

McGraw-Hill's marketing and management publication of housing and light construction

House & Home



June, 1970

*Mobile moduls: a new building concept makes its bow
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*Senco
Value
Analysis
Report:*



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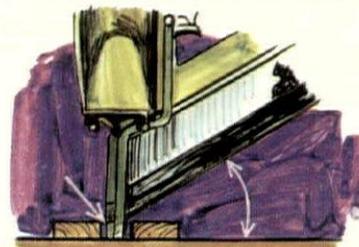


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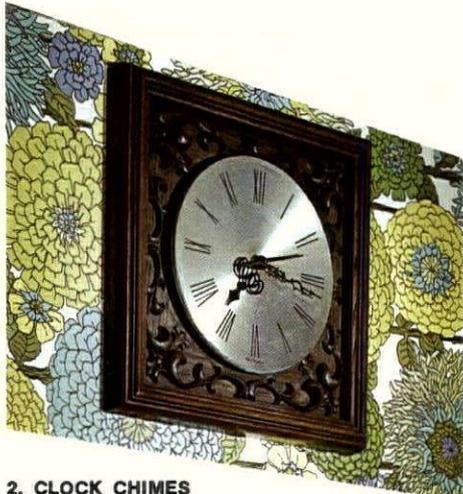
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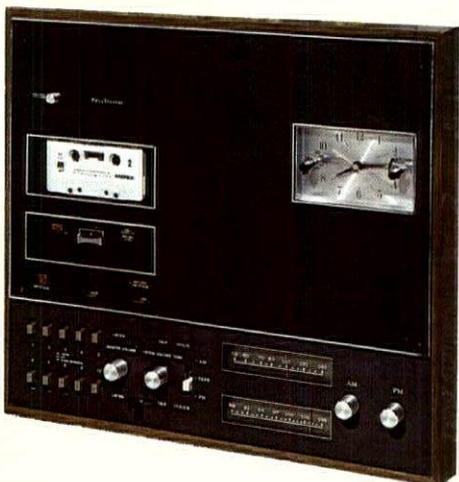
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CONSULTING ECONOMIST

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Romney saves Model Cities—White House drops plan to divert program's money

"...The only program in being, or proposed, that deals simultaneously with a full range of problems—that can begin to develop [the] needed urban strategy—is the Model Cities program."—Floyd H. Hyde, assistant secretary for Model Cities.

Pity poor Floyd Hyde, who has just spent a month wondering whether he might, as an Administration official, have to eat those words.

Fortunately for him, and perhaps for several of the nation's cities—a last-ditch effort by HUD Secretary George Romney saved the day.

The White House, many of whose aides don't think much of the Model Cities program, had been sending up trial balloons for a plan to divert \$500 million of budgeted funds from Model Cities to President Nixon's school desegregation projects.

But, after hearing from Romney and Hyde and several mayors, the President decided to leave Model Cities money alone.

The money. The Administration has asked for only \$575 million for the Model Cities program for fiscal 1971. To take away \$500 million of that would have crippled plans for development of Model Cities programs by local governments.

The furor over a possible cutback in funds began after a



KEN FEIL

HUD'S HYDE
Making a stand...



UPI PHOTO

PRESIDENT NIXON
...and reversing field

White House advisor, John C. Ehrlichman, asked HUD, in a memo, about the feasibility for such action.

With state and local government officials already complaining about the lack of adequate funding of HUD programs such as Model Cities and Urban Renewal, the housing department's reaction was predictable.

Man in a bind. Hyde, who opposes any reduction in Model Cities funding, was, of course, caught in the middle. As recently as May 1 he had said hopefully:

"Millions of Americans, thousands of local political leaders, have been saying that federal government has become too big, too powerful, and altogether unresponsive. No ad-

ministration in the past 35 years has been more acutely aware of this dissatisfaction. No administration in the last 35 years has moved more boldly to return the power and responsibility to governments which are closest to the people.

"I do not speak with despair because I believe that we will meet this last great opportunity to decentralize government with programs such as Model Cities..."

Asked about the possible cutback in funding, however, an aide to the assistant secretary said flatly:

"If they pull \$500 million out, the program is dead. It will gut the entire effort, and we will grind to an absolute halt next year."

Needs of education. For his

part, Hyde says he shares the President's concern for improving the quality of education in racially impacted areas and desegregating schools. But he believes this can be accomplished through the Model Cities program.

"Most, if not all, of the 150 cities in the Model Cities program have identified this as a priority problem in their educational components," Hyde said. "This program (Model Cities) already provides a framework within which the educational needs of our racially impacted areas can be met, and our department has made recommendations for the use of the Model Cities program itself as a means of more quickly carrying out the President's objectives in response to already developed plans."

Hyde said he was "making the strongest possible case within the Administration in support of using the Model Cities programs as a means to help accomplish the President's goals for education."

White House pledge. The White House press secretary, Ronald Ziegler, had conceded that taking \$500 million from Model Cities would stop the program in its tracks, but he had indicated that the President would not take all of the amount he seeks for education from one HUD program.

Homebuilding wins next-to-highest priority for increases in federal support

President Nixon's reordering of national priorities makes homebuilding the second most important if measured on its percentage of increase in federal support. Pollution alone ranks higher.

The Chase Manhattan Bank's April newsletter, *Business in Brief*, points out that outlays for assistance to homebuilding—and especially for low- and moderate-income families—will rise by 97% from fiscal 1969 to 1971.

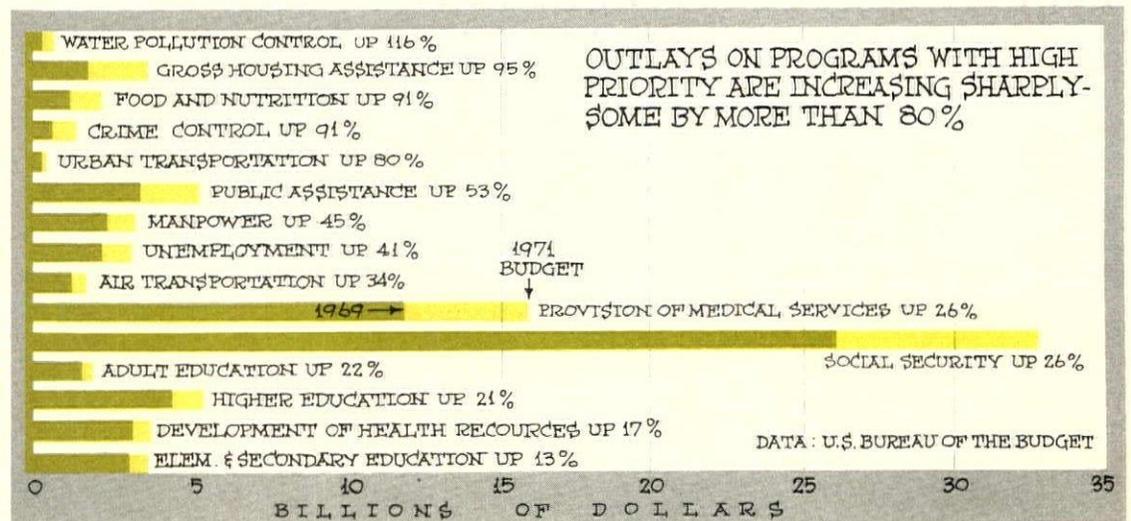
The bank bases its analysis on the 1970 *Economic Report* by the Council of Economic Advisers.

The proportion of the federal budget devoted to defense will decline from 44% to 37% from fiscal 1969 to 1971. Defense

spending is often blamed for diverting funds from homebuilding.

The years 1969 and 1971 were chosen for comparison because the budget for fiscal 1970 failed

to reflect all of the President's decision to reorder spending priorities.



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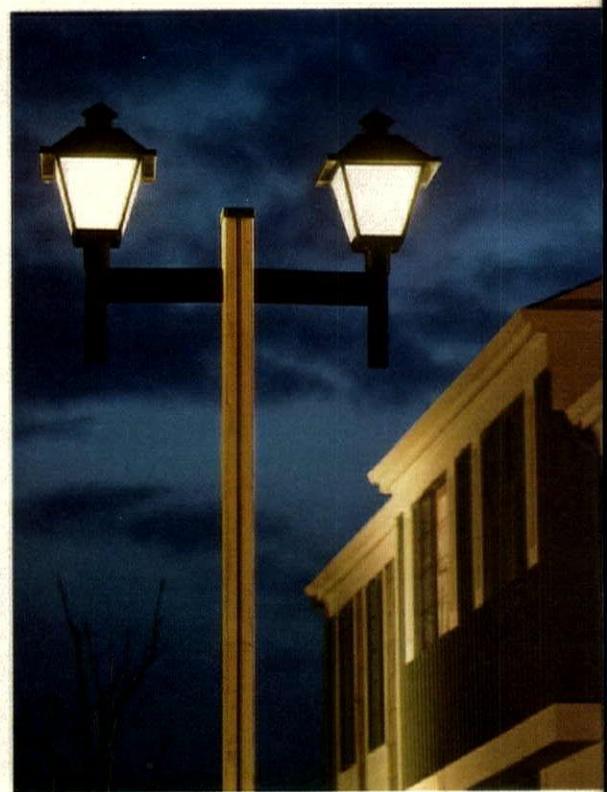
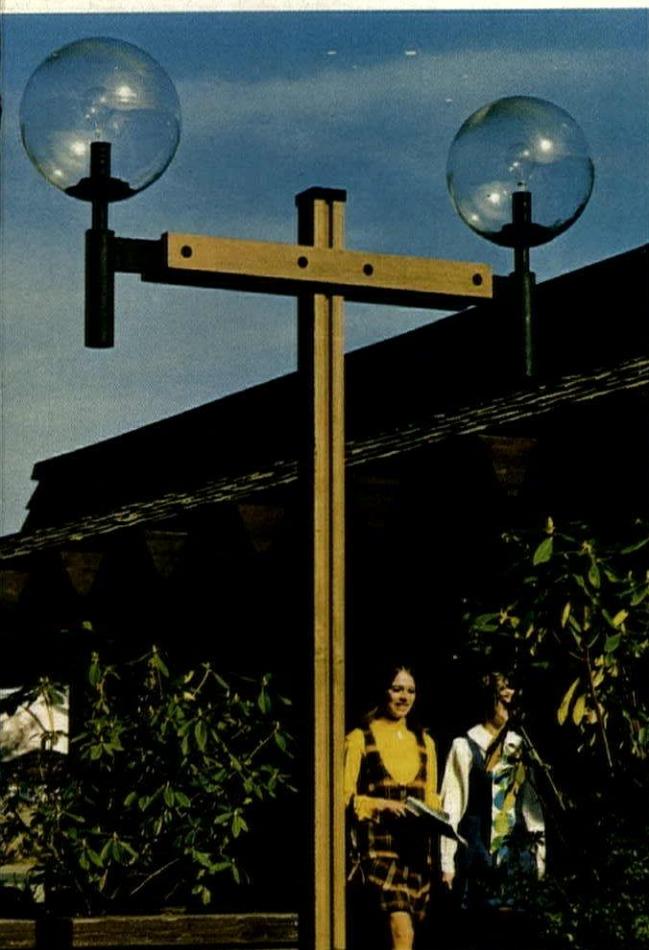
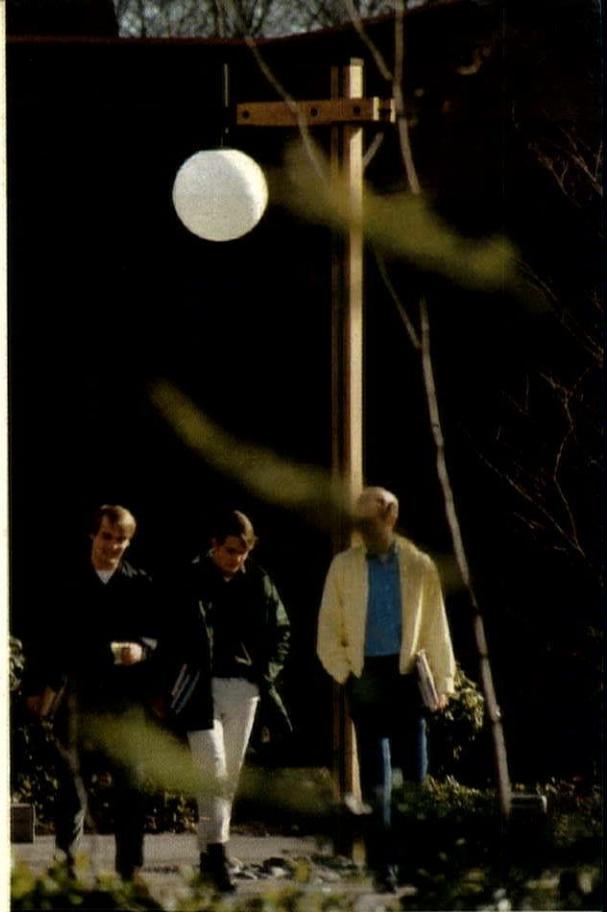
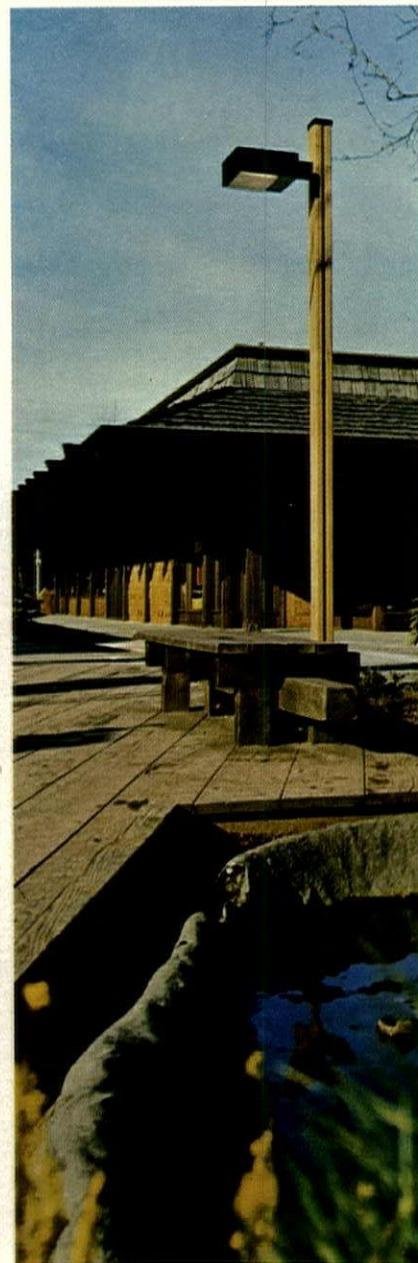
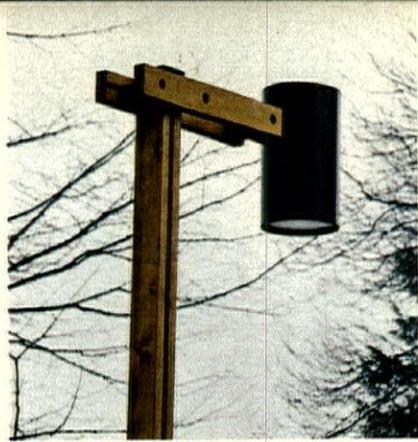
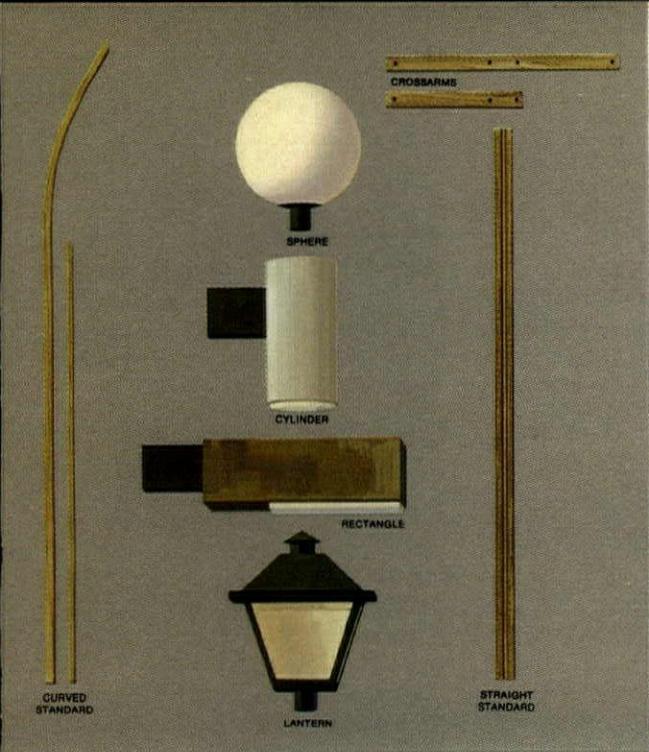


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President fails to head off Patman's plan to force pension funds into mortgages

• In Washington, Secretary George Romney of HUD announces the first issue of the long awaited mortgage bond.

• In Washington, a Treasury undersecretary announces a "voluntary" action by banks and insurance companies to commit \$2 billion to housing this year.

• In Washington, a housing aide suggests this year's housing bill has to be known as the Democrats' bill—a reference to the upcoming Congressional elections.

• In Washington, Administration officials continually refer to Senate-passed housing legislation as the Administration's bill, which it is not.

• In Washington, Chairman Wright Patman of the House Banking Committee moves to obtain up to \$5 billion a year for housing from pension funds and foundations.

The legislative battle lines in the nation's capital are today etched deeply, as Democrats and Republicans jockey for a favored position in this important election year.

A bid for compromise. As summer approaches, perhaps the most serious threat to Administration plans is the scheme unveiled by Patman. It would force funds and foundations to invest in the mortgage market—and the Administration is dead set against the forcing technique.

Earlier this year, when suggestions were made that Congress might enact legislation requiring investment in housing by these institutions, Secretary Romney pleaded with the lawmakers to "give the Administration until May 1" to produce a voluntary program of investment by the funds.

What the Nixon Administration came up with was a \$2 billion pledge by banks and insurance companies for this year. In addition, Romney moved to implement the mortgage bond—a device that is expected to generate money from pension funds and others. Aside from this, President Woodward Kingman of the Government National Mortgage Assn. announced some \$100 million in commitments to guarantee mortgage-backed securities—and

he made a special point to note that pension funds were among the prime investors.

All this is seemingly not good enough to Patman, who says his aim is to secure \$5 billion a year for home mortgages from pension funds and foundations, both of which receive big federal tax breaks.

The Patman plan. Patman's reasoning for the proposal is that these institutions, which receive tax advantages, are obligated to "perform socially useful acts in return."

The banking committee chairman's idea is to set up a national development bank, which would be a lender of last resort for low and moderate income housing.

The development bank could make direct loans or could guarantee conventional loans—and at any interest rate it considered feasible in terms of the borrowers' ability to repay. In other words, the bank might charge the prevailing interest rate to a borrower who could afford it but who was unable to get a loan because of tight money. But the same bank

might charge someone else no interest at all.

Requirements. Pension funds and foundations would be required to invest in the development bank's securities at an amount equal to half their annual income from the investment or sale of assets.

The bank's securities would be short- and long-term obligations, and presumably would carry about the same yields as other federal agency issues.

Appropriations of \$60 million would be needed to cover the spread between the cost of borrowings of the bank and the lower interest rates it would make on mortgage loans. That \$60 million of subsidy funds, according to House banking aides, would produce 150,000 housing starts.

Differences. The Patman approach is not unique. Similar proposals were offered in Congress last year, and Rep. Richard T. Hanna (D., Calif.) introduced legislation this year that would make the funds invest their money in housing.

But what the Administration has been seeking this year is an

approach that will pump funds into the mortgage market without upsetting the credit markets.

The Administration has opted for the mortgage bond, a device that will bring pension funds into the mortgage market—but at a pace controlled by the Treasury.

The Treasury can—and does—regulate the number and volume of mortgage bond issues as well as deciding who is the issuer. So the Treasury knows the amount of funds that will go into mortgages via these securities markets—and consequently the sum that won't be available for Treasury obligations.

The bond delay. By offering the mortgage bond, the Treasury knows it can secure money from pension funds—and allay some of the mortgage pressures that have built up in Congress.

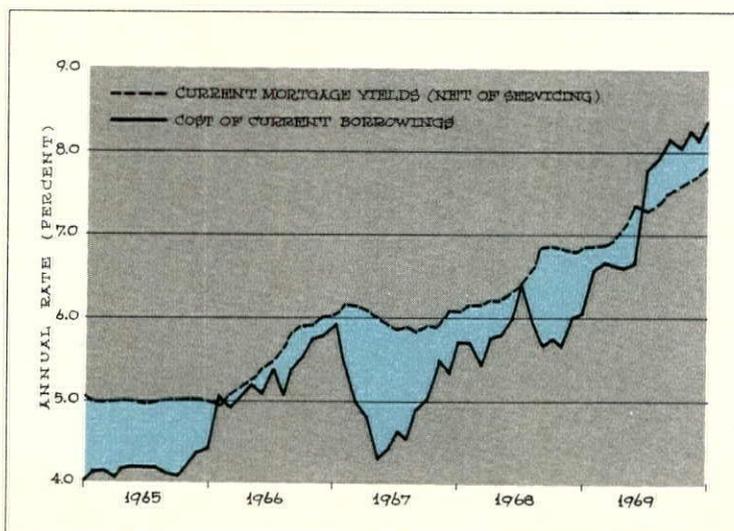
With interest rates as high as they are, this is admittedly not the best time to issue mortgage bonds. Fanny May, which issued the bonds in mid-May, in fact, had earlier decided not to sell a long-term bond, but rather to stick with two short maturities. Last year, with rates just as high, the Administration had insisted it would wait until rates fell before issuing mortgage bonds.

But today, with Congress moving to put pension-fund money into mortgages, the Administration used the mortgage bond as an inducement to secure "voluntary" pledges from the pension funds.

The monkey wrench. To Patman, who wants more, the funds would have invested in the mortgage bond anyway. His aim, however, is to come up with a steady and large sum each year for housing investment—and at the same time take advantage of the obvious political benefits that his proposal generates among the public.

For the Administration, which is seeking to identify closely with many of the developments that would smooth the flow of funds to housing, the Patman proposal is clearly a monkey wrench thrown into what had appeared to be a smoothly functioning operation.

—ANDREW R. MANDALA
Washington



One good reason why Fanny May's stock has skidded

The chart may provide ample reason for the recent nosedive in the price of the Federal National Mortgage Association's stock.

The FNMA shares dipped from \$160 in March to a low bid of \$112 on May 1, as the central mortgage bank failed to improve earnings against a back-

drop of tight money. As the chart shows, Fanny May's cost of money—above 8%—far outpaces current mortgage yields. The result: reduced earnings. For the first quarter, Fanny May announced earnings of just \$18,000—not much for an operation with a mortgage portfolio of nearly \$11 billion.

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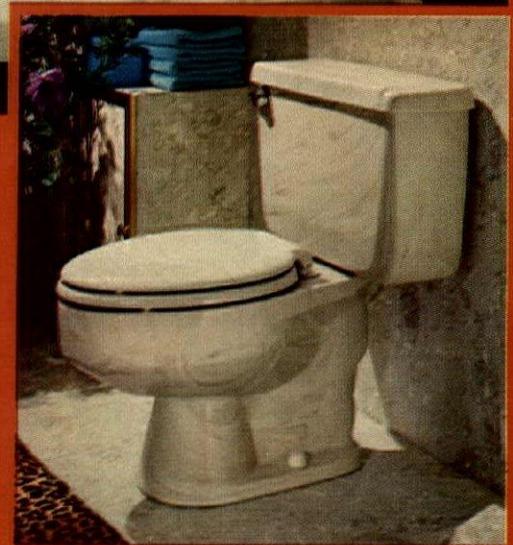
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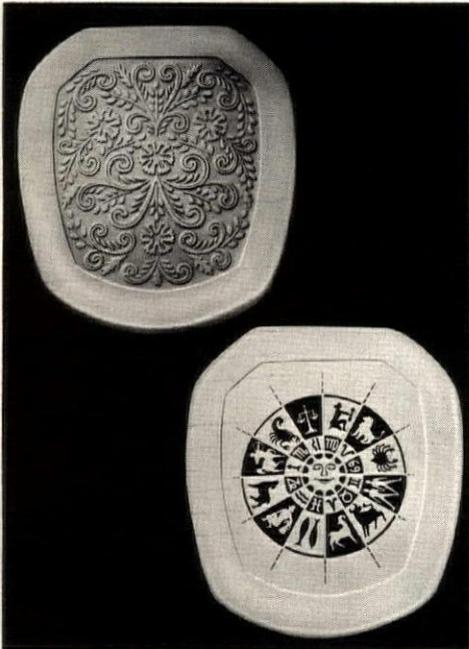
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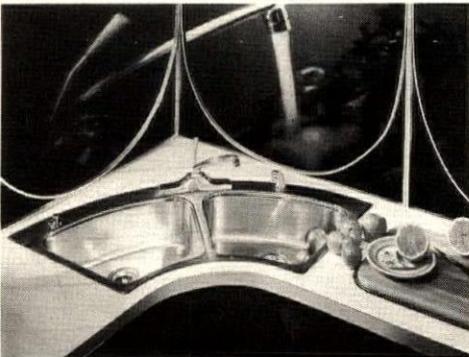
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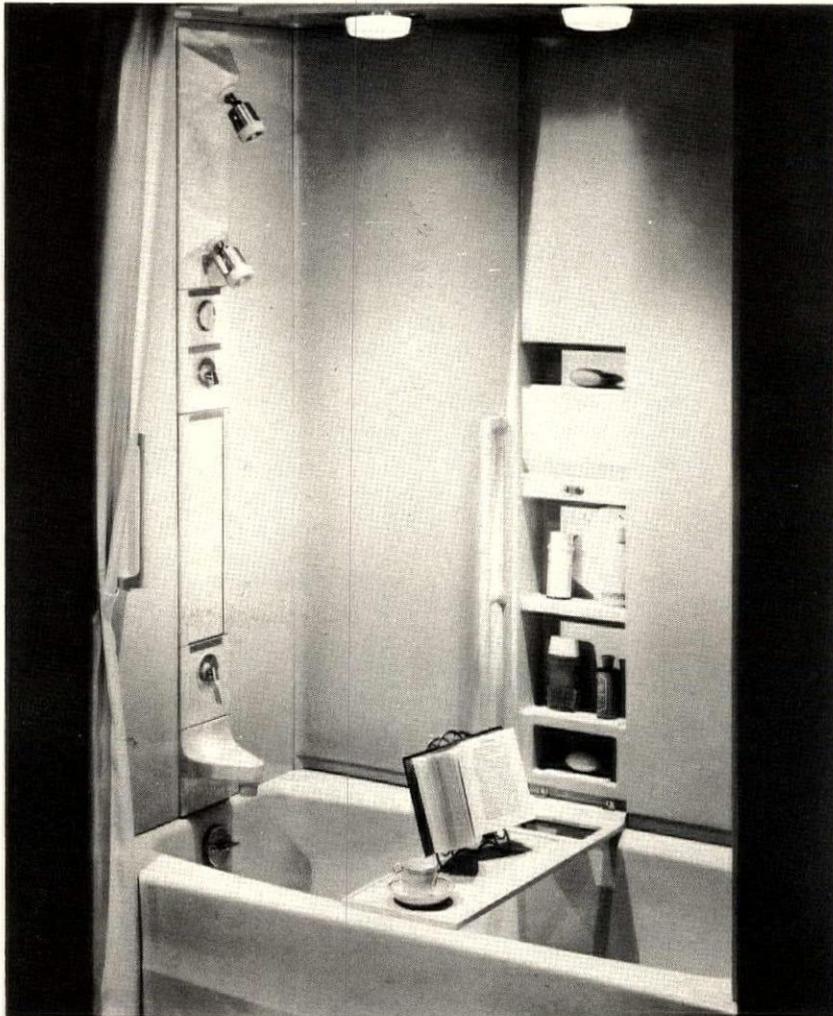
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Dallas does a slow burn over saunas—thinks they're a fire hazard

The Dallas fire department has pointed a finger at the popular sauna bath as a potential fire hazard.

The department has asked members of the local Home and Apartment Builders Assn. to help its fire prevention bureau determine the cause of a series of sauna bath fires. Inspectors are trying to determine whether problems in design, installation or maintenance are primarily to blame.

"Until we began having some fires in saunas, we did not realize this was even a potential problem," says Capt. J.T. Alexander of the department's inspection division.

He explained that details of the saunas are rarely included in plans checked by the fire department because, in most cases, these facilities are added after the original permit is obtained.

Hidden danger. According to Alexander, saunas are usually operated at temperatures running from 160-180 degrees to as high as 200 degrees Fahrenheit.

"Under all recognized national standards and recommendations, wood or wood products should never be exposed to constant heat of more than 90 degrees above the ambient temperature (60 degrees), which means that 150 degrees should be maximum," he says.

"When subjected to continuous heating, wood undergoes pyrolysis, or a chemical decomposition, and becomes charcoal. Charcoal of itself, under certain conditions of heating and cooling, will ignite spontaneously even though the temperature is not hot enough to ignite it.

"We are getting concerned about this, if it is a general practice to use wood in saunas. Our worry is that people will install these in residences and apartments without knowing the potential hazard. The danger is insidious, as the wood deteriorates gradually into charcoal. As saunas become older, we could have a very serious situation.

"After the wood becomes charcoal, the simple process of heating and cooling can more or less create a chemical reaction within the wood itself, causing it to ignite spontane-

ously. This could happen in the middle of the night while everyone was asleep."

Fire's effects. Alexander disclosed that, after one recent fire, inspectors found that interiors of planks of redwood benches inside a sauna room were completely charred. Since the heat had been conducted inside the wood by nails, the charring effect was not even visible on the surfaces.

The benches did not cause the fire, for they were not near

combustible material. The blaze occurred within a wall near the combustion chamber. Built of brick lined with fire brick, the chamber had a pair of gas jets inside.

These burners, which had no labels showing output in British thermal units (BTUs), heated the chamber and the rocks resting on top of a metal grate. Enough water dropped on the rocks to maintain an 8-degree humidity.

Heat waves. The combustion chamber adjoined the common

wall between the sauna and an office, with burner and temperature controls located in a closet outside the sauna. Wall construction was a 2x4 studs with ceramic tile on the sauna side and pressed-paper sound-insulation material and wood paneling on the office side. There was no air space between the fire box and the wall. The continuous heating caused the insulation material and wood studs to ignite.

"Brick, tile, even asbestos—anything of this sort—is a good conductor of heat, particularly if there is no air space," says Alexander. "The heat travels through these materials and builds up around any wood which might be present. As it gradually gets hotter, the wood begins to char, and it ignites and causes a fire."

Safety measures. When the owner rebuilt the sauna, the fire department required him to replace the manual damper with a barometric damper (which cannot be operated manually) and install additional controls. Firemen speculated that one of the causes of the fire was that someone had closed the damper to get more heat. The stack had become so hot the metal had almost crystallized.

The inspectors recommended that, if redwood benches were again used, they should be constructed with wooden pegs or doweling pins rather than nails.

The 2x4s were replaced with metal studs. Non-combustible insulation, and air space, were required around the fire box.

These minimal measures are now recommended here for the safe construction of a sauna:

- Use a barometric damper and controls, which will assure that the temperature will not climb above a set level.

- Use only non-combustible materials in any location in which the temperature will exceed 150 degrees.

- Make sure the combustion chamber area is well insulated with air space plus non-combustible insulation from any combustible material which might be in the wall.

—LORRAINE SMITH
McGraw-Hill News, Dallas



Romney tells the experts: Land use is key to the nation's worst problems

George Romney contends that proper land use will become the primary focus of two of the nation's severest problems—urban troubles and pollution.

The housing secretary told the Urban Land Institute's annual seminar in Honolulu that four considerations force the land issue to the forefront of any effort to face the two basic challenges:

- The controversial social, economic, and political issues involved in land use. Technology has little bearing.

- The costs of land, which are mounting so fast that individuals and public bodies find it impossible to acquire land needed for normal living.

- The confrontation between rich and poor, to which land use is the key.

- The increasing concern in Congress and courts over land-use policy.

The secretary called for more and better land planning.

There is nothing un-American in such a plea, he said, citing the Homestead Act of 1862* as an example of beneficial government action on land use. He further warned that:

We must provide housing for all, and it must be near the jobs available. We must plan for orderly growth and upgrade our cities.

The alternative to solving these problems is socialization of the housing industry.

The answer is public policy to promote maximum private effort to achieve solutions.

*The act authorized the sale of public lands, in 160-acre parcels, to settlers.



The Bentley as built by the Grant Construction Company, Macon, Georgia.

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GEORGIA-PACIFIC

PORTLAND, OREGON 97207

There are now 11 savings and loan associations on Uncle Sam's trouble list...

And that's down from 18 last fall, when assets of about \$2 billion were involved.

Assets total \$700 million for the 11 now on the "probable candidate for assistance" list of the Federal Savings & Loan Insurance Group.

None of the 11 is in California. In the past, the Golden State, along with Nevada and the Chicago area, has been a trouble spot for FSLIC.

Officials of the FSLIC say there is no geographical concentration of the 11 weak associations, which are spread across the country.

Testimony. This information was elicited from the FSLIC following the leak of complete closed-session testimony that officials gave before the House appropriations subcommittee last winter. Officials of the Federal Home Loan Bank Board testified that the 18 associations with \$2 billion in assets were on the sick list last November.

Improvement. By mid-February, the potential assistance list had been cut in half as far as money was concerned, and from 18 to 15 in number of shaky association.

It was at this point that *The Wall Street Journal* observed editorially: "The bulk of the s&ls are unquestionably sound and well managed. That fact, however, does not prevent worry about the relatively few that are shaky... It isn't enough reassurance for the public to know that, amid general prosperity, 'only' 15 are having trouble."

The removal of LFC Financial Corp. of Los Angeles from the list was the major factor in reducing the dollar problem.

Also, the easing of money rates during the first quarter, and the higher savings ceilings posted last January have removed much of the pressure on s&l deposits.

Protective procedure. Robert O. O'Brien, FSLIC director, says such relief has calmed the fear that heavy outflows might lead to insurance corporation action to save shaky associations.

The FSLIC has some \$2.3 billion in liquid assets backing the \$20,000-per-account insurance it provides. This is deemed more than adequate because of

HOW CALIFORNIA'S S&L COMPANIES ARE DOING

| | Assets millions | Earnings Per Share Year | | | | Historic Price Range |
|---------------------------------------|--------------------|----------------------------|--------|-----------------------|--------|-------------------------|
| | | 1969 | 1968 | 1970 First Quarter | 1969 | |
| California Financial | \$ 294.9 | \$0.56 | \$0.35 | \$0.11 | \$0.15 | 22 -2% |
| Empire Financial | 174.6 | 1.32 | 1.11 | | | 28¾-3 |
| Far West Financial Financial Corp. | 367.8 | 1.40 | 1.10 | 0.26 | 0.31 | 50 -4¾ |
| of Santa Barbara | 211.0 | 1.65 | 1.38 | 0.43 | 0.44 | 30½-5% |
| Financial Federation | 1,141.2 | 0.44 | †2.02 | †0.05 | 0.17 | 105¼-8½ |
| First Charter Financial | 2,543.0 | 2.68 | 1.72 | 0.53 | 0.49 | 69 -9 |
| Gibraltar Financial | 443.3 | 2.25 | 1.81 | 0.39 | 0.45 | 60 -7% |
| Great Western Financial | 2,177.0 | 1.45 | 1.20 | 0.29 | 0.28 | 53 -3 |
| Imperial Corp. of America | 1,290.9 | 0.99 | 0.81 | 0.20 | 0.22 | 22¾-2% |
| LFC | 1,070.4 | †0.90 | †2.59 | †0.11 | †0.04 | 34 -4 |
| Pacific Savings & Loan | 225.6 | 1.97 | 2.02 | | | 37½-6¾* |
| Trans-World Financial | 351.4 | †1.42 | 1.02 | 0.17 | 0.23 | 47 -4¾ |
| United Financial | | | | | | |
| Corp. of Calif. | 433.4 | *0.91 | *0.89 | 0.10 | 0.24 | 70¼-45% |
| Wesco Financial | 452.5 | 1.94 | 1.89 | 0.30 | 0.44 | 68¾-8½ |

*Before loss on sale of government securities, 33 cents in 1969 and 26 cents in '68.
†deficit

the "default prevention" procedure the corporation uses for a sick s&l.

Ailing institutions are merged into healthy associations, with the FSLIC guaranteeing the latter against loss. This method has proved successful, with the FSLIC engineering the merger, and agreeing to protect the healthy institution by purchasing, if necessary, bad loans held by the weak institution.

Thus only a small amount of money, relative to the assets of

an unsound s&l, is required to protect its depositors.

Help in Cicero. So far in 1970, the FSLIC has paid out no funds in this manner, but it stands ready to do so in one instance.

It has agreed to protect Mid America Federal, a healthy institution, from losses that may come from its January merger with General Federal s&l. Both are in Cicero, Ill. Mid America has assets of \$135 million, General some \$47 million.

In 1969, there were only three



OVERSEER WOODFORD
"I feel much better"



INSURER O'BRIEN
Calls 1969 a calm year

S&L scandal's echo: An ex-Congressman goes to prison

President Nixon has refused to grant executive clemency to Thomas F. Johnson, former Congressman twice convicted on conflict-of-interest charges in the Maryland s&l scandals of the 1960s.

Johnson, 60, has begun serving a six-month sentence in the federal penitentiary at Lewisburg, Pa.

Johnson, a Democrat and a resident of the fashionable Eastern Shore, was accused of taking \$17,500 for trying to per-

sue the Justice Dept. to drop a mail-fraud suit in 1962.

During the Maryland scandals, 27 uninsured savings and loan associations closed and about 30,000 depositors lost \$13 million in savings.

The President's denial of clemency ran counter to a recommendation by the Justice Dept.

The prison sentence probably means that lawyer Johnson will be disbarred by the Worcester County Bar Association.

mergers of necessity. Assets totaled only \$13.5 million, and FSLIC officials do not expect any substantial losses when bad loans are liquidated.

O'Brien described 1969 as a calm year, especially in comparison with 1966.

More money. O'Brien believes that s&l deposit flows will improve in 1970. Figures were encouraging in April, normally a heavy withdrawal month after the crediting of interest in March.

In contrast with a year ago, when s&ls lost between \$325 million and \$425 million in the first third of April, the HLBB estimated a net inflow as high as \$250 million.

This came on top of a \$554 million net inflow in March, compared with \$479 million a year earlier.

Money pinch. In an analysis of California's s&ls, which were among the industry's top problems in the last decade, the financial weekly, *Barron's*, notes that the lending excesses of the 1960s are nearly corrected and that tight money is now the chief difficulty.*

L.E. Woodford, president of the Home Loan Bank of San Francisco, offers this summary of the difference between the last decade and the present:

"I feel much better about the current squeeze than I did in 1966.

"Then, we had the money pinch on top of other problems. Now, we have the money pinch all by itself."

*April 27. *Building for the Future.*

3-month president quits First Charter Financial

George W. Miller has walked out on the presidency of the world's largest publicly held s&l holding company after three months on the job.

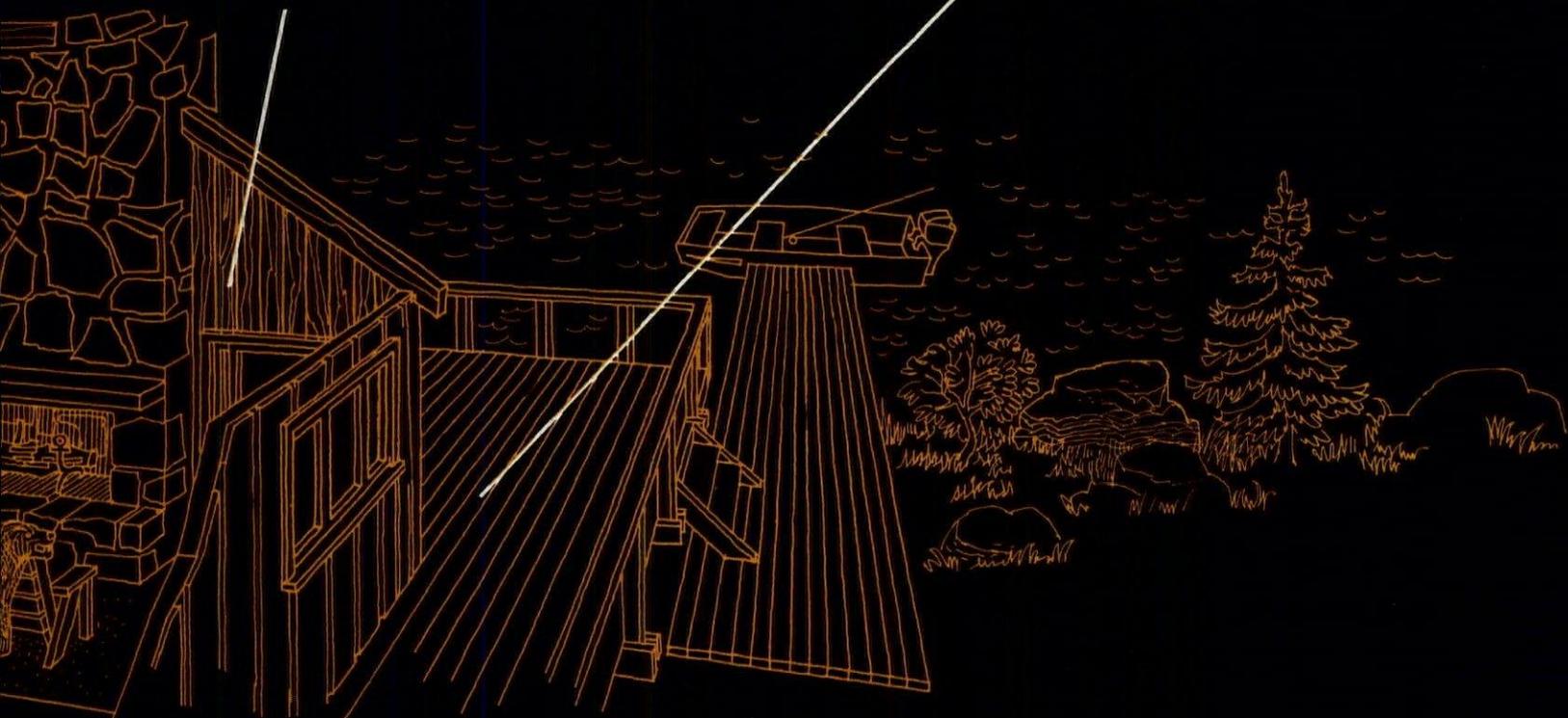
Chairman S. Mark Taper of First Chapter Financial says Miller left the \$2.5 billion corporation because of "differences in management philosophy." Taper is the chief executive.

Miller took the post in Beverly Hills, Calif., in February. He had been president of the Bank of the Commonwealth in Detroit.



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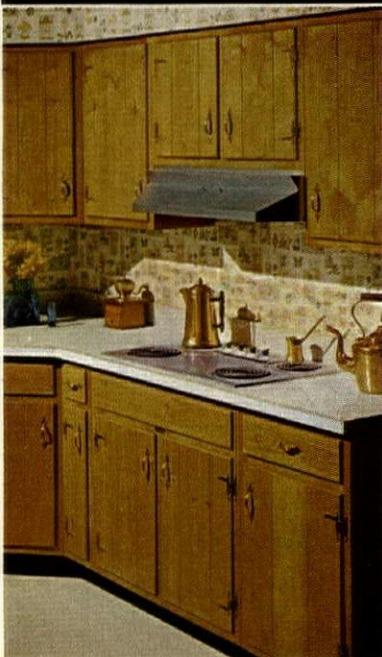
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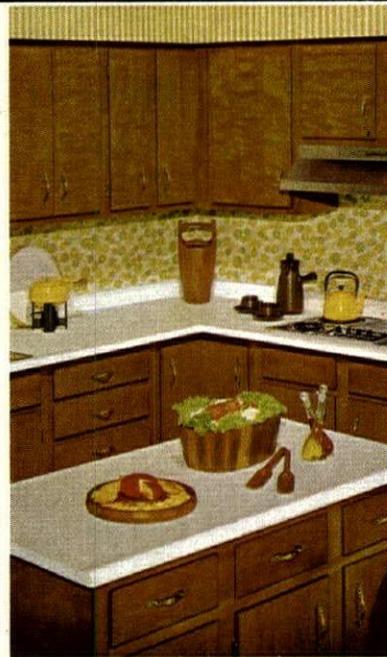
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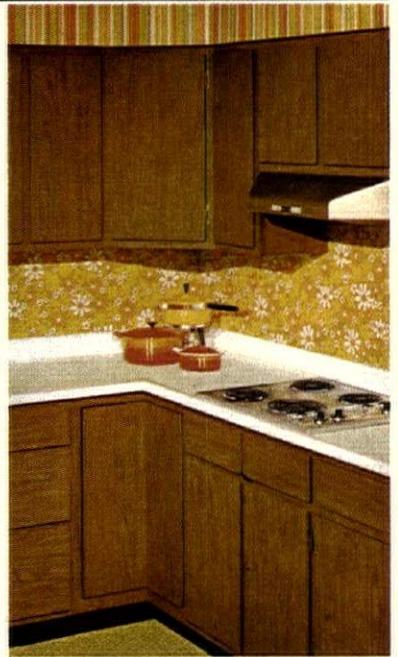
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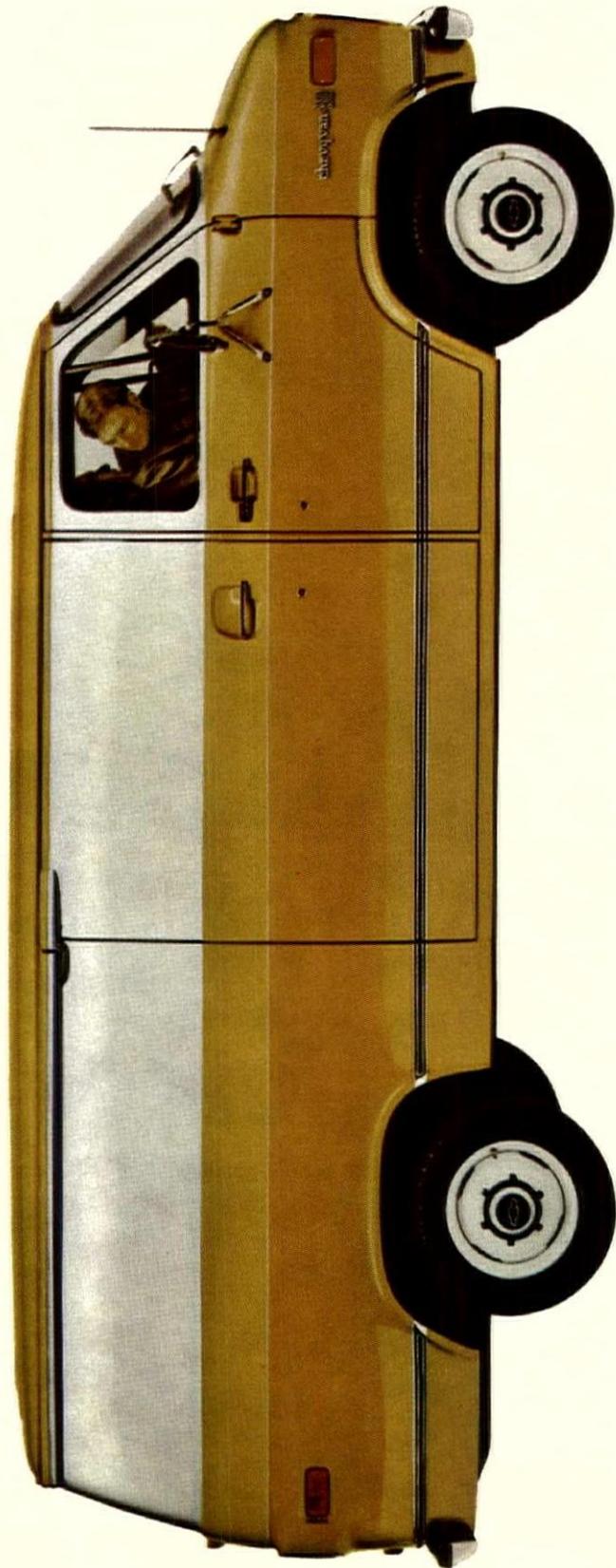
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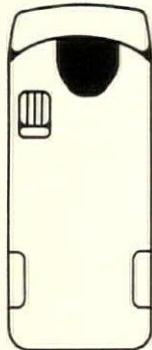
CITY _____

STATE _____ ZIP _____



**Chevrolet launches
the space vehicle.
'71 Chevy Van.**

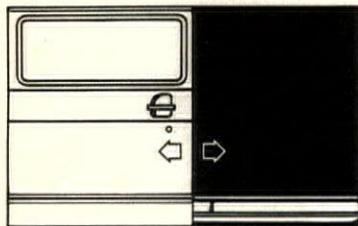
New forward engine design— for up to 34% more load length.



Other vans just lost the space race. From now on you've got two choices: An ordinary van or a Chevy Van. We've put Chevy Van that far ahead. First thing we did was put our engine farther ahead. Giving more load area behind it (and easier access from the front seat to the load area). Then we multiplied this new room even more by making Chevy Van wheelbases longer. To 110 and 125 inches.

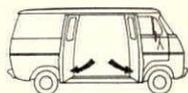
- First result: 34% more useable load length.
- Second result: 15% more cubic load space.
- Third result: 33% more payload capacity. To 3,750 lbs.

New sliding side door— for easier parking and loading.



We also set our engineers to thinking about outer space. Like why should swinging side doors take up so much room between you and your loading spot? First answer: They shouldn't. Second answer: Our new sliding side door. Full-width. One-piece. Set solid on three

tracks. Smooth and quiet as a moving shadow. No other popular van's got anything like it. And that's not the only jump we got on the others here. There's a new built-in step. Hidden from snow, slush and even you. Until you slide open the door.



Conventional swinging type

New extended hood makes 26 service checks easier.



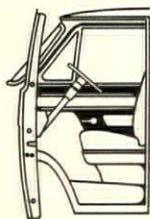
Lift our hood and the engine almost jumps out at you. Engine, battery, radiator—the whole works. Ready to get at with less downtime, less expense. Plus things like carburetor, fuel pump and fan belt that you just can't get at this way in most other front-hooded vans.

And because we put our engine up where it is, we didn't have to pack things in like sardines. We gave you more room to work. It's as much a space vehicle in front as it is in back.

Biggest 6 in its field— plus new V8 power.

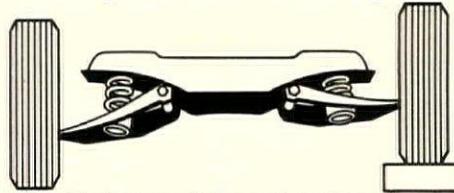
Chevy Van's standard six is 155 hp. A full 35 hp more than the standard six in any other popular van. We give you a 10-inch clutch—which is larger than the others. We've got a brand-new 350 V8 available for '71. And more transmissions to select from too.

New front seat location— for easier ins and outs.



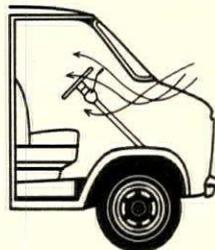
Thanks to our new front end and longer wheelbases again. They let us move our front wheel-housings forward. Out of the doorway. Out of your way. With more driving comfort, too, because you're no longer riding directly over the wheels.

Smoother-riding, job-proved independent suspension.



We added a new independent front suspension, too. The kind Chevy's built and tested more of (over 1½ million more than anybody else). Each wheel is independent. Road shock doesn't get passed on. And we didn't forget the rear suspension. Two-stage springs are standard. Most other vans: single-stage springs are standard.

High-level ventilation for more driver comfort.

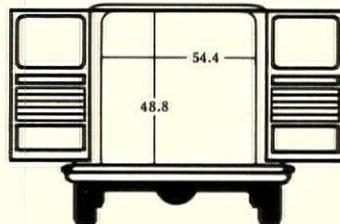


Most vans take in their air supply down at bumper level. Not Chevy Van. We designed a ventilation system that takes in air up near the windshield. Then passes it through a special chamber to help reduce moisture. Someday we imagine all vans will be coming up for air.



Low level type

Higher, wider rear doors take cargo other vans can't.



Our new sliding side door has only one rival. Our new rear doors. They open over 54 inches wide. Other popular van rear doors would fit inside with room to spare all the way around. And ours still open all the way, like they always have. Not part way, like other vans' still do.

New Sportvan: travel space for 12.



What Chevy Van's done for cargo-room, Sportvan's done for people-room.

Order seats for 5, 8 or 12. A thick-carpeted Beauville model. And remember, too, a roomy, comfortably furnished Chevy Van or Sportvan camper can cost a lot less than other kinds. The space vehicle.

Where else on earth but at your nearby Chevrolet dealer's.



Putting you first, keeps us first.

Economist reminds builders: inflation hurts you more than its cure ever will

This sharp warning came from one of the nation's top housing experts, and he combined it with a strong plea for fiscal restraint in Washington.

"The discipline of a budget surplus is essential if we are serious about bringing inflation under control," said Saul Klamman, vice president and chief economist for the National Assn. of Mutual Savings Banks.

In a speech to New York University's mortgage banking institute, Klamman revived warnings, prevalent six months ago, that inflation poses a far greater threat to lenders and homebuilders than does recession.

Impact. Builders suffer disproportionately from any tightening in the nation's money supply, Klamman conceded, but he cautioned against anything more than a cautious move toward monetary ease.

And any easing should be accompanied by a reduction in the credit that the government pumps into the economy via its mix of tax and spending actions (i.e., by its fiscal policy decisions), Klamman continued.

Fiscal failure. Klamman attributed many of housing's present troubles to the Nixon administration's failure to balance monetary and fiscal restraint. Monetary restraint has been overworked, he said:

"We must not fall prey to the overkill syndrome, which caused premature credit easing in 1968, resurgent inflationary pressures, and overly severe restraints.

"If we lose this chance to lick inflation decisively now, it may take us years to get our economy under control."

But only three days later, interest rates soared to new peaks on the widespread assumption that monetary controls had been eased prematurely. It was revealed that the Fed had let the money supply increase at an annual rate of 13% in March in comparison with its presumed objective of 3%. The day the news appeared, the stock market fell to its lowest point since the Kennedy assassination in 1963.

Housing starts. The housing and mortgage market climate is better than in 1969 but the building industry is not out of

First Quarter Net Demands for Funds (\$ Billions)

| | 1966 | 1967 | 1968 | 1969 | 1970E |
|--------------------------------|-------------|------------|-------------|-------------|-------------|
| Publicly Held Mortgages | 4.9 | 2.5 | 4.3 | 5.3 | 1.9 |
| Corporate Bonds | 3.2 | 3.5 | 2.7 | 3.7 | 4.9 |
| State & Local Securities | 1.4 | 1.9 | 2.0 | 2.4 | 3.0 |
| Foreign Bonds | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 |
| Subtotal | 9.9 | 8.2 | 9.4 | 11.7 | 10.2 |
| Bank Loans (ex. Mtge.) | -1.0 | -2.0 | -3.4 | -2.5 | -4.0 |
| Open Market Paper | 1.6 | 2.9 | 2.0 | 3.2 | 3.2 |
| Publicly Held Treasury Debt | 0.4 | -0.9 | 4.3 | -0.4 | 3.7 |
| Publicly Held Federal Agencies | 1.5 | 0.0 | 1.5 | 1.5 | 3.3 |
| Total Demands | 12.4 | 8.2 | 13.8 | 13.5 | 16.4 |

NOTE: Bank loans partly estimated for end of March. 1970 figures are adjusted to add loan transfers back into the loan total and to subtract bank related open market paper from the open market paper total.

Why the mortgage market can't win for losing

The mortgage market, while receiving a \$2 billion infusion from government agencies in the first quarter, suffered a \$3 billion loss in funds from private institu-

tions. In contrast, several types of borrowing rose to new records. The analysis is by Salomon Brothers & Hutzler, the New York City bond and securities house.

the woods, Klamman warned. He predicted only 1.3 million starts this year.

Recent upturns in the statistics did not encourage him because, he said, 1) the housing starts series is too erratic to permit optimism on a two-month uplick (February and March) and 2) the March rise was entirely in multifamily units. Single-family homes declined. Be-

cause of the way apartment starts are counted—all units listed as individual starts when one project is begun—the large number of apartment starts in March is likely to signal a compensating decline in months immediately following. April's starts were down sharply, to an annual rate of 1.18 million in March.

Change in role. Klamman, as

WALTER DARAN



ECONOMIST KLAMAN

"If we lose this chance..."

he has done previously, sharply questioned the value of current federal action to support the mortgage market.

The private market structure runs the risk of being overwhelmed by government agencies seeking to help, he implied.

Savings and loan associations, he said, are becoming mere conduits for the channeling of Home Loan Bank advances. And mortgage bankers are no more than the originators of loans for sale to FNMA. His broader warning:

The methods used to circumvent monetary restraint serve to downgrade the operation of private lenders, with the long-run danger of allowing the government to preempt the entire role of the private institution.

HOMEBUILDERS' MORTGAGE MARKET QUOTATIONS

Reported to HOUSE & HOME in week ending May 15.

| FNMA Auction Prices May 18 8½% | City | FHA Sec. 203b— Min.-Down* 30-year immed.* Discount paid by builder | | Conventional Loan Interest Rates | | | Construction Loan Rates |
|--|----------------|--|---------|----------------------------------|-------------------------------|------------------------------------|------------------------------|
| | | Private mkt. 8½% | Trend | Comm. banks, Ins. Cos. 75% | Savings banks, S&Ls 80% | Savings banks, S&Ls Over 80% | Interest+fees All lenders |
| 90-day commitment Average 95.98 | Atlanta | 3½-4½ | Down ¼ | a | 8½-9 | 8½-9 | 9-9½+1-2 |
| Accepted bid range 95.89-96.09 | Boston | 1 | Steady | 8½+1-2 | b | a | 8½+1 |
| 180-day commitment Average 96.06 | Chicago | 4 | Down ½ | b | 7¾-8+1½-2 | a | b |
| Accepted bid range 95.85-96.15 | Cleveland | 10-12b | Steady | a | 8-8½+1-3b | a | 9-9½+1-3 |
| 12-18 month commitment Average 95.95 | Dallas | 3½-4½ | Steady | a | 8½-9+1 | 9½+3 | 9-9½+1 |
| Accepted bid range 95.71-96.00 | Denver | 3½-4 | Down 1½ | 9¼+2 | 9-9½+1-1½ | 9¼-9½+2-2½ | 9½+1½ |
| | Detroit | 3-4 | Down 1 | b | 8½-8¾ | a | 9½-10+1-2 |
| | Honolulu | 4-5 | Steady | 9-9½ | 9-9½+2-3 | b | 10+2-3 |
| | Houston | 4-5 | Down ½ | a | 9-9½+1-3 | 9-9½+1-3 | 9½+1½ |
| | Los Angeles | 3½ | Down ¼ | b | 8.7-9.6 | 9½+3 | 9½-10+2-3 |
| | Miami | 4-5 | Down ½ | a | 8½+3½ | 8¾-9+4 | 9+1-2 |
| | Minn.-St. Paul | 3 | Down 1 | a | a | a | b |
| | Newark | 3-4 | Down 1 | b 8 | b 8+1 | b | 9½-10+1½-2 |
| | New York | 3-4 | Steady | 7½ b | 7½ b | a | 9½-10+1½-2 |
| | Okla. City | 4-5 | Steady | a | 9+2 | 9½+3 | 9½-10+1-2 |
| | Philadelphia | 5 | Steady | 7+7b | 7+7b | a | 10½+2 |
| | San Francisco | 3-3½ | Down ¼ | a | 9-9½+1½-2 | 9¼-9½+1½-2 | 9½+2-3 |
| | St. Louis | 5-6 | Steady | a | a | a | 10½-10¾+1-2 |
| | Seattle | 4-5 | Steady | b | 8½-9¼ | a | 9¼-9½+1½-2 |
| | Wash., D.C. | 4½-5½ | Steady | 8b | 8b | 8b | 9-9½+2 |

* 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 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 8½% mortgage plus extra fees, w—for comparable VA loans also.

Sources: Atlanta, Robert Tharpe, pres., Tharpe & Brooks Inc.; Boston, Robert Morgan, chairman, Boston Sav. Savings Bank; Chicago, Robert H. Pease, senior vice pres., Draper & Kramer Inc.; Cleveland, David E. O'Neill, vice pres., Jay F. Zook, Inc.; Dallas, M.J. Greene,

pres., Southern Trust & Mortgage Co.; Denver, Clair A. Bacon, sr. vice pres., First National Bank; Detroit, Sherwin Vine, vice pres., Citizens Mortgage Co.; Honolulu, H. Howard Stephenson, vice pres., Bank of Hawaii; Houston, Everett Mattson, sr. vice pres., Lomas & Nettleton West; Los Angeles, Robert E. Morgan, senior vice pres., Colwell Co.; Miami, Lon Worth Crow Jr., pres., Lon Worth Crow Co.; Minneapolis-St. Paul, Walter C. Nelson, pres., Eberhardt Co.; Newark, William W. Curran, vice pres., Franklin Capital Corp.; New York, Sigfred L. Solem, sr. vice pres., Dime Savings Bank; Oklahoma City, B. B. Bass, pres., American Mortgage & Investment Co.; Philadelphia, Robert S. Irving, vice pres., First Pennsylvania Banking & Trust Co.; St. Louis, Charles A. Keller, vice pres., Mercantile Mortgage Co.; San Francisco, John Jensen, senior vice pres., Bankers Mortgage Co. of California; Seattle, Kirby D. Walker, vice pres., Continental, Inc.; Washington, Don DeFranceaux, pres., the Berens Cos.



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John Ruskin

“Forever” is a relative term. But, with old-fashioned craftsmanship, skilled design know-how, and quality materials, we try to make certain that every Kwikset lockset performs with rugged dependability. We can’t say they’ll last forever... it just seems that way.

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price
for everyone

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are watching their figures

The new 1970 Starlight catalog is "the book" for single- and multi-unit builders who keep one eye on style and the other on the ledger.

Inside you'll find full-color photos of the new Starlight line of over 300 dramatic stylings. All sell at budget prices (75% of the designs are under \$15, your cost).

To get your free Starlight catalog, circle the reader service number or write: Thomas Industries, Inc., 207 E. Broadway, Louisville, Ky. 40202.



THOMAS
INDUSTRIES



Olin buys a prefabber and prepares to move in on modular housing market

Olin Corp. has acquired its second building company, Maryland Housing Corp. of Baltimore.

Olin is a diversified manufacturer with headquarters in Stamford, Conn. Maryland Housing builds panelized houses in the \$25,000 range.

The prefabber, with sales running at a \$10 million annual rate, is viewed by Olin primarily as an organization base "for developing know-how in modular residential construction." The company will operate with its present staff under President Morty Macks.

Olin's first housing acquisition, in January 1969, was the Yeonas Organization, which builds in the Baltimore-Washington area. Olin's sales in building materials now run to \$150 million a year, and total revenues were \$1.15 billion in 1969.

Standard's move. Another industrial giant deep in the building business, American Standard, has also announced plans to expand into modulars.

Standard's subsidiary, the Wm. Lyon Development Co. of



BUILDER SHAPPELL
Reaching northward

Newport Beach, Calif., will acquire Builders Homes Inc. of Alabama, which will then build a factory that will produce modules.

Shapell's buy. Builder Nathan Shapell is expanding Shapell Industries of Beverly Hills into northern California.*

Shapell, which earned \$3.35 million on house and apartment sales that reached \$31.3 million in 1969, has agreed to buy Sterling Home Developers of

*Emil Tessin, who designed the Alside steel and aluminum house that led to one of the housing market's most spectacular failures in the early 1960s, has left Lyon Development, where he was an executive vice president, to become president of Shapell's homebuilding subsidiary, sas Construction.

NOLAN D. PATTERON



DEVELOPER LYON
Expanding southward

San Jose for cash and stock. Sterling builds single-family and townhouses in the \$20,000 to \$40,000 range. It will operate as a Shapell division.

Mortgage deal. Midwestern Financial Corp. of Denver has purchased the \$270 million servicing portfolio of Sparkman & McLean, the Seattle mortgage banking house.

President M. Stanley Hendrickson says the acquisition will bring Midwestern's servicing to \$600 million.

Stopper on Rossmoor. A second merger deal fell through for Ross William Cortese's Rossmoor Corp. of Laguna Hills, Calif., builder of the widely known Leisure World commu-

nities for the aged.

Zero Manufacturing Co. of nearby Burbank, an electronics producer, had said it would pay \$25 million in stock for Rossmoor (NEWS, March), but negotiations have now been broken off by mutual consent.

A spokesman for Zero said difficulties arose in determining operating responsibility for the combine that would have resulted from the merger. Zero's size would have doubled, and Rossmoor's stockholders would have held a majority interest.

Crane Co. of New York City, the plumbing products concern, had agreed to pay \$30 million for Rossmoor in April 1969, but that deal also collapsed in the negotiating stage.

The partnerships survive

The National Corporation for Housing Partnerships achieved its goal of \$37.5 million in subscriptions at noon on the day of deadline, May 15.

The corporation is private industry's vehicle for building some \$2 billion worth of low-cost housing.

Housing stocks tumble

Housing stocks followed the general market down in the debacle of late April. HOUSE & HOMES's index of 25 issues fell to 246.07 from 321.97, or 23%, in the month ended May 4.

Here is the composite index:



HOUSE & HOME VALUE INDEX OF 25 BUILDING STOCKS

How top 5 did in each class:

| | May '69 | Apr. '70 | May '70 |
|----------------------|---------|----------|---------|
| Builders | 535 | 401 | 339 |
| Land develop. | 696 | 480 | 329 |
| Mortgage cos. | 633 | 608 | 463 |
| Mobile homes | 850 | 559 | 394 |
| S&Ls | 216 | 146 | 119 |

HOUSING'S STOCK PRICES

| COMPANY | May 4 Bid/Close | Chng. Prev. Month | COMPANY | May 4 Bid/Close | Chng. Prev. Month | COMPANY | May 4 Bid/Close | Chng. Prev. Month |
|---------------------------|-----------------|-------------------|------------------------------|-----------------|-------------------|----------------------------------|-----------------|-------------------|
| BUILDING | | | United Fin. Cal. e | 9 | - 3% | Citizens Financial b | 11 1/2 | - 3% |
| Bramalea Cons (Can.) | 4.00 | — | Wesco Fin. e | 15 1/2 | - 7% | City Invest. e | 14 1/2 | - 6% |
| Capital Divers (Can.) | 1.40 | - 35 | | | | Cousins Props. | 27 1/2 | - 9 1/2 |
| Centex Corp. y | 18 1/2 | - 5 1/2 | MORTGAGE BANKING | | | Forest City Entr. b | 15 1/2 | - 5 1/2 |
| Christiana Oil b | 9 1/2 | - 6 | •Advance | 24 | - 3/4 | Great Southwest Corp. | 10 | - 4 1/2 |
| Cons. Bldg. (Can.) | 1.15 | — | Charter Co. | 6 1/4 | - 4 | Investors Funding b | 12 1/2 | - 4 1/2 |
| Dev. Corp. Amer. | 8 1/2 | - 4 | •Colwell b | 21 1/2 | + 1 1/2 | Midwestern Fin. b | 12 | - 1 1/2 |
| Dev. Int. Corp. | 7 1/4 | - 4 1/4 | •Cont. Mtg. Investors e | 17 1/2 | - 5 1/4 | Rouse Co. | 30 1/2 | - 9 1/2 |
| Edwards Indus. | 8 | - 1 1/4 | Cont. Mtg. Insurance | 17 1/4 | - 5 | Tishman Realty e | 17 1/2 | - 5% |
| First Hartford Rty. | 5 1/4 | - 1 1/4 | Excel Investment | 2 7/8 | - 7/8 | | | |
| First Nat. Rty. b | 3 1/2 | - 1 1/4 | FNMA | 125 | - 60 | MOBILE HOMES & PREFAB | | |
| Frouge d | 1 1/2 | - 7/8 | First Mtg. Ins. Co. | 8 | - 3/4 | Con. Chem. Co. b | 7 1/4 | - 1 1/2 |
| •General Bldrs. b | 5 1/2 | - 3 | First Mtg. Investors e | 20 | - 4 1/4 | •Champion Homes b | 13 1/2 | - 6 1/2 |
| •Kaufman & Bd. e | 32 7/8 | - 5 1/2 | •Lomas & Net Fin. | 9 1/2 | - 1 1/2 | Commodore Corp. b | 8 1/2 | - 2 1/2 |
| Key Co. b | 5 | - 2 | •MGIC Invest. Corp. e | 41 1/2 | - 14 1/2 | •DMH (Detroit) b | 12 1/2 | - 1 1/4 |
| (Kavanagh-Smith) | | | Mortg. Associates | 11 1/2 | - 5 1/4 | •Fleetwood b | 15 | - 9 1/2 |
| Leisure Technology | | | North Amer. Mtg. Inv. b | 18 1/4 | - 5 | •Guerdon b | 13 1/2 | - 5 1/4 |
| Corp. b | 17 1/2 | - 5 1/2 | Palomar Finan. | 7 1/4 | - 1 1/2 | Mobile Home | | |
| H. Miller & Sons a | 6 | — | UIP Corp. b | 4 1/4 | - 2 1/2 | Industries b | 9 1/4 | - 3 |
| McGrath Corp. | 9 | - 3 | (United Imp. & Inv.) | | | Monarch Ind. e | 18 | - 4 |
| National Environment | 5 | - 2 1/2 | Universal Invest. Trust | 2 3/8 | - 3/8 | Redman Indus. e | 13 1/2 | - 10 1/4 |
| (Sproul Homes) | | | (Southeast Mtg. Inv.) | | | Rex-Noreco b | 12 3/4 | - 7 |
| Nationwide Homes d | 5 1/2 | - 3/4 | | | | •Skyline e | 18 1/4 | - 7 1/2 |
| •Presidential Realty b | 11 1/2 | - 1 1/2 | LAND DEVELOPMENT | | | Town & Country Mobile b | 7 1/2 | - 2 1/2 |
| Pulte Homes | 7 1/2 | - 4 3/8 | All-State Properties | 7/8 | - 5/8 | Zimmer Homes b | 12 1/4 | - 8 1/4 |
| Ryan Homes | 34 | - 7 3/4 | American Land | 1/4 | - 1/2 | | | |
| Standard Pacific Corp. b | 6 1/2 | - 3 | •AMREP b | 19 1/2 | - 9 1/2 | Hodgson Houses | 2 | - 4 |
| U.S. Home & Dev. b | 24 1/4 | - 4 1/2 | Arvida | 9 1/2 | - 2 1/4 | Modular Housing | | |
| •Jim Walter e | 25 1/2 | - 4 1/2 | Atlantic Imp. | 15 | - 2 | Systems Inc. | 18 | - 15 1/4 |
| •Del E. Webb e | 8 1/2 | - 2 1/2 | Canaveral Int. b | 5 | - 2 3/4 | Nat. Homes A. e | 13 3/8 | - 2 1/2 |
| Washington Homes | 9 | - 1 1/4 | Crawford Corp. d | 4 | — | Swift Industries | 3 | - 1 1/2 |
| Western Orbis b | 3 1/2 | - 2 1/2 | Deltona Corp. b | 35 | - 8 | | | |
| | | | Disc Inc. | 4 1/2 | - 3/8 | | | |
| S&Ls | | | Don the Beachcomber | | | | | |
| American Fin. a | 15 1/4 | - 4 1/2 | Ent. (Garden Land) | 9 | - 3 | | | |
| Calif. Fin. e | 8 1/2 | - 2 | FPA Corp. | 8 | - 4 | | | |
| Empire Fin. b | 11 1/2 | - 4 1/4 | (Fla. Palm-Aire) | | | | | |
| Far West Fin. e | 12 1/2 | - 3 1/4 | •Gen. Devel. e | 17 | - 8 1/2 | | | |
| •Fin. Fed. e | 12 1/2 | - 5 1/4 | •Holly Corp. b | 2 1/2 | - 3/8 | | | |
| •First Char. Fin. e | 32 | - 5 1/2 | Horizon Corp. | 19 1/4 | - 14 | | | |
| First Lincoln Fin. | 5 1/4 | - 2 1/2 | Laguna Niguel h | 5 1/4 | - 1 1/2 | | | |
| First S&L Shares b | 13 1/2 | - 3 1/2 | Majors Realty | 7 | - 1 1/4 | | | |
| First Surety | 4 1/4 | - 1 | •McCulloch Oil b | 21 1/2 | - 13 1/2 | | | |
| First West Fin. | 2 1/2 | - 1 1/4 | Scientific Resources e | 5 1/4 | - 2 1/4 | | | |
| Gibraltar Fin. e | 14 | - 6 1/2 | (Sunasco) | | | | | |
| •Great West Fin. e | 16 1/2 | - 4 1/2 | So. Rty. & Util. b | 6 1/2 | - 1 1/2 | | | |
| Hawthorne Fin. | 7 1/2 | - 2 1/2 | | | | | | |
| •Imperial Corp. e | 9 | - 3 1/2 | DIVERSIFIED COMPANIES | | | | | |
| •LFC Financial (Lytton) e | 5 1/4 | - 1 1/2 | Boise Cascade e | 59 1/4 | - 3 1/2 | | | |
| Trans-Cst. Inv. | 3 1/2 | - 1 1/4 | | | | | | |
| Trans World Fin. e | 8 1/2 | - 3 | | | | | | |
| Union Fin. b | 8 1/4 | - 2 1/4 | | | | | | |

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 POSE. k—not available. —Computed in HOUSE & HOME's 25-stock value index. y)—adjusted for 2-for-1 split. z)—adjusted for 3 for 2 split. 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.

New Whirlpool dishwashers
speak softly

but they say a lot about your
homes.

They say you didn't skimp, anywhere. Least of all in the kitchen. And you know if she likes what she sees there, your showing is off to a good start.

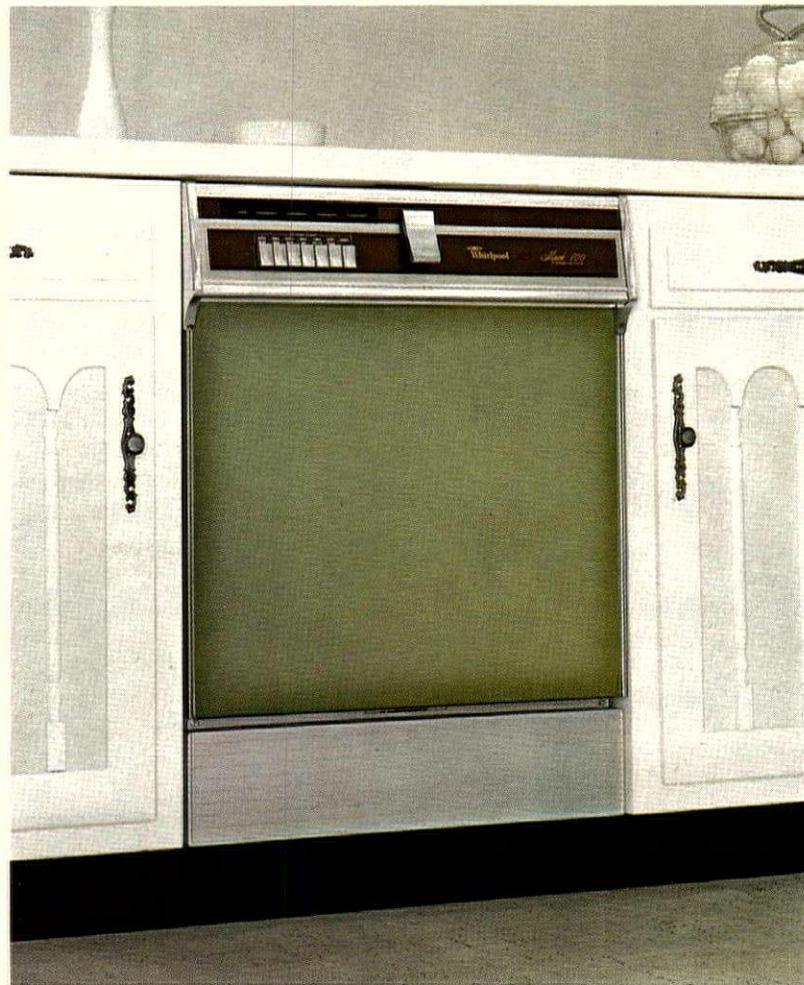
She'll like our new undercounter dishwashers . . . the quiet ones. A new Sonic Shield helps muffle the motor and shhh the sound. Other likable features include a removable silverware basket she can load at the table. And an exclusive, removable cutlery basket in the door that keeps long knives and forks safely out of "ouch" range. And for new loading ease, a 5-position adjustable upper rack. To make room for tall glasses and extra-large plates.

And you'll like the exclusive pre-installation baseplate that saves time at the job site. Just hook up motor, drain and electrical line beforehand. Later, one man can slide it into place, attach 2 hoses and plug it in.

For more kitchen charisma, install one of our continuous clean gas or electric ovens that will clean



Model RVE26

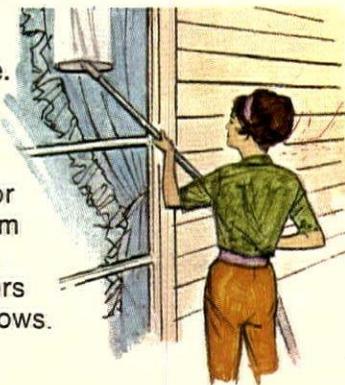


Model SWU-100

itself as it cooks. Or choose a self-clean electric model.

Then for total cleanability, there's Jac-Vac* . . . our central vacuum cleaning system. It gives her a clean sweep of dust and dirt

. . . all around the house. Kitchen. Nursery. Patio. The wet or dry system will even wash floors and windows.



And while Whirlpool dishwashers speak softly, we'd like to shout about our builder services. Like nationwide Tech-Care service, our simplified warranty letter, "cool-line" information service . . . and builder counselling programs including Accountrol* and Minirisk*. That's just part of the Whirlpool story. Your Whirlpool Distributor would like to tell you more. Why not give him a call today?

*Tmk.


Whirlpool
CORPORATION

10

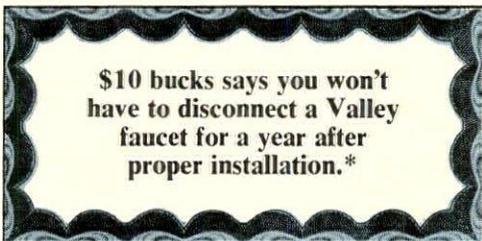
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We'll bet you 10 bucks* you'll never have a call-back on a Valley faucet.

INSTALL a Valley single lever faucet and if for any reason you have a call back within a year which requires a disconnect, Valley will replace the faucet at no charge and give you a \$10 labor allowance.

Valley's unconditional call back guarantee (and five year parts warranty) proves how good these faucets really are. They work at a "feather touch." Water control is positive. The seal is self-adjusting. The Triplate finish lasts and lasts, and resists corrosion.

Call our \$10 bet and we all win — you — your customer and Valley, the plumber's single lever faucet.



*Full warranty and guarantee detailed in package.



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NEWS/STOCKS

VTR Inc. caught in a debt squeeze; merger with Pacific Properties off

A holding company with large real estate and homebuilding interests—VTR Inc. of New York City—disclosed last month that it was in technical default on debt covenants.

Among lenders who have advanced VTR almost \$9 million is Pacific Coast Properties, a Beverly Hills residential and commercial builder.

The loan from Pacific Coast was for \$4 million. In early January, when VTR reported the loan accord, it also said that agreement in principle had been reached for it to acquire Pacific Coast.

In April it was reported that merger talks had been ended.

None of the lenders was expected to take action against VTR, which went into technical default when it failed to satisfy four provisions of its debt covenants.

Trouble items. The annual report revealed that VTR had failed to:

- Maintain working capital of \$7 million, allowing it to fall to about \$3.1 million.
- Keep a ratio of 1½ to 1 between current assets and current liabilities. The ratio had dropped to 1.15 to 1.
- Preserve a consolidated net worth of \$6.5 million. It had fallen to \$5.92 million.
- Maintain consolidated net worth equal to 50% of total debt.

Stock's decline. The common shares of VTR traded up to 32¾ in 1969, close to their alltime high of 33½.

Since then the stock has taken such a nosedive that it has attracted attention in a bear market more ferocious than any since 1929-32.

It fell to 3½ in early May, on a day when it was the fifth most active issue on the American Exchange. It closed that day at 3½, down 4⅞, after 73,800 shares changed hands.

On 1969 revenues of \$40.1 million, VTR reported operating income of \$1.5 million. An extraordinary loss of \$907,623 reduced net to just below \$600,000, or 29 cents a share.

Conglomerate. Activities of VTR stretch from building to such heterogeneous fields as printing, food franchises, and importing specialty items.

But it is construction and real estate that provide for 68% of VTR revenues through two subsidiaries, Alco Universal Inc. and Prestige Structures Inc.

Much of this came last year from Alco, of East Lansing, Mich., which builds apartments and townhouses.

Prestige Structures was not in production for most of the year. It completed its Charlotte, Mich., modular housing factory last fall and took until last month to achieve a production rate of 18 houses a week.

Finding your place in the sun gets easier

The sun is a 650-watt quartz iodine light, and the house is a model some 15 ft. away, but the results are for real.

Heliolux allows the builder, architect, or planner to stimulate actual shadow patterns that would take hours to calculate. It is particularly helpful to the builder in siting houses.

The platform, on which is placed a model house or group of houses, can be set for any latitude, degree of the earth's tilt, or time of day or year.

The sun machine was developed by Clifford Potter, an architect, in conjunction with Tepper-Steinhilber, San Fran-

cisco industrial design firm, and sells for \$1,000.



The hunt is on!

(Beware of the Grope.)

How to keep the Grope from bagging your prospects without them lifting a finger.

The Grope preys on people who don't know where to find what they're hunting for . . . turning their search for you into a jungle hunt.



The Grope footprint goes in all directions, like you without the Yellow Pages.

But you can put one over on the Grope, if you don't spread yourself thin. Cover your territories . . . all of them, by listing yourself in the surrounding area Yellow Pages.

You see, a lot of your prospects that are nearby, use a nearby Yellow Pages. And, if you're not there they miss out on you and you on them.

So play it smart and list yourself in the surrounding area Yellow Pages. After all, why try for some of the customers some of the time, when you can try for all of the customers all of the time!



The Yellow Pages



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IS A PROFITABLE NECESSITY TO BUILDERS!

Unload that home, fast and profitably, by installing Am-Finn Sauna . . . the quickest way to heat up a prospect.

You're pampering your buyer with a lot of luxury at little extra cost. Watch him warm up to it . . . that heavenly relaxing dry heat that soothes, relaxes and invigorates with no steam, piping or condensation problems.

Sizes to suit any family, apartment or club.
Am-Finn Sauna . . . for no-sweat sales.



the original

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NEWS/PEOPLE

Savings bankers get a new president

FREDERICK C. OBER was installed as president of the National Assn. of Mutual Savings Banks at the 50th annual conference of the big trade association in New York City.

Ober, who is president of the Newton (Mass.) Savings Bank, succeeds RICHARD B. HASKELL, president of the Mechanics Savings Bank of Hartford, Conn., as chief spokesman for the \$75 million savings-bank industry. More than 1,400 savings banks operate in the 18 states that permit them.

ALFRED S. MILLS, chairman of the New York Bank for Savings, succeeds Ober as association vice president.

S&L group's choice. The National League of Insured Savings Associations has nominated C. E. (SONNY) BENTLEY,



BANKER OBER
Stepping up

president of the Abilene (Texas) Savings Assn., as president to succeed PAUL WESTERFIELD, who heads Home Federal s&L of Cincinnati. ROSS M. BLAKELY, president of Coast & Southern Federal s&L of Los Angeles, was nominated as vice president to follow Bentley. The nominations were made at the association's management conference in Miami Beach.

Cupboard bare for Eichler stockholders

The next-to-last chapter in the history of California's Eichler Corp. has been written—in red ink.

The liquidation plan drawn by the trustee of the bankrupt building company and approved by a Federal judge completely writes off the investment of the 1,100 stockholders and 600 bond owners. The securities, once worth \$7 million are now valuable only as souvenirs.

Last chapter. The final episode will entail the payment to creditors on claims of \$2 million. But it will be years before the creditors are paid, and even they will not receive anything like 100 cents on the dollar. The trustee has announced that all remaining assets of the company will produce only an undetermined partial payment.

The two jewels remaining in the corporate strongbox are 122 acres of residential land in Marin County, across the Golden Gate Bridge from San Francisco, and a 150-unit apartment house in the city itself. Most other properties were foreclosed to satisfy lenders.

Refund jackpot. One of the major assets is \$230,000 received in damage suits against plumbing and concrete pipe manufacturers convicted on price-fixing charges brought by the federal

government. There is another \$300,000 to \$400,000 still to come.

Founder Joseph Eichler, out of the company since he sold his stock to public relations man Charles H. Parr Sr. and investor Robert M. Bryson (News, Nov. '66), has returned to modest-volume production of the handsome contemporary houses with which he first made his reputation.

—JENNESS M. KEENE
McGraw-Hill News,
San Francisco

Court curbs Cavanagh

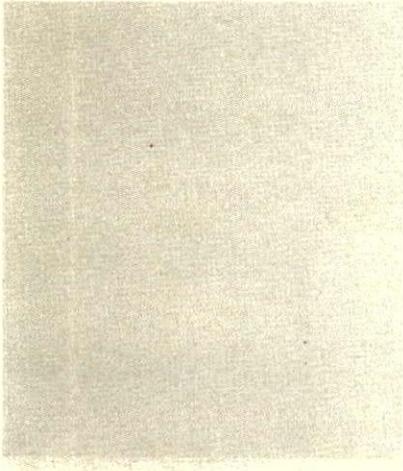
Cavanagh Leasing Corp., a Florida land sales and development group, has agreed to release purchasers from contracts to buy \$359,341 of Florida land and to refund \$85,000 already received.

Attorney General Lewis J. Lefkowitz of New York obtained a court order on Dec. 16 barring Cavanagh from selling land to buyers in New York State without complying with State law. The attorney general had charged that promotion contests staged by Cavanagh's member companies made almost everyone a winner of a trip to Florida.

The prize did not include food or transportation, however.

**Look into
a crowd of
pretty
faces.**

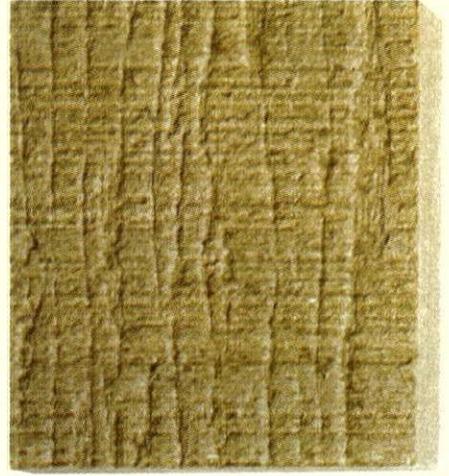
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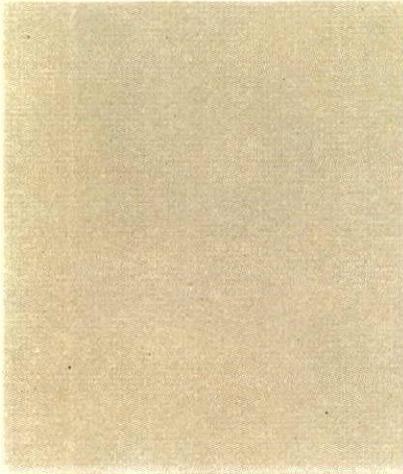
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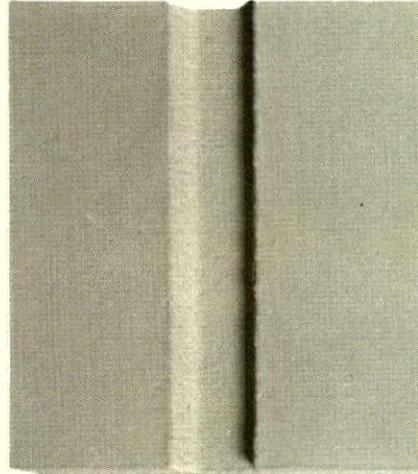
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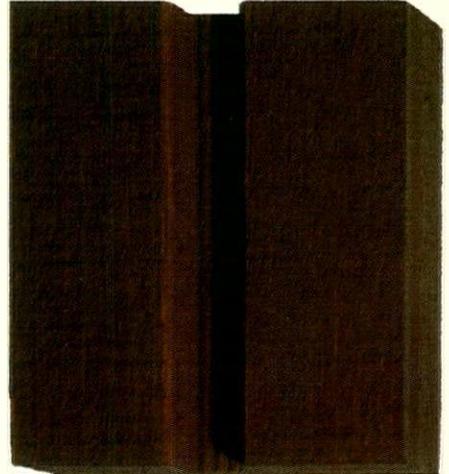
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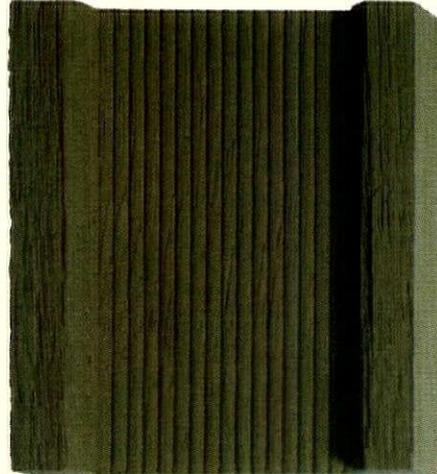
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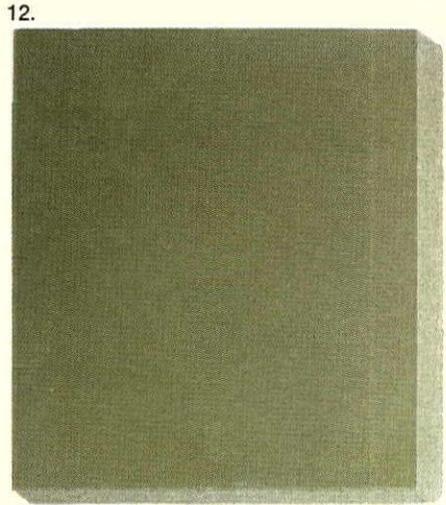
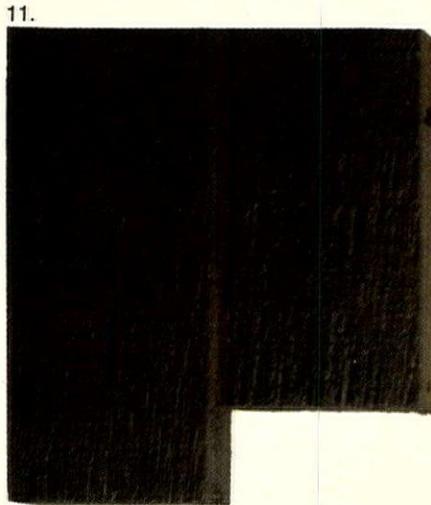
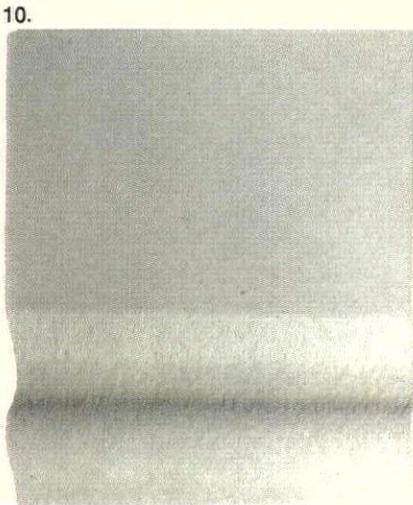
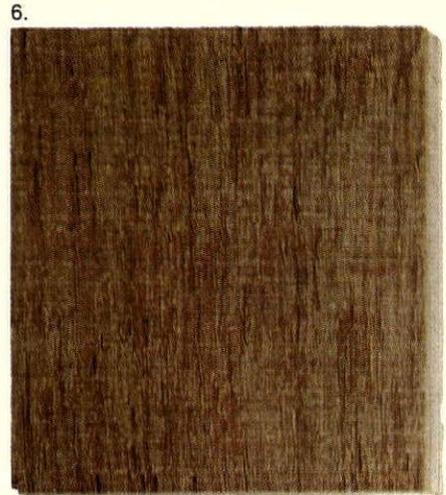
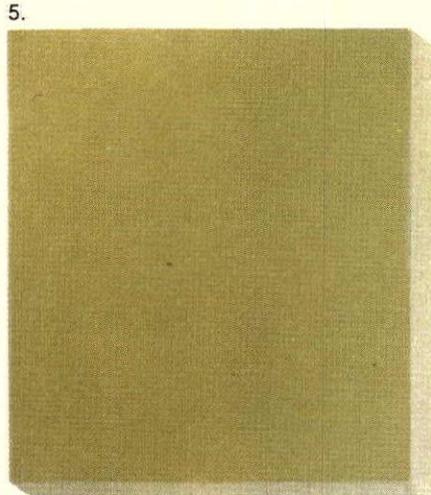
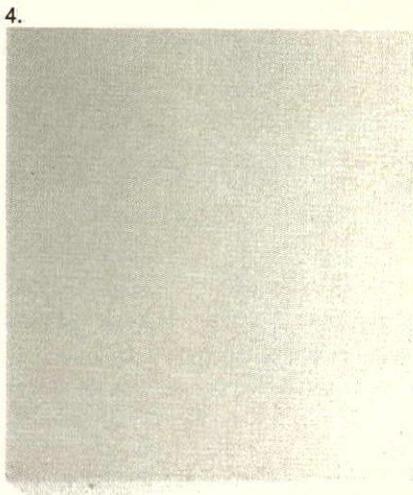


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15.





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- 8. Primed Insulite Siding (Off-white, including edges; hardboard. Vertical Grooved Panel.)
- 9. Rough Sawn Philippine Mahogany Siding (Pre-stained, Russet; T-1-11.)
- 10. Mt. Vernon Insulite Siding (Primed white, hardboard; Horizontal Lap.)
- 11. Rough Sawn Philippine Mahogany Shingle Siding (Pre-stained, Charcoal Brown.)
- 12. Vinyl-Bond Insulite Siding (Avocado vinyl face; hardboard.)
- 13. Premium Primed Insulite Siding (Off-white—extra durable; hardboard.)
- 14. Rough Sawn Philippine Mahogany Siding (Pre-stained, Avocado; Reverse Board & Batten.)
- 15. Textured Insulite Siding (Brand-new. Primed, off-white; hardboard. Plain Panel.)

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RENE LARSEN



THE DEANES, FATHER AND SON
"We are contemplating several projects"

Homebuilder Ben Deane back in action

This time around BEN CADY DEANE heads a new building company formed with his son LARRY.

It is Deane's third building operation since 1966. That year, Ben and brother JIM sold their \$67 million company, Deane Brothers Inc. of Newport Beach, Calif., to the Occidental Petroleum Corp. Ben stayed to run Occidental's building subsidiary for three rocky years but resigned four months ago (News, Feb.).

The new company's building program is unclear, though Deane plans to produce apartments, houses, industrial sites, and recreation communities. Says Deane: "We are contemplating several projects."

Marketing for the new Ben Deane & Co. of Newport Beach will be directed by ROBERT HARDESTY, who has teamed with Deane since 1962.

Ben's brother Jim is working with his own son to develop 8,000 acres in Half Moon Bay, south of San Francisco.

Other prominent personnel shifts announced recently:

- MILTON BURSTEIN, a textbook author and former manager of European operations for Gulf American Corp. of Miami, becomes national sales director for ITT Levitt Development Corp., which is developing 20,000 acres near Daytona, Fla.

- PAT KENNEDY, former director of the domestic peace corps called VISTA, joins Boise Cascade's urban development group. Kennedy will foster community development "on a responsible profit-motivated basis," as Boise put it.

- JONAS BRODIE becomes president of the S. L. Hammerman Organization Inc., a national mortgage banker and real estate investor based in Baltimore. Brodie, an eight-year employee of the firm, replaces I. H. (BUD) HAMMERMAN, best remembered for his efforts to rescue the new town of Joppatowne from bankruptcy (News, Aug. '67). Hammerman continues to work as a financial consultant.

Officer of Realty Equities convicted

JEROME DEUTSCH, executive vice president of Realty Equities Corp. of New York City, has just been convicted of violating the kickback provision of the Investment Company Act of 1940.

Deutsch's trial ran for six days in Federal Court, Southern District of New York. Co-defendant FRANK D. MILLS, a Boston investment fund official, had pleaded guilty earlier.

The two were accused of self-dealing in the sale to Mills of a \$250,000 note of Realty Equities. The prosecution contended

that Deutsch sold the note, with warrants, for \$273,438 when it had a market value of \$468,427.

Evidence was also adduced to show that Deutsch and Mills arranged for the Fidelity Trend Fund of Boston, of which Mills was vice president, to buy a \$1 million promissory note for \$1,873,000, with the excess \$873,000 going to Realty Equities.

Deutsch went free in bail and no date was set for sentencing. The maximum penalty is two years in prison and a \$10,000 fine.

...then came the touch appeal of Verve



a dramatic new line of plumbing brass...
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PRICE PFISTER Manufacturers of Plumbing Brass 13500 Paxton Street, Pacoima, California 91331

A Subsidiary of Norris Industries

These golf course condominiums have strong appeal to the investment buyer



Interior courtyard provides private open space in one-story condominium area.

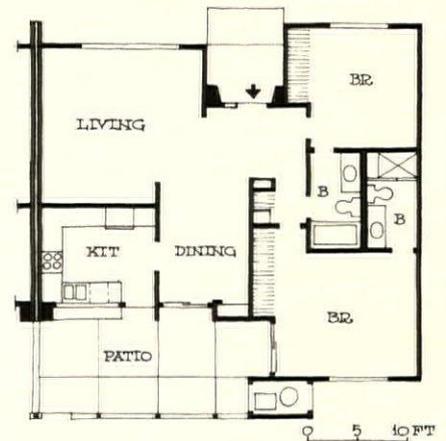
Forty percent of these units at Rancho Bernardo, the 5,800-acre new town near San Diego, are bought as an investment. The owners use them as vacation hideaways for only part of the year, renting them to other vacationers the rest of the time. Rents are about \$465 per month, complete with maid service. The developer handles the renting and maintenance and charges a percentage of the rent as a fee.

The remainder of the units are bought as year-round homes, or as vacation houses by people who don't desire to rent them.

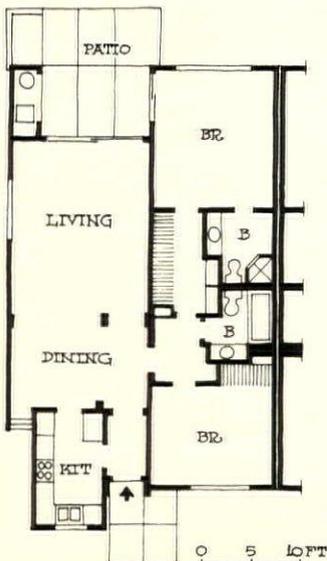
There are two models, both with two bedrooms and two baths. The 1,100-sq.-ft. model (photos below) sells for \$26,000 and the 1,250-sq.-ft. model (photo left) for \$32,000. So far 169 have been completed, with 38 more under construction. The company reports that the units sell out two weeks after opening. Frank L. Hope & Assoc. were the architects.



One-story condominium has sheltered rear patio. Unit has two bedrooms and two baths (plan right).



PHOTOS: JULIUS SHULMAN

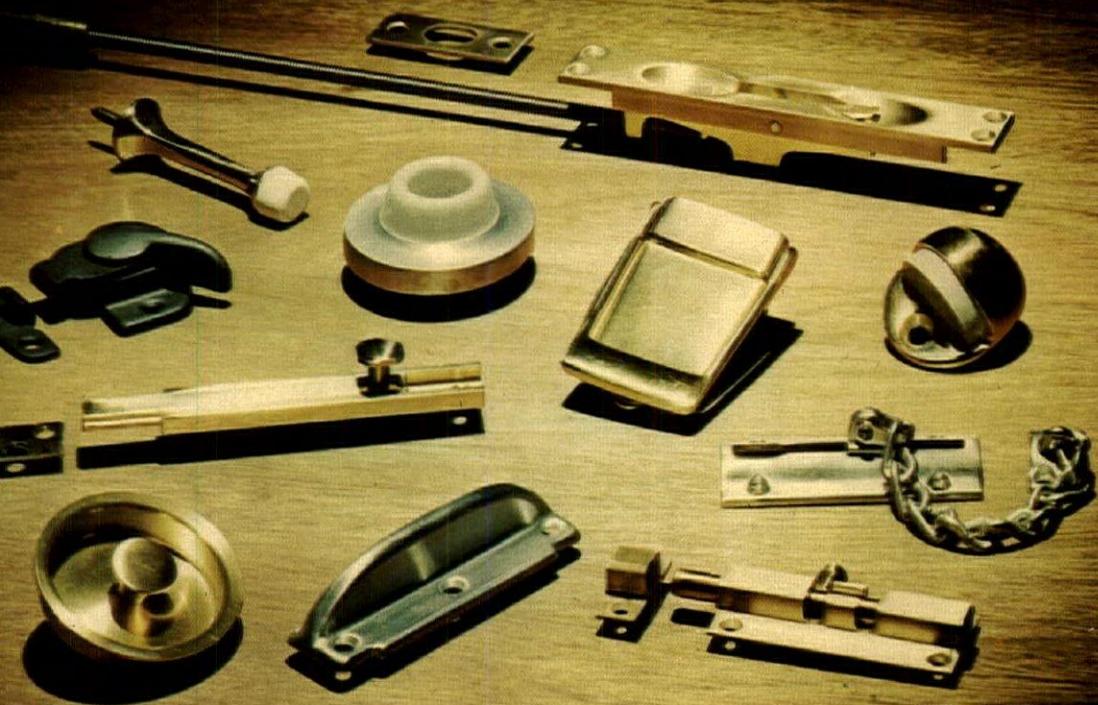


Two-story condominiums have separate units on each floor. Plan (left) shows lower level unit.



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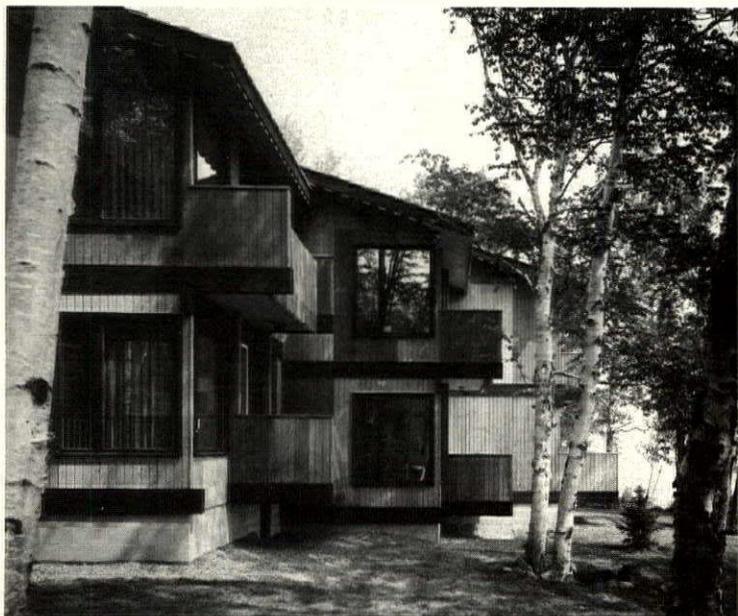
IVES

PHOTOS: BILL ENGBAHL, HEDRICH-BLESSING



Wooded, rocky shoreline of Lake Superior hides condominiums at summer/winter resort. Sixteen units are completed, 11 more are under construction.

Vacation condominiums that fit into their heavily-wooded surroundings



Exterior of units is finished with redwood plywood, left untreated. Townhouses are staggered along lakefront, right, and fit among trees.



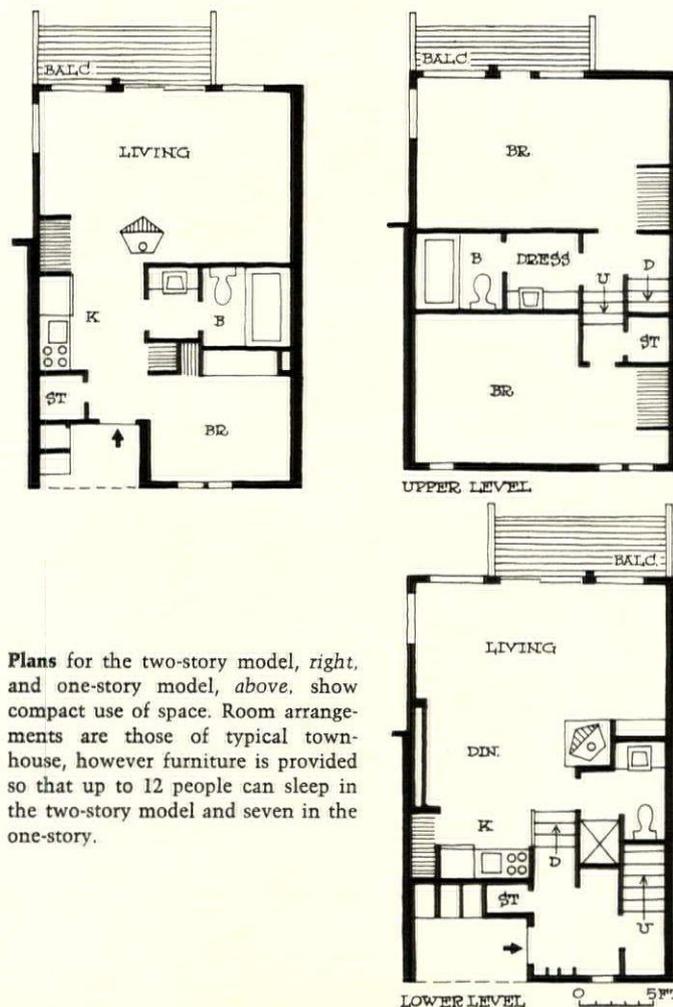
Interior view of two-story model shows use of wood throughout. Models are sold completely furnished. Price of this one: \$41,320.

Located at the edge of Lake Superior, these townhouses, almost obscured by trees, are finished outside and inside in wood. The exterior is redwood plywood, left untreated to blend with the trees, and the interior is also redwood, again mostly untreated.

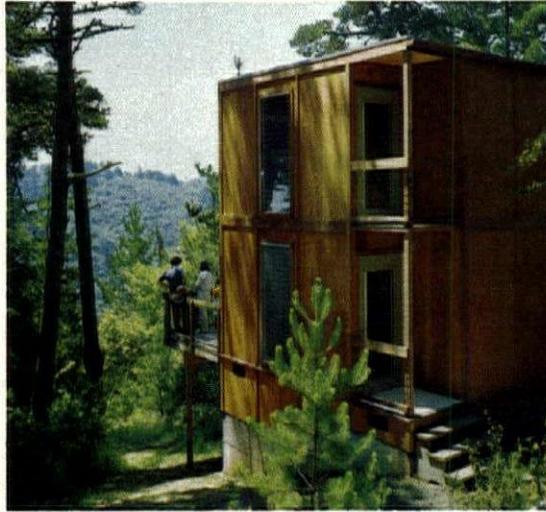
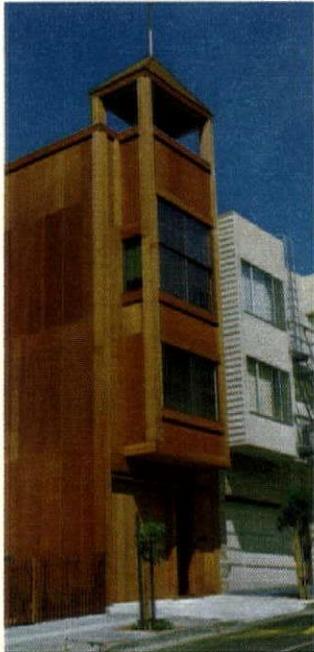
The condominiums are part of a summer/winter resort com-

munity in Lutsen, Minn. Sixteen units have been completed by Lutsen Resort Corp., and 11 more are underway.

Designed by Sovik, Mathre & Madison, the units are available in two models (plans below). The one-story models sell for \$31,000, completely furnished, while the two-story model sells for \$41,320, also furnished.



Plans for the two-story model, right, and one-story model, above, show compact use of space. Room arrangements are those of typical townhouse, however furniture is provided so that up to 12 people can sleep in the two-story model and seven in the one-story.



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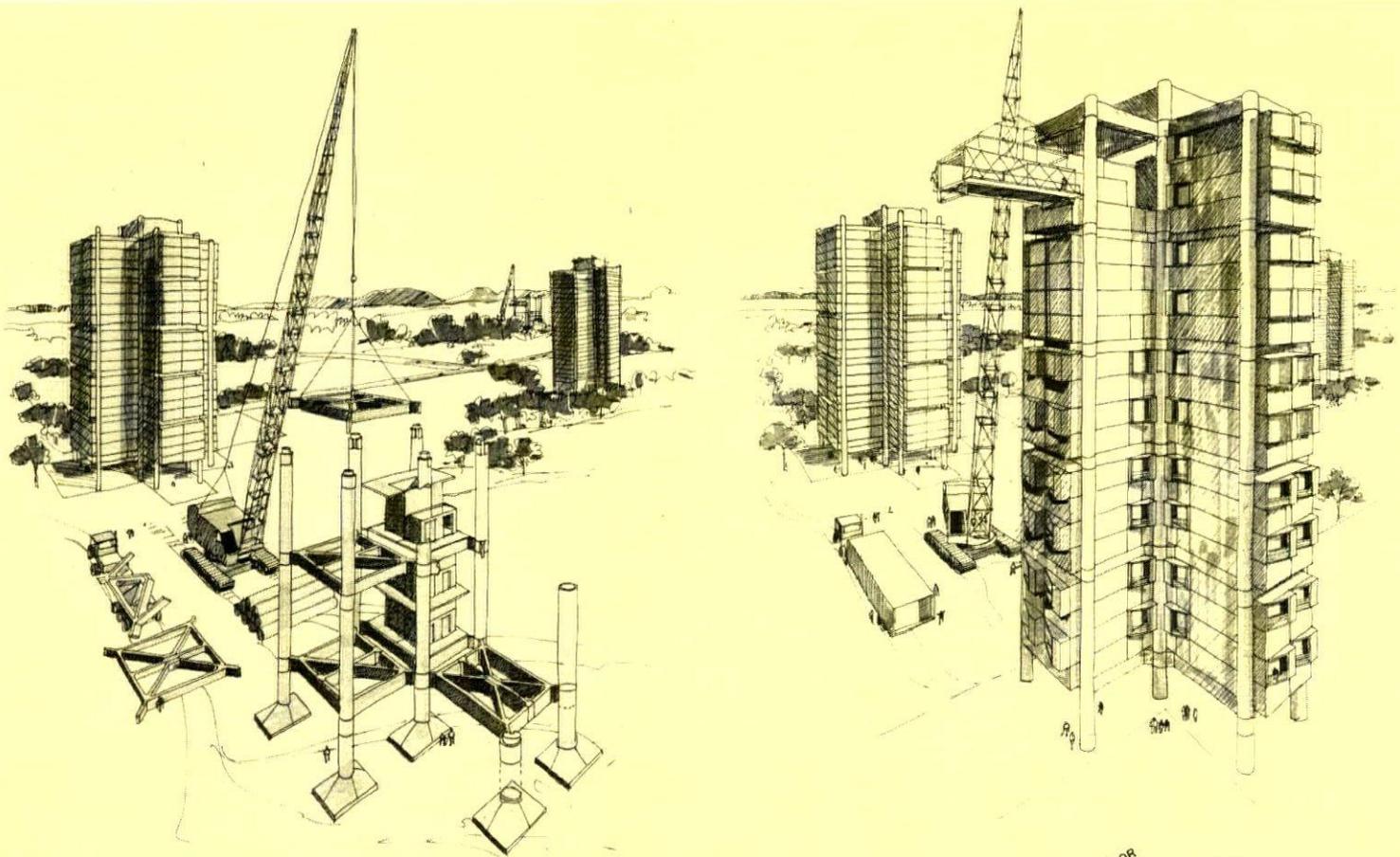
Send for color brochure that gives complete product specifications, application instructions, and detailed finishing recommendations.

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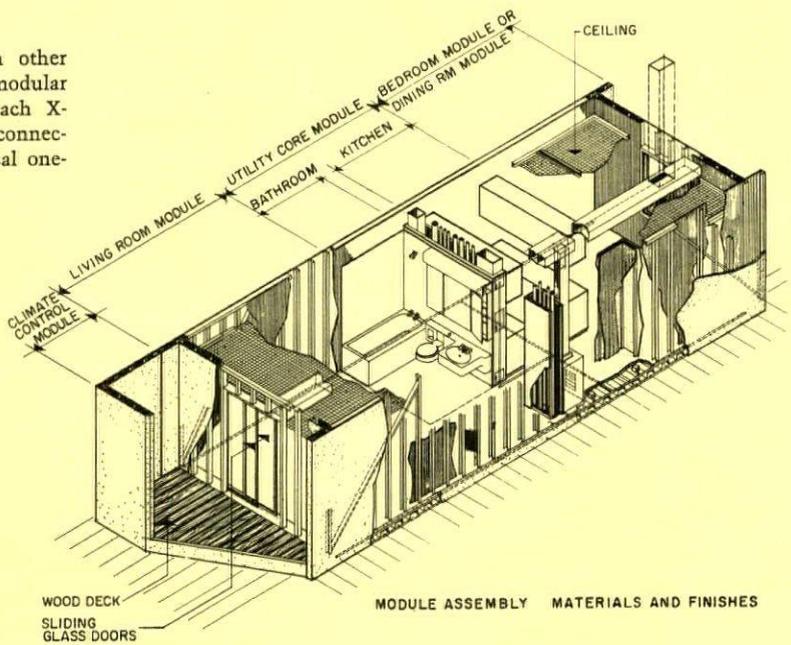
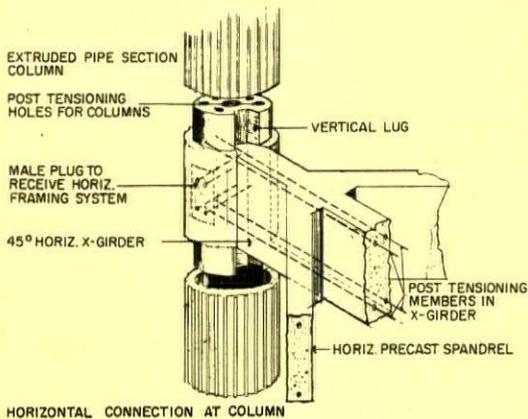
THE PACIFIC LUMBER COMPANY

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High-rise system uses precast concrete space frame and steel modules. A crane is used in construction which limits structures to 24 floors. After the precast elements have been put in place (above left), the boxes are lifted

and slid in on top of each other (above right). Four pairs of modular boxes can be stacked on each X-frame. Drawings show frame connections (below left) and a typical one-bedroom box (below right).



The nation's largest pre-fabber proposes a modular high-rise system

The system, developed by National Homes for Operation Breakthrough, combines a precast concrete space frame with steel modular boxes.

The structure is extruded round sections of concrete pipe with a post-tensioned X-frame every four floors. The precast central core of the cruciform-shaped building contains the stairs and elevators. All the precast concrete will be purchased from local plants.

The steel modules will be

built in National's plants and trucked to the site where they will be lifted into the frame. Several types of small modules joined to form each 14'-wide unit. For example, an owner may want several bedrooms and a bath in one module, and a living room, kitchen/utility core, and bedroom in another. The modules can be stacked up or placed side by side.

The company says prototype models will cost \$25.70 per sq. ft. But, they say, with a mini-

mum volume of 1,000 units per year, costs could be reduced to \$18.35. And, they say, with an optimum volume of 10,000 units per year, the cost would be \$16.25.

However, 10,000 units per year is more than 80 of the 24-story buildings. This volume appears questionable in view of National Homes President James Price's comments on the problems that his company has been having with modular housing (see p. 71).



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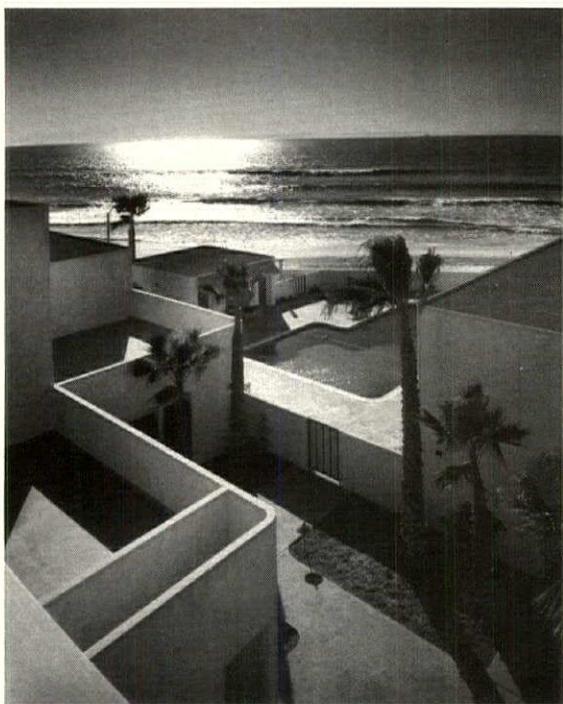
CIRCLE 79 ON READER SERVICE CARD

PHOTOS: JULIUS SHULMAN



Beachfront apartment is planned on 22-ft. modular grid. The result is planned irregularity in the five-level facade. Sea wall protects front.

A modular plan cuts costs on these beachfront apartments in California



Roof decks look out to Pacific Ocean. Architect rounded module corners to avoid stark, cube look.



Multi-level building has stucco walls with shutters and awnings. Pool is on mezzanine (section, right).

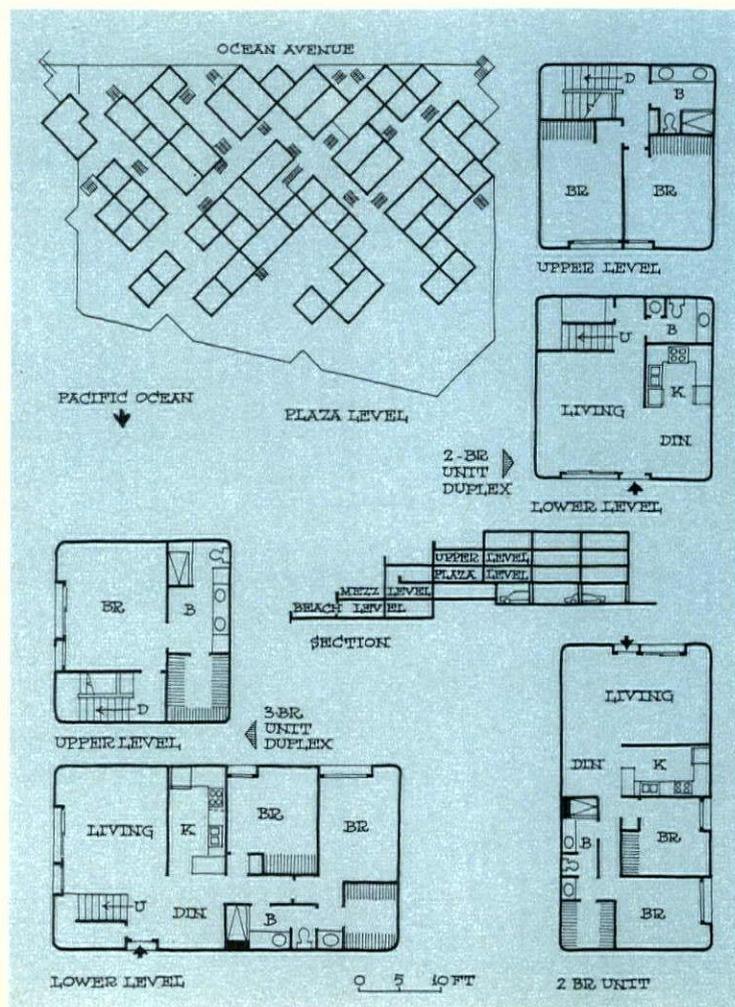
All apartments are laid out on a 22-ft. square module—a scheme which allowed considerable construction savings. First, because of the repetitive plan, estimating was far easier. Second, the concrete piles used for the foundation (because of the sandy soil) were on a regular 22-ft. grid, so the chance for error in laying out the building was lessened. Third, all lumber could be precut on the site to the standard module length.

The modular grid also allows

for easy future expansion in an integrated pattern.

Designed by William L. Pereira & Assoc., the Huntington Pacific is a 106-unit project about 75 ft. from the ocean. It is made up of more than 250 of the modules on five levels.

Rents range from \$160 for the one-module efficiency to \$400 for the three-module, three-bedroom unit. The most popular is a two-module, two-bedroom unit renting for \$280 (plans below).



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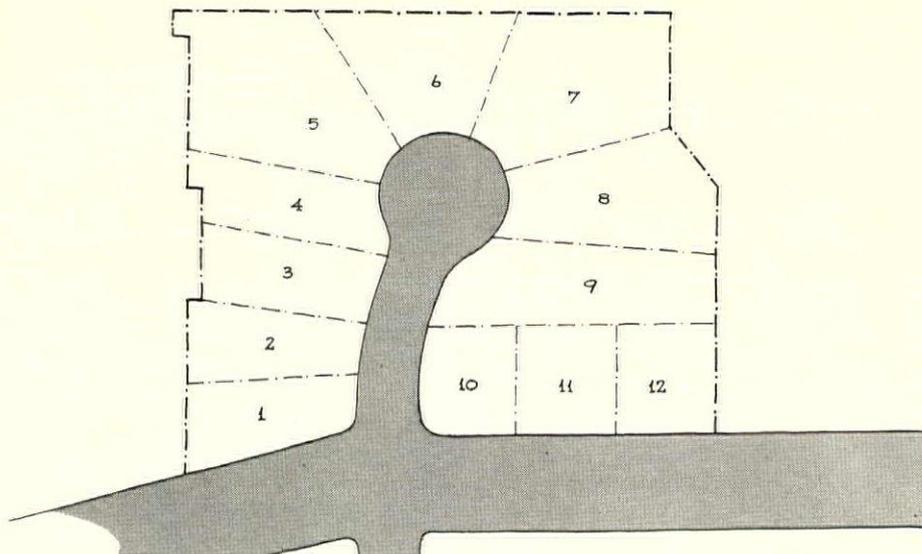
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Universal-Rundle "Build for Your Future with U/R Fiberglass"

A banker-builder team proves that private enterprise can meet the housing needs of renewal-area residents



The banker is Portsmouth, Va.'s, First Federal S&L, the builder is Merritt Construction Co., and the proof is a dozen new three-bedroom houses within walking distance of downtown.

The demonstration project grew out of First Federal's pledge to put 1% of its assets into poverty-area loans. S&L president Robert W. Wentz Jr. first decided he would rather invest in new housing for family ownership than in older rental properties, then persuaded the city redevelopment agency to sell First Federal an entire cul-de-sac of 12 building sites for \$21,000.

Next, Wentz contracted with Paul and Ralph Merritt, a pair of experienced homebuilders, to build the 12 houses on a fee basis. To get low bids and to speed construction, he agreed to

pay all bills on a work-in-place basis.

The entire site was fenced—a precaution that held vandalism and theft to a minimum during the four months of construction.

"We lost less than we would have lost in a more affluent area," says Ralph Merritt.

Middle-class target. The experiment was not intended to show how cheaply houses could be built, but to show that all of the amenities of suburbia could be included at a price that many slum families can pay. The brick houses have 1½ baths, air conditioning, carpeting, electric heat, and all the kitchen appliances included in any luxury house. All but one of the houses are priced from \$16,725 to \$17,525, and can be bought on conventional terms

or with FHA, VA, or Sec. 235 financing. The one exception, larger than the others and priced at \$20,000, was sold with a 20% down payment before it was completed.

Sec. 235 financing lowers the carrying charges for families with limited incomes, but several houses have been financed at the standard FHA-VA rate of 8½%.

It's unbelievable. "One problem," says Bob Wentz, "is convincing people that they really can afford to buy these houses. We know, for example, that every schoolteacher and every policeman employed in Portsmouth can qualify."

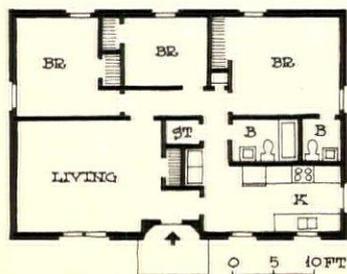
Some of the buyers will be unfamiliar with appliances like dishwashers and garbage disposers, so the local electric utility will provide home econo-

mists to demonstrate the use and care of all appliances to the new homeowners.

S&L officers act as the sales force for the houses, so no selling cost need be added to the prices. And First Federal takes no profit for acting as entrepreneur.

More of the same? "All we wanted to do," says Wentz "was to prove to other S&Ls that center-city building can be feasible. We would like to see a consortium of S&Ls provide the backing to build houses like these on a much larger scale."

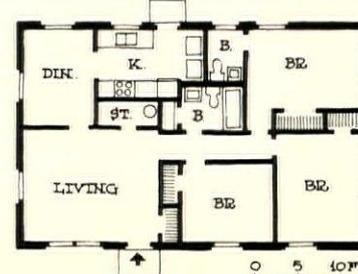
Ralph Merritt concurs: "Speed was important to get the prices down, and having even 12 houses in one place, with city utilities already in, let us build on an assembly-line basis. But I wish we had had 112 lots instead of 12."



Center-entrance house (above and left) has small foyer channeling traffic to either living room or kitchen. Complete line of kitchen and laundry appliances is included so moderate-income families will not have to buy them on expensive short-term consumer credit.



Alternate version (above and right) is slightly wider and has a full dining room, but lacks an entrance foyer and forces all traffic through the living room. Brick exteriors and durable materials are used to keep future maintenance costs to a minimum. Home has three bedrooms.



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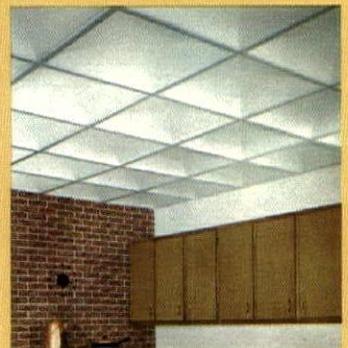
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"I like a convention as well as the next guy, but most of the scenarios need rewriting"

Now that the apartment industry already has two national conventions of its own, maybe it's time for apartment producers to start asking for better things from its conventions.

We have at least five good reasons for attending conventions: 1) take a break from business, 2) carouse with old friends, 3) revel in the mutual respect and understanding of fellow professionals, 4) establish new business contacts or firm up old ones, and 5) learn something new to improve business.

Idea hunting. Most of us go for all five reasons, but everybody emphasizes reason no. 5. After all, what better rationale is there for the sacrifice of four days and more than \$500 than to advance your expertise? Even the brochures stress how the convention will pour out information, stimulate ideas, and give the visitors new incentive to go back home and do a sharper job.

Conventions do provide this in their seminars and exhibits—but not nearly as well as they could. That thought occurs whenever I attend a convention, and it came to mind again as I returned from a recent one in Miami.

The show suffered many of the faults I have noticed for years at the big national homebuilders' conventions.

Specifically: 1) the seminars often fall short of what the convention brochure promises, and 2) too many exhibitors don't know enough about their prospects' problems.

The seminars have several weaknesses. One is a general lack of planning and coordination. For example, speakers sharing the same platform often meet for the first time just a few minutes before they speak. And because none has had a chance to review what the others are saying, they either overlap or leave wide areas of their subject uncovered.

Too much sell. Another weakness is the use of manufacturers and professional consultants as speakers. Why waste an hour or two listening to a sales presentation that you could hear back home at your convenience? At the Miami apartment show, for instance, I resented a seminar entitled "The truth about industrialized systems" because it turned out to be a presentation by a British precast-concrete manufacturer and a U.S. architect who is sold on the manufacturer's system. The capacity audience, attracted to that session by a provocative

title, had been roped into a sales pitch.

Independent consultants and researchers aren't any more objective than manufacturers. They have a service to sell and have usually worked out stock formulas to help produce and market it. Most of these people have good ideas to offer, but after you've listened to them once, you have the basic pitch and don't have to listen again. Yet the same design consultants and market researchers are turning up at convention seminars year after year.

Frankly, I would rather hear a developer's success story from his own lips than from one of his outside advisors. The developer might want to over-impress me with his success, but at least I know he's not trying to sell me anything. If professional consultants are going to be used in convention seminars, they should at least be labeled as such so that listeners don't mistake them for apartment producers.

Too little time. Perhaps the biggest weakness is that most of the so-called seminars are not really seminars at all, but merely brief talks with a few minutes of questions and answers. The titles promise a complete wrap-up of the subject discussed, but for the time and planning allotted, this is usually impossible.

So why not give us authentic seminars? Instead of presenting a dazzling array of about 50 sketchily treated subjects, convention sponsors could perform a much greater service by offering fewer programs with more speakers, broader coverage, and more time for group discussion.

For example, instead of holding five unrelated sessions on different aspects of industrialized construction, put it all together in one complete program divided into contiguous sections that would continue over two or three days if necessary. And if the sponsors would provide a clear description of what's covered in each section, a builder wouldn't have to waste time on the precast-concrete discussion if he's only interested in wood.

Accurate seminar descriptions are essential. Without them, convention-goers can waste a lot of time sitting in sessions designed for beginners or listening to somebody's sales pitch instead of a bonafide analysis of an apartment producer's strategy. In fact, I think the convention-goer should have this information in hand before he hits town so that he doesn't have to sit down and work out his appointments

on the same day the show begins.

If convention sponsors are lax in their seminar planning, some of the convention exhibitors are downright negligent.

Scaring the wrong people. Take, for example, a 20-minute movie run daily by a well-known lock manufacturer at the Miami apartment convention. Instead of giving apartment builders and property managers some facts on locks, it showed in hair-raising detail how easily a murderer-rapist can break into single-family homes. The movie's dramatic effects were obviously calculated to frighten homeowners into fortifying their houses rather than to educate professionals on the fine points of dead-bolt locks and keying systems. Yet the film was promoted and shown daily at an apartment convention.

Another shortcoming among exhibitors at apartment conventions is lack of knowledge about the unique differences between the many segments of the multifamily industry.

I had to explain my market and design needs to more than one product exhibitor, even though my company operates in the broadest industry segment possible—two- and three-story, medium-priced garden apartments.

Some of the garbage-compactor people, for example, didn't seem to realize that while their \$5,000 machines make good sense in compact high-rises, they aren't economical for spread-out garden-apartment complexes. Some other exhibitors of high-priced accessories—e.g., individual sauna baths and door locks with built-in alarms—didn't know their products weren't economically feasible for apartments in my rent range.

A complex business. Much of the vagueness and disorganization in apartment conventions is caused by the industry's own complex nature. It's not as clearcut as the single-family home business. The financing and selling of apartments is much more sophisticated. So is the technology. The builder/developer is better organized. And more and more of the producers are also involved in property management, a business quite foreign to the homebuilding industry.

So the first thing to know for people who assume the task of educating and enlightening apartment builders at conventions is that they aren't dealing with an offshoot of the old homebuilding business, but with a new, and entirely independent, industry.

H. CLARKE WELLS, MARKETING VICE PRESIDENT, L.B. NELSON CORP., PALO ALTO, CALIF.



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"Tedlar" is a solid-sheet vinyl fluoride film finish. It's factory-applied to siding at the time of manufacture. It's 8 to 10 times more fade-resistant than field-applied, oil-based paints and 3 to 4 times more so than ordinary baked-enamel finishes.

Nothing can permanently stain "Tedlar"—even mildew, tar and cement splatter clean off easily. And it's amazingly resistant to weathering and erosion. Even after 20 years of exposure, the protective finish of "Tedlar" should be thicker and stronger than ordinary baked-enamel finishes when new.

It all adds up to a beautiful exterior that is going to stay beautiful and new-looking for decades — and practically take care of itself. And that, with lower installed cost, is the real beauty of TEDLAR.

"Tedlar" surfaced sidings are available in nine contemporary colors and

white in lap, board and batten, and sheet styles, and also in fascia and trim.

So consider the beautiful and practical alternative—"Tedlar" surfaced siding and brick for your next apartment or turn-key building. For further information, including cost-saving case-history reports, write Du Pont Company, Room 8651, B Wilmington, Delaware.

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TEDLAR®

The solid-sheet vinyl fluoride finish for pre-finished house siding.

Concrete ideas for higher returns on low-rise housing.

Put concrete housing systems ideas to work...
reduce labor and financing costs...increase return on investment.



Residential concrete flooring systems cut costs. Accommodate heating, ventilating, cooling ... serve as ceiling for floor below.

And if that isn't enough, they make excellent roof decks, too.

Residential flooring systems adapt to any plans. They can be cast-in-place slabs or big precast sections that go together in far less time than ordinary floors.

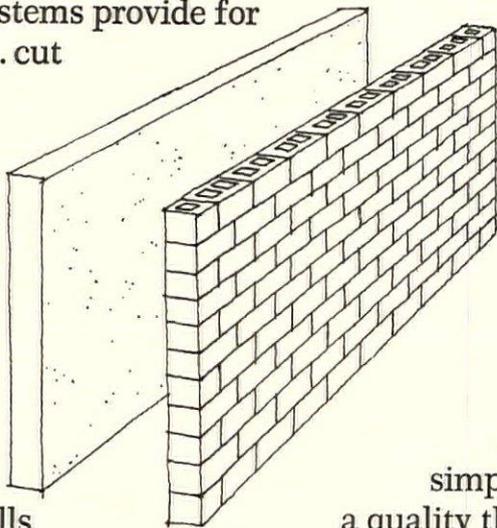
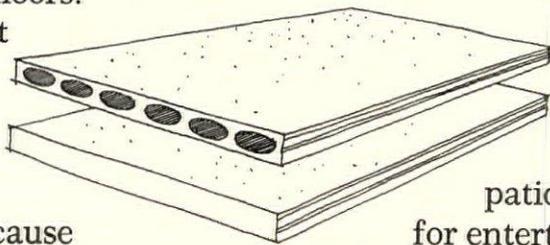
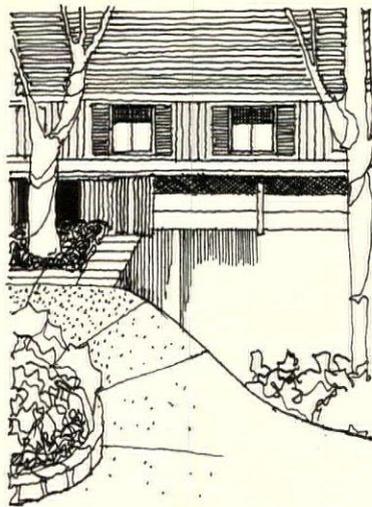
The installed cost is competitive with wood floor construction.

Costs are reduced sharply because the systems readily accept mechanical, electrical, plumbing and communications sub-systems ... simplify and speed installation.

Concrete floor systems provide for sound conditioning ... cut insurance costs too. What more could you ask of a floor that's a ceiling that's a roof?

Concrete load bearing walls go up fast, reduce maintenance.

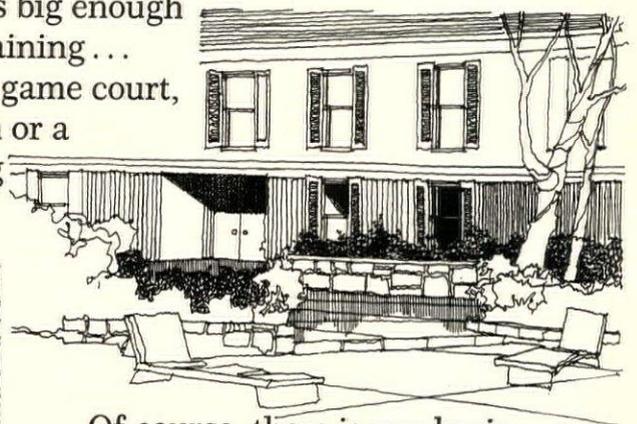
Whether cast-in-place, precast or concrete masonry, concrete walls provide maximum fire resistance, sound control, and weather protection. And that's not all ... concrete walls allow unlimited design flexibility, inside and out.



Add beauty and appeal with "Grounds for Good Living."

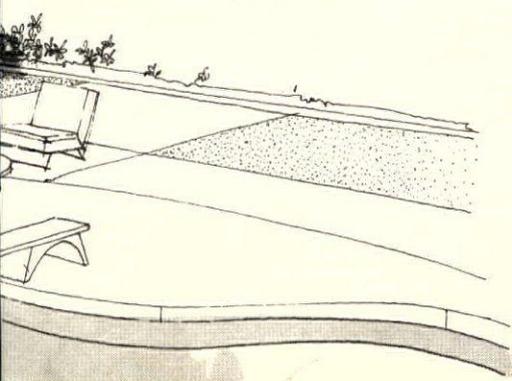
The right *Approach* makes your building stand out beautifully and provides a luxurious setting to any low rise. It includes ample offstreet parking, a weather protected entry, and privacy with screens and decorative planting areas.

The proper *Setting* will provide patios big enough for entertaining ... perhaps a game court, a fountain or a swimming pool.



Of course, there is one basic reason for using concrete in any application: its inherent values. Its great strength and plasticity allows you to build the unusual, imaginative and eminently practical. And its unquestioned durability simply guarantees that the value lasts; a quality that's hard to come by these days.

For more information (U.S. and Canada only) on "Concrete Housing Systems" and "Grounds for Good Living," call your local PCA office or write Portland Cement Association, Dept. 6-94, Old Orchard Road, Skokie, Illinois 60076.



PORTLAND CEMENT  ASSOCIATION

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LETTERS

More "Open Letter" comment

H&H: It is good to see that HOUSE & HOME has lost none of its deriding-do and continues to be the pacesetter in the housing industry. Your February "Open Letter" concerning the needs of the industry is excellent, pertinent, and timely.

I've never known a civilization to reach any continuing level of success if its housing and agricultural industries were not leading the way. Currently in our country, both of these industries are not leaders, and I think this represents a built-in form of starvation for other industries such as clothing, automotive, transportation, heavy construction, and the like.

I hope this provocative issue of HOUSE & HOME had a significant effect within our industry.

R. E. POLSON,
market surveillance manager
The Dow Chemical Co.
Midland, Mich.

H&H: I read your "Open Letter" with great interest. You have done a very good job of presenting the problems connected with providing low-income housing. These problems can be corrected by the cooperative effort of private industry and the federal government. I would like to cite Nazareth Apartments, here in Columbus, as an example.

Nazareth Apartments is a 14-story high-rise built under Section 221d3 BMIR and Rent Supplement. This project was built in an urban renewal area and involved a non-profit sponsor, an urban redeveloper, a private contractor, a mortgagee, FHA and the Government National Mortgage Assn. Karl Kumler, senior vice president of The Galbreath Mortgage Co., was the catalyst who made the project "click" from initiation to delivery to GNMA.

Many occupants of Nazareth Apartments are paying as little as \$33 a month to live in a new facility, close to shopping and transportation.

GEORGE L. GUGLE,
assistant vice president
The Galbreath Mortgage Co.
Columbus, Ohio

H&H: The article . . . so impressed me that I had it placed in the *Congressional Record*.

HENRY HELSTOSKI (D., N.J.)
House of Representatives
Washington, D.C.

H&H: . . . the substance [is] just about as impressive as the dramatic and effective presentation.

MYRON S. ISAACS, attorney
New York City

HOUSE & HOME regrets the inadvertent omission of the photo
TO PAGE 50



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American Lantern *manufactures* lanterns. We are not just an assembly plant putting together purchase parts. We manufacture . . . completely and totally. We have our own design, foundry, metalworking, and finishing departments. Complete facilities for complete control. And we've been at it over 42 years.

As a *manufacturer* American Lantern offers you more. Better design, better quality, and a better cost. The result is better value.

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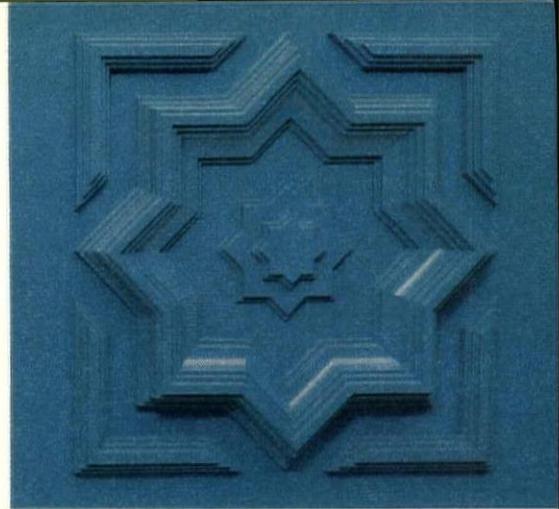
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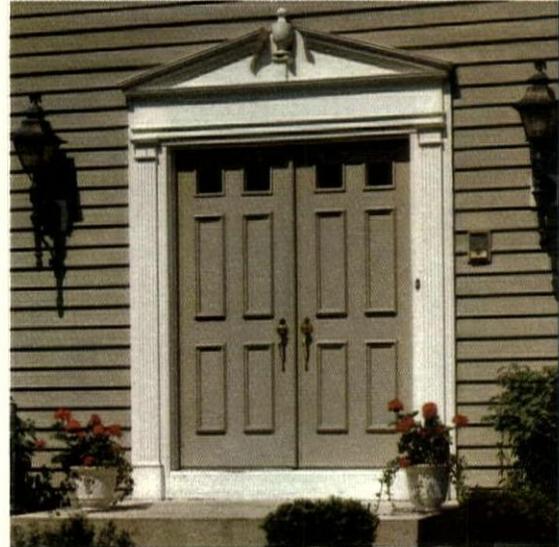
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CIRCLE 85 ON READER SERVICE CARD



Detailing from The Ever-Strait collection.



The Ever-Strait Door by Pease. All the charm of wood. None of the drawbacks.

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Ever-Strait is a complete entry system. Steel-faced door with built-in thermal break. Solid insulating foam core. Prehung in its own frame. With continuous magnetic weatherstripping. And adjustable sill/threshold.

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U.S. Patents No. 3,153,817; 3,273,287; 3,238,573. Patented in Canada 1965, 1966; and in United Kingdom 1962. Other patents pending.

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Positive Voltage Control

This new, compact Homelite generator delivers 3500 watts continuous rating, 115 and 230 volts, 60 cycle, single phase A.C. Powered by a 4-cycle gasoline engine.

LOADAMATIC* automatic idle control extends engine life, re-

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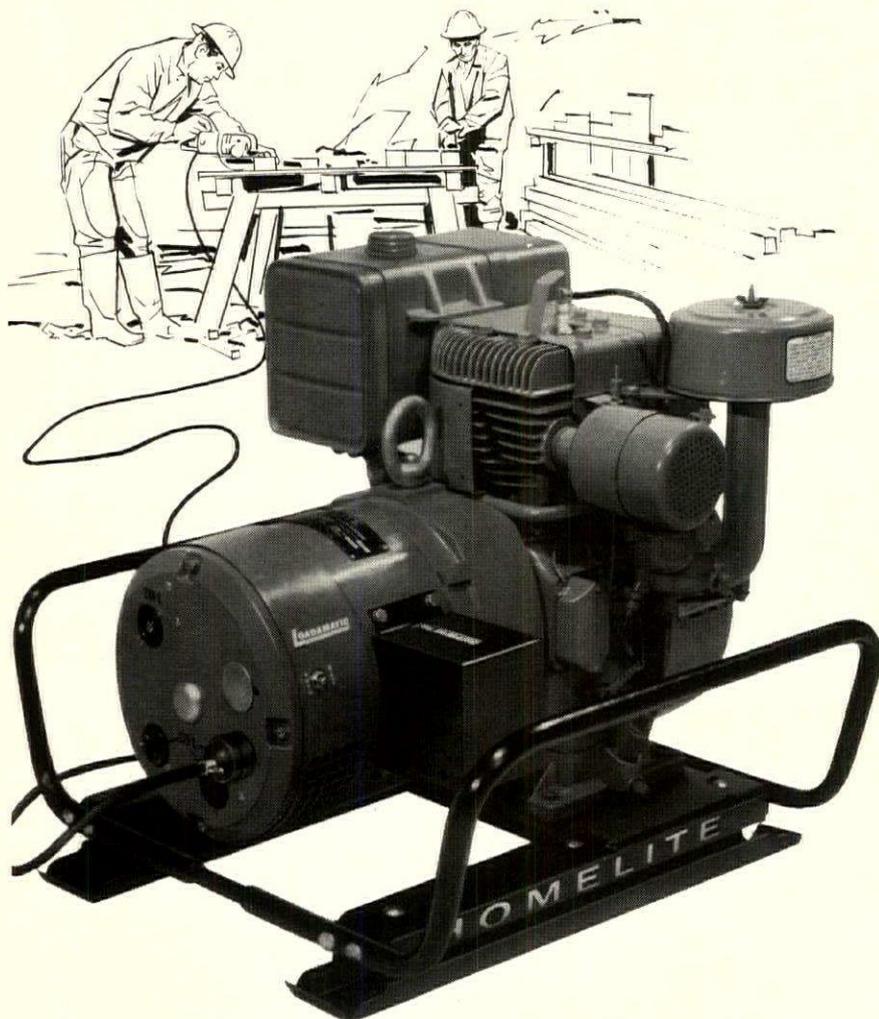
See this model and other Homelite generators at your nearest Homelite construction equipment dealer or Homelite Branch Office.

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HOMELITE MODEL 119A35-2L GENERATOR

LETTERS FROM PAGE 48

credit line on the Brookline, Mass., townhouse/garage story [News, Apr.]. Charles L. Norton took the pictures.—ED.

Non profit housing

H&H: At the very time when private enterprise has repeatedly indicated its lack of interest in, or inability to provide, low-income housing and when federal subsidies continue to be insufficient, a reduction in the role of nonprofit sponsors—proposed by Gene Gullledge of FHA [News, Apr.]—is most untimely.

Here in Ann Arbor, and elsewhere, nonprofit sponsors need encouragement to continue their efforts. In Michigan funds were recently approved to aid low-cost housing through nonprofit channels. Nonprofit sponsors may well have much to learn about principles and practices in finance, construction, planning, and management. But if even a few new enterprises to serve low-income needs are to be created, they will have to be created and nurtured through nonprofit experiments.

There are also values to nonprofit sponsorship beyond simple economic aid to low-income sectors of the housing market. Civic, religious, professional, or other sponsors serve to broaden a community's cooperation in building well-conceived projects. They help assure not only the construction of housing but the formation of viable communities with all of the amenities, services, and vital living that will be needed over the long term. And this may be the biggest benefit of the nonprofit sponsor.

STEPHEN W. OSBORN
City Planning Dept.
Ann Arbor, Mich.

That's T, as in taller

H&H: I got quite a kick out of your April story on our basketball team [Portland in the National Basketball Assn.].

I could forgive you for leaving a letter out of my name, but I also see you have cut two inches off my height, which is much more unflattering than dropping the "T" from Schmertz.

I invite you to the play-offs next year to see how well Portland will do—but only if you show the correct spelling and my correct height next time you write an article.

ROBERT J. SCHMERTZ, president
Leisure Technology Corp.
Lakewood, N.J.

Bob Schmertz measures 6'1" to the top of the T in his name, which appears correctly seven times in the May issue.—ED.

Bugged about building costs?

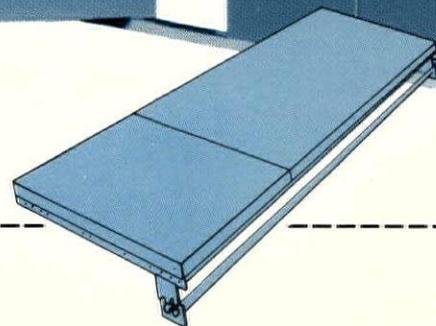
With Float-Away you
can save a buck.

You know what's happening to building materials costs. They're skyrocketing! Not so with Float-Away. Now you can actually save up to 30% when you buy Float-Away metal bi-fold closet doors. Yet they're still the finest closet systems at any price. Float-Away gives you a choice of five decorator styles—ease of installation—sizes to fit any opening—and prompt availability. Always. It's a good time, too, to introduce yourself to Float-a-Just shelves, Float-Away's complete line of metal shelving. Tops in durability. Yet they haven't gone up a penny!

So, whether you're building a home or a high rise, a manufactured home or an urban renewal project, why not save yourself a buck? With Float-Away. For further information, fill out the coupon below and return today to:

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You bet I'd like to save a buck! Send me complete details on Float-Away metal bi-fold closet doors and Float-a-Just shelves right away.

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Company _____

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Hank Meredith at Sunset Homes, Livermore, Cal.

“Hank Meredith is the icing on the cake”

There's no charge for Hank Meredith's services, because he's a GE Contract Sales Representative. Among his assignments: the 3,000-unit Sunset Homes development in Livermore, California, one of the largest in the San Francisco area.

Says builder Masud Mehran: "The thousands of GE Appliances we installed were a great value. But I wouldn't know how to put a price on the help we've gotten from Hank. He has a real insight into our problems—and an ability to come up with practical solutions."

Here are a few of the problems Hank Meredith has helped solve:

- He worked out a plan for providing

air conditioning for Mehran's homes with room units, and brought in General Electric specialists who developed detailed installation plans.

- He arranged a kitchen planning consultation with experts from General Electric's Louisville staff. The result: an improved kitchen layout, based on a "kitchen in the round" theme, now one of the most popular features with buyers of Sunset Homes.

- In conjunction with a GE laundry consultant, he helped develop an improved laundry room setup.

- He works closely with Sunset's construction people in scheduling deliveries,

to make sure lost time is held to a minimum.

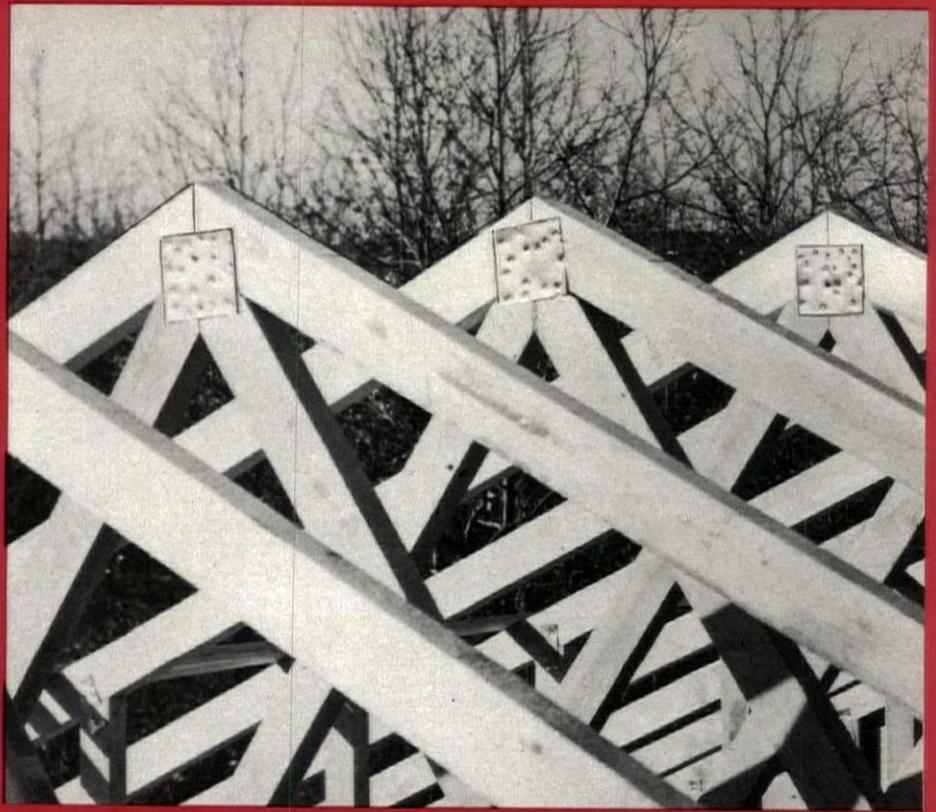
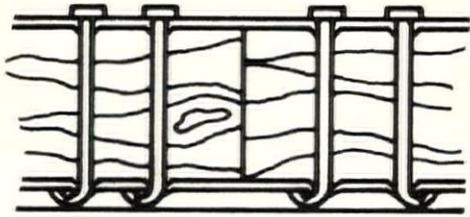
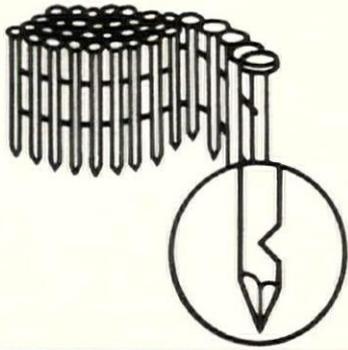
- He cooperates with Sunset's advertising people in developing presentations of the GE Kitchen story that will attract the largest number of home buyers.

What makes a GE Contract Sales Representative so valuable to a builder? He's knowledgeable, concerned about your problems—and in a position to put all the resources of the General Electric Company to work to help you meet them.

Call him and see.

Progress Is Our Most Important Product

GENERAL  ELECTRIC



BOSTITCH TRUSS SYSTEM GIVES "RIVET-JOINT" STRENGTH AND DURABILITY

The Bostitch Clinch-Nail Truss System answers the need of residential, light commercial, and apartment builders for a strong, dependable system of assembling wooden roof truss components. The system is also ideal for remodeling contractors because changes from one size truss to another can be made quickly and easily.

Simple, space-saving Bostitch system locks wooden truss members between two 20-gauge galvanized steel plates. Each truss nail (comparable to a full-head 8d nail) is power-driven through the truss joint and clinched on the opposite side. Two-ply construction of the Bostitch clinch-pad truss plates insure precisely controlled clinching every time.

Truss assembly is remarkably fast because trusses don't have to be back-nailed. And Bostitch clinch-nailed truss joints shrug off racking abuse often encountered when completed trusses are handled during shipment and at job sites.

The Bostitch Clinch-Nail Truss System is designed for flexibility, durability, and economy. For complete information, talk to the man with the fastening facts—your Bostitch man. Or write Bostitch, 246 Briggs Drive, East Greenwich, R.I. 02818.

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That's our boy.

He's our Builder Service Representative. And we're proud of him.

We brought him up to be at home in any company, even yours. So he's trained to give assistance with things even some of the other experts can have trouble with. And if he doesn't know all the answers to your building problems, he knows enough where to look for them.

You'll find it useful to discuss with him such important things as building codes, zoning regula-

tions, and even personnel procedures.

We think of everything you could think of. Market research, land development, merchandising, advertising — our boy was raised on them.

Design? Just ask him. He'll tell you the latest trends in products. And because he's loyal, he'll also tell you the best use of U.S. Plywood products. For siding, doors, molding and paneling.

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The numbers game

It says here that we are ahead of schedule in meeting our housing goals

Last month a press release from HUD came across our desk which said total housing production in the last two years has exceeded 3.8 million units—or nearly 15% of the 10-year national goal of 26 million units. Quite frankly, we were stunned. All along we had thought we were falling behind our goal, originally set in 1968. Apparently, the fact that vacancy rates are as low now as they have been since the late 1940s is beside the point. The housing industry, one would gather from the press release, is doing just great.

How did HUD arrive at the figure of 3.8 million? Well, between July 1, 1968, and June 30, 1970, we will have produced 2,950,000 new dwelling units as *realty*. Then HUD adds to that figure 813,000 mobile homes produced in that period, and (we can only guess) 37,000 substantially rehabilitated (whatever that means) units. Voila, 3.8 million units. Amazing!

The business of throwing in all those mobile homes has become something of a lifesaver for the Administration. Although the 1968 Housing Act did not stipulate mobile homes as being a component in the satisfaction of housing need, it did not specifically rule mobile homes out of consideration in meeting that need. President Nixon in his housing message said of mobiles "they are clearly making a significant contribution to the general housing supply. . . . In many areas across the country new housing is not available at a price of less than \$25,000. Many mobile homes, in contrast, sell for about \$6,000." We wish he had added that monthly rent for a mobile home pad in a mobile home park, and chattel financing charges—18% interest for eight years—make the monthly living expense about the same as it would be for a new \$20,000 house.

We think something is very wrong there and let us explain. Mobile homes are okay if that's the way you want to live and you can afford them, but let's not kid ourselves that they are a bargain. Just con-

sider these mobile facts of life:

1. The major mobile home manufacturers make no bones about the fact that if their units have to be built to meet an adequate building code, and if mobile home parks must meet an adequate zoning ordinance, they are out of that ball game. In other words, mobiles exist because they can provide housing at standards lower than those required of realty.
2. Those minimized standards mean that the life of most mobile homes is less than 10 years. There are 2.5 million households in the U.S. living in mobile homes, and 2 million of those mobiles were produced in the decade of the 1960s. Most of the other half a million units are substandard by *mobile home manufacturers standards*.
3. Because of the mobile's short life, a) a lender will only lend on a chattel basis, or consumer financing terms; b) it depreciates down to zero in about six to eight years, so there is no equity build-up for anybody; c) in California it's almost an unwritten law that no mobile home older than two years may be parked in a new mobile home park.
4. Most municipalities dislike mobile home parks for a very good reason: they erode the tax base. Take a look at any mobile home park where the units are eight or more years old and you will see municipal blight.
5. Because mobile home parks erode the tax base, they also inhibit economic growth in the sector of the municipality in which they lie. Nobody likes to have his section of town put at a disadvantage because of mobile homes.

Because of these major points we think it is a ruse and a sham to count mobile homes as part of the answer to providing adequate housing for all Americans. If mobiles were built to last the life of a mortgage and improve the municipal tax base, it would be all right to count them into our housing goals. But until they do that, we're just kidding ourselves.

RICHARD W. O'NEILL

THE MOBILE MODULAR

A new concept
promises to
affect everything
from land planning
to financing



Everybody knows that a modular house is hauled to its site on wheels. No big deal.

But not everybody realizes that that same modular house can also be trucked away from its site on wheels. And while this may not sound particularly earth shaking, it is, in fact, very big deal indeed.

Consider the moduls shown here. Designed by Barry Berkus of B.A. Berkus Associates, and made in a plant that Berkus built and now operates (as Environmental Systems Industries), they occupy a half-acre corner lot in Los Angeles. And while Berkus is actually selling out of this model site (some 70 reservations in the first three weeks), his plans go much further. He is, in fact, using these models as part of a market-testing program that is expected to lead to: 1) an expanded odd-lot and small subdivision program which has already started from the present model site; 2) a 390-lot modular subdivision

in Valencia, a new town in Ventura County north of Los Angeles, which will open about September; and 3) a combination architectural and engineering service for builders anywhere in the country which will include modular designs, land layouts, and help in setting up and operating modular plants.

(The first example of this last service is in St. Louis and is described on p. 63).

Esri, which is just about to go public, can produce one house a day from the present plant, and Berkus is negotiating a joint-venture which would enable him to build a much bigger factory.

Behind this projected surge of modular activity is Berkus' belief that the modular detached house has deeper implications than most people realize.

The accepted attitude towards moduls is that while they aren't any cheaper than conven-

tionally-built homes today, they will be in a few years, so now is a good time to get into the field.

This is perfectly true, but it only scratches the surface. Berkus' moduls are really mobile; even if the running gear is dropped off (to save \$1000 a house), it can be put back on any time. Add to this the fact that moduls qualify as permanent housing, not mobile homes, and you open some fascinating vistas. For example:

A builder can respond quickly to a strong market demand. His model site can be set up and landscaped and ready for business within 45 days, compared with the usual six to nine months. If he leases an off-project model site (as Berkus himself has done), when the market cools, he can move the models elsewhere.

By the same token, an odd-lot builder, or a builder working on several small subdivisions, could have a centrally located

model area at very low cost.

A builder can offer buyers a second-home option. The buyer could start with a small modular home, later move it to a vacation site and either build a larger home on the original lot or sell the lot—presumably at an appreciated price.

But the most promising aspect of the mobile modular is the flexibility of land use it offers.

Take a piece of land whose value, location, and zoning make it presently suited for single-family development, but which lies directly in the path of an area's growth pattern. If it's built out today, at single-family density, ten years from today the area will be deprived of what should be a high-density site. Suburban sprawl will take another step, and the developer will realize no appreciation.

If instead the land were held for the future (assuming the



PHOTOS: JULIUS SHULMAN

Two-wide modular is rolled onto site (*facing page*) and completed as part of landscaped model compound (*above*). Price: \$14,950 without land.

developer could afford it), needed housing would not be built, and there would still be pressure for sprawl.

But put mobile modulares on the land and everything changes. Houses can be built now, then moved to new locations when higher density land use is called for. If the developer leases the land to the modular buyer, he will realize appreciation. The buyer himself can either move his home to a new site or sell it to another lot owner.

Condominium ownership offers another possibility: if the houses and the land are under different mortgages, the homeowners themselves would realize the appreciation of the land. Further, the lender might hold, say, 30% of the land as an inflation hedge—a device that might persuade him to finance the original project.

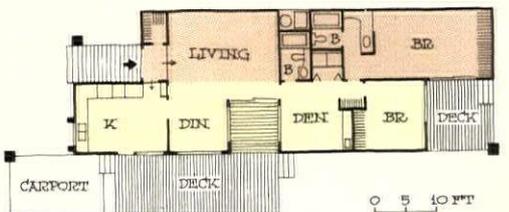
Inevitably, the question must

be asked: Can't mobile homes fill exactly the same role as the so-called mobile modular?

In a word, no. For one thing, mobiles aren't really mobile; most of them stay in their original park and are moved only to be junked. They are not built strongly enough for several moves, while modulares, built to both conventional house specs and over-the-road specs, are. Mobiles cannot legally become permanent housing; modulares can be either mobiles or permanent houses, and so can be moved into any area. Finally, the esthetics of mobiles, plus their aura of impermanence, usually make them unwelcome in good residential areas. And experience has shown that mobile parks tend to hurt municipal tax bases (*see p. 55*).

The modular need have no such problems. It can be as attractive and livable as the best conventional housing—as you'll see on the next six pages.

TO NEXT PAGE



Floor plan shows use of end decks and court to increase openness in the 1,440-sq.-ft. model.

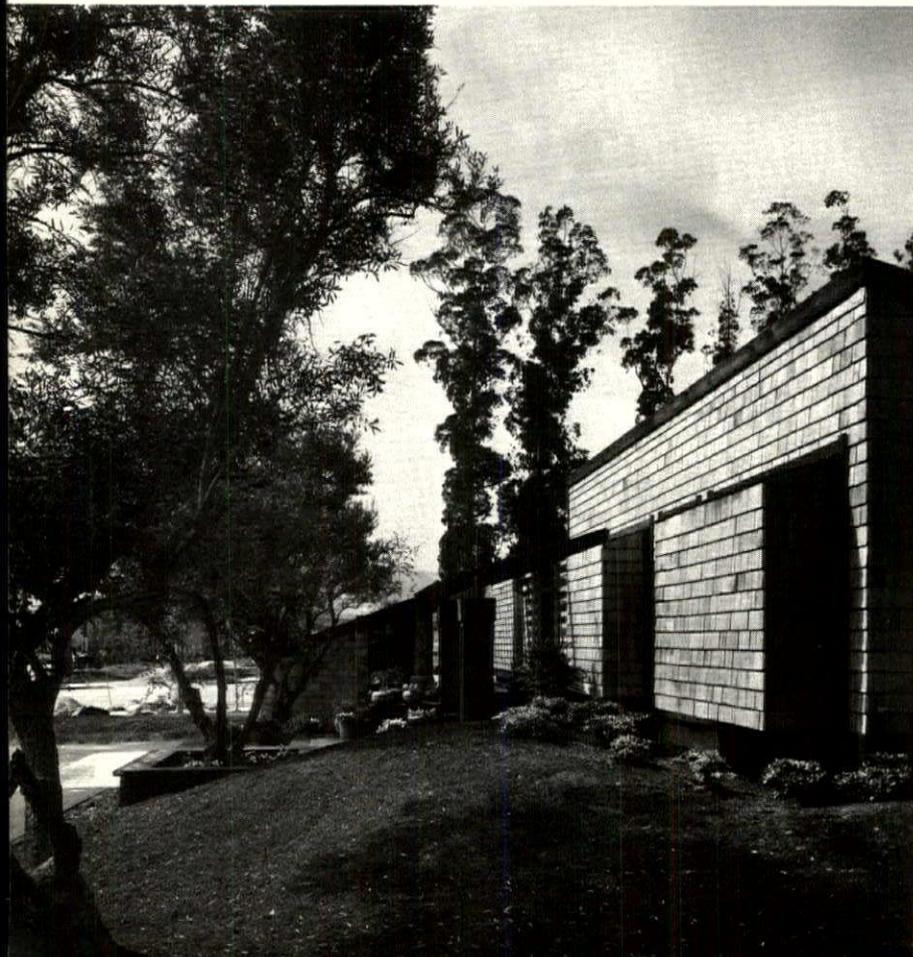


Construction photos show box sitting on temporary foundations of screw jacks (*above*). Running gear is permanent on these models, but on most houses it is removable. Unfinished interior (*below*) shows abutting ridges and posts ready to be bolted together and cased.





PHOTOS: JULIUS SHULMAN



This one-wide modular sells for \$10,500. With 880 sq.ft. of

living area, it is the smallest unit Berkus is currently offering and the one most likely to be bought on the basis of a sales pitch Berkus plans to push at Valencia. The idea: a young couple or a bachelor now living in an apartment and paying, say, \$175 a month, can buy a one-wide modular and live in it for the same amount as or less than the rent. In four or five years, if they want to buy a bigger house somewhere else, the modular can be hauled off (the land at Valencia will be leased) and used as a second home.

The second or recreation-home idea is already catching on in the houses Berkus is now selling. Most are to be beach houses, and some of them permanent homes as well. And a few are being bought as retirement homes. As a result, says Berkus, buyers represent a broad cross section.

Pushout sections (left) create closets (see plan, facing page) which would otherwise violate the 12'-wide over-the-road restrictions.



Living room (*below*) partakes of both the 12' width of the basic box and an 8'-deep push-out section, shown on plan. Result: a 12'x19' room that many bigger conventional houses can't offer. Bedroom/den is visible beyond settee in background.

Kitchen/family room (*right*) is seen here from hallway in front of the den/bedroom. Fireplace alcove is at right. House has two opposing shed roofs, which accounts for the small triangular clerestory window in upper left-hand corner of photo.





PHOTOS: JULIUS SHULMAN



This triple-wide modular sells for \$17,500. It is actually two

basic boxes like the two-wide shown on the preceding page; a bridge section spans the gap between the boxes (*see also cover photo*) and adds enough extra area for a dining room and a family room (*plan right*). Total area of the house: 1,650 sq. ft.

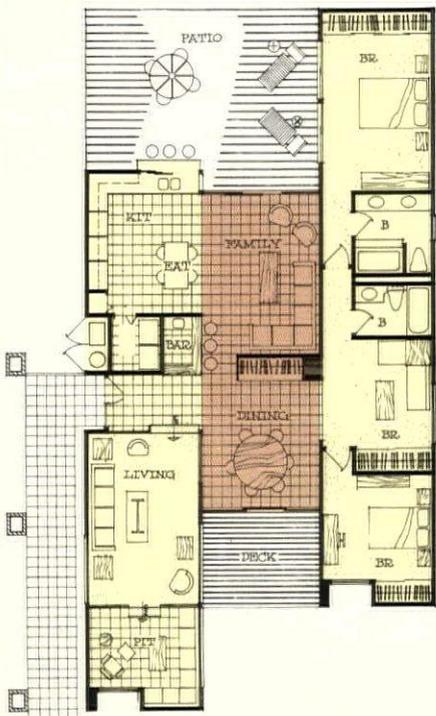
This model is proof of the ease with which the mobile modular can be dismantled, moved, and reassembled. It was the first model Berkus built, and it sat, furnished and decorated (by Darrell Howe of Los Angeles), in the side yard of Berkus' original factory. When the new model site was ready, the house was moved there and ready for showing within four days. Most of the decor was left intact. Later, if new models are needed on the site, this kind of speed will let them be brought in and opened fast enough to avoid losing any weekend traffic.

Side view shows enlarging effect of a row of false extended rafters. The bay window extends beyond the permissible 12' width that can be hauled over the road, so it is pushed out into position at the site.



Living room (right) has raised floor in area next to fireplace at far end. Windows at left look down into dining room. Mirror between windows and ridge adds apparent size to the living room.

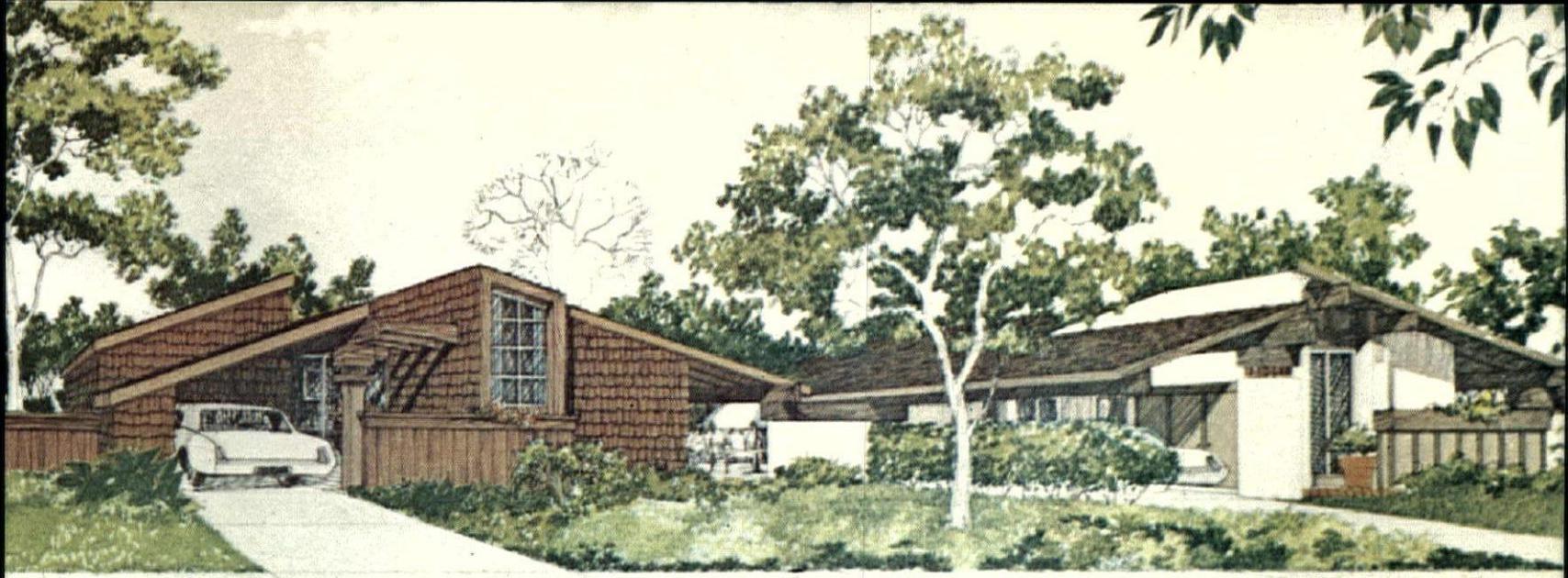
Family room (below) is open on two sides. At right, sliding doors lead to a rear deck; at left, steps lead up to kitchen. Photo and plan vary because layout was changed slightly when house was moved to new site.





Here's a midwestern bet on the future of modular housing — a 525-unit, Berkus-designed project to be built in St.





Louis this fall by The Mayer Company.

The renderings above and below are not quite final. But the site plan at left is just now in process of approval. And if all goes well, construction should start in October.

Mayer's modulars are not mobile, although the company anticipates that later ones will be. But they represent President Al Mayer's firm belief that very soon modulars will be the only sensible way to build.

"On-site construction costs are up 7% to 10% a year," says Mayer. "Right now, factory building won't save us much.

But in a couple of years it should save a lot. We want to be ready."

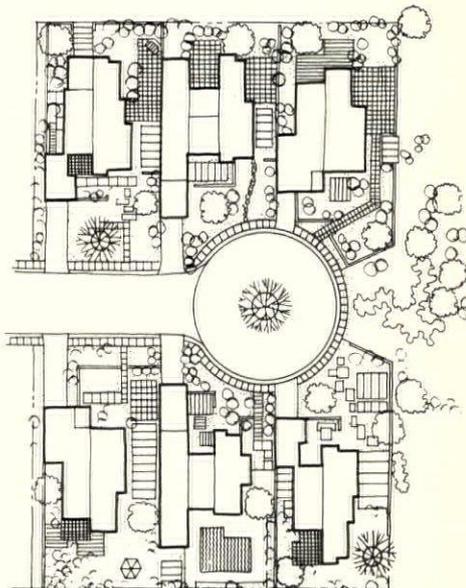
Mayer is just beginning to set up a pilot-plant operation in 10,000 sq. ft. of rented plant area. This shop will produce about one house a day, and will serve to produce models, early units, and to train a production force. Then the company will lease or build about 100,000 sq. ft. of plant for a factory capable of producing 1,500 to 2,000 units a year.

For the immediate future, Mayer expects all his plant pro-

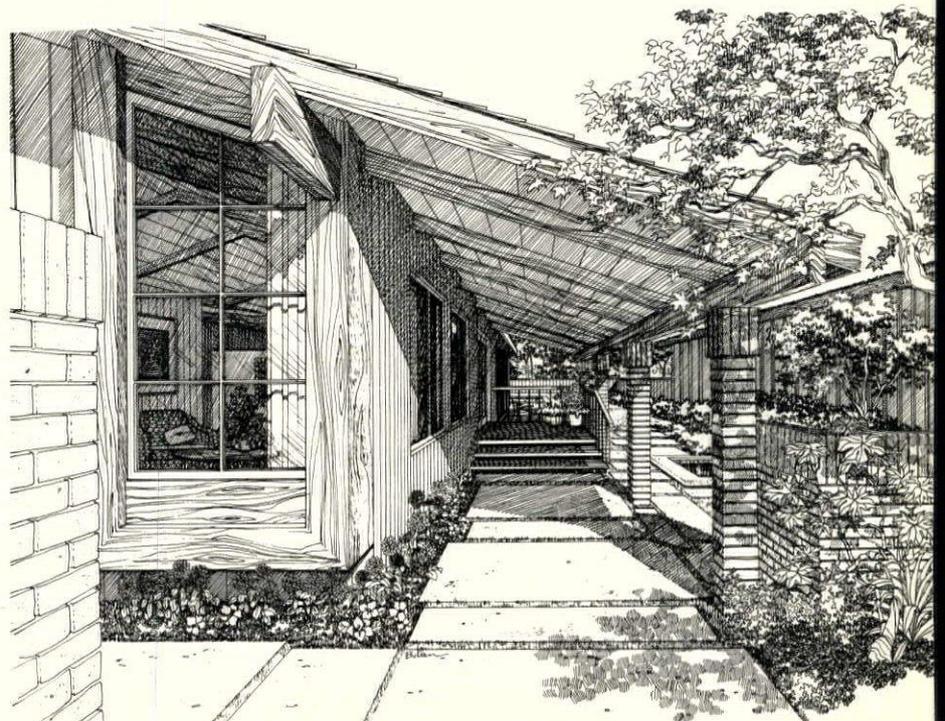
duction to go into his own building programs. "But," he says, "when the difference between conventional and modular costs becomes high enough to include a manufacturer's profit, we may start selling much of our production to other builders."

Mayer's first models will have two to four bedrooms, and cost from \$16,500 to \$22,000.

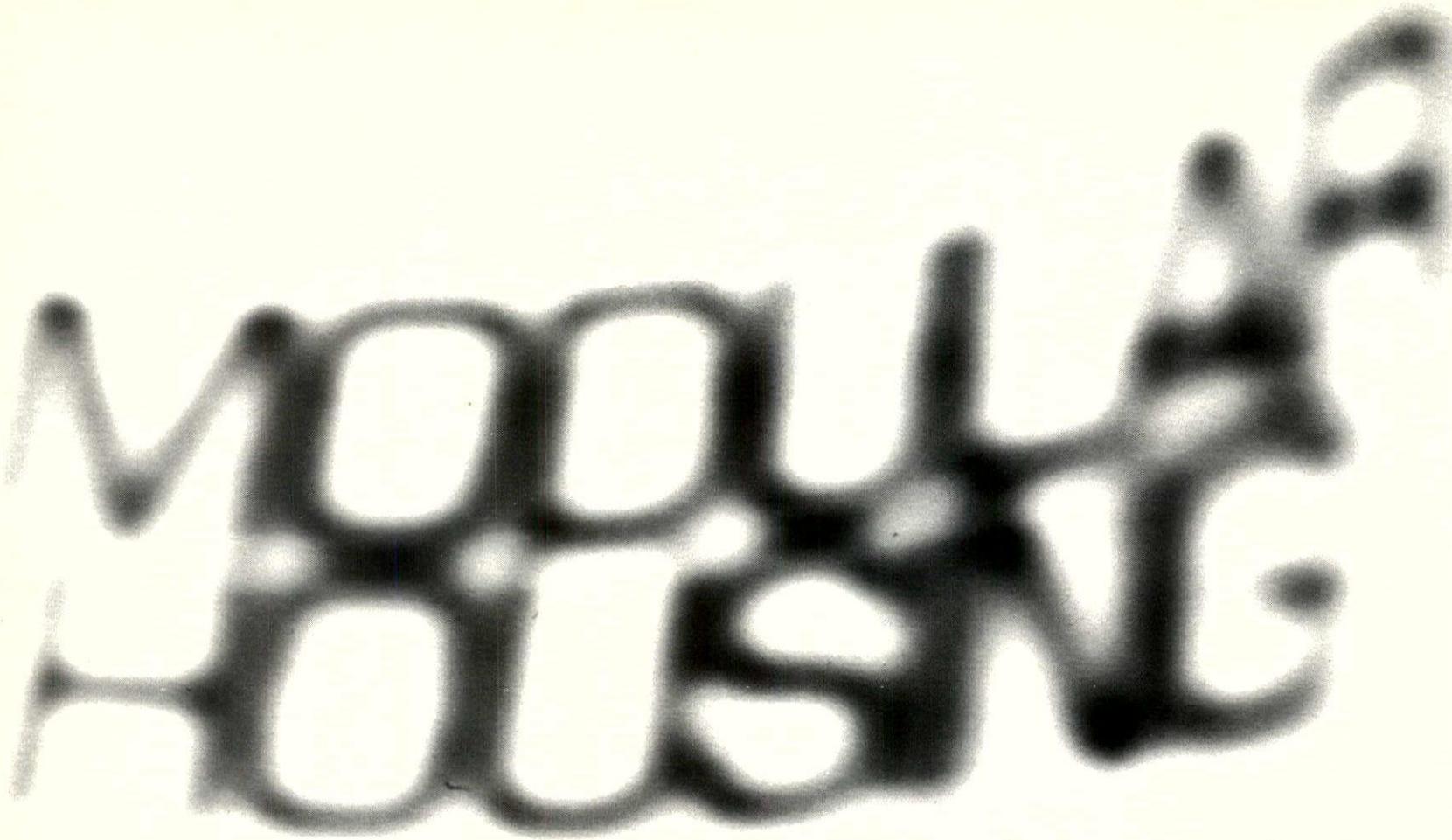
"Eventually," says Mayer, "we hope to go from sale to move-in in a week. What a merchandising tool that will be!"



Typical cluster has six modulars on 50'x110' lots. Entire lots are fenced for maximum outdoor privacy.



Renderings of typical interior (left) and exterior (right) show the "contemporary traditional" style that Mayer expects will sell well in the St. Louis area.



The phantom that parades as an industry

The modular housing industry is five new public companies, a few prefabbers and a dozen mobile home manufacturers—and enough press-agent puffery to stuff last year's total production of 2,000 units.

Another 7,000 sectional houses, built in halves in factories, were also erected on foundations last year. In the strictest sense, the sectional is

not pure modular housing (*see definitions*). But if need be, the press releases required to fill those additional units could be found too.

The nation's largest modular producer, Stirling Homex Corp. of Avon, N.Y., has only one assembly line that doubled its output to all of eight houses a day this year. By comparison, the major mobile home manu-

facturers operate 20 to 30 factories each.

"There is no modular industry," says New Jersey builder Robert Schmertz, who was mistakenly hailed as the nation's fourth largest modular producer in one survey. Schmertz's Leisure Technology (OTC) has never built a modular house.

Shadow and substance. The industry's public relations arm

has scarcely been noted for modesty, but one unusually candid press agent sums up this way, insisting on anonymity:

"A lot of companies say they are in modular housing. And everyone talks about the ease of entering the field. But all we have seen so far is the ease of announcement."

There is more to his statement than meets the eye. Sev-

How to tell a real mod from the mob of mods

Module

Popularly called a building block or stack box. It is a self-contained house section built on an assembly line. Two or more sections joined on a foundation form a modular building.

Modular

A dwelling unit made of one or (usually) more modules built in a factory and erected on a foundation. A modular is often

a two-story townhouse or a garden apartment. It meets building codes and is considered real property.

Sectional

A house built in halves in a factory and erected on a foundation, usually as a one-story, single-family unit. Loosely speaking, a sectional is a type of modular, and it seems likely the term will drop from use.

Mobile Home

A factory-built house that rests on a running gear and is usually treated as a chattel rather than as real estate. Basic units are commonly 12 ft. wide, but two can be joined to form a 24-ft.-wide unit called a double-wide. Chief difference from a modular: the mobile is not built to codes and specifications that would make it legally permanent real property.

Mobile Module

A modular crossed with a mobile home. It is a modular, but it rests on transport wheels rather than on a permanent foundation. (*See story on page 56.*)

Prefab

A dwelling unit built with factory-made panels. Heating and electrical systems are installed on site rather than, as with modules, at the factory.

companies studying the field to open factories and generate meaningful production.

Wall Street appeal. Much of the puffery of the last six months has been aimed straight at Wall Street's new breed of money managers, the gunslingers.

The publicity has worked. The new breed has become convinced that modular housing is a great bet in today's depressed stock market.

Now these managers need only turn up a few companies worthy of investment—from an industry that scarcely exists.

That's no mean task, but the gunslingers are more than equal to it. They invest first and study the companies later. A typical new breeder explains:

"We had a nice chunk of one company, but we sold out after seeing the factory. It wasn't mechanized. But the stock had been climbing all along, so we made money on the deal."

So far only six companies have come public since last October to form the so-called mod squad. And money managers bid the squad to remarkable heights, though all six stocks plummeted in April and May.*

That dip is no big surprise. All high-flying stocks have faltered lately. The question any critical investor should ask is not why the mods have fallen from the heights—but how they

*Another new modular maker, Designaire Modular Home Corp. of New Jersey, goes public this fall. President Joseph Siddron Jr. was Skyline's publicity director.

got up there in the first place.

Playing Ferro. The story of each of the six companies illustrates the gunslingers' enthusiasm for factory housing. Take Florida's Allied General.

The company, formed in 1968, has invested \$6,200 in the study of Ferro cement as a building material, mainly in the construction of marine vessels.

Now, however, management has decided to build sectional houses rather than barges. The company itself had only \$25,926 in cash in February, so it offered shares to the public to finance the sectional operation.

Allied's prospectus is candid about the degree of risk:

"The company . . . will be unable to commence manufacturing modular houses for sale until manufacturing facilities are obtained by utilizing a portion of the proceeds of this [\$704,000] offering. To date, the company . . . has not constructed a home or a model thereof from Ferro cement and, to the company's knowledge, no homes have ever been built of Ferro cement . . .

"The company has not yet commenced commercial production and has had no sales or earnings to date . . .

"The company . . . currently has six employees, four of whom are its officers. None of the company's executive officers or directors had had any prior experience in the building construction field."

(Until 1968 Allied's president ran a company that manufactured plastic milk bottles.)

Allied marketed 260,000 shares at \$2.50 each early in March. Despite its speculative nature, the stock hit a high of \$8.50 and was trading around \$6.50 early in April. Then came the market's big shakeout, and the stock sunk to \$3.25 bid on May 13.

High and low. The other five mod stocks also sold at healthy premiums before the recent slide:

• Modular Housing Systems Inc. of Northumberland, Pa., which will break even in the fiscal year ending August 31 on sales of \$6 million, offered its shares at \$10 each in October. The MHS stock rose to \$41, but it sank to \$14 in April. It rallied briefly to \$22 bid but skidded back to \$12 in the May sell-off.

• Stirling Homex, which earned \$1 million, or 12 cents a share, on sales of \$9.9 million for the six months ended January 31, came public at \$16.50 in February. The stock climbed to \$52.75, and was trading at \$48.75 bid on April 9. By May 14, it was down to \$10.25.

• Modular Dimensions, a California panel maker that is not a true modular company, offered its shares in units at \$12 in February. The shares hit \$16 and were trading at \$8 bid on April 9. The stock fell to \$2 and sold at \$3 on May 13.

• United Research Homes of Hazelton, Pa., which projects heavy losses this fiscal year ending on July 31, offered its shares at \$12.50 in November. The stock went to \$24 but was trad-

eral publicly held companies got such favorable publicity by announcing plans to enter the modular field that, weeks later, they repeated the announcements.

Despite the inflated press releases, modular housing is a potential growth industry. But the boom, if it comes at all, is at least three years away. It will take that long for the scores of

Making a module: does it look familiar?

It should. For, on balance, conventional construction has merely moved indoors. Very little is automated.

Yet the move alone allows tighter cost control, less material waste, higher labor productivity, and lower wages. Factories employ semi-skilled men who get about \$3 an hour rather than skilled construction men who demand \$6 up.

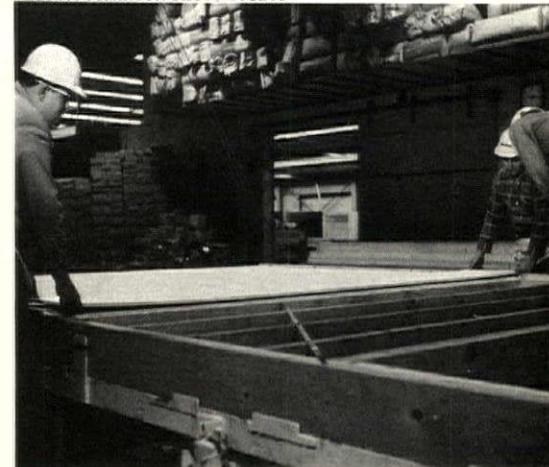
The savings, however, are offset by production lags and the expense of trucking the

modules to a site. At best, factory houses are only 5% cheaper than conventional units. (See page 75 for a detailed cost comparison of mods, prefabs, mobiles and houses.)

This photo sequence of module making is presented in a simplified schematic form. Some ancillary steps have been telescoped—a few eliminated.

The factory shown—which is much like any other—is run by Modular Housing Systems Inc. of Northumberland, Pa.

PHOTOS: SCRANTON PHOTO STUDIO



Ceiling panel is built on a jig . . .

ing at \$6.75 on May 13.

• The Behring Corp., a large Florida tract builder that plans to open a \$4.7 million modular factory this summer, came public at \$16.50 in February. Its stock hit \$26, but was trading at \$8 on May 13.

For the most part, the modular investors have been Wall Street professionals. The public hasn't yet discovered the mods. "When it does," says investment banker Joel Nadel of Nadel & Co., "the stocks will go higher than ever."

Danger sign. A second coming of last winter's runaway prices would present a special danger. Such performance could invite fast-buck operators to create paper corporations that fold months after going public. A businessman and his underwriter could walk away with upwards of \$500,000 raised through an initial public stock offering.

A few collapsible companies could erode the investors' confidence and sink the prices of all modular stocks.

"A lot of phonies like to play the Wall Street game," says Joseph Grasso, MHS's executive vice president. "It happened in the computer industry and it could happen to us."

Tomorrow's industry. Despite this specious mystique created by publicists and nurtured by Wall Street, modular housing has true potential.

Today's expensive on-site building will give way eventually to some type of factory construction. For assembly-line

production of modules, sectionals, or some other shelter form offers homebuilding its only chance to control costs and bring new houses back within a wage earner's purchase range.

Housing Secretary George Romney's \$15 million Operation Breakthrough has just provided a breakthrough of sorts for factory construction. It has focused public attention on the need to liberalize local building codes and trade union rules so as to facilitate the erection of factory units.†

In spite of these efforts by government and industry, the shift to the factory could drag on for 20 years. But that shift has begun, and modular housing, though in its infancy, is at the forefront of tomorrow's technology.

Several housing experts expect modular units to become the most popular factory housing. A few even predict that modular and sectional output will double annually and go from last year's 9,000 houses to nearly 600,000 in 1975.

A difficult field. Only about 40 companies, including most of the 25 described in this article, have thus far gotten

†Only nine of the 22 new building systems to be tested under Breakthrough are actually modular assemblies, however. The builders are Boise Cascade Corp. of Boise, Idaho; Hercules Inc. of Wilmington, Del.; Home Building Corp. of Sedalia, Mo.; Levitt Technology of Lake Success, N.Y.; National Homes of Lafayette, Ind.; Pentom Inc. of Bloomington, Minn.; Scholz Homes of Toledo; Shelley Systems of San Juan, and Stirling Homex Corp. of Avon, N.Y.

serious about modular construction. But there are new converts nearly every week. Housing consultants at Slayter Associates of Elkhart, Ind., estimate that a score of companies are currently investing \$50 million to start modular operations.

The great majority of the companies moving into modules are sizable corporations—industrial giants such as the Westinghouse Corp., big homebuilders, and major mobile home manufacturers.

They will need all their financial muscle and some luck. For it will be difficult merely to enter the field, let alone make a profit. Almost without exception, today's module makers concede that the plunge took longer and cost more than they ever dreamed.

At best, a company starting from scratch needs a year to get a 2,000-unit factory (with 90,000 sq. ft.) into full production. A new factory can cost \$3 million to build, and each house prototype can cost another \$50,000 to perfect.

Delays and dropouts. Last May, tract builder Kenneth Behring said his \$4 million mod factory would open in Fort Lauderdale at the start of 1970. He was right about Fort Lauderdale. But the \$4.7 million factory will not open before July.

Scholz Homes, the big Toledo prefabber, has just abandoned its first modular plant after a six-month trial. The converted mobile home factory, with its 40,000 sq. ft., proved too small, and Scholz is now talking of

building a new plant.

Some mobile home companies, including ConChemCo's Nashua Mobile Homes of Kansas City, have simply dropped out of modules. Other will follow.

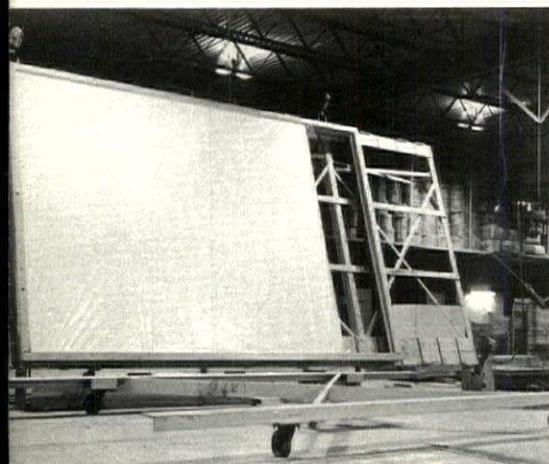
Harold Yanowitch, executive vice president of Stirling Homex, sums up:

"The textbook hasn't been written yet. We are all pioneers."

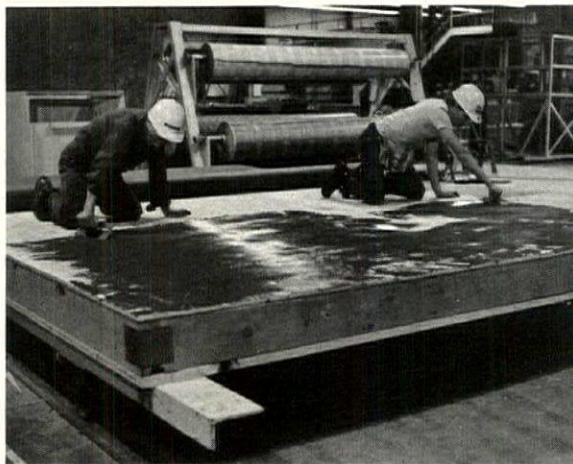
The sales problem. The few companies that have progressed to building units on assembly lines are just now facing the severest challenge—selling units in quantity.

It's a staggering job. Like mobile home companies, the module makers must sell in mass to support assembly lines that can churn out 20 to 40 houses a week. But the module companies' task is complicated by local building codes, a higher risk of transport damage, and the lack of dealer network.

Some executives have stretched their imaginations to the utmost to get their first sales. President John Zaccaro of Modular Dimensions went blindfolded to a meeting of California-based black militants who wanted to keep their meeting site a secret. He sold them no more than the wall panels for one \$15,000 house, but he says the group is now planning 80 houses. Zaccaro has also sold his polyurethane panels for two houses to the Sioux in South Dakota. And he says he is interested in the Navajo and the U.S. Navy.



... then the panel is flipped over ...



... and the floor of the second-story box is added. Workmen apply glue for floor covering ...



... and workman smooths linoleum into place. (Higher-cost units get carpeting.)

But the average sales campaign is far less imaginative. Most companies have concentrated on these four conventional markets: turnkey housing, large builders, smaller builders, and the module industry's own subdivisions.

1.

Turnkey—the hot market

Local housing authorities with pipelines to the government's turnkey financing program are the primary markets in this time of tight credit. But there are serious pitfalls, particularly in the larger cities. Efforts by National Homes of Lafayette, Ind., and Guerdon Industries of Lexington, Ky., to build modular units in Chicago bogged down amid a state investigation of alleged conflicts of interest.

A similar program run by a private agency in Detroit has been delayed for months by a series of gaffes. First, the agency couldn't supply enough lots. Then a module maker called Le Bon Homes, after agreeing to deliver sectional units for \$10,800 each, announced that it could not afford to sell them for less than \$16,000. Another modular company, Prebuilt Homes, was linked to an alleged mafioso.

In frustration, Redman Industries of Dallas finally sold to other customers the modules it had built for Detroit. (The private agency, which is still pushing the Detroit program with some new companies, was

the inspiration for Operation Breakthrough.)

2.

Big builders resist

No one has yet cracked the big-builder market—and for two reasons:

1. Large and efficient home-builders can still build cheaper houses than any assembly line. There are many towns where Stirling Homex's \$16-to-\$19-a-sq.-ft. units would be the most costly houses in sight.

2. The factories cannot yet satisfy a real giant. Joe Grasso of MHS jokes about a Florida developer who was interested in ordering 22,000 units. Says Grasso: "All the modular factories combined couldn't come close to filling that order."

Some observers doubt that the big-builder market will ever materialize. The largest builders—Levitt & Sons, Boise Cascade, Kaufman & Broad, and others—intend to open their own modular factories rather than buy from independents.

3.

Small builders join in

In theory, the small-volume builder would be saved by becoming the modular producer's marketing arm. The inefficient builder, who struggles to finish 20 conventional houses a year, would be freed to acquire local sites, zoning and sales for packages of 200 factory-built units or more.

The theory may prove out. Both United Research Homes and Hercoform, a unit of Wilmington's Hercules, intend to organize networks of local builders. And specialized modular builders are emerging.

John Blackson is such a specialist. He formed Towne Development Co. of New Castle, Pa., when he shifted from planning to developing in 1968. This year, his company will build 400 units.

Blackson remains blissfully unfamiliar with the term tract builder and with most other pigeon-hole descriptions in the traditional builder's everyday lexicon.

"I'm a modular developer," he says, "not a homebuilder. We bid on turnkey jobs, order units from a producer, and prepare the foundations. We don't even erect the houses. We leave that to the producer."

Right now, companies such as Towne are scarce and busy. But some mod producers fear that, in general, builders will prove to be inefficient and unreliable.

"They are sloppy businessmen," says Paul Zimmer, whose Zimmer Homes of Florida produces both mobiles and sectional houses. "Builders aren't used to factory scheduling."

Zimmer swears he learned that the hard way. A builder placed a large sectional order five months ago, then ran into financing problems on the site. Zimmer delayed production for six weeks before finally canceling the order. Now he demands

a \$1,000 deposit and cash on delivery. If a builder falls more than two weeks behind schedule in preparing lots, Zimmer pockets the deposit and cancels the order.

Nashua Mobile Homes, the company that stepped out of modules, laid its departure partly to the builders' inability to finance their subdivisions. Scholz Homes ran into the same problem.

Housing consultant Robert Vahsholtz of Slayter Associates, who advises both builders and modular producers, takes this two-sided approach:

"When I talk to small builders, I urge them to affiliate with modular producers. But when I advise producers, I tell them to stay away from Little Joe the builder."

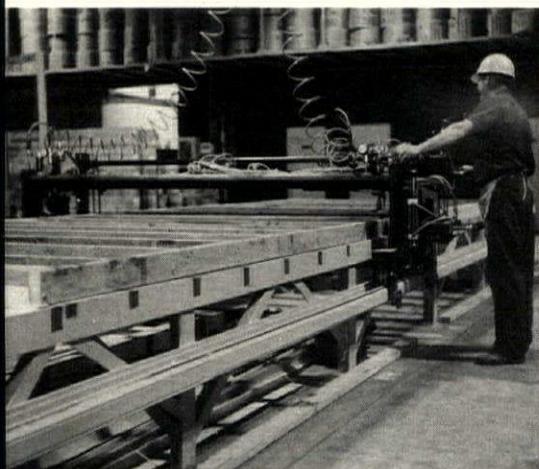
4.

Mods make own market

Chicago's Dick Beitler and several other housing experts believe that the most successful modular producers will build for their own accounts. Builders such as Levitt will consider their own tracts as their primary market. Seattle's McGrath Corp. has already added its first factory houses to the model areas of its conventional subdivisions.

Many other modular companies will build for themselves too, but only occasionally, when outside orders lag.

—FRANK LALLI
TO NEXT PAGE



Wall panel moves under power nailer . . .



. . . and wall, with interior finish added, is attached to floor.



. . . Workmen install prehung door . . .

Mod companies: most dip a toe, but some are already all wet

A note from the author:



How I spent the spring in moduleland...

In a word, frustrated.

In five years with this magazine, I have never written a story about which press agents were so tenacious and the facts so elusive. The survey of modular housing grew from a three-week assignment to a nine-week odyssey.

Other reporters have encountered like problems. A respected financial writer says without equivocation: "The modular article was the toughest I ever did. I spent weeks re-checking facts."

And Wayne Endicott of Automation in Housing reports that overzealous press agents and misleading statistics caused him to credit four companies with thousands of modular houses that they never built. Says Endicott:

"I have a list of 311 companies that claim to be in modular housing. It can't be true. The list must be exaggerated."

I began research in March with a more modest list. After interviewing executives, stock

analysts, and builders, I added several solid companies. But I had to eliminate others.

Some mobile home companies claimed to be producing sectional units, but closer examination revealed that the units were merely double-wide mobiles.

Big companies, claiming to be in the field, had no factories.

Others with assembly lines inflated production statistics by counting modules built rather than housing units. (It usually takes four modules to make a house.) Or they counted the same units twice—once as they left the factory and again as they were erected on site.

Five weeks' investigation turned up only 40 companies with active assembly lines. So I traveled the East Coast in search of the companies I had surely overlooked.

But, after four more weeks and two postponed deadlines, I concluded that I had not missed them.

They didn't exist. —F.L.

Even those at poolside realize that the plunge into the modular field holds peril as well as promise.

So the great majority of corporations that are interested in modules are taking it slow and easy.

Says a typical corporate executive: "Call me an interested observer. I want to learn from the mistakes of others."

Such cautious executives seek to avoid the first big mistake—entering the field ill-prepared. Housing observers agree that a would-be module maker should have at least three prerequisites:

1. Plenty of patient money for research and development of prototypes.
2. Experience in assembly-line manufacturing to produce modules at the right price.
3. A thorough knowledge of local housing markets to facilitate sales.

In general, the pioneers—brand new module makers, major mobile home manufacturers, large homebuilders, and industrial giants—seem well qualified.

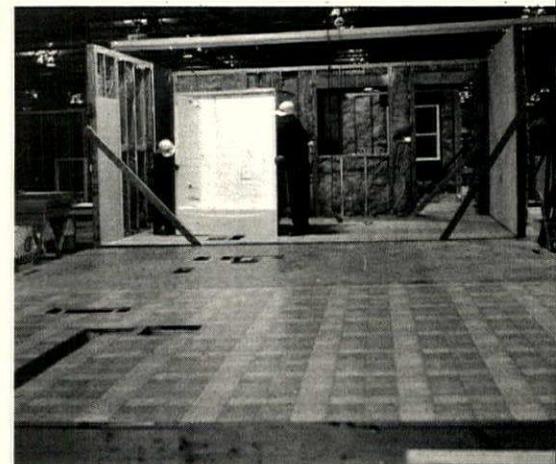
Here's an extensive survey of the pioneering companies and how they are doing.



... and window ...



... then attach a second wall and fit the corner.



Prebuilt tub is first of the mechanical systems installed.

The newest module makers look weak, but they have some hidden muscle

On paper, the few companies that are betting everything on modular housing seem to be the weakest in the field.

These are young companies that lack both the management depth and the financial resources of an industrial giant—or even a major homebuilder.

But, in fact, the pure module makers are years ahead of their competition. Most have been producing units for a year, while the giants have only been studying the field.

And, though the module makers lack unlimited resources, they have had good support from Wall Street. The Street wants to put its money directly into modular housing, rather than into a company from an outside industry that is only branching into modules.

An investment banker says: "It's tough enough to pick the right field. So why should I put my money in a company that is only 5% in modules and 95% in something else?"

Stirling has 1,300 built and orders for \$30 million

When skilled labor ran short in Rochester in 1966, David and Bill Stirling began thinking about factory construction.

The brothers continued to build 300 apartments and townhouses a year while they sought financing. In 1968, with an assist from a banker and mortgage broker named Harper Sib-

ley Jr., the Stirlings raised enough to build a 66,000-sq.-ft. assembly line in nearby Avon.

The brothers started slowly, building showcase projects on their own land. Sibley supplied interim financing and arranged mortgages from Metropolitan Life.

Then came 1969. The company won a 1,500-unit contract



in Akron and was off and running.

To clear the track for full production, Stirling sought a factory-labor agreement with the AFL-CIO's United Brotherhood of Carpenters and Joiners.

The resulting pact became a model for housing factories across the country. It was negotiated by labor mediator Theodore Kheel of New York City, a family friend and Homex director. (Kheel and his designees bought 200,000 shares of SH stock at \$1 per share before the company went public. The stock was worth about \$2.05 million in the mid-May market.)

Stirling has now built 1,300 modular townhouses priced from \$19,000 to \$23,000, and it

claims a \$30 million backlog of orders. A factory tightly guarded by uniformed security men works two shifts to assemble eight units a day. That rate approaches the plant's capacity, and informed sources say the company has discouraged some new business with builders.

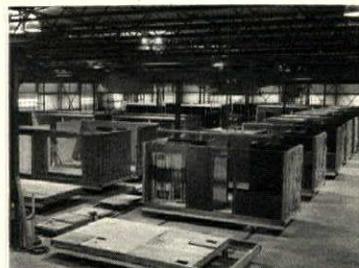
But a spokesman says Stirling is considering two new factories for Ohio and New England. One will turn out concrete modules for two high-rise apartments the company will build for Operation Breakthrough. (In an expansive mood, David Stirling told an Akron reporter last August that he planned to build 11 factories throughout the country by 1972.)

Stirling got \$6.1 million for expansion from its initial stock offering in February. The issue brought in \$19.3 million. But by selling their own shares, insiders, including the Stirlings and Sibley, got \$11.8 million of the total for themselves. Asked about this, Executive Vice President Yanowitch replied:

"The \$6 million was all the company needed. It was financed soundly even before the offering."

The Stirling boys, their father, and board member Sibley still own 59% of the 8.4 million common shares.

The company is expected to earn \$2 million on sales of \$20 million this fiscal year, roughly double its 1969 figures.



Modular Housing Systems bursts out of its garage

Curtis Tomlinson wanted to build 37 units on land he owned in rural Pennsylvania. So he called on Joseph Grasso of Presidential Homes, a prefab company. They started talking.

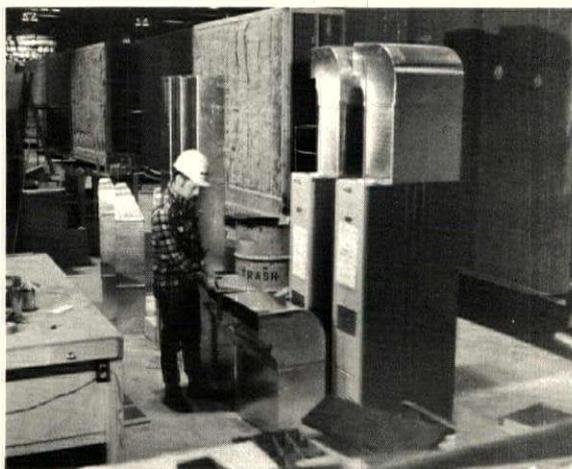
Tomlinson had some ideas about modular housing. As director of corporate development, he had helped Weil-McLain, an Indiana furnace manufacturer, acquire two sectional house companies. Grasso had ideas too.

In January, 1969, the two leased a six-car garage near Northumberland, Pa., and began building modular prototypes. By August they had sold all of two units, but in October they raised \$2.3 million in a public stock offering.

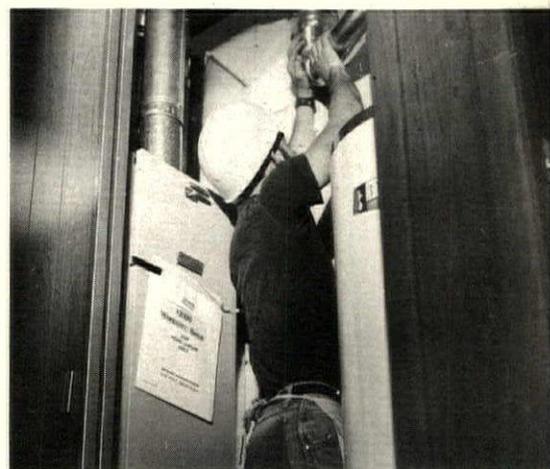
The company, Modular Housing Systems, has sold only 150 modular townhouses so far, and production is a marginal three units a day. But Vice President Grasso says MHS's 90,000-sq.-ft. factory will hit its 10-house-a-day capacity in October. What's more, ground is being broken



Workmen quickly add toilet and sink to complete the bathroom . . .



. . . then install furnace and ducts . . .



. . . and hot water heater. The furnace and heater are placed behind a sliding panel to facilitate on-site inspection.

for a twin factory next door.

Like Stirling Homex, MHS has built only two-story townhouses. But it too plans to branch into garden apartments and high-rise apartments this year.

A full 70% of its production is earmarked for local housing authorities. The rest goes to small builders. Grasso hopes for a 50-50 ratio next year.

A stock analyst estimates that MHS could earn \$2.50 a share on sales of \$25 million in the fiscal year ending August 30, 1971. This year, it will break even on sales of \$6 million.

Modular Homes risks an entry into Detroit

Roger Richards is moving his fledgling company into Detroit's modular program with his eyes wide open.

Richards, who also heads a Detroit savings and loan association, knows that delays and snafus have driven two other modular companies out of the program, at least temporarily. He also knows that the agency running the operation has been notoriously ineffective. To date, the Metropolitan Detroit Citizens Development Authority has spent \$3 million to erect a mere 65 dwelling units.

Nevertheless, Richards has agreed to deliver 67 two-story townhouses to the authority at \$15,000 to \$20,000 each. The company's four-bedroom unit has 1,284 sq. ft.

This will be Modular Homes'

first big sale. The Adrian, Mich., company has produced only 50 units since Richards and four business associates founded it late in 1968.



United Research's boss gets himself boxed in

President Robert Gennaro told *Fortune* magazine that his company would produce 3,600 sectional houses this year and post sales of \$40 million.

That was in February, when his six-month-old company had only a 38,000-sq.-ft. plant with an annual capacity of 364 units.

The former plastics executive then ran into delays in adding plant space. As the \$40 million goal seemed to move beyond his grasp, United Research Homes stock continued to parachute down from cloud nine. In all, it sank from 24 (in December) to \$6, which was \$6.50 below its November offering price.

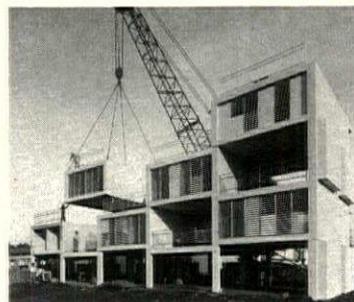
The company seems destined to post heavy losses this fiscal year, ending July 31. As for Gennaro, he has set a new (and rather more modest) goal: 5,000 units by the middle of next year.

Last month, United broke

through its factory log jam. It added three factories, including one in Hazelton, Pa., that it acquired from Redman Industries. In August, the company will add still another plant to bring assembly space to 318,000 sq. ft.

Gennaro says production will reach 520 units a month, or 6,240 a year, by fall.

But the hard figures are still modest. United has sold about 70 sectionals priced from \$9,000 to \$13,000, and it has orders for another 600. Gennaro adds that he is organizing a marketing network of small and medium-size house builders in and around Washington, D.C.



Shelley stacks its boxes into checkerboard houses

Shelley W. Shelley was stumped.

He wanted to abandon a traditional concrete-panel system that he had developed during eight years in Puerto Rico and switch to modular construction. But concrete boxes stacked side to side create uneconomical double walls.

So Shelley got the idea of stacking boxes in a checkerboard design that left space for extra units between boxes.

The idea has just been awarded one patent and others are pending.

Last year, the company created an open-air assembly area near San Juan and began producing 500 units for high-rise apartments sponsored by the Puerto Rico Urban Renewal and Housing Corp. The company is manufacturing four units a day. About 130 have been stacked, but none has yet received final code acceptance. (None of the Puerto Rico units includes heating or air-conditioning systems.)

Shelley's son Dan says Shelley Enterprises will build a closed factory next year to produce another 1,000 units for Puerto Rico. The company also plans a high-rise in Memphis for Operation Breakthrough.

Meanwhile, Dan's father has created a company called Shelley Systems of New York City to license U.S. builders to use his building methods. The first to sign up: H&H Construction Co. of White Plains, N.Y.

U.S. Home & Development Corp. of New Jersey has been trying to acquire both the Systems and Enterprise companies. (A private consultant hired by U.S. Home reports that "the cost advantage of Shelley's system over conventional construction in a representative geographic area such as Miami ... could range from 16 to 27%.")

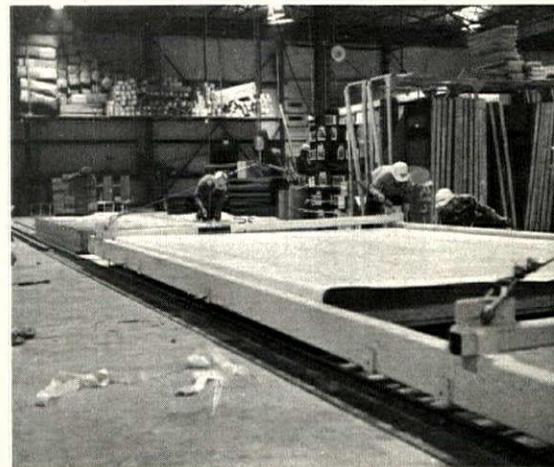
However, Dan Shelley refuses to comment on U.S. Home's takeover offer. And inside sources say U.S. Home will have to adjust its original offer to close the deal.



Electrical wiring is adjusted by workman . . .



. . . and work is immediately checked on assembly line by an insurance company's inspector.



Roof panels are built continuously . . .

To the mobile home makers, the modular highway is still a detour

The mobile home industry is branching into modular housing at a surprisingly slow pace.

Housing observers had predicted that all major mobile makers would convert at least a few factories by now. But such giants as Skyline and Fleetwood have yet to sell a modular house.

Fleetwood, which has 28 factories, has built one modular prototype—to mobile home specifications. Financial Vice President Dave Marriner jests:

"Do you think we can put some glamor back into our stock by talking about what we have accomplished in the modular field?"

Several other companies that claim to be building modules are merely producing double-wide mobiles.

Supporters and critics offer sharply contradicting explanations of the industry's apparent lack of interest.

The supporters say the companies have been too busy building mobiles to experiment.

"Now that sales are slowing," says Dick Mitchell of the Mobile Homes Manufacturers Assn., "we will see more research in the modular field."

But critics insist that many mobile companies realize that they cannot make a profit in modules. A typical skeptic contends: "Most mobile home plant managers don't know the first thing about reading a blueprint or building a quality product."

Marlette Homes adapts mobiles as sectionals

Marlette is one of the mobile companies that produces sectional units that are strikingly similar to double-wides.

Marlette's sectionals have 2x4 framing and rest on foundations. They do not carry FHA approval, however, and they are sold through mobile home dealers rather than through homebuilders. The units cost \$9,000 to \$14,000.

The company, based in Marlette, Mich., has produced sectional models for four years, and sectionals accounted for 15% of the company's 8,000 units in 1969. Executive Vice President Wayne Swett says the ratio will reach 25% this year.

Marlette's is still not experimenting with stack-up units at any of its five factories.

"No market for that yet," says Swett.

Guerdon takes a step in—and another step out

Guerdon Industries was a modular pioneer—the first company to stack modules in an FHA project and one of the first to supply units to a big city (Chicago).

But sources close to the Lexington, Ky., company say it has rarely made a profit on modules. And now Guerdon seems to be making contradictory moves.

The City Investing affiliate has unveiled a new steel-and-concrete system for offices and apartments (NEWS, March). Guerdon claims a \$15 million backlog of orders, primarily for overseas military projects.

But in the last month the company sold one of its major modular factories, in South Hill, Va., to a potential competitor, Universal Leaf Tobacco of Richmond.



National blames modules for sapping its profits

Chairman James Price now acknowledges that National Homes still cannot operate its modular plant at a profit after 18 months of trying.

The prefab and mobile company has had some bitter disappointments. Its Chicago housing program bogged last year, and production for a similar operation in Atlanta has been delayed since October. Now inside sources say National has shelved plans for new modular factories on the East Coast.

The company reported sales

of \$143 million for the year ended Feb. 28, up 49%. Earnings rose only 14%, to \$2.8 million, partly because of \$2.2 million in start-up costs for modulars in National's plant at Lafayette, Ind.

Price still maintains a bold front.

"Our modular business is less than 18 months old," he says. "Indications are that it will become an increasingly important part of National's business."

Zimmer looks hard for the easiest way

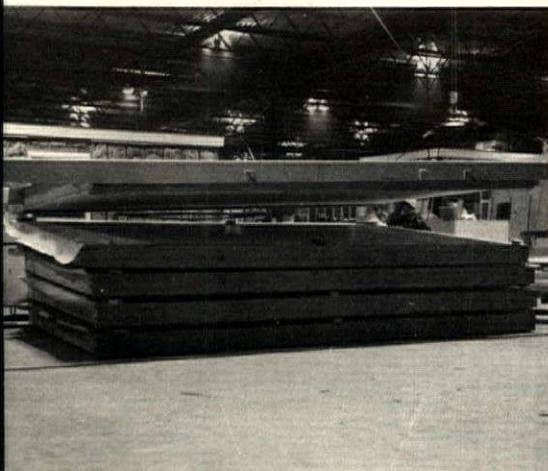
The Florida company is indeed "deep in sectional housing," as President Paul Zimmer puts it. But it is expanding cautiously.

Zimmer Homes' factory at Pompano Beach has a capacity of five units a day, or 1,300 a year. But it produced only 400 sectional units last year and they accounted for only 10% of \$45 million in sales. Current output is eight units a week, or a rate of 416 a year. All are FHA-approved.

Zimmer has scared off some business by demanding heavy deposits, and the company shuns areas that have stiff building codes or active building craft unions. It has also postponed plans to build a factory in Pennsylvania.

"We may go in later this year," says Zimmer, "but I want to be sure I have the right formula working down there."

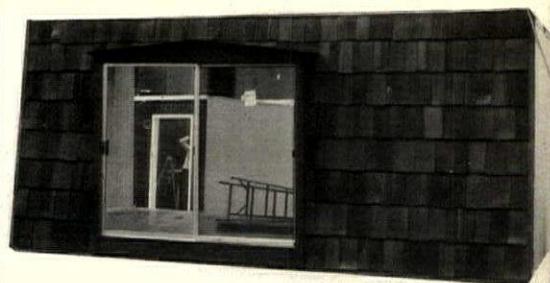
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... and stacked beside assembly line.



... The roofs are then lifted into place by overhead wires as finished boxes move down the line.



The finished module looks like this.

Homebuilders are ready and waiting—but they have more homework

The homebuilding industry seems poised for the eventual swing into modules.

Unlike many mobile home makers, the big homebuilders are making firm plans to operate module factories. Most of the output will go into the builders' own subdivisions, replacing houses now built traditionally. The overflow production will be sold in wholesale lots to networks of small builders.

But the big shift is years away, for stick-by-stick building is still the cheapest way to produce a house in most areas of the country. (For one builder's cost comparisons, see page 75.)

Zachry closes factory while redesigning boxes

H. B. Zachry & Co., the big San Antonio developer-builder, shut its modular operation eight months ago and began modifying its construction system.

The company had stacked up three major projects with concrete boxes in two years—a 100-unit motel, a 22-story Hilton Hotel, and 140 units of low-rise government housing.

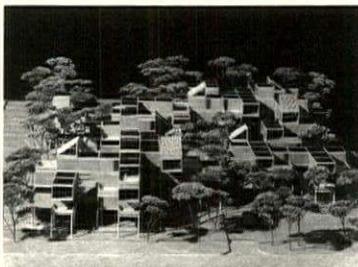
The old system was fine for hotels and proved a spectacular technique for the \$9 million high-rise. But the low-rise was expensive and a reporter adds:

"The buildings are ugly. That's the only word."

Zachry's housing director,

Douglas Tiner, says the redesigned low-rise prototypes will have flexible floor plans. And the buildings will omit the costly double walls of conventional stack-box construction. But beyond that he says little except: "The new system is our secret."

The prototypes will appear in August, and the company hopes to produce 84 units a month by fall, all for its own account.



Penttom system is so new it doesn't even exist

The Minneapolis homebuilder was lured into modularity by Secretary Romney's Operation Breakthrough.

Now the \$20 million company will build a total of 100 modular units in Kalamazoo and Indianapolis for Breakthrough. The system, called UNIMOD, produces at a price of \$12 a sq. ft. before land and financing charges. Other details are vague.

Vice President Robert Engstrom points out:

"Breakthrough has been crit-

icized for failing to produce new designs. But UNIMOD is so new that we don't really have it worked out yet."

Penttom also builds mobile homes for college housing.

McGrath breaks the ice with modules for Alaska

The Seattle company will barge 200 modular townhouses to the University of Alaska in Fairbanks this year.

Vice President David McGrath says his modules are made to withstand the stresses of sea transport and the Alaskan climate.

The wood-frame shapes will be manufactured in a converted hangar, and the cost of \$20 a sq. ft. will fall well below Alaska's rates for traditional construction. The Seattle factory covers 56,000 sq. ft. and can turn out 1,000 units a year. Production starts this month.

McGrath (OTC) has added two other module prototypes to the houses he displays in conventional subdivisions. The company expects to sell 250 modulars this year along with 550 traditional houses.

Alco Universal tries to shift into high gear

The Michigan company has erected only 20 sectional houses in the six months since it opened its East Lansing factory.

Now Vice President Jack Pentecost says the plant, covering 125,000 sq. ft., will produce at the rate of 35 units a week this month. If that pace is maintained, Alco will turn out 840 sectionals in the last half of 1970.

But Alco, a subsidiary of VTR Inc. (Amex), has orders for only 140 units, including 58 for the Detroit housing authority. The company will manufacture the rest of the units for its own account. It will also build 1,500 conventional housing units in Michigan and Florida this year.

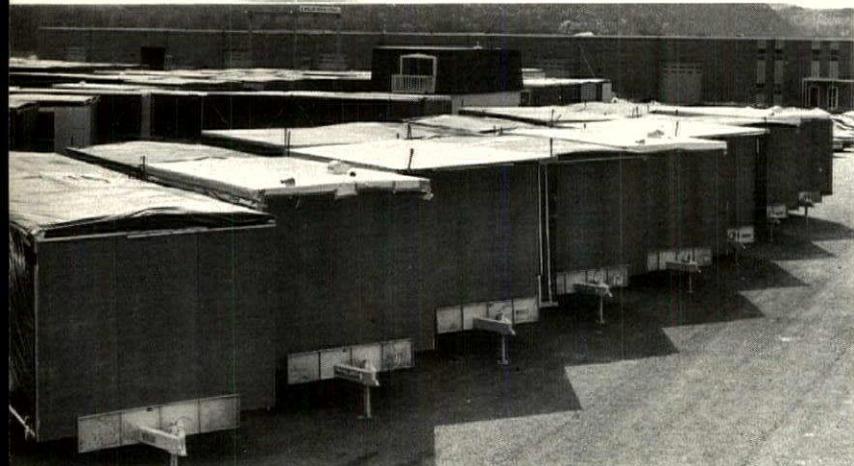
Prestige Structures, the Alco unit that actually manufactures the \$11,000 sectionals, has begun experimenting with vacation and townhouse designs.



Behring prescribes mods for its ailing profits

While this Florida builder's sales have been rising, its profit margins have been shrinking.

The Behring Corp., which sells the Florida retirement market, retailed 426 houses at a gross profit margin of 22% in 1967. But rising labor and material costs have cut that margin in the last two years. The com-



Outside the factory—in shipping area—finished modules are placed on running gear and wrapped with plastic for trucking.



At the site, the modules are stacked to form townhouse units. (six boxes make a unit.) Here crane lifts second-story box . . .

pany sold 1,500 houses in 1969, but its profit margin fell to about 8% despite land sales that accounted for a whopping 60% of gross earnings.

President Ken Behring spotted the downtrend early, and he devised a potential remedy—cost-cutting modular construction. The company began planning a factory in 1968, and it sought a merger partner to provide the \$5 million needed for the shift to modules. ("Which," says one canny housing expert, "is a hell of an investment for the first time out of the box.")

National Gypsum of Buffalo took a long look but pulled out last May, when Behring began talking of 20 multimillion-dollar factories to span the country.

"A plan this big scares a lot of companies," said Behring when the merger collapsed.

(National Gypsum is now reportedly planning 10 modular factories of its own.)

Lone traveler. Behring pushed on alone. It invested about \$800,000 and built five steel-frame prototypes by hand. And in February the company sold \$11.5 million in stock, earmarking \$4.7 million for a factory opening in Fort Lauderdale this summer.

The plant will have 300,000 sq. ft. of work space and a virtually boundless potential, but it may strain the corporate management. A housing expert who has watched Behring's growth warns:

"Until now, they subcon-

tracted everything. That factory's huge payroll will force the executives to face all the problems of a giant employer."

Ken Behring hopes to sell the factory's entire output of \$13,000-\$20,000 units in his Florida retirement communities in 1970. "The modular units will be a better buy than conventional houses," he says.

The company will expand its so-called Modiflex line with garden apartments this year and high-rise apartments in 1971.

Forest City has plans—now it needs a factory

The Cleveland company is six months away from breaking ground for a modular plant.

"We have the blueprints," says Executive Vice President Nathan Shafran, "but not the land."

Forest City Enterprises has operated a component factory since 1942 but has built only six sectional-house prototypes.

The Mayer Co. will build mods for its subdivisions

The big St. Louis homebuilder plans a factory to produce \$15,000-\$22,000 modular houses for sale in a 162-acre subdivision.

The plant and the single-family prototypes are being designed by the California architect Barry Berkus and his new public company, Environmental Systems International, which will erect factories for other

builders and manufacture its own modulars in California.

(For more on the Mayer and Berkus operations, see p. 56.)

Levitt hopes to have six factories by 1980

After two years of study, the newly formed Levitt Housing Systems Corp. has broken ground for its first modular factory in Battle Creek, Mich.

The Levitt & Sons subsidiary's president, Charles Biederman, intends to build five more plants before 1980.

The first factory, which could produce 4,000 units a year on two shifts, will supply \$20,000-\$25,000 townhouses to the Levitt subdivisions in Chicago and Detroit.

"We went into factory housing because there is a shortage of skilled labor that will not ease in the next 10 years," Biederman explains. "Conventional construction won't meet the housing demand. Factory housing offers a way out."

He adds, nonetheless, that Levitt expects no initial cost savings.

Eli Broad stands back to take a better look

The chairman of Kaufman & Broad calls his policy "cautious innovation."

The \$100 million homebuilder acquired a \$17 million mobile home manufacturer, Biltmore Mobile Homes, last October as the nucleus for an

industrialized housing group. But management has not begun to tinker with sectionals or modules.

Says Senior Vice President Sanford Levine at K&B's Los Angeles headquarters:

"We think significant volume of modular houses is at least three years away. So we aren't rushing in. Too many companies have lost money."

Biltmore will experiment with sectionals and modulars late this year.

Jersey builder teams up with a container maker

Says Bob Schmertz, president of New Jersey's Leisure Technology Corp.:

"The container people said, 'Tell us what kind of box to build and we'll do the rest.'"

The container company, Strick Trailer of Langhorne, Pa., was once part of Detroit's Fruehauf Corp., which likewise has big plans for modules.

Schmertz says both he and Strick are investing "husky money" in the UNITECH venture. Yet Strick, a \$102 million company, claims its investment will amount to only \$50,000.

Production seems years away. In the meantime, the companies are doing what so many other companies are doing—cementing relations with Uncle Sam.

"The first thing we did," says Schmertz, "was to hire a Washington representative to work with HUD."

TO NEXT PAGE



... and lowers it into place.



The stacking is repeated on the other side of the building. This is the first story box . . .

Big industry: "We can build modules"—and homebuilders say: "Show us!"

The nation's big corporations have been trying to buy their way into housing for years.

Results have been dismaying for the most part, although the performance of Boise Cascade and International Telephone remain notable exceptions.

It is no surprise that a flock of giants have fresh millions ready for the new modular game. Executives insist its another form of manufacturing.

Most veteran builders remain skeptical. One comment:

"I've forgotten more about housing than those big shots will ever learn."

The anti-cigarette drive swings company to modules

Universal Leaf Tobacco read the anti-smoking publicity and began looking for other business.

The road led to modules.

So the Richmond company hired factory manager Ivan Houenstein away from Guerdon and gave him an interest in a new modular subsidiary, USCO Inc.

In six months the subsidiary has established these factories with a total of 418,000 sq. ft. of work space:

1. A part of a tobacco warehouse in Smithfield, N.C., converted to part-time modular construction. The plant will produce four modules a day from December to August and revert to tobacco storage for the

rest of the year. "This is a pilot project," says Houenstein, "to determine whether we can train tobacco people to supervise modular construction."

2. A second warehouse in Fairmont, N.C., with 100,000 sq. ft. The goal is six modules a day on a year-round schedule.

3. Guerdon's former plant in South Hill, Va., which Universal bought in February. It makes mobile homes and two sectional units a day.

4. A factory in Remington, Va., that can produce five apartment units every two days.

Houenstein claims that his staff, recruited mainly from South Hill, has more practical experience in modules than any other team.

"The other companies," he says, "are only ahead of us in publicity."



Boise Cascade moves in on all factory housing

The lumber giant—which is also the nation's largest shelter producer—wants to build all types of factory housing.

John Frey, who heads the housing division, explains: "We want to be geared up to follow the trends."

The Idaho corporation has just opened its first modular plant in Baltimore. And it plans to convert as many of its 30 existing housing factories as possible to twin use.

The timetable is vague.

"We're converting as fast as we can," Frey says, but so far only four of Boise's 20 mobile home plants are equipped to make modules. None of its prefab factories has been converted.

The converted mobile home plants in Idaho and Utah produced 710 sectional and modular houses last year, but they represented only 1.3% of the 57,332 units Boise built.

The percentage should rise this year. The Baltimore plant, a converted hangar with 100,000 sq. ft., is turning out two units a day for a developer in Hartford, Conn., and production is scheduled to reach five a day.

Scholz puts a padlock on first modular plant

Inland Steel's Scholz Homes subsidiary is months behind schedule.*

The Toledo prefabber has abandoned its first modular plant and its original plan to sell sectional houses to home-

*Inland paid \$85.8 million in cash and stock for Scholz in February.



builders.

"An assembly line needs mass orders," says President Donald Scholz. "But savings and loan associations are financing only 10 houses at a time. So we have shelved the single-family houses for now."

But Scholz Homes is building modular apartments in Toledo. It has a joint venture with the Stiles Hatton Co., which is supplying 176 stack-up boxes from its Grand Rapids factory. Those units are conventionally financed, but Scholz is trying to arrange FHA financing for another 2,500.



Explosives maker enters the mod field with a bang

Hercules has just acquired the original modular builder—Mod-



... and here is the second-story.



Modular townhouses have a look similar to stick-by-stick units when they are finished.

ular Structures Inc. of Bethesda, Md.

Modular's Alan Glen started talking about modules five years ago, when he was building conventional houses in college towns. "Our subcontractors caused us to miss the back-to-school season," he says, "and I started wondering whether there was a better way to build."

Architect Paul Rudolph suggested modules, a concept he had encountered in the early 1950s.

So Glen spent two years trying to convince a succession of eight mobile home companies to manufacture the boxes. Finally, in 1967, he broke ground for a project in Amherst, Mass. The 312 units come from the Guerdon factory in South Hill, Va. (H&H, April '68).

Glen's company has now erected some 500 modular units supplied by five different mobile home companies. It will put up 636 units in three East Coast towns this year.

The Hercules entry. Hercules Inc., of Wilmington, Del., will create a three-pronged modular subsidiary, Hercoform Inc., with Glen's company as the marketing arm. The initial Hercules investment: \$10 million.

Glen's expanded 20-man staff will arrange joint ventures with builders and realtors from Maine to Washington, D.C. "We need the man's land and local know-how," Glen says. "And we are offering him a new and bigger role."

A second Hercoform division

will supervise on-site assembly and a third will turn out the modules in Scranton, Pa.

"We will build the factory from scratch," says Glen, who hastens to add that he discouraged Hercules from buying a mobile home plant for conversion.

Hercoform is headed by a veteran Hercules executive, John Present.



Fruehauf: little house but a great big dream

The trailer maker has built exactly one modular house. But it says blithely that it will sell half a billion dollars' worth of modules a year by 1975.

That would make Fruehauf's modular business equal to current trailer and container volume—1969 profits of \$26.3 million on sales of \$536.8 million.

The company, which has a pilot plant for research and development, is breaking ground next month for a 20-unit-a-day plant near its Detroit headquarters. Production starts next spring.

Fruehauf's public relations director, Jack Olson, says three

Detroit builders have committed to buy the company's steel-frame townhouses. All will have air-conditioning and clothes washers and dryers. The price: a low \$12,000 each.

"We won't have to push for sales for at least two years," Olson claims.

Chrysler hints at a plan to buy up the mod makers

After months of official silence, an executive has apparently disclosed just how the auto maker plans to enter the modular business.

At a recent home manufacturers' meeting, a man who identified himself as Donald Henderson told the owner of a modular company that Chrysler was indeed ready to move in.

The owner asked:

"How?"

"By buying companies like your own," the executive replied.

Chrysler's corporate directory shows Donald A. Henderson as a former corporation construction supervisor. He is now an assistant to the vice president in charge of diversification.

—F.L.

How box costs stack up against stick building

One big builder reports that in southern California, at least, modular building is less expensive than on-site construction. The report comes from U.S. Financial Corp. which compared the costs of building of

an identical 1,290-sq.-ft. house with four different methods. U.S. Financial builds units with each of the methods analyzed. So though the costs are largely estimates, they seem reasonably accurate.

| | MODULAR HOUSE | PREFAB HOUSE | CONVENTIONAL HOUSE | MOBILE HOME |
|-----------------------------------|-------------------------|-------------------------|-------------------------|--------------------------------|
| Construction cost | \$ 9,670 (\$7.50/sf) | \$10,900 (\$8.50/sf) | \$12,270 (\$9.50/sf) | \$ 8,490 (\$6.32/sf) |
| On-site costs ¹ | \$ 1,880 (\$1.45/sf) | — | — | \$ 1,080 (skirt & awning) |
| Delivery | \$ 350 | — | — | } \$ 500 |
| Set up | \$ 300 | — | — | |
| Sales expenses ² | \$ 1,000 | \$ 1,000 | \$ 1,000 | \$ 600 (taxes) |
| Construction finance ³ | \$ 900 (lot only) | \$ 900 (lot only) | \$ 1,730 | \$ 230 (license first year) |
| Lot (6,000 sf) | \$ 6,000 | \$ 6,000 | \$ 6,000 | — |
| Builder's overhead | \$ 750 | \$ 800 | \$ 1,000 | — |
| Builder's profit | \$ 2,000 | \$ 2,000 | \$ 2,000 | \$ 2,000 |
| SUB-TOTAL | \$22,850 | \$21,600 | \$24,000 | |
| FHA discount (6 pts) | \$ 1,400 | \$ 1,350 | \$ 1,500 | — |
| SALE PRICE | \$24,250 | \$22,950 | \$25,500 | \$12,900 |
| Cost per square foot | \$ 18.80 | \$ 17.79 | \$ 19.77 | \$ 9.60 |

¹On-site includes: utility laterals, driveways and walks, concrete block foundation, screwjacks, and garage slab.

²Sales includes: commission, escrow, advertising, and models expenses.

³Finance includes: interim loan fee, interest using one year to complete sales, and FHA processing fee.

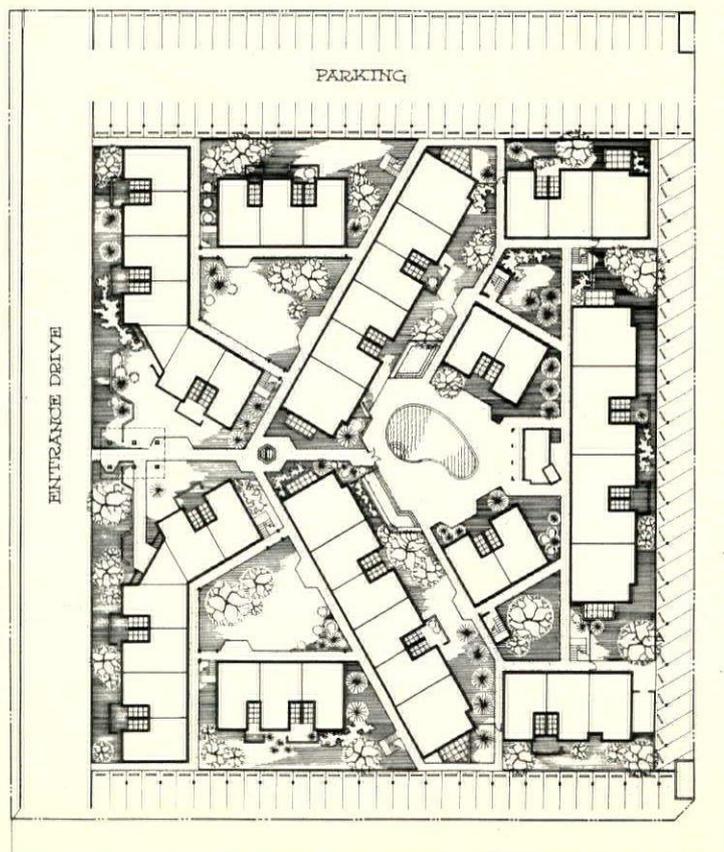


How to put life into flat apartment sites

Nature doesn't always cooperate with the apartment builder. At a time when environment is both a prime merchandising idea and a national cause, he more often than not finds himself faced with a treeless piece of land that has all the environmental excitement of a billiard table. So he must create his own environment, and the four apartment projects on the pages that follow show how this can be done. There are many aspects to the solutions: landscaping is of primary importance, and so is siting. But perhaps the most interesting—and promising—aspect is the way the masses and planes of the buildings themselves have been used to give the projects the drama that nature forgot.



PHOTOS: MARKOW PHOTOGRAPHY, INC.





Angled siting of interior buildings creates an intimate garden-like environment on a flat, rectangular site

And it's this environment, the architect and builder report, that accounts for much of the project's success. Since their opening, the apartments, in Phoenix, have been 99% occupied even though their rentals (\$175 to \$225) are 20% above the local market as well as 20% higher than budgeted.

This is a high-density project—100 units on about three acres. But by angling the buildings, the architect (Barrie H. Groen & Assoc.) and the builder/owner (Stillwell, Foster & Hall Inc.) produced a series of differently shaped garden courts with changing vistas and relieved what could have been a monotonous, straightline look.

Simple local materials were used—cement-washed concrete block, rough-sawn wood, and mission tile. The structural system—solid masonry party walls and post-tensioned concrete floors—was designed for noise reduction and fire resistance.

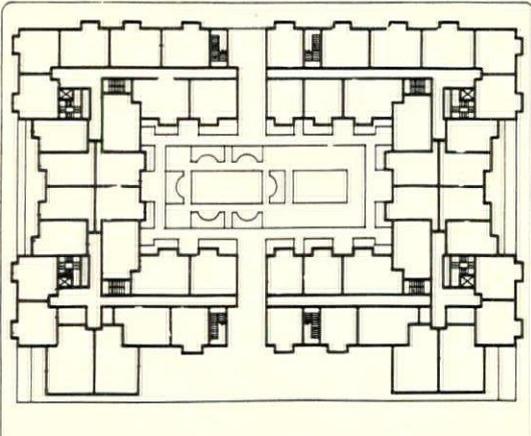
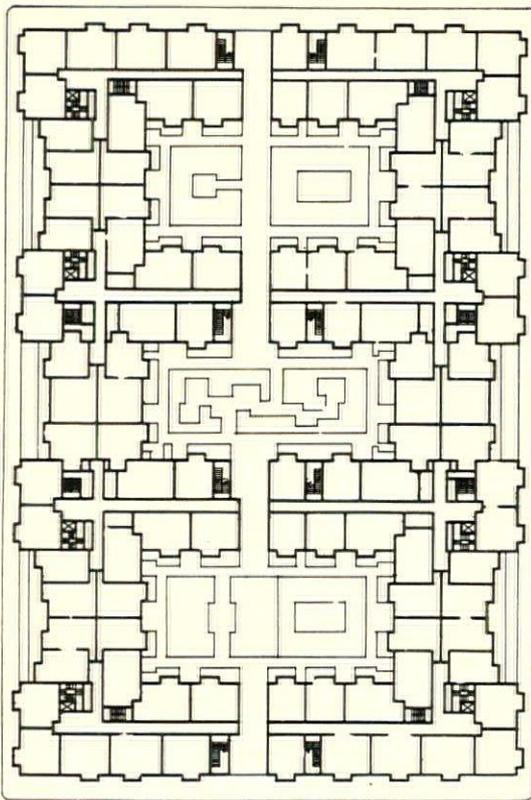
Exterior elevation shows Spanish mood of Phoenix, Ariz., project. Buildings are constructed of cement-washed concrete block and tile roofs. Two palm trees, far left, flank entrance which is through pergola (photo, right). Walk leads to interior court.



Typical two-bedroom unit (above) has two full baths. Units rent for \$175 to \$225.



Swimming pool is central focus of main courtyard. Tower at rear holds elevator for units in three-story building.



PHOTOS: ROBERT BRANDEIS

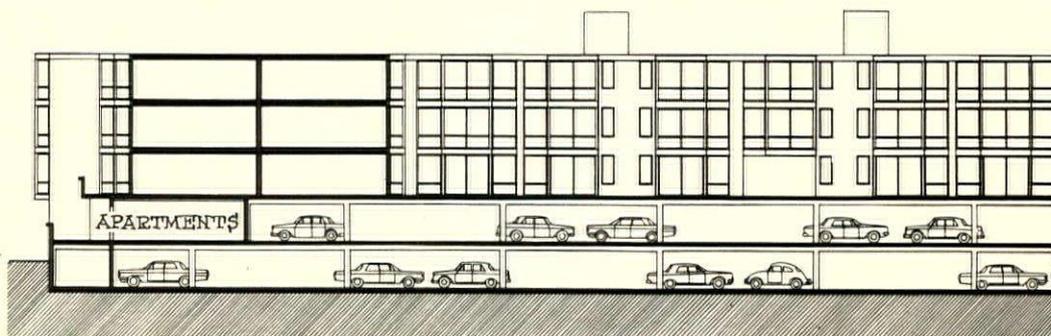
Hollow rectangles fit into
an urban block pattern
while letting tenants escape
from urban hustle and bustle

So your site's ideal—near the center of town and next door to shops, restaurants, and all the other conveniences apartment renters want.

Fine.

But how do you provide the secluded outdoor areas that renters also want? The answer at this San Francisco project was to orient the apartments around four large interior courtyards—all landscaped, three with swimming pools (photo, far right).

The three-story, 514-unit project—250 one-bedroom apartments and 264 studios—occupies one city block and part of another. Beneath it are two-level parking garages (section, right) with elevators to the three apartment floors. Rentals range from \$176 to \$328, and facilities include a health club. Architect: Wurster, Bernardi & Emmons. Builder: Williams & Burrows. Owners: Gerson Bakar, B&D Properties.

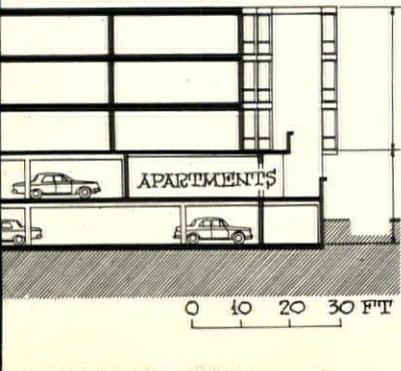


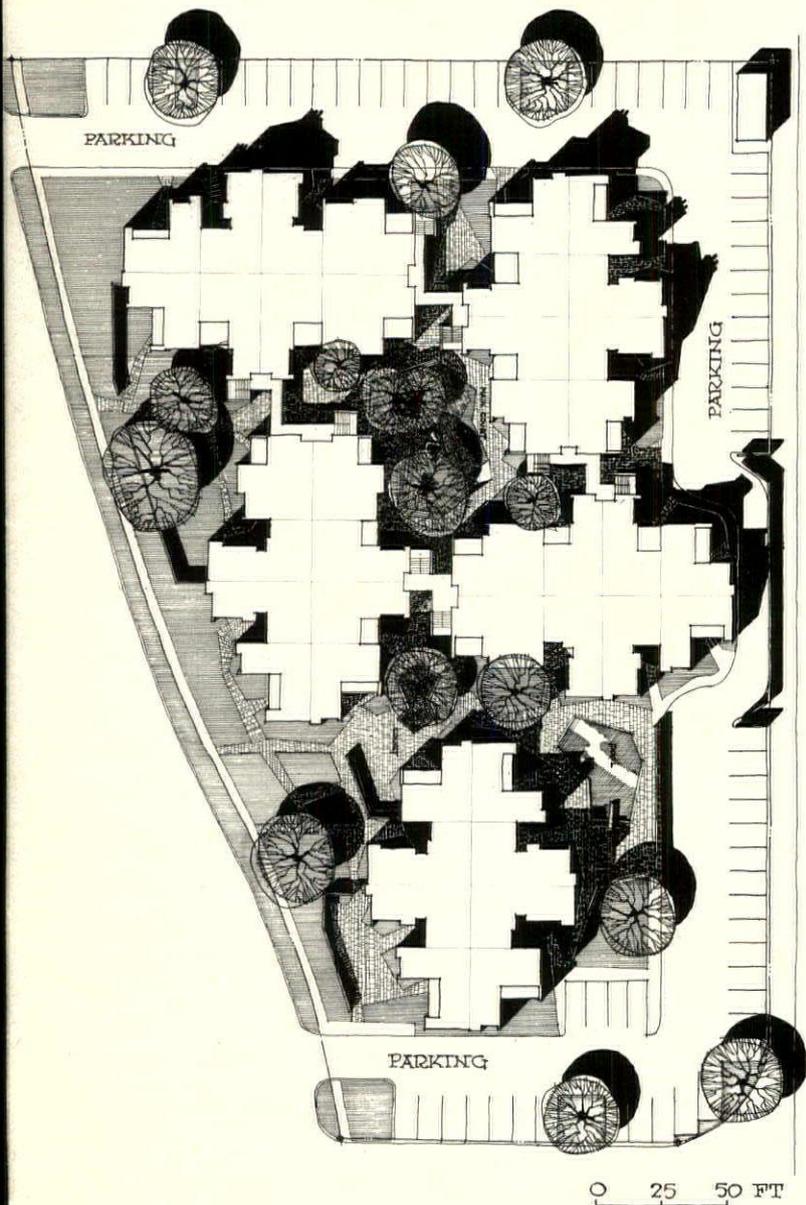


Street facade is irregular, allows maximum views without slab-like appearance. Private patios are behind fences on first residential level.

Interior courtyard (right) is in center of each building (see land plan, facing page). Trees, water, and bridges provide peaceful oasis for inner-city dwellers.

Floor plans (left) show typical units. Section (below) shows all five levels.





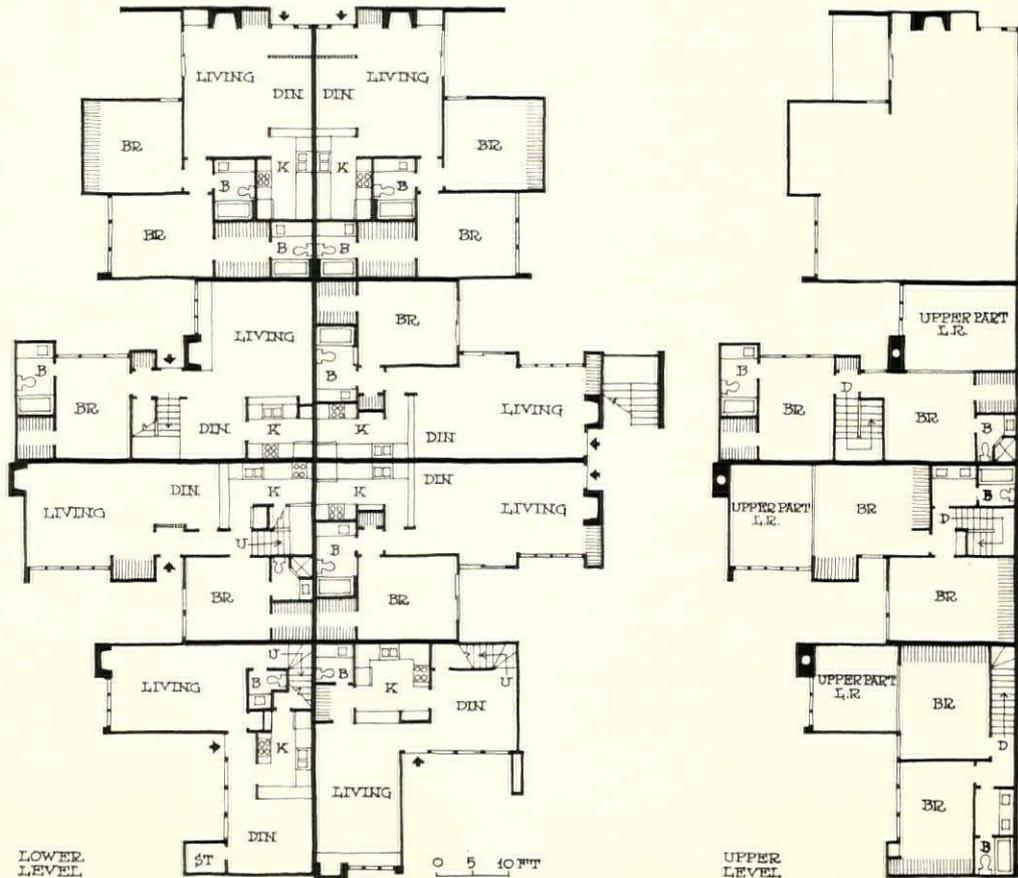
PHOTOS: WALTER de LIMA MEYERS

**Varied building shapes
with strong vertical lines
add character
to a ho-hum apartment site**

Maybe you can get by with run-of-the-market design on rolling, wooded land. But on a site like the one above—flat and treeless until it was developed—it's up to the architect to create the drama that attracts renters. And that's exactly what Craycroft-Lacy & Assoc. did here.

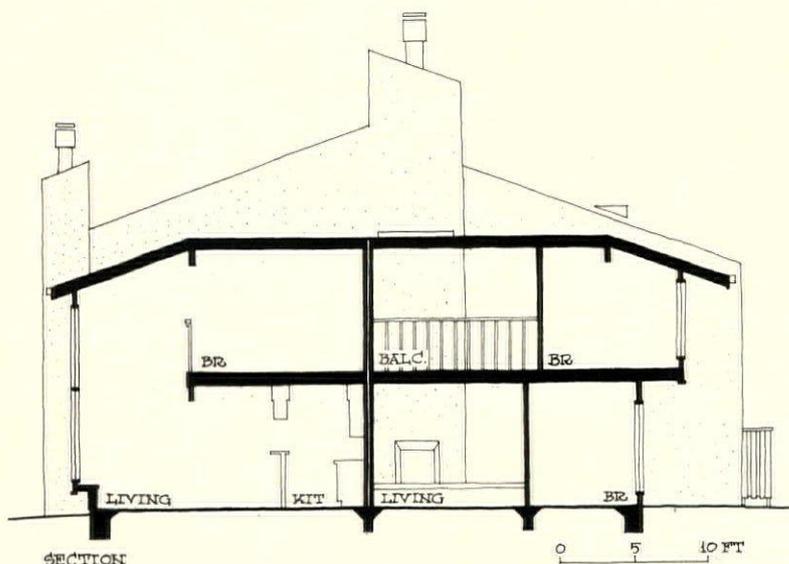
What sets this project apart from others is its architecture: striking vertical elements and constantly changing roof lines (*large photo*) that add visual interest and also define individual apartment units.

The 52-unit project was built on 2½ acres in a rapidly developing suburban area. It offers a wide variety of apartments (*plans, right*)—both one- and two-story units and from one to three bedrooms. Rentals are from \$160 to \$280. Builder: R.S.F. Development. Owner: Robert S. Folsom.





Street view of buildings is highlighted by massive vertical elements, many are functional, containing the chimneys for fireplaces that all units have. Strong elements add visual drama to what was an ordinary site.

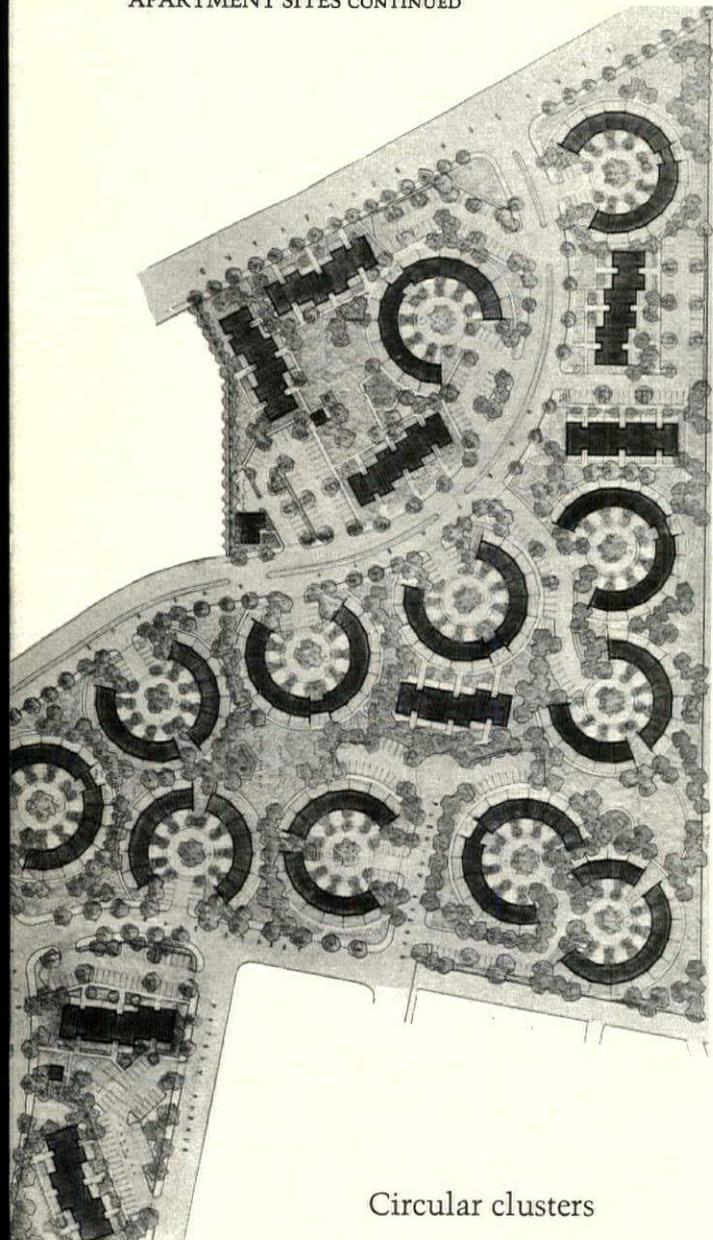


SECTION

Floor plans (left) show the six different units, ranging from one to three bedrooms. Section (above) shows two-story living room with balcony.

Interior courtyard (right) is formed by four buildings connected by bridges (see land plan on facing page).





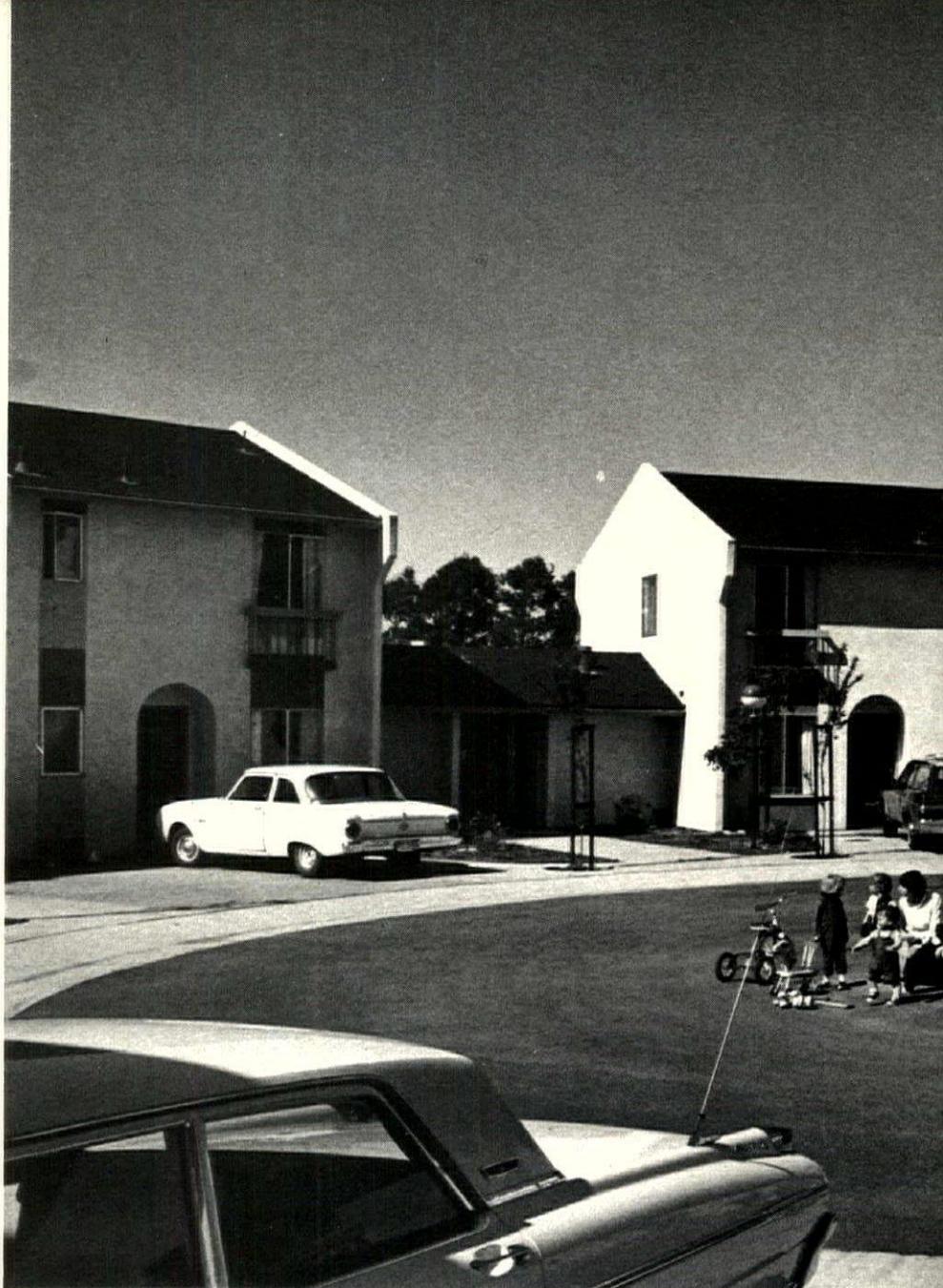
Circular clusters give this 221d3 housing a more distinctive look than you find in most luxury projects

Located on urban renewal land in Richmond, Calif., the project is composed of 12 crescent-shaped clusters of 14 townhouses each, plus eight groups of conventional townhouses. And because the density is only 15½ per acre, architects Hardison and Komatsu were able to provide plenty of open space.

The cluster units, designed for large families, include either three or four bedrooms, 1½ baths, and separate breakfast and dining areas (plans, right). Rents are from \$115 to \$175 (including utilities).

The conventional buildings have three floors. One-story units are on the ground level; two-story units, with bedrooms on the top floor, are above. The idea: to appeal to couples and small families who like one-level living, as well as larger families who normally prefer two levels.

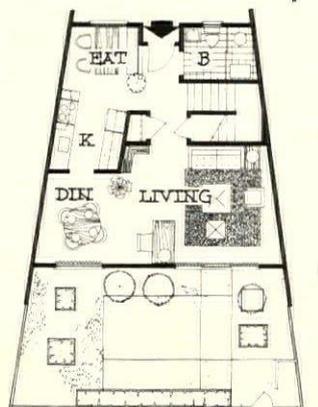
Builder: Barrett Construction Co. Owner: Kate Maremont Foundation



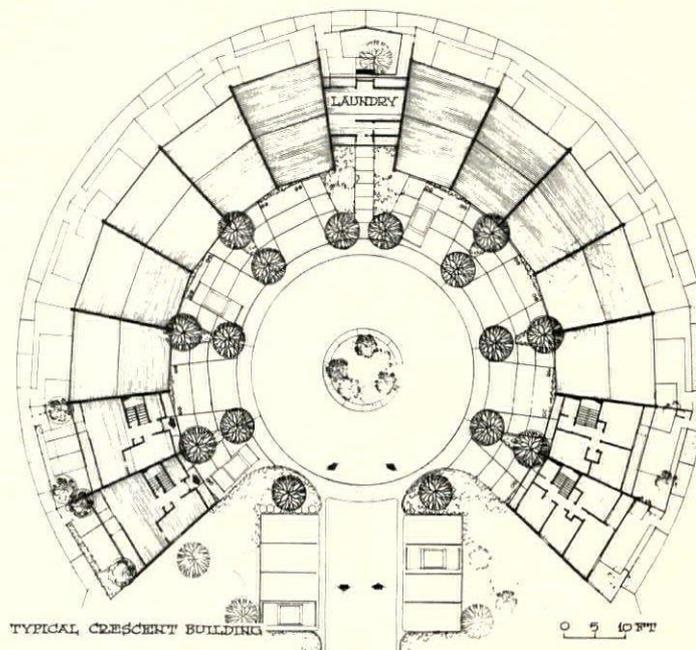
PHOTOS: MORLEY BAER



UPPER LEVEL



LOWER LEVEL



TYPICAL CRESCENT BUILDING

Cluster plan (above) shows arrangement of units within crescent. Floor plans (left) are for typical three-bedroom unit. Four-bedroom model is also available.



Circular cluster (above) offers close-in parking near front entrance. Alternate style (photo, right) in other clusters has redwood exterior instead of stucco.

Offset townhouses (below) have three floors. One unit is on lower level, with another on the upper two levels. All have balconies or patios.



Profitwise, most builders consider low-income housing a death trap—especially when it's built under government subsidy. But in rural Alabama, builder Jay Bragg has found this market to be both big and profitable. His message: **You can make money in**

Low-income rural housing

Dothan, Ala., is better known as the peanut capital of the world than as a hot housing market, and FHA subsidy programs are better known as bureaucratic profit killers than as paths to big business. Yet between the two, Builders Homes is currently producing housing at the rate of 750 units—and over \$12 million—a year. Both figures are growing steadily, and the company's future looks so bright that Wm. Lyon Development Co., a subsidiary of American Standard, recently acquired Builders Homes in a multimillion dollar deal.

Not surprisingly, behind this success story is a man who understands both the potential of the low-income rural market and the need for top-drawer management to realize that potential. Jay B. Bragg is a 42-year-old former automobile dealer who began selling houses in and around Dothan eight years ago. He first built under FHA 203i (rural housing), and by 1968 had built up a modestly successful business. He next moved into FHA 235 (subsidized mortgage interest) and started the climb to his present volume. Looking to the future, Bragg plans a modular-housing factory operation that could produce up to 20 houses a day. And he anticipates that his present three-state operation (Alabama, Georgia, and Florida) will soon spread to six other states.

Most important, Bragg's company is turning a profit that any builder in any market and any price range would consider respectable.

The profit in low-income housing starts with a large sales volume



Weekly meeting is held by Jay Bragg, right, to review performance of all departments.

"Percentagewise," says Norman Williams, general manager of Builders Homes, "our profit margin is as high as a builder could expect on middle-income housing. But in terms of dollars, there's little room for error. And with the delays which are common to all government programs, we'd have a real problem if we didn't have substantial volume."

Fortunately, the market for low-income housing is virtually unlimited. The statistics have been recited to the point of boredom, but the fact remains: production of low-income houses has for years lagged behind demand, and the recent tight money situation has increased the gap. When the Department of Housing and Urban Development proposed Section 235, it predicted the program would be responsible for 825,000 new-home starts over a 10-year period. There's no sign this figure will be

reached on a national scale. But locally, Builders Homes has found 235 capable of producing the kind of high-volume sales program that hasn't been seen since the boom of the 1950s.

A family earning \$60 a week can qualify as a buyer

Under Section 235, Builders Homes can sell a house for \$200 down and \$60 a month to prospects whose income is near the poverty line.

"Our typical buyer," says Tom Leonard, Builders Homes' top salesman, "felt like he'd never own a home."

Indeed, most of Builders Homes' customers are first-time buyers who have lived in a succession of rented, run-down farm houses. They're looking for shelter—basic, standard housing—which can be purchased

with almost no money down and easy terms.

Relying on radio and television advertising, Builders Homes gets across the message that buying one of its houses is easier on the budget than buying a new car.

The minimum down payment required under Section 235 is \$200. But because of the time required to get a firm commitment from FHA, Builders Homes accepts \$50 with the buyer's application and the balance when the commitment is received.

Sales manager George Bryan is the company's television personality, and he may be the best-known man within 50 miles of Dothan. He delivers Builders Homes commercials on a local station's farm report. His delivery is folksy and friendly—decidedly soft-sell. In fact, Bryan has become so well known that Bragg is now wondering whether listeners remember he's selling houses.

But the effectiveness of the broadcast advertising is difficult to deny. From the mayor to the local gas station attendant, the people of Dothan know that for \$50 they can buy a house from Builders Homes.

As a result, Builders Homes is accepting applications at the rate of 100 a month, even though the company's selling tools would probably drive a merchandising consultant up the wall. There are no models, no display rooms—not even a plush reception area for waiting prospects. Sales are made from Builders Homes' offices, located on Montgomery Highway. And if it were not for the sign outside identifying the company, the building could be mistaken for, say, a branch office of an insurance company.

But once a prospect walks through the front door, the chances are he won't walk out before he's bought a house.

A prospect must be sold on the first visit

"You have to get a prime prospect on the first shot, says Bryan. "Less than 10% come back."

So the sales organization is structured to make the sale on the first visit. Until this year, Builders Homes used nine salesmen. Now there are only three (the company calls them sales counsellors). The other six were made sales coordinators.

"A salesman is a salesman—not a detail man," says Bryan. "Having sales coordinators to handle the details frees the sales counsellors to sell. This arrangement also puts our top salesmen in touch with more prospects.

"Some men close 20% of the people they talk to, others close 60%. Now only the 60% men get a shot at the prospects."

The typical prospect has seen Bryan on television and decided to drive with his wife to the Builders Homes office. He probably now rents a farm house, and he may own a lot somewhere in the country-

side. Hopefully, he earns between \$60 and \$150 a week and is not heavily loaded with time payments.

"He's rural," says salesman Leonard. "He and his wife might have moved into town, but they still think rural."

When the couple enters the office, they are given a form and a Builders Homes pen with which to fill it out, and then they're made to wait in the lobby for five or ten minutes.

"We want to let them get settled," says Bryan.

Some buyers are skeptical, and the skepticism apparently stems from two factors.

First, the deal seems too good to be true to a man who assumed long ago he was too poor to own a home. The deal is also too good not to look into, but the man is inclined to search for the catch, the gimmick which will place this house, too, beyond his reach.

Second, Builders Homes sells to Negroes in rural Alabama. When Bragg was building under Section 203i, about 40% of his buyers were blacks. Today, only 25% of the company's buyers are black, but the number of black buyers has increased. There are people in Dothan who believe that Builders Homes sell only to blacks.

Bryan denies that this has created sales resistance among white prospects. But one white buyer related how a friend tried to discourage him from trying to buy a Builders Homes house because the company built for Negroes only.

After a prospect has settled down, one of the two sales counsellors on duty (the third is in the field making sales calls on prospects who cannot get to the office), takes him into a small office and begins his pitch.

To help him make the sale, he has only the power of persuasion, photographs of houses the company has built, floor plans, and a price list.

The formula: basic design, easy terms

There is only one basic model—what Builders Homes unpretentiously calls the 68210—with 1,076 sq. ft. of living space, all-brick veneer, a carport, and a storage room. Priced at \$13,300, it's a 24'10" x 54'5" box, which can be lengthened or shortened in two-foot increments. The model's appearance can be changed by varying the roof treatment or flopping the plan, and it can be loaded with extras. But even the top-of-the-line house, which sells for \$21,000, is to the production department only a fancy version of the basic box.

The salesman, however, is not selling design. "We sell payments," says Leonard.

The prospect is disposed to buy when he arrives at the office. "There are a lot of people looking for shelter," says Bryan. "Some of them are real excited—they never believed they could own a home."

The emphasis on payments is intended to convince the prospect that he can afford the house. The reason is that most buyers will have to devote a larger portion of their budget to housing to meet even the small monthly payments of a subsidized mortgage.

"All over the country," says Bryan, "everything is advertised as no down payment. Buyers expect it. We can advertise \$50 down, and still, some good prospects don't have \$50. You'd think people buying a house would have \$50. But many of them don't, and these are good people, too."

Between the first of this year and mid-April, Builders Homes accepted 312 applications. Of those, the company later had to reject 61 because of insufficient income, poor credit rating, or some other financial inadequacy. Another 45 or 50 probably will be lost to title opinions, buyer back-outs, or FHA rejections.

A sales counsellor has to be thoroughly grounded in the criteria used to qualify buyers in the Section 235 program. If he isn't, he can create a nightmare of paperwork for the rest of the organization by accepting applications from prospects who have no chance to be qualified. Should his failure to screen prospects adequately not be caught by someone else in the organization, the company runs the risk of destroying FHA's confidence.

As it is now, the sales department is confident it can obtain a firm commitment for every prospect it accepts. "We just about don't lose any," says Bryan. "If a buyer will stay with us long enough, we'll get him firm. It may take a year, but we'll get him firm."

Sales counsellors get continuous training in the intricacies of 235. Every Thursday morning the sales department conducts a school, instructing employees in the sales, accounting, and mortgage processing departments in the mechanics of the 235 program.

"We were all lost when 235 came out," says Bryan. "We didn't know anything about it, and a sales counsellor has to know a great deal about it. The first year we passed up many a prospect who could have become a customer because we didn't know enough about the program."

The average price of a Builders Homes house is less than \$16,000. FHA imposes limits on house prices, and the limits vary with the area in which the house is built. Outside the city limits of Dothan the maximum price is \$16,200; inside the city limits it's \$18,000. Families with special situations (chiefly, a large number of dependents) are allowed to stretch the price up to \$21,000.

The prices do not include lot costs. Approximately half of Builders Homes' buyers already own lots, and the other half are asked to obtain them. If they can't the company will try to get a lot for them, although it prefers not to.

TO NEXT PAGE

"We don't have the manpower or the time," says Bryan.

After making the sale, a sales counsellor helps the buyer make the color selections. The case is then turned over to a sales coordinator, who prepares it for the mortgage processing department, and to a sales field man, who inspects the lot and makes a report for the production department.

At this point, the buyer does not really

have a firm price. There are two variables: the cost of site preparation and the cost of installing a well.

The sales field man inspects the lot on which the prospect's house is to be built, but his estimate of the site work is used only as a guideline for the production department's field man.

"Sometimes," says Bragg, "a lot is straight uphill, and the sales department's man

looks at it and says, 'Yea, it's level.'"

Builders Homes has broken its basic model and options into standardized—and pre-priced—packages. By adding to the size of the house or substituting one material for another, the buyer may get the impression that he is designing his own model. But to get the total price, the sales counsellor merely adds up the prices of the different packages.

The profit in low-income housing is squeezed out by efficient production

"If my costs were the same as other builders' in Dothan," says Bragg, "I never would make any money in low-income housing."

Keeping costs down is especially difficult for Bragg. To reach a volume market he must run a scattered-lot operation in which jobs may be over 100 miles apart. And he has more than 300 people—most of them construction workers—to keep track of. Running such an organization efficiently would be impossible without tight controls.

From the moment FHA gives a firm commitment on a house, Builders Homes knows when it will be started, when it will be completed, how much it should cost, how far ahead or behind schedule construction is, how much money is invested in it, how much money should be invested in it, and who in the production department is going to be doing what to it during the next work week.

The sales department's field man has the first opportunity to adjust the price of the house, should an adjustment be required to reflect extra foundation work or excessive cost for installation of a well. His evaluation of a lot is checked by the production department as part of an overall estimate of construction cost.

Standardization assures accurate estimates

"In any 30-day period," says Bragg, "actual costs have never exceeded estimated costs by more than 1/2%."

An examination of Builders Homes' cost records supports that claim. But the accomplishment is not extraordinary, because the estimator needs no more than an elementary school level of math to be accurate.

Materials prices are negotiated for periods ranging from 90 days to one year. And direct labor costs are controlled equally well. Production manager Milt Bolkcom knows precisely the cost of producing a component package in Builders Homes' shop, and on-site work is broken down into time and cost units.

Every component of every house has a cost, and the estimator, like the sales counsellor, merely assembles the components and their costs to get a total house and total cost.

At the same time, the estimator as-

sembles the necessary purchase orders so that they're ready to be sent to vendors. Production and costs are so standardized that purchase orders are pre-printed.

When a purchase order is sent to a vendor, a copy is sent to the accounting department, which posts the amount immediately. The company then is able to include the amount of the purchase in the running tabulation of construction costs before the bill or the materials are received.

Production reports keep costs within the budget

The first impression made by the number of reports flowing through Builders Homes' offices on a Friday afternoon is that the company could compete with a government agency in its ability to create paperwork:

Not so, says Bolkcom: "If we had just two or three houses under construction, we could watch them. But we have between 72 and 87 houses under construction. These reports are the only way to keep track of them."

When an estimate is completed and the FHA commitment is approved by the mortgage processing department, a house goes onto both a production report and a construction schedule. The production report is posted every Friday and shows the work done during the week. It's a tally of individual sheets filled out by the company's seven superintendents for every house under construction.

The construction schedule, also prepared weekly, is distributed to every crew. It's an assignment sheet for every on-site worker.

"Every crew knows where it's going to go every day," says Bolkcom.

Bolkcom uses a recap sheet to get an overall picture of production. It tells him the average number of days required to complete a house, the net number of days ahead or behind scheduled completion (total of all houses), and the number of houses in each phase of construction.

"This," says Bragg, "is the scorecard."

Bragg is not too proud to admit that when he turned over the scorecard—and responsibility for production—to Bolkcom less than a year ago, the company was 400

days behind schedule; that is, the total of the days-behind of all houses under construction was 400. By mid-April, Bolkcom's scorecard showed the company 22 days ahead of schedule.

Labor is divided into small, easy-to-control specialties

Construction work is broken down into six one-week phases and then is further broken down into one-day work turns. Each crew is set up to do one day's work, and it stays on the job until the work is done. Thus, a crew never has to return to a job.

This system enables the company to apply tight control to its scattered-lot operation. A crew knows well in advance when it must be at a particular site, and Bolkcom knows the work scheduled for that day will be completed so the next day's work can begin.

Schedules can be drawn easily and with confidence. Bolkcom can rely on the schedule, even when it calls for the crew to be at jobs 50 miles apart on consecutive days.

"In our operation," says general manager Williams, "we have to be sure people are on the site when the schedule says they're supposed to be. We couldn't control subs that closely—that's why we payroll everything."

Comments Bolkcom: "Some builders run their own crews, but they break the work down into more than one-day units. When quitting time comes, their crew stops. There's less control."

Another benefit of breaking the work into small, specialized units is that it lowers the level of skill required of a construction worker. Members of Builders Homes' crews become specialists at such things as layout and framing, but they never really qualify as carpenters. So while they are proficient in their jobs at Builders Homes—after a minimum of training—they would find it difficult to get a job with a competing builder who needs a wider range and higher level of skills.

The component shop contributes to the company's ability to use semi-skilled workers. And Bragg's plans to produce modular housing in a factory will, if fulfilled, give the company greater specialization—and greater control—in its production.

The controls are applied at weekly production meetings

Early Saturday morning, the conference room on the second floor of the Builders Homes headquarters begins to fill with superintendents, construction coordinators, sales representatives, and the purchasing agent.

"We come in here and really let our hair down," says Bragg.

The meeting begins at 7 a.m., is usually over by 10, but sometimes doesn't end until noon. All reports are reviewed, problems are identified, and remedial action is planned.

"We don't rake people over the coals if they've been falling down," says Bragg. "Well, actually we do, but we don't want to create an atmosphere in which they're afraid to come to the meetings."

On the contrary, an atmosphere has been created in which employees are afraid not to come to the meetings. Attendance is not mandatory, but says Bragg, "They come because they want to protect their interests."

Direct labor costs are recorded according to the functions of the different crews,

and they are reviewed at the Saturday meetings. Bolkcom receives a comparison of estimated and actual costs of direct labor for each unit and a total for each month. The monthly totals are compared with year-ago and two-years-ago figures.

Another report lists houses on which there is more than a \$75 variance in labor and materials costs.

"The main purpose of this report," says Bolkcom is to spot a problem before it gets out of hand. But if we're *under* budget, we want to know that too. There might be something we're doing on that house that we should be doing on all houses."

Still another report lists all houses more than one week behind schedule, along with the reason; houses completed but not scheduled for final inspection by FHA; and houses for which final inspection has been requested more than three times.

"Two final inspections are normal," explains Bolkcom. "An inspector almost always finds a reason not to give a clear final on the first inspection. But when we get beyond the third inspection, we want to know why."

Another report reviewed at the meetings

covers callbacks. The company makes two callbacks on every house automatically—one 30 days after the buyer moves in, and another 11 months after the move-in. Buyers are asked to write complaints on a form furnished at the closing, and the form is used by the callback crew as an assignment sheet. Bolkcom receives monthly tallies of the different kinds of repairs made. If, as happened recently, flooring is the subject of an unusually large number of complaints, a decision may be made to change the material. In the case of the flooring in question, a premium was placed on the price of it to discourage buyers asking for it.

Although Bragg believes in the efficacy of the controls the company has developed, he emphasizes the importance of the people using them.

"We develop tools that let managers be managers," he says. "The control sheets tell us how we've done, but their effectiveness depends on the people using them. If they start flaking out, we've had it."

Adds general manager Williams: "Our policy is to hire good people, orient them, give them objectives—and then back off and say, 'All right, go to it.'"

Bragg's overall formula for success: close attention to basic principles



Standard housing offered by Builders Homes (below) has strong appeal to prospects who have lived all their lives in rundown rural housing (above). To these buyers, design is not as important as low monthly payments.



"If you want to write an article that shows it's possible to make money in low-income housing," said Jay Bragg, "you're starting from the wrong premise. In this market a builder has to begin with a sincere desire to help people. If he has that, the profit will take care of itself."

Bragg does have a sincere desire to make housing available to people who need it—and thought they never could afford it.

But Bragg does not let the profit take care of itself. During the eight years he has been building low-income housing, he has taken pains to build an organization which can sustain a rapid rate of growth in both sales and profits—an organization which before long may be selling and producing modular housing at the rate of 20 units a day.

What, beyond altruism, does Bragg consider necessary to build low-income housing profitably?

"You need good people in your organization"

Throughout Builders Homes the emphasis is on people, and Bragg is continuously recruiting management for his organization.

"We're people-builders," he says. "Without people, we don't have anything."

Bragg likes to tell the story of his confrontation with production manager Milt Bolkcom.

"When he started here," Bragg says, "I didn't let go of the reins. I wanted to see what he'd do. A few months went by, and then one day he walked into my office and said I'd either have to let him run the de-

partment or let him go. That's what I wanted to hear. He's been running the department ever since that day, and he's done a better job than I ever did."

Last fall, Bragg established in Albany, Ga., the first of several planned branch offices. To run it, he reached into his organization and pulled out Jim Heflin, head of the mortgage processing department. Within six months, the Albany branch under Heflin's direction was selling houses at the rate of one a day.

While Bragg was organizing the Albany branch—and also negotiating the sale of Builders Homes to Wm. Lyon Homes—the company was run on a day-to-day basis by general manager Norman Williams. Now Williams is being given responsibility for establishing the distribution network which will handle the production of Bragg's planned modular housing plant. He will, in effect, be organizing a number of new building companies over a nine-state area.

"You need the cooperation of FHA"

While the percentage of sales turned into the net income by Builders Homes compares favorably with the norm for the industry, the profit margin in terms of dollars is thin—so thin, in fact, that a low valuation by FHA can make it evaporate. The company works with three different FHA field offices and has a good relationship with two of them. The third has been a problem in recent months, chiefly because the reasoning behind its valuations is some-

times difficult to understand. Once, for example, the office was asked to give valuations for two identical houses which were to be built on adjacent lots. One house was valued approximately \$1,000 lower than the other. (In a case like that, the company does not hesitate to appeal a valuation.)

There are other areas in which FHA can contribute to the company's problems. The agency's national policy gives a builder the right to proceed with construction if a stage inspection is not made within a specified time after it is requested. The policy is intended to relieve a builder of the burden of any FHA backlog in inspections. But recently one inspector unaccountably reverted to the old policy, demanding that Builders Homes halt work until he made his inspection, regardless of how long it was before he arrived at the site. Construction fell behind schedule, and the efficiency of the company's production deteriorated. Bragg finally convinced the inspector the new policy applied to him as well as to other inspectors.

"You must have a high sales volume"

Even with a cooperative FHA office, processing a mortgage application and obtaining

a clear final inspection requires more time than it takes Builders Homes to erect a house. Linda Kirkland, one of the company's administrators, claims that the company is capable of moving a cash buyer into a house 18 days after the contract is signed. But largely because of the time required for processing and final inspection, delivery of a house typically occurs three to four months after the sale.

To overcome the effects of the time lag, a high sales volume is needed. "We try to have enough cases in process so we have as many coming back to us as we have going out," says general manager Norman Williams. Keeping the pipeline full provides continuity for the production department. It's possible, says Williams, for the company to have as much as \$45,000 cash tied up in the processing of mortgages.

"You need a lid on the price of money"

For reasons known only to FHA, the discount on mortgages is not included as a cost of the house. In a rapidly changing money market, a rise in the discount can turn profits into losses. To prevent this, Builders Homes buys commitments from the Federal National Mortgage Assn., giving the com-

pany a maximum price it will have to pay for money.

Assume that the company buys a 12-month commitment for \$1 million worth of FHA mortgages at 96. The discount adds \$40,000 to Builders Homes' costs, but at least the company knows it will have mortgage money and won't pay more than \$40,000 for it, even if the money market deteriorates over the next 12 months. If the FHA interest rate rises, the discount is adjusted downward by FNMA, and costs decline. Should the interest rate be lowered, the discount may rise, but then the company can opt to drop the commitment and buy its money elsewhere under better terms. (But the placement fee, \$10,000 in this case, would be forfeited.)

"You need standards and controls"

Bragg points out that his company "has standards for everything" and controls to compare performance to those standards. With a high sales volume and a thin profit margin, the company must be able to identify problems before they get out of hand. And at any point, it should know whether—and how much—profit is resulting from its operations. —DAVID THALER

Here's a testimonial from a Builders Homes buyer

"I was brought up hard and poor," says 63-year-old William Woodham whose Christmas present to himself last year was the first house he has ever owned.

Woodham moved into the three-bedroom house the week before Christmas with his wife, son, and two grandchildren. But until moving day, he found it hard to believe that he was going to become a homeowner.

After living in rented houses all of his adult life, Woodham began two years ago to search for a house which he could afford to buy. He thought a new home was out of the question, and after a year of shopping re-sale houses, he thought homeownership might be beyond his means.

The best terms offered him on a re-sale house were a down payment of \$1,000 and monthly payments of \$90. He didn't buy it, he says, because "I don't believe in promising something I can't do."

When Woodham's daughter died last August, he became responsible for two of her children. The rented house in which he was living could not accommodate the enlarged family.

Woodham had seen a commercial for Builders Homes, and he decided to find

out whether he could qualify as a buyer. Discussing his intention with a customer at the service station where he works, Woodham was told the homes were for Negroes only. But, he says, he knew the statement was inaccurate.

"I told him if that was so, I was glad to be one of them," he says.

After he had signed an application, he was understandably pleased with the prospect of getting a new home for \$200



First-time buyer Woodham, right, gives sales manager Bryan enthusiastic testimonial.

down and a monthly payment of approximately \$60 a month. His friends, however, were skeptical.

"Some people said they'll [the company] tell you your payments are one thing and then they'll be something else," he says. "But you know what? The payments were just exactly what they said they would be."

Woodham is delighted by things many buyers take for granted, and he takes al-

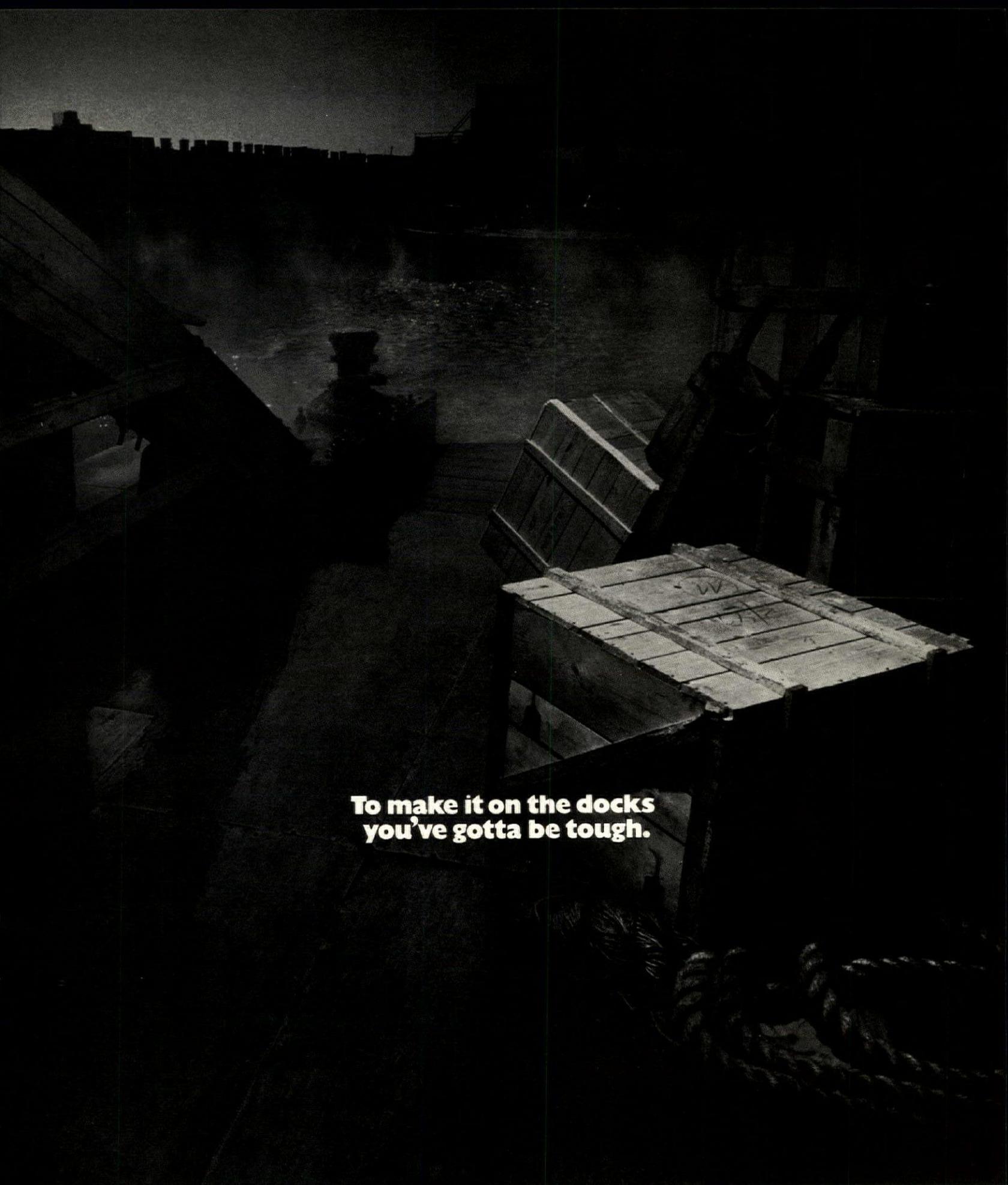
most a proprietary interest in the welfare of Builders Homes. He is not atypical. The company is currently televising a series of commercials which are buyer testimonials. One woman, asked what she likes about her new home, replies, "The warm kitchen." The answer might puzzle a middle-income suburban housewife, but to a rural woman who has never before lived in a house with central heating, a warm kitchen is something to talk about.

Woodham thought it noteworthy that Builders Homes had painted the rooms of his house "just like we wanted." Or that the company had made two unsolicited callbacks.

He reminds a visitor that he had been paying \$40 a month rent and \$40 a month for heat and utilities to live in a house that he says was "just kind of a shack. It had an old septic tank, and you could smell that thing, you sure could."

Now, although his mortgage payments are 50% higher than his rent payments, his utility bill is substantially lower, so his monthly housing expense is only slightly higher.

His home, he says, "is enough house for any man. It might not be pretty to a man looking for a \$50,000 house, but we really are proud of it."



**To make it on the docks
you've gotta be tough.**

Tough enough to stand alone against the elements.

Tough enough to bear up under almost any weight.

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Grid Pattern Permaply® is that tough. Or it wouldn't be on the Governors Island ferry docks. And it's been there for more than 3 years. So think how long it could last on a patio, a balcony or beside a pool.

Grid Pattern Permaply combines the strength of plywood with a resin-fiber surface that withstands wear and tear.

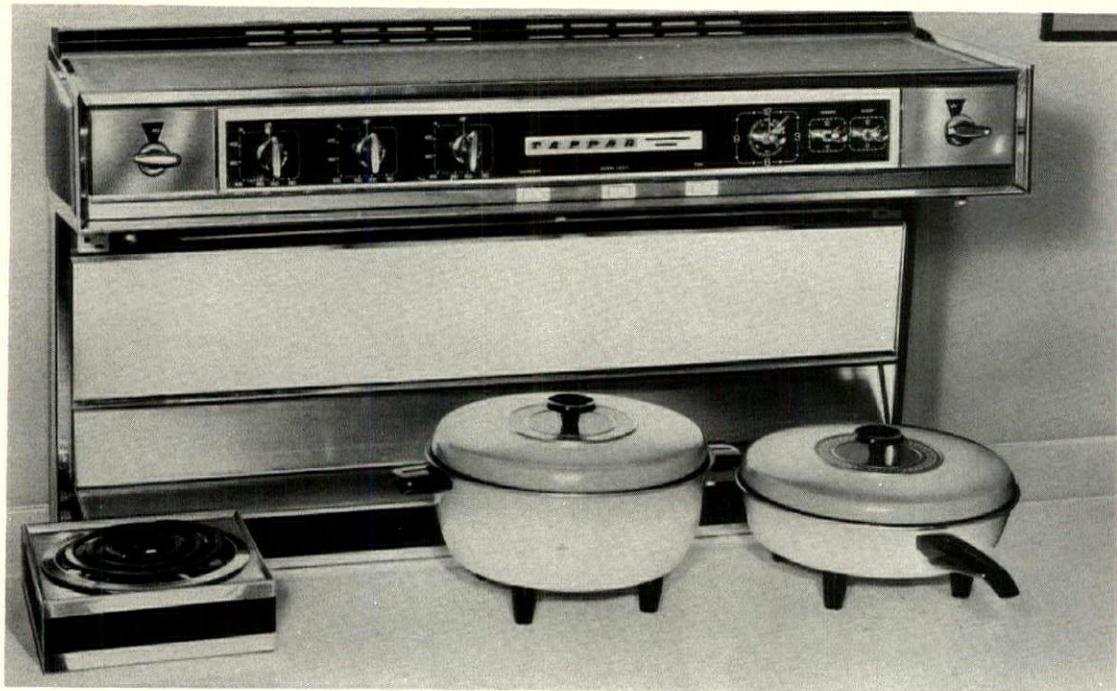
The embossed grid pattern makes it skid-resistant. It needs no painting or finishing and is easily handled with regular carpentry tools. It comes in standard panels of 48" x 96", special sizes to 60" x 120", and in thicknesses from 5/16" to 3/4".

Grid Pattern Permaply is tough all right. Tough enough to last where other materials won't. Let's face it. Once you've made it on the docks, anything else has gotta be easy.



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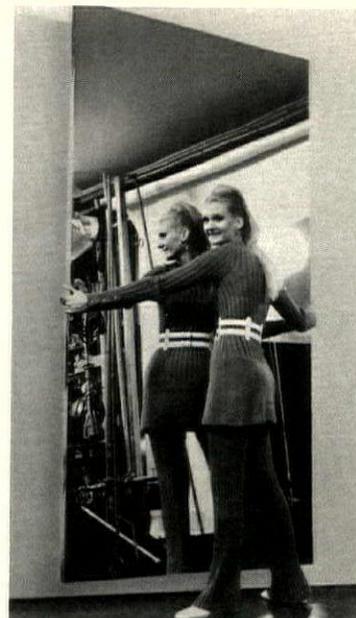
A plug-in cooking panel that at night is out of sight

During use it looks like a row of electric pans. But between meals and at night the pans unplug, go in the dishwasher, then store away in a cabinet. The plug-in strip folds up and out of sight so the counter is clear.

The compact unit, 19½" high and 35½" wide, is ideal for tiny or second kitchens. The wall panel is only 2" deep, has a glass lighting strip and a warming shelf/control panel that extends 11" over the counter. "Pan-O-Matic" will

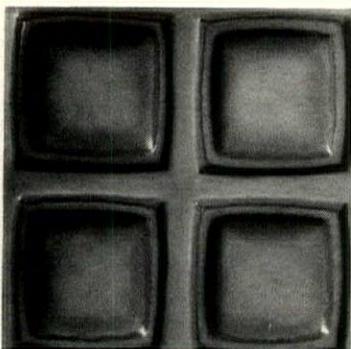
go into production in the fall, will come with five pots and pans, an extra plug-in element for favorite pots, and an extension cord for other appliances. Tappan, Mansfield, Ohio.

CIRCLE 200 ON READER SERVICE CARD



Glassless mirror is a thin film of polyester mounted over a flat metal frame. It reflects as well as glass but weighs only six oz. a sq.ft. (vs. 30 to 40 oz. for glass). Hammer blows will only nick it, and it resists fogging. Can be ordered up to 24' long. Kamar, Irvington-on-Hudson, N.Y.

CIRCLE 201 ON READER SERVICE CARD

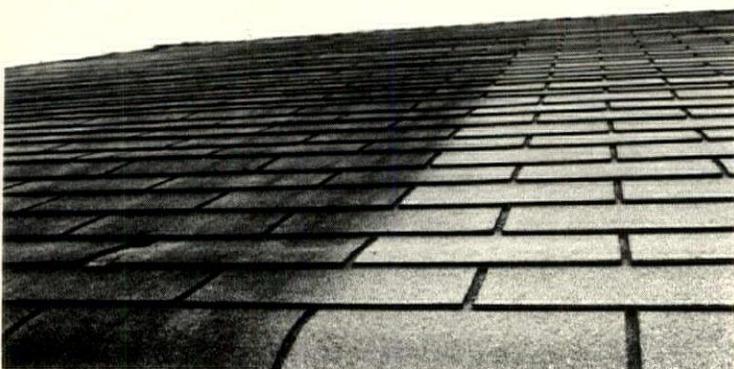


Large-scale tiles are 12"x12". The high-relief designs, for use on walls, are called "Quatro" (left) and "Maya" (right), and can be teamed with low-relief designs for



walls and floors. Both come in charcoal, brown, beige, gold, olive, blue, blue-green, and off-white. American Olean, Lansdale, Pa.

CIRCLE 202 ON READER SERVICE CARD



Stay-white roof is the answer in warm climates where light-colored roofs keep houses cool but turn ugly and gray with fungus in the humidity. The secret is the fungi-

cide in the granules that are applied to the asphalt shingles in the factory. Asphalt Roofing Mfrs. Assn., New York City.

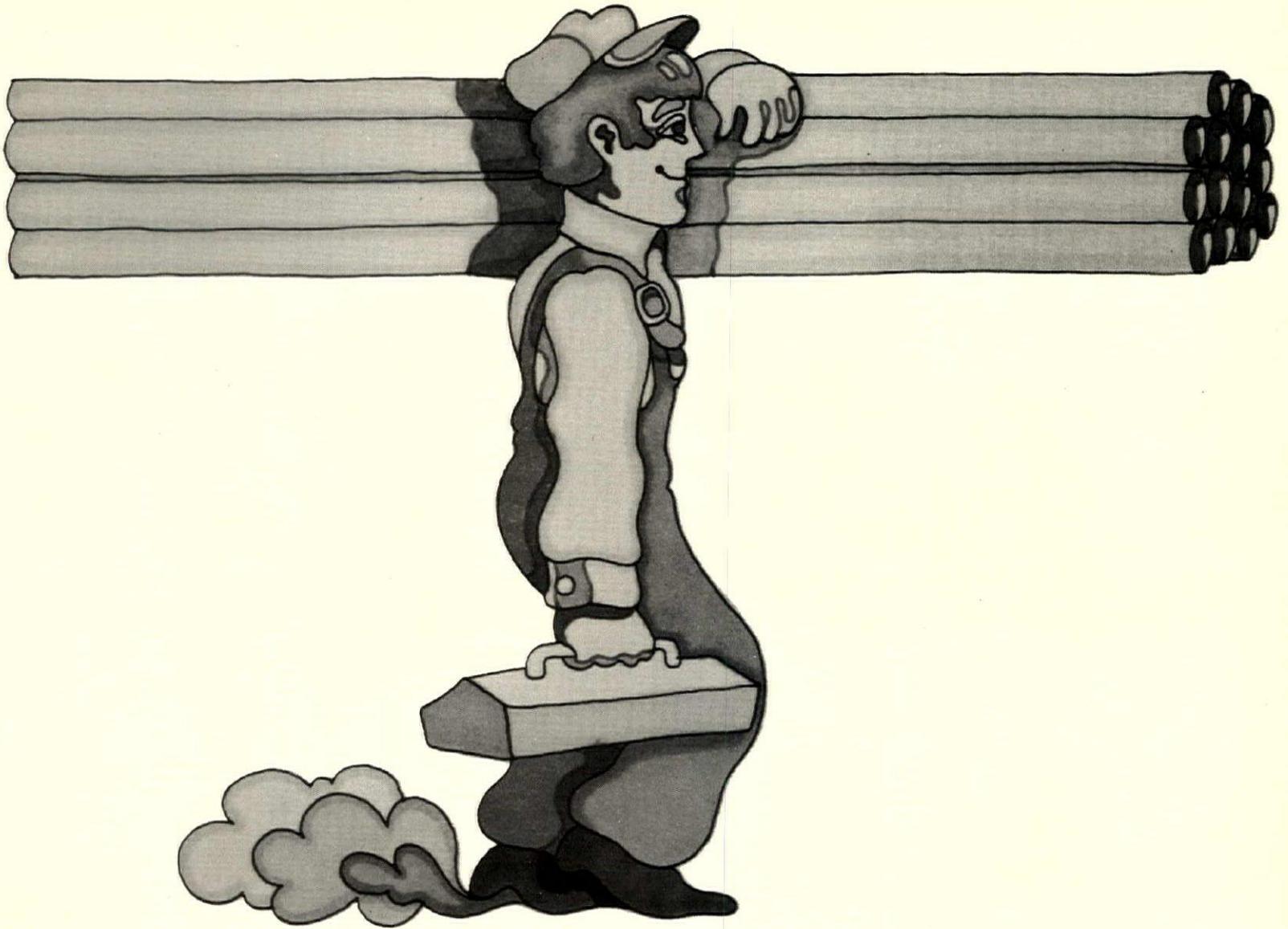
CIRCLE 203 ON READER SERVICE CARD



Counter cooking is done on the free-standing range (inset), and a work counter is teamed with an overhead infrared warmer. Range is 30" wide, has four hidden elec-

tric elements, and a self-cleaning oven. Both surfaces are non-porous glass ceramic that won't scorch. Corning Glass, Corning, N.Y.

CIRCLE 204 ON READER SERVICE CARD



For the first time a standard exists for thermoplastic tubing for hot water!

Tubing manufactured from our hi-temp Geon CPVC is now covered by a standard. This standard permits code bodies to include thermoplastic systems for hot water distribution in building codes. It is the first thermoplastic pressure pipe to be approved for service conditions above 73 degrees F.

ASTM Designation D 2846-69T states in part: "These components comprise pipe and tubing, socket-type fittings, plastic-to-metal transition fittings, solvent cements, and adhesives. Requirements and methods of test are included for materials, workmanship, dimensions and tolerances, hydrostatic sustained pressure strength, thermocycling resistance, and solvent cement viscosity, joint strength, and shelf stability. The components covered by this specification are intended for use in residential and commercial, hot and cold, potable water distribution systems."

Now plumbing code officials can refer to a

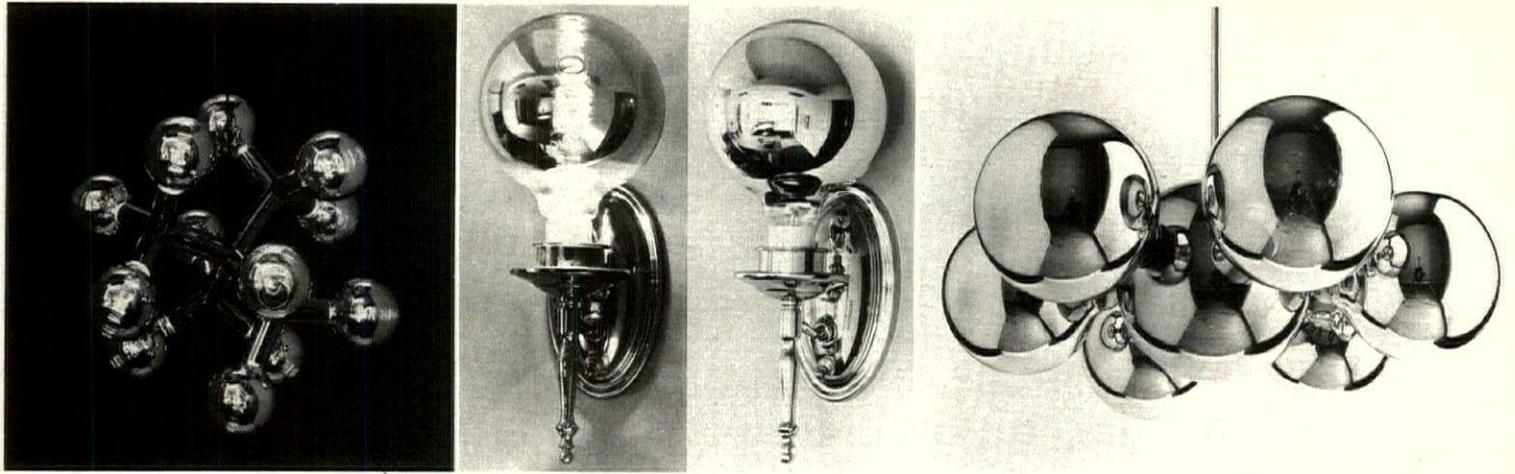
recognized standard for a CPVC hot water distribution system. And not a minute too soon. Because piping made from our hi-temp Geon CPVC material is light in weight. It is easily fabricated. It is ideal for the booming industrialized housing market.

The standard, ten years of testing and 350,000 installations proved the maturity of the product. So if you've been waiting for this, or if you want to know more about hi-temp Geon vinyl, or if you want to know who makes the pipe, write B.F. Goodrich Chemical Company, Dept. H-20, 3135 Euclid Avenue, Cleveland, Ohio 44115.

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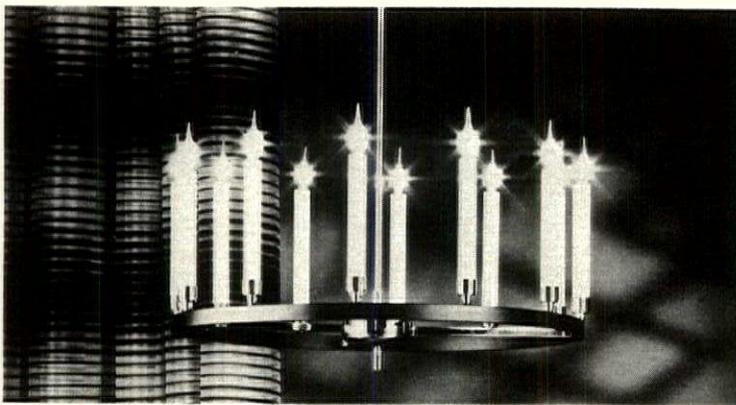
Mirrored light bulbs enhance any fixture—even when they're off

When they're lit, the glare-free filaments are visible (*two photos, left*). When they're off, the shiny bulbs reflect the viewer, their surroundings (*two photos, right*), and

each other... other... other... Either way, they're sparkling additions to any fixture—contemporary or traditional, multiple or single—or household socket. Some

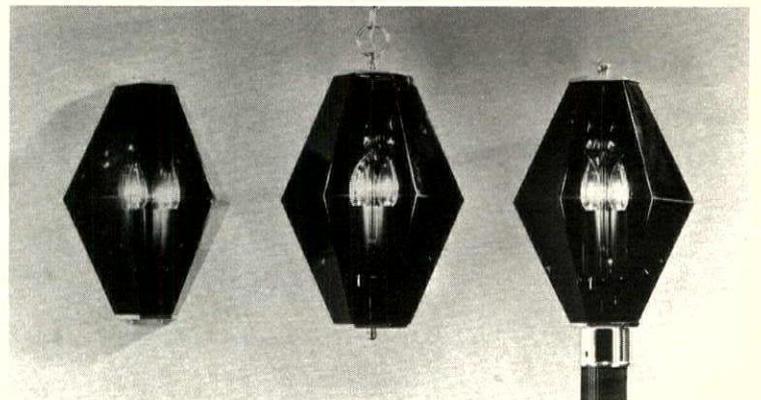
manufacturers have designed special fixtures for "Tovibulbs" like the chandeliers above. The 5" spheres, coated inside and out with aluminum or gold, are two-

way mirrors, send washes of reflected and re-reflected light rippling over white walls. Tovi & Perkins, New York City. CIRCLE 205 ON READER SERVICE CARD



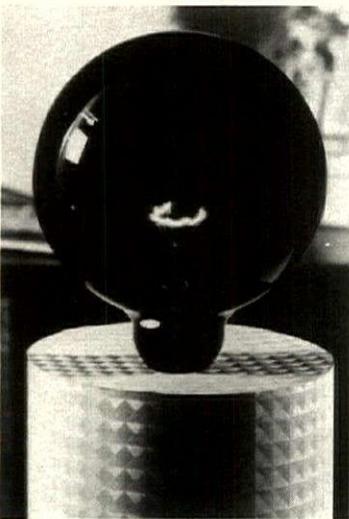
Contemporary chandelier, simple but elegant, would enhance any living room, dining room, or foyer. Suspended from ceiling on a slender chrome rod is a precise

circle of black metal on which sit 12 tall white candles in neat chrome pedestals. Progress, Philadelphia, Pa. CIRCLE 206 ON READER SERVICE CARD

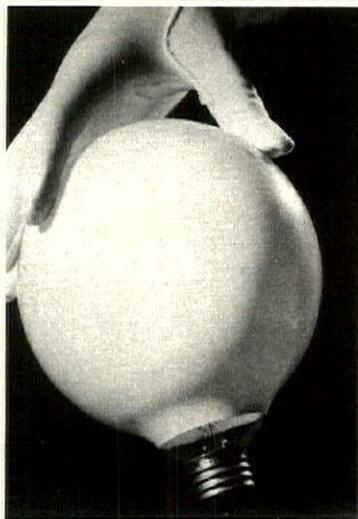


Streamlined lanterns are of Lexan (by General Electric), a high-impact plastic that is virtually impervious to vandals, heat, and cold. Smoke-tinted fixtures are molded

in one piece so there is no leakage. Shown: wall fixture, hanging piece, and post light. Thomas, Louisville, Ky. CIRCLE 207 ON READER SERVICE CARD

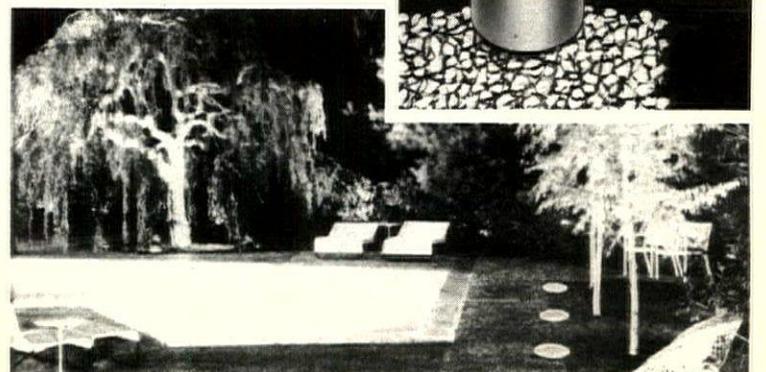
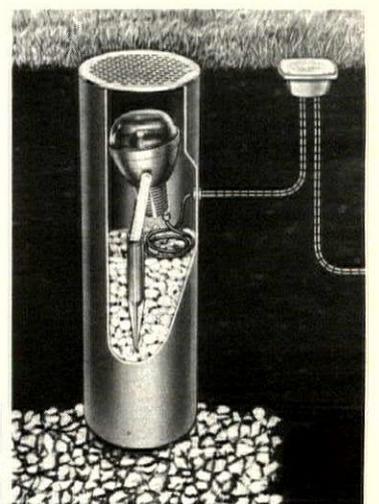


Black globe is an incandescent 5" bulb in smokey black that accents contemporary architecture and decor. Bulbs work well either in ceiling and wall fixtures or in sockets. "Globelite" has a 3,500-hour life. Duro-Test, North Bergen, N.J. CIRCLE 208 ON READER SERVICE CARD



White globe, also an incandescent bulb, is white enamel. It too is 5" across, will fit any socket, and comes in 40- and 75-w. sizes. "Moonglow" was designed to be a decorative globe in its own right without any fixture. General Electric, Cleveland, Ohio. CIRCLE 209 ON READER SERVICE CARD

Hidden up-lights permit fully concealed floodlighting of model house or apartment facades, walls, trees, or pool areas. Well-light tubes for flush in-earth or in-concrete mounting (*inset*) are fiberglass. Covers are heavy cast aluminum with adjustable louvers for directing light. Below-grade installation protects fixtures from vandals and heavy traffic abuse, reduces glare. Stonco, Keene, Kenilworth, N.J. CIRCLE 210 ON READER SERVICE CARD



"I build what people want. What they want is Total Electric."



Georgia builder-developer Jim Bible rented his first electrically heated apartments before the roof was up. Since then, he has built over a thousand more.

"As a builder," Jim Bible tells you, "I have a very simple philosophy: When people see what they want, they buy it."

"Which is exactly why I've been building Total Electric apartments since 1963. Total Electric units have the quality features that people like, the features that mean quick rentals.

"The big benefit, of course, is the pure comfort of electric heat: flameless, draft-free and clean, with temperature controls you can set separately in each

apartment. And there's no fuss and bother with maintenance and repairs—which I like as much as my tenants do.

"Another big selling plus with Total Electric is convenience—with kitchen, laundry and appliances all planned for good household organization and maximum efficiency.

"Together with electric heat, it gives you quite a selling package. It's what people want."

Jim Bible knows what he's talking

about. To date, he has put up 1,500 Total Electric apartments in four Georgia cities, with plans underway for 750 more. (His own apartment is Total Electric, too.)

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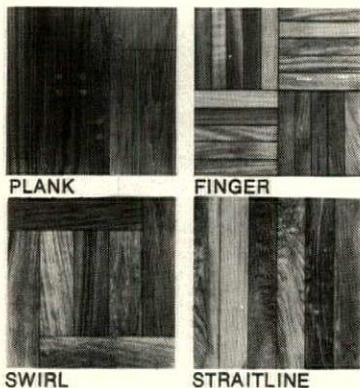
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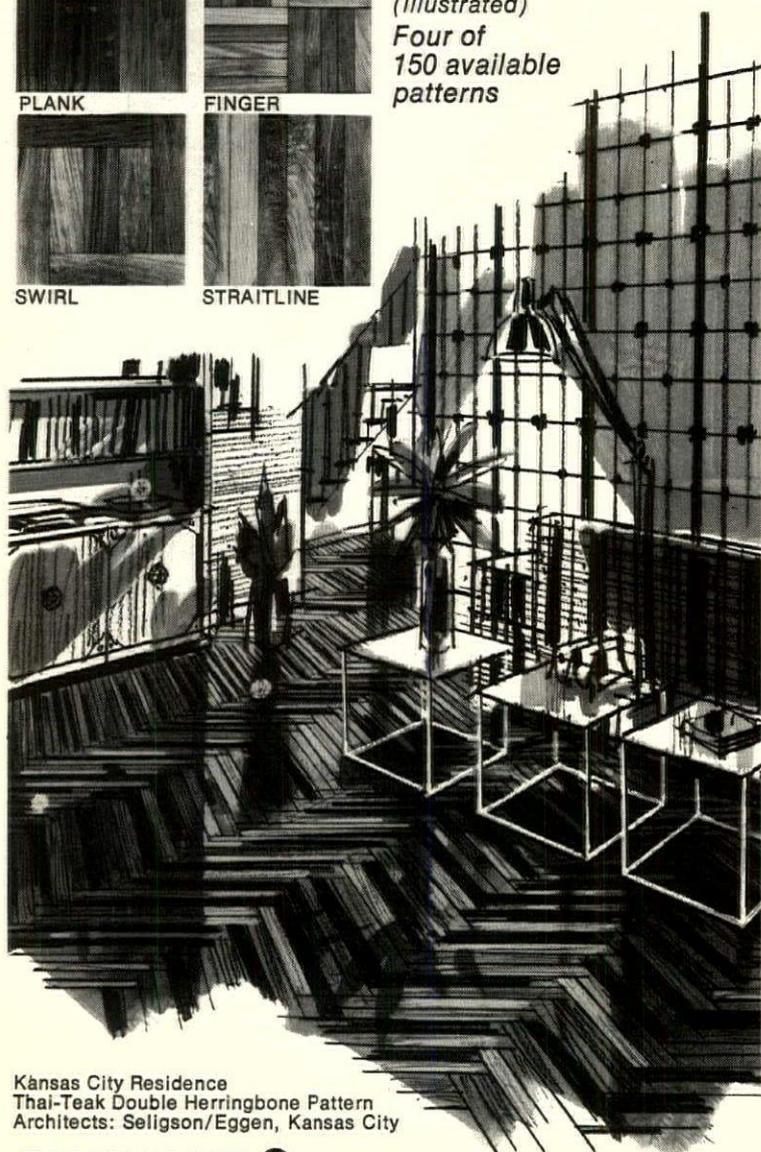
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CIRCLE 94 ON READER SERVICE CARD

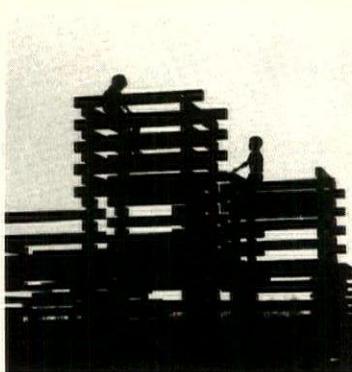
PRODUCTS/OUTDOOR LIVING



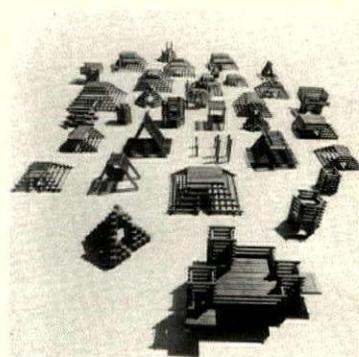
Playground cushion, placed under a jungle gym, won't keep children from falling, but it will reduce the number of skinned knees. "Safety Surf" proved so successful in the Los Angeles school system, that

250 cities (including New York) have purchased it for schools and parks. Pad is 1" thick, comes in interlocking rectangles. Mitchell Div., Royal, Santa Ana, Calif.

CIRCLE 211 ON READER SERVICE CARD

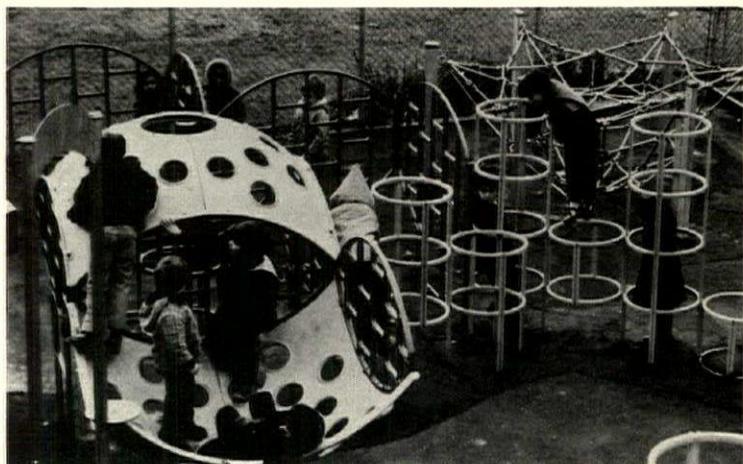


Timber structures are 4"x6" and 12"x12" hardwood lumber that has been treated to resist insects and decay. Based on more than 100 models, the wide variety of prefabricated modules (left) in-



cludes: platforms, pyramids, hexagons, tunnels, and towers (right). Kits include all hardware. Timber-Form Div., Neidermeyer-Martin, Portland, Ore.

CIRCLE 212 ON READER SERVICE CARD



Aluminum climbing equipment is corrosion resistant, will withstand weathering and play abuse, needs no maintenance. "Playscapes" are compact so as many as 35 kids can play in only 350 sq. ft. (i.e., a vest-

pocket park). Flying saucers, climbing rings, and fortress walls shown can be combined in hundreds of ways. Playground Corp. of America, New York City.

CIRCLE 213 ON READER SERVICE CARD

There are just two ways to air condition this house. Bryant makes them both.

People have some pretty definite notions about the house they want to live in. About how it's air conditioned, for instance.

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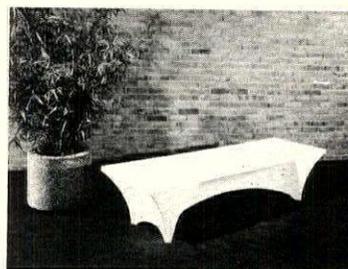
CIRCLE 96 ON READER SERVICE CARD



Gas grill can cook a complete meal—outdoors. Twin compartments—each with its own adjustable gas burner, ceramic briquets, and heat indicator—are used simultaneously. One side broils

while the other bakes. They can also be used for slow smoking. Heavy 4" steel mounting post has rust protective coating. Locke Stove, Kansas City, Mo.

CIRCLE 214 ON READER SERVICE CARD



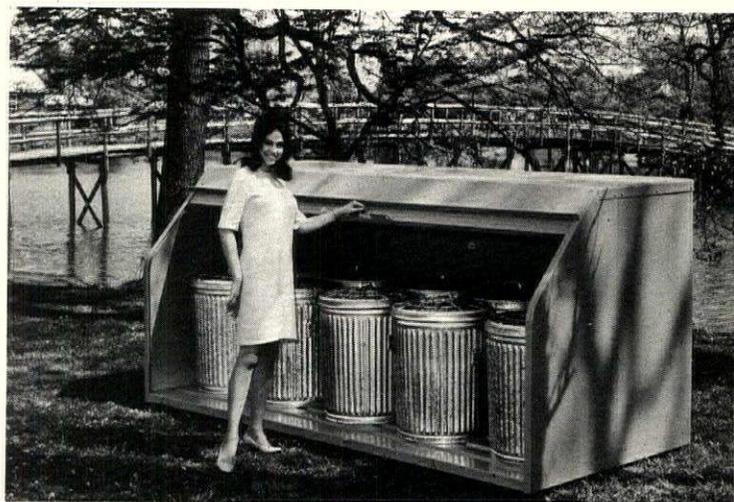
New park bench is reinforced polyester resin and pound-for-pound stronger than steel. Five styles come in permanent colors like white, off-white, sandalwood, brown, red, orange, yellow, light or dark blue. Benches weigh from 65 to 90 lbs., can be weighted or anchored to prevent theft. Lynema, Bronson, Mich.

CIRCLE 215 ON READER SERVICE CARD



Planters of a synthetic ceramic-like material are priced lower than similar ceramic planters, are lighter in weight, cost less to ship. They are also more durable, resist chipping and cracking. Six models, in two sizes each, come in stippled-sand finish in five colors. Cior-goda-America, Winston-Salem, N.C.

CIRCLE 216 ON READER SERVICE CARD



Trash can container, in a new double-depth capacity, holds up to ten 30-gal. trash cans or 55-gal. drums. Of heavy-gauge galvanized steel, it has a roll-down front that can be padlocked. Roll-down panel can also be operated from inside

as a safety feature around playing children. Inside there is an adjustable shelf. The whole operation can be motorized, and it can be rolled away on casters. J.G. Wilson, Norfolk, Va.

CIRCLE 217 ON READER SERVICE CARD

Why the best siding for low-cost projects is also best for garden apartments

Cost-conscious builders choose any of a variety of Bird solid vinyl sidings because they have enough problems during construction without worrying about materials that are hard to install or about maintenance afterwards.

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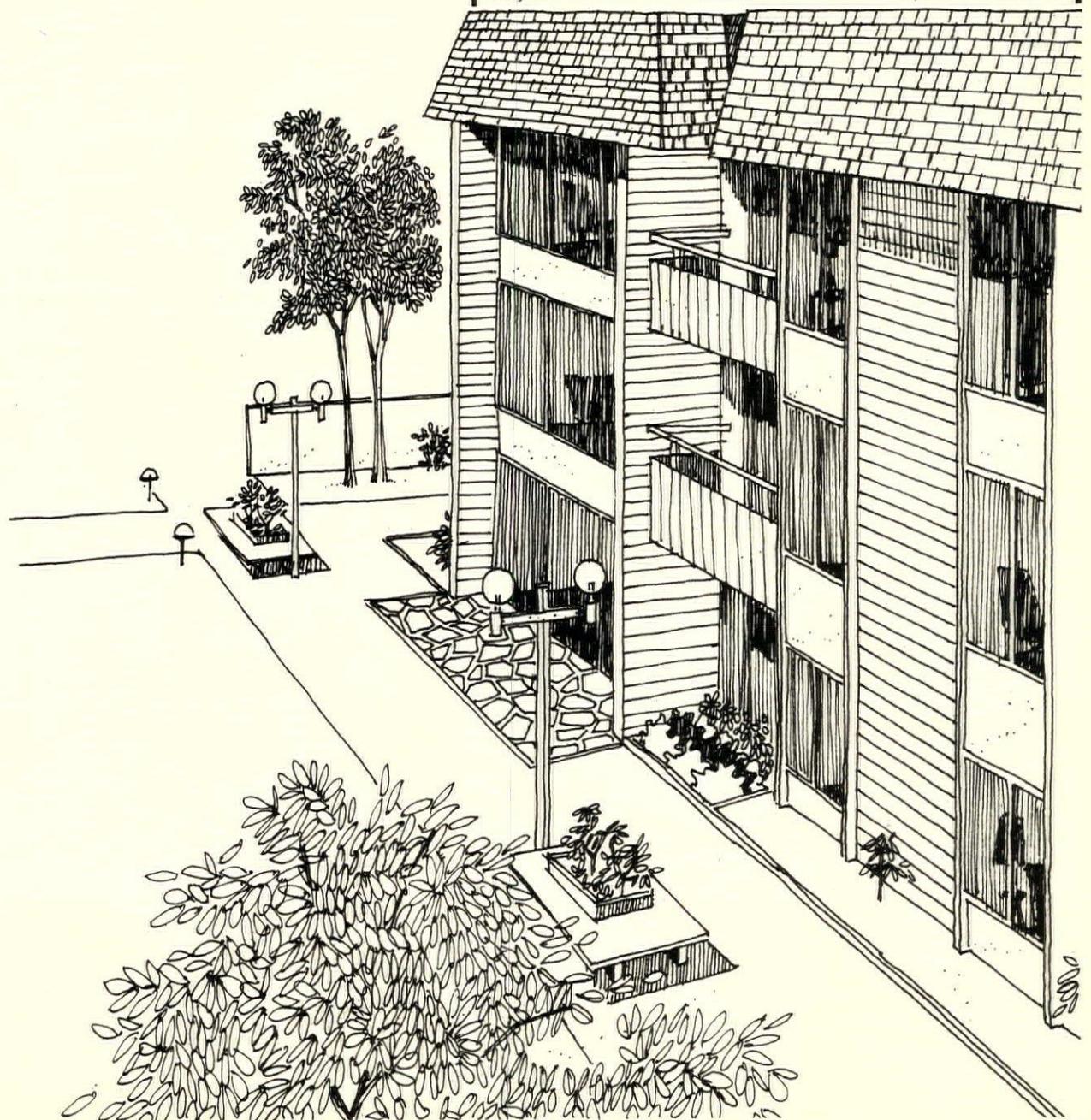


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CIRCLE 105 ON READER SERVICE CARD

PRODUCTS/COATINGS AND ADHESIVES



Polyurethane skin is both a seamless waterproof roof coating and a durable deck. It covers concrete (foreground) or plywood (background). Consistency for spraying,

rolling, brushing, or spreading, varies with amount of silica thickener (by Cabot, Boston) added. Poly Resins, Sun Valley, Calif. CIRCLE 218 ON READER SERVICE CARD



Tile adhesive developed for easier spreadability, trowels on like butter, holds without slippage, has an open time of up to three hours. One gal. will cover up to 70 sq. ft. The new formula has no solvent odor, is non-flammable, and can be cleaned up with water. Miracle Adhesives, Bellmore, N.Y. CIRCLE 219 ON READER SERVICE CARD



Two-coat finish gives concrete blocks a tile-like surface. First a latex-like filler/primer seals masonry, then a pigmented top coat provides long-lasting low-maintenance finish. Filler covers up to 100 sq. ft. per gal. Top coat comes in 90 colors, covers up to 450 sq. ft. PPG Industries, Pittsburgh, Pa. CIRCLE 220 ON READER SERVICE CARD



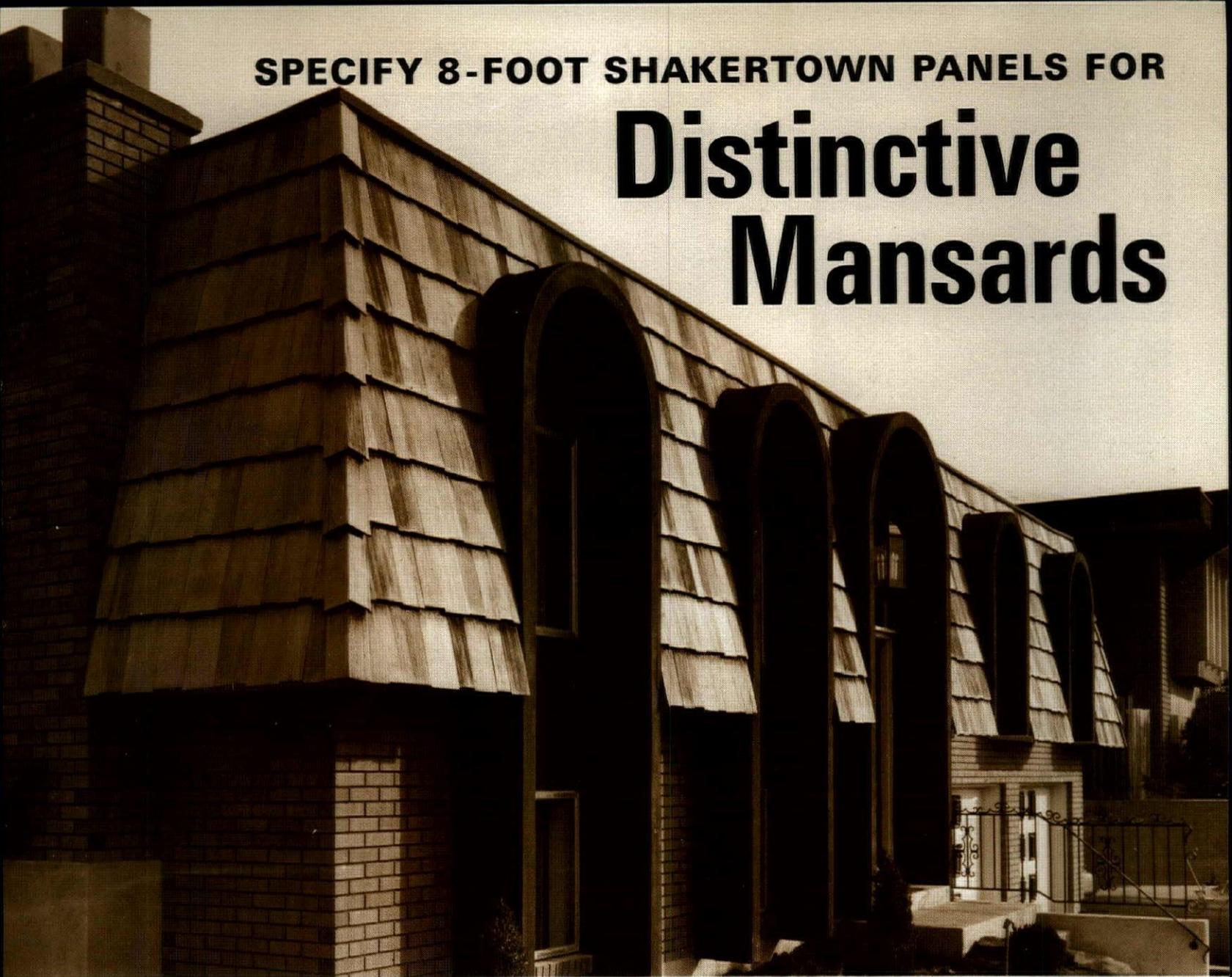
Fire retardant paint shields and insulates wood from flame, delays ignition. When exposed to fire, it bubbles and swells up to form a sponge-like insulating barrier, and it emits non-toxic fire-extinguishing gases that help to smother flames. After the fire is out and



foam has cooled, it can be easily scraped off before repainting. Two coats are recommended for maximum protection. The low-sheen paint can be tinted with universal colors to produce many pastels. Flamort Chemical, San Francisco. CIRCLE 221 ON READER SERVICE CARD

SPECIFY 8-FOOT SHAKERTOWN PANELS FOR

Distinctive Mansards



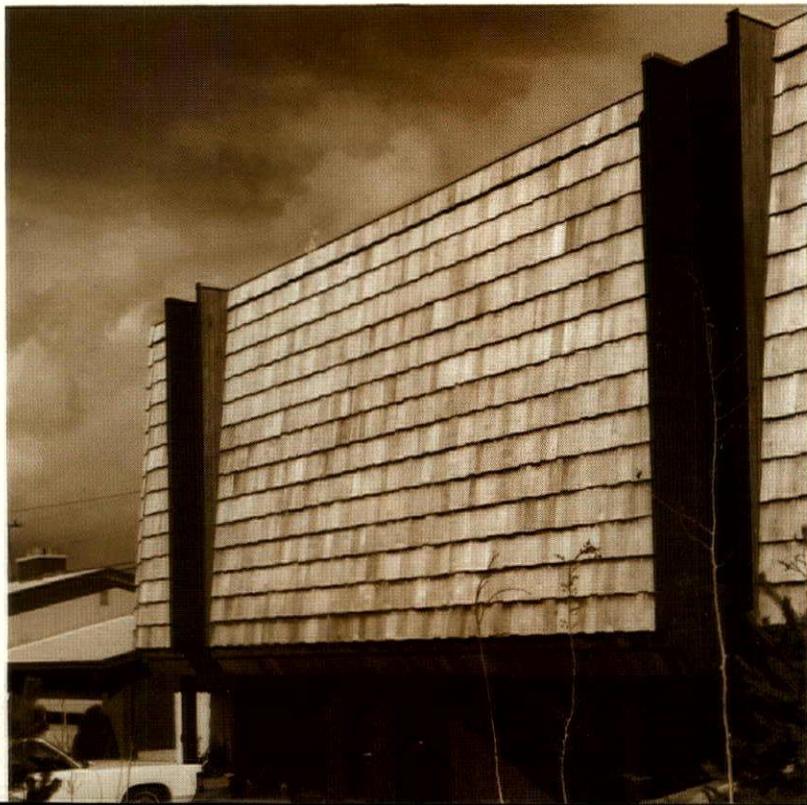
BARN SHAKE PANELS



ROUGH SAWN PANELS



SHINGLE TEXTURE PANELS



SAVES APPLICATION TIME

Shakertown Panels are individual Western Red Cedar Shakes or Shingles bonded into a strong, easily applied 8 foot long 3-ply panel for a variety of Mansard designs. These self-aligning panels combine the intrinsic beauty of cedar shakes or shingles with the practical, money-saving features of panel construction. Shakertown panels are easily handled by one man and may be nailed directly to the studs where code permits.

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Three distinctive textures, Barn Shakes, Rough Sawn Shingles and Shingle Texture, at 7-inch or 14-inch exposures are available in natural or eight semi-transparent factory colors to help you create virtually any effect. For a perfect, professional finish every time, specify Shakertown Cedar Panels for your Mansards.

Shakertown[®]

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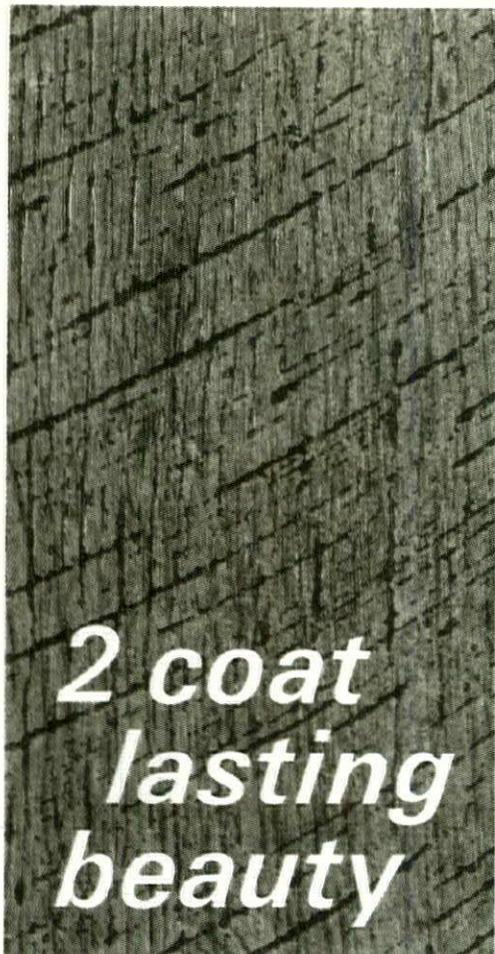
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CIRCLE 98 ON READER SERVICE CARD



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beauty**

**1 coat cost
with Rez[®]
Double-Tones**



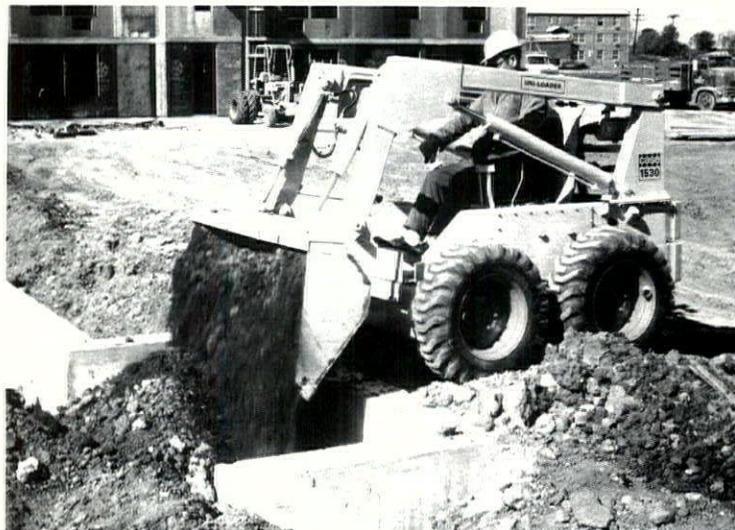
REZ Double-Tones can help you save money on new construction or remodeling. One coat of these extra-heavily pigmented stains beautifies and protects like two coats of ordinary semi-transparent stains. Yet REZ Double-Tones cost no more than conventional stains. So, time and material costs are cut in half.

REZ Double-Tones are ideal for rough-sawn or saw-textured exterior siding, shakes, shingles or rustic trim. Available in 16 decorator colors, including new Avocado. For more information, write to The REZ Company, One Gateway Center, Pittsburgh, Pa. 15222.

Rez[®]

Natural Wood Finishes
Pittsburgh, Pa.—Torrance, Calif.

CIRCLE 99 ON READER SERVICE CARD



Compact tractor is 7' long, 5' wide, and 5' high. The four-wheel-drive unit can turn a tight circle in its own tracks. It lifts up to 1,500 lbs., weighs two tons. Three models—26hp, 30hp, and 37hp—have about

30 interchangeable attachments including buckets, pallet forks, augers, backhoes, dozer blades, brooms, and a snowplow, J.I. Case, Racine, Wis.

CIRCLE 222 ON READER SERVICE CARD



Seam cutter speeds floor laying, reduces fatigue, yet produces consistently even tight seams in sheet vinyl. Workman pushes tool across overlapped (no-pattern) flooring at 12' to 16' per min. A guide bar follows factory edge as 4" blade trims 1/2" from both edges. Armstrong, Lancaster, Pa.

CIRCLE 224 ON READER SERVICE CARD



Tapeless rule rolls along the carpet or flooring, goes over curved or irregular surfaces, or even straight up the walls. It eliminates stooping, bending, and climbing, and is faster than other forms of measuring. An odometer type dial gives accurate readings up to 1,000 ft. USM, Reading, Pa.

CIRCLE 223 ON READER SERVICE CARD



Mobile lift needs no tow truck, moves along with the job at up to 2 mph. Platform is 10'6" x 3'10", can be raised to a working height

of 23'. Pushbutton controls stop or start at any height. Charles Machine, Perry, Okla.

CIRCLE 225 ON READER SERVICE CARD

The last thing in the world you need is a house factory



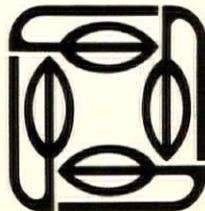
Because if you're toying with the idea of going into manufactured housing there are a lot of things that come before the factory. Things like several years and a million dollars or so worth of product research, development and design. And market analysis. And factory start-up knowhow. And prototyping. And on and on and on. All of which are necessary. All of which we have been doing for some time. Our capabilities, in fact, are so complete that we now offer a total service for manufactured housing systems. Pre-marketing analysis, product design and system design. In short, everything you need for success. And to meet every residential need. Single family homes, multiple family systems, recreational homes, etc. So if you're thinking about

entering manufactured housing on your own or of making an acquisition, contact us. We can offer consulting services, help you in phases or set you up completely. Whatever your needs we can save you a lot of time, a lot of headaches and disappointments and a heckova lot of money. Like we said, the last thing you need is the factory.



Typical single family elevation

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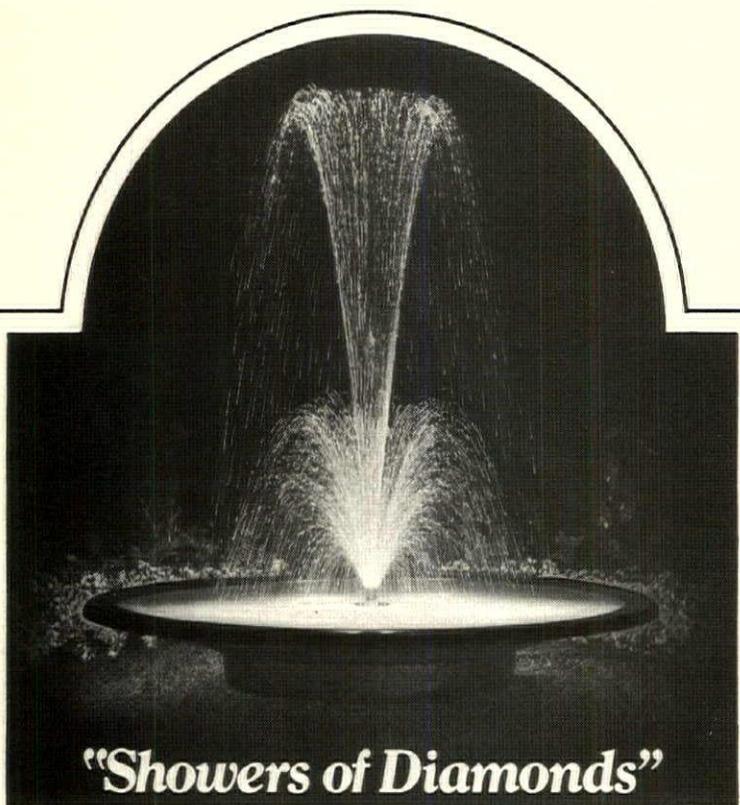
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PRODUCTS/HEATING & AIR CONDITIONING



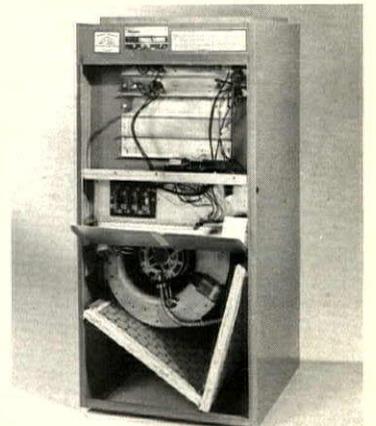
Compact furnace for apartments or smaller homes is only 11" wide, 52" high, and 28" deep and will fit into a closet. The gas-fired furnace, teamed with a cooling coil,

can be connected to an outdoor condensing unit to provide a central cooling system. Chrysler, Air-temp Div., Dayton, Ohio.

CIRCLE 226 ON READER SERVICE CARD



Central system features electric furnace and air conditioner. Four furnace models range from 10 to 25 kw, are suitable for upflow, downflow, or horizontal application. Matching evaporators range



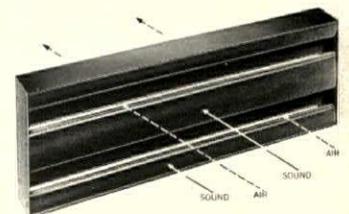
from 19,000 to 35,000 Btuh capacity, are pre-wired, ready for slab or rooftop mounting. Robbins & Myers, Hunter Div., Memphis, Tenn.

CIRCLE 227 ON READER SERVICE CARD



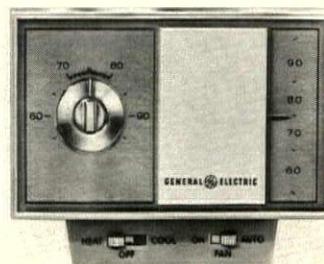
Control panel can combine all the switches and indicators needed to regulate heating, cooling, humidity, air cleaning—plus odor control—for complete comfort. Thermostat and control are standard components; others are optional. Honeywell, Minneapolis, Minn.

CIRCLE 228 ON READER SERVICE CARD



Noise reducer, to cut down noise in heating and air conditioning systems without resisting air flow, is only 1/8 the thickness of most silencers. In transfer grilles it cuts down cross-talk; behind return-air grilles, it reduces machinery noise. Air Filter, Milwaukee, Wis.

CIRCLE 229 ON READER SERVICE CARD



Heating/cooling thermostat can control gas-fired or oil-burning furnaces, can be used for residential or office low-voltage heating/cooling systems. One switch selects heat, off, or cool. The other offers continuous operation or automatic cycling of the fan. General Electric, Scotia, N.Y.

CIRCLE 230 ON READER SERVICE CARD



Half a million people couldn't wear out this carpet.

When you buy carpet for heavy duty service, you want carpet that's strong. Built to take it.

Which is precisely what you get in carpet made with pile of 100% Marvess® olefin, a Phillips 66 fiber.

Tufted indoor-outdoor carpet, like the one shown, was wear-tested by a million trudging, racing, glop-booted feet on their way through New York City's busiest place. Grand Central Station. Carpet that stood up even

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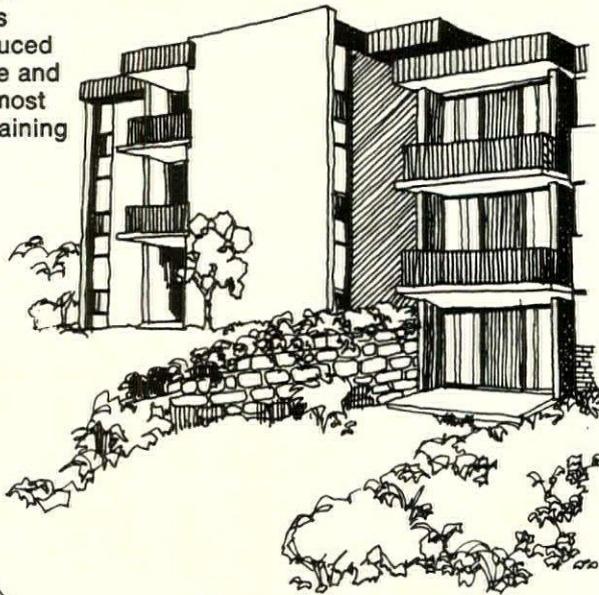
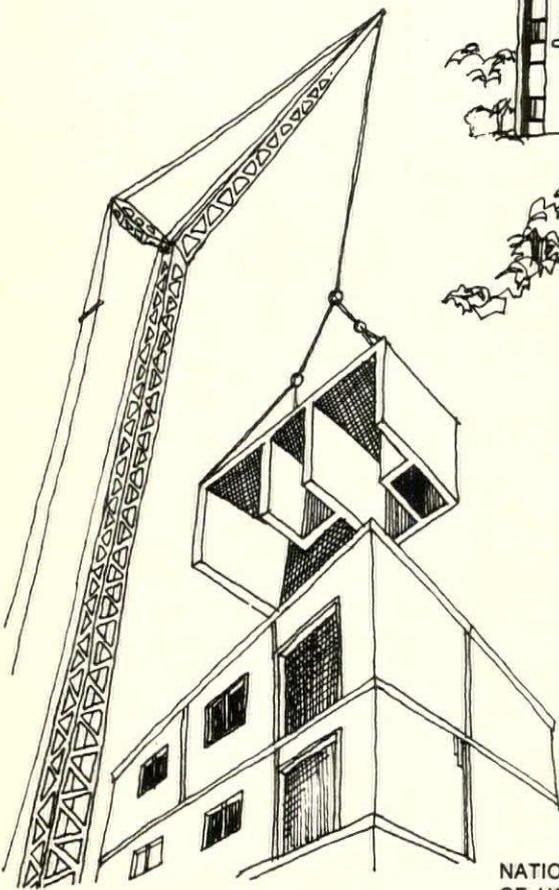
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LITERATURE

Color-coded entrances. Three entrances—one narrow, one medium, and one wide stile—for shops, store fronts, high-rise apartments, and schools, are covered in a full-color brochure. Color guides on the push bars, pull handles, and vertical glass stops help to direct customers toward doors, and so minimize accidents. Amarlite/Anaconda Aluminum, Atlanta, Ga.

CIRCLE 300 ON READER SERVICE CARD

Lighting styles. Full-color photos and drawings show a line of chandeliers, ceiling fixtures, wall lanterns, and post lights. Styles include Scandinavian, European, French, and Mediterranean. Halo, McGraw-Edison, Rosemont, Ill.

CIRCLE 301 ON READER SERVICE CARD

Electronic moisture indicator. Described on a sheet from a testing equipment catalog is a portable instrument that indicates the moisture content of solid or pulverized materials. It works on wood, paper, concrete, plaster, cement, etc., and can be used before painting or applying vinyl floor coverings or for locating steel reinforcing bars in concrete. Zormco Electronics, Cleveland, Ohio.

CIRCLE 302 ON READER SERVICE CARD

Noise control. Pre-engineered panels for controlling sound are discussed in a technical leaflet that shows the types of modules available, depicts typical panel connections, lists features, and rates sound absorption and transmission loss. Some commercial and industrial uses recommended are in-plant offices, electrocardiograph rooms, sound labs, etc. Eckel, Cambridge, Mass.

CIRCLE 303 ON READER SERVICE CARD

Tiffany-like fixtures. Original Tiffany designs are shown in four-color photos next to lighting fixtures that derive their colors and forms from the originals. Hand-crafted pieces all, their marbled, solid, or multi-hued jewel-like glass panels are leaded, not joined with plastic. More than 150 selections ranging from simple to ornate. Gramercy Park Lighting, Bronx, N.Y.

CIRCLE 304 ON READER SERVICE CARD

Home security system. A 24-hour protection system includes a master control panel that automatically signals a communications center when vandalism, attempted burglary, or fire occurs. The custom-fitted guard system and a typical installation are described and illustrated in a brochure that offers franchise information. Westinghouse, Pittsburgh, Pa.

CIRCLE 305 ON READER SERVICE CARD

A new, low cost way to sell your homes faster!

Builders now list homes during construction stages and often sell before completion through new National Home Exchange.

Builders! Here's the new, high-speed way to sell a house. It's called the National Home Exchange.

The National Home Exchange (NHE) is a nationwide central registry for people or firms who want to sell homes and people who want to buy homes. NHE electronically matches the requirements of home buyers against all homes listed for sale until suitable matches are made. Home buyers get printed descriptions of those houses that meet their requirements, plus the name, address and phone number of the seller. In this way, buyers can contact sellers directly.

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One: Through advanced computer-matching techniques the National Home Exchange compares every home for sale in its listings with every buyer's requirements every day. Thus, when a buyer tells us he's looking for the kind of home you've got, he'll know about you within 72 hours.

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National Home Exchange is not affiliated with any real estate brokerage, but does act as a supplement to services offered by realtors.

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This is a taste of our year-round Life campaign. It's just one of the reasons 6 out of 10 women prefer a gas-equipped kitchen.

We have the facts in a study by an independent research firm. More than half the women when house-hunting would rather have one with a gas range. Great gas performance is one big reason. Our year-round advertising is another. Ads like this one—week after week in Life, Reader's Digest and many other major magazines. Plus gas-sponsored TV specials all season long. Remember, when she steps into a gas kitchen, you're probably one step ahead on the sale.

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you can dish out.**

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Gas gives you a better deal 
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"The Armstrong lines we use have always been very well accepted by our buyers. They're practically presold on the product before we even display it."



The Perl-Mack Companies develop land, construct apartment complexes, homes (like the ones shown here), and shopping centers.

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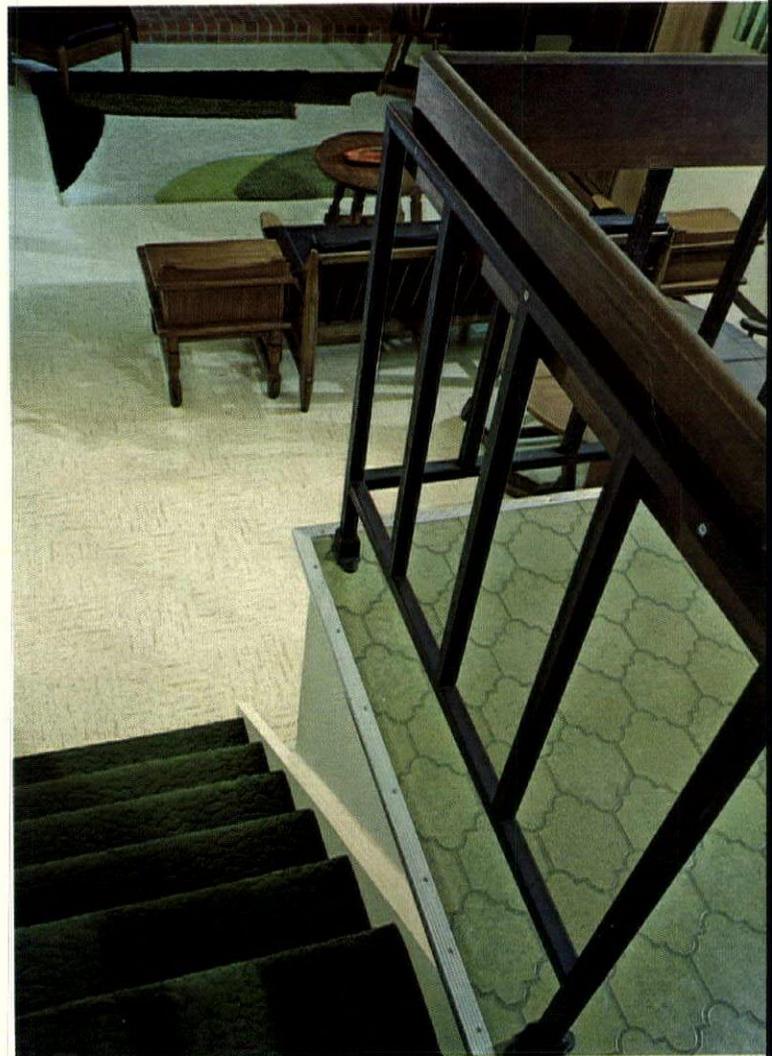
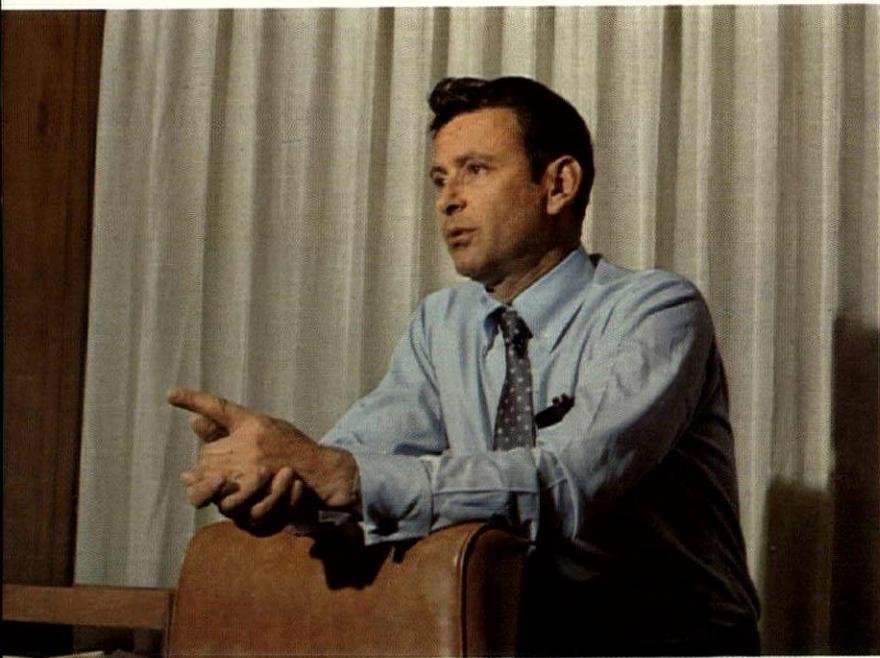


FLOORS BY
Armstrong

“The number one reason we use Armstrong products—they’re on top of design trends. Frankly, Armstrong’s a leader in the field.”

Mr. Samuel Primack, Principal of the Perl-Mack Companies, Denver, Colo.

“Another reason we choose a manufacturer like Armstrong . . . quality. We’re not interested in putting in a product that might give us maintenance and warranty problems.”



“Whenever we have a problem (and with 15,000 houses in an area, you’re bound to have a couple of problems), we get on-the-spot service from Armstrong . . . from the factory, when necessary.”



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