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NEWS

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Also: President Johnson calls for innovation in housing ... FHA rate rise to 5½% "not enough," cry housing men and mortgage bankers ... New housing giant emerging from merger of finance company and land developer ... New York probes political influence in mid-income housing ... Complete News index on p. 5.


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NEXT MONTH

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Circle 28 on Reader Service Card
WASHINGTON WIRE

Tighter money

The Fed’s mid-February move toward more restrictive money policy provokes fear of a squeeze of near-crisis dimensions. Tight money becomes top national issue next to Viet Nam. Fed member banks’ "minimum" reserves have jumped from $2 million to $120 million in a week. Housing will now find money scarce—as well as more costly.

More GI house buyers

Some 3.5 million veterans are now eligible for VA loans. All with 180 days service since Jan. 31, 1955 qualify. But VA rate, still at 54%, may hold down loans now.

Now to site picketing

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

Busting Realtors’ trust

Justice Dept. attorneys are considering the possibility of using antitrust laws to stop alleged racial discrimination by real estate boards in some areas. Expected allegation: conspiracy in restraint of trade to keep Negroes away from white neighborhoods, and exclusion of pro-integration real estate brokers. On another front, the Justice Dept., has filed its first suit against construction trade unions for alleged job bias. The suit is likely to be a test case.

New standards, or else—

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 The old standards will be withdrawn on Sept. 15.

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

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

The President does not promise federal bankrolling for vast tall new buildings, mass transit lines or utility lines; rather he calls for cities to do the grimy work of improving slum neighborhoods by concentrating spending and services there. Competition, not handouts, is the new Johnson stance. A new bonus program of federal aid will go only to 60 or 70 "demonstration cities" of various sizes whose officials and citizens can present the best plans for improving housing. The chosen 70 may receive an average of $30 to $40 million each over six years, or a total of $2.3 billion. Other cities will continue to receive regular renewal and public housing aid under existing programs. Still others will get money to show how metropolitan planning can improve suburban growth.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Says President Johnson pointedly: "Neither the structure of real estate taxation, cumbersome building codes, nor inefficient building practices" should deter the rehabilitation program.
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MARCH 1966
Circle 29 on Reader Service Card
President Johnson called for cities to demonstrate not only physical improvement of housing (see p. 6) but also social upgrading of residents. Cities “must make use of every available social program . . . New opportunities for work training must be offered,” said the President.

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

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

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

“It’s not as easy, perhaps,” he says, “But the income levels are such that you’re not dealing with problem families.” He points to FHA’s insistence that recreational facilities be provided as one example of how the government is aware of management problems.

But the social services—“software” in Washington’s vernacular—are more likely to be required for rent supplement projects, Daniels says, since the income levels are commensurate with those of public housing. (Congress is expected to provide $30 million for rent supplements shortly.)

“We’ll be making sure the community provides social services,” he adds.

Not so easy. Some housing execs involved in developing d3s feel the social problems involved in management are deeper than those showing on the surface. John Vaughn, Executive Director of Citizens for Better Housing, a Washington group designed specifically to foster and encourage nonprofit groups to sponsor d3s, points to FHA’s rent-supplement regulations.

“They’re fine for an insurance company, and that’s what FHA is, but you’ve got to say more than just turn over management of a rent-supplement project to a management company.” FHA’s regulations suggest the sponsor should hire a “management organization which is capable of dealing effectively with the type of problems likely to arise,” but adds no explanation.

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

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

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

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

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

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

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

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

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

Indirectly, Johnson praised the efforts of such developers as Robert Simon and James Rouse. Some new communities, the President said, “already in existence, promise dramatic efficiencies through size and new construction techniques, without sacrificing beauty.

“Obviously such a development should be encouraged.”

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

Planning power. The President proposed that several metropolitan regions demonstrate how effective planning can improve the character of suburban growth. In recent years the federal government has poured $115 million into planning grants for states and local agencies. But “efficiencies from metropolitan planning are still unrealized in most urban regions,” said the President. Reason: most regional planners are powerless to carry out their plans. Hence demonstrators will have to devise “new arrangements for coordinating decisions of local governments.”

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

For suburbs: new towns and new power for planners

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

OEO has sponsored part of the Harlem 114th street rehabilitation project (see p. 6), is fostering nonprofit groups to build Sec. 221(d)3 housing in urban areas and is innovating in housing for rural areas.

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

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

The five-man crew used a color-coded jig, designed by Prof. Rudy Osoinik, to cut and build wall panels at the site. But even these low-priced houses faced buyer resistance. Of 41 qualified low-income prospects interviewed by OEO, only seven said they would be willing to buy. “They were suspicious,” says OEO’s housing expert, Al Walsh. Walsh sees three major tasks for builders: 1) to mobilize the poor themselves to help assemble color-coded housing components; 2) to increase demand through selling efforts aimed at allaying suspicions; 3) to educate prospective owners to the benefits of conveniences like plumbing.

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

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

EXPERIMENTAL HOUSE in Kentucky was built by four unskilled workmen with color coded jigs.
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* THE ETCHING GOES ROUND AND ROUND (And it looks just great on our new round COPA KNOB DESIGN—created especially to show off the handsome antique pattern to its best possible advantage.)
* SOMEONE TO WATCH OVER ME (Kwikset’s etched finishes are “watched over” by our exclusive durable plastic coating. The older it gets the better it looks.)

Today, more and more decorator designed homes are wearing “the antique lock look,” the newest fashion trend for dressing up doorways. No wonder Kwikset’s trio of elegantly etched bronze, black and nickel finishes have received the enthusiastic acclaim of builders, dealers and home owners everywhere during our extensive market testing program. The introduction was timed to answer the growing demand for a new dimension in doorway decor. These unique finishes were created by embossing a permanent antique pattern in bronze metal, followed by black oxidizing, sanding, and then plastic coated. They are available in all functions in Kwikset’s popular BEL AIR design as well as the beautiful new COPA design. Try something different for a change. Give the look of yesteryear to the homes of today with Kwikset’s distinctively different etched finishes. They can be found on the Kwikset label. (A long selling record.)
Vacancies and loan delinquencies rise, but housing economists are unworried

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

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

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

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

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

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

The Viet Nam war is stepping up draft calls to about 30,000 a month—and these are young men who make up a good share of the apartment market. Apartment starts could slump 15%, predicts one economist, Assistant Prof. Jerome Dasso of the University of Illinois. But apartment builders are filling new units, and Census says only one-fifth of rental vacancies are in units built since 1966. The West, still suffering from overbuilding, has the highest vacancy rate, 11.7%, but this is down from last summer's 12%.

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

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

The unanswered question is how deep discounts will go on the new FHA 5½% loans and whether Jones' script will unfold. Many observers expect discounts to level between 3% and 4%, and both MBA and NAHB hope for further FHA rate rises to trim discounts to the 1%-to-2% range. Assistant Housing Secretary Philip Brownstein, who heads FHA, is sensitive to the distress deep discounts can cause in the upgrading house market. His postponement of an FHA rate increase until two months after the Federal Reserve tightened credit leads many observers to expect another watch-and-wait period.

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

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

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

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

How to egg on a homebuyer

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

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

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

Apartments full of personality

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

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

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

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MARCH 1966
Newspaper asks: Is Gulf American too big for Florida law?

The Miami Herald suggests the answer is yes.

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

- Florida's Installment Land Sales Board, set up in 1963 after House & Home and other magazines exposed nationwide scandals in mail-order land sales (News, Mar. '63), is controlled by the industry it is supposed to control. The legislature decreed that three of the five members be land developers.
- One of the three is Gulf American's chairman, Leonard Rosen. Gov. Hayden Burns appointed Rosen in November, although Gulf American was generating the largest number of complaints of any of Florida's 232 land companies. Three private lawsuits had been filed against the company in Miami courts and Gulf American had become one of the watchdog agency's major preoccupations.
- One of the board's two "lay" members is Howard Hirsch, former Gulf American lawyer.
- The board, meeting Jan. 28, withheld any action on complaints that Gulf American had refused to provide property reports, the documents that describe the actual condition of lots for sale and tell when and what improvements will be made. Only seven months earlier the board had cancelled a hearing on its order to Gulf American to show cause why its sales license should not be suspended.
- Eight years after Gulf American's move-in, Lee and Collier counties can't agree with the company on surety bonds high enough to guarantee improvements for all land being sold. In February Collier demanded an insurance company bond as well as Gulf American's own bond, but Gulf American is protesting.
- Asks the Herald: "Is the government machinery of these small counties geared to cope with an organization as big, aggressive and sophisticated as Gulf American?"
- And a Herald headline adds: "State Watchdog Has Dull Teeth."

Big and rich. Gulf American organized in 1958 and is selling $100 million worth of installment contracts annually. More than 90,000 persons in every state mail in $50 million a year, and Gulf American's 1965 net was $13.4 million. The company is selling 325 square miles of Florida at cost $30.5 million. The company's own financial reports suggest that the buyers may find it difficult to obtain clear title. Mortgages for $22 million encumber much of the company acreage. Its Lake Wales property is being sold with no guaranty that a buyer can get either title insurance or mortgage money.

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

There is yet another concern. Lee County can now count 200,000 platted vacant lots—66,000 of them at Cape Coral and 100,000 at Lehigh Acres, a subdivision in the interior that preceded Cape Coral but that has no connection with Gulf American. It would take a million people, or the population of the entire Miami metropolitan area, to fill those lots. Lee County's total population in 1960 was only 54,339.

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

"Beauty is truth, truth beauty—that is all..."

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

"So said poet Keats and so say I."

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

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

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

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

* "Ode on a Grecian Urn."
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FHA's new 5 1/2% mortgage rate—"Too little and too late"

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

"It's not enough," says Vice President Everett Mattson of Houston's T. J. Bettes Co., the world's largest mortgage banker. And the National Association of Homebuilders warns that it doubts that the increase "goes far enough to ease the discount situation."

It says discounts would remain "interolerably high" in the South and West.

Sums up Robert M. Morgan, president of the Boston 54 Savings Bank and the National Association of Mutual Savings Banks:

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

Half a loaf for builders. A 3 1/4% increase in interest at the originating end of the mortgage production line translates into 5 1/4% of "price" or discount—in theory. The mortgage banker, buying a mortgage from a builder and reselling it through the secondary market to an investor, can ask 2% more in "price," and he can charge his builder 2 1/2 less in discount. Yet Vice President Jack E. Crozier of Murray Investments, a Dallas mortgage banking

"The increase affects home mortgages written Feb. 7 and later. It does not apply to FHA's multi-family or land-insurance programs, to the 4 1/2% FHA home loans currently outstanding, or to the VA's 5 1/4% single-family loan.

NEW YORK WHOLESALE MARKET

FHA, VA Sales

<table>
<thead>
<tr>
<th>Immediate</th>
<th>Futures</th>
<th>FHA, VA 5 1/4% spot loans (On homes of varying age and condition)</th>
<th>FHA 5 1/4%</th>
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SECONDARY MARKET

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

<table>
<thead>
<tr>
<th>City</th>
<th>Money center</th>
<th>Yield to investor</th>
<th>Trend</th>
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</thead>
<tbody>
<tr>
<td>Atlanta</td>
<td>Boston</td>
<td>4 1/2% Up 1</td>
<td>a</td>
</tr>
<tr>
<td>Chicago</td>
<td>New York</td>
<td>4 1/4-5.5% Up 1</td>
<td>a</td>
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<tr>
<td>Cleveland</td>
<td>Philadelphia</td>
<td>4 1/2 Up</td>
<td>a</td>
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<tr>
<td>Dallas</td>
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<td>3 1/2-4 Up 3</td>
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<tr>
<td>Detroit</td>
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<td>Chicago</td>
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<td>3 1/4-4 Up 1</td>
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<tr>
<td>Milwaukee</td>
<td></td>
<td>3 1/4 Steady</td>
<td>a</td>
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<tr>
<td>Newark</td>
<td></td>
<td>3 1/2 Steady</td>
<td>1</td>
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<tr>
<td>New York</td>
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<td>3 1/4-4 Up 1</td>
<td>a</td>
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<td>Oklahoma</td>
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<td>3 1/4-3 Up 1</td>
<td>a</td>
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<td>Philadelphia</td>
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<td>3 1/4-4 Steady</td>
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<td>San Fran.</td>
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<tr>
<td>St. Louis</td>
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<td>3 1/4-4 Up 1</td>
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<td>Wash. D.C.</td>
<td></td>
<td>3 1/4-4 Up 1</td>
<td>a</td>
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</tbody>
</table>

CONVENTIONAL LOANS RESALE MARKET

Packages of conventional loans, privately insured by MGIC, for purchase by S&Ls. Loans are in metropolitan areas, originated by mortgage bankers and commercial bankers and listed with Mortgage Guaranty Insurance Co., 600 Markle Bldg., Dallas, Texas. Address inquiries 61/2 Jack O'Hara.

Sudden rises in interest rates and discount concessions are not the only factors influencing the wholesale market. A number of S&Ls are increasing their purchase of FHA mortgage insurance, and the FHA has increased its discount rates to bring them in line with an increase in mortgage rates, says FHA's president, Thomas P. Coogan.

"The mortgage banker, buying a mortgage from a builder and reselling it through the secondary market to an investor, can ask 2% more in "price," and he can charge his builder 2 1/2% less in discount.

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

And in fact, that's what is happening. Many of HOUSE & HOME's mortgage-banker advisers in 15 key cities posted discounts on new FHA 5 1/2% loans at only a point or 1 1/2 points less than that on the 5 1/4% (see chart). The reason: the private mortgage secondary market, in virtual suspension for the last two months, resumed limited operation with the FHA move, and investors began asking that half of the 2% of "price" be returned to them in yield. At first, just one mortgage banker had predicted they would (News, Feb. 7). Yields asked on the old 5 1/4% FHA had risen to 5.44 in New York and Chicago in anticipation of the FHA raise, and savings banks came back into the market asking an average 5.56% or 12 points more, on the equivalent 5 1/4% loan. That ate up half of the 2% price increase or discount.

"Builders' position, says Vice President John L. Weston of the nation's fourth largest savings bank, the New York Bank for Savings:

"We had written business into the mortgages with escalation clauses providing for a 5 1/2% rate. We agreed to pay 1 1/2 more and take 12 points more on yield.

The market seems to agree that this is fair and equitable."

"The FHA hasn't even brought discounts back where they were," says Vice President James L. Latta, senior vice president of Associated Mortgage Companies in Washington. And at a glance at HOUSE & HOME's mortgage chart proves his point.

As late as September, the highest discount quoted on the old FHA 5 1/4% loan was 2 1/2% Discount just posted on the 5 1/2% mortgage run up to 4 in Dallas and Los Angeles.

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

And says Elmer Vorhohf, a St. Louis builder who sells 400 homes a year at $100 to $23,000:

"FHA would have to raise it to 6% to eliminate costly discounts. We are not submitting any of our sales for FHA loans. We use conventions. We simply cannot absorb the discounts."
Our wallboard has the lowest cost two hour fire rating:

Bestwall is the original glass fiber reinforced wallboard. Bestwall Firestop, in various assemblies, meets Building Code Requirements and carries the Underwriter's Laboratories, Inc. (UL) Label for ratings from 45 minutes to 3 hours—with the economical Semi-Solid Partitions earning 1, 2 and 3 hour ratings.
**A peek into the red hot market in conventional loans**

"I'll offer 6.10% yield on one-to-fours. I'm Bill Corse. Room 1144." It was the bear pit.

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

"I'm Kim Fletcher. Home Federal in San Francisco. Offer 5 3/4%-6%, prime one-to-fours." 

"Glendale Federal offers 5 3/4%-6% net on residuals. Packages half-million up." 

"Don Callahan, Northern Federal of St. Paul offers 5 3/4% yield on one-to-fours, 6% on multiples. Ten million going." 

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

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

Bill Corse's deal—and a couple of others at 6.10%—set a new upper limit. Going yield runs 5.75%-5.85% on conventional one-four family loans, up 3/4% since a year ago. The quotations above show the pressure toward 6%.

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

S&Ls can also trade in FHA-VA loans, and they can market in the nationwide lending program authorized July 1, 1964. Associations buy complete conventional loans, usually from mortgage bankers. Only a scattering of S&Ls have taken advantage of this permission so far, even at yields 3/4% above the conventional market. Estimates of volume are $25-$30 million in trades of one-fours and multiples since trading was approved.

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

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

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

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

Hignett, who directs housing policy as president of the government's Central Mortgage & Housing Corp., said the agency had just acted to attract more money into building. It raised the rate on National Housing Act mortgages—the equivalent of FHA loans in the States—from 6 1/2% to 7 1/2%. The move makes the NHA loans competitive with conventional mortgages, which have gone from 7% to 7 1/2% in the last six months.

The NHA rise will add a total of $1,000 to a 20-year, $15,000 mortgage in the single-family house sector. There will be a corresponding rise in apartment loan rates, but it can be hidden in small increases in rent. That explains much of the builder complacency: Canada's rentals outstripped the single-family market years ago, and November apartment starts ran at an annual rate of 75,000 vs. 51,000 for single-family homes.

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

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

After three months of courtship, Atlas Credit Corp. of Philadelphia and Sunset International Petroleum Corp. of Los Angeles have agreed on housing's biggest marriage of convenience in this decade. They will unite as a new concern, as president of the government's Central Mortgage & Housing Corp., said the agency had just acted to attract more money into building. It raised the rate on National Housing Act mortgages—the equivalent of FHA loans in the States—from 6 1/2% to 7 1/2%. The move makes the NHA loans competitive with conventional mortgages, which have gone from 7% to 7 1/2% in the last six months.

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

(He'll see the light)

New Puritron Electronic Range Hoods help purify the air in the entire kitchen—quickly, electronically. Also help remove smoke, grease, and cooking odors without vents or ducts. The secret: Puritron's patented GOLD-ION tube.

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

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

Bill Levitt thereby hopes to profit from the peripheral winds, 62,800, set by new-home builders, and his venture into the field marks a significant milestone in emergence of the institutionalized builder (144th, Apr.).

Plans are sketchy, Levitt told the New York Society of Security Analysts last month, but "the projection is that in five years we could net as much on optional equipment as on the construction operations." Profit margins will be "considerably more" than his hoped-for 5% net, he said. (In fiscal 1965 Levitt earned 2.3%.)

When other builders were turning to making custom changes to satisfy buyers, Levit & Sons prospered during the first half of the 1960s in spite of a policy of building only basic models. In the year ended February 28, Levitt sold 3,900 houses. Beginning about five years ago, customers could get a deluxe range or larger refrigerator by paying extra.

Gradually, the list will be expanded until the acknowledged king of U.S. housebuilding will offer a dozen items—carpets, draperies, dishwashers, venetian blinds, etc. He has now given his go-ahead to offering a full range of optional equipment and furnishings, including even term life insurance that decreases in amount along with the mortgage payments.

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

The executive shortage particularly limits the overseas market. "We could build 25,000 houses a year in France and sell them—the market is limitless, but we don't have the talent," he observed. He has also turned down requests to build in West Germany because "we would be stretching ourselves too thin."

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

Easy expansion. Although "it is a good bet" that Levitt will enter one or two major U.S. metropolitan areas in the next two years, Levitt said his drive to decentralization (144th, Oct.) has uncovered an easy way to grow: spin-off tracts.

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

First townhouses. Levitt will start its first townhouses soon at Levittown, N.J. Levitt considers higher density housing the coming trend in U.S. housing. In France, he noted, officials are talking of banning four-unit-per-acre zoning (ten units per hectare) for a ten-unit-per-acre ratio.

Unsettled money market drops mortgage and S&L stocks

Continuing turmoil in the mortgage market (see p. 14) has investors jittery. House & Home's monthly reading of stock prices, taken the day this issue dropped its mortgage rate to 5 3/4%, found mortgage companies and S&Ls off sharply.

Two mortgage trusts were hit hard. Continental Mortgage Investors of Boston dropped 2 points to 30%, despite a record net income of $816,000 in the December quarter. First Mortgage Investors of Boston fell 2 points to 307/8.

Mortgage banking. First Surety 3 7/8,jumped 3-Vs on news of a four-for-three gages fell also. Mortgage Guaranty Insurance quarter. First Mortgage Investors of Boston dropped 2 points to 307/8.

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

New York State's Mitchell-Lama Law was a 1955 landmark that provided below-market-interest loans to builders of middle-income housing. Co-sponsored by attorney MacNeil Mitchell (a Republican state senator) and Architect Alfred A. Lama (a Democratic Assemblyman), the legislation was a direct ancestor of today's FHA Sec. 221(d)3 program, and has been hailed for making $1.3 billion in housing available to families of limited income. Two incomes definitely not limited by the way the law worked were those of co-sponsors Mitchell and Lama.

Mitchell testified to the New York State Investigating Commission that his Manhattan law firm got $427,633 in fees from 21 state-financed housing projects he helped organize under the law bearing his name. The firm also received other fees, Mitchell said, "paid by the builder or the entrepreneur out of their own funds." A profit and overhead allowance of 7 1/2% of total cost is permitted to builders under the law.

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

The investigating commission queried principals as to the origins of the law. Mitchell testified that there was no conflict of interest in his acting as a developers' lawyer while he was still chairman of the state's joint legislative committee on housing, but The New York Times commented in an editorial entitled "Profitiers in Housing": "The evidence ... makes it clear that there is something rotten with the law, ... the legislation has proved to be a bonanza for lawyers and builders and others with the right political connections."

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

The hearings turned up other big names and some revealing quotes. Former City Councilman Earl Brown testified that an old Harlem political foe, Councilman J. Raymond Jones, told him: "There is enough money in housing that everyone can get rich—in or out of office."

Brown was a member of the Housing and Redevelopment Board when the alleged conversation took place. He quoted Jones as saying: "You commissioners ought to make millions with all that housing involved in New York City."

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

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

Luxury builders unite; pick Landau

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

Upper-bracket builders from 25 cities make up the initial membership, but Landau estimates 2,000 U.S. builders operate in the high price market. Founding members generally build at the plus-$50,000 level and Landau himself builds about 15 houses yearly at an average $100,000 plus land.

"We feel the luxury builder is sadly neglected by the national and local homebuilder organizations," says Landau. "We are in no way trying to usurp these groups, but we do feel the need of more specialized service in such areas as financing, merchandising and legislation." The group plans a Chicago gathering in advance of Saint's December convention and exposition.
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NOW V8 POWER IN A COMPACT TRUCK, AND ONLY DODGE HAS IT!!

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There’s no secret that it’s the something a little bit nicer that makes a new home more attractive to a prospective buyer. It’s also usually true that premium quality means premium price. But now Wenczel Weave offers something new, something different, something nicer for that all-important room, the bath... and Wenczel Weave costs so little more. This 3-dimensional sculptured tile has a continuous basket weave pattern that creates a small tile appearance, without the extra labor and trouble of small tile. The non-directional design allows easy and non-erring installation. You can get its crisp textured look in 8 popular colors—and there’s nothing else like it anywhere. Write for new color brochure 118 for complete information.

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Pictured above—Floor: Bruce Fireside Plank. Wall: BrucePly Colonial Cherry Paneling.
A new, exciting cabinet by Kitchen Kompact
(Your best value in Kitchen Cabinets)

Glamorous, new Mellowood affords a broad styling face to kitchen cabinets. Here is warm, friendly maple—delicately and carefully finished—that's right at home with Colonial or Provincial. Just as important, Mellowood can be used in competitive installations or those where more luxurious kitchens are required.

Join the thousands of builders and dealers who have made KK's new Mellowood one of America's most popular cabinets. You can depend upon the traditionally good Kitchen Kompact service that's still "the finest in the industry." WRITE, WIRE OR PHONE TODAY FOR COMPLETE SPECIFICATIONS AND PRICES.

Kitchen Kompact INC.
JEFFERSONVILLE, INDIANA
Hard to believe, but...

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

Hard to believe, but...

some windows and doors are still weatherstripped with vinyl or metal
even though Poly-Pile* is greatly superior in a dozen ways

Windows and doors don't leak, squeak, stick, scrape or
cause gripes and call-backs when they have our rotproof,
bugproof, mothproof, mildewproof seal. Windows and
doors never suffer from vinyl-tackiness at the seal in
summer, or vinyl-brittleness in winter. Poly-Pile has a
million miniature springs of polypropylene that squeeze
between uneven surfaces to block wind and water, and
bounce back from thousands of closings. Insist on Poly-Pile,
the seal that recovers and provides absence of shrinkage or
hardening or of metal's denting and pitting from industrial
fallout. Don't settle for less!

*Poly-Pile is a trademark of The Schlegel Manufacturing Company

Schlegel weatherstripping gives Added Value.

THE SCHLEGEL MANUFACTURING COMPANY • P.O. BOX 197 • ROCHESTER, N.Y. 14601

Circle 51 on Reader Service Card
BUSINESS IN THE MAKING

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


Business continued on p. 44

READ THE

This advertisement was read by more than 15,000,000 persons throughout the country when it ran in the full circulation of LIFE magazine on November 12, 1965. Result? Thousands upon thousands of inquiries. Not only from consumers, but from builders, architects, distributors, contractors, utilities... everyone interested in truly the best heating system on the market today.

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

COMPARE THESE FEATURES WITH ANY HEATING SYSTEM ON THE MARKET TODAY

✓ COMFORT

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

✓ ECONOMY

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

✓ SAFETY

New York City Building Code will allow only international to be placed behind the finished drywall. Units available for hazardous locations; and are listed by U.S. Coast Guard, U.L., CSA, NEMA and Commonwealth Edison.

✓ CLEANLINESS

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

✓ HEALTHFULNESS

Since unlike other electric heaters, lint and dust particles are not burnt into carbon cinders, fine relief is provided for sinus and allergy sufferers.
LIFE Magazine ad that electrified the nation

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

HOT WATER HEAT WITHOUT PLUMBING

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

Just over six years ago, a plumber and an electrician from Seattle, Washington, flew to St. Louis to see Sid Heiman, president of the International Oil Burner Company. They had with them an invention. A hot water, heating baseboard that required no plumbing for its installation.

Quite simply, it was a hermetically sealed copper tube containing water. Inside the tube was an electrical element, when heated, caused the water to circulate, creating hot water heat. They came to Sid Heiman to get a straight answer on the worth of their invention. They knew him as a dedicated veteran of the heating industry. They knew he had pioneered the concept of perimeter warm-air heating.

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

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

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

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

By 1962, 50,000 Installations

By 1962, his new equipment began to sell in substantial volume. At the end of 1963, he could count more than 80,000 installations in homes, apartments, motels, offices, etc. Then, in 1964, Jim Price, chairman of the board of National Homes Corporation, the world's largest producer of manufactured homes, learned that this builder was offering a third option: ordinary electric resistance baseboards that sell for $200 less. There wasn't one taker.

Third option: ordinary electric resistance heating

Learned that this builder was offering a third option: ordinary electric resistance baseboards, unlike electric resistance baseboards, can be placed behind the filmiest drapes. As a matter of fact, New York City will not only allow International to be placed behind draperies, but behind doors and furniture as well.

Safest for Children

Mischief-prone children can stuff foreign objects into the heaters themselves.

What makes this heating equipment so remarkable and worthwhile?

One reason is its economy. Take the case of Argyle Gardens Apartments in Elmhurst, Illinois. In St. Louis, and Brueners on the West Coast.

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

In the first place, the temperature of the water in the heaters actually changes according to the outside air temperature.

For example, on a mild day, the water temperature may not get much over 80° F. On a very cold day, it will rise to over 200° F. This means that cold air coming off walls and windows is exactly balanced by heat emitted from the heaters. Never too much heat...never too little. There is no waste.

As a result, there is less than a 2° difference between floor and ceiling temperatures. No heat bunched at the ceiling where it isn't needed.

Our Challenge to You:

Unless International hot water electric heat sells your homes faster, don't waste your time or money on it. Just install the system in one home. Then run an ad with our insert. If you don't experience faster overall sales on your homes, the heaters will cost you nothing.

We'll take them back. In addition, we'll pay you back 75% of the entire ad. If you're interested, send us plans and specifications for a free heating layout today.

For entire homes, apartments, and single cold room problems

PORTABLE MODEL SALES

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

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

Address

MAIL THIS COUPON TO

HOT WATER ELECTRIC HEAT DIVISION
INTERNATIONAL OIL BURNER CO., 500 Park Ave., St. Louis, Mo. 63110

L. Statu.

Circle 52 on Reader Service Card

MARCH 1966
These saws have been on the job for over 40 years

PORTER-CABLE

Your guarantee of personal service
Now look what Rockwell has "built for builders"

(Guaranteed in writing to outperform all others)

Here's what the new line includes: The Rockwell Tiger, world's fastest cutting, most powerful all-purpose saw; pistol grip, D-handle and spade handle drills packed with power and features that assure trouble-free operation; pistol grip and D-handle screwdrivers with in-handle reversing switch for easier handling. 54 models—all totally new, all engineered and manufactured under the Rockwell quality label. For FREE CATALOG, write: Rockwell Manufacturing Company, Power Tool Division, 542C N. Lexington Ave., Pittsburgh, Pa. 15208.

"Built for builders"

Rockwell
MANUFACTURING COMPANY
Free booklet tells you how to use central air conditioning to close more sales

SELLING MORE HOMES MORE QUICKLY IS IMPORTANT TO YOU...AIR CONDITIONING CAN HELP YOU DO IT.

Get acquainted with this symbol

It means prompt title service nationwide

Chicago Title Insurance Company is qualified in 44 states, the District of Columbia and Virgin Islands. You deal with just one company to get nationwide title protection.

You work with experienced people

Real estate investors, developers and home builders find at every office of Chicago Title Insurance Company a staff with deep understanding of local real estate practices and conditions plus broad knowledge about every kind of title problem that comes from national operating experience.

Your title policy is backed by great financial strength

Chicago Title Insurance Company is one of the nation's strongest. Capital, surplus and reserves total more than $21 million. For specific information, write:

Chicago Title Insurance Company

111 W. Washington St., Chicago, Ill. 60602

BUSINESS

starts on p. 40

Title Insurance

You work with experienced people

Real estate investors, developers and home builders find at every office of Chicago Title Insurance Company a staff with deep understanding of local real estate practices and conditions plus broad knowledge about every kind of title problem that comes from national operating experience.

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Chicago Title Insurance Company

111 W. Washington St., Chicago, Ill. 60602
5 ways—count ’em—5 ways
to heat and cool your garden apartments
with Carrier equipment!

Plus variations on each of the five ways.
And with good reason. Apartment air conditioning is a subject with many answers—each right for a particular set of conditions.

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

From it, he can select and team up the Carrier products to give you the one air conditioning system . . . that best meets your requirements of space, construction, initial and operating cost . . . and that gives your tenants independence in both temperature selection and payment of utility bills.

The five ways—plus variations:
1. Room Air Conditioners: Install through the wall. Reverse cycle with electric resistance heat for use in mild climates.
2. Thru-the-wall condensing unit: One for each apartment. Fan coil with electric resistance heat . . . gas furnace with coil . . . or oil furnace with coil.
3. Gas-electric unit: For ground or rooftop installation. One for each apartment.
4. Heat pumps: One for each apartment. Self-contained . . . or split system.
5. Central chilled and hot water supply with single, ducted fan coil in each apartment or individual fan coils in each room. Choice of 2-pipe system, or 3- and 4-pipe systems with heating and cooling always available in each apartment.

We suggest you get in touch with your Carrier Dealer before plans have narrowed your air conditioning options. That way he can do the best job for you. You’ll find him in the Yellow Pages.

Carrier Air Conditioning Company, Syracuse, N. Y. 13201. Represented in Canada by Carrier Air Conditioning (Canada) Ltd.
BREAKTHROUGH
BY UNITED
Truly effective sound control is a six-sided problem. United States Gypsum research laboratories have developed advanced sound control systems that stop noise from any direction: the four walls, the ceiling, the floor. To control sound in any kind of construction, you can depend upon the materials and total sound control information available from U.S.G.

Six-sided Sound Control...
another breakthrough by

UNITED STATES GYPSUM
Chicago, Illinois


**BUSINESS**

starts on p. 40

Whatever your construction needs, you get it fast from Casings. Ninety-five per cent of all our orders are shipped within twenty-four hours from one of nine warehouses or our plant. Casings assures you prompt shipment of 21 different shapes and the finest quality. If there is something more we can do, ask us.

Andy Place says

"Majestic® Thulman® fireplaces reduced our costs 30 to 40 percent"

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

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

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

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

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

Architect Herbert Duncan Jr. kept the three buildings in scale with surrounding houses by limiting them to two stories and reducing their apparent height further with mansard roofs. Sunning areas around the swimming pool are screened from the neighbors' view by brick walls.

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

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

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

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

Leaders continued on p. 54
Any problem that can be traced to faulty attic ventilation is prevented when you install Vent-a-System. That’s a strong statement . . . but H C Products Co. (a corporation with net assets over $1,500,000) stands behind it with a Warranty builders can issue to every home buyer. After a solid record of Vent-a-System SUCCESS in hundreds of thousands of homes, we make this offer: If Vent-a-System doesn’t maintain an attic temperature within 15°F. of outside air temperature . . . if problems can be traced to attic ventilation . . . H C Products Co. will take Vent-a-System back, return the purchase price and pay the labor costs for removing it!

**HOW CAN “MR. VENTILATION” HELP YOU?**

No company in the world knows more about attic ventilation than H C Products Co.—developer of Vent-a-System after exhaustive tests on scores of homes including a specially-built research residence. Our Chief Ventilation Engineer Herb Hinrichs is available to analyze specific ventilation problems you may have and advise solutions—at no cost to you. Ask your H C Products sales representative about this unique service.

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

---

**Vent-a-System... must prevent every attic ventilation problem... or we’ll remove it entirely at our expense!**
Wood?
No,
New Du Pont Nylon Shutters meet demand for low-maintenance, pre-finished, high-quality materials... give you fast, easy installation.

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

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

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

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

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

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

Circle 61 on Reader Service Card
Contemporary apartments in a nonresidential area

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

Architect Richard Dorman designed a contemporary building with staggered setbacks for the 3/4-acre site along a busy street. There are several entrances from the street to the long central corridor (site plan, right), and the central entrance, sheltered by the projecting upper levels, has a landscaped fountain and reflecting pools.

Rents for the two- and three-bedroom units range from $225 to $315. Builder-owner: Keller-Indictor.
With Mosaic Tile, color compatibility is Traditional.

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

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

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

And how our sprightly new Champagne Glaze 1823 white scored wall tile harmonizes so gracefully with the countertop of Faientex 1091 midnight blue. And with the vibrant accessories. And with the subtle tub enclosure of Satin-Glaze 1001 light blue and its inset of Bright-Glaze 1012 dark blue.

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

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

"Mosaic" is the trademark of The Mosaic Tile Company
LETTERS

Credit reporting
H&H: I concur most heartily with the complaints about credit reporting agencies that were voiced at your Round Table on low-cost housing [Jan.]. But all of the gentlemen missed my biggest gripe. Why must we wait two and three weeks for reports?
If $7.50 isn’t enough to do the job properly, I’d be willing to pay more but I want service—$5, $10 or even $25 is a small price to pay when you figure it costs about $4 a day for interest on a $20,000 loan, let alone the cost of taking a property off the market while waiting for a complete report.
Herman Latine, broker
Twin Cities Realty
Herald, Calif.

Lusk collapse
H&H: I must congratulate you for the excellent job you did on the Lusk debacle. The lucidity of your story is outstanding, and in my book, it should be an award winner.
It teaches a few lessons, too, and I hope many of us in the industry get the point!
Philip I. Emmor, president
Lincoln Estates, Inc
Gainesville, Fla.

Heat installation costs
H&H: I believe an error has been made in the heating cost figures presented in “Where the building dollar goes—a new cost guide” [Jan.].
Assuming a theoretical house has a heat loss of 100,000 Btu an hour, the figures represented would indicate that warm-air heating would be installed at figures of $351, $373, $300 and $362 respectively. Under the same situation, based on the figures published, hot water radiant heating would cost $4,800 and $4,400 respectively, and we believe an error in the decimal point has been made in that these figures should be $480 and $440 respectively.
A. R. Nieweld
Hydrotherm, Inc.
Northvale, N.J.

Retirement town
H&H: Thanks for your excellent report on Ross Cortese’s Leisure World retirement community in New Jersey [Jan.]. It is a wonderful presentation of our architectural story.
Prices of our manors [apartments] are now set and will range from $12,500 to $30,500. Monthly payments—from $140 to $267—will include 80% of the cost of each resident’s outpatient medical services.
Thomas A. Mitchell, sales manager
Rossmoor Leisure World
Cranbury, N.J.

Try wallpaper
We’re serious. Wallpaper does sell homes. Not all by itself, of course. But, everything else being more or less equal, wallpapered homes have the warmth and individuality that stimulate a quick sale.
Who says so? Builders. We asked 1000 of them. For the record, two-thirds of new home builders replying said wallpaper helped them sell homes they’d built, Faster. And easier. Therefore, more profitably. That’s what they said.
Maybe it was just their money talking. Talking of money, we have a new builder booklet that will help you make more. Just fill out the coupon and send for your free copy today.
Of course, we expect you to make an initial investment. A 5¢ stamp.

WALLPAPER COUNCIL, INC.
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New York, N.Y. 10022

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Address
City
State
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Building?
Economy Budget?
Intermediate?
Luxury?

We aren't just whistling Dixie when we say Float-Away has the best X#*! metal closet doors on the market.

We've got a metal door that is designed, engineered and priced for your needs, in three price ranges. So why install anything but Float-Away when you can get better value from our single source operation?

Quality-for-quality, dollar-for-dollar, Float-Away doors can't be beat anywhere.

We want your closet door business!

We welcome direct inquiries from makers of manufactured and mobile homes.

A few choice territories are open for qualified dealers.

Write or phone for full information:

FLOAT-AWAY DOOR CO.
1173 Zonolite Road, N.E., Atlanta 5, Georgia
Queen's Circus, London S. W. 8, England

Circle 81 on Reader Service Card
Red Cedar Handsplit Shakes: Very much at home in Samoa.

When the architects began planning some new government buildings at Pago Pago, American Samoa, they faced two major roofing problems. First, what would survive more than 10 years in Samoa's hot, moist, salt-laden air (and occasional hurricane winds)? Second, what would complement the local native thatch roofs? Their attention was steered to red cedar when someone discovered some island buildings with red cedar shingle roofs still in place after 28 years. Further investigation led to life expectancy predictions of 30 to 40 years for handsplit shakes, and to a decision to use them for the roofs of 11 new government houses, 200 individual school units, an airport terminal and an auditorium (shown above). Detailed information on Certi-Split handsplit shakes (and Certigrade shingles) is available in our Sweet's Catalog listing, 8d/Re. Or give us a call. Or write.

RED CEDAR SHINGLE & HANDSPLIT SHAKE BUREAU
5510 White Building, Seattle, Washington 98101
(In Canada, 1477 West Pender Street, Vancouver 5, B.C.)
Fashionable bathrooms aren't bashful... they're bold

Lively new way to sell homes and apartments... 

SHOWERFOLD® tub and shower enclosures in Red Apple and Blueberry Blue

Only Showerfold Enclosures eliminate all the objections to old-fashioned shower curtains and sliding or swinging doors. They open and close from either side like an accordion. Easy to get in or out—even easy to bathe children.

Showerfold Enclosures are safe. Instead of glass, we use tough DuPont Alathon® panels that never mold, mildew, crack or shatter—resist waterspotting. Showerfold has no open bottom tracks to hold dirt, so a damp cloth cleans the entire unit.

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

You get big savings on shower installations—no costly end jambs necessary. That's why it pays to specify Showerfold. Write today for full information—Showerfold Door Corporation, 9559 N. Pulaski Rd., Chicago, Ill. 60646. On West Coast, 12621 Western Ave., Garden Grove, Cal. 92641.
"I love the bath...we'll take the house!"

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

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

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

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

Advertised in full color in McCall's, Good Housekeeping, Better Homes & Gardens, American Home, House & Garden, House Beautiful and other national magazines.

Circle 84 on Reader Service Card
Renewed cities for the Great Society:

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

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

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

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

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

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

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

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

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

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

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

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

In short, zoning as it’s practiced today is largely a farce. And the higgledy-piggledy land use fostered by this farce is clearly the root of our urban mess. If you doubt that point, consider Houston, which, with no zoning whatsoever, is neither better nor worse in urban design than almost any other American city.

The truth is that we leave the job of shaping our urban environment largely to speculators and zoning boards—in fact, to those whose private interests have created our current urban mess. The decline of the American city actually is rooted in the popular belief that any government regulation is bad regulation.

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

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

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

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

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

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

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

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

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

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

To see the first of the 16 houses, turn the page.
A big house with the appeal of a small Cape Cod

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

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

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


Photos: Joseph W. Molitor
2. A U-shaped ranch wrapped around an entry court

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

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

The dining room has been moved from the rear of the house to the front. And since the garden is a part of the formal living area, the family room has been moved into the space normally used by the dining room.

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

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

Contemporary Homes of St. Louis has sold 42 of these models at $26,650 on a $4,500 lot. Area of the house: 1,940 sq. ft. Architect: Joseph Ward.
A split-level geared to indoor-outdoor living

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

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

Deane Bros. has sold 58 of these houses in Mission Viejo, Calif.—45 of them in a single week. Price: $28,900 on a $5,000 lot. Architect: Norman Bloom.
4. A plank-and-beam house for a custom prefab system

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

It is a spacious house—2,800 sq. ft. of living area include four bedrooms, huge living and recreation rooms and a big utility room. It is planned for indoor-outdoor living—glass walls on the downhill side open the living room to a 24' deck, the dining room to a screened porch and the lower-level recreation room to a terrace. And it has a feeling of warmth—interior brick and plank-and-beam ceiling desks complement the glass walls and the openness of the plan.

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

Photos: Fred Rola

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

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

PLANK-AND-BEAM CEILING, shown here in the living room, is uncluttered because wiring for overhead fixtures runs through chases routed in the roof.
5. A traditional two-story with an exciting master suite

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

Nilsen says the inglenook has not only popularized this model—he calls it the "Mill House"—but also stimulated sales of his other houses. In four months, he has sold seven slightly different versions of the "Mill House" at an average price of $42,000 on a $10,000 lot. And buyers of his other models have asked him to include inglenooks in several of them at an extra cost of about $1,500.

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

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

6. An H-shaped house that guarantees family privacy

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

One house contains the living areas and is laid out so that the kitchen is adjacent to the dining, family and breakfast rooms. The other house includes four large bedrooms (the smallest is 12' x 14'), two baths and utility rooms. And the bedrooms gain added privacy because their windows face away from the living areas.

Other features include: gray glass in lieu of drapes in the entry, family room and living room; a plank-and-beam ceiling in the big (24' x 16') family room and walk-in closets with at least 9 lin. ft. in every bedroom.

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

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

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

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

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

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

Priced at $39,900 on a $7,000 lot, the house has 2,100 sq. ft. of area. Architect: Tippets-Abbert-McCarthy-Stratton.
DUTCH COLONIAL FACADE is actually a full two-story wall with sloping falsework built out on the second floor. Garage is in the basement.

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

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

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

Item for economy-minded builders: all four baths—two upstairs and two down—are grouped around a single vent stack.
9. A sprawling ranch that puts all its space to work

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

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

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

This 2,345-sq.-ft. ranch is one of the few speculative models built in La Costa, Calif, a recreational community developed primarily for high-priced custom homes. It was built by La Costa Homes Inc. and is priced at $50,500 on a $22,000 lot. Architect: Edward Fickett.
The heavy garrison overhang—1½' at both the front and back of this house—is more than just an authentic design element. It permits a 29'-wide second floor to be built above a 26' foundation, providing room for five ample-sized bedrooms, two big bathrooms and a dressing area off the master bedroom.

A five-bedroom house requires plenty of room for large-family activities, and in this model extra first-floor space was added with a connecting structure between the main house and the garage. The one-story wing includes a 175-sq.-ft. family room and a mud room with a half bath, laundry and clothes closet. Along with the 26' country kitchen, it creates an informal living area just as big as the formal living and dining rooms.

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

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

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

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

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

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

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

Located in Westport, Conn., the house was built by Jonathan Aley Co. Architect: Thomas E. Bates.
HISTORICALLY CORRECT DESIGN is based on old French farmhouses. Roof of the model, in Vancouver, B.C., is made of cedar shakes.

12. An authentic French cottage that really pulls traffic

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

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

The house has 2,400 sq. ft. of living area. Consulting architect was Dennis S. Deskin.
FRONT ELEVATION has a full-length porch roof that hides the 2' overhang of the second story and also blends the jutting garage into the facade.

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

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

- A mud-room area that includes a laundry and half bath, with the bath positioned midway between the formal and family living areas.
- An entry with direct access to all major areas.
- A big family room located behind the garage so that teen-age entertaining interferes with neither formal entertaining nor sleeping.
- A 230-sq.-ft. master bedroom suite with a big walk-in closet.

The house offers 2,470 sq. ft. of living area and sells for $39,800 on a $6,000 lot. It was built by Caldwell and Cook of Rochester, N.Y., and designed by Architect John Anderson of Seattle.
14. A two-story that gives parents a chance to breathe

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

Two rooms are common to both parts of the house: the kitchen, which adjoins both the dining room and the family room and also has its own eating area, and the foyer, which opens directly into the family room as well as the living room.

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

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

- Large glass areas are used on the street elevation. To preserve privacy, a screen of horizontal slats is built in front of the master bedroom windows.
- The entry hall is two stories high and glassed on both levels. To maintain the feeling of space, the staircase has narrow balusters and open treads (photo, bottom left), and a railed bridge (photo, bottom center) serves as the second-floor hallway.
- A sliding-screen wall permits the dining room to be opened to the living room, creating one big entertainment area.

The 2,700-sq.-ft. house, built by Classic Development Corp., has accounted for 12 sales in six months. Price: $51,000 on a $22,000 lot.
16. A king-sized version of the expansion-attic house

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

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

United has sold 100 Spacemakers—as many as it feels should be built in its existing subdivisions—and has a long waiting list for the model in future projects.

One problem: FHA requires lots at least 10,000 sq. ft. for the house—bigger than for United’s other models.
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New ways to build better
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AMERICAN PLYWOOD ASSOCIATION
With plywood siding you can completely eliminate sheathing

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

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

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

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

Jewel Builders, Berwyn, Ill., built it for a family limited to a $22,000 budget. Yet the house had to look right in a neighborhood of homes that cost several thousand dollars more. "Using plywood as combination siding-sheathing was the answer," says Tom Simon, Jewel president. "It's a great labor saver — you just go around the house once instead of twice." He used grooved cedar plywood with a reverse board-and-batten effect for the lower level, preprimed plywood lap siding for the upper.

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

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

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

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Plywood siding helps your sales by making a good first impression

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

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

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

But Mentor uses plywood for other reasons than appearance. He depends on it for quality construction at low cost, too. Floors are 3/4-inch T & G plywood, glued and nailed to avoid any chance of squeaks. His biggest savings come from using plywood as combination siding-sheathing. That cuts labor by 30 to 40 per cent.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

So it's good business to specify only plywood with the EXT-DFPA® grade-trademark. That means it was manufactured according to the high standards of the DFPA quality control program. Always insist on this grade-trademark on every panel.
Plywood exterior features like these mean a lot to second-time buyers

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

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

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

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

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

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

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

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

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

For a free booklet on finishing these and other sidings, write American Plywood Assn., Tacoma, Wash. 98401.
BRICK WALL at front of house screens drive-through carport. Prefabbed house was erected by small builder in big Builder Ed Bennett's Potomac, Md., tract.

NAHB's new research house: how it will help

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

SPLIT ENTRY is concealed from street because it is set back in a side wall. Foyer, glassed on two sides, is reached by crossing atrium on a redwood bridge.
NAHB's No. 6 research house is a showcase of homebuilding innovations that most building codes prohibit. They range from spacing roof trusses 4' apart to burying sewer, water, power and telephone lines in a common trench. Many of the ideas have been around for years but are still too progressive for the average code. NAHB's aim: to prove once and for all—in a conventional-looking, two-level house in Montgomery County, Md.—that the ideas really work.

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

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

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

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

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

But despite the lab's close involvement, the house is not meant to be just a test-tube study. This is a house with a practical component system designed especially for the small-volume builder. And by small volume, NAHB means as few as six houses a year. The structural components are simple in design. Each could be built easily in an improvised shop in an unfinished garage, then carried and set by two men. (Example: no panel is more than 8' long).

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

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

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

But the plan has one unorthodox feature that looks like a drawback. The stairs to the lower level open directly into the dining room. This could be alleviated somewhat by furniture arrangement—but not solved. Many of the research-house ideas, both in construction and design, could be adopted today by any builder. Others, while practical, can't be adopted because they involve products that aren't yet available. Some will never be adopted because they simply don't make sense. A prime example: the house requires two separate air-conditioning systems because it has two dissimilar heating systems; the second floor is heated by electric ceiling panels, which require supplementary cooling, while the first floor is served by a heat pump, which both heats and cools.

For a sampling of these ideas in the three major testing areas—1) engineered framing, 2) structural accessories and 3) plastics and adhesives—see the following three pages.
Test I: every piece of wood performs at full rated capacity

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

1. Widely spaced bearing members support the walls and roof. Studs are 4' apart, instead of the conventional 16", though girts are placed between them on 2' centers to provide adequate backing for drywall and for glue-nailed ½" plywood siding-sheathing. Trusses are also 4' apart (instead of the normal 2'). They were easily spanned by nail-glued ½" t&g plywood sheathing but not by the gypsubboard ceiling. Furring strips of 2x2s had to be nailed across the bottom chords to carry the ceiling panels, which are screwed on.

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

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

4. Glue-nailed plywood skins help compensate for lighter, wider-spaced framing. Reason: they increase wall, floor and roof stiffness. And in so doing, they permit walls and floors to be covered by only one skin. For example, nail-gluing and also butt-gluing the ½" single-layer subfloor produced a 60% increase in stiffness. Nail-glued roof sheathing overhangs 2' at gable ends without added structural supports.

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

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

ROOF SYSTEM is framed by 2x4 trusses on 4' centers. Bottom chord of each truss spans 28', is spliced at the center by a factory-made finger joint. Wide spacing required heavy sheathing, so NAHB used ½" nail-glued plywood with glued t&g joints to eliminate blocking or clips.

WALL SYSTEM differs at each level. First-floor studs are 4' apart, but second-floor studs are on conventional 16" centers because 4' stud spacing under floor joists would have required 2x8 header. Cost difference between new and conventional wall-framing systems is not significant.

FLOOR SYSTEM of in-line joists demonstrates strength of glue-nailed splice joints and ability of 2x6 members to perform as well as 2x8s when combined with ½" t&g glue-nailed subfloor. Splice joints, produced in NAHB's lab, were safely loaded with 1,000 lbs. Floor holds 180 lbs. per sq. ft.
Test II: accessories are part of structure—not just tacked on

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

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

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

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

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

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

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

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

Both ledges are tied into the reinforced brick cavity wall that forms a below-grade foundation at the front of the house. To cantilever the ledges, ¼" reinforcing rods are extended horizontally from the wall's vertical rods. The horizontal rods are spaced to fall between alternate courses of brick in the ledges.

BUILT-IN GUTTERS are constructed around continuous 2x8 nailed to rafter ends and interlocked with roof sheathing. This serves as rain stop and gutter trough. Aluminum fascia cap, factory-finished with white baked-on enamel, is snapped over 2x8 and continued up gable ends.

BUILT-IN VENTS open up roof continuously on all four sides. Sheathing-siding is cut short to leave a 6" gap under eaves. Gap is covered with insect screen and concealed by wide frieze board on 2x2 spacers. Frieze is cut from overlaid plywood which is prestained in on-site shop.

BUILT-IN LEDGES cantilever from below-grade brick cavity wall. Horizontal rods are tied to vertical reinforcing rods in wall, and brick ledge is laid up on temporary platform shown at right in photo of cantilevered hearth. Photo at left shows ledge used as bench in atrium.
Test III: plastics and adhesives get big jobs in frame and finish

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

At least two types of framing joints are held solely by adhesive. One is the finger joint at the center of each bottom truss chord—an end-glued joint formed in a factory by a new heated-die process (H&H, Jan.). The other is the vertically laminated beam used to frame the carport roof. It is a factory-glued sandwich consisting of three 1x8 boards faced on each side by 3/8” wood veneer.

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

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

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

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

Plastics also contribute to easier construction in several unseen ways. One example is unbacked vinyl paper applied over semi-finished drywall joints to simplify joint-finishing. Another is the neoprene gasket that seals the joints in the house’s cast-iron waste and vent pipes, eliminating the usual hub joint.
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Edison Electric Institute, 750 Third Avenue, New York, N.Y. 10017
Here are five new ways to prefabricate a house

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

Only conventional materials are used in the system. Wall framing consists of a fiberboard diaphragm glued between pairs of 2"x4" studs placed flat on 4' centers. The diaphragm is faced on both sides with perforated aluminum foil—providing both thermal insulation and sound-deadening. Interior wall surface is 1/8" drywall faced with aluminum foil and stiffened by 1"x6" boards glued 6" apart. Exterior wall surface is bevel siding bonded to edge-glued sheathing boards cut in 12'-wide lengths and site-joined by tongue-and-groove. Roof trusses are made of double chords with webs and gussets sandwiched between. Roofing is a glued-up sandwich of 1" board between two pieces of plywood covered by polyvinyl fluoride film. It is produced in 96"-wide planks and glue-nailed to the trusses. For full details, write to the lab at N. Walnut St., Madison, Wisc. 53705, and ask for research paper FPL-47.
RIGID URETHANE FOAM UNIFIES PLASTIC AND METAL STRUCTURAL COMPONENTS INTO STRONG, EASILY ERECTED, INSULATED MODULE

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

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

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

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

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

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

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

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

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

Further information on this application may be obtained from Security Aluminum Co., 385 Midland Ave., Detroit, Mich., or Callery Chemical Co., Callery, Pa., manufacturer of chemical system.
1. **Tappan Refrigerator-Freezer**: Tell her it's like having a 20-cubic foot supermarket right in her kitchen, and no defrosting ever. Fits in a space just 36 inches wide, and has a built-in look with cabinet-matching door inserts. Also white, coppers, or Lusterloy finish.

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

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

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

is a two-way street

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That's crucial.
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and skill in developing new products
and methods. It fills management posts.
In the other direction, there's the
contribution business makes to colleges.
The colleges welcome it. They need all
the funds they can get. They're helping
to prepare leaders for management,
but the cost of education is going up.
In fact many colleges are having to
turn away applicants—100,000 a year,
says one estimate.
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finance their need for classrooms,
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VARIETY FROM
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Uniform, machine grooved Western Red Cedar Shakes electronically bonded to insulated backer board. Panels are 46⅞ wide ... in a choice of 12 colors. Ship-lap edge.

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Rustic cedar shake texture of Barn Shakes now in convenient 46⅞ panels. The shakes are enhanced by staggering the butts. Choice of special colors that give a weathered appearance.

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Eight feet of shakes applied at one time with these 3-ply wood panels. For single wall or double wall construction. Economical to buy and apply. Available in natural cedar or grey primed ... striated or smooth surfaces.

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Beside himself with joy—Because Barrett's Consultron Service Systems for 1966 are even greater. Do more. Offer more. Have a new twist that'll excite not only Mr. Hovnanian (President of Hovnanian Brothers in Manalapan Township, N. J.) but the hundreds of builders who were so pleased with Consultron in 1965. And who so overwhelmingly asked for it again in '66.

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TI-GUARD Copper Clad Aluminum gutters and downspouts are used on the Silver Skillet in Lancaster, Pa. The split wood shingles and traditional copper in roofing materials carry out the quality appearance as well as beauty in this restaurant.

NOW, beauty and economy with NEW TI-GUARD* building materials

Permanently bonded TI-GUARD* copper-clad aluminum combines in one material the age-old beauty and durability of copper with the light weight and lower cost of aluminum. For ten years its excellent corrosion and erosion resistance has made it ideal for a wide range of applications. Now it is being applied to building materials.

The secret of TI-GUARD copper-clad aluminum superiority is in the bond. Two outer layers of solid copper (10% each by thickness) are bonded metallurgically to an aluminum core. This reduces weight, cuts costs. Also, because the bond is permanent (will last as long as the metal itself), TI-GUARD can be freely shaped.

It can be easily soldered, too! And TI-GUARD copper clad aluminum can be used directly in mortar or concrete and also be lead coated per ASTM B-101-40. On buildings everywhere TI-GUARD is demonstrating its beauty, durability and economy. For samples and specifications of this amazing new material, see your local TI-GUARD distributor or write Manager, Building Construction Service Center. *Trademark of Texas Instruments Incorporated

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Circle 129 on Reader Service Card
This hat does things for you

It represents the forest fire prevention campaign serving every American business that depends on wood or wood products—your business, very likely. It's been pretty successful, too. Since this campaign began in 1942, there have been over 272 thousand acres that did not burn, more than 1 million fires that did not happen, and 10.1 billion dollars worth of damage that did not occur. But Smokey's job will never end, and he needs your help. You can wear that hat, too, by urging your employees and the people in the communities in which you do business to be extra careful with fire—every fire.

remember-only you can prevent forest fires

Material for posting on your bulletin board available from your State Conservation Department or the nearest office of the U.S. Forest Service.

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heating and cooling

Who? Fraser-Johnston, that's who!

Why? Because Fraser-Johnston quality-engineered heating and cooling products are built better . . . last longer. They're easier to install and call backs are almost unheard of (F-J works hard to make it easy for you). And speaking of "unheard" . . . F-J units are the absolute quietest, thanks to exclusive sound conditioning features like: the unique new Control-A-Flame burner with its safe, noiseless ignition and extinction . . . and the patented expansion joint that eliminates contraction/expansion noise (whether it's heating or cooling, F-J's quiet operation always impresses prospective home buyers).

There are dozens of other extra-value features that Fraser-Johnston builds in to help you sell. Take F-J's revolutionary new "Silent 67", for example . . . it's the only furnace that comes completely pre-engineered for all-season air conditioning! To add a precisely balanced cooling system—now or later—simply slide an F-J cooling coil into the built-in compartment and hook up to an F-J condensing unit (there just isn't a better way to offer your buyers the joy of year-round comfort!).

Chances are, you can have F-J quality for no more than you're now paying. For complete details on the benefits of buying the best in heating and cooling equipment, contact your local F-J distributor or Fraser & Johnston Co., 1900 17th Street, San Francisco, California 94103.

Fraser-Johnston
SAN FRANCISCO, CALIFORNIA

Industry leadership in heating and cooling — since 1928
A brand-new topping—rubberized concrete

Flexible like rubber, hard like concrete—that's General Electric's new silicone topping compound. It bends, stretches, doesn't crack, doesn't absorb water, and survives freezing, acids and other extremes.

Specifically, the new compound is silicone rubber combined with specially treated reinforcing materials. It is mixed with a vulcanizing agent before application, then troweled into place like concrete.

The new topping adheres equally well to concrete or wood. It has been tested as high-traffic road surfacing in hot and cold climates and as plywood surfacing on roofs and in swimming pools. Its flexibility also makes it an excellent grout for tile and patio stones.

But there are limitations. The topping can only be applied to a horizontal surface—it will not stick to vertical or angled surfaces until cured (16 hours). And it adheres best to bare wood or bare concrete.

So its application to wood is largely limited to the prefab shop, and it will probably not be big in remodeling. (Circle 201 on Reader Service card)

Heat pumps get a boost from this new departure in cooling-cycle design

The new design—introduced in January by Westinghouse Electric Corp.—promises to give the heat pump greater heating-cooling capacity, longer life and lower maintenance.

Specifically, Westinghouse has developed a new way to control the flow of refrigerant in the heat pump's reverse-cycle system. Conventional heat pumps (and other air-conditioning units that run by compression refrigeration) use a capillary tube or thermal expansion valve to regulate the flow of refrigerant to the evaporator and prevent liquid floodback to the compressor. Westinghouse's system uses a different control device—a liquid subcooling control valve in combination with an accumulator-heat exchanger.

A heat pump using this system is so much more efficient, says Westinghouse, that it will heat in subzero outdoor operating conditions (down to minus 20° F). Also, it can be switched to cooling when outdoor temperatures are as low as 0° F.

Other advantages: 1) a builder has more flexibility in positioning the split system's indoor and outdoor sections because refrigerant charging and distribution through parallel-circuited coils are less critical; 2) liquid subcooling makes the heat pump's filter-drier more efficient for removing moisture and contaminants. (Circle 202 on Reader Service card)

New products continued on p. 148
When half the walls will be windows, can you afford the “callback” kind?

This demonstration is shocking only if you’ve been taking your windows for granted.

Only if you’ve been content to “get along” with whatever is available ... the ordinary kind of windows that can cause troublesome callbacks and cost you money.

But if you think seriously about windows, you know that they occupy a third or more of the outer wall area in nearly every home you build.

You recognize every window opening as a potential trouble spot.

And you know that Andersen Windows are designed and built to spare you the cost of window callbacks. Pre-assembled for a lifetime of smooth, easy operation.

Experience has shown you that Andersen Windows help make your homes more pleasing ... help you create a good first impression ... because they’re a brand your customers respect.

You probably even know that Andersen offers a complete range of styles and sizes, both windows and gliding doors, to enhance any design.

And whether you use it as a selling point or not, you know that fuel savings of 15% or more is a ready-made advantage of every Andersen home. Because Andersen Windows are extra weathertight (up to 4 times as tight as ordinary windows).

But there may be a few new wrinkles in the Andersen line that you don’t know about. Customer-pleasing convenience features like welded insulating glass that eliminates all storing, handling, and cleaning of storm windows. Or snap-on grilles that pop out for easier window cleaning. And many more.

Why not let an Andersen dealer or distributor point them out to you. Call him today. Andersen Corporation, Bayport, Minnesota 55003.
Kitchens

General Electric presents new major appliances

The refrigerator-freezer (left) with two doors has a net volume of 15.6 cu. ft. with a freezer capacity of 145 lbs. No Frost 16 never needs defrosting. It also includes a self-reflling icemaker. The undercounter dishwasher (center) can accommodate 15 complete table settings. It includes a special device for cleaning silverware. The electric range (right) is self-cleaning. The 27" model has an automatic rotisserie and a backsplash with push-button controls. The range hood is lighted. General Electric, Louisville. (Circle 203 on Reader Service card)

Consoweld shows Total Look kitchen design

The Total Look concept in kitchen design involves use of Consoweld laminated plastic on all wall and outside counter surfaces. The patterned plastic, designed to blend with cabinet facings, is installed on the soffit, backsplash and counter edges. Consoweld is available in tones of blue, gold and brown in four patterns. Consoweld surfaces can be cleaned with a damp cloth and are resistant to fading, chipping and staining. Total Look can also be used in bathroom decoration. Consoweld, Wisconsin Rapids, Wis. (Circle 204 on Reader Service card)

Built-in gas waste disposer will dispose of up to ½ bushel of refuse. Installed under a standard 36" counter, the unit requires 15"x24" of floor space. The door comes in colors to match any kitchen decor. Magic Chef, Cleveland, Tenn. Circle 205 on Reader Service card

Slip-in range has a 25" wide oven and a recessed cooking top. Designed to fit any type of counter, it has an adjustable chrome trim strip for easy installation. The gas range has a lift-off top and removable oven door. O'Keefe & Merritt, Los Angeles. Circle 206 on Reader Service card

Refrigerator-freezer, called Twin-Temp Combo, has a capacity of 20.7 cu. ft. and is 35¾" wide. Units are available with individual trim kits that can adapt the standard model to various color schemes and wood tones. Tappan, Mansfield, Ohio. Circle 207 on Reader Service card

Refrigerator with combined freezer has sculptured handles and linen-like silver vinyl trim. The 41" unit never needs defrosting. A storage unit for fruits and vegetables is included at the top of the refrigerator compartment. Kelvinator, Detroit. Circle 208 on Reader Service card

New products continued on p. 154
SOME PEOPLE KILL THEMSELVES TRYING TO GET TO WORK ON TIME

Getting your employees to and from work alive is a full-time job. Yours. And it’s not just a matter of public welfare, either. Off-the-job traffic accidents cost American industry millions of dollars in lost time, training and production every year. Last year alone, more than twenty thousand workers were killed in off-job motor vehicle accidents. And more than 750,000 were injured. Motor vehicle accidents claimed more than 1½ times as many lives as on-the-job accidents.

Can you do something about it? You really can’t afford not to. Write now, to the National Safety Council for information on what you and your company can do. Address your letter to the Director of Public Information, National Safety Council, 425 N. Michigan Avenue, Chicago, Illinois 60611. Published to save lives in cooperation with The Advertising Council and the National Safety Council.
How to warm up a cold concrete slab

OAK FLOORS GIVE A HOME NEEDED WARMTH AND COMFORT

It takes only a quick look through recent issues of home magazines to tell which way flooring fashions are headed. Page after page show photographs of beautiful Oak Floors harmonizing with interesting accent rugs.

Professional decorators know that only Oak offers such complete decorating freedom. Home buyers know that Oak’s durability and easy upkeep promise beauty for years to come.

So it’s not surprising that, in today’s style-conscious, quality-minded home market, most buyers prefer Oak.

When you order Oak Flooring, ask for a brand that carries the widely advertised N.O.F.M.A. stamp. It’s your assurance of flooring that meets the strict quality standards of National Oak Flooring Manufacturers’ Association.

N.O.F.M.A Oak Floors
Richer looking · Longer lasting · More comfortable

National Oak Flooring Manufacturers’ Association
614 Sterick Building, Memphis, Tennessee 38103
**Sheet vinyl flooring** is designed to look like hand laid brick. Coronelle Vinyl Corlon is made up of red textured bricks set in pairs in a parquet arrangement. It comes in 6’ widths in .090” gauge. Armstrong, Lancaster, Pa. (Circle 209 on Reader Service card)

**Solid vinyl tile** has a built-in feature strip and beveled edges designed to simulate custom-designed floors. Feature Travertine is available in four colors—Off White, White, Moss Green and Old Ivory. Tiles are 12”x12” and .080” thick. Kentile, Brooklyn, N.Y.

**Vinyl asbestos tile** is embossed with a marble-like tracery said to help conceal heel marks and subfloor irregularities. Textured Florentine comes in four marble shades—Java, Magenta, Jade and Mimosa. Azrock, San Antonio, Tex. (Circle 210 on Reader Service card)

**Embossed vinyl tile** is designed to resemble Pueblo Indian sun-baked brick. Adobe Terraflex is available in Mesa White, with a beige chip; Mojave White with a greenish chip; Canyon Grey and Alamo Beige. Johns-Manville, New York City. Circle 214 on Reader Service card

**Cushion-soled sleepers** are screeds which, when placed on 12” centers above a moisture barrier on a concrete slab, serve as nailers for subfloor and finish floor. The sleepers come in 3’, 4’, 5’ and 6’ lengths. Potlatch, San Francisco. (Circle 215 on Reader Service card)

**Vinyl tiles**, called Blossom, form a rose pattern. Each segment of the floral pattern is outlined with a dark color. The tiles are available in 12”x12” size in white, golden beige, gray, beige, olive and wood. Goodyear, Akron, Ohio. Circle 211 on Reader Service card

**Vinyl-ceramic tile** combination flooring can be installed over virtually any type of subfloor. Ceramolok sheets, which can be bent during application, are installed with a special adhesive. Flooring can be used immediately. Amsterdam, New York City. Circle 212 on Reader Service card

**Cement-based tiles** are handmade. The Classic series includes six shapes available in six standard colors with a lightly glazed textured finish. There are approximately eleven tiles to the sq. ft.; they are 3/4” thick. Designers Flooring, Miami. Circle 216 on Reader Service card

**Cement bonded tile** comes in square and hexagonal shapes 5⅜” x 5⅜” with a recommended ⅜” joint. Franciscan Promenade tiles are available in a wide range of colors with matching grout. International Pipe & Ceramic Corp., Los Angeles. Circle 217 on Reader Service card

**New products continued on p. 156**
Not you — if you insist on residential and commercial garage doors made with genuine Structoglas, the most beautiful, most durable fiberglass reinforced panels made. Lightweight, of course, but tougher, more weather-resistant than ordinary fiberglass panels. Its jewel-like colors keep their good looks longer — transmit light more evenly to every corner of the garage. Structoglas doors give you added selling points — for instance, there's more usable living and play area, less maintenance, greater security against prowlers — and Structoglas never needs painting.

*Structoglas contains a vastly better light stabilizing ingredient, the highest quality guaranteed fiberglass mat, more evenly dispersed resins—not just a plating. So naturally it looks better—lasts longer.

Avoid call-backs and complaints. You can forget garage door worries when you patronize quality manufacturers who use real Structoglas. There is no "equal".

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Arm-R-Lite Door Mfg. Co.
Overhead Doors
The Overhead Door Corp.
Ro-way Doors
Rowe Mfg. Co.
Weather-Tite Aristocrat Doors
Weather-Tite Division of the Pacific Coast Co.
Phenix Magic-Lite Doors
Phenix Manufacturing Company

MARCH 1966

Circle 98 on Reader Service Card
Office equipment

Transistorized two-way radio has a compression amplifier that electronically eliminates audio blasting and compensates for changing voice levels. Parallel consoles may be used for multi-office locations. General Electric, Lynchburg, Va. (Circle 228 on Reader Service card)

Desk-high filing cabinet provides storage space for rolled drawings and other large sheets. One model has twenty 4½" square tubes, another has eighty 2½" tubes. Tops are wood-grained vinyl over steel. Plan Hold, Torrance, Calif. (Circle 232 on Reader Service card)

Lateral file has hinge-supported drawers. The hinges extend outward when drawer is open and fold against cabinet back when drawer is closed. The unit occupies 15"x36" of floor space and has 34¾" of interior space. Art Metal Inc., Jamestown, N.Y. (Circle 229 on Reader Service card)

Telephone answering device requires no wiring connections. Telephone is placed on the unit's cabinet, Amsey Robot can record incoming and outgoing messages from 30 seconds to 5 minutes. Up to 120 calls can be taken. Gasolair, New Haven, Conn. (Circle 230 on Reader Service card)

Vinyl filing envelope has a clear front permitting contents to be seen without being removed. The envelope's back and projecting tab come in ten colors for color-coded filing. Envelopes are standard file size. Eagle Binders, Los Angeles. (Circle 233 on Reader Service card)

Office trailer can be towed by almost any vehicle. The trailer has a sub-floor storage compartment and peg-board tool panels on the interior sides. Work Wagon can be used for storage, headquarters offices, tool cribs, etc. Wells Cargo, Elkhart, Ind. (Circle 234 on Reader Service card)

Combination whiteprinter and developer is 18" wide. Unit is said to produce sharp, dry copies from translucent or semi-opaque originals. The copier can be wall or table mounted. Diazit Co., Monmouth Junction, N.J. (Circle 231 on Reader Service card)

Dual-roll diazo copier has an electronic exposure computing device. Ozamatic 360 automatically selects the correct width diazo paper (up to 19") and cuts it to the length of the original. General Aniline, Binghamton, N.Y. (Circle 235 on Reader Service card)
United States Steel Homes packages save you valuable time. You may purchase everything needed to erect and finish out a building, all from one source at one time. Precision in-plant manufacturing of high quality components makes possible these time-saving efficiencies which are passed on to you.

United States Steel Homes building system is the industry's FIRST tried and proven steel structural system. This exclusive design is easier to erect with smaller crews and fewer skilled workmen. You have maximum manpower efficiency with a minimum of training problems.

United States Steel Homes apartments go up faster, finish out faster. This means you make fewer payments on high-cost construction loans and have that much needed, quicker rent-producing occupancy.

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Apartments begin to make money only after they are occupied. This is why the complete line of U. S. Steel Homes Apartments holds a big advantage over other types of multi-family construction. Get all the facts on United States Steel Homes' full line of apartments AND one of the industry's most diversified lines of single family homes. Write United States Steel Homes Division, Charlestown Road, New Albany, Indiana 47150, for full information.
the feature that melts snow...sells more homes

Give prospects something special to think about—Chromalox electric snow-melting step mats that make steps safe at the flip of a switch. This ready-to-install assembly is specially designed for embedding in concrete steps. Basic 2-step and 3-step mats can be combined for four or more steps. Other Chromalox snow melting equipment available for driveways and sidewalks. Write today for Bulletin M60100.

CHROMALOX electric heat
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Circle 91 on Reader Service Card

A Flat Finish
For HARDBOARD
Tested and recommended by leading hardboard manufacturers
Cabot’s OLD VIRGINIA TINTS®
A uniform oil-base finish

Cabot’s Old Virginia Tints provide a pleasing flat finish for all types of hardboard. They are particularly attractive for the new exterior sidings with the “rough-sawn” look.

- Cabot’s Old Virginia Tints are trouble-free flat finishes for shakes, shingles, masonry, and hardboard. Equally effective on pre-treated or untreated surfaces.
- Excellent hiding power; easy to apply and maintain.
- Waterproof and weather-resistant; preserve and protect wood.
- 20 unique colors plus black and Old Virginia White.

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330 S. Terminal Trust Bldg.
Boston, Mass. 02210
Please send color card on Cabot’s Old Virginia Tints.

Exteriors

Aluminum siding has a weave pattern surface. The siding is finished with a nonchalking acrylic enamel paint available in six colors. Panels have a self-aligning snap lock to reduce installation time. U.S. Aluminum, Franklin Park, Ill. (Circle 236 on Reader Service card)

Plywood siding of white pine has a rough-sawn surface. Trend-Tex siding is available in six factory applied stain finishes with battens or decorative grooves. The surface is treated with a water repellent preservative. Potlatch, San Francisco. Circle 237 on Reader Service card

Prefinished redwood siding has a deep-penetrating stain that eliminates the need for on-site finishing. The rough-sawn bevel siding comes in three shades—Silverado Gray (above), Natural Penta and Colorado Russett. Simpson Timber, Seattle. Circle 238 on Reader Service card

Hardboard siding, called Textured Shadowcast, is backsealed and factory primed, permitting a 60-day wait for finishing. Lap siding (above) has a horizontal texture and extra thickness. Vertical and U-Groove panels are available. Celotex, Tampa, Fla. Circle 239 on Reader Service card

Rough-sawn siding, available in lap style, plain and grooved types, is called Kuf-X-ninety. The lap siding comes in 12” widths in 16’ lengths. Plain and grooved panels are 4”x7’, 8’, 9’ or 16’. All siding is 7/16” thick. Masonite, Chicago. Circle 240 on Reader Service card

New products continued on p. 160
The Lif-T-Lox
removable and balanced

Sure-Lok Awning
1, 2 or 3 unitized vents work simultaneously with one operator

Royal Casement
concealed self-locking hardware and two complete planes of weatherstripping

High-Lite Glider
both sash slide and remove

Fine wood windows and quality wood patio doors make a tremendous difference in sales appeal. They look warmer than aluminum units and smart buyers know that they are much warmer. Compare R-O-W quality and features carefully with any other brand, regardless of price.

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laboratory tested 5 times as weathertight as established standards
**Delta Faucet Company**

Greensburg, Indiana

Division of Masco Corporation

In Canada: Delta Faucet of Canada Ltd., Rexdale, Ont.

Circle 94 on Reader Service Card

**Tools and equipment**

**Hydraulic-cushioned backhoe** digs to 12½", operating at 2,100 psi. It has full feathering control and simultaneous crowd, lift and curl action. Two other models dig to 14' and 15'. Bucket widths: 12" to 36". Int'l Harvester, Chicago. (Circle 218 on Reader Service card)

**Direct burial line-layer** plows in ¾"-diameter cable, wire or tubing to 18" depth. An hydraulically powered knife slices the soil, spring-loaded skid shoes mend the cut. The unit fits the manufacturer's trenchers. Davis, Wichita, Kan.

Circle 219 on Reader Service card

**Vertical router** widens and deepens random cracks in cement or bituminous concrete for proper sealing. Tungsten carbide bit, available in a variety of widths, cuts 'V-groove'. Engine exhaust blows out particles. Clipper, Kansas City, Mo.

Circle 220 on Reader Service card

**Choose Swanson built-ins for better kitchens**

FREE...SEND TODAY! Complete catalogs, including product specifications, to help you design better, more beautiful kitchens.

**Hydraulic-cushioned backhoe** digs to 12½", operating at 2,100 psi. It has full feathering control and simultaneous crowd, lift and curl action. Two other models dig to 14' and 15'. Bucket widths: 12" to 36". Int'l Harvester, Chicago. (Circle 218 on Reader Service card)

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Circle 220 on Reader Service card

**Choose Swanson built-ins for better kitchens**

FREE...SEND TODAY! Complete catalogs, including product specifications, to help you design better, more beautiful kitchens.
Vehicle trailer has spring-loaded ramps to speed up loading and unloading. Three-position tow hitch simplifies truck hook-up. Trailer shown carries 15 tons, other models range from 1- to 35-ton capacity. General Engines, Thorofare, N.J. (Circle 221 on Reader Service card)

Quick-disconnect ladder is a standard aluminum extension ladder whose sections can be disengaged while standing in a working position. The new feature comes on all models in the manufacturer's 1500 series. R.D. Werner, Greenville, Pa. Circle 222 on Reader Service card

Protective chains for wheel tractors reduce tire wear in rocky soil by shielding tread and side walls from objects over 3" in diameter. Chains may be turned over for longer wear. Tire sizes: 33.25x35, 29.5x29, 23.5x25, 20.5x25, 17.5x25. Caterpillar, Peoria, Ill.

Low-profile wheel loader offers choice of three bucket sizes, diesel or gas three-cylinder engine, eight forward and four reverse speeds to 16.2 mph. Breakout force: 3,000 lbs. Lift capacity: 2,000 lbs. to 9'9". John Deere, Moline, Ill. (Circle 224 on Reader Service card)

Paint or Stain... does it really make a difference?

Of course there are some similarities. The important difference is that Olympic Stain penetrates. Unlike paint, Olympic sinks in and actually becomes part of the wood—coloring, protecting, accenting the natural grain and texture. Olympic doesn't form a film. So it can't crack, peel, flake or blister. But it can (and does) give you a beautiful finish every time. We guarantee it.

111 S.W. Levy Blvd. Seabrook, Tex. 98217

New literature starts on p. 166

Circle 96 on Reader Service Card

Circle 97 on Reader Service Card
Eleven years ago when Scheirich Bronzeglow Birch cabinets were first introduced, the manufactured wood cabinet was just beginning to come into its own. Builders who formerly tied up their labor in “finishing out” kitchens were learning they could buy and install cabinets more quickly and more economically than they could build them ... and get far better quality in the bargain. Today the trend is so firmly established that each year sees the rate of usage of manufactured wood cabinets leaping far ahead of the rate of housing starts.

The H. J. Scheirich Company is grateful for its share of this continuing tide of business, and mindful of the continuing obligation to provide ever better cabinets. That we are successful in our efforts is demonstrated by our reputation for sustained excellence, which is second to none in the industry.

"The most beautiful kitchens of them all"

H. J. Scheirich Co. • 250 Ottawa Ave. • Louisville 9, Ky.
Planning to build an unusual home?  

Here's how zone control can solve your heating and cooling problems with little additional cost

Successful builders are finding that a slightly unusual feature or floor plan makes their homes stand out from the competitive homes. It can capture the prospect's imagination and often is just enough to clinch the sale. But these same features can create heating and cooling problems, too. And of course, no matter how exciting the feature, if the home is uncomfortable, you'll have a dissatisfied customer.

Chances are, you have some of these features in the homes you are building now.

Here's a list of six common design features and the problems they can cause with heating and cooling systems.

1. **Large glass areas** provide a great view, but they cause inside temperatures to vary with the outside weather changes . . . even with double-pane windows.

2. **With a spread-out floor plan,** sun, shade and wind in different areas cause widely differing heating and cooling needs.

3. **Rooms over unheated areas,** such as garages, often have cold floors and walls.

4. **A finished basement,** because it is below ground level, places unusual demands on heating and cooling systems.

5. **Lots of potential problems, but zone control solves 'em all**

Dividing your homes into two or more areas with accurate temperature control in each provides maximum comfort. Your buyers can have different temperatures in different zones, or the same temperatures in all zones under varying heating and cooling requirements.

You will be pleasantly surprised at the cost of zone control

As you can see, zone control makes a lot of sense, and it isn’t very complicated. The cost of additional equipment is nominal. Compare the cost with the problem it solves, such as cold floors or uncomfortable bedrooms, and zone control becomes a necessity.

Speaking of unusual features . . . you've just added another one

Honeywell zone control not only solves problems connected with unusual features—it is one all by itself. It's an interesting talking point and attracts attention.

After all, what's more important in a home than comfort?

SEND ME THE NEW BOOKLET on Honeywell zone control systems.

Honeywell, Dept. HH3-402
Minneapolis, Minnesota 55408

This is all it takes

With a forced air system, all it takes is a Honeywell thermostat, damper and damper motor to control air distribution to each zone. With a hydronic system, zone valves control the water flow.

MARCH 1966
Builder-customers of these companies

IF YOU HAVE THE LEAST DOUBT THAT BUILDERS PREFER HOUSE & HOME, RUN YOUR OWN TEST. WE'LL PAY FOR IT.

All we ask is that the following conditions be met: Maximum mailing of 1,000 to any unbiased list of active builders. In the interests of good research, advertiser or agency must participate in preparing the questionnaire. A magazine preference question must be included; tabulation to be done by the client or an outside agency. The client will write House & Home a letter detailing the results and give House & Home permission to use it in selling. Interested? Contact your House & Home representative.
In 1965 builders voted House & Home their #1 publication in 35 separate studies sponsored by building product manufacturers and their advertising agencies. This finding has been true since House & Home first began publication—fourteen years ago.

Of even more significance to advertisers than House & Home's 2-to-1 lead in preference votes, however, is its 4-to-1 lead in units built. For example, in the above independently sponsored studies, the builders who chose House & Home put up four times as many houses and apartment units as those preferring any other publication in the field!

This consistent preference for House & Home by active builders stems from its balanced and thorough editorial attention to everything affecting their operations and profits—preliminary planning through design, construction, legislation, marketing, management, and construction to final sale.

By its consistent attention to these subjects House & Home has also attracted close readership by those experts who work with builders—and participate in product selection—in each stage of the building process. They too, from architects to subcontractors, have voted House & Home their #1 publication.

As a result, House & Home is the best place to advertise to builders and all their professional associates concerned with product decisions, from concept to closing.

"These 35 studies, and every other known independent study, are summarized in the report "Patterns of Publication Preference." Ask your House & Home representative for a copy.

House & Home
MANAGEMENT PUBLICATION OF THE HOUSING INDUSTRY
NEW LITERATURE

For copies of free literature, circle the indicated number on the Reader Service card, page 141.

CERAMIC TILES. 32-page catalog has four-color photographs of 1966 line. Color palette of 136 glazed, ceramic mosaic and Murray Quarry tile colors is included. American Olean Tile Co., Lansdale, Pa. (Circle 302 on Reader Service card)

CABINET HARDWARE. 8-page catalog includes pictures and descriptions of hardware available. Ajax Hardware Corp., City of Industry, Calif. (Circle 303 on Reader Service card)

LIQUID LEVEL. Product bulletin describes nine basic measuring operations that one man can make with Selleck level. Price & Rutzebeck, Hayward, Calif. (Circle 304 on Reader Service card)

PLASTIC LAMINATES. 8-page brochure shows in-place photographs of Pimiite. Information on properties, grades, finishes and sizes is included. Pioneer Plastics Corp., Auburn, Maine. (Circle 305 on Reader Service card)

WALLPLATES. 16-page product bulletin shows and describes Medalist line. Products covered include wallplates without grooves or ridges, metal and stainless steel plates, Slater Electric, Glen Cove, N.Y. (Circle 306 on Reader Service card)

PLYWOOD SIDING. 4-page folder shows Vari-Sawn panels that don't have continuous horizontal ridges. Check-Free and Verti-Line textures are also pictured. Long-Bell, Portland, Ore. (Circle 307 on Reader Service card)

WALL PANELS. 6-page technical bulletin describes use of adhesive to apply furring strips to masonry and bonding of Royalacote paneling to furring. Masonite, Chicago. (Circle 308 on Reader Service card)

RESIDENTIAL LOCK. 2-page sheet describes "owner guard" feature that permits construction keys to be knocked out and homeowners' key alone to open lock. The feature is available with all manufacturer's 800 series locks. Weslock Co., Los Angeles. (Circle 309 on Reader Service card)

STEEL BIFOLD DOORS. 8-page brochure describes plunger-type door hardware that can be installed quickly. Steel K-Doors come fully assembled. Ekco Building Products, Canton, Ohio. (Circle 310 on Reader Service card)

FIREPLACES. 8-page brochure shows installation photographs of wood-burning fireplaces and gives specifications. Majestic, Huntington, Ind. (Circle 311 on Reader Service card)

BATHROOM ACCESSORIES. 8-page catalog pictures and gives information about medicine cabinets, mirrors and lighting panels of aluminum and vinyl. United Metal Products, Los Angeles. (Circle 312 on Reader Service card)

HARDBOARD PANELS. 6-page product bulletin shows Wormy Chestnut wood panel with textured surface available in light and dark tones. Marsh Wall Products, Dover, Ohio. (Circle 313 on Reader Service card)

FLOORING. 116-page hardcover catalog shows manufacturer's complete line of cushioned vinyl, inlaid vinyl, resilient tile, vinyl cushionliner, congoleum and other products. Congoleum-Nairn, Kearny, N.J. (Circle 314 on Reader Service card)

REDWOOD SIDING. 8-page booklet has in-use photographs of siding. A selection guide is included. California Redwood Assn., San Francisco. (Circle 315 on Reader Service card)

METAL BUILDING PRODUCTS. 24-page catalog includes dampers, ventilators, sewer and drain accessories and incinerators. Dooley Bros., Cleveland, Ohio. (Circle 316 on Reader Service card)

DECKING. 2-page brochure shows and describes Bond-Deck white fir panels 21" wide and up to

BIRD Vinyl Sells

Maintainence-free! Can't peel, rot, rust. And profitable, too.
Bird Vinyl Sells

24' long. Tarter, Webster & Johnson, San Francisco. (Circle 317 on Reader Service card)

WATER COOLING AND HEATING COILS. 60-page catalog includes engineering and performance data. Charts, photos and diagrams are included. Westmuntchse, Boston. (Circle 318 on Reader Service card)

URBAN RENEWAL. 131-page annotated bibliography lists 1,500 articles in books, magazines and other publications. An author index is included. To receive copy: send $5 to National Housing Center Library, 1625 L Street, N.W., Washington, D.C.

SIDING. 24-page booklet has complete descriptions of manufacturer's sidings and accessories. The publication includes an introductory basic information guide in front. More detailed installation information follows. U.S. Plywood Corp., New York City. (Circle 319 on Reader Service card)

STRUCTURAL WOOD FASTENINGS. Catalog shows complete line and includes information on sizes, packaging, suggested applications and recommended safe working values. Timber Engineering Co., Washington, D.C. (Circle 320 on Reader Service card)

SAFETY EQUIPMENT. 12-page catalog shows complete line of scaffolding, components and accessories. Assembly techniques and suggested applications are discussed. Deal Products, Easton, Pa. (Circle 321 on Reader Service card)

WALL FURNACES AND GAS HEATERS. Catalog shows and describes vented wall furnaces and vented and unvented gas area heaters. Other heating and cooling products are also discussed. Dearborn Stove Co., Dallas. (Circle 322 on Reader Service card)

LUMINAIRE CEILING SYSTEM. 16-page product bulletin shows C-60 system that has lighting efficiency, draft-free ventilation and high level of sound absorption. Armstrong Cork, Lancaster, Pa. (Circle 323 on Reader Service card)

ELECTRIC BASEBOARD MANUFACTURERS. Directory includes 33 companies and a listing of their catalog numbers, data on watts, volts and length of each unit available. For copy: send 25c to National Electrical Manufacturers Assn., 155 East 44 St., New York, N.Y. 10017.

STEEL FRAMES. 4-page brochure includes installation information and detailed isometric drawings. Armweld Building Products, Niles, Ohio. (Circle 324 on Reader Service card)

MASONRY REINFORCING. Catalog includes information on wall reinforcements and reinforcing ties for masonry walls. Data on reinforcing ties for cavity walls are included. AA Wire Products, Chicago. (Circle 325 on Reader Service card)

STAINLESS STEEL KITCHEN SINKS. 22-page catalog gives specifications and sizes of over 200 sinks. Elkay Manufacturing Co., Broadview, Ill. (Circle 326 on Reader Service card)

SPRINKLER SYSTEM. Brochure describes Rain-Clox 8, an eight-station electronic residential sprinkler system. Unit can be installed indoors or outdoors. Rain Bird, Glendora, Calif. (Circle 327 on Reader Service card)

JOIST HANGERS. 16-page catalog includes information on post bases, header hangers, framing clips and porch-patio-fence hardware. Simpson Co., San Leandro, Calif. (Circle 328 on Reader Service card)

SIDING. 4-page technical bulletin gives data on 12 lumber species. Charts and installation information are included. Western Wood Products Assn., Portland, Ore. (Circle 338 on Reader Service card)

BIRD & SON
Box HH3
E. Walpole, Mass. 02032

Give me the word on your Solid Vinyl Shutters.
Name __________________________
Address _________________________
City ___________________ State ______
County ____ Zip __________

Circle 103 on Reader Service Card

BIRD Wind Seal Shingles

Even hurricanes can't budge them! Styles and weights for every type of building.

BIRD & SON
Box HH3
E. Walpole, Mass. 02032

Tell me more about your full wind-resistant shingle line.
Name __________________________
Address _________________________
City ___________________ State ______
County ____ Zip __________

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