LOCATION: Whittier

INTERIOR DESIGNER: Hamilton-Howe





A bright sculptured rug emphasizes the height of this two-story living room.

A formal dinner setting gains a feeling of liveliness from colorful tableware, wall accessories and chair patterns.

continued

Photos: Julius Shulman



Modest areas of red carpet are used in the model's living room. However . . .

In this model's living room, yellow is confined to accent areas. But . . .

Color can be used in small touches or big splashes . . .

Only touches are used in the high living rooms at left; big areas of color would have been overpowering. But the kitchens of the same models (below), having more conventional proportions, benefit from big splashes of bright color.

In the past 12 months, 1,200 houses have been sold in the project where these models are shown (see p. 56 and cover). Price: \$26,950 to \$35,990.

BUILDER: Larwin Co. LOCATION: Cypress

INTERIOR DESIGNER: C. Tony Pereira



. . . in the kitchen, the same red is splashed around much more generously.



. . . in the island kitchen, even the ceiling is covered with yellow.



... and it can be underplayed to emphasize outdoor areas

The outdoor areas in Colony Park (H&H, Sept. '67) are just as important as the indoor rooms, and almost every room has glass walls opening to its own patio. So the interior decorating is deliberately subdued, creating a visual balance with the patios.

Colony Park's 300 walled houses, priced from \$30,000 to \$39,950, have all been sold.

BUILDER: Harlan Lee LOCATION: Westlake Village

INTERIOR DESIGNER: Erickson Assoc. LANDSCAPE ARCHITECT: Sid Galper Assoc.



... a less colorful patio is balanced by less intense interior colors.



In this small dining area, a simple decorating scheme against light walls makes the patio seem part of the room.

Photos: Fritz Taggart





Color can add excitement to a model decorating theme...

"Identity is vital," says Darrell Howe, who decorated the rooms shown here and on the next page and also made some of the key pieces of furniture. "So I try to give every project a distinct style, and every model its own idea or character."

The price range in this project—Tustin Meadows—is from \$22,495 to \$30,495. The project opened in February. About 265 houses have been sold.

BUILDER: Robert H. Grant & Co.

LOCATION: Tustin

INTERIOR DESIGNER: Hamilton-Howe



Tyrolean theme is reflected in a hutch with beer mugs on its shelves, and a table with crossed legs.

Spanish theme is evident in the living room and family room of this model.

A mirror over the living-room fireplace adds to the sense of spaciousness.

... and it can add the feeling of luxury to a small house

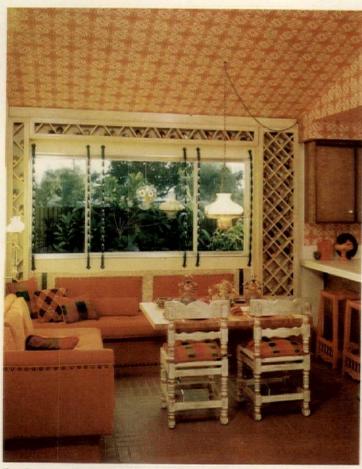
Grantpark exemplifies interior designer Howe's dictum that each project needs a special style. It is built by the same builder as Tustin Meadows (*left*), and falls in the same general price range (\$24,495 to \$27,995), yet its character is completely different—sumptuousness rather than individual themes.

Grantpark is a 250-house project that opened about five months ago; 100 units have been sold.

BUILDER: Robert H. Grant & Co.

LOCATION: Cerritos

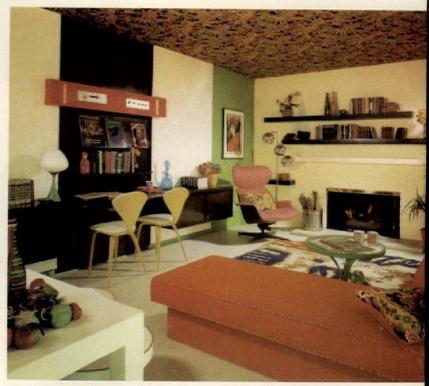
INTERIOR DESIGNER: Hamilton-Howe



Family room, in the same house as the photo above, gets an intimate feeling from a papered ceiling and wood wine racks.



Living room of the bottom-priced model has low furniture and a low-hanging chandelier to emphasize the height of the ceiling.

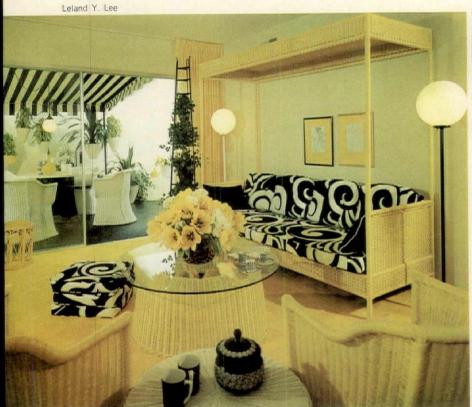


Family room of the project's top-of-the line model shows interesting contrast between severe furniture lines and paisley ceiling pattern.

Outdoor areas need to be colorful, too and so do model apartments

The growing trend to walled lots puts a bigger burden than ever on the landscape architect. Patios are becoming outdoor rooms that must be handled as excitingly as—and in harmony with—indoor areas. The pictures below and immediately at right show colorful examples of how this can be done.

The renter is as susceptible to excitement as the buyer, and the photos at far right show that apartments can be decorated as colorfully as houses.





Harmony between indoor and outdoor decorating is shown in this Deane Garden Home model at Huntington Beach. Price range in the project is \$25,000 to \$31,000, and 100 out of 133 houses have been sold. Interior decorating was by Pat Yeiser, and the landscape architect was Courtland Paul.

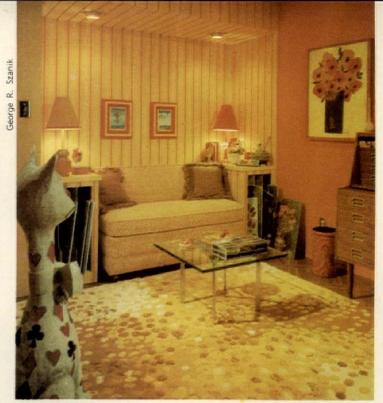


King-sized chess set by Courtland Paul makes visitors remember this walled model by Donald L. Bren Co. at Valencia.

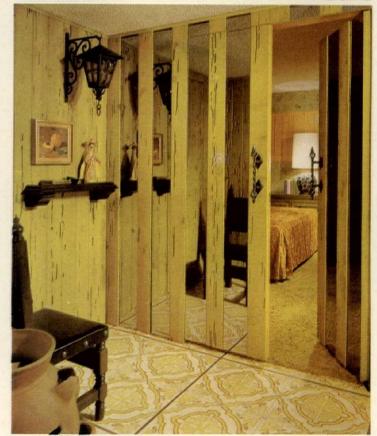




Two treatments of outdoor areas are shown in Colony Park models in Westlake Village. At top: an intimate dining patio, at bottom a large pool terrace. Sid Galper Assoc. was landscape architect.







Hamilton-Howe decorated these three rooms in The Highlands, a high-rent (to \$600) apartment project in Hollywood Hills. The alcove in the top photo was created by leaving the doors off a bedroom closet.

continued

... And in New York: another way to make models memorable

BUILDER: Robert Martin Assoc.

INTERIOR DESIGNER: Elaine Sollar for B. Altman & Co.

LOCATION: Tarrytown, N.Y.

Before launching their high-priced (\$55,000 to \$70,000) Tarryhill project in suburban Westchester County, partners Martin Berger and Robert Weinberg visited some of California's most colorful models. One result: Their models, too, are colorful. But they also gave each house a distinctive character by furnishing and decorating one of its four bedrooms as a "special purpose" room suggesting a particular interest, hobby or activity.



'HER HIDEAWAY' is fitted out as sewing and dressmaking center, has desk for letter writing and house-hold bookkeeping, and appeals to housewives as a quiet area for lounging or watching television.



'CULTURAL CENTER'—directed to the family with an interest in arts and crafts—includes paintings, sculpture and musical instruments.



'LEARNING CENTER'—devoted to the needs of students—has compartmentalized study areas as well as the latest audio-visual teaching aids.



'HIS LAIR' is furnished as the male refuge that so many professional men and executives demand at home. Equipment suggests that the room can be

used as an office, study or physical-fitness gymnasium. Black walls and deep red carpeting carry out the strong masculine theme.



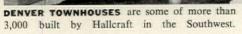
'FUN-AND-GAMES ROOM'—suggesting use as a children's playroom—is furnished with indoor recreation items, decorated with inexpensive posters.

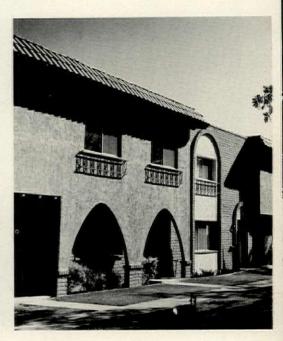


'TRAVEL CENTER' includes mementos from vacation trips—foreign and domestic—wall maps and a screen for showing movies and slides.











PHOENIX TOWNHOUSES reflect local flavor outside but have stock Hallcraft plans inside.

For sale: a big builder's townhouse formula

The big builder—Hallcraft Homes of Phoenix and Denver—has impressive credentials. Hallcraft has built more than 3,000 condominium townhouses in Arizona, Colorado and California since 1963, and has a record of fast sellouts. Its first project in Denver—207 units in 1964—sold out in ten weeks despite a soft local housing market and other builders' failures. All told, Hallcraft has built 14,000 housing units in the past 16 years.

Now Hallcraft has set up a packagedmanagement service—called Data Core to sell its townhouse know-how to any builder it thinks is smart enough and sufficiently capitalized to handle its kind of project.

Data Core (Development Analysis Townhouse Assn.) gears up the project, guides it to grand-opening day and helps with post-management details. The builder pays Data Core nothing until he starts selling townhouses; the fee is 4% per unit sold, less if the units are rented.

"There's no magic in our formula," says Data Core President Thomas Carlile. "We're selling the ability to set up a leisure-oriented townhouse project faster and cheaper than anybody else, and without as many mistakes."

Data Core's biggest appeal to would-be townhouse builders may be starting power. Says Houston developer James MacNaughton: "They [Data Core] were the catalyst that got our project started. It takes a lot of money and a lot of hard work to get one of these jobs off the ground. Data Core, which saved us at least \$50,000, made it almost easy."

MacNaughton, who had encouraged Hallcraft to set up Data Core, was its first client. Other Hallcraft-formula projects are now under way in Atlanta, Colorado Springs and Arlington, Tex.

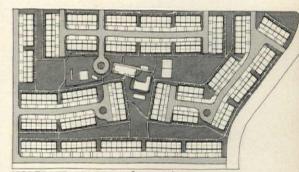
Hallcraft says Data Core is a "how it was done" program.

Clients get Hallcraft's stock floor plans, stock job-scheduling system, stock legal documentation for winning condominium approvals and a large file full of Hallcraft's trade secrets for managing and merchandising the project.

They get the benefit of Hallcraft's volume-purchasing power and its staff of specialists, including engineers, land planners and touring sales experts who visit projects in the guise of shoppers to test clients' salesmen.

They are told how to finance the project and are closely guided in 1) choosing the site, 2) getting approvals, 3) hiring subcontractors, 4) selecting and training a marketing director and all sales personnel, 5) hiring advertising and public relations agencies and 6) selecting and indoctrinating a management firm.

A client doesn't necessarily exhaust Data Core's fund of knowledge after the first project. He may continue using the



MODERATE DENSITY of ten units per acre or less is a Data Core rule of thumb for layouts.

service as a source of new ideas drawn from other clients' projects.

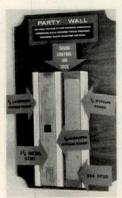
So far the Data Core formula has been applied only to projects of about 200 units in large metropolitan areas. Reason: These are the conditions under which all Hall-craft townhouses have been built and for which its market approach is geared. But the formula may soon be tried out in a city of less than 100,000 population. If it works as smoothly as it has so far, Data Core's potential clients would overwhelm its present limited staff.

To see how the Data Core townhouse formula works, turn the page.

Formula design: stock plans and interiors behind localized facades

"Outwardly, our jobs are all completely different," says Data Core Vice President Joe Agee, "but behind the facades are the same proven floor plans we've sold so successfully in Phoenix and Denver." The exteriors are varied to suit a project's regional flavor and to blend with terrain. Data Core makes at least two elevations for each plan and designs a wide range of color schemes.

Agee's confidence in repeating Hall-



SOUND BREAK between units rates over 55 STC.

craft's stock plans is well justified. Data Core's two best-selling models in Houston were also Hallcraft's two best-sellers in Phoenix and Denverand the quality of decorating seems to make no difference. "Unfortunately," says Tom Carlile, "vou can build just so many in one project without getting monotonous."

The best-sellers are also the highest-priced models in the line. "That's always the pattern," says Carlile. "Buyers take the top of the line first and work down in price as each model gets sold out." Typical price range: \$20,000 to \$25,000.

Other buyer patterns repeated in every Data Core project are:

- 1. Average number of children per family is 1.0. In the Houston project it was 0.9.
- 2. Average age of the buyer is 40. In Houston it was 39.
- 3. Average family income is high—close to \$12,000. The Houston average for the first 40 buyers: \$15,000.

Most buyers come from houses rather than apartments, so Data Core pays special attention to sound-deadening. Its party walls (above) have a sound transmission rating comparable to solid masonry. And to guarantee their effectiveness, Data Core permits no party-wall penetrations for plumbing or wiring. Its parking ratio is four-to-one: three spaces per unit plus an extra one in a perimeter area.

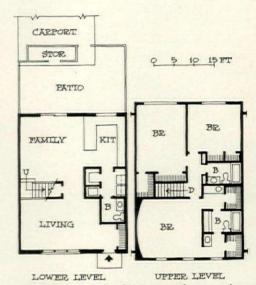
Data Core tries to discourage builders from tampering with the floor plans as well as other elements of its package. Says Agee: "In 3,000 jobs we've refined the package to the point where it's just about impossible to improve. Whenever a builder tries, he inevitably ruins something."



OPEN STAIRWELL lets living room and dining room, right rear, borrow visual space from each other.



\$19,975 PLAN for \$158 a month was a slow-selling bottom-of-the-line model in Houston.



\$24,825 PLAN for \$191 a month was a bestselling top-of-the-line model in Houston project.



HOUSE-WIDTH PATIO, fenced at sides, is screened from rear parking area by a storage shed.

Formula merchandising: an all-out emphasis on a carefree way to live

"Country-club living, which is what we sell, has the same appeal to people everywhere," says Carlile. So all Data Core projects focus on a swimming pool, clubhouse and playground designed to sell as well as serve the buyer. All maintenance—including owners' roofs and exteriors as well as common areas—is taken care of for about \$22 a month. The theme: "The tax advantages and privacy of home ownership combined with the non-maintenance convenience of an apartment and the fun of a country club."

Standard clubhouse specifications call for a lounge with wood-burning fireplace, a large room for parties, a teenagers' room, kitchen, billiard room, card room, exercise room and sauna bath. And the clubhouse must be two stories so that prospects have a vantage point for viewing the project.

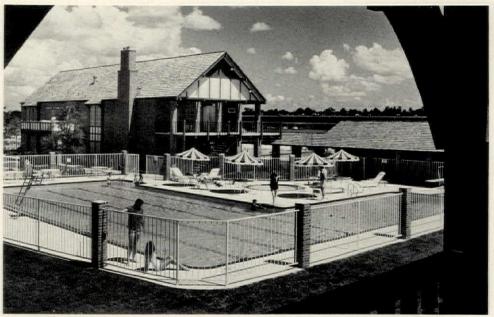
Data Core plans the prospect's tour route carefully. He enters the project through the clubhouse and makes a tour of its rooms and the pool before visiting the model row. Planned talking spots, like a clubhouse balcony overlooking the pool or an adjacent school, are designated for salesmen. Says Agee: "Let the people see your amenities."

Specifications are also exacting for special-effect lighting. Outdoor fixtures are part of the project's initial design and involve a considerable investment. "You can't just bolt on night merchandising," says Agee.

Construction sequence is planned so that on opening day, in addition to the recreation complex and adjacent row of models, a row of townhouses can be seen under construction at a far corner of the project. Object: to impress the prospect with the project's openness.

Data Core's merchandising is more than skin deep. Says Carlile: "We believe in a lot of glamour, but at the same time we're sensitive to post-management problems." He specifies top-of-the-line recreation equipment—professional pool tables and exercise equipment—that Hallcraft has standardized through trial and error. A sprinkler system with expensive directional sprayheads is planned into the landscaping not only to simplify post-management but also to avoid future homeowner complaints about wet sidewalks or doorways.

Says Agee: "Our projects give homeowners a perfect place—the clubhouse to get together and sound off about management. So we're extra careful not to give them anything to sound off about."



SWIMMING POOL and clubhouse design is critical; it establishes the tone of Data Core projects.



NIGHT LIGHTING, essential to weekday sales, is set for effect and tested in dress rehearsals



PLAYGROUND of imaginative space-age equipment appeals to parents as well as to children.

Formula management: how Data Core keeps jobs under control

Clients get Hallcraft's standard job-control diagram (*right*) plus detailed information showing how to handle every step of the project from initial planning to grand opening day.

"It's our own version of the PERT and CPM scheduling methods," says Agee. "We call it SPERT."

Spert is not only an aid to the builder. It is a communications tool that lets Data Core's Denver headquarters keep tabs on the progress of several different builders and projects. If a builder runs into scheduling trouble, for instance, the consultants can study his job status on a duplicate work chart in the home office and advise him by telephone.

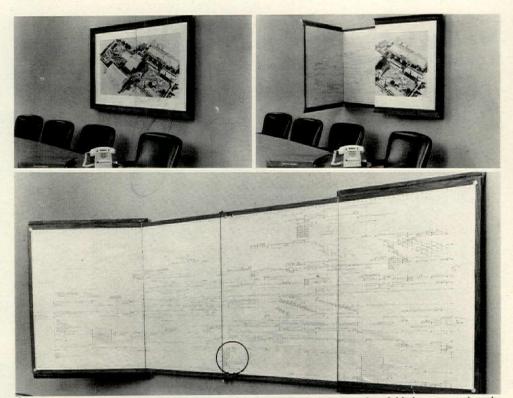
Every work phase on the job-control chart is keyed to indexed instruction manuals and to a host of visual aids. And all the information is cross-referenced to the chart: Example:

When a builder looks up "Paving Plans Offsite" in the manual index, he is referred to written material on the subject, to a folder of typical townhouse paving plans and to "Day No. 30" on the CPM chart—the deadline for starting paving plans in order to put them out for approval and bids on "Day No. 40."

The instruction manuals are subdivided into sections on preplanning (site selection and land acquisition), financing, engineering, construction, marketing and general information. Exhibits include blueprints, printed forms, photographs, movie film, tape recordings, records, brochures and pamphlets.

Data Core refers to this information as the "nerve center" of its townhouse formula and packages it in a locked file. Some of it, like a full set of exhibits for documenting the legality of condominium ownership, involves years of research and fees that would take a great deal of time and money to duplicate.

The file is supplemented by visits from field men. And, where project size warrants it, a Data Core-trained job manager becomes a permanent member of the builder's staff. For example, the Houston project—involving several 200-unit phases and a six-year construction schedule—is managed by a former Hallcraft executive who had spent five years in the company's Denver office. The manager of an Atlanta project, being built by Spratlin Assoc., is a former executive with Ross Cortese, the big retirement-housing builder; he was given a basic-training course at Hallcraft's Phoenix projects.



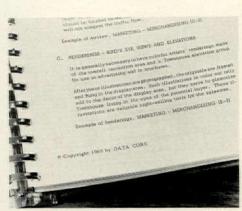
CRITICAL PATH DIAGRAM—concealed by a recreation-center rendering when folded up—organizes the 114 work days between a Data Core project's conception and grand opening.



DATA FILE, packaged in a portable steel cabinet, contains manuals and exhibits cross-referenced to the CPM schedule (photo sequence at right). Top management gets a master manual; department heads get copies of specific chapters.



1. CPM calls for renderings on 57th work day.



2. Manual, keyed to CPM, advises on renderings.



3. Keyed exhibit folder has sample renderings.



By building houses like this on owners' sites, Art Rutenberg has rolled up a volume of . . .

\$18 million a year in odd-lot housing

Rutenberg Homes is based in a small Florida city (Clearwater, pop. 46,000), develops no land, owns no subdivisions and operates in only one state. Yet its annual volume in single-family houses is topped by only a handful of housing's giants.

Rutenberg's gross sales for fiscal 1968 (which ended April 30) were \$18 million—a whopping 67% over the previous year. And President Arthur Rutenberg expects further growth. He is confident that he can put a branch into any Florida city that builds at least 300 to 400 houses a year.

"We can capture as much as 20% of any market's new-house sales within a few years," he says, "and 60 to 80 houses are enough to make a very profitable operation." There is justification for this optimism; market penetration of the company's 11 branches * now ranges from 5% to 15%.

Of course, some special characteristics of the

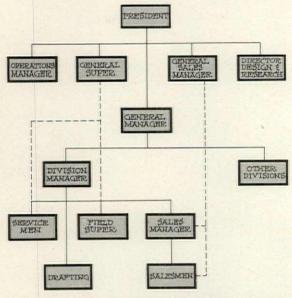
* In Clearwater, Largo, Northeast St. Petersburg, South St. Petersburg, Sarasota, Ft. Myers, Cape Coral, Naples, Boca Raton, West Palm Beach, and Palm Beach Gardens. A twelfth branch, in Ft. Lauderdale, will open this spring.

Florida market work in Art Rutenberg's favor. For example, 60% of his buyers are retired or semiretired families from out of state, and most of them buy for cash. The few who do want mortgages usually require only low-ratio loans that are snapped up eagerly by local lenders. And Florida cities abound with land developers, so Rutenberg's buyers have a wide choice of developed building sites.

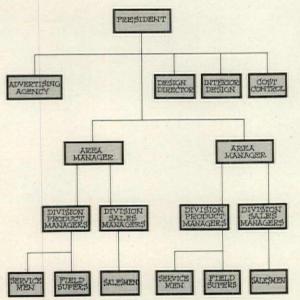
But balancing these market advantages is a serious management problem that faces every odd-lot builder: Should he 1) decentralize and risk losing control of his costs and production or 2) maintain tight central control and thus create expensive layers of top management far removed from the point of decision?

Rutenberg has set up a management system which gives him the pluses but not the minuses of both approaches. He believes that move—along with two new employee-compensation plans and a wide choice of house plans—is largely responsible for his company's growth. For the details, turn the page.

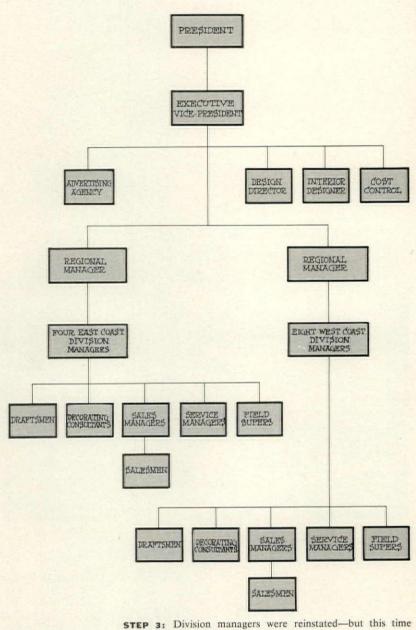
These organization charts show the steps that led to Rutenberg's present setup



STEP 1: Division managers were given only nominal control, could be bypassed (*broken lines*) by home-office executives.



STEP 2: Division managers were eliminated, and control was centralized under company president and two area managers.



STEP 3: Division managers were reinstated—but this time with much more control over their operations.

'We give our division managers so much freedom they are almost partners'

Like partners, Art Rutenberg's division managers run their branches with little interference from the home office. But unlike most partners, they invest no money in the company, although they do share in its net profits (see p. 112).

The division managers' independent role didn't evolve overnight. In fact, Rutenberg realigned his personnel twice before he hit on what he considers a successful formula for managing his multi-city operation.

Initially, each manager had nominal control of his branch (Step 1, above). For instance, he negotiated subcontracts and bought most of his materials.

This arrangement was substantially unchanged for 11 years. But eventually two weaknesses cropped up: 1) the division managers' authority was weakened because their sales managers and field supers could bypass them and take problems directly to home-office sales and construction executives; 2) a heavy layer of high-salaried headquarters personnel boosted company overhead at the expense of net profit.

Disturbed by those problems, Rutenberg made an almost 180° turn in 1964 to strong central control (Step 2, above). He eliminated the home-office executive layer leaving himself as the sole policy maker. Division managers were also eliminated, and the sales and production managers of each division reported to one of two area managers, who in turn reported directly to the president.

To be sure, this arrangement slashed overhead. But it also limited the company's

growth by putting decision making at the division level in the hands of only two men—the area managers—who soon found they could not devote adequate time and effort to Rutenberg's different markets. Vice President Dean Van Horn, who was one of the two area managers, recalls:

"The division I ran personally did fine, but the ones farther away suffered. Invariably, when a problem popped up at one division, it was at a time I was needed somewhere else."

To some extent, strong central control also made the division sales and production managers less effective. It invited friction between them, Rutenberg says, and led them to rely on the area managers for decisions.

So in 1966 Rutenberg began the organ-

izational changes that led to his present setup (Step 3, above). He immediately reinstated his division managers—but this time with far more authority and responsibility than they had under the 1953-64 arrangement. And two months ago he added two regional managers, who, he is quick to point out, will not reduce the division managers' authority. Instead, the two newly appointed executives will take on topmanagement responsibilities and thus free Rutenberg and Executive Vice President Kenneth J. Schwartz to recruit personnel and plan for expansion into new markets.

The company's division managers now have almost complete autonomy. For instance:

1. They set their own goals by budgeting their annual profit and loss. Each budget sets sales quotas and projects gross profit, expenses and net profit. Once approved by the home office, it becomes the standard for evaluating the division's monthly P&L statements (box, bottom right).

Each manager must convince the home office that he has the production capacity to meet his sales goals. The budget sets his monthly quota for starts. Within that month, he can't exceed the quota unless he can show he has lined up enough extra field supervisors and subcontractors to cope with the extra volume.

"We don't let a man outsell his ability to produce and then try to juggle his crews to keep buyers satisfied," says Rutenberg. "We'd much rather delay the start of a house for a month than get our buyers mad about non-delivery."

- 2. They hire everyone on their staffs—including office, sales and production people—and decide on pay raises, promotions and, if necessary, firing. The only exceptions: division sales managers, whose hiring (or firing) must have home-office approval.
- 3. They buy all materials and equipment except major appliances, on which bulk purchasing by the home office has turned out to be less costly and more efficient.

The home office keeps a computerized record of prices paid by each division for 82 different items. A monthly readout includes the high, low and median prices for each item—and thus shows each manager if his prices are in line.

4. They negotiate all their subcontracts. Here, too, the home office issues a monthly computerized record, which shows variations in subs' prices—and thus serves as a valuable bargaining tool in negotiations.

But the division managers are not laws unto themselves. For example, a central design department draws up house plans and specifications. Then each division manager and the home office together decide which models will be built in his display area. The home office also produces advertising and brochures, although the division manager decides which ads and which media to use.

Most important, however, in preventing the chaos that could plague such a decentralized organization is a company operating manual. This loose-leaf book has 127 sections spelling out policy and procedural guidelines for every phase of the company's activities.

Subjects range from "telephone usage" to "management personnel changes," from "roof pitch factors" to "cash flow."

Guidelines leave no room for doubt. Some random samples:

On answering phones: "Do not ask who is calling? or say, 'May I tell him who is calling?"

On intra-company hiring: "In no case is anyone to hold a conversation with a prospective transferee without the full knowledge and consent of his superior."

On advertising: "Newspaper advertising is to be placed on pages 3, 5, 7 or the back page."

On delivery dates: "The customer must not be told, 'We'll try to finish sooner."

On customer relations: "Each time a progress payment is requested from an owner [buyer], or received from a bank, a Polaroid picture of the owner's home in its current state should be sent to the owner with a note as to how the job is progressing. The picture should be dated on the back."

On subcontractors: "Each branch [division] is to have a set of subcontractors which are wholly different from those of an adjacent branch."

On market surveys: "Each January and July a market survey will be made by each branch on Form R34..."

Neither division managers nor any other employee may deviate from the manual without the approval of Rutenberg himself or Executive Vice President Schwartz. If a change—requested by a division manager, for instance—is approved, it is written into the manual and becomes company policy. But within the manual's guidelines, all decisions are left to the branch managers' own judgment.

"The manual is not a curb on a manager's initiative," says Rutenberg, "It simply relieves him of decision making in many repetitive situations."

Who are Rutenberg's potential division managers? He says some of them are his sales managers and supers. Others are high-level executives with other large home-builders or independent builders "who are grinding out \$18,000 to \$20,000 a year" and are stymied by limited capital, mortgage scarcities and discounts and land-buying and development problems.

Says Ken Schwartz: "Our best bets are candidates with a sales-type personality—men who are good at customer relations and also know how to manage a homebuilding business."

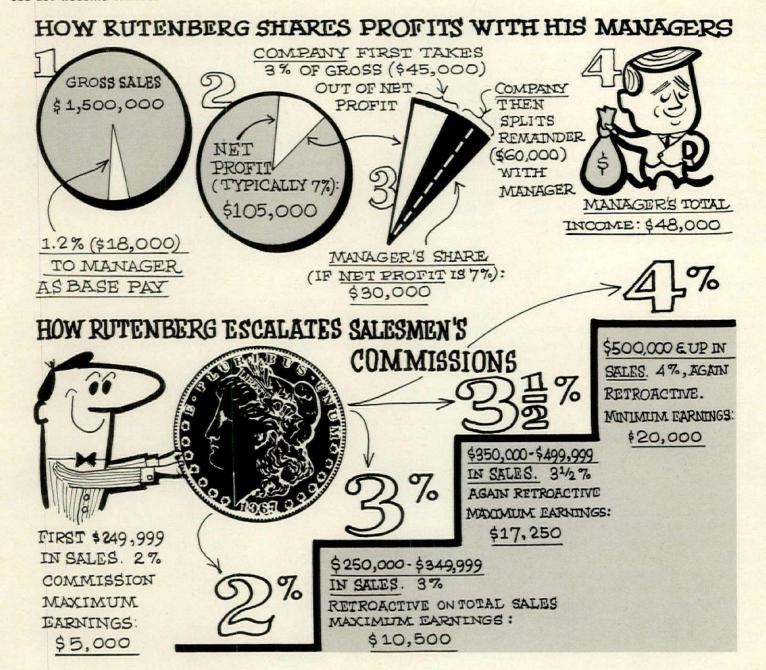
To such men, Rutenberg offers not only a high degree of autonomy but also a crack at spectacular earnings. To see how spectacular, turn the page.

Closings Cost of sales GROSS PROFIT	Budget fiscal ye AMOUNT 1,382,000 1,077,960 304,040		Actual 9-r performa AMOUNT 1,095,990 859,925 236,065	Marin Colonial Colonia Colonial Colonia	Prorated full-year be AMOUNT 854,873 241,117	oudget	
Sales overhead Advertising Gen. & adm. exp. Guarantee svc. exp. TOTAL	49,752 8,292 63,019 15,202	3.6 0.6 4.56 1.1	35,402 7,747 53,792 11,908	3.2 0.8 4.9 1.0	39,456 6,576 49,977 12,056 108,065	3.6 0.6 4.56 1.1 9.86	
Sales commissions Home-office expense TOTAL	52,516 27,640 80,156	3.8 2.0 5.8	35,921 21,920 57,841	3.2 2.0 5.2	41,648 21,920 63,568	3.8 2.0 5.8	
Other (Income) or loss TOTAL EXPENSES	216,421	15.66	861 167,551	0.8	171,633	15.66	
Net Profit on Homes Decorator income Lot income	87,619 4,146 6,910	6.34 0.3 0.5	68,514 2,764 2,724	6.3 0.2 0.2	69,484 3,288 5,480	6.34 0.3 0.5	
TOTAL NET PROFIT	98,675	7.14	74,002	6.7	78,252	7.14	

How one division budgeted-and how it actually performed

The figures above show (*left to right*) the division manager's projections for the 1967-68 year, his performance for the first nine months and a nine-month prorating of his

annual projections. By checking his "performance" percentages against the "prorated" percentages, he knew whether his division was exceeding or falling short of his estimates.



'We stimulate extra effort with profit sharing and incentive pay'

"The next step in your career could do wonders for your income," said the headline of a recent Rutenberg ad seeking candidates for division-manager jobs.

The copywriter wasn't kidding. Largely because of profit sharing, introduced in late 1966, Rutenberg's division managers have done wonders for their incomes.

In fiscal 1968 (ending April 30) one manager earned \$97,190. And, except for two new appointees who took over divisions toward the end of the year, all managers averaged \$50,000 each.

By contrast, the average was \$27,000 in fiscal '67, when profit sharing was in effect for only the last seven months and when the managers were all relatively new to their positions.

Salesmen, too, have made impressive gains under an incentive-pay plan, also started in late 1966. Their average went from \$9,500 in fiscal '66—before the plan was adopted—to \$15,400 in '68. And the top performer earned \$40,000 plus a \$5,000 bonus as the first salesman to reach \$1 million in annual sales.

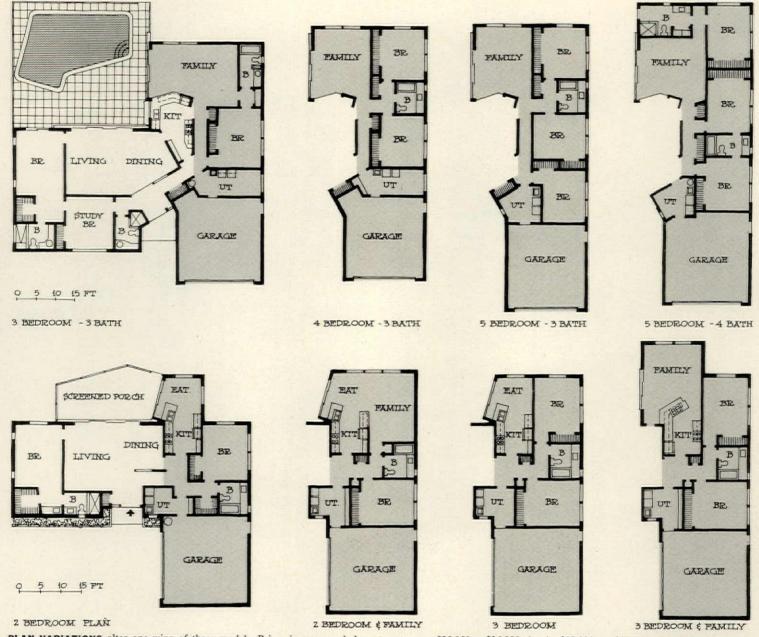
Profit sharing for division managers ("the best business decision I've ever made," says Art Rutenberg) is based on net profit rather than gross sales. So it encourages well-rounded management by putting a premium not only on a man's ability to generate volume but also on his skill at controlling costs. For instance: He must buy shrewdly, schedule efficiently and insist on quality to avoid expensive callbacks.

The example above shows how Rutenberg's profit sharing works. The manager drew a salary equal to 1.2% of his division's projected gross sales—in this case, \$18,000 on a gross of \$1,500,000. Net profit came to 7%—or \$105,000. The

company skimmed off the top 3%—or \$45,000—and then split the \$60,000 balance with the manager. So the manager wound up with \$30,000 in profit sharing plus his \$18,000 salary—or \$48,000.

Under Rutenberg's incentive-pay system, also shown above, salesmen can reap large rewards with a little extra effort. As a salesman's volume reaches a series of plateaus, his commission percentage is increased. And these increases are retroactive: They apply not only at that plateau and above but also to his previous sales for the year.

For example: Up to a volume of \$249,-999, the salesman's commission is 2%. So at that total he earns \$5,000. But as soon as he clinches the sale that puts him at \$250,000, his commission on future and past sales goes to 3%—and his earnings to \$7,500 (the \$2,500 in retroactive commissions is paid immediately).



PLAN VARIATIONS alter one wing of these models. Prices in company's lowest-cost area: \$25,950 to \$36,000 (top), \$18,930 to \$20,200 (bottom).

'We offer floor-plan options with each model plus a wide price range'

Rutenberg's prospects are essentially custom buyers with strong preferences in house plans, and incomes ranging from modest to high.

To appeal to families with such different

incomes, he offers nine models priced from \$15,850 to \$53,300 in the lowest-cost building area and from \$17,515 to \$58,900 in the highest.

And to give these families many of the

advantages of a custom house without impairing his production efficiency, he offers most of his models with a choice of alternate plans (examples, above).

Says Spencer Hart, who heads the company's four-man design department:

"We're trying to provide the exact house that these demanding buyers want, but we do not want our salesmen playing architect and dreaming up houses that have to be priced out separately and fitted into our production schedules."

The company builds only to its basic plans and standard alternates, which have set prices for each area so that salesmen can instantly quote costs to prospects. Within that framework, minor changes in fenestration, materials and room size are welcomed. Each division has a draftsman, who draws up these changes. The division manager then prices them out.



TYPICAL MODEL (plan at top of page) is fully landscaped in front and back. Rutenberg's models

always include a maximum of optional extras like the \$3,850 pool package shown in plan.



Plastic plumbing makes new strides in housing

Plastic pipe's bitterest enemies are 1) castiron soil pipe manufacturers, 2) copperpipe manufacturers and 3) union plumbers who are convinced that plastic pipe will put them out of work. All three fight plastic pipe's attempts to get code acceptance with every weapon they can devise. And even after code approvals are won, they fight to overturn them.

But even while metal-pipe manufacturers are denouncing plastic pipe, they are quietly beginning to produce and sell it themselves.

More than a dozen of the largest castiron and copper-pipe producers are now in the plastic drain-waste-and-vent piping business. The list includes U.S. Pipe & Foundry, James B. Clow & Sons, Glamorgan Pipe & Foundry, American Brass & Iron Foundry, Charlotte Pipe & Foundry, Triangle Conduit & Cable, Nibco Inc. and Mueller Brass Co.

Some of these companies have joined the Plastics Pipe Institute. And at least one has become a member of the ABS Council, the plastic-industry task force that fights for code approvals.

Old-line metal-pipe producers are joining the young plastics industry because—despite all their delaying tactics—plastic pipe is making steady headway in homebuilding: Examples:





ALL-PLASTIC PLUMBING SYSTEM of B.F. Goodrich polyvinyl chloride has passed fia

requirements for rehabilitation work. Estimated cost saving compared with copper pipe: 35%.

markets—and even its enemies are helping

1. At least 17% of U.S. housing built last year has plastic pipe for drain-waste-and-vent (DWV) plumbing.

More than half of new single-family houses built in California last year have plastic DWV piping.

3. Plastic Dwv piping has been approved by 13 state codes, by local codes within 32 states and by all regional and national codes, including the Building Officials Conference of America, Southern Building Code Congress, International Association of Plumbing and Mechanical Officials and FHA.

4. Plastic pressure piping for hot-andcold water supply is now permitted in FHA- financed rehabilitation projects. It is being used extensively for low-cost rehab in Cleveland.

Outside the housing industry, plastic pipe enjoys big markets in natural-gas distribution, rural potable-water systems, crop irrigation and chemical processing. Almost 100% of all mobile homes and travel trailers have plastic pipe.

But metal-pipe competitors still say plastic pipe can't do the job. They have produced illustrated reports showing that household drain cleaners and other chemicals will destroy it. They say termites and rodents will eat it and fungi will attack it. They claim it produces lethal smoke when it burns. And they question how long plastic pipe will stand up under natural aging.

The plastics people have lots of practice answering these and other accusations.

For starters, they quote FHA Commissioner Philip Brownstein: "We surveyed [in 1966] all of our field offices to learn if there had been any complaints from owners of homes with ABS drain-waste-and-vent piping since 1961 when Materials Bulletin No. 33 was issued [permitting plastic DWV in FHA-insured houses]. The results show that not a single complaint had been received." And, the industry estimates, plastic DWV is used in more than a half-million single-family homes to date



PLASTIC PIPE continued

(and in over a million mobile homes).

Plastics people discount evidence that their product is subject to chemical attack. Their own laboratory reports show that plastic drainpipe resists all chemicals normally found in the home. Some of the most disastrous tests that metal-pipe interests conduct on plastic drains have included paint removers and various acids in undiluted form.

Claims that plastic pipe won't stand up are discounted also by case-history evidence. Plastic pipe has been used in Chicago's municipal sewage-disposal plant since 1947, when it was substituted for severely corroded metal pipe. It has been used to carry acid wastes in chemical plants for decades. And the Farmers Home Administration has kept records since 1953 on plastic pipe's performance in 10,000 miles of water-distribution systems.

Claims that plastic pipe is a fire hazard are contradicted by laboratory studies and in-use experience. The studies show that ABS (acrylonitrile-butadiene-styrene) plastic does not contribute to the start of a fire nor to the spread of flame and that the amount of poisonous smoke (hydrogen cyanide) it could produce in a burning house would be insignificant. Pvc (polyvinyl chloride) plastic pipe has an even cleaner record—it is self-extinguishing in fire. There are other plastic pipes, but only these two are important to homebuilders.

ABS and PVC producers are sewing up the plastic-pipe market in housing

ABS, invented by Uniroyal Inc. in 1944, got a five-year head start on PVC. By the time ABS had been okayed for FHA houses in 1961, it had already made strong inroads in the mobile-home industry by winning California code approvals. PVC, invented in Germany 40 years ago, was not recognized by FHA until 1966 and had not enjoyed a high-volume market like mobile homes. As a result, almost twice as much ABS is used for DWV piping—15 million pounds in 1967, compared with nine million pounds of PVC.

But PVC has an advantage over ABS: It is better suited to pressure piping. Last year some 50 million pounds of PVC—compared with only three million pounds of ABS—were used for water-supply systems.

One producer, B. F. Goodrich Chemical Co., calls PVC the carbon steel of the plastic-pipe industry. Goodrich and some others produce a version known as CPVC (chlorinated polyvinyl chloride) that meets

national standards for piping 180°F water at pressures of up to 100 psi and can withstand 200°F water for limited periods. Abs pipe, on the other hand, is limited to 160°F water at lower pressures considered adequate for pwv use.

Other companies hope to improve on PVC. Carlon Products Corp. is test-marketing a PVC pipe called Vylon that is supposed to be three times tougher than any previous DWV plastics. Carlon is also exploring ways to cut the cost of a different plastic called polypropylene oxide (PPO) that is said to withstand continuous water temperatures of more than 212°F. General Electric, too, is reportedly developing a super plastic for hot-water pressure piping.

Plastic pipe boasts high standards protected by a policing system

Plastic pipe and fittings meet commercial standards of the National Bureau of Standards, U.S. Dept. of Commerce, American Society for Testing and Materials (ASTM) and U.S. of America Standards Institute (USASI).

But the industry's most significant standards are those that the independent National Sanitation Foundation enforces.

More than a hundred pipe and fittings manufacturers and raw-material suppliers print the NSF seal of approval on their products just as the electrical industry uses the Underwriters Laboratories label. To use the seal, they have to agree to four surprise inspections of their plants every year. The NSF inspector picks a random sample of pipe or fittings for testing by the agency's laboratory to see if it measures up to standards that the industry and NSF have agreed upon.

The industry has begun to develop standards for hot-water pressure pipe. But they will probably be slow in coming because the manufacturers disagree on how thick their pipe walls should be. CPVC meets national standards for 180°F pressure-pipe systems when it is made in iron-pipe thicknesses. But when it is extruded in copper-pipe dimensions, it meets no standards.

This hasn't stopped at least one manufacturer, Genova Products, from going into full-scale production of CPVC piping in ½" and ¾" copper-pipe sizes. Genova is supplying the FHA-insured rehabilitation projects in Cleveland.

Another point the manufacturers don't always agree on is how to promote the advantages of plastic pipe.

Comparison chart:

MATERIAL

PE

POLYETHYLENE low, medium and high density

ABS

ACRYLONITRILE-BUTADIENE-STYRENE

PVC

POLYVINYL

CPVC

CHLORINATED POLYVINYL CHLORIDE

SR

RUBBER MODIFIED STYRENE

CAB

CELLULOSE ACETATE BUTYRATE

PP

POLYPROPYLENE

ACETAL

POLYACETAL

Only ABS, PVC and CPVC are factors in household plumbing

PROPERTIES	APPLICATIONS	MAX. TEMP., OPERATING	JOINING METHODS	STANDARDS
 Good chemical and crush resistance Excellent impact strength and flexibility High level elongation at freezing Good low-temperature performance Non-toxic NSF approved for potable water 	Low-pressure water systems Irrigation and golf course sprinkler systems Corrosive liquids and gases Underground conduits and gas reliners Industrial and chemical laboratory drainage systems Natural gas Water service Distilled and demineralized water	120°F 200°F*	Insert fittings Butt welding Heat fusion External compression fittings Transition fittings	PE CS 197, CS 255, ASTM D-2104, ASTM D-2239, ASTM D 2447, ASTM D 2513, F-S 00545, MIL-P 26692, MIL-P 22634
Good chemical resistance to house-hold chemicals Good crush resistance Non-toxic NSF approved for potable water and DWV Rigidity at higher temperatures Excellent impact strength, especially at low temperature Fast-setting joints	 DWV piping systems — mobile and residential ◆ Pressure piping and drain- age systems ◆ Water service ◆ Irriga- tion, industrial and municipal ◆ Gas service◆Underground electrical conduit 	180°F*	Solvent welding Transition fittings	ABS CS 218, CS 254, CS 270, ASTM D-1527, ASTM D-2282, ASTM D-2465, ASTM D-2468, ASTM D-2469, ASTM D-2513, F-S 322, FHA-MPS Revision No. 31, IAPMO TSC 6-61, TSC 3-62, IAPMO PS 17-65, IS 5-65
 Excellent chemical resistance Good crush and impact strength Fire-resistant (self-extinguishing) High tensile strength Non-toxic NSF approved for potable water and DWV 	DWV piping systems Pressure piping and drainage systems Water and gas distribution Irrigation and golf course sprinkler systems Sewage treatment Surface and underground conduit Industrial chemical piping Corrosive fume ducting	150°F 180°F*	Solvent welding Threaded Flanged Compression fittings "O" rings Transition fittings Bell-ring Rubber gasket	CS 207, CS 256, CS 272, ASTM D 1785, ASTM D 2241, ASTM D 2464, ASTM D 2466, ASTM D-2467, ASTM D 2513, F-S 320, F-S 540, MIL-P 22011, FHA-MPS Revision No. 31, FHA UM 41
Excellent chemical resistance Good crush and impact strength Fire-resistant (self-extinguishing) High tensile strength Non-toxic NSF approved for potable water and DWV	Hot and cold water distribution Hot and cold chemical process piping	200°F	Solvent welding Threaded Flanged Compression fittings "0" rings Transition fittings Bell-ring Rubber gasket	CPVC CS 256-63, ASTM D-1785, ASTM D-2241, ASTM D-2466, ASTM D-2467, ASTM D-2464 FHA-MPS 562, FHA-MPS 563
 Good crush resistance Fair impact strength Moderate chemical resistance 	 Drainage and sewage systems Underground downspout drains Underground electrical conduit Septic tank absorption fields Foundation drains 	160°F	Solvent welding	SR CS 228, ASTM D 2321, FHA UM-26, FS WP 00383
 Moderate chemical resistance Excellent resistance to petroleum and paraffins Good impact strength Available in transparent form Excellent solvent-cementing characteristics 	 Chemical process piping Oil field and natural gas Gas service Conveying systems (air operated) Underground conduit 	150°F	Solvent welding Transition fittings	CAB ASTM D 1503, ASTM D 2513
 Excellent chemical resistance Resistant to sulphur-bearing compounds Very light in weight Good tensile strength NSF approved for potable water 	Industrial and chemical lab drainage systems Low pressure gas and crude oil Chemical process piping Salt water gathering lines	190°F	Heat fusion Threaded Flanged Transition fittings	LEGEND: CS Commercial Standard, Office of Commodity Standards, U.S. Dept. of Commerce ASTM American Society for Testing and Materials
 Excellent resistance to paraffins and solvents High resistance to surge fatigue Non-toxic NSF approved for potable water 	 Process systems Solvent handling Agricultural chemicals Crude oils Natural gas 	150°F	Heat fusion Transition fittings	F-S Federal Specifications, General Services Administration FHA Federal Housing Administration MIL Military Standards, Dept. of Defense

NOTE: Physical properties of thermoplastics pipe change with temperature Courtesy: The Society of the Plastics Industry Inc.

*Maximum continuous operating temperature for non-pressure systems



PLASTIC PIPE continued

Plastic-pipe promoters used to stress low costs and easy-to-do installation

Some manufacturers have gone so far as to offer plastic pipe to the do-it-yourself market. Carlon Products, for one, introduced a DWV kit in 1966 that had "everything you need—including roof flashing, a brush and cement—to install a three-piece bathroom drainage system."

Another plastics-industry tactic that hasn't made friends among the plumbing industry is voicing predictions that plastics will make plumbers obsolete. Borg-Warner Corp.'s Marbon Chemical Division publicized such a prediction made in 1965 by Architecture Professor Walter Lewis of the University of Illinois. Said Lewis: The terms "plumbing" and "plumber" will be replaced by "plastication" and "plasticator" in 20 years. "Plumbing as we know it will not exist in 1985."

Plastic plumbing materials do cost less than metal piping, and they do involve fewer work steps. Says a New Jersey plumber, Calvin Currier: "All you need to install it are a saw, a knife and a glue pot."

But documenting their cost savings has not been easy for the plastic-pipe people.

"The industry's rule of thumb," says Thomas Rourke of Celanese Plastics Co., "is that comparative DWV material and labor costs for a typical one-family dwelling run \$115 for ABS or PVC pipe, \$163 for copper and \$205 for galvanized steel or cast iron."

The catch is that a large part of these savings depends on the industry's estimates of labor time.

According to the Plastics Pipe Institute, installing a plastic DWV system for a one-family house can require as little as 4.25 man-hours (allowing full prefabrication) compared with 12 hours for copper pipe and 22 hours for cast-iron or steel. Thus the official materials-plus-labor breakdown becomes \$97.85 plus \$17.32 for plastic DWV, \$114.91 plus \$48.90 for copper, and \$115.99 plus \$89.65 for galvanized steel or cast iron.

Hostile plumbers don't see eye-to-eye with figures like these. The Contracting Plumbers of Brooklyn and Queens (New York City) estimate that a single-family DWV system of ABS plastic—currently prohibited by their local code—would require 26 man-hours compared with 33 for cast iron. What's more, they estimate that the ABS materials would cost more than cast iron—\$202.80 compared with \$195.76.

Ironically, the New York plumbers also

argue that plastic pipe shouldn't be permitted in the city code because it hasn't proved itself—even though the code has for years approved of PVC piping for the drainage of acid wastes.

But the plastic-pipe industry doesn't want to fight plumbers. It needs them to buy and install its product.

Plastic pipe's new tack is quality and an appeal to skilled mechanics

No longer will the industry accept accusations that its product encourages amateur plumbers. In fact, it turns the accusation back onto the cast-iron industry. Says Rom Rhome of the ABS Council and Uniroyal: "The cast-iron industry—not plastics—is guilty of promoting do-it-yourself plumbing. They have promoted a variety of prefabricated rubber joints that require no skill whatsoever except the tightening of a clamp with a screwdriver." Rhome refers particularly to the cast-iron industry's No-Hub joint—a neoprene gasket and metal sleeve—which can be made in a couple of minutes.

Rhome and others emphasize that plastic-pipe joints leave no margin for error. Reason: They are bonded with solvent cements that set permanently in ten seconds. If the plumber makes a layout error, he can't unsweat the joint as with copper, but must cut out the fitting and perhaps remove a large section of piping. Another complication is that plastic pipe requires expansion joints because it stretches and shrinks with temperature changes. Pvc, for example, expands about 3/8" per 10' length for each 100°F temperature rise.

Plastic-pipe promoters are ceasing to dwell on cost savings. Instead, they play up:

- 1. Durability. Manufacturers claim plastic pipe stands up better than metal pipe, and they back it with long-term guarantees. Celanese, for example, guarantees its ABS DWV pipe fittings to homeowners for 50 years.
- Safety. The manufacturers say their glued joints reduce fire risk in plumbing work because—unlike cast iron's hot-lead joints and copper's sweated fittings—they don't require an open flame.
- 3. Versatility. Plastic DWV assemblies can be completely preassembled in off-site shops because they weigh up to five times less than copper or cast-iron assemblies. And plastic piping is easier to squeeze into old structures in rehab work because its joints don't require working space.

DESIGN FILE

How to clean up the busy-busy exterior

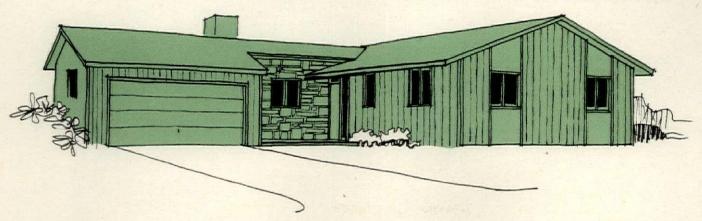


ARCHITECT TSURUOKA

The difference between a well-designed merchant-built facade and a hashed-up one can usually be summed up thus: The good one is simpler, and it's handled with restraint. To prove this, HOUSE & HOME selected examples of the hashed-up variety and asked architect George Hugh Tsuruoka (left) to redo them in sketches. Tsuruoka is something of a specialist at this; as a design consultant (to, among others, the Architectural Aluminum Manufacturers' Assn., plus a group of ten major building-products companies), he regularly offers redesign ideas to builders. Note that in most cases his new design is no more costly than the original.



The good old ranch is still a basic house in much of the country, but that's no reason to keep on mixing its exterior finishes and overemphasizing its horizontal look. Here, Tsuruoka has eliminated the front brick bellyband and all horizontal siding, substituting vertical siding with a touch of stone to give the entry warmth. Result: a house that looks neater, bigger and much more up-to-date.

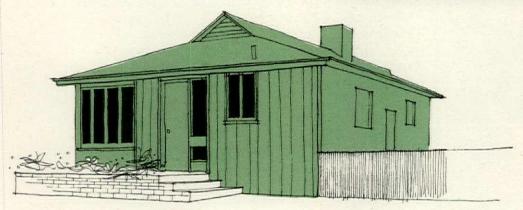


continued

DESIGN FILE continued

The skinny-lot house (best known in Chicago) starts with the problem of end-on siting; here the problem has been made worse by two uneven masses of brick veneer on front. Removing the brick should save almost enough to pay for a new front step and planter, plus a little hip gable that gives the roof some character. A side fence also helps, providing it doesn't interfere with the driveway.





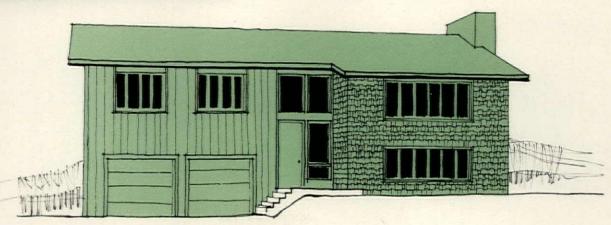


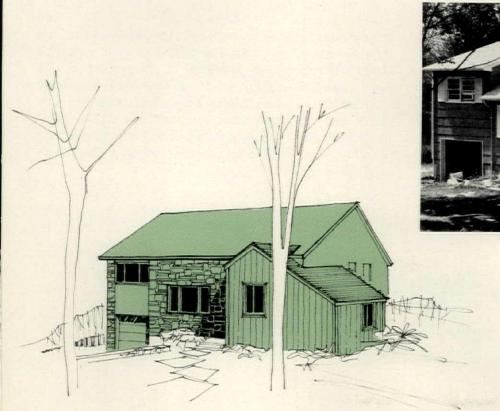
The handsome Pacific-style contemporary below looks joltingly different from the all-too-familiar split-entry at left, yet the only structural change is a moved foundation wall at left of the door. Everything else is done by altering wall and window masses and adding small hip gables to the roof.





There are a lot of little reasons why this splitentry's facade doesn't quite come off: too many window types, a truncated front gable and an overexpanse of hairy siding. Tsuruoka's redesign—which completely changes the character of the house from sort-of traditional to out-and-out contemporary—knocks off the gable, unifies the window styling and puts vertical siding on half the facade.





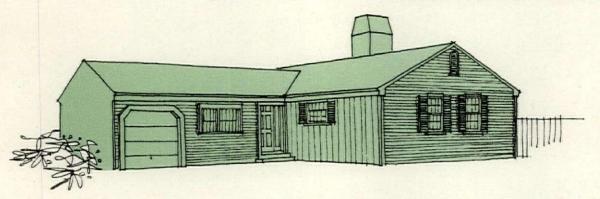
This little gem (how'd you like to have to frame up that roof?) looks hopeless. But by taking liberties with one corner (the near one), Tsuruoka has produced a neat, relatively simple little house with something of the feeling of an old colonial barn. The savings in rough carpentry and flashing alone should be enough to pay for the handsome new stone facade.

continued

DESIGN FILE continued

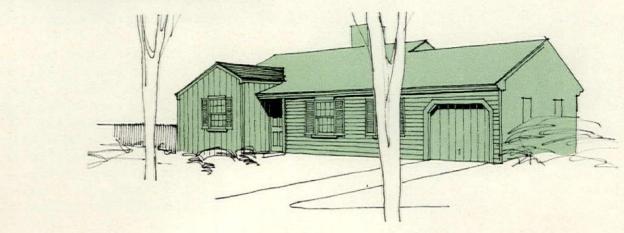
If you had to pin a style label on this nondescript ranch, you'd probably call it colonial, after the shutters. So Tsuruoka has given it real colonial flavor with a recessed entrance, a mix of vertical and narrow horizontal siding and bigger windows with smaller panes. The crowning touch is an oversized chimney, which could be corbelled out in the attic so that it would eat up less living area.







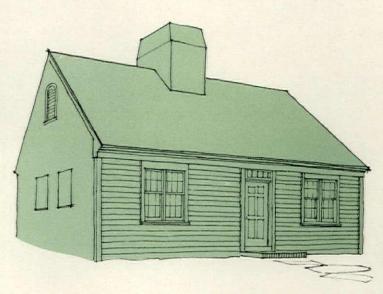
If the house above is under-colonialed, this one is over-colonialed in the manner of the short-lived storybook or Cinderella houses of a few years ago. Redesigning it is largely a matter of simplification: Three identical windows replace the original mixture, and the ell's roof is cut back (but the sheltered entrance retained). The only addition is, again, a big colonial chimney.



On a really small box like this, good redesign may not pay off . . .



In fact, most builders have found that the pseudo-Cape Cod box itself isn't worth building. But occasionally something of this general style crops up as a vacation house (it does offer a lot of space for the money), so Tsuruoka has shown how to turn it into a real Cape Cod. The narrow siding, bigger windows, colonial entrance and monster chimney will all add to the cost, but the result is a house with real character.



. . . and on an eye-opener like this, redesign may be impossible



At least that's what Tsuruoka thought. He returned this photo with a brief note to the effect that a joke can be carried too far.

But HOUSE & HOME's editors are a dauntless group. Welcoming the challenge, we sat down and produced the new design shown at right. Note that the basic character of the house is unchanged—in fact, it has been enhanced by purifying and emphasizing what was apparently the original design theme.

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Lees points out that there are many quality features in his homes, in addition to the dishwasher. Take his latest development of Penn Wood, in Westtown, Pa.

This location is one of the most highly desirable in the greater Philadelphia area. All homes have such features as disposers, and cabinets handfinished by local Amish craftsmen. And some homes also have such luxury touches as fireplaces and air conditioning.

Since he formed his own business in 1954, Lees has developed several areas, building all types of homes, in all price ranges. And he still finds time for remodeling work, too.

If you'd like to assure your customers of quality, maybe you should use KitchenAid dishwashers too. They're known for dependability and virtually service-free operation, by many quality builders like Jim Lees. For more details, see your distributor. Or write KitchenAid Dishwashers, Dept. 8DS-5, The Hobart Manufacturing Company, Troy, Ohio 45373.



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Mr. Rock Hudso

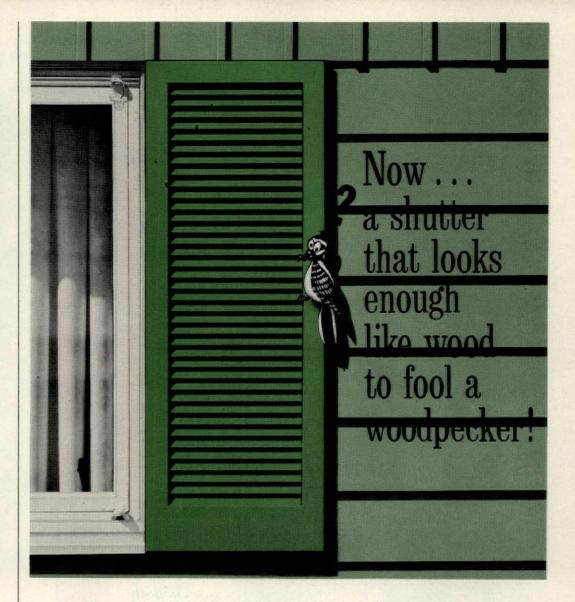
Learn the seven warning signals of cancer. You'll be in good company.

- Unusual bleeding or discharge.
- A lump or thickening in the breast or elsewhere.
- 3. A sore that does not heal.
- Change in bowel or bladder habits.
- 5. Hoarseness or cough.
- Indigestion or difficulty in swallowing.
- 7. Change in a wart or mole.

If a signal lasts longer than two weeks, see your doctor without delay.

It makes sense to know the seven warning signals of cancer.

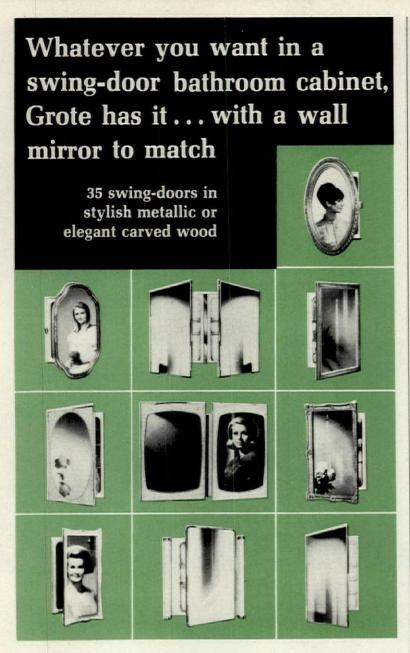
It makes sense to give to the American Cancer Society.



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- Installation is literally a "snap." Wire clips install fast on any type of exterior siding, and one quick push snaps the shutter into place and locks it on.
- The X-act Wood Mold Shutter won't buckle or bend when the weather changes, because the wire clips allow it to move slightly up and down as normal expansion and contraction occur. And the frame is the same abs polymer as the face, for uniform expansion of all parts—no twist or warp.
- Unbelievably, this shutter costs less than most plastic shutters and even less, on an installed basis, than most wood shutters.

We have more answers for your questions . . . just send the coupon.



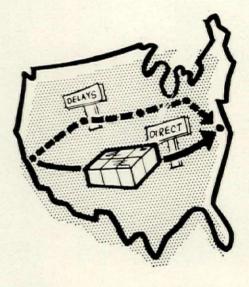


No bathroom cabinet gives more convenient storage for the money or easier installation than the timeless favorite of so many builders, the swing-door. Or more glamor, when you buy Grote. For the Grote line of 35 swing-doors gives you the gamut from stylish practicality in metallic frames to the ultimate in decorator-inspired elegantly carved wood. Recessed, or surface-mounted with the built-in look. Simply invert the cabinet on the job to switch the door swing.

Two years ago we bought a whole mirror plant, renowned Hagemann of Shelbyville, Ind., to bring you ALL the sales magic of mirrors. Not only the industry's broadest variety of styles but, when you buy Grote cabinets, you can get wall mirrors to match. Neat trick to sell a home or rent an apartment weeks earlier. Send coupon to see all our sales tricks.



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- 2. They are handled fewer times.
- 3. There is less chance of damage.

ZIP Codes keep postal costs down but only if you use them.





After you get through filling, sanding and sealing this door, it'll look great.

This new Weyerhaeuser one-piece louver panel door looks great to begin with.

Our new door looks exactly like any other louver panel, except you don't have to do anything to it after it arrives on the job.

With a molded door face made out of a tough, resin-impregnated wood fiber, we've come up with an absolutely smooth surface. With no grain. No checks. No joints.

The surface is already primed. All

you have to do is paint it.

Weyerhaeuser Molded Doors are available in all popular sizes. You may order widths: 9" to 3'. Heights: 6' 6" and 6' 8". In three-panel and six-panel designs.

Like more information?

Mail the coupon at the right. We'll be back to you with all the

Circle 92 on Reader Service card

To: Weyerhaeuser Company, Box B-2812 Tacoma, Washington 98401

_Zip ___

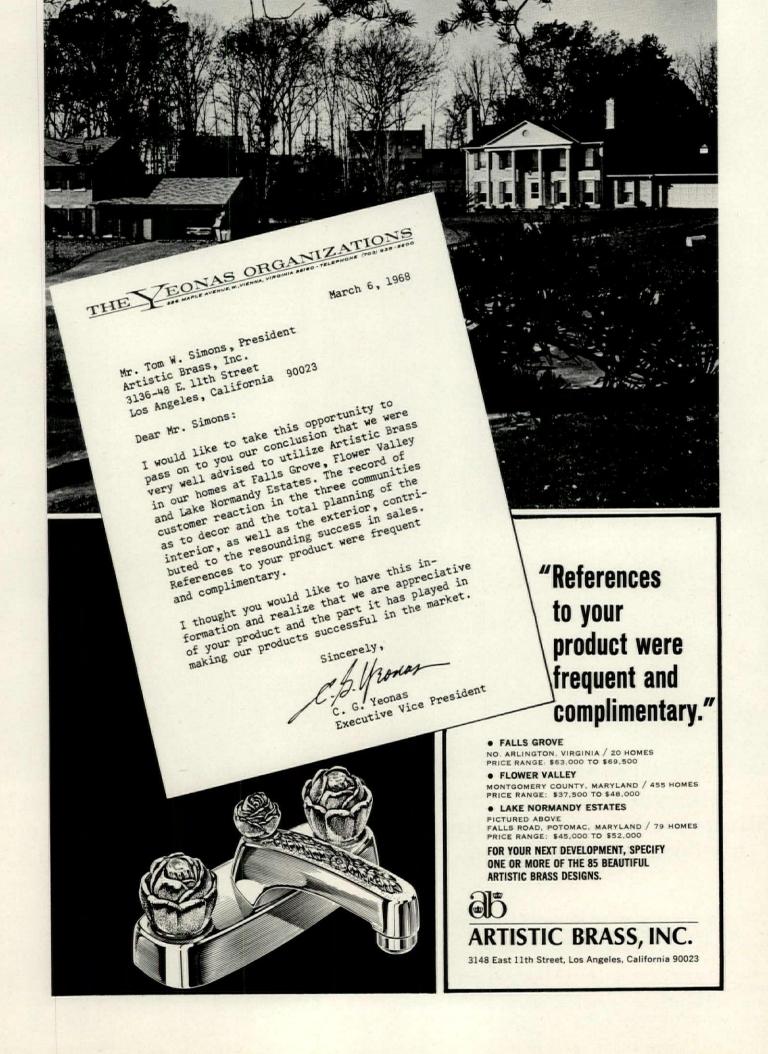
Please send me more information on your new one-piece molded

door.

Name Address.

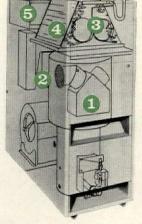
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Weyerhaeuser



ARE YOU BUILDING MODERN HOMES WITH OLD-FASHIONED HEATING & AIR-CONDITIONING SYSTEMS?



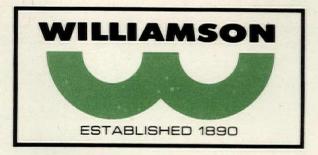


- Heating
- 2 Humidification
- Air-Conditioning
- Dehumidification
- 6 Electronic Air Cleaning

Williamson's new "Five-In-One" completely obsoletes the old concept of a warm air furnace with add-on central air-conditioning. Completely enclosed in a smartly styled casing no larger than a typical furnace, the Williamson "Five-In-One" heats and humidifies in the winter, cools and dehumidifies in the summer, and electronically cleans the air all year around.

The "Five-In-One" offers heating from 80,000 to 150,000 BTU, cooling from 25,000 to 56,000 BTU, humidification up to one gallon output per hour, and removal of up to 90% of all airborne contaminates. The "Five-In-One" is available for use with natural gas, L.P. gas, or fuel oil. It costs less and takes less space than a combination of comparable components purchased separately and assembled into a total comfort package.

Take a good look at Williamson's new "Five-In-One". (Patent Pending)



The Williamson Co., Dept. T-102 3334 Madison Rd., Cincinnati, Ohio 45209 Phone: (513) 731-1343

Announcing the all-new Bostitch clinch-nail roof truss system.

Combines the proven strength and durability of nail-on truss plates with the speed and low cost of a simple, compact air gun system.

New Speed. No more flipping of trusses during assembly. All joints are nailed from only one side. Now you can make trusses in half the floor space normally required.

New Strength. Each nail goes completely through both sides of each joint. "Clinching" action locks joints together—with 40% fewer nails. Fewer nails mean less truss assembly time, too.

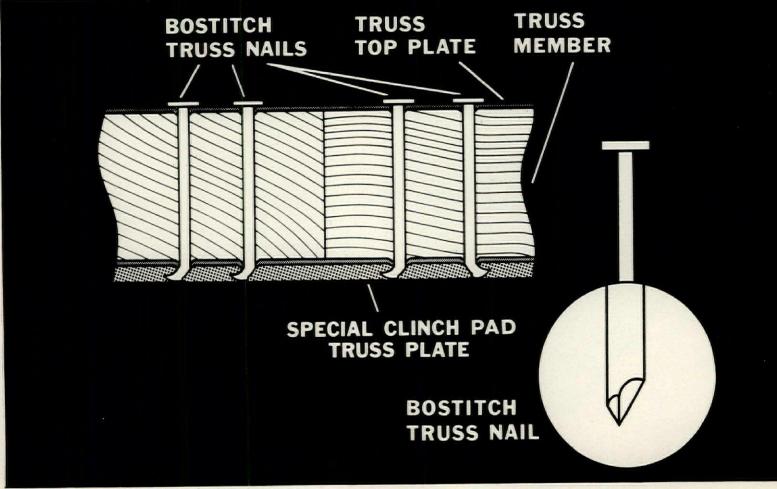
New Simplicity. Bostitch Clinch-Nail System includes adjustable builder's saw guides for cutting all but truss webs right on truss assembly table! Two or

three men easily operate entire system including cutting of webs and assembly.

New Versatility. Basic system handles almost any style trusses up to 40-foot span and 8-in-12 pitch. Just add extra tables and track to expand pitch and span to any lengths.

New Economy. There are no cumbersome or expensive presses or roller machines. Bostitch provides everything you need to build trusses except the lumber and saws. The new Bostitch Clinch-Nail Truss System includes low-cost hardware and plans for six movable truss tables, two Bostitch Truss Nailers, power saw cutting jigs for peak and heel joints and rafter tail cutoff, electric or gas

What it is: Heart of Bostitch Clinch-Nail Truss System is the special two-ply truss plate and companion clinch-point nail. Each nail is power driven completely through joint and automatically clinched on opposite side. Two-ply construction of clinch-pad truss plates insures precisely controlled clinching action.



driven air compressor, air line hoses and accessories, plus truss plates and clinch-point nails.

- 1. Peak and heel joints are cut at the table during assembly. Precut webs are then placed in position.
- 2. Bostitch clinch-pad truss plate is next placed under each joint and a Bostitch truss nail plate on top.
- 3. Both truss plates and truss members are power nailed together simultaneously from one side of joint. Clinching anvil mounted on each tabletop automatically clinches truss nails.
- 4. Separate, movable clamp-and-nail tables at each truss joint accommodate practically any size or

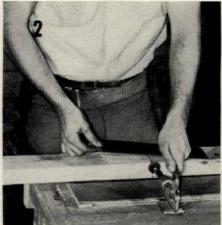
style truss. Spaces between tables simplify truss assembly and removal from any side.

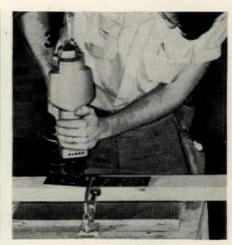
Now truss making becomes easier, and more profitable than ever before! You get professionally designed, high-quality trusses at minimum cost. Field experience proves that two men can turn out up to 30-foot trusses in three minutes per truss including cutting top and bottom chords.

Get into the extra-profitable Clinch-Nail truss-making business now with this new Bostitch Truss System. First step for you—call THE MAN WITH THE FASTENING FACTS. He's listed under "BOSTITCH" in your phone book. Or send this coupon.

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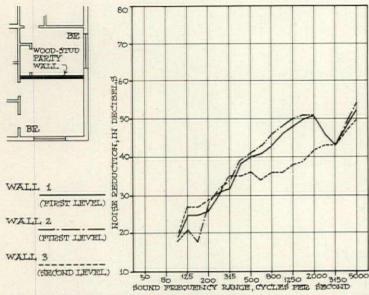
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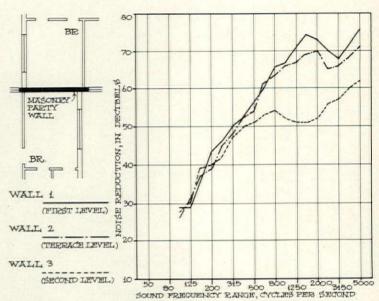
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Now Bostitch can do
more than ever for you.



STAGGERED-STUD PARTY WALL of 2x3s plus woven 2" insulation and 1/2" gypsumboard provides varying noise reduction in three different sections of NAHB's tested apartments, Field STC rating averages 40 to 46.



MASONRY PARTY WALL of 8" hollow blocks covered with furring strips, 1" mineral-fiber insulation and ½" gypsumboard provides highest noise reduction between apartment bedrooms. Field STC rating averages 53 to 56.

The sound-deadening gap: Why builders get less than they pay for. . .

Apartment builders and sound-control manufacturers have always suspected that the difference between a sound system's lab rating and its field performance is sometimes like night and day. Now the NAHB Research Foundation has documented just how great the gap actually is, and what causes it.

NAHB researchers made a long-term study to test the effectiveness of sound-deadening used in a 98-unit apartment project in Washington, D.C. The buildings—three-story, wood-frame structures in the \$125 to \$175 rental range—contain a host of standard sound-deadening systems and materials between units. But because of mistakes in workmanship, their performance varies.

NAHB's study—published in a thick report entitled "Field Study of Residential Acoustics"—is unusual for three reasons:

1. The buildings were not constructed for testing. They had already been designed and were under construction before the research team approached the builder-owner for permission to study them.

- 2. Researchers were able to examine details of sound-deadening construction during the building stage so they had a good idea of what caused acoustic failures when the finished walls and floors were later tested by instruments.
- 3. Tenants of the apartments were thoroughly interviewed to learn what noises they considered objectionable—in effect, a double check against the test findings.

Despite the builder's precautions against noise transmission, his tenants had many complaints. In order of most frequent mention, they were 1) impact noises through floors, 2) appliance and plumbing noises, 3) stairway noises, 4) airborne sounds through walls, 5) noises generated by tenants' own appliances, and 6) noises from central utility areas such as laundry rooms.

The builder's precautions included staggered studs, masonry party walls, fiberboard underlayment on floors, full-thick mineral wool stapled between floor-ceiling joist spaces, gypsumboard ceilings suspended in resilient ceiling channels nailed to bottom edges of joists, and sponge-neoprene bushings to isolate metal plumbing from framing members.

Some sections of party walls and floor-ceilings did have Sound Transmission Class (STC) ratings close to those of laboratory specimens. But other sections—of the same basic sound-deadening construction—were many STC points below laboratory ratings and in some cases completely ineffectual.

Tenants' complaints backed up the erratic effectiveness of the builder's sound-deadening—i.e., 40% of them had no complaints about noise, while the balance had complaints that covered every possible kind of sound transmission.

Nahb's conclusion: Apartment builders who want effective sound-deadening must pay the cost of substantial extra supervision for the workmen who install it. The best-conceived sound-break is useless in the hands of a workman who doesn't know how to install it. Some precautions they should be taught are listed below.

... and what NAHB experts advise doing to get your money's worth

Most sound-break failures discovered in the NAHB test were caused by wall penetrations. NAHB's rule of thumb: A ½"-diameter hole in a masonry wall reduces its STC rating by seven points. So the experts emphasize that if holes cannot be avoided, they must be sealed with mortar or heavy flexible caulking.

A typical source of sound leakage was the crack around exposed ceiling beams at the point where they pass through gypsumboard walls. Not only should the gypsumboard fit tightly around the beam, but the seams should be caulked on both sides of the wall before molding is applied.

Sound-deadening material in floor-joist cavities will help reduce plumbing noises, but only if the pipes are held free from all framing. The builder NAHB studied had used neoprene bushings on some pipes, but others had been secured by driving wood wedges between pipe and framing.

Telephone outlets and TV antenna terminals were found to be as detrimental to sound-deadening efforts as are electrical boxes. They don't have to be back-to-back to permit noise transfer, but merely in the same stud space.

How good does a sound-deadened wall have to be? According to NAHB's tenant-survey, any party wall with a noise-reduction rating of less than 48 sTC is little better than useless.







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Aluminum sliding glass doors that carry Our Quality Certified labels are nothing to holler about. Nothing to write nasty letters about, either.

The label means

- (1) that these sliding glass doors meet specifications approved by the USA Standards Institute,
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Manufacturers Association 35 East Wacker Drive, Chicago, Illinois 60601, Dept. B58

Lombardi Lombardi Lucky?



It's a lucky thing for Lombardi that there are rough, tough clubs like the Colts, the Cowboys and the Bears around the league.

Without them, his Packers wouldn't be the great club they are.

Greatness, after all, is the rarest commodity on the market. It isn't something you're born and raised with. It's something you rise to—against the stiffest kind of competition.

A simple fact of life, you say. True in sports, or school, or business, or industry.

Funny thing, though . . . there are people around today who just don't buy that point of view when it comes to business.

They think there's too much competition in the marketplace. Too many brands in the sporting goods store, for instance. Too many manufacturers fighting each other to sell you something.

They'd like the government to take steps that would eventually lead to fewer brands in the stores, and therefore, less competition.

But, they forget that restricting competition is not the way this country got great.

It is competition that produces the endless innovations in our marketplace . . . that creates whole new industries . . . more jobs . . . that makes the Packers the greatest.

Say . . . can you imagine Lombardi's reaction when somebody tells him the referee is going to call his plays for him?

And he can't average 241 in the line because the Colts average only 233?

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An association of 365 leading U.S. magazines



If you're not a Weyerhaeuser Registered Home® builder, here's the kind of spring promotion help you missed.

(But you don't have to miss the big fall promotion.)

Our spring home selling push starts with a feature in April American Home magazine on a new WRH® home. We call it "the WRH home that can change to meet family needs" promotion.

Big, full-color Weyerhaeuser Registered Home ads will run in both April and May issues of American Home. The 2-page May ad lists WRH dealers across the nation.

In addition, there's local publicity, big local newspaper ads, model home displays and a full-color idea brochure.

And WRH builders around the country are building model homes with a direct tie to this national pub-

licity/advertising/merchandising.

Promotions like these are just one part of the full WRH story. As a WRH builder you get component packages at a stable price from a close-at-hand WRH dealer. New home designs.

As well as 90 per cent mortgage financing at competitive interest rates.

And Weyerhaeuser backs every WRH home with a 20-year warranty on all our wood products used in the home, an important benefit to both first and second owners.

Send the coupon for more information on what's in WRH for builders. Just in time for the *really* big fall WRH promotion.

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Please send me more details on the Weyerhaeuser Registered Home building program, and the name of my nearest dealer.

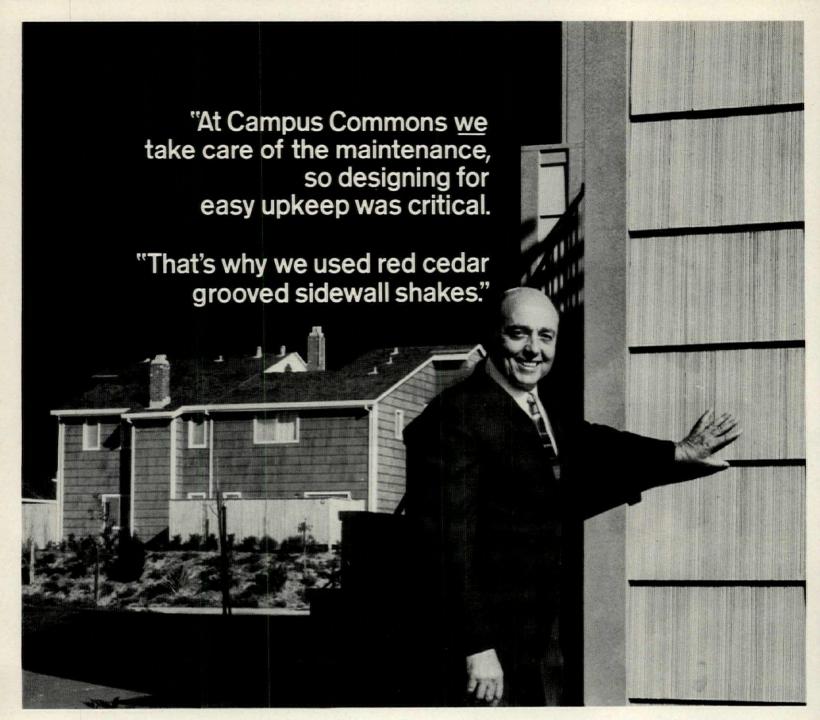
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Address_____

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Weyerhaeuser



When Sacramento's new Campus Commons development is completed, it will consist of 4,000 individual homes spread over 660 acres. Plus three swimming pools, a clubhouse and six tennis courts.

That's a lot to take care of. But a maintenance contract covering all exterior upkeep is part of every house. "Naturally with a responsibility that large," says Joe Tabarracci, Campus Commons' superintendent of construction, "we wanted to use exterior materials that would give us quality appearance yet still hold costs down and be easy to care for later

on. Our architect, Warren Callister, specified Certigroove red cedar sidewall shakes."

Why? Because they provide the authentic, natural look only wood can give, at the lowest possible cost and with the highest possible practicality. Cedar shingles and shakes are durable, they provide a natural insulation barrier and they're strong enough to stand up even under hurricane winds.

Joe Tabarracci was so sold on the advantages of red cedar, he even went a step further—and put red cedar hand-

split shake roofs on every unit. How about you? Like to know more about the low cost, high practicality and unmatched natural beauty of Certigroove shingles, Certigrade shingles or Certi-Split shakes?

For details, plus money-saving application tips, just drop a line to: 5510 White Bldg., Seattle, Washington 98101. In Canada: 1477 W. Pender St., Vancouver 5, B.C.

Red Cedar Shingle & Handsplit Shake Bureau









One of these labels under the bandsticks of the product you buy is your assurance it was made, inspected and graded under regulations of the Red Cedar Shingle & Handsplit Shake Bureau. Insist on these labels.

New from York! A through-the-wall air conditioner for garden apartments that's quieter, more compact.

The Champion is competitively priced, but has York quality engineering that assures customer satisfaction, no maintenance problems.

Here's the industry's most advanced split system air conditioner—designed to meet builders' needs for a compact, trouble-free through-the-wall unit. It's York's all-new Champion . . . a quiet, dependable system that's ideal for garden type apartment buildings.

Equipped with inherently protected compressor motor and fan motor, the York Champion is delivered precharged and leak tested. Refrigerant lines are also pre-charged—and available in 15, 25 or 35-foot lengths, with York quick-connect couplings. Available in 1½ and 2-ton capacities, the York Champion may be installed with either upflow or counter-flow coils—to meet any job requirement.

Ask your Authorized York Dealer about York's new, quieter air conditioners for homes and apartments. Or write York Division of Borg-Warner Corporation, York, Penna. 17405.

York found a better way to build an air conditioner

Matched Borg-Warner Furnaces are designed to team with York air conditioning for year around comfort. Oil or gas-fired units in a complete range of capacities.





YORK

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Gutter systems of rigid Geon vinyl will not rust, corrode, rot, peel, dent, flake, scale

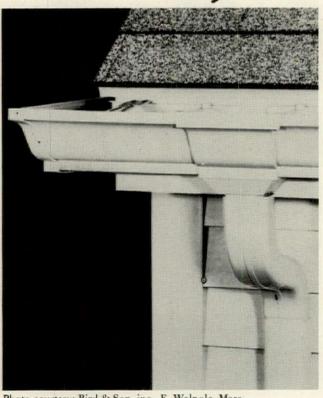


Photo courtesy: Bird & Son, inc., E. Walpole, Mass.

or call-back.

That's because they are solid vinyl, and the color goes through and through. Rigid Geon vinyl sheds rain water and chemical roof wash without being bothered by them. Geon vinyl is making the material difference in many building products . . . windows, siding, pipe, conduit, gutters, downspouts, shutters, electrical raceways. And the difference is that they take care of themselves

so that you won't have to. B.F.Goodrich Chemical Company, Dept. H-13, 3135 Euclid Avenue, Cleveland, Ohio 44115.



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will help you sell more homes faster... at 1/5 the installed cost of conventional hand-hewn wood

Totally new! Truly revolutionary! Molded polyure-thane Lite-Beams® defy comparison with wood . . . weigh less than ½ lb./running foot . . . go up in minutes with adhesives on any surface . . indoors or out . . require no auxiliary carpentry, plastering, painting or masonry . . . can be nailed, cut with a knife, sawed or drilled . . . channel can be used to hide small diameter pipes or wiring . . . come prefinished in three popular shades . . .

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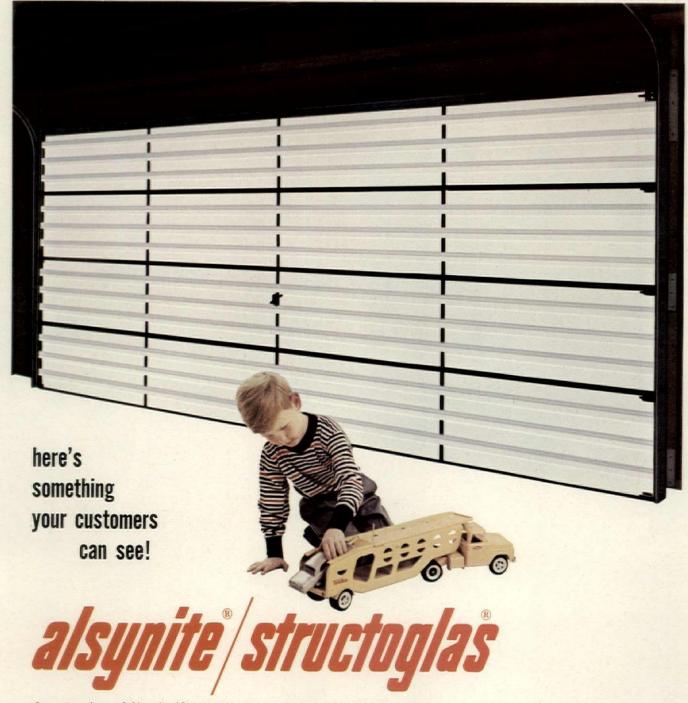
through the Payroll Savings Plan or Bond-a-Month Plan — a new U.S. Savings Note called Freedom Shares. It pays a higher rate of interest and matures faster. Get all the facts where you work or bank.







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Helps you sell a house faster. Gives you additional talking points. Less maintenance.
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It costs less really than you think to enjoy the ultimate in showering pleasure . . . the fully adjustable spray of the *Anystream* showerhead. Now improved. With a newly designed T-shaped handle and up to 33% more spray channels.

Sheer luxury. Just a flick of the handle and plungers adjust to ... invigorating needle ... soothing gentle ... normal rain ... or full flood. Anystream always gives a full pattern spray ... no hollows, jets or voids.

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P.S. Water-saving Autoflo optional with Anystream showerheads.

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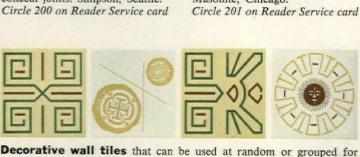
Interiors



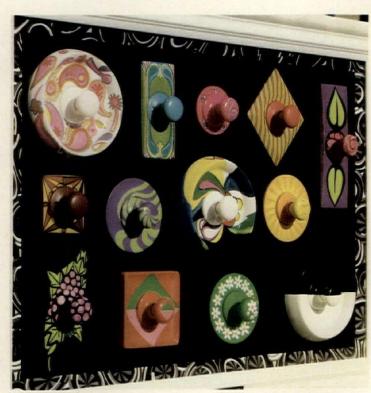
Easy-to-install ceiling needs no backing or suspension system: Redwood runners are nailed directly to joists, and then 2'x2' or 2'x4' lay-in panels-either acoustical board or light diffusersslide into place. Cross members conceal joints. Simpson, Seattle.



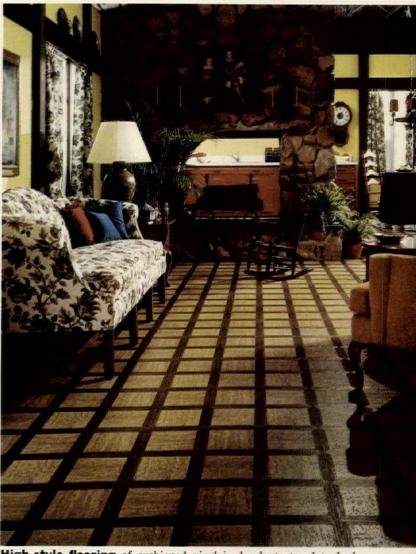
Danish teak, a new woodgrain offered in manufacturer's finished-hardboard-paneling line, comes bookmatched with 1/2" grooves. The panels measure 4'x 7' or 4'x8'; are also available in 4'x10' size east of the Rockies. Masonite, Chicago.



Decorative wall tiles that can be used at random or grouped for interest are 41/4" square. They are part of a line that includes 22 designs, the newest which stem from Indian culture (first and third tiles). U.S. Ceramic Tile, Canton, Ohio. Circle 202 on Reader Service card



Psychedelic locksets—standard round-design knobs gaily decorated in brilliant colors-are plastic-coated. The mod locksets can be customordered. Kwikset Sales & Service, Anaheim, Calif. Circle 204 on Reader Service card



High-style flooring of cushioned vinyl is deeply textured to look like travertine crisscrossed by dark-toned wood. The sheet flooring comes in 6'-wide rolls. Congoleum-Nairn, Kearny, N.J. Circle 203 on Reader Service card



Dramatic ceiling tiles with a deeply sculptured pattern for textural interest are suggested for Mediterranean and contemporary decor. The 12"-square, tongueand-groove tiles are completely washable. Panels also available. Conwed, St. Paul, Minn.

Circle 205 on Reader Service card



Bold wallcovering is fabricbacked shiny vinyl in three color combinations: pink, orange and blue; blue, green and black; or orange, gold and green. Product is scrubbable, strippable and pretrimmed. United Wallpaper, Chicago.

Circle 206 on Reader Service card

New products continued on p. 150







Lighting and electrical equipment



Communication center is easy to install



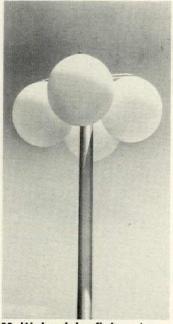
The multipurpose unit—a surface-mounted top panel for phone and radio/intercom, plus a recessed base unit with fold-down desk—requires no framing. The top half mounts directly on the wall, and the bottom is recessed into any 16"-o.c. stud wall. Note: Desk's storage unit straddles framing (left), eliminates the need to notch or support center stud.

The top unit incorporates the master intercom station, plus a cork bulletin board (an additional bulletin board can be substituted for the intercom). The lower unit contains two 40-watt lamps that go on when desk is lowered, also offers convenient storage area. Center is fabricated of extruded aluminum, with woodgrained accents. Emerson, St. Louis.

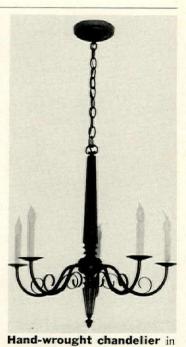
Circle 275 on Reader Service card



Wall-mounted control console, to regulate remotely situated twoway radio stations over a telephone line, has solid-state controls. Capacity: two transmitting and two receiving frequencies. General Electric, Lynchburg, Va. Circle 223 on Reader Service card



Multiple-globe fixture incorporates four white plastic globes suspended from the pole top (a minimum of visible hardware makes it appear that globes are floating in space). In combination clusters of 24", 30" and 36" globes. Habitat, New York. Circle 220 on Reader Service card

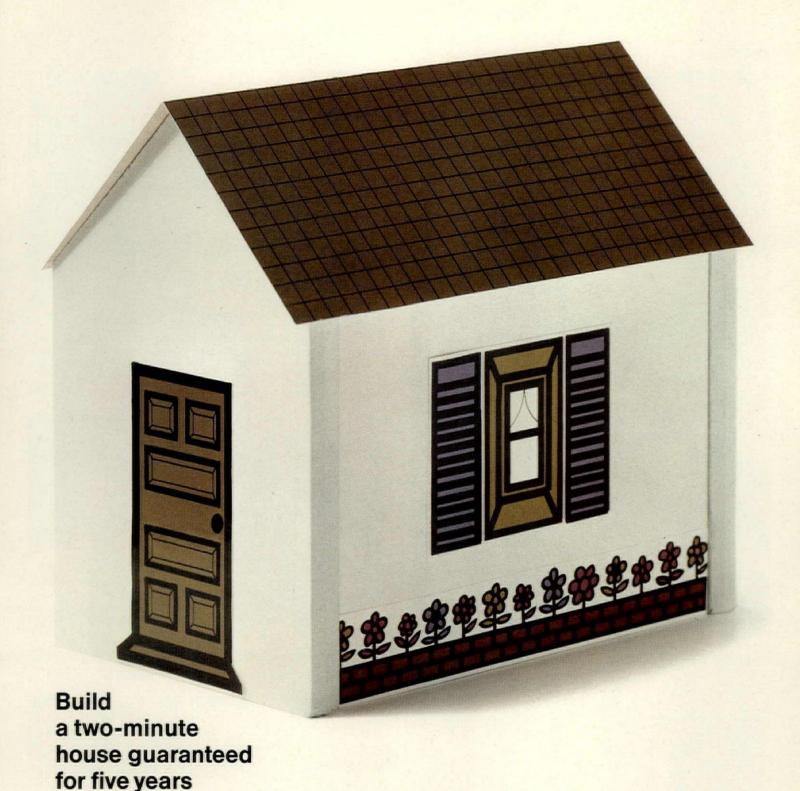


Mediterranean style suspends matte-black arms with five white candles from a fluted-oak column. Fixture is 23" in diameter, 22½" high, and can be hung up to 44" from the ceiling. Del Val, Philadelphia.

Circle 221 on Reader Service card



Carved-wood chandelier and wall sconce combine Spanish styling with turquoise Mexican detailing. The chandelier's blackened wood spindle supports aged-brass arms with six candles: it has 20" spread. Thomas, Louisville, Ky. Circle 224 on Reader Service card



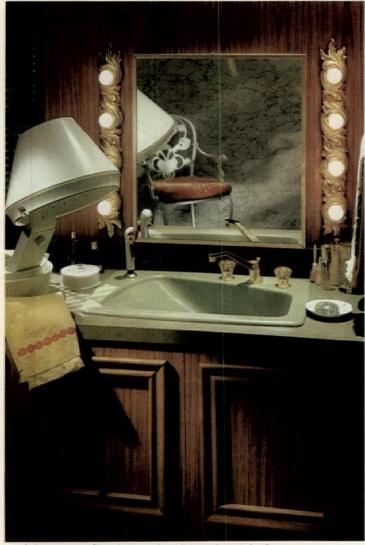
We think we've got a good thing going with our Insulite Pre-Painted Siding, and we'd like to send you some samples. You can build a little hardboard house with them in two minutes or so. And the pieces are guaranteed for five years against blistering, peeling, cracking or checking. That's the same written guarantee you get with our full-size Pre-Painted Siding.

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So if you'd like to build a two-minute house with Insulite Pre-Painted Siding, call your Boise Cascade representative for samples. Or mail this coupon to Boise Cascade Building Products, Boise, Idaho 83701.

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BOISE CASCADE BUILDING PRODUCTS Boise, Idaho 83701	

Baths



Multipurpose lavatory with deep, sloped basin can serve as a shampoo lavatory (it has a convenient spray attachment and swing spout) or as a baby bath. Overall size: 28" x 19". Kohler Co., Kohler, Wis. Circle 210 on Reader Service card



Picture-frame cabinet, flanked by antique brass or chrome fixtures, is available in a choice of six recessed models. Frame finishes include antique gold, and silver. Size: 34" wide, 25" high. Monarch, Elk Grove Village, Ill. Circle 211 on Reader Service card



compact showerhead—a moderately priced, self-cleaning version of manufacturer's larger unit—has a double spray pattern, and can be adjusted from needlesharp spray to full flood. Choice of bright- or brushed-chrome finish. Crane, Chicago.

Circle 212 on Reader Service card



baked-on clear epoxy resin. Also offered in gold: complete tub and shower assemblies. Delta, Greensburg, Ind.

comes in a choice of bright or satin finishes, both protected by a

burg, Ind. Circle 213 on Reader Service card



Folding tub enclosure that permits almost total accessibility to the tub area is offered in hammered frosted glass (photo) or plastic laminate. Designed for standard 5' tubs, enclosure is 58" high, fits 57" to 59" openings. Theodore Efron, Chicago.

Circle 215 on Reader Service card

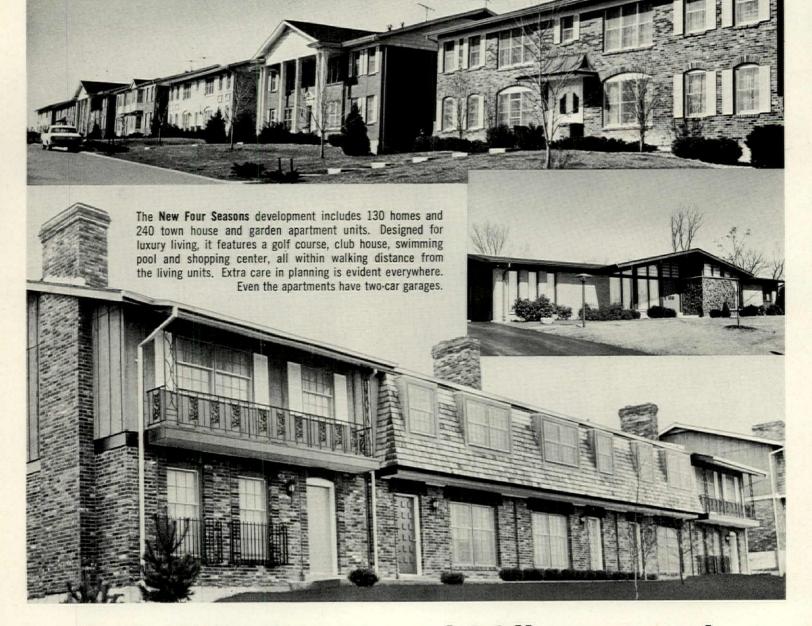


Recessed cabinet has full-louvered wood door that comes unfinished, can be decorated to suit taste. Cabinet has a one-piece body and adjustable shelf brackets. A conversion kit permits surface mounting. General Bathroom, Elk Grove Village, Ill. Circle 214 on Reader Service card



Contemporary bathroom ensemble incorporates tub, walls, vanity basin, toilet and floor—all of fiberglass-reinforced plastic that looks like marble. Components are designed with few joints for easy cleaning. American Standard, New York. Circle 216 on Reader Service card





"Only Whirlpool could fill our needs,"

said Sid Kandel, president of New Four Seasons, Inc., Saint Louis area builders.

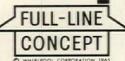
"Our luxurious, ultra-modern New Four Seasons development was to include homes, garden apartments and town house apartments," he went on, "all had different requirements for kitchen appliances.

"We wanted a full line in which both gas and electric appliances were interchangeable . . . and a line that would do their own servicing. In my mind," Sid Kandel added, "only Whirlpool qualified."

Whirlpool had the breadth and depth of product line to furnish kitchen appliances for the entire New Four Seasons development.

Smolkin and Associates, Inc. Ask your Whirlpool distributor.

In homes, electric built-in double ovens and cooktops, undercounter dishwashers, disposers, range hoods and the customer's choice of refrigerators were used. In garden apartments, gas built-in ovens and cooktops, toploading portable dishwashers, disposers, and a 13 cu. ft. refrigerator were provided. For town house apartments; double oven CONNOISSEUR® electric ranges, undercounter dishwashers, disposers and 14 cu. ft. No-Frost refrigerator-freezers were installed. High-end models were selected by New Four Seasons, Inc. to provide customer valued features.



Whirlpool's Full-Line Concept can help you solve your appliance needs, too. It provides a complete line of appliances . . all design and color coordinated . . . all from one handy source. You place one order . . . deal with one man . . . get undivided responsibility. Whirlpool also offers builder management services through the well-known consulting firm of W. R.



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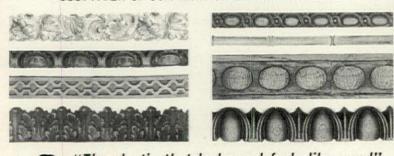
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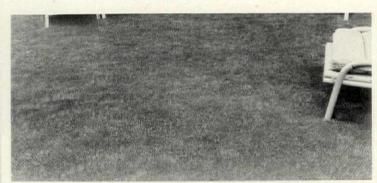
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NEW PRODUCTS

Outdoor living



Gas-fired barbecue grill—a three-piece, die-cast aluminum unit with 20"-deep cooker over 3' long—has two separate cooking areas. Its tubular post both anchors the unit and houses necessary gas lines. Charmglow, Antioch, Ill. Circle 260 on Reader Service card



Grass-like indoor-outdoor carpeting for patio and terrace areas is molded in 12" squares, can be cemented or nailed for extra-strong bond. It is odorless and non-toxic; and can be hosed or vacuumed. OBI Inc., Ridgefield, N.J. Circle 261 on Reader Service card



Gas-fired broiler/grill of cast aluminum permits in-the-ground or surface mounting. The unit cooks with special ceramic bricks and features adjustable grill racks, a grease disposer and built-in heat indicator. Roper, Kankakee, Ill. Circle 262 on Reader Service card

New products continued on p. 164



KOHLER OF KOHLER

Kohler Co., Kohler, Wisconsin Circle 115 on Reader Service card

*T.M. Reg. U.S. Pat. Off. Applied For



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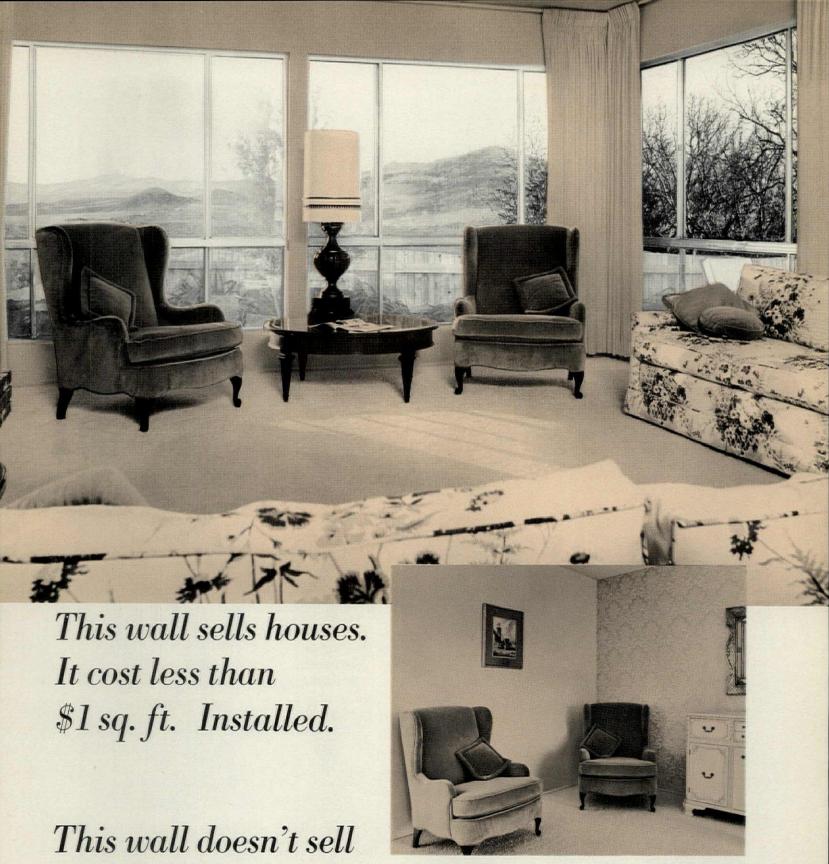
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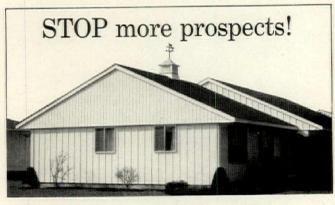
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Circle 118 on Reader Service card



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Plumbing and piping



Water conditioner is a fully automatic extra-capacity unit that will filter out minerals, taste and odors from water up to 40 grains hard. To resist corrosion, the seamless plastic inner lining is encased in a metal shell. Bruner, Milwaukee. Circle 254 on Reader Service card



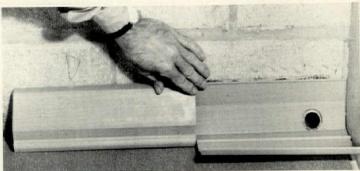
Dent remover forces irregularities out of expensive pipe with a hydraulic cylinder and shoe. Override in jack pushes dent beyond true round to compensate for spring in metal. Unit will handle pipe from 10" to 30". CRC Crose Int., Houston.

Circle 255 on Reader Service card



Single-lever faucet has only one moving part, and both flow and temperature are controlled by lever movement. Available in either polished or brushed-chrome finish, the faucets carry an unconditional guarantee. Nile, Taylor, Mich.

Circle 256 on Reader Service card



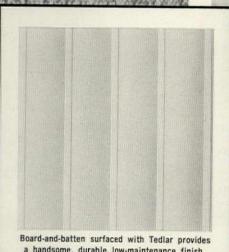
Basement drain is a hollow baseboard system that collects and carries away all water that penetrates below-grade walls or joints. Vinyl sections are 10' long, can be installed over finished walls. Basement Water Control, St. Paul, Minn. Circle 257 on Reader Service card

New products continued on p. 166

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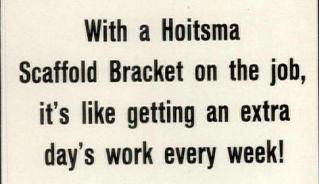
Now you can design and build durable, long-lasting white board-and-batten exteriors that won't crack, chip, craze, flake or peel! Homasote's Guaranteed Panels are insulating, weatherproof and factory surfaced with a tough, stain-resistant Tedlar pvf film. And-with Homasote Guaranteed Panels, having the long edges wrapped, you eliminate exterior painting and back sealing. On-site construction time is definitely reduced through use of factory Tedlar-surfaced, metal snap-on batten covers that simplify application. With a wide range of sizes available to minimize on-site application time, these panels are easily cut and shaped for good fit with either power or hand tools without cracking or splintering. On your next job, why not check the big savings and added beauty that Homasote Guaranteed Panels offer. They're the only weatherproof, insulating structural panels on the market that are also resistant to termites, rot and fungus. Your Lumber Dealer has literature and samples or write direct.

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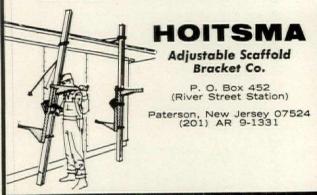


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NEW PRODUCTS start on p. 147



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Circle 121 on Reader Service card



Plumbing and piping



Water softener electronically senses the need to recharge itself from the condition of the water, recharges more often when water use or water hardness increase. Culligan, Northbrook, Ill. Circle 263 on Reader Service card



Reusable plastic stopper for sewer lines will fit any brand of vitrified clay pipe in the standard 6" domestic size. Stopper ring is inserted into the pipe barrel, and plug is then screwed into the ring. American Vitrified Products, Cleveland.

Circle 268 on Reader Service card



Compact conditioner for ultra-soft water has molded plastic inner and outer shells, as well as a new plastic control valve. Manufacturer says plastic means lower production costs. Installed, the compact unit weighs 70 lbs. Phalanx, Buffalo, N.Y.

Circle 269 on Reader Service card



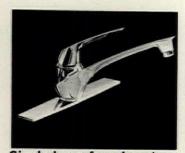
Water filter (center) is designed for dirt removal (sediment cartridge, left) or taste and odor correction (carbon cartridge, right). Plastic housing is corrosion-free, and cartridges are easily replaceable. Stover, St. Charles, Ill

Circle 264 on Reader Service card



Single-knob faucet is crystal and chrome, has only a single moving part—no gaskets, washers, strainers, springs or packing. The faucet may be set for preselected-water-temperature control if desired. Universal-Rundle, New Castle, Pa.

Circle 265 on Reader Service card

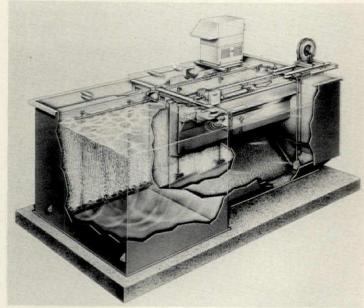


Single-lever faucet carries a five-year guarantee, including both replacement and a \$10 labor allowance for installation of a new ceramic cartridge. All manufacturer's fittings produced after Nov. 1, 1967, carry the guarantee. Price-Pfister, Pacoima, Calif. Circle 266 on Reader Service card



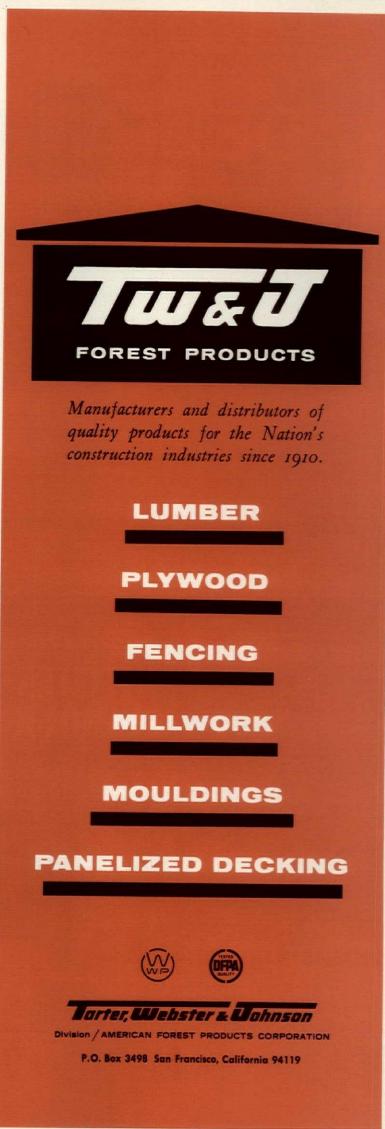
Gate valves for residential installation are made of bronze, for long, service-free life. They are available in ½", ¾" and 1" sizes, with full port openings for full fluid flow and minimum pressure drop. Hammond Valve, Hammond, Ind.

Circle 267 on Reader Service card



Sewage-treatment plant is completely operational in five days, compared with 30 days for a conventional plant. A sludge-return unit travels the length of the settling tank, returning solids for continuous treatment. Chicago Pump, Chicago. Circle 259 on Reader Service card

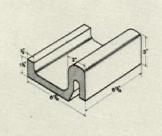
New products continued on p. 168



Construction materials

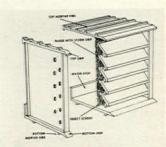


Wood shims are now mill-cut and packaged to eliminate the carpentry time wasted in cutting wedges for squeaky or sagging floors, or ill-fitting windows and doors. Bundle contains 100 shims, 1½" wide. Shakertown, Cleveland. Circle 240 on Reader Service card



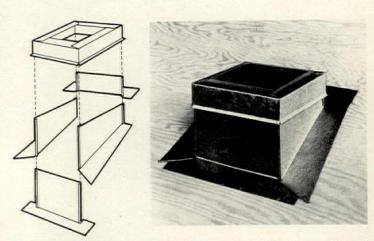
Pool gutter is made of 7"x7" glazed tile, comes in choice of white or aqua to brighten up the pool edge. Gutter's smooth finish simplifies cleaning, and manufacturer promises easy installation. American Olean, Lansdale, Pa.

Circle 242 on Reader Service card

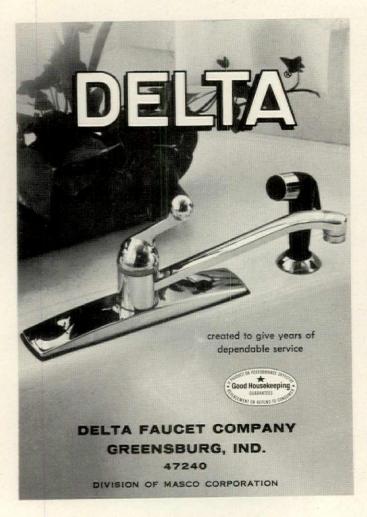


Brick vent features a blade design that eliminates water entry from driven rain. A high rear water-stop provides added protection. Made of extruded aluminum, the vent is anodized to protect against pitting. Sylro, Merrick,

Circle 244 on Reader Service card



Chimney flashing is engineered to fit any chimney-regardless of the pitch of the roof-and paper templates and roof-pitch markings on each flashing side make assembly easy. No soldering is needed. Miller, Appleton, Wis. Circle 248 on Reader Service card



Circle 124 on Reader Service card



SWANSON MANUFACTURING CO., 607 S. Washington St., Owosso, Mich. 48867





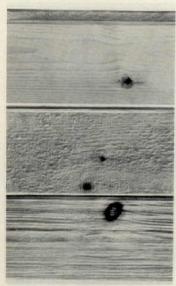






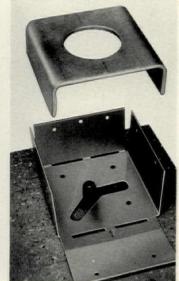
BATH HEATERS . TOASTERS . CLOCKS . BATH SCALES

Circle 125 on Reader Service card



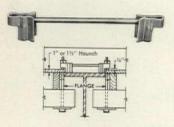
Laminated decking comes in choice of three surface textures: smooth, saw-textured or wirebrushed (shown above, top to bottom). Decking is produced from six wood species, can be factory-finished. Potlatch Forests, San Francisco.

Circle 241 on Reader Service card



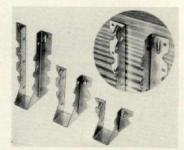
Post-base clips position 4"x4 posts even when bolts are out of line, support the wood 1 3/16" above surface water. Base cover is 16-gauge steel, zinc-plated for painting, with weep holes to run off standing water. Panel Clip, Farmington, Mich.

Circle 245 on Reader Service card



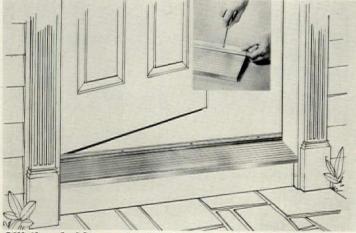
Haunch hanger is designed primarily for deck form work. The device-two pressed-steel ends welded to a steel strut-provides an exact 1" or 11/2" overhang. Installation and adjustment are from above deck. Richmond, Brooklyn, N.Y.

Circle 246 on Reader Service card



Joist hangers utilize two prongs that hold the device in place for easier placement and nailing. Made of 18-gauge galvanized iron, the hangers come in three sizes for loads of from 425 lbs. to 1,330 lbs. Simpson, San Leandro, Calif.

Circle 247 on Reader Service card



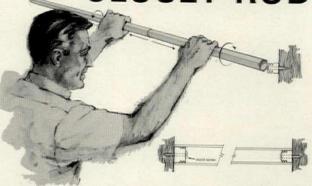
Sill-threshold has a floating aluminum saddle that can be adjusted as much as 5/16" to keep its weathertight seal. Core construction is of hardwood, with an aluminum top surface to minimize wear. Marquette Components, Grand Rapids, Mich. Circle 249 on Reader Service card

New products continued on p. 170

Install in seconds . . . save money on the job

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CLOSET ROD



Seamless tubular zinc-plated steel rods slip over "end serts." Each "end sert" is a plastic anchor that attaches to wall with a single wood screw. A twist motion extends the telescoping rod flush with the wall surface.

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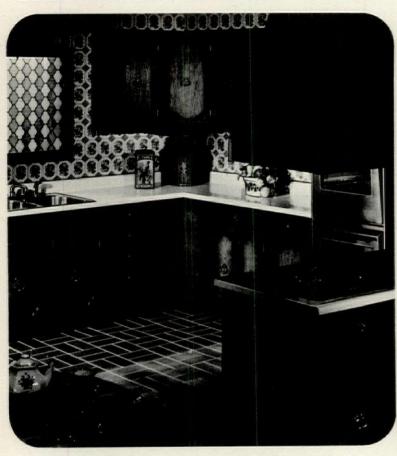
- Economical: easy to apply and maintain.
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- Suitable for all types of wood.

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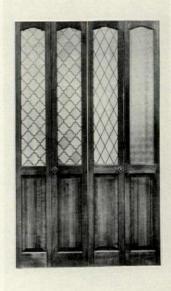
NEW PRODUCTS

start on p. 147

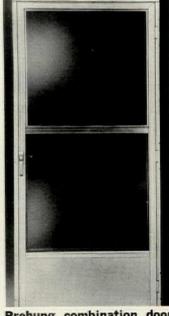
Doors and windows



Handcrafted doors—carved from kiln-dried solid pine with a weathered look—come in widths from 2'6" to 4'0", heights from 6'8" to 10'0". Doors are 134" or 2½" thick. Both sides are identical. Cornell-Newton, Beverly Hills. Circle 290 on Reader Service card

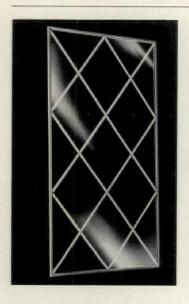


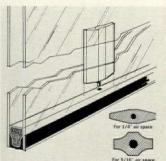
Decorative doors—of 11/8"-thick madera hardwood or pine—incorporate upper inserts in choice of translucent polystyrene with a stained-glass effect, embossed translucent polystyrene or hardboard grillework (shown in that order). Panelboard, Newark, N.J. Circle 294 on Reader Service card



Prehung combination door is made of aluminum, incorporates a pre-installed closer lug and striker plate, plus three extra-strong celcon hinges. Door dimensions: 3' wide, 6'8" high. V.E. Anderson Mfg., Owensboro, Kv.

Circle 296 on Reader Service card





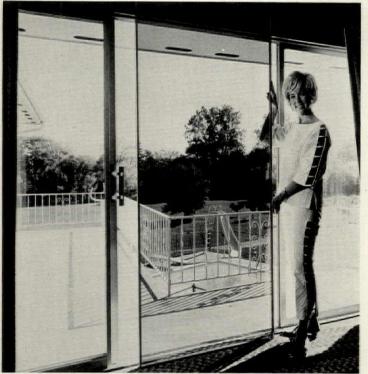
Dimensional vinyl grille gives insulated-glass window the appearance of a colonial divided window. Grilles—available for all standard-size windows—come in rectangular- (not shown) and diamond-divided (left) styles. Rimar, Mt. Joy, Pa.

Circle 295 on Reader Service card

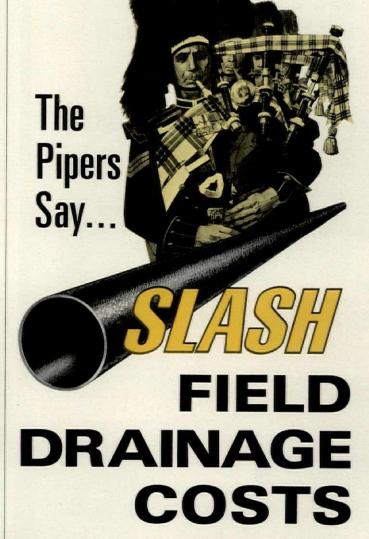




Extra-thin prefinished door panel—1/8" thick—permits plain door (being removed, left) to match plywood wall paneling. The 2'8"x6'8" panel is applied with contact cement to standard hollow-core flush door. General Plywood, Louisville, Ky. Circle 292 on Reader Service card



Glare-free insulating glass (center panel) reduces visible light transmission to 14% or 20% with a chrome alloy coating that lets glass maintain its transparency and keep color distortion minimal. Libbey-Owens-Ford, Toledo. Circle 291 on Reader Service card





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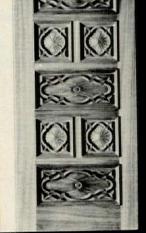
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Vinyl-asbestos tiles are textured to simulate random-patterned flagstones, and have embossed grout lines that conceal seams. Tiles come 12" square in residential gauge; brown, green, beige or white. Ruberoid, New York City. Circle 270 on Reader Service card



Spanish-grillwork design on a three-dimensional Moresque background highlights a Mediterranean-style carpet of 100% acrilan. The 12'-wide carpet is offered in a choice of Madeira red, blue, gold or green. Hardwick & Magee, Philadelphia. Circle 271 on Reader Service card



Inlaid-vinyl flooring in manufacturer's budget line can be installed on, above or below grade. Choice of seven colors includes goldenrod, lime green, white with gold, sand beige, copper, and bamboo beige. In 6' widths. Congoleum-Nairn, Kearny, N.J. Circle 272 on Reader Service card



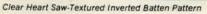
Moderately priced carpet of 100% Herculon has a bulked, multilevel loop pile that promises long wear, resists the formation of traffic patterns. Carpeting is available in 12' and 15' widths. J. P. Stevens & Co., New York City. Circle 273 on Reader Service card

New literature starts on p. 174

Decorator

Door Pulls







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A-Clear Brush-Textured Texture 1-11: Grooves 4" o.c.

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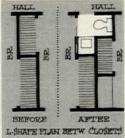
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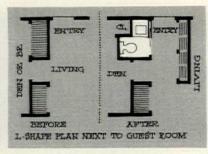
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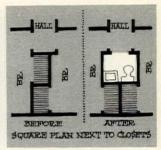
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How to shoehorn an extra half-bath into your models

Many houses have space that's infrequently used. And often it's more than enough for a half-bath, or powder room. A new brochure suggests you think about making use

of these often-wasted areas:

- · The closet or empty space under a stairway.
 - · A pantry, hall or extra bedroom.
 - · A wardrobe or extra closet.

Two pages illustrate the variety of shapes that are possible for an extra room-including L-shaped (very compact), square (a bit bigger) and rectangular (easy to add). Four typical diagrams, with before and after plans, are shown above and at

A wide range of the manufacturer's plumbing and faucet fixtures complete the 16-page brochure. And it's all in full color. Kohler Co., Kohler, Wis. Circle 350 on Reader Service card

AHITHE. BEFORE SQUARE PLAN NEXT TO LAUNDRY

For copies of free literature, circle the indicated number on the Reader Service card, p. 161

BATHROOM CABINETS AND ACCESSORIES.

Four new models, including a swing-door unit with a burnished-gold oval-framed mirror and a large unit finished in antique gray-green, get the spotlight in a 32-page catalog illustrated in full color. Also featured: lighting fixtures and bathroom accessories. Miami-Carey, Cincinnati. Circle 316 on Reader Service card

ALUMINUM WINDOWS. Eight-page catalog displays projected, casement, vertically pivoted and top-hung windows, as well as custom applications. Each type is fully described and many are shown in photos. In color. With specs. North American Aluminum, Kalamazoo, Mich. Circle 317 on Reader Service card

FASTENING DEVICES. A reference file-consisting of 17 catalog and specification sheetson full line of manufacturer's fasteners contains details on types of devices, dimensions, recommended load values and suggested applications. Also: list of wholesale distributors. Products covered: framing anchors, joist hangers, postand-beam connectors, split-ring and shear-plate connectors, floor bridging and truss connectors. Timber Engineering, Washington, D.C. Circle 318 on Reader Service card

HOMEBUILDING INDEX. The first annual NAHB index of periodical literature in the homebuilding field includes more than 3,500 articles (from 300 sources) compiled and arranged by subject. The range: from acoustics to zoning. For a copy of the 187-page index, send \$10 to: Karl A. Baer, chief librarian, National Association of Home Builders, 1625 L St., NW, Washington, D.C.

ROOFING SYSTEM. Heavy-duty system designed for resurfacing, waterproofing, and repairing combines liquid asphalt and a patented glassfiber mesh; it is said to resist blistering and flame-spread, will not alligator, sag or slide. A technical brochure with application photos describes and illustrates the product. Koppers, Pittsburgh. Circle 320 on Reader Service card

LIGHTING FIXTURES. A full line of traditional fixtures is illustrated in full color in an 80-page catalog. Included: wall-mounted lanterns, ring chandeliers, chain drops, coach and post lanterns, wall brackets. With complete specs and finish information. For a copy send \$1 to: Artolier Lighting, Emerson Electric Co., Lanza Ave., Garfield, N.J.

FASTENING SYSTEMS. Full-line catalog of pneumatic staplers, tackers, nailers and staple nailers-87 models in all-cites the proper tools for a wide range of fastening jobs. Includes a new round-headed, power-driven nail acceptable for finish work. 10 pages. Senco Products, Cincinnati. Circle 300 on Reader Service card

CERAMIC TILE. Thirty-two-page brochure describes and displays glazed tile, ceramic-mosaic and Murray quarry tile; includes new decoratedtile designs, new colors and shapes. With tips on how to install, plus specs. American Olean, Lansdale, Pa. Circle 301 on Reader Service card

REDWOOD PRODUCTS. Four-color information sheets display redwood accent columns, roughsawn redwood decking and end-matched redwood paneling. Includes design, installation and specification data. Simpson Timber, Seattle, Wash, Circle 302 on Reader Service card

SOUND CONTROL. Detail drawings for 27 systems covering floor-ceiling and partition assemblies are included in a new brochure with tips on added quiet conditioning. Includes a selector guide for related products. The Celotex Corp., Tampa, Fla. Circle 303 on Reader Service card

AIR CLEANER. The benefits of an electronic air cleaner are cited in a four-page brochure that tells how it operates and includes two cutaway views. Lennox, Marshalltown, Iowa. Circle 304 on Reader Service card



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IN FAST TO HOLD FAST Everything you need for tacking, stapling and nailing.

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starts on p. 174

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GAS AND ELECTRIC APPLIANCES. A full-line catalog illustrates eye-level oven ranges, built-in ranges, cooktops, wall ovens, dishwashers, disposers, hoods and sinks. Includes dimension drawings and installation instructions for each. Roper, Kankakee, Ill. Circle 313 on Reader Service card

BUILDING PRODUCTS. Comprehensive guide to products for concrete forms, sheathing and decking, sidings, interior paneling, underlayment and hardboard discusses features, suggested applications, installation instructions and complete specs. Georgia-Pacific, Portland, Ore. Circle 314 on Reader Service card

POWER TOOLS. New products featured in an 88-page catalog include two lightweight orbital sanders, two trigger-speed-control drills, and a line of Teflon-coated circular saw blades. Specs on more than 130 tools. Skil, Chicago. Circle 310 on Reader Service card

system with all components in one compact cabinet is the subject of a six-page brochure with drawings that show how system adapts to different house designs. Fedders, Edison, N.J. Circle 311 on Reader Service card

ELECTRICAL PRODUCTS. Full line of electrical built-in products for residential and commercial applications is displayed in a four-color catalog. Included: lighting, sound systems and chimes, range hoods, fans, and baseboard, wall and bathroom heaters. 34 pages. Emerson Electric, St. Louis. Circle 315 on Reader Service card

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