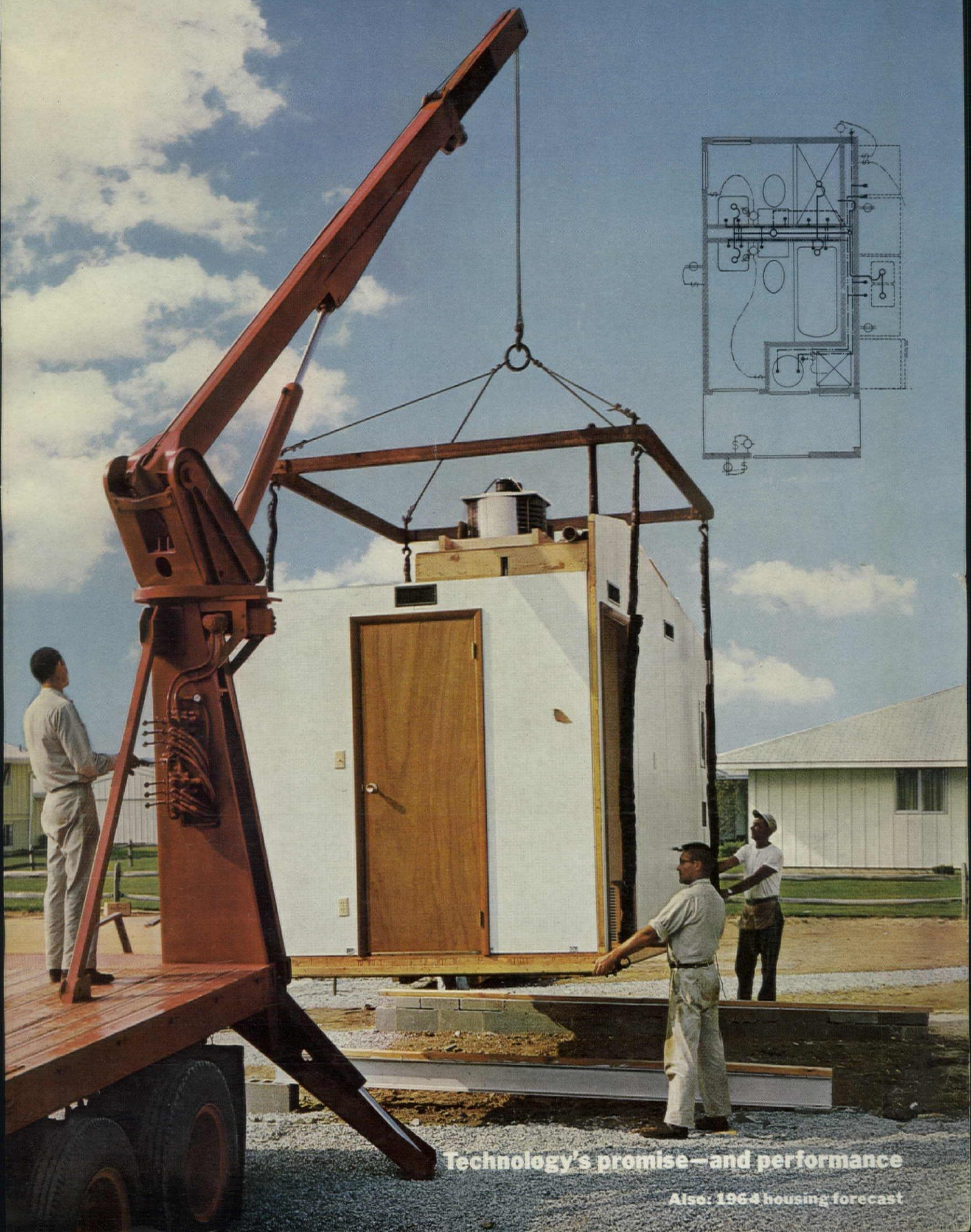
House & Home

MANAGEMENT MAGAZINE OF THE HOUSING INDUSTRY NOVEMBER 1963



Technology's promise—and performance

Also: 1964 housing forecast

CLOSEST TO NATURAL TRAVERTINE MARBLE!

New Kentile® Travertine Solid Vinyl Tile is greaseproof, easy to clean, need not be waxed. Its pitted texture and distinctive veining require minimum maintenance. Seven attractive colors. Installed cost in jobs of 1,000 sq. ft. or more: about $1.00 per sq. ft. for standard sizes (9" x 9" and 12" x 12", in .080" thickness). Prices slightly higher for special sizes and 1/8" thickness.

KENTILE VINYL FLOORS

House & Home

November 1963

COVER: National Homes' mechanical core. See p. 100. Photo: Kirk Studio

NEXT MONTH

HOUSE & HOME's annual roundup of the most important new products and materials for 1964 . . . The new housing industry, part VIII: the albatross of localism—an analysis of the Lilliputian ties that hobble housing.

IMPERIAL HUSH DISPOSER MODEL 9000 IMPERIAL 900 PROGRAMATIC GAS OVEN GAS SURFACE UNIT SG-726 CHAR-GLO GAS BARBECUE BROILER CG-29D

(BOTH AVAILABLE IN ELECTRIC)

Dishwashing can be child's play

If the dishwashers in your new homes are Waste King Universals. Let them help you to get off to a good start in selling a lady the whole house. Take loading a Waste King Universal Imperial 900, for example. There's no set pattern. She can load it any which way. Twelve-inch plates, odd-shaped items, roasting pans . . . all the things you see on top, and more, fit in with ease in one load. Take pre-rinsing. She doesn't. She gets real three-way washing action; up, down and all around, with two full-width, full-power wash arms. Gets every piece sparkling clean. The Imperial 900 dishwasher-dryer is one of 13 models available. All are easy to install, and virtually call-back free. These are more reasons why you owe it to yourself to consider carefully the complete line of built-in kitchen appliances. Each dependable product is manufactured and quality-controlled from start to finish by Waste King Universal. Your good judgment in choosing these products helps get the good word around about your new homes. See your Waste King Universal representative. Or write to Waste King Universal, Department H-11, 3300 East 50th Street, Los Angeles 58, California.

WASTE KING
UNIVERSAL

Products by Waste King Universal: Disposers ❋ Dishwashers ❋ Built-in Ranges ❋ Char-Glo Gas Barbecue Broilers

Forecast season: how 1964 shapes up for housing

As economists turn to their annual rite of looking at the coming year, they are far from unanimous. Economist Miles Colean foresees private non-farm starts increasing 3.3% to 1,570,000 (*see p. 122*).

Economist Robinson Newcomb of Washington predicts 1,575,000 units because mortgage interest rates and rising consumer incomes favor new home buying.

But Economist Nathaniel Rogg of the National Association of Home Builders is bearish. He predicts 1964 starts will decline 2% from an expected 1,530,000 this year to 1,500,000 in 1964. Rogg agrees with Colean that one-family starts will hold at 1963 levels but expects apartment building (including two-family units) to drop 30,000 to 525,000.

Rogg anticipates some softening in the rental market because big-city apartment building is declining. The boom is spreading to smaller cities, but Rogg doubts they can supply the same high volume. Rogg also looks for a "sobering effect" when units now under construction come on the market.

Business Week magazine takes a similar view that 1964 might match 1963 but is more likely to see a slight downturn. Reasons: overbuilding, soft demand.

And President Carey Winston of the Mortgage Bankers Assn., although making no exact forecast of starts, sees uncertainty in such "diverse and incalculable" forces as the pending $11 billion tax cut and the upcoming Presidential election.

HHFA's annual sum-up of housing sticks with its finding that nonfarm building should average 1,630,000 units yearly during the 1960s. Starts will be below this in the first half of the decade and gradually build to 2 million units in 1970.

Convention season: a lively dialogue over FHA's future

Out of fall conventions come more and more ideas—some radical, some conservative—for reshaping FHA. Concern grows in many quarters over the agency's future.

At the NAHRO gathering in Denver, Executive Director John Lange suggested processing of rehabilitation loans be split from FHA. Renewal Director Justin Herman of San Francisco wanted to set up a new agency modeled after the Home Owners' Loan Corp. of the 1930s to make character loans for fixup jobs. "Let's face it, we haven't gotten what we thought we could get out of FHA," confided one renewal man about the rehabilitation loans.

HHFAdministrator Robert Weaver replied: "This is our [official] problem, not Mr. Lange's or anyone else." FHA Commissioner Philip Brownstein said the idea that welfare-oriented programs should be taken out of FHA is "entirely wrong . . . To take them out would make a half-dozen different agencies doing a half-dozen different programs and would cause chaos."

At San Francisco, outgoing President Dale Thompson of MBA squarely blamed FHA's falling share of housing starts on the anti-bias order (although Brownstein disagrees). He argued the agency should not be used to enforce social change and called for a "greater degree of independence" for FHA. But Brownstein dismissed the idea: "I see no benefit from it."

At Atlanta, Home Manufacturers were skeptical about FHA efforts to convert conditional commitments to firm commitments in one day (NEWS, Oct.). "It gives used houses a much bigger break than new houses, which have to be wrestled through architectural and appraisal red tape, sometimes for weeks," they said. Brownstein agreed. Speeding new homes is his next target.

Congress still sour on better housing statistics

The growing Congressional itch to hold down federal spending is cramping the expansion plans of the housing agencies. The House has just cut FHA's budget request by 3% and banned hiring in all other HHFA agencies. And the House refused again to step up spending for housing statistics.

The House cut the $2.5 million HHFA request for better data and other housing research to $387,400. Unless the Senate adds something, HHFA can only continue its current reports on housing sales.

The scenario virtually repeats what happened to HHFAdministrator Robert Weaver's request last year and the year before. He is growing increasingly impatient at the impressions this leaves. A recent consumer magazine article (*see p. 7*) gigged him for "lack of leadership" in failing to boost housing research and technology.

"I have done my damnedest on research—but I haven't seen any pressure from many others," he flared at a press conference. "The others who want these programs should come out and say something. I think it's a crime the building industry is so parsimonious on research."

1964 legislation: half a loaf for everyone

As federal housing officials and Congressmen took off on their annual tour of the fall convention circuit last month, they began dropping hints about the shape of the 1964 Housing Act.

HHFAdministrator Robert Weaver said he had not yet decided some key points, and added that the scope of HHFA's administrative proposals may hinge upon guidance from the White House Council of Economic Advisers and the Budget Bureau. The overall strategy of these two agencies is clear:

- Budget more than ever in recent years will be holding the line on new spending. With President Kennedy pressing an $11 billion tax cut sure to bring a deficit, Administration strategists are being forced to adopt the public posture of holding down spending to head off trouble in some key Congressional districts. Upshot: New spending proposals are almost certainly dead for 1964.
- The economic advisers, headed by Walter Heller, call urban renewal one of the four domestic programs with top priority. So you can expect the Administration to seek a $2 billion to $3 billion boost in authority to sign renewal contracts. One administration argument: The money will not be spent immediately but doled out over many years.

While the battle lines are already drawn for the renewal clash (*see p. 23*), Weaver is clearly under pressure to pull a rabbit out of the hat on public housing next year. For a year officials have been talking about a new face for public housing (NEWS, Sept.) Congress gave HHFA $5 million in 1961 to demonstrate new ways to house low-income families.

But, Weaver says, so far the projects started with these grants have not borne fruit. Some of the ideas being tested: 1) old mansions are being rented by Washington's public housing agency, renovated, and re-rented to low-income families; 2) a version of rent certificates (long advocated by the National Association of Real Estate Boards) is being tried in New Haven; 3) new designs to build houses for $6,000 are being worked out by the University of California; 4) new insights into FHA credit reporting are being sought in Gainesville, Fla. (*see p. 17*); and 5) efforts to convert low-income renters into homeowners are being made in Tulsa.

Which plans will Weaver choose? Weaver says it's still up in the air. "I hope we can develop ways to subsidize the individual instead of the unit so the individual receiving the subsidy cannot be identified," he says. "We have to devise some new approaches, but you don't get rid of a program till you have devised something better. The poor can't wait for the milennium."

Adds PHA Commissioner Marie McGuire: "We must find better ways to house the poor. The [social] services we provide today are not adequate. We must find out how to remove dependency in the shortest possible time."

PHA will probably step up its aid to housing for aged persons. Now 24% of PHA's 525,700 units are occupied by senior citizens, and 296 new authorities have been formed.

The likely proposal: HHFA will ask Congress for perhaps 100,000 new public housing units plus money to experiment even more with new ideas. The Budget Bureau may slash this.

"There is a good possibility we will propose some changes in the public housing law to let agencies use rehabilitation when the structures have less than a 40-year expected life," adds Weaver. Present law forbids this.

New fix-up programs. The Administration will ask changes in the law to let it put more emphasis on housing rehabilitation in 1964.

H&H staff

HHFA'S WEAVER
The poor can't wait

Most of the changes will be aimed at making existing programs work rather than creating new plans. Some ideas:

- FHA may seek a go-ahead to make cash payoffs for defaults of 20-year, $10,000 fix-up loans under Sec. 203k. At present only Sec. 220h loans in renewal areas have the cash payoff feature. FHA may also ask that economic soundness be waived for Sec. 203k loans, a move some builders say is needed to let FHA insure loans in aging "gray" areas.
- A new plan to help elderly persons bring their homes up to housing code standards will be proposed, but details must still be worked out. One approach: Sec. 221d3 (which provides for 3⅜% loans purchased by the Federal National Mortgage Assn. with money borrowed from the Treasury) will be opened to single persons. Because of an "oversight," says Weaver, only families are now eligible for this aid. In a Chicago test, rents have been held to a maximum $5 monthly increase by refinancing repairs (but not major structural changes) under Sec. 221d3.

But ideas to let FHA lend money at varying interest rates to fix up homes, or split off rehab work from FHA, are doomed.

Revamped mid-income plan? Officials are close-mouthed about other possible overhauling of FHA's controversial Sec. 221d3. But insiders report Congress may be asked to:

- Open the 3⅜% interest program to homes for sale. Only rental units now qualify for the below-market loans.
- Let limited dividend sponsors get loans at 90% of estimated replacement cost without going through the same intermediate corporation stage required for non-profit sponsors.
- Let interest rates vary upward from a floor, variously set at 0% or 2% . . . a proposal with practically no chance of passing.

Cabinet seat for housing? Weaver promises the Administration will once more seek Congressional approval of a cabinet post for HHFA "before the 1964 election." But he will not reveal details—such as a possible name—or any tactics. "We will have a cabinet in one of the two Kennedy Administrations," he predicts. "This is an urban country and we are going to have to act like one."

The proposal is certain to rekindle a bitter fight in Congress. Less than two years ago, the Kennedy Administration was defeated on this move by a 264-150 vote in the House. Since then southern Democrats have watched consistently for any plan to elevate HHFA—and make Weaver the first Negro cabinet member. And a Republican plan to set up a co-ordinating office in the White House for city aid has languished.

If the cabinet proposal wins this time, big-city housing men may find it not quite the prestige builder they had hoped for. President Kennedy has held full cabinet meetings less than once a month, has preferred instead to rely on quick advice from four departments—State, Defense, Justice, and Treasury.

More talk on secondary mortgage plans

Sen. John J. Sparkman (D., Ala.) and his housing subcommittee have wound up hearings on how to provide an exchange facility for conventional mortgages—and that's that for this session.

The Administration pointedly refused to endorse any of the three controversial proposals examined in depth at the three-day hearings.

Testimony showed strong opposition to the philosophy of a private market, and the late date of the hearings meant that no action could be expected this session. Sparkman did predict some form of legislation next spring, although many insiders insist it will take a long period of far tighter money to produce results.

Administration antipathy at the hearings obviously sprang from fear that making the conventional mortgage market work better might divert business from FHA, whose starts have already plunged to 15% of the private non-farm total.

Interstate markets. Sparkman's committee is considering legislation to set up interstate markets for much of the mortgage money tied up in local conventional loans to home buyers. The group is studying these proposals:

• The basic bill, S.810, backed by the American Bankers Assn., directs the government to charter and supervise 1) private corporations to insure conventional mortgages up to 90% and 2) other corporations to buy and sell the loans in a secondary market (NEWS, Aug. '62).

• A bill proposed by the savings and loan industry provides for a corporation within the Home Loan Bank system to buy and sell mortgage participations. This facility would make a market only in mortgages held by S&LS.

• S.2130, backed by the National Association of Real Estate Boards and FNMA, would let FNMA extend its secondary market for FHA and VA loans to conventionals.

The committee's Sen. Jacob Javits (R., N.Y.) invited the National Association of Home Builders to prepare a fourth bill. Former President Thomas P. Coogan of NAHB is exploring the idea with a task force but is still undecided on whether to draft a bill.

The dispute is primarily between commercial banks, which have been charging into the mortgage market, and S&LS, which want to guard their overwhelming predominance. S&L industry spokesmen concede privately that their bill is principally an effort to divert attention from the ABA measure.

WASHINGTON INSIDE

• Discount any rumors you hear that Chairman Joseph McMurray of the Home Loan Bank Board will take a higher-paying job as president of the San Francisco Regional Home Loan Bank. He won't. The rumors are "wishful thinking" of people who would like to see McMurray out of Washington.

• The Association of American Railroads' bid for a nearly 100% boost in rail unloading charges will die quietly next spring (despite AAR's denials). A one-day hearing on the issue turned into a week-long airing of lumber dealer complaints that railroads are to blame for slow unloading because they do not provide enough cars with doors wide enough to let mechanized unloading equipment be used.

• FHA is making it easier for small builders to get into Sec. 809 and 810 military housing. Congress has just extended the twin rental programs (Sec. 809 for areas around NASA and AEC research centers, Sec. 810 for areas around military bases) until Oct. 1, 1965. And in the key move, FHA has eliminated cost certification for one-family homes built to rent under the program—the bugaboo that has kept many small builders out of the program.

• Defense has decided not to take the time to work out kinks in a new relocatable house designed by Architect Carl Koch (H&H, Mar.). Instead it gave Home Building Corp. of Sedalia, Mo. a $3,873,000 contract to send overseas 488 units of a two-story, panelized duplex with a plumbing, heating, and kitchen core. It is biggest single supply contract given a home manufacturer in years.

• "Detroit is thinking of bringing out a new model called the 88th Congress," quips one Capitol Hill aide. "It looks great but can't pass a thing."

Post postscript: NAHB flips boomerang

No one was more conspicuously indignant than the National Association of Home Builders when the *Saturday Evening Post* published an expose of the building industry, "Why New Houses Cost Too Much," by freelance Writer Arthur M. Watkins.

Houses are "needlessly expensive," the article said, and it blamed 1) "the industry's incredible inefficiency" and 2) "a maze of outdated building codes." It said that for high prices "home buyers are likely to get shoddy merchandise and high home-repair bills," and it cited a rash of horror cases of faulty construction without ever managing to make it clear that these are exceptions, not the rule in house building.

"A jerry-built article," stormed NAHB Vice President William Blackfield to the Producers' Council convention, "by a professional word slinger who seems to wear blinders. He contrived to smear our whole industry by the activities of a few."

President W. Evans (Bucky) Buchanan was doubly furious, for he felt insulted as well as abused. Watkins had enjoyed the help of NAHB's own Washington research staff in working up his piece. The aggrieved Buchanan penned an anguished letter of rebuttal to *Post* Editor Clay Blair Jr. and asked Sen. Harrison Williams Jr. (D., N .J.) to insert it in the *Congressional Record.**

Comes the backlash. But the senator paused to read the Watkins article—and NAHB's rebuttal effort thereupon back fired.

Williams told the Senate he liked some of what he read—particularly the author's suggestion teeth be added to FHA warranties.

* Vol. 154, p. 17287.

NAHB'S BUCHANAN
An unintentional boomerang

"I will quite agree with the senator from Alaska that the words 'FHA guarantee' ought to mean what they say, and ought to protect the home owner as well as the lending institutions where there is a legitimate cause," Williams said.

Enter an old skeleton. Now the senator from Alaska is Democrat Ernest Gruening, and he just happened to be seeking support for his bill to require all FHA builders to post an indemnity bond (NEWS, May). NAHB officers thought this worrisome measure was long since pigeon-holed in the Senate housing subcommittee. It would raise housing costs.

But with this unexpected boost from Sen. Williams, the Senate housing subcommittee called hearings on Gruening's bill.

Then Sen. Jacob Javits (R., N. Y.) introduced a bill to let FHA repair houses without first foreclosing (as present law requires). FHA has long favored this change—but never submitted legislation.

PHA ordered to trim local spending

Congressmen have warned Commissioner Marie C. McGuire of the Public Housing Administration to hold down spending by local housing agencies.

Chairman Albert Thomas (D., Tex.) of the House appropriations subcommittee for independent offices took his cue from a General Accounting Office report showing some local agencies were sending large delegations to conventions as far as 2,500 miles away (NEWS, Mar.) GAO, Congress' watchdog over spending, especially criticized money spent to support the National Housing Conference, public housing's No. 1 lobby, and some travel to conventions of the National Association of Housing & Redevelopment Officials.

In closed hearings before Thomas' committee—results have just been made public—Mrs. McGuire said she had already acted on GAO criticism by tightening travel rules. The changes: Travel is now a separate budget item; local executive directors can no longer decide alone who should attend a convention; daily travel costs will be limited to from $16 to $25, depending upon the local government's overall travel policy.

But Rep. Thomas still wasn't satisfied. "You had better tighten it up," he told Mrs. McGuire. "If you do not, we are going to tighten up for you right in here. There is no occasion for letting these local housing authorities go a little bit on the lax side. It is not their money they are spending. They have been turned footloose." The official committee report repeats his warning.

Rep. Thomas' group says it is worried because expenses to run public housing units since 1951 have increased 2.2% a year faster than rent collected from tenants. Result: increased federal subsidies to help pay off construction costs.

Mrs. McGuire blames the cost squeeze on the rising proportion (24%) of elderly residents (earning an average $1,426 yearly), the growing number of families on public assistance (46% of 515,000 public housing families receive some form of public aid), and rising maintenance costs.

The committee also looked into activities of promoters of public housing, and heard that Atlanta architect, George N. Javo, has been active in getting 25 small housing authorities in the Southeast to organize and build 1,604 units. His total fees could reach $751,000. Javo helps organize local agencies without a fee, providing the agency submits a letter of intent to pick him as the architect, the subcommittee was told. Mrs. McGuire said she had heard of similar promotions in Houston and Dallas.

Congressional probe lets dealers air gripes about builders

A subcommittee of the House small business committee is in full pursuit of charges that builders and plumbing contractors are getting better prices than retail dealers for appliances and plumbing fixtures.

The investigating subcommittee chaired by Rep. James Roosevelt (D., Calif.) listened

Allan Grant

REP. ROOSEVELT
A new eye on materials' distribution

mostly to complaints from retailers and wholesalers in two hearings last month. But committee staffers indicate more witnesses from producers and builders may be summoned later, so hearings could drag into 1964. Too, the subcommittee intends to look at distribution practices in over 30 industries before reporting to its parent body.

What the first sessions indicate most conclusively is that the hearings are likely to be long, noisy, and embarrassing. Middlemen are angry about being bypassed by dual distribution systems that sometimes let builders get more goods directly from wholesaler or manufacturer than they know they can use, then sell them at less than retail prices. They complain manufacturers are as guilty as the builders, and don't check on the number of homes a builder plans to build or how much use he makes of materials he orders. By setting up direct supply lines to builders, the producer ends up in competition with its own wholesalers and retailers, they cry.

At a Washington hearing, Merchandising Division Manager William Burston of the National Retail Merchants Assn. cited as "not exceptional" a case where a builder needed 10 refrigerators but ordered a carload of 40. He sold the excess to a dealer in a nearby town with a slight "percentage over the invoice cost for his trouble." Added Burston: "This same thing occurs in other towns [as retailers attest] and will continue so long as preferential purchasers can continue to buy at a lower price denied the others."

Builder's models. Critics often cry that builders will take any kind of cheap materials to keep costs down; but the hearings indicated this is not true. They are after the best price deal they can get for the products they want—and they get them, retailers admitted dolefully. To justify a builder's price, one refrigerator manufacturer "takes out a piece of plastic," then sells the refrigerator (essentially the same model) to a builder for $60 less, complained President Earl T. Holst of the National Appliance & Radio TV Dealers Assn. Some retailers even complain they can get a better price from builders than they can from their own wholesalers.

In Los Angeles, President Fred A. Schmitz of the National Association of Plumbing, Heating and Cooling Contractors said a survey of his 9,000 members revealed dual distribution in the plumbing trade has grown to "substantially destructive proportions." Responses to the mail survey disclosed that 63% of wholesalers of plumbing and heating supplies analyzed sold directly to tract builders and/or custom homebuilders; 32% did so occasionally, and only 5% "never engaged in this practice."

The subcontracting system is a "tremendous evil," cried Schmitz. General contractors give work to a second plumber who uses materials purchased directly by the builder from the suppliers, or the job may go to a 'captive' plumber who has a deal with a discounting supplier. (He gets equipment at a discount in return for a promise to buy only from the discounting supplier.)

Can industry cope? At the first hearing, Rep. Tom Steed (D., Okla.) asserted it was obvious that dealers and retailers were being "harmed by the practices," and that it was probably "only a matter of time" before the government would give the matter some attention.

He called it an "industry created" problem, one that can be solved by "industry" without intervention, warning: "If the good sense of the people in industry" does not prevail, the government will have to step in "with a less desirable solution."

Burston contended legislation was not needed, but Earl Holst was less certain. He "would like to see the industry clean up its own house" but could "see no chance" of it happening. Dealers have discussed the problem on many occasions with manufacturers, and their story is always the same, Holst said. Producers would like to get out of it but say: "We can't as long as others do it."

The hearings are giving some materials' makers jitters. Members of the Producer's Council fear that more government intervention in business will result. Rep. Roosevelt has already introduced two bills in the House. One would prohibit manufacturers from discriminating against their independent distributors in prices and terms. The second aims at manufacturers who compete with retailers by owning a fabricating subsidiary. It would require a separate financial report on the subsidiary's operations, obviously to disclose the extent of subsidization. But industry men do not see how this would accomplish much even if such a subsidy could be shown, nor do they believe it would stop the practice.

Is a wave of price boosts starting?

Higher aluminum, steel, and glass prices ordered by major producers have not yet worked their way down to builders. But housing men are worried that the price boosts will catch up with them in coming months.

Aluminum prices have moved up 2% to 10% with the ingot price ½¢ a pound higher at 23¢. Col. E. H. Boeckh's survey of building costs predicts a $2 price boost per 100 sq. ft. of aluminum siding. Inland Steel and U.S. Steel have raised prices of reinforcing bars (with U.S. Steel restricting its increase to the Midwest). Pittsburgh Plate Glass has announced a 7% rise for plate glass ¼" or thinner, and American Saint Gobain has followed suit. Libby-Owens-Ford has not yet upped prices.

Some fabricators are trying to absorb the new prices. Chairman D. C. Minard of Trane has been able to offset raw material increases in the past. But he adds that if metals' prices go high enough, Trane "certainly would have to raise prices" on its air conditioning and ventilating equipment. One appliance maker, Kelvinator Division of American Motors, has upped price tags on its 1964 models by 4%, but it attributes this to new features.

The Bureau of Labor Statistics' index of wholesale prices is beginning to inch up. The August reading of 99.7 is 0.4% above July and the highest since July 1960. Lumber and wood show the biggest price increases: 5.3%.

Dry lumber rolls out, saves weight and shipping costs

Kiln-dried lumber cut to a new, exact 1½-in. thickness (for 2x4s) and averaging only 15% moisture content, is now being shipped. Labeled as nonstandard size, the first carload moved from Boise, Idaho, to Atlanta just days after the National Lumber Standards Committee approved final wording of its proposed new standards for softwoods. Weyerhaeuser Co., the seller, says the first carload was delivered at a savings in shipping costs of about 3%.

The proposed softwood rules relate size to moisture content (NEWS, Sept.) but cannot become effective until they 1) pass scrutiny by the Department of Commerce and the Department of Justice, and 2) win favor of a large, cumbersome list of lumber manufacturers, distributors, architects, and contractors.

Post-strike plywood prices may add $12 to house cost

In the aftermath of last summer's strike against Northwest plywood makers, sawed fir plywood prices are leveling at about $60 f.o.b. mill for most grades and thicknesses—the same as prestrike prices. For a builder who uses 4,000 sq. ft. of plywood per house, industry sources figure the 30½¢ hourly settlement will up costs an additional $12 a house by the contract's end in three years.

One reason for the hikes: Some of the large producers own their own paper mills and—because it is easier to increase paper prices than plywood prices—have been paying $1.00 an hour higher for paper mill work that required less skill than plywood mill jobs.

HMA CONVENTION

Home manufacturers eye the public housing market

In Atlanta last month confident home manufacturers at their 20th annual fall meeting looked back on their biggest year (20% of all single family starts) and predicted 1964 would be even better. They will produce their 2,000,000th house in '64, expect to get another 5% of the market, and add another dozen members to their association. There are some 750 companies in home manufacturing, but only 52 are members of the Home Manufacturers' Assn. But HMA President James Pease points out: "We produce half of all manufactured homes; National Homes alone has produced one eighth of all prefabs in the U.S." The manufacturers are getting into some new markets, too.

Home Building Corp. of Sedalia, Mo., just won a $3.8 million contract for overseas military housing, and the Defense Department's housing chief, John Reed, asked HMA to work more closely with him on military housing. HMA has formed a military housing committee to do just that.

Executive Vice President Albert Reidelbach of HMA said members hope to move into the public housing field. Initially they hope to get a grant from HHFA, under its program to demonstrate ways of housing low-income families, that would let home manufacturers show what they can do at a low low-cost.

Home manufacturers are relying on FHA to help them in next year's market. "Over 36% of FHA's new construction loans in 1962 were on manufactured homes and 15% of VA's were prefabs. Our industry as a whole sold over 35% of its output under FHA," said Pease.

FHA Commissioner Phil Brownstein discounted the anti-bias edict as a reason FHA insured loans on new houses are down 4% to a low of 15% of starts. For instance, in Atlanta FHA loans are up 12% from 1962, the local office's previous big year, he said.

To prefabbers worried about foreclosures, Brownstein pointed out that 41 of 50 states have foreclosure ratios lower than the national average. The ratio of defaults is nearly equal to 1950, but the chances that a default will slide on to foreclosure are greater now. Brownstein's advice: hold back in high-ratio areas.

PRODUCERS COUNCIL

Producers seek closer ties with builders at grassroots

The Producers' Council board has just bought President A. M. (Brig) Young's first major proposal to bring homebuilders into firmer alliance with the Council and the American Institute of Architects.

The Council, in its 43rd year as an association of building product manufacturers, was founded under the aegis of AIA and retains a strong architects' orientation. A decade ago PC activated a joint committee with the National Association of Home Builders. But only in the past two years has the committee achieved national effectiveness, and it is still cramped by local ills.

Young has long favored a wider base because of the Council's increasing concern with the growing housing market. The annual meeting in Washington has now brought a board decision giving PC's two vice presidents nononsense directions to reconcile the factions.

Captains for unity. First Vice President Charles S. Stock, a vice president of American Air Filter, heads a new architectural and engineering construction division. The Council's new second vice president, General Manager Julian O. Heppes, of Ruberoid's floor tile division, directs the Council's residential and light construction division. Their coordination campaign, already under way at the national level, aims to show builders the marketing advantage of closer ties to the Council.

It's no small problem, particularly at the level of the 48 chapters where the real work gets done. A convention roundtable, to evaluate chapter relations with the construction industry showed just how tough the job is—and just how little some producers understand today's builder. Asked by NAHB Field Service Director Dennis Garrehy to define a builder, one chapter president replied:

"He's just somebody who works out of his garage."

Chilly weather ahead. The San Francisco chapter said its members voted 99% against closer ties. Blurted Omaha: "We don't intend to jeopardize our warm relations with architects." Added another chapter president: "The contractor won't mix with the architect. The last time we brought contractors in they got drunk and broke up the meeting."

Young and his national leaders recognize this resistance. He thinks his knocking of heads will in no way harm the Council's longtime relations with architects, but he insists that PC find its way into the builder market. The Council also needs membership, and builders are one obvious answer.

"It's a matter of a little time," Young said as the smoke cleared. "They will reconcile."

One step to victory. Young, marketing manager for Libby-Owens-Ford Glass and an executive who enjoys tremendous respect throughout the Council, made one successful overture to builders. He invited them to join architects in telling producers what producers are doing wrong.

First Vice President William Blackfield of NAHB responded, "There is an awesome data gap in the building industry. There is a tremendous amount of data that could be exchanged by the builders and PC."

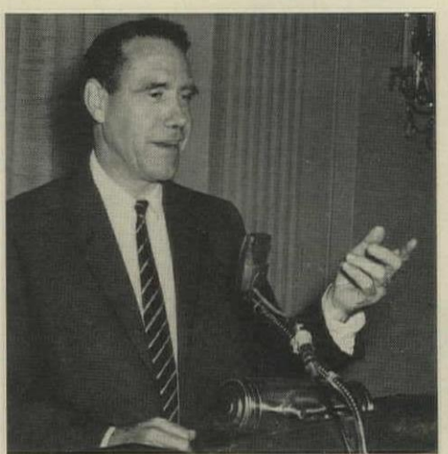
Blackfield saw a joint builder-producer time and motion study of some wood products on the West Coast as a hopeful sign of better things to come. "We need revolutionary new materials—and they are not beyond the ken of your technicians.

"And in business management, we home builders can learn a lot from you manufacturers on how to apply your production methods to the building industry. But as yet we've only received a dribble of information."

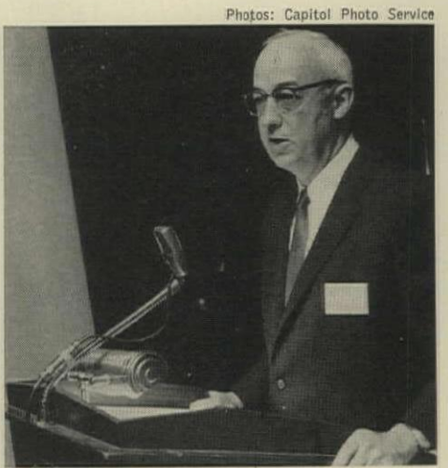
And Building Editor John Bloodgood of *Better Homes and Gardens* added: "I've toured homes with the average buyer for six years, but I've seldom heard him speak excitedly about the new house that reflects good taste and gives him good living, that makes him proud. His silence is costing us all money. The costs of houses are high, but that is not the cause of sluggish activity in the industry. The trouble is the house itself, for too often it's uninspired and disappointing."

NEWS continued on p. 12

Photos: Capitol Photo Service



ARCHITECT Francis D. Lethbridge of Washington cautioned producers that each construction item must not only be of good design itself. "It must contribute to the overall design."



PRODUCER W. W. Sproul Jr., general manager of Westinghouse's construction group, said NAHB's time and methods (TAMAP) study led his company to conduct similar tests for large lighting units.

There isn't a $10 range hood made that can live up to her expectations

We don't build $10 range hoods for the same reason you don't build $5000 houses. There's a limit to how far it pays to cut costs . . . and Emerson-Pryne refuses to put its name on *any* product that can't do the job, or that barely gets by.

Certainly, we sell budget-priced hoods, but they're good ones. We say, though, that it's worth every penny it costs you to go for the top of our line. You get a big, competitive edge from the Emerson-Pryne "Thermomatic" range hood; women love it, and can't help being fascinated every time they see it demonstrated.

"Thermomatic" senses heat build up . . . *turns off and on automatically!* It's whisper quiet, has a two-speed motor, offers a separate light control, and looks like a million in any kind of kitchen.

When you're picking range hoods for your homes or apartments, ask to see Emerson-Pryne, the ones that *help you* sell houses and rent apartments.

Learn How to Qualify For Emerson's 1964 Builder Bonus Plan

Emerson Electric would like to feature YOUR homes in LIFE Magazine . . . and increase your display home traffic with an exclusive, Win-A-Trip-To-Europe Contest. For full details, see your electrical wholesaler, or write: Emerson Electric, Dept. HH-11, 8100 Florissant, St. Louis 36, Mo.

The complete Emerson Electric Builder Products Package:

HEAT . . . Baseboard Heat, Built-In Heaters, Radiant Heating Cable, Bathroom Heaters from Emerson Electric and Emerson-Pryne.

LIGHT . . . Interior and Exterior Lighting Fixtures from Emerson-Pryne and Emerson-Imperial.

AIR . . . Kitchen Hoods and fans from Emerson Electric and Emerson-Pryne.

SOUND . . . Intercoms and Door Chimes from Emerson-Rittenhouse.

EMERSON ELECTRIC

BUILDER PRODUCTS DIVISION

EMERSON ELECTRIC • EMERSON-PRYNE • EMERSON-IMPERIAL • EMERSON-RITTENHOUSE

LAND

Builders find a new ally against zoning and platting snarls

New York State homebuilders have just lifted the lid on their long-promised report on zoning and subdivision abuses in the cities, towns, and villages of the Empire State (NEWS, Sept. '62).

Even more significant than the $2,000 report's contents is the identity of the author. He is Raymond M. Urquhart, village administrator of Bronxville (population: 6,744) outside New York City and a former president (1961) of the state City Managers Assn. Urquhart, 35, had complete freedom in drawing conclusions.

The builders hope Urquhart's standing as a public administrator will strengthen their case for zoning reforms. And they hope his findings will persuade the state to act on zoning abuses. A year ago Chairman Frank C. Moore of the State Office for Local Government told builders: "If you can document your case [that zoning is holding down home building], we'll take action."

The needed reforms. Urquhart not only spells out zoning abuses; he suggests reforms.

Abuse: Many zoning practices deviate from the written rules of the game. For instance, zoning rules say builders' plats must be acted upon within 45 days of filing, but nowhere do zoning laws refer to "preliminary plats." Urquhart found planning boards in many towns require a preliminary plat from builders—and then sit on it for as long as three years (in one 217-home subdivision). One village engineer fiddled with a three-lot plat for 18 months—then approved it exactly as originally submitted.

Reform: The state should set a time limit on handling preliminary plats because "local planning boards now have entirely too much liberty in handling preliminary layouts."

Abuse: Many towns use zoning to segregate families by income, Urquhart found. "The basic concept of zoning has changed. Instead of serving as a flexible instrument to meet changing social conditions, zoning is being used more and more as an instrument to curb altogether any appreciable increase in population and, failing in this dubious technique, to segregate people by income."

BRONXVILLE'S URQUHART
Must the state step in?

Reform: The state should consider statewide subdivision regulation, including "realistic and uniform fee schedules." Counties should give active attention to subdivision development and controls over local land uses.

Abuse: "Local planning boards too often include in their ranks citizens generally unqualified—some builders would say completely unfit—to hand down the vital decisions affecting the subdivision of land." And even some planning staffers are "totally unfit in far too many instances for their technical tasks." Result: "Citizen pressure groups often discourage responsible local decisions."

Reform: The state should consider preparing a public officials' manual on how to conduct public hearings and the role of citizen pressure groups.

Phantom codes. Urquhart turned up several public officials who actually withheld public regulatory codes from the people being regulated. One builder failed in repeated attempts to get a copy of the plumbing code.

In some towns builders were hit with demands not even found in the codes. One builder was asked to donate land for park purposes "three times the size required by subdivision regulations." He also was forced to limit the number of lots he developed yearly—and Urquhart found this "rationing" of building permits was common.

Another builder encountered a "punch list"—when he satisfies official requirements, he is "faced with additional and unexpected lists of new demands."

Urquhart also came across a builder with a neat way around planning board demands that he pay $50 a lot for "recreational purposes." He simply includes the $50 as a separate item in the closing costs, "much to the dismay of town officials who are facing continuous requests of new home owners for an accounting of these 'recreational purposes' fees."

How heavily are builders pressured to go along with such sub-rosa demands? A dozen builders feared planning commission reprisals so much they insisted their names be omitted. Hence Urquhart's report includes no names.

For the future. Urquhart also takes a long-range look at housing's anticipated growth:

"The key issue today is whether local officials, acting with imagination, will offer the leadership so desperately needed to prepare the state's more than 1,500 communities for the 'challenges of the '60s and of course beyond; or will the primary responsibility for local policy-making and planning be yielded to possibly higher levels of government?"

Park lovers vs. developers: an epic battle in New York City

Three years ago Atlantic Improvement Corp., fast-moving New York City developer, announced plans for a 6,000-unit seaside community on Breezy Point, a Queens peninsula, only 13 miles from Times Square. By last summer, 800 apartments were rising.

Then the city abruptly forced the project to halt. The city's complex reasons for doing so not only mirror the power struggle between park lovers and developers in a dozen spots across the U.S. but also raise some disturbing new questions for the housing industry.

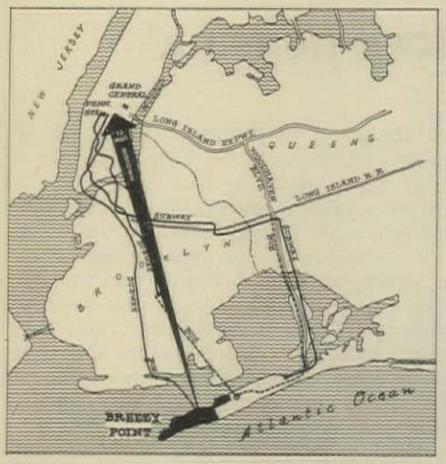
New York Times

HOME OWNERS' PROTEST: NEARLY 100,000 SIGNED ANTI-PARK PETITIONS

The battle of Breezy Point began last year when a vocal group led by Mrs. Marshall Field began drumbeating to save Breezy Point for a park. After seven months of indecision, Mayor Robert F. Wagner took up the cry in June. The proposals: demolish Atlantic's new buildings, as well as a community of 2,700 shore homes; procure nearby Fort Tilden from the Army, and combine the entire area with Riis Park to create a 1,000-acre park with a continuous 10-mile ocean-front.

The scheme set off the biggest openspace hassle since New York's Central Park was proposed in 1851. Civic groups and most metropolitan newspapers endorsed the plan. In protest, occupants of the single homes on Breezy Point appeared 5,000 strong at city hall (*see photo*). Nearly 100,000 persons signed petitions against the proposal.

Killer compromise. New York's Board of Estimate sat through a 19-hour public hearing at city hall. Then the board went behind closed doors to debate the finer points of meshing



BATTLE SCENE: A BYPASSED BEACH

Breezy Point with other projects: Would cost of the park prevent the city from building a new subway tunnel to Queens or highways in Staten Island? Out of this emerged a peculiar formula: The Board approved a "map change" for the city's master plan which immediately designated 160 acres of Atlantic's 400-acre community as a park. Later, a separate 232-acre parcel owned by Atlantic will be changed. The city also changed the master plan to take over a 40-acre beach strip from the homeowners (but the homes will be undisturbed).

The compromise lets Atlantic keep 17 acres of land in residential use. Seligson holds five 6-story buildings, two 15-story buildings and half a shopping center, all finished or nearly finished. They will be virtually stranded on the vacant beach.

Inverse condemnation? Moreover, the city's action does not legally represent a full-fledged condemnation. It has set no date for taking title—and that could take months.

While city officials dally, Atlantic will go on paying property taxes of $140,000 on the 160 acres remapped for a park and $158,000 on the 232 acres with the time-bomb map change.

President Martin Seligson of Atlantic has sued the city asking for a mandamus court order to force the city to pay him for the land and all his other expenses, plus 4% interest, from the date of remapping. He contends the "inverse condemnation" deprives him of use of the land without compensation.

Whether Seligson wins or loses, the case could well set precedent on the key question of whether planners can reserve land for parks, streets, or other public uses merely by changing official maps.

End for private builders? Atlantic's completed community would have brought the city a $7 million revenue yearly. That tax yield from a privately financed (All-State Insurance Co. is the largest single Atlantic stockholder) middle-income housing program is scuttled.

Says Chairman William L. Savacool of the Queens Chamber of Commerce Planning Commission: Atlantic Improvement's program asks "no tax abatement, no government subsidy. Not one penny of the long suffering taxpayer's money would be required."

Significantly, neither the city's public housing nor urban renewal agencies could find a practical way to use Atlantic's apartments if they had been purchased. Yet both agencies continue to subsidize large housing programs.

Cries Seligson: "It could mean the end of privately financed large-scale builder attempts in New York City."

Realtors mount counterattack against 'forced housing'

"The whites are not ready to accept Negroes as neighbors. Until such time as they are, we as brokers are not going to be in the forefront of putting Negroes into white neighborhoods."

So says Realtor Alfred C. Kennedy, former president of Omaha Urban League and a longtime worker for Negro causes, and his feeling capsules the thinking of Realtors promoting a grass-roots campaign to halt the spread of state and city anti-bias laws and ordinances.

President Daniel F. Sheehan Sr. of the National Association of Real Estate Boards keynotes the defense against what he calls "forced housing," already the law in 11 states that make race bias a crime even in private housing.* Says he:

"I emphasize that we as a nation cannot benefit if we destroy one freedom in the guise of establishing another. Nor can we—nor should we—attempt to destroy the right of privacy, the right of an American to choose his friends, his neighbors, those with whom he will associate in private or in the operation of his own private property. Social acceptance is earned . . . is spontaneous."

No one can legislate love. This was the explanation of a pert and pretty mother of eight who led 8,000 Chicago Realtors and property owners in a march on City Hall to protest an ordinance that prohibits sales discrimination by real estate agents although not by individual home owners.

Mrs. Dolores Kantor, 39, sparkplug of the Chicago Property Owners Steering Committee, lost her first battle—the Democratic council adopted the code on a party vote of 30-16. But President Percy Wagner says the Chicago Real Estate Board will contest the rules in court on the ground they are clearly unconstitutional.

"It is a ham-handed, prejudicial law," agreed the Chicago *Daily News*. "It cripples a man's right to sell or rent his property to a person of his choice, or to respect the wishes of his neighbors. In a groping effort to legislate decency it legislates indecency by one friend and neighbor to another. The 30 councilmen opened the door to worse, not better, race relations."

Director Edwin C. Berry of Chicago's Urban League concedes that such anti-bias legislation would be defeated if it went to a statewide referendum because "some voters do not understand the meaning of open occupancy. . . . It does not dictate to whom one must rent his property."

In Detroit, councilmen dropped a proposal similar to Chicago's ordinance after the state attorney general said Michigan's new constitution effective Jan. 1 will ban race bias in housing. A Civil Rights Commission will enforce the ban.

Owners' Bill of Rights. The so-called owner's Bill of Rights, asserting an owner must be allowed to rent and sell according to his conscience, is rapidly becoming the measure of how organizations stand on housing integration. Last spring, directors of the National Association of Home Builders declined to approve it, but later NAREB adopted it. Now, state Realtor groups are following suit. Nebraska and Iowa are the latest.

*Alaska, California, Colorado, Connecticut, Massachusetts, Minnesota, New Hampshire, New Jersey, New York, Oregon, and Pennsylvania.

Chicago Daily News

CHICAGO'S MRS. KANTOR
"No one can legislate love"

In California, a drive against the Rumford Fair Housing Law fell short of the 292,662 signatures needed to force a referendum on the bitterly controversial measure, which bans bias in 1) all publicly-aided one-family homes, 2) all publicly-aided apartments except duplexes, and 3) all apartments over four units, however financed.

Opponents claimed 206,000 signers (a count never verified) on the day before the bill went into effect. The California Real Estate Assn., which fought the measure in the legislature, did not join the referendum campaign led by San Francisco Public Relations Man Robert D. Weinmann and his Citizens League for Individual Freedom (NEWS, Oct.) because leaders felt the issue would best be solved by a state constitutional amendment. Gov. Edmund G. Brown complimented the Realtors for their referendum stand in a speech to their convention in Los Angeles. But the Realtors replied with an all-out drive to nullify the law with a constitutional amendment in next year's election.

Ruling against builder. The State District Court of Appeals in Los Angeles held, 2 to 1, that California could sue Builder Don Wilson on charges of discriminating in the sale of housing under the Unruh Civil Rights Act of 1959, which prohibits discrimination in the operation of any business. Negroes had called off pickets at Wilson's Torrance subdivision after he dropped trespass charges against 200 demonstrators (NEWS, July *et seq*), but the state based its case on an alleged denial of sales to Negroes at another tract. Dissenting Justice Walter J. Fourt argued that the legislature in passing the Rumford law this year had specifically excluded provisions that would have given the state powers to institute such a suit.

Builders go along. Some homebuilder reactions are in sharp contrast with the Realtor stand. In Arizona, the Tucson Home Builders Assn. pledged to open all subdivisions to any buyer, the first builder group in the country to make such an offer. "Some" resignations were reported among the 50 members after the decision, which came in the wake of a campaign by the National Association for the Advancement of Colored People. Most of the new housing in current subdivisions is already sold.

And the special committee set up by the National Association of Home Builders says it will cooperate with an educational drive planned by the President's Committee on Equal Opportunity in Housing. Other developments in the rights controversy:

- Five hundred Ohioans rioted in Dayton when Negro James Fuller and his wife moved into the suburb of Townview. It took 100 deputies and police from seven communities to control the protest.

- The President's Committee on Equal Opportunity in Housing, headed by former Gov. David L. Lawrence of Pennsylvania, sent to the White House a preliminary report that likely concerned a recommendation for extending the President's anti-bias order (NEWS, Jan. '63 *et seq*) to all types of housing instead of only federally assisted housing. The report is secret.

Hint of tougher anti-bias action?

The Veterans Administration's suspension of a Florida builder over his alleged refusal to sell to a Negro may signal a new and far harder VA line on bias complaints.

House and Home Ltd. of Orlando (not connected with this magazine) was the first builder penalized by VA under President Kennedy's anti-bias executive order. The agency halted appraisals at the company's Bell-Aire subdivision on Merit Island off Cape Canaveral after accusing the builders of refusing to sell to David P. Johnson, a Negro veteran.

In his appeal to VA, House and Home Partner Norman A. Rossman argued that the house about which Johnson inquired was not covered by VA financing. He said the anti-bias order did not apply because the builder had never sought a VA certificate of reasonable value on the house and VA had never issued one.

But VA officials say this is a mere technicality. They emphasize two points: 1) Rossman's company agreed not to discriminate in selling "any property" when it applied for VA appraisals, and 2) the law lets VA decline to do business with any builder whose practices are, in the agency's opinion, prejudicial to a veteran.

NAHB lawyers, who have flyspecked the appeal hearing, fear that if VA can make the suspension stick under this double interpretation of the laws, the agency need never ascertain legal facts or follow rules of evidence. Any showing that a builder has discriminated against a veteran in any sale could lead to suspension. So NAHB will file a legal brief protesting VA's ruling.

FHA limits the builder's anti-bias pledge to property included in the mortgage insurance application.

Anti-bias drive stirs strife over renewal planning

The Negro civil rights drive is producing some strange twists and turns in plans for urban renewal and public housing.

President Kennedy canceled a visit to Portland, Ore., to dedicate the West's first high-rise public housing because Portland's chapter of the National Association for the Advancement of Colored People threatened to picket the project. The NAACP said the Portland Housing Authority's 13-story Northwest Tower was rented on a discriminatory basis. A White House inspection team led by a Negro called the charge groundless.

"The intimidators won," editorialized *The Oregonian*. "But at what a cost to the good cause of Negro rights in Portland and elsewhere."

'Renewal means Negro removal.' So argued President Thomas N. Burbridge of the San Francisco NAACP as he demanded that the city halt all renewal programs until plans are drafted to provide all minority groups with integrated housing. Mayor George Christopher ordered officials of the San Francisco Housing Authority and the urban renewal program to confer with rights leaders. Meanwhile, renewal continued.

Syracuse police arrested two Syracuse University professors and 78 other Congress of Racial Equality pickets who sought to halt work by climbing on machinery at four renewal sites. Their complaint: The projects displace Negroes. Mayor William F. Walsh turned down the demonstrators' demands for "desegregating Syracuse" but asked the Interfaith Council on Religion and Race to seek a solution to their complaint.

Six CORE men sat all night in Philadelphia's Redevelopment Authority offices, protesting tardiness in relocating tenants evicted from slum housing. It was the second Philadelphia sit-in. Last spring Negroes forced the city to seek their consultation on plans that could call for razing 700 Negro homes in the University City area.

Politics steps in. The integration drive sent the two major political parties into a flurry of competition for the Negro vote in New York State.

Mayor Robert Wagner's Housing & Redevelopment Board hastened to announce that it had called in all 95 sponsors and the builders and sales and management agents on its projects to secure pledges to promote integration.

Scarcely was this press release in the mails before Republican Gov. Nelson Rockefeller checked in with a strong "me too." His Division of Housing & Community Renewal said 55 municipalities had filed letters of intent "to go beyond the letter of state laws against discrimination in conducting urban renewal activities and to actively promote open occupancy and open opportunity."

FHA's new job-bias code: what it means to housing

FHA has just issued its long-awaited rules for carrying out President Kennedy's ban on race bias in hiring (NEWS, Sept. *et. seq.*). FHA had to wait until a Presidential committee enforcing the order first issued its rules.

The key to FHA's code is the definition of the "applicant." He is the builder, contractor, or dealer who is to build, repair, or rehabilitate a single-family home or the mortgagor on a multi-family project.

The applicant is required to 1) sign an equal-employment pledge (*right*) and 2) help enforce the code by including an anti-bias clause in all contracts and subcontracts.

The code covers dwelling units built or repaired with FHA-insured financing.

Lender off the hook. The mortgage lender need certify nothing. The rules do empower FHA to cancel commitments to insure mortgages, and such cancellation could conceivably leave an innocent lender holding an illegal loan (which would upset the whole basis of FHA insurance: its incontestibiity). He would then have a construction loan on a house for which insurance on the permanent financing had been withdrawn. But FHA lawyers say cancellation is unlikely.

The enforcers. The toughest enforcement task is up to the contractor and subcontractor. He must shoulder responsibility for the delicate job of notifying unions of the job-bias ban and for policing their compliance. Contractors and subs are also required to advertise the non-discriminatory nature of jobs.

The penalty. FHA does not contract with a builder and so lacks direct control. But it can ban him from federally insured programs by putting him on its "unsatisfactory risk determination" list. Builders have long been penalized this way for shoddy work and, since last Nov. 20, for race discrimination in sales. They can now be listed for job bias dating from July 22, the rule's effective date.

The exemptions. Commitments of less than $10,000 are exempted from the code. This means:

- About 99% of the Title I repair loans are not covered. Only multi-family renovation is affected.
- A builder can put up any number of $9,999 houses and remain exempt. The rules apply to each commitment, not to the total of all commitments. But the minute a builder lets a contract for $10,000 or more—for brick or electrical work on a group of houses, for example—he's back under the code, even if the houses individually cost less than $9,999.

A builder waiting to finish a house before seeking an FHA commitment would probably escape the regulations unless FHA felt he was doing so to dodge compliance. It could then refuse him further commitments.

APPLICANT'S PLEDGE

The undersigned understands and agrees that it is the "applicant" within the meaning of Par. 200.410 of the FHA regulations and agrees that there shall be no discrimination against any employee who is employed in carrying out work receiving FHA assistance, or against any applicant for such employment, because of race, creed, color or national origin, including but limited to employment, up-grading, demotion or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

The applicant further agrees to the following: (1) it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the Rules and Regulations of the President's Committee on Equal Employment Opportunity, which is paid for in whole or in part with funds obtained pursuant to an FHA program, the equal opportunity clause set forth in Par. 200.420; (2) it will be bound by said equal opportunity clause in any FHA assisted construction work which it performs itself other than through the permanent work force directly employed by an agency of government; (3) it will cooperate actively with the FHA and the President's Committee on Equal Employment Opportunity in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations and relevant orders of the Committee; (4) it will furnish the FHA and the committee with such information as they may require for the supervision of such compliance and will otherwise assist the FHA in the discharge of its primary responsibility for securing compliance; (5) it will refrain from entering into any contract or contract modification subject to Executive Order 11114 with a contractor debarred from or who has not demonstrated eligibility for, government contracts and federally assisted construction contracts pursuant to Part III, Subpart D of Executive Order 10925; (6) it will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the FHA or the Committee pursuant to Part III, Subpart D of Executive Order 10925; and (7) in the event that it fails and refuses to comply with its undertakings, the applicant agrees that the FHA may cancel, terminate or suspend in whole or in part any contractual arrangements it may have with the applicant, may refrain from extending any further assistance under any of its programs subject to Executive Order 11114 until satisfactory assurance of future compliance has been received from such applicant, or may refer the case to the Department of Justice for appropriate legal proceedings.

Swingers everywhere rely on the durability of Kwikset

They trust Kwikset to hold up its end of the bargain. Always. Because it's built to last — strong and sturdy. Even feels that way. Oh, they can't help noticing a lot of other things. For instance, how pretty it is and how easily and quietly it turns. How its brilliance keeps on shining through the rich veneer of jam, shoe polish, crayon and muddy paw prints.

They may even have heard about Kwikset's pin-tumbler locking security. But it's the lockset's more obvious safety they count on. Swing after swing. It's nice they've learned to depend on the durability of Kwikset so young — when they're most impressionable. kwikset® locksets

America's largest selling residential locksets

KWIKSET SALES & SERVICE COMPANY, A SUBSIDIARY OF THE AMERICAN HARDWARE CORPORATION, ANAHEIM, CALIFORNIA

HOUSING MARKET

Do Negroes face a double standard in credit reporting?

How would you like to be able to tell FHA to insure loans for 50 of your low-income Negro buyers, no questions asked?

Builder Philip Emmer of Gainsville, Fla. is in that enviable spot—and yet he is unhappy. He explained why to a meeting of the National Association of Home Builders urban renewal committee in Nashville last month—and found some vocal support among builders who have tried to build for the low-income market.

Emmer won his unique standing with FHA by persuading HHFA to let him demonstrate, if he can, that low-income and mostly Negro would-be buyers now bounced by FHA are actually good home-buying credit risks.

BUILDER EMMER
New insights into Negro credit

Emmer, working with the University of Florida, will actually tell FHA to insure 50 prospects FHA has already turned down. The university will keep records of how the families fare in the next three years, and a $37,500 HHFA grant will assure FHA it will lose no money on the homes in the next five years. Another $67,380 will let university researchers keep up with what happens.

How it began. The HHFA experiment is progress in a negative way to Emmer.

The test will take from three to five years to produce results, he figures. Looking for a way to short-circuit this time lag, Emmer is asking builders in other areas who have had experience in selling to the same market to work out the same type of detailed statistics he used to talk HHFA into making the test.

Here's what Emmer did. After "wholesale rejections" in his Gainesville subdivision (prices: $8,750 to $11,000) Emmer listed 23 questions challenging widely-accepted yardsticks used to gauge the ability of low-income Negroes to pay for homes. Sample questions: Are people who paid lower rent in the past having difficulty adjusting to higher mortgage payments? Is there any relation between large families and their capability to make mortgage payments?

Then Emmer went through records of 120 buyers of his homes in minute detail and found that: 1) 13 buyers who paid less than $20 monthly rent before buyings made 88% of their mortgage payments before the 15th of the month in an eight-month period; 2) 24 families with seven or more members made 85% of their mortgage payments before the 15th of the month (vs. 86% for all families).

When he took his findings in a 14-page report to Washington, officials told him: "That's fine—but it's only 120 cases." Now, he worries the same lack of enthusiasm will greet his new study of 50 families. FHA Commissioner Philip Brownstein says it won't.

In Emmer's view, the housing industry has a vital stake in the question of how private builders can serve the politically-potent low-income families. The nation's 8 million ill-housed families* cannot all be put into public housing, he reasons. And slums are more expensive than public housing. "It's my belief that FHA should be pushing us into this [low-income] market. I couldn't sell four houses a year without FHA [because of higher down payments required for conventional loans] but as it is, we don't try to sell houses till we get everything cleared in Washington."

The double standard. Despite Emmer's pioneering in researching the credit standards applied to Negroes, Renewal Chairman George Martin of Louisville asserted heatedly:

"There is a double standard for the Negro. I have quit trying to build for this market because of the double standard—and because I had to make some money before I can start the fight again."

Martin related how he encountered such difficulty in qualifying Negro buyers for his pace-setting Southwick renewal townhouses in Louisville (H&H, Mar. '61) that he decided to switch to a Sec. 221d3 rental housing project after building just 100 units.

He tried, as have other builders, to organize a non-profit corporation to sponsor the units and after some effort got the cream of the Negro community to serve. The five-man controlling board included the president of a Negro college, the general counsel of a Negro life insurance company, the pastor of the largest Negro church, and two others. "All own homes over $20,000," said Martin.

But FHA, leery that any non-profit group might suddenly fold, insisted the five undergo a cursory credit check. Related Martin: "Four of the five failed to pass muster. I am telling you what that means to me—you can draw your own conclusions."

Now FHA has decided to approve the non-profit group—if a sixth member appointed by the city is appointed treasurer.

Martin was not alone in his view. Builder after builder selling to the low-income Negro market chimed in with similar gripes:

- Builder Leon Weiner of Wilmington, Del. told of having a Negro buyer turned down because he didn't make a $2 payment on a diamond ring. Angered, Weiner decided to order a credit report on himself at a time when a $3,700 claim had been entered on a court docket in a dispute he was having with a boat repairman. The report came back clean as a whistle," cried Weiner. "I am saying that credit reporting on Negroes and other minorities is miserable and is not comparable to the job they do on white families."

- Builder Vince Mazzara of Birmingham: "I would be willing to pay up to $50 to get a good report on Negroes. In our 180-house subdivision, we are running two sales for each eight applications. We eliminate two on our own and get three of the remaining six approved by FHA. In one case we found one man who was rejected because years ago he suddenly came up with six judgments. We checked and found he was on strike."

How to qualify buyers. But Builder Ollie Frith who has sold over 100 single-family brick homes (highest price: $11,200 for a 1½-bath model) reported only one turndown on his minority buyers. How does he do it? Said Frith:

"When I get a bad credit report on a buyer, I go back to him and ask him what happened. I have him dictate a statement and then my secretary types it up exactly as he said it—if he uses 'ain't' or anything else, we include it just like that—and have him sign it right away. In one case we found a bricklayer who had fallen off a scaffolding and broken a leg. When he told his story, he was approved."

Leon Weiner replied that even this hadn't worked for him. He draws his own credit report on a buyer before submitting the application to the mortgagee to draw the official report. If anything detrimental turns up, he tells his prospect to clean up the debt fast.

Another builder cited a deeper problem: What do ratings like "Slow pay" or "Slow but satisfactory" mean, he asked. Some credit jewelers call a payment slow if it is one day late, he argued; some department stores make no report if the payment comes in by the 10th of the following month.

Photos: H&H staff

FHA's JARCHOW
Sloppy reporting instead of bias?

Official rebuttal. Al Jarchow, deputy assistant FHA commissioner for technical standards, promised to look into the definitions on credit reports. But he shied from accepting the builder's view of a double standard. Most of the trouble stems from sloppy credit reports, he argued, the same trouble that has plagued FHA for a long time. When credit report standards were tightened a year ago, he pointed out that insuring officers were directed to use their customary evaluation standards on the more detailed reports.

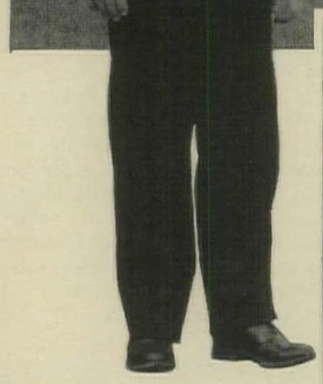
But Agency Manager Frank H. Greer of the Atlanta office of the Federal National Mortgage Assn. verified that some credit reports reached his office with the word "Nigger" written across the front—despite an official ban on race markings for Negro loans. Greer says he has seen credit reports on low-income whites just as poor as on Negroes, and blamed "lousy information from merchants."

And one mortgage man said no Negro credit reports bore race designations in his area. But all white applications have a "W" after their name. *NEWS continued on p. 23*

* The 1960 census found 8,473,695 families living in quarters either dilapidated or lacking some facilities. But only 4,682,868 live in urban areas.

"Apartment heating and air conditioning is really simplified with the new Janitrol comfort package"

Robert E. Smith, Builder and President
Columbia Street Apartments, Newark, Ohio



Right: The 12-inch wide, 570 Series conditioner is installed in a central utility closet directly over the return air plenum.

Below: The through-wall condensing unit is flush with the inside wall, yet has only a slight exterior projection.

"Each apartment in this 12-unit project is individually year 'round conditioned by the new Janitrol 570 Series package, that has proved to be the most practical system we've found. Since we've built this plan before, we can appreciate the extra design features built into this equipment. We were most impressed with the ease of installation, flexibility of location and service accessibility of the 570 Series".

This all-new heating-cooling package is built and priced especially for apartments and small homes. Most models are only 12 inches wide to conserve floor space . . . cooling evaporator can install through-wall, on slab or on the roof . . . cooling is optional for either original installation or economical later addition. All units are completely factory-assembled, tested and feature a precharged cooling system with quick-connect couplings to speed installation.

Packages are available with nominal 1½, 2 and 3 tons of cooling and in heating capacities from 50,000 to 125,000 Btu./hr. for natural, mixed or LP gases, in either upflow or downflow models.

Free Application-Specification File. For complete information on all of the unusual features of the Janitrol 570 Series ask your Janitrol representative for Form J-379S, or mail coupon.

JANITROL DIVISION
Midland-Ross Corporation
Columbus 16, Ohio

Please send me your Application-Specification File on the Janitrol 570 Series Comfort Package.

Name_____

Address_____

City_____ Zone____ State_____

JANITROL®
HEATING AND COOLING

URBAN RENEWAL

Renewal officials gird for 'unequaled slugfest' in '64

"Criticism . . . resentment . . . disenchantment."

Negative, galling words, they dropped heavily on the biennial convention of the National Association of Housing and Redevelopment Officials in Denver last month.

For NAHRO members, the men who guide local renewal and public housing agencies, were meeting at a crucial time. Behind them lay a year of bitter, sometimes furious, criticism in many cities, and more recently in Congress (NEWS, Oct.). Before them looms a tense struggle for more money to fuel their public housing and urban renewal programs. Hence the local officials had one main concern: to examine the sources of criticism so they can plan strategy to win more public acceptance in 1964 —a year incoming President Ira S. Robbins of New York City billed as promising "a slugfest unequaled" in renewal history.

Criticism against the two subsidy programs has zeroed in on some of NAHRO's biggest names. Renewal Director Charles Stamm of Cincinnati said he was "full up to here" (he pointed to his chin) with renewal criticism. On one day, said Stamm, all nine city councilmen individually lashed out at renewal, including many who had supported it before. Ditto, reported Charles Farris of St. Louis' Housing & Land Clearance for Redevelopment Authority. Development Coordinator Ed Logue of Boston, one of two renewal officials earning a top $30,000, said the Massachusetts auditor accused his agency of "extreme laxity of financial controls," and the city council called for a state investigation.

Behind it all. Federal renewal and public housing officials arrived from Washington with their view of what underlies the furore. Some blamed it on rising Negro resistance to bulldozer renewal that many Negroes consider simply "Negro clearance" (*see p. 14*). Commissioner William Slayton of the Urban Renewal Administration blamed the John Birch Society for starting uproars in California and the Southwest. Over 660 cities now are trying to renew their slums, he pointed out, and this means more citizens are talking about renewal.

Slayton's boss, HHFAdministrator Robert Weaver, offered another reason. "You get the most vocal criticism just the year before a Presidential election. I'm not too disturbed."

Weaver traced part of the criticism to the fact renewal "has uncovered lots of urban problems that have been swept under the rug."

He allowed that critics may have been right 50% of the time. "But we are changing to meet these criticisms, so some are based on techniques that are no longer used," he maintained. "What I object to is presenting atypical cases as if they were typical."

Edginess about '64. Local and federal officials put aside their traditional differences over the mechanics of dispensing renewal and public housing subsidies to ponder how to manipulate the public mind in the battle.

The worry is money. The Public Housing Administration has already committed funds for all the 100,000 public housing units voted in 1961. URA will exhaust its 1961 authorization of $2 billion by next May or June, predicted Slayton. Already Sen. Joseph Clark (D., Pa.) has introduced a bill to give URA $3 billion and to give PHA $105 million annually for 40 years to build another 140,000 public housing units. NAHRO endorsed a "commitment of federal funds at a high level."

Unexpected prelim. Of more immediate concern to officials is a week-long inquiry into renewal scheduled by Rep. Albert Rains (D., Ala.) for his House housing subcommittee in mid-November. Dr. Weaver views the hearing as "an opportunity to present a record of accomplishment," and Rep. Rains is known to hope a friendly hearing will build a strong case for whatever the Administration proposes in 1964.

The fact Rains called for hearings this year —when chances of a fight over civil rights have limited housing legislation to non-controversial items agreeable to both parties— surprised most NAHRO men. On the surface, it appeared Rains was moved by a General Accounting Office blast at the Erieview renewal project in Cleveland (NEWS, Aug.) and charges by U. S. Chamber of Commerce Staffer Howard Evans, himself a former URA top official, that a renewal probe would disclose "the greatest single scandal the United States has ever had."

But weighing much heavier in Rains' decision was the activity of Rep. John Dowdy (D., Tex.) and his House district committee. The Dowdy committee was using the Erieview report to try to hobble renewal in the nation's capital (Sample requirement: only five projects can be active at one time) and, in the view of Rains staffers who have never been too friendly with Dowdy staffers, poaching on the Rains committee territory.

Nor is the hearing likely to be as friendly as Rains hopes. Republican committee members are digging through URA records of 108 completed projects to see what kind of rebuilding the nation has actually received for its tax dollar. They also want to find out how many cities are really supporting the federal taxpayers' cash outlay with facilities like streets and sewer and water lines.

In-town in-fighting. Renewal officers are convinced they must win their case with city voters as well as Congress.

And the key group to get on renewal's side is the local real estate board, asserted Dr. Donald H. Bouma of Western Michigan University. Dr. Bouma analyzed a 1962 defeat of a public housing bond issue in Kalamazoo, Mich. in which the local Board of Realtors stood virtually alone against a host of churches, women's groups, labor unions, and civic groups—and won. Labor unions endorsed the issue—but 68% of union members voted against public housing. Protestant church groups were highly active supporters—but 58% of their members voted no. Both Republican and Democratic leaders endorsed the issue—but 60% of Republicans and over half the Democrats voted no.

Most voters said they recognized the self-interest of Realtors in working against public housing—but actually identified themselves with the Realtors because they felt the realty men were "little men" who were especially knowledgeable in taxation and housing.

NAHRO backed up Dr. Bouma's analysis with a series of workshops on tactics to win local elections on renewal, public housing, and housing codes. Sample tips: Play down the role of the federal government, use lots of photographs, organize public hearings in advance, let renewal directors become active members of local groups like the Chamber of Commerce. But a veteran of four local referendums warned: "The same set of gimmicks won't work each time."

Assistant HHFAdministrator for Public Affairs Fred Forbes unveiled a checklist of public relations activities HHFA is working out for renewal agencies to use at each stage of planning and carrying out a project. He said the list could be available in 60 days, but that private groups would have to distribute it.

Bond issues are not the only local elections involving renewal. Big-city mayors whose success has been based on renewal are coming under fire. Mayor Richard Lee of New Haven, one of renewal's earliest supporters, is locked in a tough contest for re-election. One indication of how these contests may go emerges from Boston, where Mayor John Collins has just won a primary in which opponents challenged his renewal activities. Collins carried all but one precinct in which renewal is planned. The result, asserts Boston Coordinator Logue, means renewal's opponents are "loud fanatics" who don't truly represent the average voter.

NEWS continued on p. 26

H&H staff

UNREHEARSED INTERVIEW on coming renewal fight was conducted by NBC's Herb Kaplow (left) with (from left) CFA Commissioner Sidney Woolner, PHA Commissioner Marie McGuire, HHFAdministrator Robert Weaver, Commissioners William Slayton of URA Philip Brownstein of FHA.

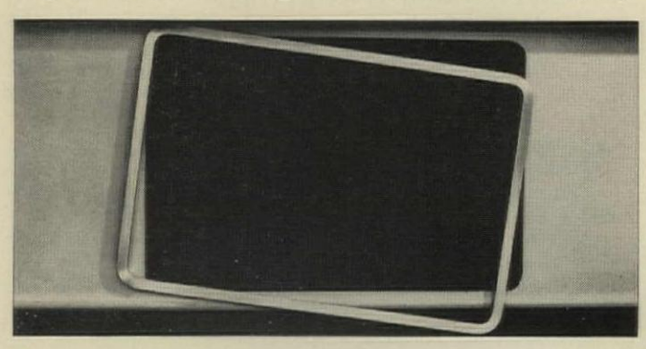
U. S. Steel shows you how stainless steel kitchen

Stainless steel sinks are tough, practical, beautiful.
You don't have to baby them during installation or house construction—and housewives don't have to worry about chips or spalls if they drop a can or a pan in a stainless sink. Like fine silver, the more a stainless steel sink is used, the better it looks. Stainless sinks are available in a myriad of shapes, sizes and finishes. Handsome steel cabinets and stainless steel wall tile are other prospect-pleasers.

components help you build better, more economical, easier-to-sell houses

Nothing adds more sales appeal to a home than a well designed, well built kitchen. And nothing adds as much sales appeal to a kitchen as stainless steel. Your prospects know that stainless steel is practical, tough and carefree. When they see stainless steel in the kitchen, they know you are offering the best kitchen for their money.

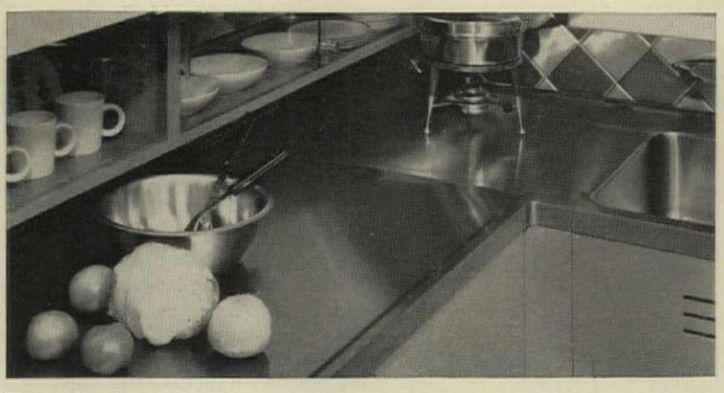
Strong stainless steel solves a problem for you during construction, too. It can stand the rough handling, bumps and scrapes that so often cause costly call-backs when other materials are used. You save time and money with stainless steel. That's part of the beauty of it.



Trim stays trim. Stainless steel sink rims and counter appliance moulding *stay* trim . . . protect edges and add a permanent bright touch to the kitchen. It is the kind of quality touch that housewives look for and appreciate in their kitchens.

Easy to keep clean. For a sales feature that no housewife can resist, install an easily cleaned stainless steel range hood. It adds a custom look, and helps make a smoke-free, grease-free, odor-free kitchen with real sales appeal. Idea for luxury living: Combine a stainless steel range hood with an indoor barbecue.

Beautiful built-ins. Stainless steel is a natural for refrigerator, oven, and dishwasher fronts like this one. Sales points: Cleaning is never a problem. A damp cloth will keep it sparkling. Dirt and grime just can't get a grip on stainless steel's smooth, hard surface. And there's no coating to chip, crack, fade, or wear off.



Tops for tops. You can't find a better material for counter tops than stainless steel. Sales points: Heat won't faze it. Grease or food won't stain it. Knives and utensils won't mar it. And stainless steel's neutral finish matches any kitchen decor and color scheme.

Want to know more about the kitchen components of stainless steel made by reputable manufacturers? U. S. Steel will be glad to help you get additional information from them. Check and mail the coupon.

USS
TRADEMARK

United States Steel

United States Steel
525 William Penn Place, Room 6894
Pittsburgh, Pennsylvania 15230

Please send me more information on the stainless steel kitchen components I have checked:

( ) Stainless steel sinks
( ) Stainless steel trim
( ) Stainless steel built-in appliances
( ) Stainless steel range hoods
( ) Stainless steel range tops

Name_____ Company_____

Address_____ City_____ State_____ Code_____

PEOPLE

U. S. League picks Mortlock to lead S&Ls into new lending fields

A business conservative is taking over the oldest and largest savings and loan trade association this month with the air of a man looking for—of all things—a new frontier.

He is **Eugene M. Mortlock,** 64, president of New York City's First Federal S&L (assets: $185 million), who succeeds **Frank B. Yeilding Jr.,** 59, as president of the U.S. S&L League at its San Francisco meeting. The league represents 5,000 of the nation's 6,300 S&Ls. Mortlock is seeking a new frontier for investment.

"An overabundance of funds is the industry's No. 1 problem," he explains. "We're aggressive, and we're alert to developing a stronger program to capture more of the shelter field in lending."

The new president speaks at a time when S&L assets have soared past $100 billion (NEWS, Oct.) and from 40 years of financial experience that includes six years with the Federal Reserve Bank of New York and, currently, a directorship of the Federal Home Loan Bank of New York.

"Savings have grown faster than not only our ability to lend them out," he says, "but faster than the overall demand for mortgage credit. In 1959, S&LS had $15 billion to lend and 1.5 million home starts were recorded. In 1963, starts will probably reach 1.5 million but lending capacity will total $24 billion."

This excess capacity, he warns, has the same effect in squeezing S&L earnings as excessive production has in manufacturing.

"We must broaden our lending authority," Mortlock says with an eye on Washington. "We must gain a secondary market authority for conventional mortgages. . . . promote the wise and conservative investment of funds wherever possible, and . . . effect stronger cohesion with trade associations."

Stepping into Mortlock's present post as league vice president is **John W. Stadtler,** 46, president of the $150-million National Permanent S&L, Washington.

H&H staff

U.S. LEAGUE'S MORTLOCK
Looking for new loan frontiers

Architect vows to make commuting a pleasure

The three engineering firms designing the San Francisco Bay Area's billion-dollar transit system have picked an architect to design its subways, stations, trains and everything else visible.

Donn Emmons, 52, FAIA, who designed the city's Civic Center Plaza, was chosen from 20 nominations made by Bay Area chapters of the American Institute of Architects. Says Emmons:

"The system must not only be fast and convenient. It must be pleasant to ride. And that is where I come in. Many of the things that made our cable cars and our ferries delightful cannot be recaptured in a modern, efficient transit system, but some of these qualities can be retained."

Cheered the San Francisco *Chronicle:* "A wise and welcome departure from the hurry-up, straight-line, functional method."

Perry Prentice wins industry accolade

Vice President **Perry I. Prentice** of Time Inc., former (1952-62) editor and publisher and now editorial adviser to HOUSE & HOME, has just won the fourth annual F. Stuart Fitzpatrick memorial award for achievement in helping unify the building industry.

He was picked by a jury representing five major professional organizations: the American Institute of Architects, Building Research Institute, Producers' Council, Associated General Contractors and National Association of Home Builders. The jury cited his success in solidifying the design profession within the construction industry.

"This isn't my award," says Prentice. "This is HOUSE & HOME'S and ARCHITECTURAL FORUM'S award. It is recognized as the biggest award in the building industry, and therefore it is an important reflection on the job that our building magazines are doing."

The award is named for the U. S. Chamber of Commerce's late construction and civic development manager. Previous recipients: former FHA Commissioner **Norman P. Mason,** former Executive Secretary **Edmund R. Purves** of AIA, and Chairman **Douglas Whitlock** of the Structural Clay Products Institute.

MORTGAGE BANKERS: **James T. Barnes** & Co. (servicing: $450 million) is gearing its Detroit operation to Michigan's new condominium lending market with the appointment of **Charles B.** (for **Broadfoot**) **MacRae,** 36, of Houston, to head a condominium department. MacRae helped Texas write its condominium enabling legislation.* Barnes has promoted **Clarence M. MacKinnon,** 48, chief of commercial loans in Detroit, to vice president in charge of a new office in Fort Lauderdale, Fla.

Peter H. Ulrich, 40, a vice president of Security First National Bank in Riverside, Calif., for 10 years, is joining the Bank of California as vice president for realty loans in Los Angeles.

Three mortgage companies have dipped into allied fields for new talent. J. Halperin & Co., Jamaica, N. Y., has appointed **Charles H. Robinson,** 65, as a consultant. He has just retired as vice president and senior mortgage officer of County Trust Co., White Plains, N. Y. **Stuart F. Silloway,** 56, who resigned this year as president of Harrison Ripley & Co., New York securities dealers, becomes a partner in Brooks, Harvey & Co., New York. Bankers Mortgage Co. of California gets **Harland G. Keller,** 60, of San Francisco, as a vice president. For 17 years he was vice president of Allied Building Credits, a commercial and home improvement loan company in Los Angeles.

More changes come at **J. Maxwell Pringel** & Co., New York City mortgage broker which has been bought by Associated Mortgage Cos. of Washington. **John F. Downey,** 64, leaves as senior vice president to join **William F. Sey, Louis A. Brown** and **Irving I. Zimmerman** as an executive vice president in the mortgage banking company of Sey, Brown & Zimmerman, organized when all three left Pringle last summer (NEWS, Aug.). **Thomas G. Langan,** 54, leaves an assistant vice presidency with Pringle for a vice presidency in the new concern.

*Thirty-eight states have now legalized condominiums (NEWS, Oct.).

National League picks McKenna as counsel

William Francis McKenna, 53, is the new general counsel for the National League of Insured Savings Associations, replacing **Bryce Q. Curry,** who became president of the Home Loan Bank of New York (NEWS, Aug.).

McKenna had been director-counsel of the Washington office of the National Association of Mutual Banks (511 members).

His successor is **Robert R. Poston,** 55, former general counsel for the Senate banking committee. Poston was staff director for the American Legion's national housing committee from 1946 to 1950. Since then he has been assistant to the HHFAdministrator and counsel to the House subcommittee on housing.

OPINIONS AND INSIGHTS

• HHFAdministrator **Robert Weaver,** speaking to park executives: "The land policies of this nation were set in the days of the old frontier when this was predominantly a rural and agricultural country. We must start thinking about new land policies . . . Our problem is not one of space, but of resolving the conflicts that arise between competing uses for space in an urban area. We do not yet have any way of coordinating the haphazard residential and commercial development on the fringe land around rapidly growing urban areas."

• Outgoing President **Monroe Kimbrel** of the American Bankers' Assn., bemoaning low-rate direct lending by federal agencies, especially in housing: "It's something that has grown like Topsy, and I'm afraid bankers will have to live with it."

• Architect **Walter Gropius,** as he accepted an honorary degree from Williams College: "Instead of striving for leadership through moral initiative, modern man has developed a kind of Gallup-poll mentality, a mechanistic conception of relying on quantity instead of quality . . . We are stigmatized by an irrelevant slipcover civilization, and our sense of duty turns into a timid and insipid attitude which too often accepts imitative cosmetic treatment as a substitute for a creatively conceived design."

• Builder **Lowell Siff** of Chicago's F&S Construction, when asked how important house design is: "One thing the consumer looks for in his neighborhood is variety. We've spent a fortune to try to make our areas look like they were built by half a dozen builders."

H&H staff

NLISA'S MESSERSMITH
South of the border in '64?

Messersmith heads National League

The new leader of the National League of Insured Savings Associations is an enthusiast for lending south of the border.

"There is a big job to be done," says **Robert S.** (for **Spencer**) **Messersmith,** 45. "There is a big need and a tremendous opportunity for our industry—and for democracy."

The National League is already pushing legislation to let S&LS lend in Latin lands (NEWS, Oct.). Despite gloomy predictions in Congress, Messersmith now predicts success in the '64 session.

Messersmith, president of Westfield (N.J.) Federal (assets: $49 million), will take leadership from **Harold P. Halleen,** 60, president of the $355-million Bell S&L of Chicago. Stepping in as vice president is **George E. Leonard,** 51, president of the $777-million First Federal S&L of Phoenix, Ariz. An unrestrained optimist, Leonard is for S&L expansion in about every direction.

"S&LS should go into consumer financing," he says. "Anything that has to do with the home—furniture, education, and other consumer products." He favors more loans on apartment and commercial buildings and he would push investment beyond South America to Africa.

DIED: **Howard C. Heydlauff,** 50, deputy Oregon director for FHA whose skill as an expeditor in application processing made him a roving troubleshooter to help other FHA offices set up procedural systems, Sept. 15 in Portland; **Don M. Casto Sr.,** 65, real estate developer and builder of thousands of homes and apartments and known to many as "father of the shopping center," Sept. 17 in Columbus; **Howard Evert Kincaid,** 58, nationally known planner and former Urban Land Institute staffer who served as planning director of Chicago, San Antonio, and, since 1958, of San Mateo, Calif., Sept. 29 in San Mateo.

CANADA

Liberals' housing plans hit trouble

The Liberals' unorthodox prescription for housing (NEWS, Aug.) is proving so ineffective the government is reaching into the medicine cabinet again. The remedy: more subsidies.

Since mid-June when the government cut interest rates on National Housing Act loans from 6½% to 6¼%, private lenders, mainly insurance and trust and loan companies, have been slowly pulling out of the NHA market, and other long-term investments have begun to creep up in yield. By mid-September builders found it difficult to get loans anywhere.

At the same time the government began publicizing its plan to give a $500 bonus to buyers of homes built in the winter months (Dec. 1 to Mar. 31). The idea was to boost winter building volume. Result: Many buyers started postponing closings to get the bonus. Builders, already irked at the publicity, were left holding unsold homes.

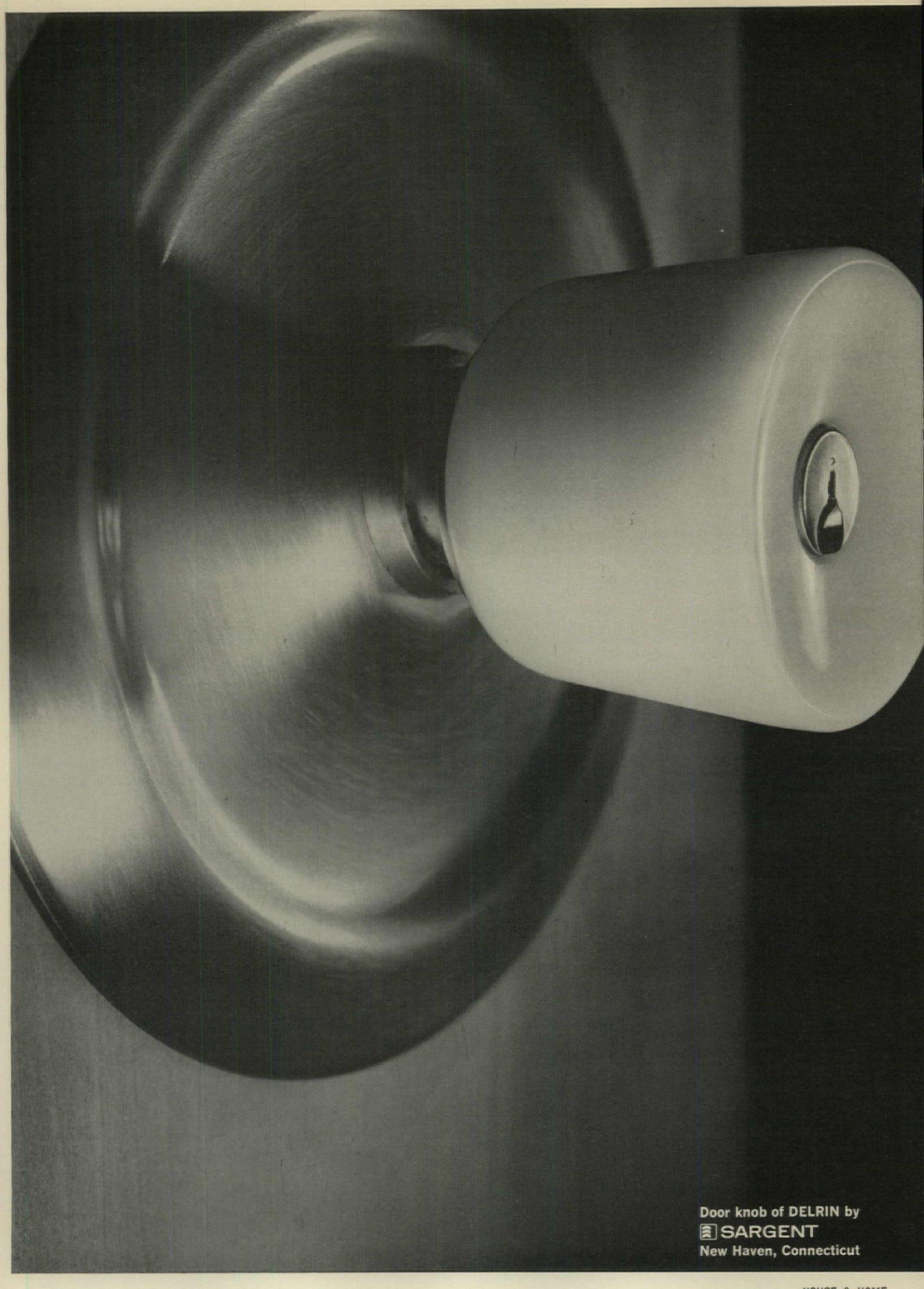
To plug the gap, Central Mortgage and Housing Corp., the government's housing agency, has just announced it will move into the direct-loan field and stay there for the rest of the year.

The move lets builders get direct loans for speculative building depending upon the local market. Previously CMHC made direct loans only when builders presold their homes. Liberals expect the direct loan program to add 10,000 additional starts in the last three months (one- and two-family starts are off 20% through August). And by providing a source of mortgage money, it assures a market test of the winter-buying bonus plan.

But behind the plan may lie the seeds of a mortgage shortage as critical as in 1957. President C. J. McConnell of the National House Builders Assn. hints of this: "The [direct loan] action should ease the immediate problem facing the industry . . . [but] the problem is a recurring one and it does not solve the mortgage dilemma."

Upshot: Builders will push their plea that NHA loans should carry a free interest rate, not one set by officials.

NEWS continued on p. 31


Door knob of DELRIN by
SARGENT
New Haven, Connecticut

Door knobs of DELRIN® ACETAL RESIN add the warm touch of lasting beauty

Americana Hotel

Sheraton Motor Inn

Summit Hotel

A bold new look of beauty and styling comes to builders' hardware with door knobs molded of Du Pont DELRIN acetal resin. And the look is here to *stay*—because these attractive door knobs resist stains, abrasion, corrosion and chipping...and will not tarnish. They're pleasantly warm to the touch and, because DELRIN is non-conductive, they are free from annoying static-electricity shocks.

Door knobs of DELRIN are easily molded into shapes appropriate to any décor and are available in a range of attractive colors. You'll find them an ideal choice for quality homes to add a final note of distinction. Building owners, too, are impressed by the attractive appearance and low maintenance of door knobs of DELRIN. They're used, for example, on interior doors in the three modern buildings shown above—the Americana Hotel, the Summit Hotel and the Sheraton Motor Inn, all in New York City. (Architects: Lapidus-Liebman Associates.)

For new styling and performance, why not investigate door knobs of DELRIN? Keep informed on these and other new developments on Du Pont Plastics by sending for ENGINEERING DESIGN, quarterly Plastics Department publication. For your free subscription, write: Du Pont Company, Dept. HH-11, Room 2507D, Nemours Bldg., Wilmington 98, Del. *In Canada:* Du Pont of Canada Limited, P.O. Box 660, Montreal, Que.

PLASTICS DEPARTMENT

DU PONT

REG. U.S. PAT. OFF.

Better Things for Better Living
...through Chemistry

MORTGAGE MONEY

One-two punch gives watchdogs lever over coast S&Ls; loan discounts steady

A new political strategy is unfolding that may give regulatory officials powerful new control over one segment of the mortgage market.

The strategy is a one-two punch from state and federal officials, and how effectively it works was shown in California in the first days of October.

The left hook: When HLBB Chairman Joseph McMurray arrived in San Francisco for the Mortgage Bankers' convention, he made no secret of his anger at a bold half-dozen S&Ls around Los Angeles (largest: Van Nuys S&L, $150 million assets) which had upped dividends from 4.8% to 5%.

McMurray called the 5% rate "most unwise" and made it clear the Kennedy Administration supported three tighter rules HLBB is considering for high-dividend S&Ls.

But the coast S&Ls had listened to McMurray's warnings about rate rises for two years—and yawned. State-charter S&Ls (and S&L holding companies) hold 64% of the state's $18.5 billion S&L assets and are beyond McMurray's federal agency.

The right cross: Gov. Edmund (Pat) Brown then leaped from the sidelines. In a strong statement—prompted by McMurray—the Democratic governor warned: "I have directed the state S&L division to augment supervisory and appraisal staffs immediately. This will let it increase its rate of review of the quality of loans and take other steps to assure these institutions are operated prudently and safely."

McMurray added three more clubs to Gov. Brown's inspection threat: the HLBB may force out-of-line S&Ls to 1) increase reserve allocations from the present 10% of assets, 2) require them to amortize loan fees over the life of a mortgage instead of counting them as immediate income, and 3) curb money shifts between holding companies and subsidiaries that boost the S&L's lending capacity with regional Home Loan Banks.

McMurray also has a carrot in mind for S&Ls: the HLBB is considering letting S&Ls lend up to 5% of their assets in any metropolitan area in the nation, thereby breaching existing rules limiting conventional S&L loans to 100 miles from their home office.

S&Ls got the message. Within hours, one of the Los Angeles five-percenters had crept back to 4.9%. Instead of the general rise expected in San Francisco, only five small associations went to 5%. All the federals and the big state-chartered S&Ls held the 4.85% line.

The unmistakable significance: officials have much more leverage over S&L dividends than before—even without the controversial bills now before Congress to give HLBB stand-by control over dividends (NEWS, June).

Dividend fever spread despite some talk of tighter mortgage money.

President Frank B. Yeilding Jr. of the U.S. S&L League is one of the first with such a prediction. Record lending has eliminated the excess of savings that S&Ls had early this year, he says, and firmer mortgage rates—and S&L earnings—are in store for '64. League statisticians report S&Ls loaned nearly $2.5 billion in mortgage funds in August, 23% more than a year ago. Net savings increased only $575 million, off 11% from the $644 million the previous August.

One widely read newsletter is predicting that mortgage rates will move up by year's end and be ¼% higher by spring. HOUSE & HOME's survey of 18 key cities in the mortgage market turns up some scattered agreement. Mortgage men in Atlanta, Dallas and Honolulu call such an increase possible or probable.

But there is also the question of the tax cut now before Congress. Chairman Earl B. Schwulst of the Bowery Savings Bank in New York City warns the government "will finance the increased deficit mainly by selling its securities to the commercial bank system for the money it needs to cover expenditures." This means inflation, Schwulst fears. It also means competition for the investor's dollar and higher mortgage rates.

Discounts remain generally firm, but some FHA loans command premiums.

The FHA-VA market shows little change. The late summer surge of loans (NEWS, Oct.) is carrying over into autumn in some big volume cities, but supply has yet to satisfy all the demand. "We could use more," says Executive Vice President Sherwin Vine of Detroit's Citizens Mortgage Corp.

Investors are still trying for the elusive 5.12 yield, but it remains generally lower except for top quality merchandise, often offered in $1 million packets. "Investors are trying for 5.12," says one mortgage man. "But they are taking 5.08%."

In New York, Lincoln Savings Bank is offering a ½ point premium on metropolitan FHA loans with a 5% down payment.

Tom Arden

EVIDENCE presented to grand jury included photos of unfinished homes similar to these at Arden Highlands subdivision. The charge: West Coast S&L certified the homes as ready for sale.

Builder and S&L indicted in coast lending scandal

S&L irregularities are spreading to California and new troubles are surfacing in Illinois. Executive Vice President Norman Strunk of the U. S. S&L League views the Illinois disclosures with grave concern because they hint suede shoe operators have invaded S&Ls.

A county grand jury in Sacramento has indicted West Coast S&L of Sacramento and three of its present or former executives for illegally lending more than $1 million to Homebuilder Oscar Jordan (Jay) Parker. The builder and his lawyer were also indicted.

All figured in a $10-million loan pyramid that crumbled under the weight of Parker's $17-million bankruptcy petition last year. Parker, 44, had become one of the leading volume builders in Sacramento County (Parker Built Homes).

The indicted West Coast executives were: former President Robert G. Joseph, 45, of Phoenix, Ariz., and Vice President William J. McCormick, 34, and former appraiser John L. Pierce, 32, both of Sacramento.

More laws on way? The indictment charges West Coast's $1.3-million loan to buy a ranch exceeded the 70% of appraisal value allowed by state S&L rules on such financing.

Attorney General Marshall Meyer said West Coast still holds more than $8 million in delinquent loans to Parker and 440 homes remain unbuilt although full loans have been made for them. (West Coast says only 27 houses are uncompleted now.) Parker, at one time developing eight subdivisions, is now working as a draftsman.

"We think the situation could be widespread," commented Grand Jury Foreman Norman Callish. "I don't think the laws governing S&Ls are firm enough in California. We expect to continue our investigation. We may need remedial legislation."

How bubble burst. The prosecutor gave this version of what happened: Parker had borrowed $6½ million from West Coast by 1961, when Sacramento's housing market declined and creditors began pressing. West Coast's officers then began deleting data on Parker's troubles from reports to their board, and the $1.3-million loan was arranged. Of the money, $600,000 went back to West Coast

continued on p. 34

Builder Mortimer S. Money tells:

"Why every builder should use TWINDOW® ...and get incredibly rich like me!"

NOTE: TWINDOW Insulating Glass is available everywhere—either glass or metal edge—in all popular sizes. We can't guarantee it will make you incredibly rich. We can predict it will help

Q. Were you always this incredibly rich, Mr. Money?
A. Not at all. At one time I was just another starving builder, struggling to get by.
Q. And what changed all that?
A. A simple discovery I made. I found buyers were no longer interested in just getting good housing. They were starting to look for extra value—quality products that told them they were getting a better home for their money.
Q. Like TWINDOW Insulating Glass?
A. Exactly. I started putting TWINDOW in my houses—and found customers were quick to appreciate the extra value it gave them. No need to buy storm sash . . . just two sides of glass to clean instead of four . . . savings on heating bills . . . less fogging and frosting in winter . . . protection from cold downdrafts . . .
Q. Then it was TWINDOW that made you incredibly rich?
A. No, it was TWINDOW that helped me sell more houses—faster—than I ever had before. What made me incredibly rich was this incredibly rich uncle who died and left me all his dough.

Pittsburgh Plate Glass Company
Paints • Glass • Chemicals • Fiber Glass
In Canada: Canadian Pittsburgh Industries Limited

you make sales. Our new TWINDOW booklet gives you details. Write for yours, to Pittsburgh Plate Glass Company, Room 3525, 632 Fort Duquesne Blvd., Pittsburgh, Pennsylvania 15222.

and $600,000 to the ranch owners.

But two West Coast directors appointed by the S&L's parent holding company, Great Western Financial Corp. of Los Angeles, learned the extent of the Parker loan. They sent an investigator, who turned up the full story. Parker filed for bankruptcy.

Charges denied. Great Western has protested the naming of its subsidiary, West Coast, in the indictment. It says: "We believe West Coast is innocent."

It said West Coast has $882 million in assets and that, while it loaned Parker $8 million, the loans were secured by real estate now being sold to repay them. Of 404 homes taken over from Parker, 266 remain unsold. West Coast President Howard S. VanLeer says his firm will lose nothing. Says Parker: "I think I'm innocent."

Illinois seizes two more. The state took custody of the Beverly and Concord S&Ls in Chicago. The Beverly had failed to pay its semi-annual dividend, and a federal jury had indicted three Concord officials and two others on charges of misapplying nearly $400,000.

That made four seizures in the Chicago area. Hillside S&L was taken over last spring (NEWS, May) and Tinley Park Aug. 8.

Mortgage banking emerges from statistical darkness

First solid results of MBA's 16-month-old research program were disclosed in San Francisco. Dr. Oliver Jones, research director, promised they are only the first of many.

Results were based on a 50% return (409 of 911) of Jones' first questionnaire, but most of the major companies are included. Estimates were made for the others to render a total picture. The findings, as of Dec. 31:

Mortgage bankers were servicing $38,746,000,000 of loans broken down as follows:

INVESTOR	%	INVESTOR	%
Life ins	51.2	S&Ls	3.8
Savings banks...	21.3	Trusteed funds..	3.3
FNMA	9.0	Individuals	1.6
Com. banks	5.3	Own accounts ..	4.5

Jones' analysis of loans in servicing portfolios breaks down this way:

TYPE OF LOAN	%	TYPE OF LOAN	%
Total res. non-farm	82.1	2-4 fam.	0.7
		over 4-fam. ..	4.3
FHA, one fam....	40.3	Total non-res. ..	9.8
FHA, project ...	3.3	Coml.	8.6
VA	30.0	Inds.	0.8
Conventional		Other	0.4
1-fam.	11.1	Farm	0.5

Based on $250.5 billion of mortgage debt outstanding, mortgage bankers were servicing 15.4% of the total of these percentages of loans held by various investers:

INVESTOR	MTG. BANK SERVICE %	INVESTOR	MTG. BANK SERVICE %
Life Ins.	42.1	Com. Banks ...	8.9
Savings Banks...	25.7	S&Ls	1.9
FNMA	59.3	All others	5.7

Mortgage bankers were servicing these percentages of all mortgages outstanding in these categories:

TYPE OF PROPERTY	%		
1-4 fam. house loans	18.9	Conv.	4.3
		Multi-fam. and coml.	7.5
FHA	48.3		
VA	39.1	Farm	1.3

MORTGAGE MARKET QUOTATIONS

(Sale by originating mortgagee who retains servicing.) As reported to HOUSE & HOME the week ending Oct. 11, 1963.

City	Conventional Loans[w] Comm. banks, Insurance Cos.	Conventional Loans[w] Savings banks, S & Ls	Construction Loans[w] Interest + fees Banks, Ins Cos. & Mtg. Cos.	Construction Loans[w] Interest + fees Savings banks, S & Ls	FHA 207 Firm Commitment	FHA 220 Firm Commitment 35 years	FHA 203[b] Min. Down 35 year Immed
Atlanta	5½–6	5¾–6	6+2	6+2	a	a	97½–98
Boston local	5¼	5¼[n]	5¾–5¾	5¼–5¾	a	a	a
out-of-st.	—	—	—	—	a	a	97½–98
Chicago	5–5½[l]	5–5¾[l]	5½–5¾+1–1½	5¾–6+1½–2	99–par	99–par	97–98
Cleveland	5½	5½–6	6+1	6+1	99–par	99–par[b]	97½–98½
Dallas	5½–5¾	6[j]	6+1	6+1	99–100	a	98–99½[p]
Denver	5½–6	5½–6½	6+1½–2	6+1½–2	99	a	a
Detroit	5¼–5½	5¼–5½	6+0	6+0	99½–par	99½–par	97½–98
Honolulu	5¾–6½	6–7	6+1–2	6+1–2	a	a	97
Houston	5½–6	5½–6¼	6+1	6+1	98–99	98[bd]	98
Los Angeles	5½–6	5¾[h]–6.6	6+1½	6–6.6+2–3	98½–99	98½–99	98½
Miami	5½–5¾	5½–6	5¾–6+½–1	5¾–6+½–1	99[b]	a	97½
Newark	5½–5¾	5½–6	6+1	6+1	99–par	99–99½	98½[b]
New York	5½–6	5½–6[r]	6+0–1	5¾–6[s]	99½–par	par	99½–par
Okla. City	5½–6[b]	5¾–6½	6+1–2[b]	6+1–2	a	a	97½–98½[b]
Philadelphia	5–5¾	5¼–6	5½+1	5¾+1	99½	par	99
San Fran.	5½–6[h]	5¾–6.5	5¾–6+1–1½	6–6.6+1½–3	99–99½	99¼–99¾	98
St. Louis	5¼–6	5½–6¼	5½–6½+1–2	5½–6½+1–2	a	a	a
Wash. D.C.	5½–5¾	5½–5¾	5¾+1	6+1	par	par–½	99

City	FHA 5¼s (Sec 203) (b) FNMA Scdry Mkt[z,y]	New Construction Only Minimum Down* 30 year Immed	Minimum Down* 30 year Fut	10% or more down 30 year Immed	10% or more down 30 year Fut	Existing[z] Min Down 25 year Immed	VA 5¼s FNMA Scdry Mkt[z,y]	New Construction Only No down 30 year Immed	No down 30 year Fut
Atlanta	97¼	98–98½	98–98½	98½[b]	98[b]	97½–98½	97¼	98–98½	98–98½
Boston local	98¼	par–101	par–101	par–101	par–101	par–101	98¼	par–101	par–101
out-of-st.	—	97–98	97½–98	a	a	97½–98	—	97–98	97½–98
Chicago	97¼	98½–99	98½–99½	99–par	98½–99½	99–100	97¼	98½–99	98–99
Cleveland	97¼	98½–99	98–99[b]	99–par	98½–99	98–98½	97¼	97½–98	97½[b]
Dallas	97¼	98–99½	97½–98½	98–99½	98–99½	97½–99	97¼	98–99½	97½–98½
Denver	96¾	98–99	97½–98½	98–99	97–99	98–99	96¾	97½–99	97½–98½
Detroit	96¾	98½	a	99–99½	a	98½	96¾	98½	a
Honolulu	96¾	97½	97½	98	97½	97–97½	96¾	97½	97
Houston	97¼	98–99	98–98½[b]	99	a	98½	97¼	98–99	98–99
Los Angeles	96¾	98½	98	99[bc]	98½	98½[b]	96¾	98½[f]	98
Miami	97¼	98	a	99[b]	a	98	97¼	98	a
Newark	97¾	99–par	99	par	99	par	97¾	99	99
New York	98¼	99–par	99–par	99½–par	99½–par	par	98¼	99½–par	99½–par
Okla. City	96¾	98–99	98–99	98–99½	a	97½–99	96¾	97½–99	97½–98½[b]
Philadelphia	97¾	par	par	par	par	99½	97¼	99½	99½[b]
San Fran.	96¾	98½	98–98½	99	98½	98–98½[k]	96¾	98½	98–98½
St. Louis	97¼	97–99	97–99	97½–99	97½–99	97–99	97¼	95–99	95–99
Wash. D.C.	97¾	99	99–99½	99–99½	99–99½	99	97¾	99	99–99½

*3% down of first $15,000; 10% of next $5,000; 25% of balance.

Sources: Atlanta, Robert Tharpe, pres., Tharpe & Brooks, Inc.; Boston, Robert M. Morgan, pres., Boston Five Cents Savings Bank; Chicago, Robert Pease, pres., Draper & Kramer Inc.; Cleveland, David O'Neill, vice pres., Jay F. Zook Inc.; Dallas, Aubrey M. Costa, pres., Southern Trust & Mortgage Co.; Denver, C. A. Bacon, vice pres., Mortgage Investments Co.; Detroit, Sherwin Vine, vice pres., Citizens Mortgage Corp.; Honolulu, Howard Stephenson, asst. vice pres., Bank of Hawaii; Houston, John F. Austin, Jr., pres., T. J. Bettes Co.; Los Angeles, Francis G. Forsythe, vice pres., The Colwell Co.; Miami, Hubbard Sherry, asst. vice pres., Lon Worth Crow Co.; Newark, William W. Curran, Franklin Capital Corp.; New York, John Halperin, pres., J. Halperin & Co.; Oklahoma City, M. F. Haight, first vice pres., American Mortgage & Investment Co.; Philadelphia, Robert S. Irving, vice pres., First Pennsylvania Banking & Trust Co.; St. Louis, Sidney L. Aubrey, vice pres., Mercantile Mortgage Co.; San Francisco Raymond Lapin, pres., Bankers Mortgage Co. of Calif.; Washington, D.C., George W. DeFranceaux pres., Frederick W. Berens Inc.

Footnotes: a—no activity. b—limited activity. c—for local portfolios. d—on spot basis. e—FNMA is only purchaser. f—98 for loans over $20,000. g—depending on location. h—limited 6%. j—some 5½ and 5¾ available. k—for 25 or 30 years. l—in isolated circumstances on choice loans. m—no fee if permanent loans included. n—limited 5%. p—½ point differential has generally disappeared. r—depending on % of loan. s—no fees to 1%. w—interest charged to borrower. x—FNMA pays ½ point more for loans with 10% or more down. y—plus 1% stock purchase figured at sale for 75¢ on the $1. z—on houses not over 30 years old of average quality in a good neighborhood.

• Immediate covers loans for delivery up to 3 months, future covers loans for delivery in 3 to 12 months.

• Quotations refer to prices in metropolitan areas, discounts may run slightly higher in surrounding towns or rural zones.

• Quotations refer to houses of typical average local quality with respect to design, location and construction.

NEW YORK WHOLESALE MORTGAGE MARKET

FHA, VA 5¼s

Immediates: 97-98 Futures: 97-98

Note: prices are net to originating mortgage broker (not necessarily net to builder) and usually include concessions made by servicing agencies.

FHA, VA 5¼ spot loans (On homes of varying age and condition)

Immediates: 97-98

Prices cover out-of-state loans, reported the week ending Oct. 4, by Thomas P. Coogan, president, Housing Securities Inc.

CONVENTIONAL LOANS

(combined averages)

	June	July	August
New homes	5.82	5.82	5.82
Existing homes	5.94	5.93	5.93
(interest charged by various lenders, new homes)			
S&Ls	5.94	5.93	5.95
Life Ins. Cos.	5.53	5.55	5.51
Mortgage Companies	5.69	5.70	5.71
Commercial Banks	5.67	5.71	5.58
Mut. Sav. Banks	5.58	5.56	5.60

Source: Federal Home Loan Bank Board.

NET SAVINGS DEPOSIT CHANGES

(in millions of dollars)

	Aug. '63	% change from Aug. '62	Year to date	% change from 1962
Mut sav banks[a]	$ 174	(–19.1)	$ 1,948	5.1
S&Ls[b]	575	(–11)	6,542	25
Commercial banks[c]	1,000	(–17)	10,800	(–2)

[a]—National Association of Mutual Savings Banks. [b]—United States Savings & Loan League projections. [c]—Federal Reserve Board.

MBA CONVENTION

Mortgage bankers' concern: trying to pick the casualties

Mortgage banking is in the throes of reformation—with certain casualties. But who?

Depending on who was talking at the Mortgage Bankers' Assn. convention in San Francisco last month it was: 1) small companies, 2) middle-sized companies, 3) undercapitalized companies of any size, 4) companies too heavily involved in FHA-VA or 5) all four.

The changing shape of mortgage banking was by any measure Topic A among the 2,600 mortgage bankers and investors, biggest registration ever.

Some much discussed signs of the times:

- Continuing incursions of commercial bankers into mortgage banking.
- The sliding level of FHA-VA new house activity with a proportionate rise in conventional originations, notably on multi-family and commercial projects, and FHA spot loans.
- Apparent success in efforts to hold the prevailing servicing rate to ½% despite investor pressure for ⅜%.

Wanted: complete deals. Merger and talk of merger filled the meeting rooms, corridors, and hospitality suites. Most sought-after: the men who had already arranged mergers. They found plenty of advice.

George DeFranceaux, whose Frederick W. Berens Inc. is now one of the subsidiaries of Associated Mortgage Co., a holding company, explained his deal simply: "You have to have capital to make commitments yourself and compete with banks and savings & loans."

And increased capital has opened other doors to profit. Associated Mortgage has sold commercial paper, rather than borrow from banks, saving ½%, DeFranceaux said.

Capitalization was also the moving force behind the merger which formed Marble Mortgage, now statewide in California.

Said President James P. Alger: "We merged three companies. It appeared to us we had to give better service to sophisticated investors and we needed the safety of capital to make commitments so as not to expose ourselves to sudden changes of the market."

Commented Research Director Saul Klaman, of the National Association of Mutual Savings Banks: "It seems mortgage bankers will be the market makers of the future. But they will be so only to the extent of their capital."

Will this mean an end to the small company? Said one mortgage banker without hesitation: "He's washed up." But this was hardly a common opinion in an organization in which more than half the membership is classified as small (servicing less than $20 million).

Klaman was more generous: "The size of the small mortgage company will be against it in the matter of operating efficiencies. It faces some severe tests."

Banker's retort. Commercial banks were the villains of the convention. "They are our most serious competitive threat," said past MBA President Robert Tharpe of Atlanta. Agreed Marble Mortgage's Alger: "It will take a tremendous amount of work on our part to compete successfully."

DeFranceaux insisted: "Banks are not production oriented. They can't get their top management to go along with incentives to get the business."

A commercial banker was listening and he replied in kind. Said Vice President C. E. McCarthy, real estate loan development chief of the Bank of America: "I don't feel we can do a better job of servicing than you can. But we do have the capital to do what we want."

"I would say to mortgage companies that it's time you sold your Cadillacs and yachts and built your capital." He added with a grin: "Frankly, we look at owning a mortgage company as a license to steal."

McCarthy continued: "I would also point out that we do not object when some mortgage bankers get into the consumer loan field and that the majority of loans we sell go to other commercial banks.

"Nor do we hire solicitors and pay Realtors as you do to get loans. We never do this but we don't cry about it when you do."

"Basically I don't feel there is a conflict between commercial bankers and mortgage bankers. The demand is high so I'm sure there is plently of business for all of us."

He seemed to convince no one.

The most popular spots. With the FHA-VA share of housing starts down to 19%, mortgage bankers almost universally are looking for new ways to generate business.

Most popular: FHA spot loans on existing houses. President Ray Lapin of Bankers Mortgage, San Francisco, says such loans now account for half of his originations. Investors Central Management Corp., the mortgage banker-owned marketing company for trusteed funds, now treats every FHA it gets as a spot loan—simplifying its procedures for the heavier volume.

If investors still want cheaper servicing, they don't seem to be getting it. Asked why increased efficiencies shouldn't produce lower servicing costs than the traditional ½%, Bob Tharpe replied: "Our costs have gone up and our balances are still small—averaging $11,200 a loan. There's nothing holy about ½% but there *is* something holy about profit."

Another mortgage banker said he ran a detailed cost analysis, found that his actual cost of servicing was about ¼%. "If we charged ¼ or even ⅜% we would be losing money. One-half is still essential."

—JOHN A. SENNING.

MORTGAGE YIELDS, sliding for three years, should start back up in 1964, predicted President R. Stewart Rauch Jr. of the Natl. Association of Mutual Savings Banks. Savings banks will probably place nearly $8 billion in mortgages in 1964, even more than in 1963.

Photos: Cristof Studio

MORTGAGE MONEY availability may yet be adversely affected by the balance of payments problem, new MBA President Carey Winston cautioned. "If monetary actions are to continue to be the principal weapon for defending the dollar, our immunity will not last," he said.

Who's making bad loans these days?

Mortgage bankers did a lot of talking around this question in San Francisco. But they did even more finger pointing at the other guys —savings & loans.

Bad underwriting, over-appraising and their dangers were cited by five speakers led by Chairman Joseph P. McMurray of the Home Loan Bank Board.

Indeed, McMurray used the MBA platform to warn West Coast S&LS against raising dividend rates on savings to 5% (*see p. 31*)

But he spoke mostly of "credit practices that have not been as good or as firm as might be desired." So did HHFAdministrator Robert Weaver and FHA Commissioner Philip N. Brownstein.

So did Finance Committee Chairman Milford A. Vieser of Mutual Benefit Life Insurance Co., who candidly advised: "The point has been reached when investors should increase their caution and, to put it mildly, should call upon their correspondents to exercise greater circumspection in presenting new projects for consideration.

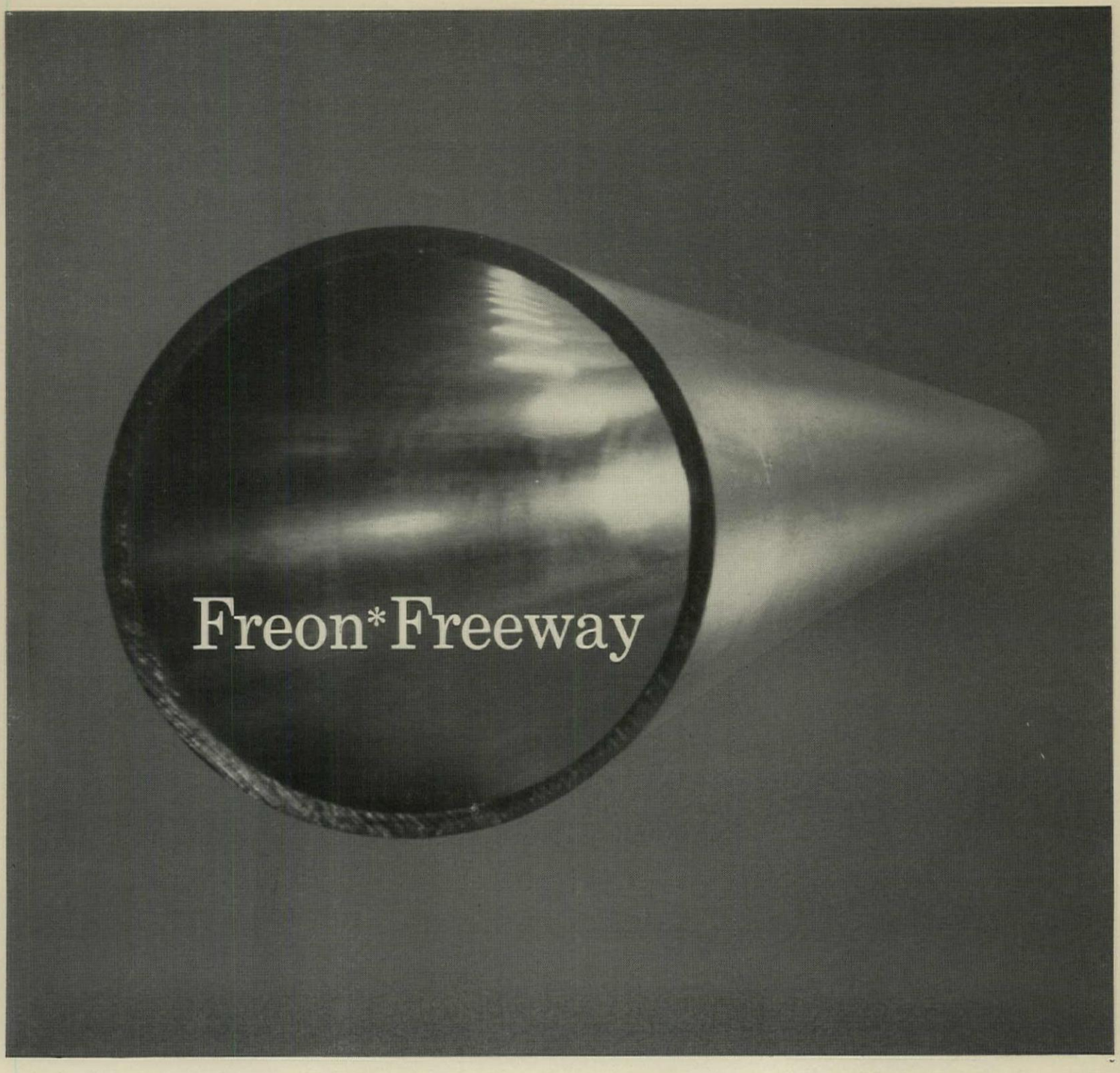
"Yield for yield's sake certainly cannot be taken as a safe working principle. Less yield and greater selectivity would be a safer principle."

Mortgage bankers called it good advice—for S&LS. Said one: "It's unfortunate that in this drive for growth they're promising to pay the dividend first, then trying to raise money to do it."

A commercial banker chimed in: "There's no margin for error on 90% loans. But with the pressure S&LS are under to get out their money, they're making many 'errors'."

Officially, MBA was silent on S&LS. President Dale Thompson suggested: "The real question is whether anyone can safely make a 100% loan in a market no longer rising."

Thompson was looking ahead. Mortgage bankers service few loans for S&LS now. But if McMurray's plan to let S&LS lend 5% of their assets in any U.S. metropolitan area becomes a fact, then S&LS could become as important to mortgage bankers as savings banks are now.



National Association of HOME BUILDERS Annual CONVENTION EXPOSITION Chicago December 11-15 1963

BOOTH 1165

The shortest, most direct route to making home air conditioning as common as the kitchen refrigerator—and just as affordable. More than just a copper tube, this metered refrigerant line is an integral part of the new Lennox RFC™ System. Cuts installation costs to a minimum . . . eliminates the causes of many operational troubles to assure years of trouble-free cooling. Unique, compact design gives a flexibility of installation that makes Lennox year 'round comfort practical in any size home or apartment. Find out how you can now afford to add this extra sales feature in your homes. Write LENNOX, 22 S. 12th Avenue, Marshalltown, Iowa.

*DuPont Registered Trademark

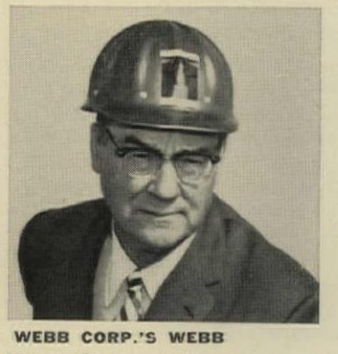
AIR CONDITIONING • HEATING **LENNOX**®

HOUSING STOCKS

Companies tap rising market for capital

After hitting a record peak in September, the Dow-Jones industrial average of stock prices inched up another 2% to 739.10 on mid-October.

Some housing companies are taking advantage of a boomy fall market to arrange



WEBB CORP.'S WEBB
Now is the time to borrow

new financing. DEL WEBB CORP., newly admitted to New York Stock Exchange trading, has placed 20-year notes for $15 million with an unnamed institution at 5½% interest. Proceeds will be used to cut outstanding short-term debt and perhaps complete new acquisitions and mergers, says the company.

FIRST WESTERN FINANCIAL S&L of Las Vegas raised $3,393,750 with a 150,000-share issue to buy a commercial bank, Nevada Bank of Commerce. Five shareholders, including Chairman Albert G. Neumeyer of the executive committee, offered 450,000 shares they own. The total offering was over-subscribed at $22.625 a share.

GREAT LAKES HOMES of Sheboygan Falls, Wis. has asked SEC approval of a secondary offering of 100,000 shares of stock (plus 60,000 to be sold by President and Chairman Lee Larson and Director Harold Larson) at a maximum of $10 a share. Proceeds would reduce short term bank loans and notes and chattel mortgages on equipment. Great Lakes has just bought its second company in two months: Place Homes of South Bend, Ind. for an undisclosed price. The prefab company, with $1.5 million sales last year, is owned by Robert B. Place (brother of Builder Andy Place) and Henry Amt.

HOUSE & HOME's average of housing stocks slipped 7.6% from mid September to mid October. All shell home companies showed losses and all but three S&L companies lost under the threat of new controls (*see p. 31*). Realty investments, up 2.1%, were the only gainers.

Here are HOUSE & HOME's *averages of selected stocks in each housing group:*

	Aug. 7	Sept. 5	Oct. 2
Building	6.60	6.58	6.29
Land development	5.22	5.38	5.23
S&Ls	22.50	24.85	21.90
Mortgage banking	12.46	12.54	11.64
Realty investment	5.91	5.83	5.95
REITs	10.85	11.00	11.00
Prefabrication	6.08	5.96	5.92
Shell homes	8.55	9.30	8.58
AVERAGE	10.28	11.03	10.19

HOUSING'S STOCK PRICES

Company	August 7 Bid	August 7 Ask	September 5 Bid	September 5 Ask	October 2 Bid	October 2 Ask
BUILDING						
•Adler-Built Inc.	25¢	35¢	30¢	40¢	25¢	35¢
•Capital Bld. Inds.	3	3 1/10	2 7/10	2¾	2.20	2¼
Cons Bldg (Can)	8½	8⅝	9	9¼	9	9¼
•Dev. Corp Amer.	⅜	7/8	1⅛	1½	1½	1⅞
Dover Const.	4¾	5¼	4⅝	5⅛	4¼	4¾
Edwards Eng	6¾	7⅛	4¼	4⅝	5⅛	5⅝
Edwards Inds	⅝	1	⅝	1	⅝	7/8
Eichler Homes	9	9¾	8½	9¼	8	8¾
First Natl Rlty[b]	3		3		1	
•Frouge	2⅝	2⅞	2¼	2⅝	6	6¾
General Builders[b]	2⅞	3[d]	3		2⅞	
Hawaiian Pac Ind	2⅝	2⅞	2⅝	2⅞	2⅝	2⅞
Kavanagh-Smith	4	4⅜	3⅞	4¼	4¼	4⅝
Kaufman & Broad[b]	29¼		32¾		30¼	
Louis Lesser Ent.[b]	9⅜		9½		9	
Levitt[b]	5		5		4⅞	
Lusk	1⅝	1⅞	1½	1¾	2⅛	2⅜
Pacific Cst. Prop[b]	10¾		10		10	
U.S. Home & Dev.	1½	2	1½	⅞	1¾	2
Del E. Webb	12½	13½	11⅝[c]		10¾	
Webb & Knapp[b]	½		9/16		½	
S&Ls						
American Fin.	18½	19¼	18	18¾	17¼	18
Brentwood	12⅜	12¾	14⅛	14⅝	12⅞	13⅜
Calif Fin[c]	8⅜		9¼		8½	
Empire Fin	15	16⅛	16⅞	17⅞	15¾	
Equitable S&L	32⅜	32⅛	35¼	35¾	33⅛	33⅝
Far West Fin.	21	22½	22¾	24⅜	20¼	21¾
Fin Fed[c]	51		58½		52¼	
First Charter Fin[c]	39¼		44¼		41¼	
First Fin West	13⅛	13⅝	14	14½	12⅛	12⅝
First Lincoln Fin.	17	18⅜	18⅜	19¾	17¼	18⅝
First Surety	17	18⅛	20¼	21⅝	18⅜	19⅜
First Western Fin.	46⅜	48⅞	46⅛	48⅝	22½	24[h]
Gibraltar Fin[c]	25½		29¾		26⅞	
Great Western Fin[c]	18⅛		20⅞		18⅛	
Hawthorne Fin	9½	10	10¼	10¾	10⅝	11
Lytton Fin	35	37⅛	38¾	41	39⅛	41⅜
Midwestern Fin[b]	6⅛		6		5½	
San Diego Imp[c]	12		13⅜		12¼	
Trans-Cst Inv	14⅝	15⅞	17⅝	18⅞	15¾	17
Trans World Fin[c]	16¼		18⅛		16¼	
Union Fin	7¼	7¾	6½	7	7	7½
United Fin of Calif[c]	24¾		29		25¾	
Wesco Fin[c]	44		49		42⅞	
SHELL HOMES						
Albee Homes	5½	6⅜	6½	7¼	5⅜	6⅛
Modern Homes Const.	5⅜	5¾	5⅝	6	4⅞	5⅜
•Morris Homes Corp.	⅛	f	¼	⅜	e	f
Nationwide	1⅛	1½	1¼	1½	1¼	1⅝
U.S. Finance	6¾	7½	7	7¾	6⅜	7¼
Jim Walter	24	25½	26⅛	27⅞	25	26¾
•Western Shell	⅛	⅜	⅛	⅜	1/16	¼
REALTY INVESTMENT						
•Brookridge Dev	e	1/16	⅛	¼	.03	f
Disc Inc	3⅝	4⅛	3½	4	3¾	4¼
Gt. Amer. Rlty	⅜	½	3/10	½	7/16	½
Herman & Appley	3¾	4¼	3⅞	4⅜	4¼	4½
Income Props	3½	3⅞	3	3⅜	3	3⅜
•Kaymarq Cons	⅜	¾	⅜	¾	d	
Kratter[b]	9⅝		9⅜		8¼	
Mensh Inv & Dev.	12	13	12	13	12½	13½
Presidential Rlty[b]	8		8¾	9¼[d]	9	
Rlty Equities[b]	6⅜		6⅛[d]	6⅜	6¾[d]	6⅝
MORTGAGE BANKING						
Advance	9½	9⅞	9¼	9⅝	8⅝	9
•Associated Mtg Cos.	7⅞	8¼	8	8¼	8	8⅜
Charter	2¼	2⅜	2⅜	2⅝	⅞	1⅛
Colwell	17	18	18	19	18¼	19
•FNMA	88⅞	91⅞	89¾	99¼	84	87
MGIC	25⅜	25¾	34¼	34¾	31⅜	31⅞
Palomar	5⅜	5¾	6½	6¾	5⅜	5¾
Stockton, Whatley	10	10¾	10½	11	10¼	11
Wallace Invests	7½	7¾	6⅞	7⅝	6¾	7½
REAL ESTATE INVESTMENT TRUSTS						
•American Rlty Trust	9⅞	10⅛	10⅜	10¾	9⅞	10¼
Contl Mtg Inv	14¾	15¾	14⅞	15⅞	14⅞	15⅞
First Mtg. Inv	14⅜	15⅜	14⅞	16	15⅛	16¼
First Ntl	9⅝	10⅛	9¾	10⅛	9⅜	9⅞
Liberty	6⅞	7⅛	6⅞	7⅛	7	7⅜
U.S. Realty Inv.	8⅝	9¼	8⅝	9¼	8⅝	9¼
PREFABRICATION						
Admiral Homes	1½	1¾	1⅜	1⅝	1½	1¾
Crawford	3¾	4¼	4½	5	3½	4
Great Lakes Homes	5⅜	5¾	6	6⅜	8½	8¾
Harnischfeger[b]	16¼	16½[d]	17		17¼	
Hilco Homes	1	1¼	⅞	1⅛	⅞	1⅛
Inland Homes[b]	10¼		8½		8⅛[d]	8½
Madway Mainline	12½	13¼	12¾	13¾	12	13
Natl Homes A	5¾	6⅜	6	6⅝	4⅞[g]	
Richmond Homes	5⅜	5⅞	6⅛	6⅝	5½	6½
Seaboard Homes	⅛	⅜	⅜	⅝	d	
Steel Crest Homes	5	5½	4¾	5½	5¾	6¼
Swift Homes	2⅞	3⅛	3¼	3¾	2⅜	3¼
LAND DEVELOPMENT						
All-State Props[b]	2½		3¼		3⅜	
•American Land	1½	1¾	1⅜	1⅝	1⅛	1½
Amer. Rlty & Pet[b]	3⅝		3¾		3	
Arvida	5½	6	5¼	5¾	4¾	5¼
Atlantic Imp	15¼	16¾	15½	16¼	16¾	17½
CKP. Dev.[b]	13⅜		13		12⅝	
Canaveral Intl[b]	5¾		6		5	
Cons. Dev	1½	2	1⅜	1¾	1½	2¼
Coral Ridge Prop.	1¼	1½	7⅞	8½	1½	1¾
Cousins Props	9	9½	8⅞	9⅜	9¼	9¾
Christiana O. Corp.[b]	6¼		6⅛		5⅞	
Fla Palm-Aire	1¾	2	1¾	2⅛	2	2¼
Forest City Ent[b]	5		5¾		5⅜	5½[d]
Garden Land	4⅞	5⅜	4⅞	5¼	6¾	7¼
Gen Devel[b]	5⅞		5⅜		5	
Gulf American[b]	4⅝		4½		4⅛	
Holly Corp[b]	1⅛		1		1	
Horizon Land	4½	5⅛	4⅜	4⅞	5	5⅛
Laguna Niguel	10⅝	11½	11	11⅞	12⅛	13⅛
Lake Arrowhead	3	3⅜	5½	6	6¼	6⅝
Lefcourt[b]	⅜		7/16		⅜	
Macco Rlty	12⅝	13	7⅜	7¾	7	7½
Major Rlty	35¢	45¢	¼	35¢	3/16	¼
•Realsite Inc.	4¢	14¢	2¢	10¢	f	⅜
So Rlty & Util.[b]	2½	2⅝[d]	2⅝	2⅞[d]	2¾	2⅞[d]
Sunset Int. Pet[b]	6¼		6¼		6	
United Imp. & Inv.[b]	3⅜		2¾		3⅛	

[a]—stock newly added to table. [b]—closing price (ASE). [c]—closing price (NYSE). [d]—not traded on date quoted. [e]—no bids. [f]—no offer. [g]—closing price (MSE). [h]—2-1 stock split on Sept. 23. •—Not included in calculating averages.
Sources: New York Hanseatic Corp., Gairdner & Co., American Stock Exchange, New York Stock Exchange, Midwest Stock Exchange.
Listings include only companies which derive a major part of their income from housing activity and whose stocks are either listed or actively traded.

REGISTRATIONS WITHDRAWN

Date	Company	Amount sought	Proposed price of Securities
Sept. 30	Great Continental REIT	$3,000,000	$10
Oct. 2	Century REIT	2,000,000[a]	10

[a]—before underwriting discounts and commissions.

NEW ISSUES REGISTERED

Date	Company	Proceeds to company	Offering price of securities
Sept. 24	First Western Fin. Corp.	$13,575,000[a]	$22.625

[a]—Of the 600,000-share total, 150,000 shares were sold by the company and 450,000 by stockholders. Part of the company's proceeds will be invested to buy the Nevada Bank of Commerce.

PROFITS AND LOSSES

Company	Fiscal year ends	1963 revenues (000)	% change from '62	1963 net	% change from '62
Christiana Oil Corp.	June 30,	$11,077	187	962	417
Mensh Corp.	June 30,	1,575	41	(–60,374)	--
Midwestern Fin.	June 30,	8,611	33	1,240[a]	(—2)
Realty Equities	June 30,[b]	475	63	110	17

[a]—before appropriations to reserves. [b]—six months report.

New York State orders syndicators to tell more

In a move that may come under the heading of locking the barn door belatedly, New York State is setting out to curb some abuses which led to a spectacular collapse of some syndicators early this year (NEWS, Feb.).

State Attorney General Louis Lefkowitz has just told syndicators and sponsors of $2 billion in realty securities issued since 1961 that they must:

- Report quarterly to shareholders if any cash distributed to shareholders comes from borrowed money, contributions by officers, the sale or other disposal of assets, or cash flow before depreciation is deducted. No quarterly report will be required if payments are

made from current net income or retained earnings.

• Report quarterly to shareholders if the enterprise failed to meet any debt obligations during the quarter and if any loans or advances were made to officers. This rule aims at exposing a practice which, in its extreme form, sent Syndicator Louis J. Glickman into financial collapse.

• Quit using projections or predictions of future income in their prospectuses. Grossly exaggerated projections figured in the collapse of other syndicators.

• Report to investors the contents of independent appraisal reports and supply a certified accountant's report for two previous years on any newly acquired building.

The new disclosure rules apply to all syndicates, real estate investment trusts, and real estate corporations issuing securities after Jan. 1, 1961. Most national issues must also register in New York to tap that state's major capital markets, so the new rules will have far-reaching impact on housing securities.

Syndicators won one important point in the rules. A preliminary proposal to require quarterly reports across the board was scrapped in favor of a mandatory report only if the practices occur.

Officials clamping down on realty promoters

In the aftermath of last year's collapse of syndicators (NEWS, Feb.) New York State and federal Securities & Exchange Commission officers are toughening their dealings with the real estate industry. Items:

• Louis J. Glickman—one of the earliest and biggest syndicators, honored in 1955 as New York's "realty man of the year"—has just been barred by a New York court from selling real estate securities in the state for five years. The state charged that in trying to raise nearly $5 million last year from small investors, Glickman did not reveal that his financial condition was perilous.

• Sidney Schwartz, promoter of 23 syndicates, was indicted on eight counts of fraudulently selling $366,000 of limited partnership units in the $790,000 Beaux Arts apartments in Miami Beach. New York has barred Schwartz from selling realty securities for life.

• Mortimer L. Schultz, organizer of nine syndicates, was arrested in Newark, N.J. on charges he defrauded one individual of over $50,000.

• The SEC denied registration as a broker-dealer to S. Robert Taylor and Mutual Real Estate Investors Inc. of New Haven. SEC had earlier enjoined him from using the mails and interstate commerce in selling securities before a registration was effective (NEWS, Mar.).

• A federal grand jury in Billings, Mont. indicted Jack Vandenbergh of Helena on ten counts of mail fraud and violating SEC rules in sale of securities of Valley Homes Corp. of Helena.

• New York State officers moved to bar William Glanzman of New York City and Arnold Kimmes of Scottsdale, Ariz. from selling securities for life. The state says they defrauded investors by selling $460,000 in worthless stock in Arizona land companies.

BONDWOOD HERRINGBONE, EAGLE (PREMIUM) RED OAK. UNITIZED IN PANELS FOR FAST INSTALLATION.

For Queens Only? Nonsense!

(BondWood® parquet is installed every day in 1200 square ft. homes)

Even in Cleopatra's day smart builders realized that luxurious floors helped sell palaces and temples . . . faster! That's why, today, the expert craftsmanship of HARRIS BondWood parquet adds up to more home for the money in the eyes of your buyers. Thick, solid hardwood all the way through, BondWood is designed for adhesive installation over concrete or wood. And no other parquet on the market offers so many different woods and patterns. For flawless performance and dependability, specify BondWood in apartments, homes, gyms, auditoriums, classrooms and churches.

Finest in flooring since 1898

HARRIS FLOORING

JOHNSON CITY, TENNESSEE

"Visit 1560-61 NAHB Show"

Send For Free Color Book

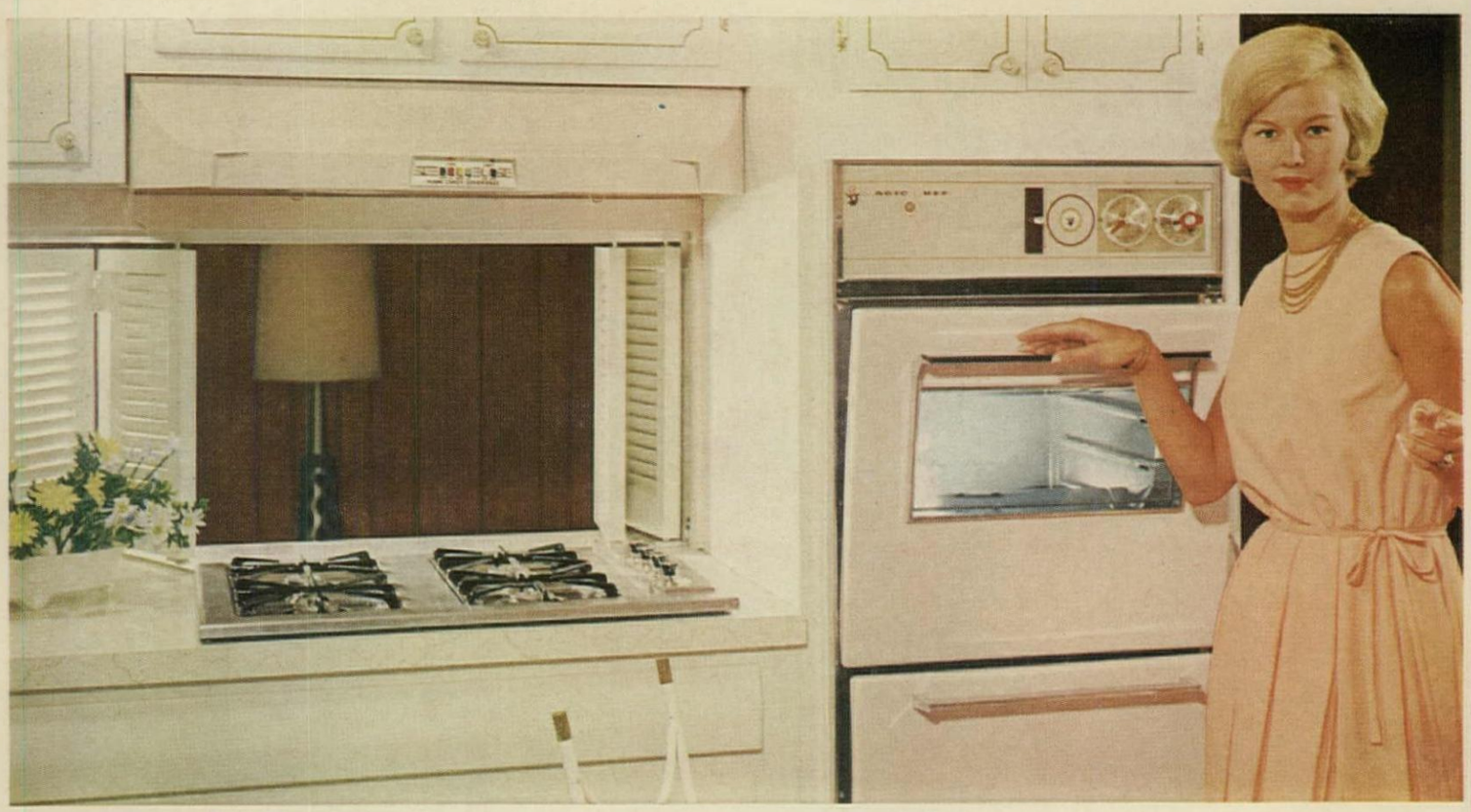
Department HH 113
Harris Manufacturing Co.
Johnson City, Tennessee

Par (Select) Red Oak (Natural Finish)

NAME_____

STREET_____

CITY_____ STATE_____



Color-matched Magic Chef in Yeonas' Mosby '63.

Yeonas 500-home community features Magic Chef!

Yeonas . . . "Proud builders of proud homes" . . . is now completing Mosby Woods, a 500-home community in Fairfax, Virginia. These homes are in the $25,000 to $30,000 class. They feature Magic Chef gas built-in ovens and surface units.

YEONAS HOMES

Stephen G. Yeonas, president of Yeonas Homes, is immediate past chairman of the National Marketing Committee of the National Association of Home Builders. He is one of the country's most successful and best-informed builders.

"We chose Magic Chef for Mosby Woods because our prospects are familiar with the Magic Chef name. They know Magic Chef is a product they can depend on"... Stephen G. Yeonas, President, Yeonas Homes, Washington, D. C.

Dependable quality, consumer acceptance and trouble-free performance are a few reasons why Magic Chef is the choice of America's most outstanding builders. Put a touch of magic in your plans with Magic Chef gas and electric ranges.

Stephen Yeonas discusses plans.

'63 Mosby combines style, quality.

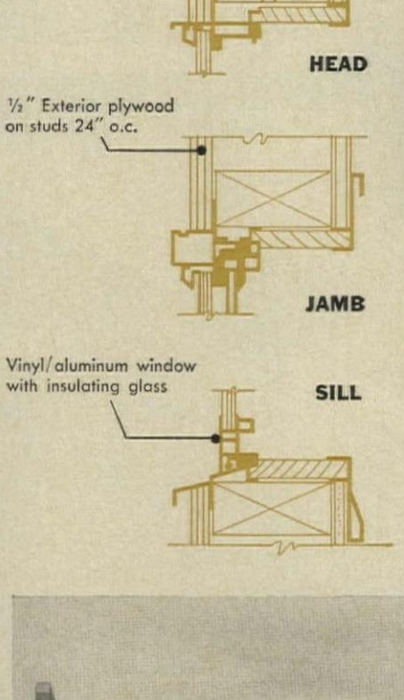
MAGIC CHEF®

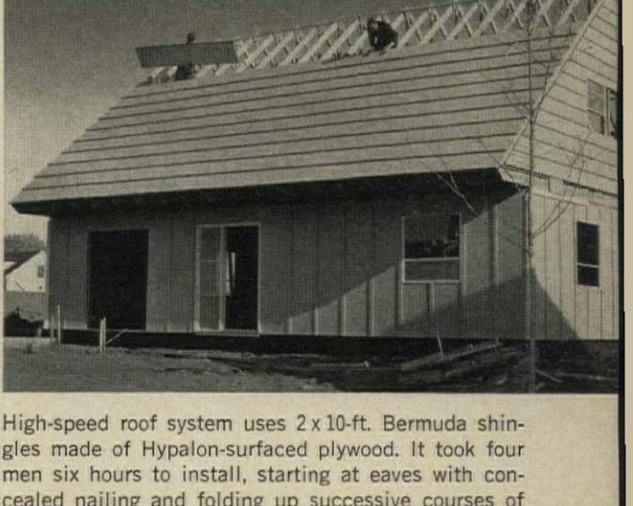
CLEVELAND, TENNESSEE

NAHB's 5th research house was deliberately planned for wintertime construction. It demonstrates new materials and methods that let you keep building right through the worst weather, and keep your labor costs to the bare minimum. Sidewalls and roof are Exterior plywood, presurfaced with tough plastic film. (Du Pont's Tedlar on walls, Hypalon on roof.) The plywood came through rain, snow and rough treatment during construction without a mark—and needed absolutely no painting or finishing at the site.

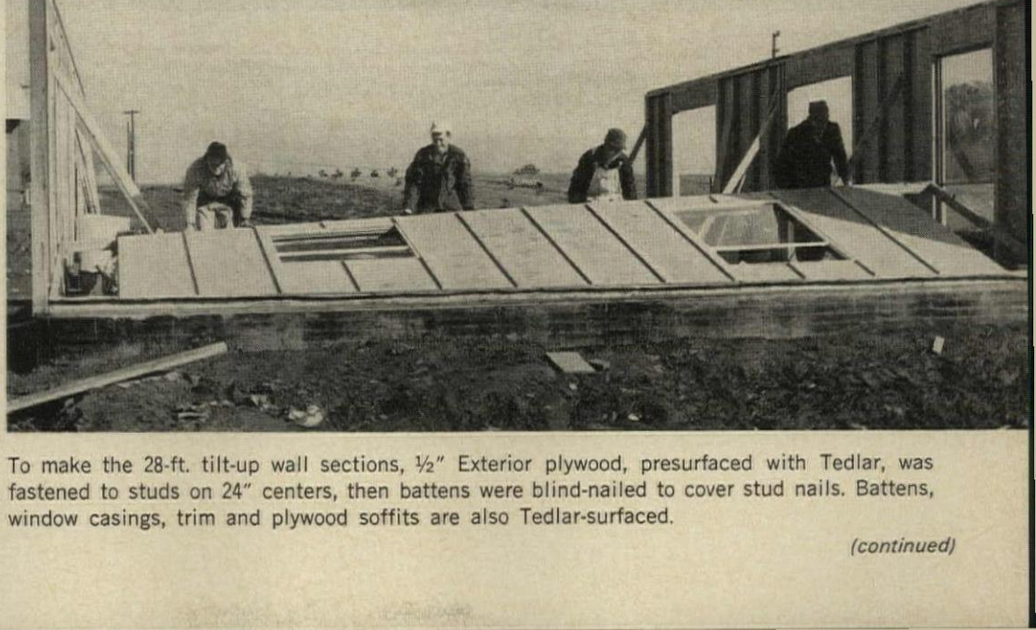
The use of plywood in this house is important to builders for a number of other reasons. You build with big components—so you close the house in quickly. You use materials that combine plywood's traditional strength with the durable protection of factory-applied plastic surfaces—so they do two jobs at once. One thickness of Tedlar/plywood serves as siding as well as sheathing; Hypalon/plywood provides roof sheathing and finish roofing, all in one step. Finally, you can offer home buyers a better break on maintenance. Du Pont predicts that Tedlar-coated plywood won't need painting for 15 years—maybe 25. For information on these and other new presurfaced plywood products, write Douglas Fir Plywood Association, Tacoma 2, Wash.

SECTION (exterior wall)





High-speed roof system uses 2 x 10-ft. Bermuda shingles made of Hypalon-surfaced plywood. It took four men six hours to install, starting at eaves with concealed nailing and folding up successive courses of the shingles. Hypalon film acts as a continuous hinge at interlocking horizontal joints.



To make the 28-ft. tilt-up wall sections, ½" Exterior plywood, presurfaced with Tedlar, was fastened to studs on 24" centers, then battens were blind-nailed to cover stud nails. Battens, window casings, trim and plywood soffits are also Tedlar-surfaced.

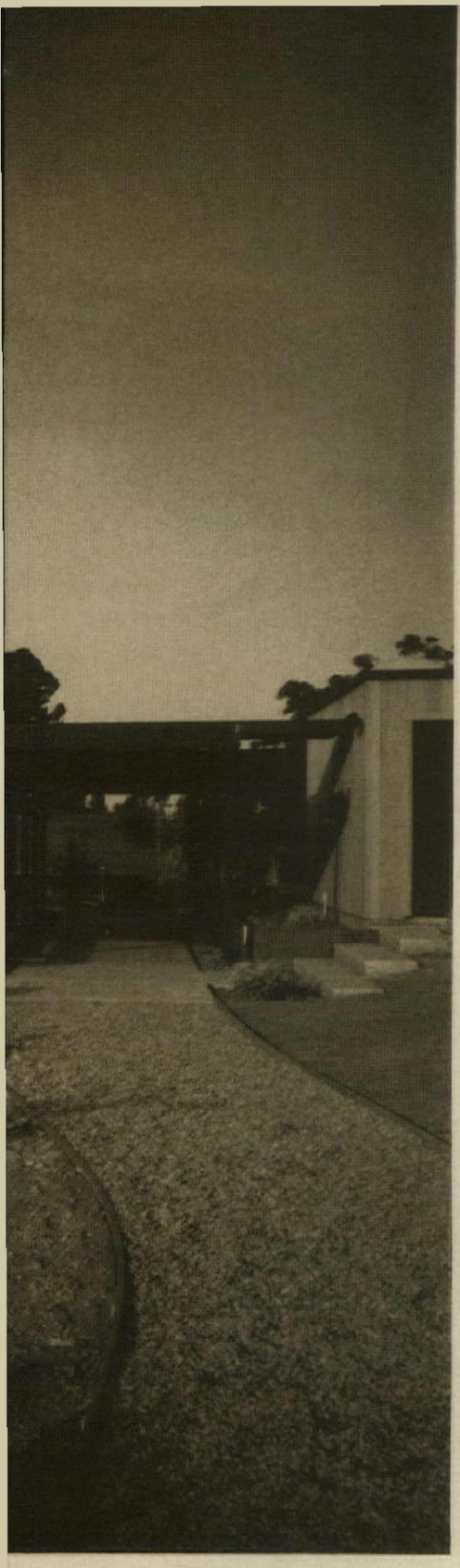
(continued)

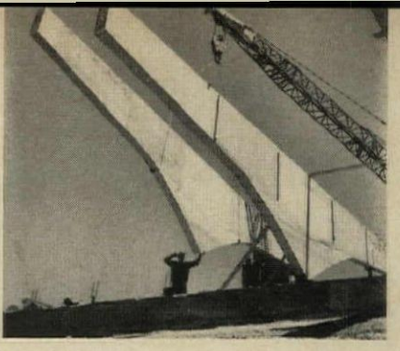
☑ ANOTHER BUILDING PROBLEM SOLVED WITH DFPA PLYWOOD

"HANGING GARDENS" HOUSE

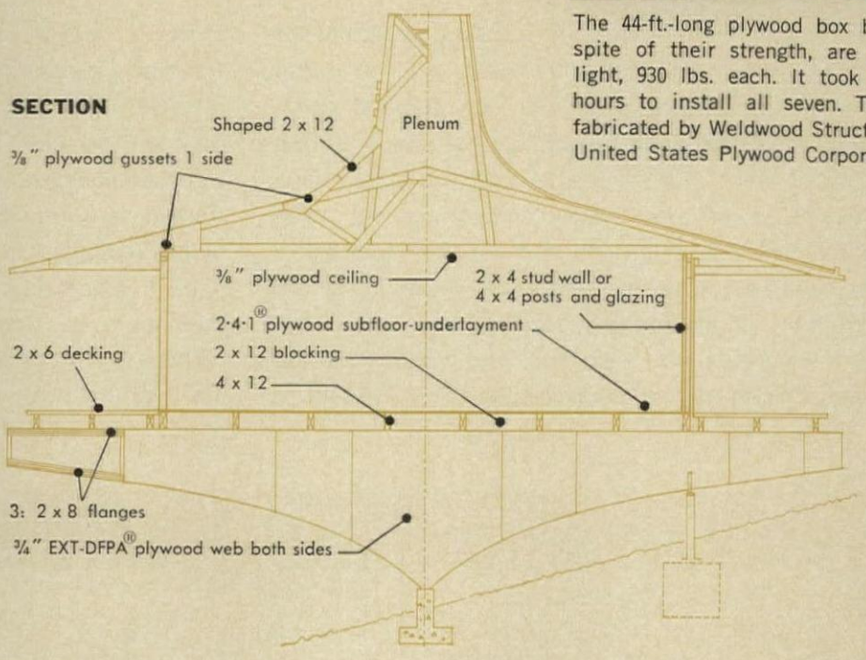
BUILDER:	Twentieth Century Homes
ARCHITECT:	R. R. Zahm, A.I.A.
LOCATION:	Marin County, California
SPONSORS:	Douglas Fir Plywood Association West Coast Lumbermen's Association

This house had to be built with plywood





The 44-ft.-long plywood box beams, in spite of their strength, are relatively light, 930 lbs. each. It took only two hours to install all seven. They were fabricated by Weldwood Structures Div., United States Plywood Corporation.



Key to the low cost is the single footing wall and the seven plywood box beams, which bear the entire vertical load. Beams are bolted to the foundation wall through steel bearing plates and stabilized by pipe columns connected to concrete pads near the uphill end. The house itself is simply a plywood-and-glass box built on a platform. The superstructure is held rigidly together by the diaphragm strength of plywood shear walls, floor and ceiling.

Curved plywood soffits conceal pipes, wiring and insulation under the floor. Pre-painted panels of 1/4" EXT-DFPA plywood were sprung between 4x12 framing. This is an easy way to conceal the clutter under a hillside house. The heating and cooling system are also out of sight, in the attic plenum.

A steep site and a tight budget: this combination creates some of the toughest problems a builder can face. Here's a house in Marin County, California that solves them all with one simple structural concept.

Seven plywood box beams, resting on a single reinforced concrete foundation wall, support a platform on which the house is built just as though it were on a level lot. Site preparation, usually extremely expensive in hillside construction, was less than $100. The whole substructure came to only $2.33 per sq. ft. This took care of everything up to and including the floor platform: foundations, box beams, purlins, plumbing, wiring, insulation, soffits, the 28x72-ft. plywood floor and the 7-ft.-wide perimeter redwood deck.

Twentieth Century Homes of San Rafael built the house on speculation and sold it for $65,000. It was designed to demonstrate a practical solution to hillside construction problems, and was so successful that the architect, R. R. Zahm, is planning 17 medium-priced homes with the same support system. It could be adapted to build on almost any grade at costs comparable to those for level lots. For more information on plywood box beams and components, write Douglas Fir Plywood Association, Tacoma 2, Wash.

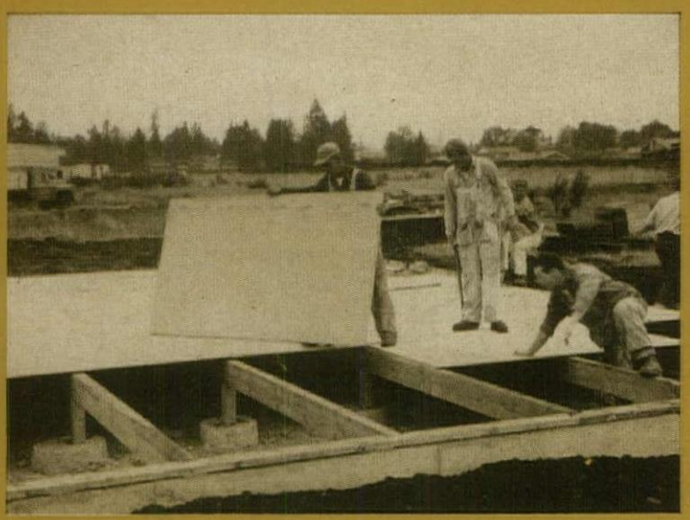
(continued)

Big builders use plywood to keep on schedule

Mayer/Peterson makes money by building good houses fast. They can go from foundation to closed-in house in less than a day because they build with big plywood parts.

"We just don't have time for archaic methods—putting thousands of small pieces together at the site," says Curt Peterson. So they use plywood and components, keep on-site labor to a minimum and stick to their schedules. "We can build so quickly that the buyer moves in before we get the bill from the supplier," says partner Kurt Mayer. "Very little of our capital is tied up, and overhead is cut to the bone." They buy the whole house as a package, so ordering, delivery and accounting are greatly simplified.

Mayer/Peterson built ten homes in Parkland, Washington in 1959. They'll build about 200 this year. In general they still use the system they started with. For example, wall components are of two standard types: four-ft. pre-framed sections with plywood sheathing on studs, to which siding is applied at the site; or entire wall sections with sheathing and siding. A typical time-saver, worth about two man-hours per house: they apply PlyScord® sheathing without precutting to fit at roof edges, then cut at eave-line. The pictures below show how they build a house in a day.

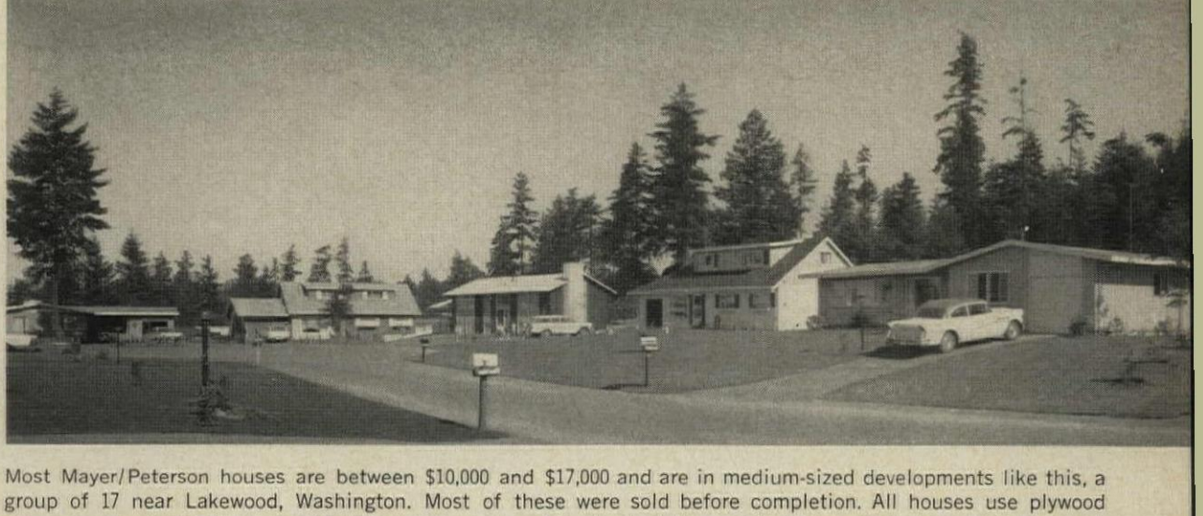


1. Foundation was poured the day before. Plywood floor on this model is 2•4•1, the 1⅛-in.-thick combination subfloor-underlayment, with supports on 4-ft. centers.

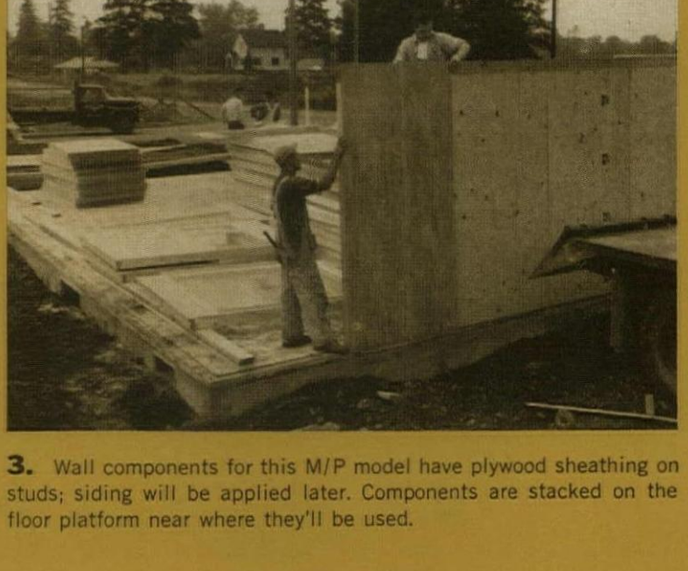
2. The rest of the parts come just as the floor is completed. Buying is simplified because plywood sheathing, wall panels, flooring, trusses and even interior partitions all come from the same supplier.

4. By 10:30 (2½ hours after the start of work) the crew is ready to lift prefabbed gable ends into position. Almost at the same time, they begin installing trusses which are waiting inside on the floor.

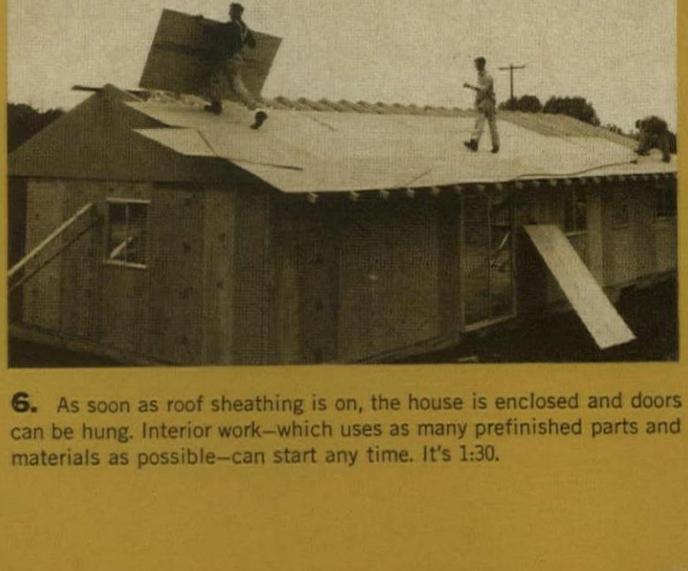
5. PlyScord roof sheathing is stacked alongside the house so the crew can reach it easily. Mayer/Peterson have never used anything but plywood for roof decking on their houses.



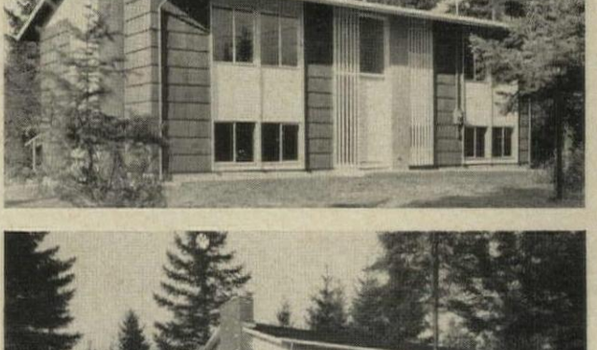
Most Mayer/Peterson houses are between $10,000 and $17,000 and are in medium-sized developments like this, a group of 17 near Lakewood, Washington. Most of these were sold before completion. All houses use plywood component systems, but vary widely in siding and architectural styles ranging from ranch to colonial (below).

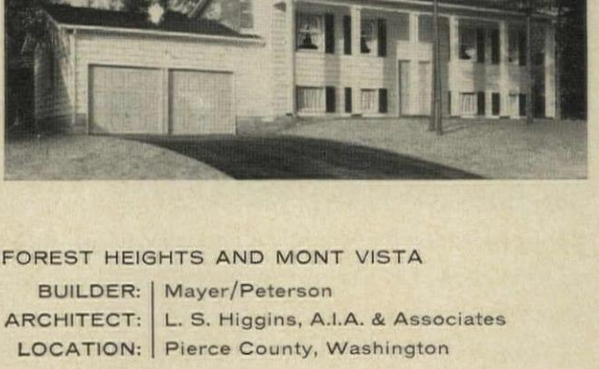


3. Wall components for this M/P model have plywood sheathing on studs; siding will be applied later. Components are stacked on the floor platform near where they'll be used.



6. As soon as roof sheathing is on, the house is enclosed and doors can be hung. Interior work—which uses as many prefinished parts and materials as possible—can start any time. It's 1:30.





FOREST HEIGHTS AND MONT VISTA

BUILDER:	Mayer/Peterson
ARCHITECT:	L. S. Higgins, A.I.A. & Associates
LOCATION:	Pierce County, Washington

(continued)

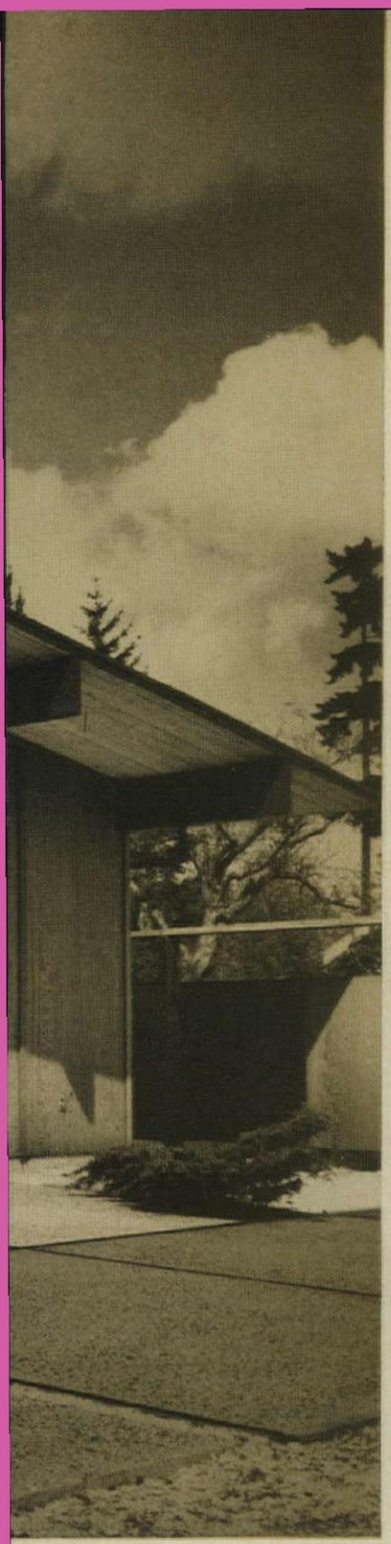
Plywood is your key to profits in compacts

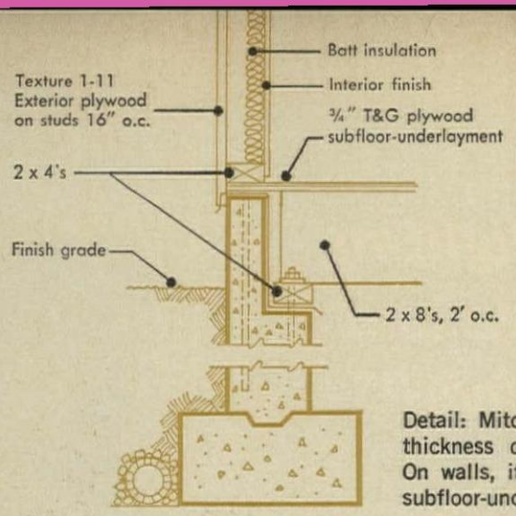
Ron Mitchell of Tacoma, Washington builds compacts at a profit by keeping costs down and quality up—with plywood construction. He has no trouble selling them because he gives the buyer what he wants.

"Low-cost housing does not have to look cheap or small," says Mitchell. All his homes are architect-designed, and have clean, simple lines and attractive siding treatments. He uses a variety of plywood sidings, including the new rough-sawn plywood seen on the contemporary house above, a national award-winner for design. Mitchell's construction methods are geared to use of components which he fabricates in his own plant. He uses as many other time-saving plywood techniques as he can (see details at right).

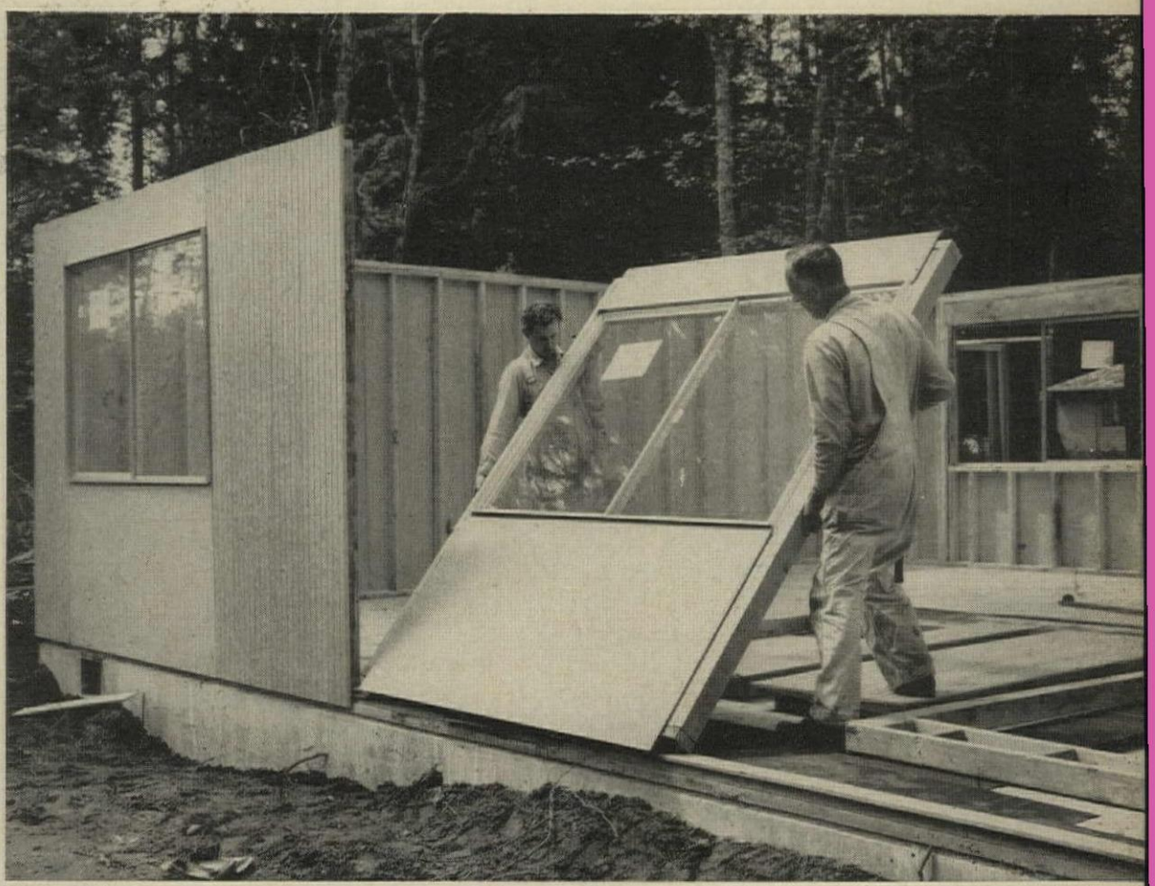
Currently, he sells about a home a day. Sizes of compacts range from 800 to 1,100 sq. ft., prices from $6,250 to $9,450 on buyer's lot. Mitchell also builds larger homes from 2,500 sq. ft. on up, at prices from $10,000-$20,000.

Along with a half-dozen other builders throughout the country, Mitchell is participating in a pilot program sponsored by the Douglas Fir Plywood Association to make compacts easier to build and sell. For more information, write Douglas Fir Plywood Association, Tacoma 2, Wash.





Detail: Mitchell cuts costs by using one thickness of plywood for two purposes. On walls, it's siding-sheathing; on floors, subfloor-underlayment.

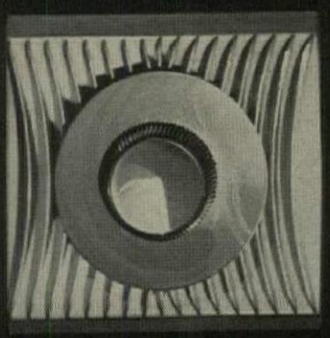


Wall sections are prebuilt in Mitchell's own plant, to save on-site labor. He uses timesaving equipment such as power nailers to fasten plywood to studs. Walls of this house are Texture 1-11® plywood, except for panels over and under windows. These are smooth plastic-overlaid plywood for contrast. Floors in most houses are T&G plywood, either ¾" or 1⅛" (2•4•1)®, combining subfloor-underlayment.

It takes about four man-hours to apply plywood roof sheathing to one of Mitchell's compacts. House on this page has 1,008 sq. ft. and sells for about $70 a month on buyer's lot. Mitchell offers dozens of variations in size, style, features. This model, the "Holly," designed by Robert Bruce Waring, is one of 12 plans available to builders under DFPA's Compact Homes program.

"Humph! who's given home lighting the dimming range and economy that I have?"

"HUNT ELECTRONICS has!"



Actually, there was a lot to be said for the Kerosene Lamp. It was romantic; it was economical . . . two benefits electricity has never been able to fully exploit . . . until now. Hunt Dimming Controls use the old Kerosene Lamp concept to bring out a new dimension in mood and effect, plus all the economy possible from modern Home Lighting.

Hunt Dimmers provide the desired amount of light, from Dark to Full Bright in either Incandescent or Fluorescent models and are fully guaranteed.

In controlling mood and effect, Hunt Dimmers also control power and economy . . . and prolong lamp life. (Incandescent bulb life is increased over 1,000% when burned at 75% of maximum rated wattage.)

If you're interested in both lighting economy and flexibility as two extras in Home Design, take a tip from us . . . the two-way switch is Out. Hunt Dimming Controls are In.

For complete information and specificational data on the Entire Hunt Line of Dimming Controls, contact your local Electrical Distributor or write the people who bring you the Brightest Ideas in Dimming.

HUNT ELECTRONICS COMPANY

2617 ANDJON DRIVE / DALLAS, TEXAS 75220

SEE OUR CATALOG IN SWEETS

Displays like this cut furnishing costs by 75%

So reports Fort Wayne Builder Jack Worthman who has started using furniture vignettes instead of conventional furnishing in his model houses (prices: $20,000 to $35,000).

Worthman says the vignettes, designed by Maybritte Interiors of Fort Wayne, are as effective as conventional furnishing—and in some ways more effective. For instance:

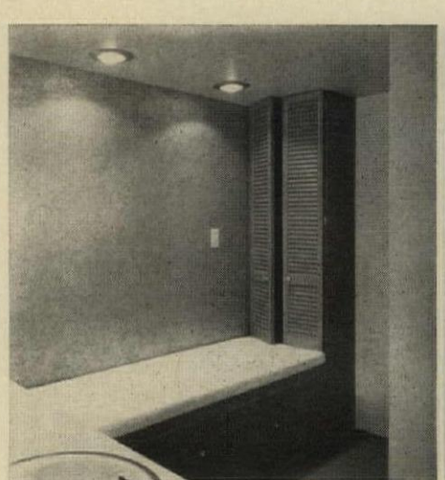
1. They take up less space—an important point when models are jammed with traffic on weekends.

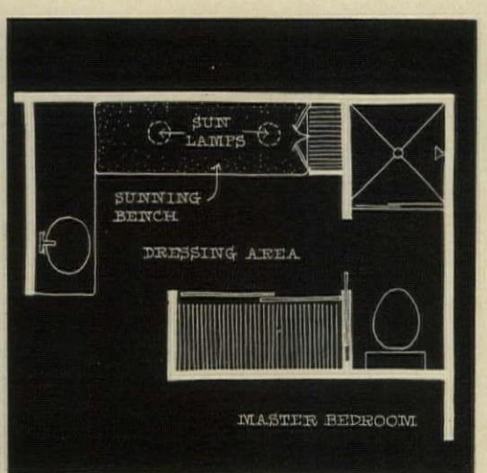
2. They lend themselves to more flexible interior decoration—making it easier to use different styles in adjoining rooms.

3. They are talk-starters, can be changed frequently to renew interest in slow-moving models.

4. They don't dominate rooms, thus reduce chances that prospects will unconsciously reject a house because they don't like the way it is furnished.

But Worthman warns against using vignettes in houses priced below $20,000: "Buyers of lower-priced houses need to be shown how rooms will accommodate the furniture they'll need."





Buyers' choice: this sunlamp lounge or a big closet

Seattle's Bell & Valdez offers either feature at no extra charge in a $21,700 model. Two out of three buyers take the big closet, but, says B&V, the indoor sunning area is a fresh idea that stirs up talk and draws prospects.

Like the closet, the sunning area—two ceiling-mounted lamps over a 28"-wide bench—is between the master bedroom and bath (see plan). Its cost (including metallic wallpaper for increased reflection) is $150.

How one builder goes prospecting in the transferred-executive market

In two years Kodner Construction Co. of St. Louis has sold 50 homes to employees—many of them newly transferred—of one local company, Monsanto Chemical.

Major reason: a presentation book prepared by Kodner and delivered in person to the personnel departments of large St. Louis companies. The leather-bound book includes 8½" x 10" glossy photos of Kodner models, floor plans, subdivision plans, and salient sales points.

Says Partner Michael Kodner: "Newcomers to town often turn to their personnel departments for advice about local housing. This book steers them to us right away. And there's an implied endorsement of our houses when the book is shown to people by their own personnel managers."

Townhouse builders back their claims with a novel offer to prospects

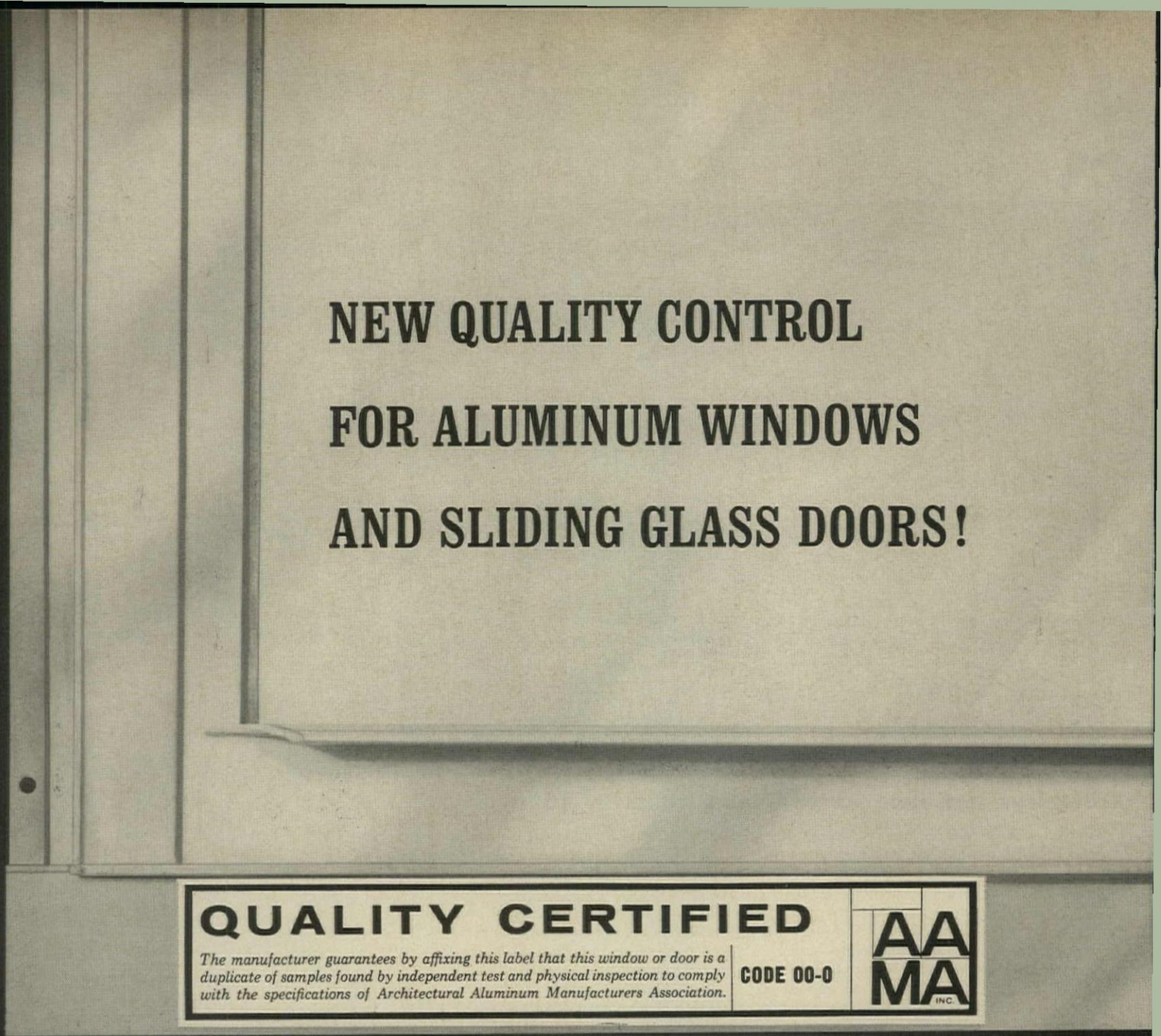
"This TV set free to anyone who can show us plans for a new home within 30 miles of New York City, priced up to $32,000, and with a living room, kitchen, master bedroom, and master bath as big as the rooms in this model." So reads a sign at Four Seasons in Haverstraw, N.Y., where 99 town houses sold out in four months at $15,990 and $16,990 (H&H, Oct.). Nobody took the challenge, but a thief ran off with the TV set.

Silver-dollar promotion dramatizes builder's impact on local economy

It took 60 days to gather the 100,000 silver dollars displayed above and eight policemen to guard them. But the effort was worth it, says Iowa Builder Lloyd E. Clarke, a man with a penchant for off-beat promotion (last year he parachuted into a subdivision on opening day).

The three-ton display drew crowds (a total of 12,500 on two Sundays) and stimulated business (21 sales in less than a month) at Clarke's Greenbrier development in Bettendorf. Clarke then paid his employees, subcontractors, and suppliers in silver dollars, which soon circulated in the Quint Cities area (Bettendorf and Davenport, Ia. and Moline, East Moline, and Rock Island, Ill.) and made his point that "we have a bigger economic impact than anyone had given us credit for."

continued on p. 55



NEW QUALITY CONTROL FOR ALUMINUM WINDOWS AND SLIDING GLASS DOORS!

QUALITY CERTIFIED

The manufacturer guarantees by affixing this label that this window or door is a duplicate of samples found by independent test and physical inspection to comply with the specifications of Architectural Aluminum Manufacturers Association.

CODE 00-0

AAMA INC.

Now you can buy with confidence... guided by the new AAMA Quality Certified label. For this label assures you not only high quality specifications, but also full compliance with those specifications, supervised through the Architectural Aluminum Manufacturers Association.

Now you can depend upon sound design and construction when you put into your building the natural advantages of Aluminum Windows and Sliding Glass Doors: *no painting, minimum maintenance, good looks, ease of operation.*

Reynolds is proud that so many Quality Certified windows and doors will be made of Reynolds Aluminum. We salute the AAMA and its participating manufacturers on this far-sighted program. Their names are listed in the Certified Products Directory issued bimonthly. For your copy write to AAMA, Inc., 35 East Wacker Drive, Chicago 1, Ill., or Reynolds Metals Company, Richmond 18, Va. 23218.

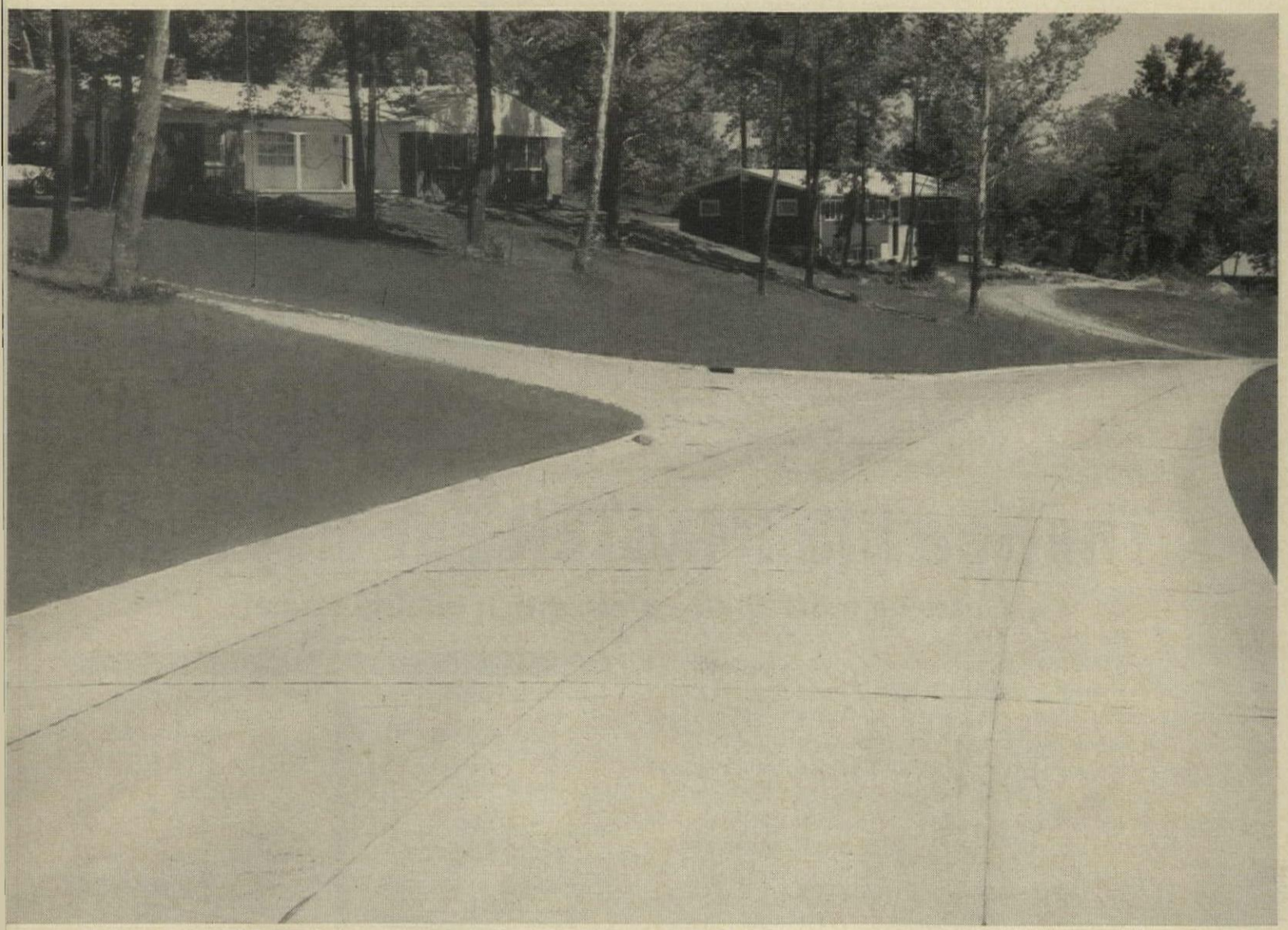
REYNOLDS ALUMINUM

MADE OF REYNOLDS ALUMINUM MARK OF QUALITY

Watch Reynolds exciting TV program on NBC: "The Richard Boone Reynolds Aluminum Show" Tuesday nights.

"WE'RE SELLING A NEIGHBORHOOD AS WELL AS A HOME. THAT'S WHY WE WANT CONCRETE STREETS!"

Say **JOE, BOB and BILL HESS,**
Hess Brothers Construction Co., Chillicothe, Ohio



Some of the area's finest homes are built here in Hesswood Hills.

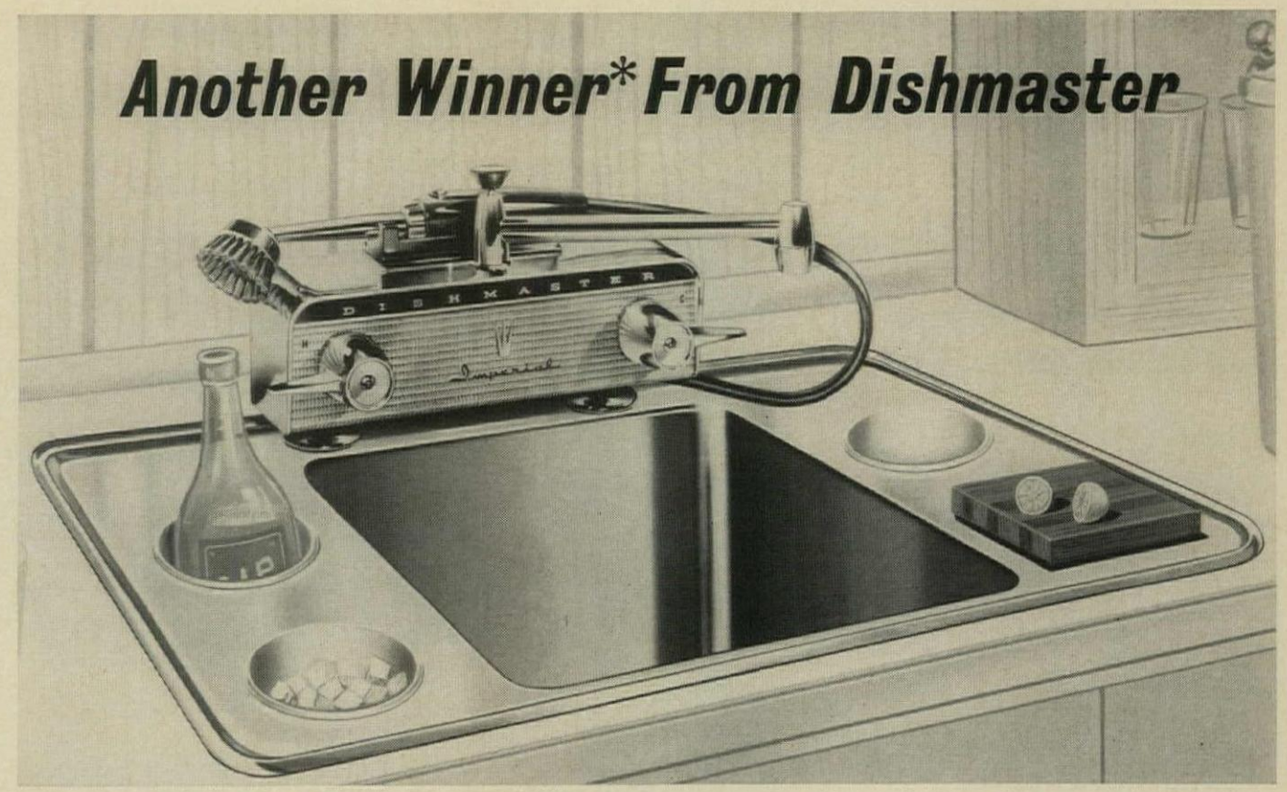
"We've already built and sold half a dozen homes, but first we had to sell prospects on the subdivision as a good place to live. Modern concrete streets can be as important as location, shopping and schools. Concrete streets are clean and attractive, make our homes look even better. And it's easy to point out to potential home buyers how concrete's long life and low upkeep costs will save them taxes and keep property values high if they ever want to sell."

Leading builders everywhere will tell you: Paving subdivision streets with concrete is good business. Initial cost is moderate, paving is fast and easy. And once the pavement is in, homesites are readily accessible for construction work in all seasons and in any weather. And you won't need temporary roads for hauling materials.

For help in site planning and design of concrete streets, write for free technical literature. (U.S. and Canada only.)

PORTLAND CEMENT ASSOCIATION
Dept. A11-94, 33 West Grand Ave., Chicago, Illinois 60610

An organization to improve and extend the uses of concrete



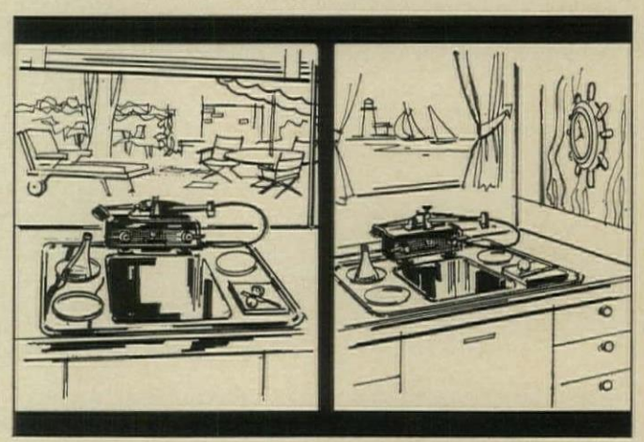
The New DISHMASTER® Bar-Boy Sink!

Costs no more than a sink with a quality faucet!

Now there is a compact, practical wet bar sink with the Dishmaster "Imperial" as an integral part! The Dishmaster Bar-Boy is perfect for kitchen, patio, family room—or even the galley in boats!

It features four storage wells for ice, bottles or food, and has a convenient cutting board that can be placed on top of any well for food preparation. Wells are constructed of polyethylene for insulation, and to prevent dripping.

The Dishmaster Bar-Boy Sink combination is the highest quality throughout—the same quality that has made Dishmaster America's best-liked dishwasher. Your inquiry to either address below will receive prompt attention.



- 302 Self Rimming Stainless Steel Sink with a coated bottom and sides to deaden noise and prevent condensation.
- Standard 3½" drain hole.
- Laminated maple cutting block, specially treated, lifts out for easy access to wells, remains handy for cutting.
- Standard fittings provide for easy installation of sink.
- Four polyethylene wells hold ice, bottles, ice cream scoops, fruit, etc. Flush mount for a level, leak-proof surface . . . lift out for easy cleaning or cold storage.
- Shipping Weight . . . 20 lbs.
- Dimensions:

O.D.	18¾" x 25¼" x 6"
Sump	11" x 14" x 6"
Wells	4" Diameter x 5¼" Depth (1 quart cap.)

Dishmaster (and ONLY Dishmaster) has sold over a million dishwashers!

DISHMASTER CORPORATION

2605 WOODWARD AVE., BLOOMFIELD HILLS, MICHIGAN, FE 4-3587, LI 2-5558 • 2208 S. GRAND, LOS ANGELES, CALIFORNIA, RI 7-7486

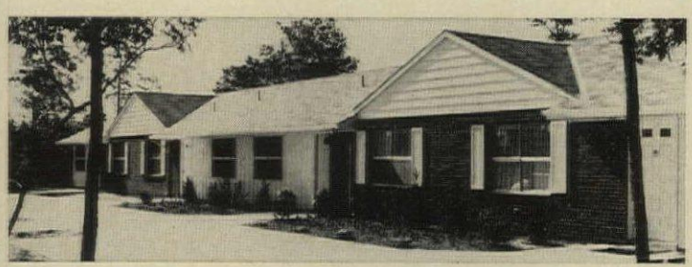
starts from p. 51

Giant builder cracks a small-builder market

Some observers forecast a flop when Canada's biggest builder—publicly-held Consolidated Building Corp. of Toronto—invaded Vancouver, long a stronghold of small-volume builders. But the invasion looks like a booming success. At CBC's 900-home Richmond Gardens, opening day crowds jammed model houses, thronged displays (like the community layout above), and lined up to talk with salesmen. CBC reported 100 sales in the first 48 hours, 100 more at month's end.

What observers did not realize was that CBC had researched the Vancouver market and spotted a vacuum in the $13,000-to-$18,000 price bracket. Small builders were selling five to ten houses a year—mostly at higher prices. To fill the vacuum, Consolidated offers eight models priced from $12,995 to $16,995 and ranging up to 1,840 sq. ft. in size. Buyers can get 25-year, 6¼% National Housing Act mortgages with down payments as low as $650.

CBC bought the 154-acre Richmond Gardens site for $431,434 from the municipality of Richmond, a Vancouver suburb. CBC's site improvements include underground wiring and pedestrian walks—both strong sales assets. Summed up CBC President Noel Zeldin in a report to his stockholders: "Notwithstanding the warning signs, we acted on recommendations of our research division. Results of the first weekend alone were overwhelming.



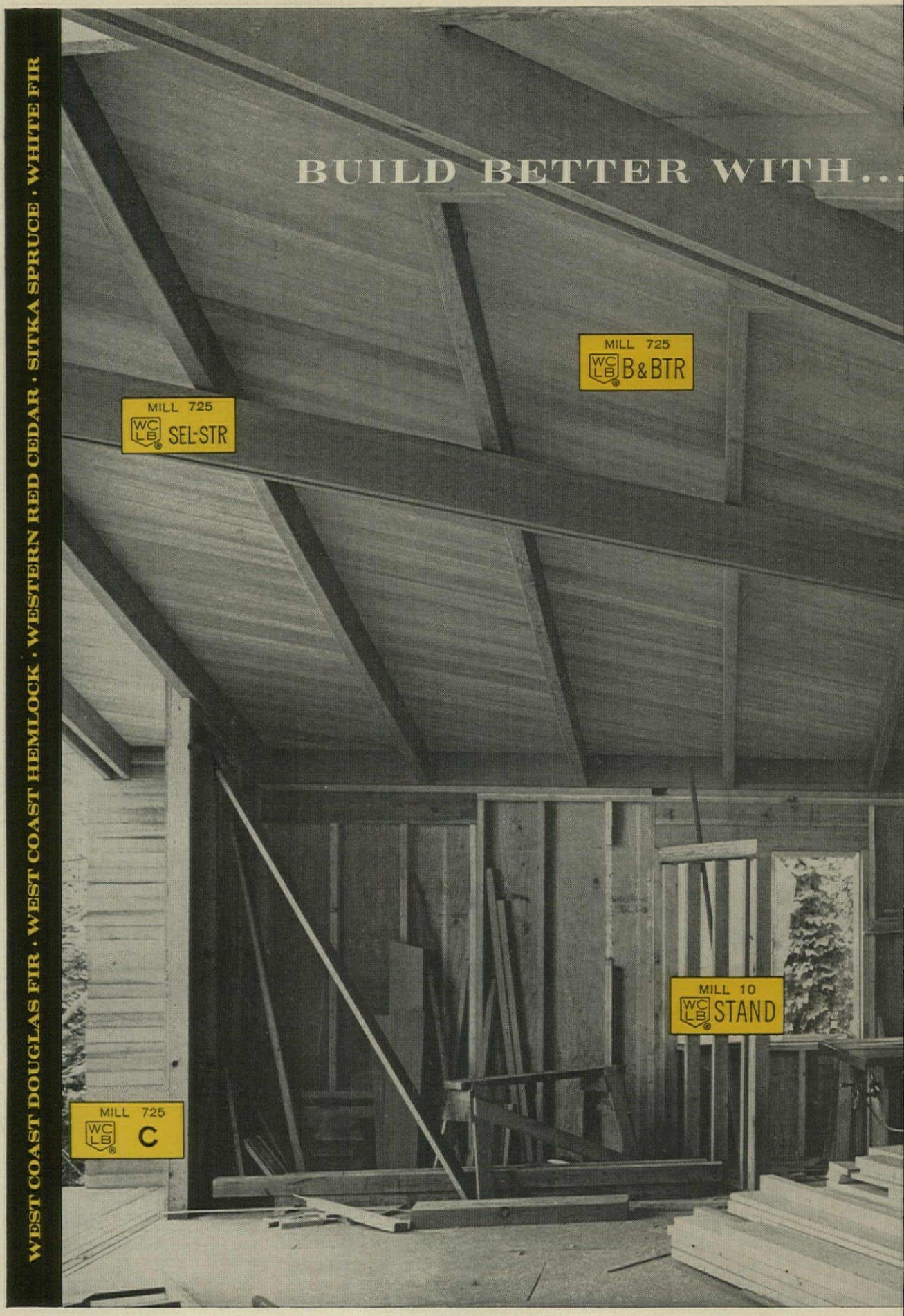
First retirement town opens in Northeast

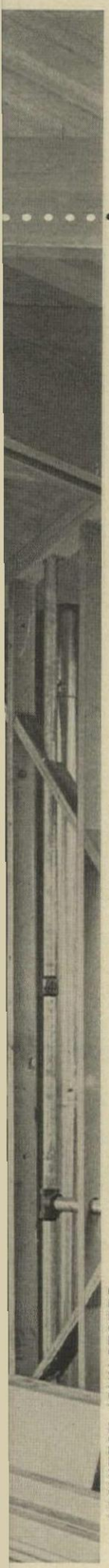
Is the mass retirement market focused on warm-climate areas like Florida and Arizona? No indeed, says Builder Robert Schmertz of Lakewood, N. J. Enough people want to retire close to their old friends and families to create a booming market near any metropolis.

Schmertz's 5,000-unit Leisure Village, midway between New York and Philadelphia (and about 90 minutes from each) may well prove his theory. Sales hit the 100 mark in three weeks; mail inquiries have been flowing in at a rate of 1,000 a day.

Schmertz has gone to unusual lengths to see that Leisure Village will be a success. Community attractions costing about $2 million were complete before opening day. They include a pitch-and-putt golf course, a lake with rowboats and a stock of fish, and facilities for woodworking, sewing, weaving, painting and photography. Homes are condominium garden apartments (one type is shown above) prefabbed by National Homes and priced from $12,500 to $18,500. (National delivered its 250,000th unit to the project.) Buyers (who must be 55 or older) pay an extra $33 a month for maintenance, $6 for a medical plan (lab tests, drugs, doctors' visits).

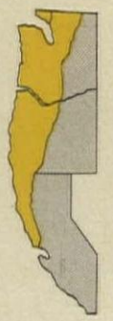
Letters begin on page 77


BUILD BETTER WITH...
WEST COAST DOUGLAS FIR · WEST COAST HEMLOCK · WESTERN RED CEDAR · SITKA SPRUCE · WHITE FIR
MILL 725
WCLB SEL-STR
MILL 725
WCLB B&BTR
MILL 10
WCLB STAND
MILL 725
WCLB C



ARCHITECT: JOHN STORRS

. . . . . COAST REGION



WEST COAST LUMBER

MADE IN U.S.A.

For Homes on Odd Shaped Lots

The standard sizes and grades of coast region West Coast Lumber, because of their great versatility, make it possible for you to build attractive and salable homes on odd-shaped lots found in many communities. This unusual home is an example.

This delightful view property is a sloping, triangular location amid homes of charm and variety. The architect has created a floor plan and deck whose overall shape almost exactly matches the triangular shape of the lot. Enclosed main floor space is about 900 square feet, but the unusual shape and arrangement makes it seem much larger.

The floor plan is a perfect kite shape, with an extended roof line partially covering a large view deck, which extends to complete the triangle. All lumber is coast region West Coast Lumber. The ceiling is 1" x 4" West Coast Hemlock flooring. The outside decking and handrails are also of West Coast Hemlock.

Your Retail Lumber Dealer . . .

. . . is your dependable source of supply for West Coast Lumber, available wherever lumber is sold. You'll find the wide variety of sizes and grades of West Coast Lumber ideal for every building purpose, conventional or unusual.

Standard Sizes and Grades of West Coast Lumber used in building this triangular house were:

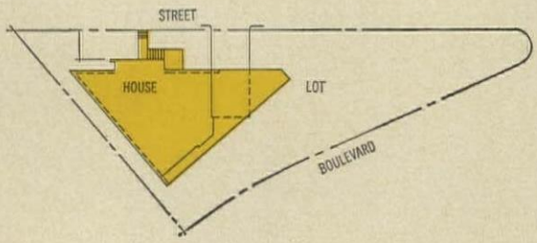
MILL 10 WCLB STAND — **WEST COAST DOUGLAS FIR** 2" x 10" floor joists and 2" x 4" for exterior and interior framing.

MILL 725 WCLB SEL-STR — **WEST COAST DOUGLAS FIR** 2" x 10" ceiling joists with 2" x 8" filler form exposed wood beams extending from kitchen framework to roof line to support 3" x 8" ceiling joists spaced 3' o.c.

MILL 725 WCLB B&BTR — **WEST COAST HEMLOCK VG** Flooring 1" x 4" is applied to beams to make an attractive ceiling.

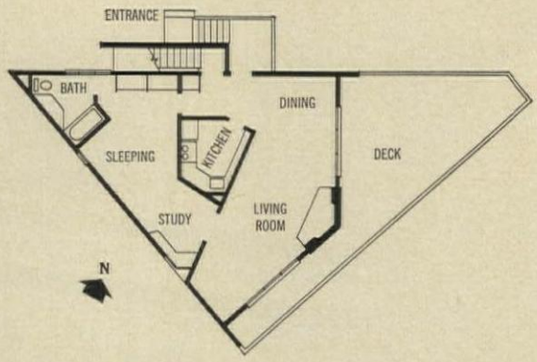
MILL 725 WCLB B&BTR — **WEST COAST DOUGLAS FIR** and **WEST COAST HEMLOCK** are used for millwork and trim. 12" fir stepping used for interior and exterior stairs.

MILL 725 WCLB C — **WESTERN RED CEDAR** 1" x 4" tongue and groove siding is applied horizontally with the sawn surface to the weather.



THE LOT

is an irregular triangle approximately 180′ x 80′ x 120′ facing and sloping to the southwest, with the longest dimension against the hillside. It commands a sweeping and unobstructed view.



THE HOUSE

The kite-shaped house extends around a central kitchen, with a massive fireplace in the blunt end, and with living, study and sleeping room on the view side. The deck may be reached from either living or dining room, and provides some 400 square feet of outdoor living space.

FREE FOR YOU, "The Bright New World of West Coast Hemlock," 8 pages of full color idea-illustrations and span tables. Write:

WEST COAST LUMBERMEN'S ASSOCIATION
1410 S.W. Morrison Street Portland 5, Oregon

"IN MY THIRTEEN YEARS as a builder, I've never seen anything like electric heat for cuttin costs and improving on quality at the same time," says Verne Eggers, shown here in fro of one of his electrically heated apartment houses now under construction. A similar build ing put up last year has proved so popular that there is already a waiting list for this new uni

"AS A BUILDER AND A LANDLORD, I'M SOLD 100% ON FLAMELESS ELECTRIC HEAT"

Builder-owner Verne H. Eggers of Macomb, Illinois, tells how using electric home heating in his new apartments helps him construct and rent them faster

"Whether I'm building a rental apartment or a residential home, I'm convinced that there isn't anything around that can beat flameless electric home heating," says prominent Illinois builder Verne Eggers.

"First of all, electric heat is faster and easier to install than any other type of heat I've ever worked with. In fact, even allowing for taking extra care in insulating, my installation costs are down as much as 40%. And since I can apply this saving to building in extra value and sales appeal, this puts me in a strong competitive position.

"Of course, electric heat itself is a tremendous sales feature, judging from the way it's helping me rent my apartments. And since I'm a landlord as well as a builder, I sure like electric heat's dependability and low maintenance.

"For me at least, it's pretty clear that flameless electric heat is what more and more people in this area are looking for. That's why I figure that I'm way ahead by being in a position to offer it to them now."

Verne Eggers is typical of the growing number of builders all across America who are discovering how well it pays to build and promote electric heating in their new homes and apartments. Already, more than a million homes are heated electrically, and this year it is estimated that 20% of all new homes will be heated electrically.

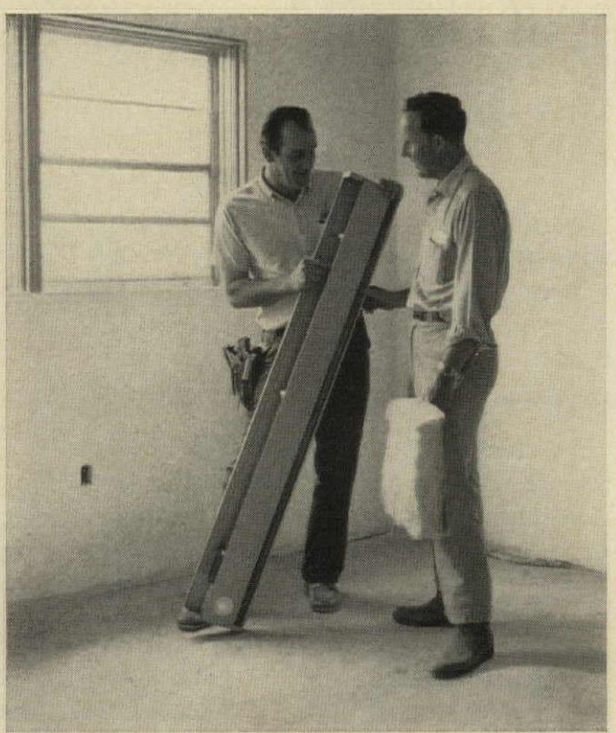
Why not find out how you can profit more by using flameless electric home heating on your jobs? First chance you get, talk it over with your local electric utility company.

THE TOTAL ELECTRIC HOME that displays this Gold Medallion* helps you to capitalize on the fast-growing customer preference for total electric living. And because a Gold Medallion Home uses a *single source of energy* for heating, cooling, lighting and power, you will profit more.

*Certification mark—NEMA

LIVE BETTER ELECTRICALLY · *Edison Electric Institute, 750 Third Avenue, New York 17, N. Y.*

INDIVIDUAL ELECTRIC METERS for each apartment let tenants pay only for the heat they use themselves. Comments Eggers, "When tenants are paying for their own heat and still have no complaints on comfort or costs, you know the heating system has got to be good."



SPACE-SAVING ELECTRIC BASEBOARD UNITS like these help Eggers to speed construction and save on installation time. First, his electrical contractor puts in the heating circuits at the same time he puts in other wiring. Then after plastering, final hook-up is quickly accomplished.

a powerful selling tool...

the convenience and safety of circuit breakers in your homes

Circuit breakers add only a microscopic amount to the cost of the complete electrical wiring job—as little as ½ of 1%. Yet the appeal of this modern convenience to today's electrically-minded home buyers is tremendous.

You have a real, merchandisable selling feature when you install QO "*quick-open*" circuit breakers in your homes. You're providing far more than adequate wiring. You're providing a convenience that's easily demonstrated and readily appreciated. There are no fuses to replace. Even a child can restore service, quickly and safely. You're providing modern protection against overloads and "shorts." You're providing for future circuits as they're needed—and in today's home, that's vitally important.

• • •

As your electrical contractor can tell you, Square D's QO is the circuit breaker that heads the list in quality and performance.
Specify QO... the finest breaker ever built!

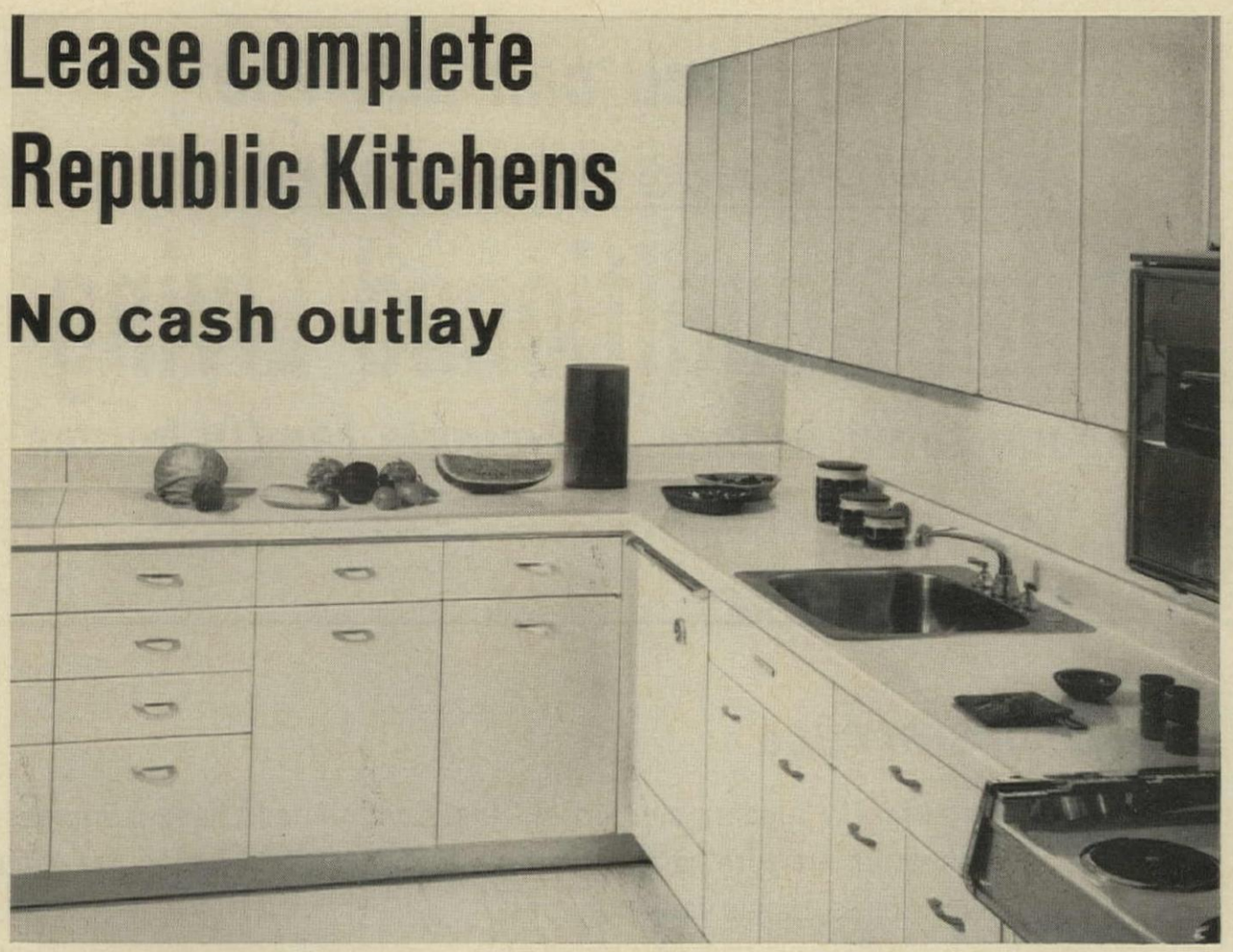
May we send you the complete QO story?
Address Square D Company, Dept. SA-20
Mercer Road, Lexington, Kentucky

SQUARE D COMPANY

wherever electricity is distributed and controlled

Lease complete Republic Kitchens

No cash outlay



Manufacturing Division's new Lease-Plan frees up your working capital, helps you keep credit lines open by delivering your complete kitchen cabinet needs—100 or 1000—without one cent of cash outlay!

You pay on terms individually tailored for greatest convenience to you, with as much as 66 months for final pay-out. Payments can be scheduled to match your cash flow.

You pay out of income from completed buildings, rather than having to drain capital reserves.

Your choice, within the complete line of Republic Cabinets for Kitchens includes every type of cabinet and accessory in beautiful baked enamel finishes plus wood grained vinyl—delivered *complete*, ready to slip into place. No framing, no carpentry, and no call-backs. Your first cost is your last because the sturdy steel construction won't warp and simple washing is the only maintenance Republic Cabinets ever need.

An additional feature of our new Lease-Plan—developed for Manufacturing Division by Rochester Capital Leasing Corporation—you can include other building needs, even products not made by Republic, like appliances, floor coverings, range hoods, etc.!

Whether it's apartments, motels, or hotel efficiency suites, call your Manufacturing Division representative for full details on our new leasing plan, now—or, if you prefer, write J. D. Kirkwood, General Manager of Sales, Manufacturing Division, Dept. HO-7225, Republic Steel Corporation, Youngstown, Ohio 44505.

HOW MANUFACTURING DIVISION'S LEASE-PLAN HELPS YOU:

1. Get products you need *now* . . . pay out of profits they'll generate . . . free working capital for other needs.
2. No down payment required.
3. Be protected against price increases. Use your dollars when they buy the most.
4. Get the latest, best equipment . . . pay for it out of savings and profits you realize.
5. Keeps your credit lines open.
6. Permits you to obtain additional products on same lease by simple modification of terms.
7. Helps you modernize promptly and economically. Manufacturing Division offices will help you choose the plan best serving your needs!

REPUBLIC STEEL

MANUFACTURING DIVISION
REPUBLIC STEEL CORPORATION
Youngstown, Ohio 44505

3 ways you can add the proved sales advantages of

Quiet Conditioned Living

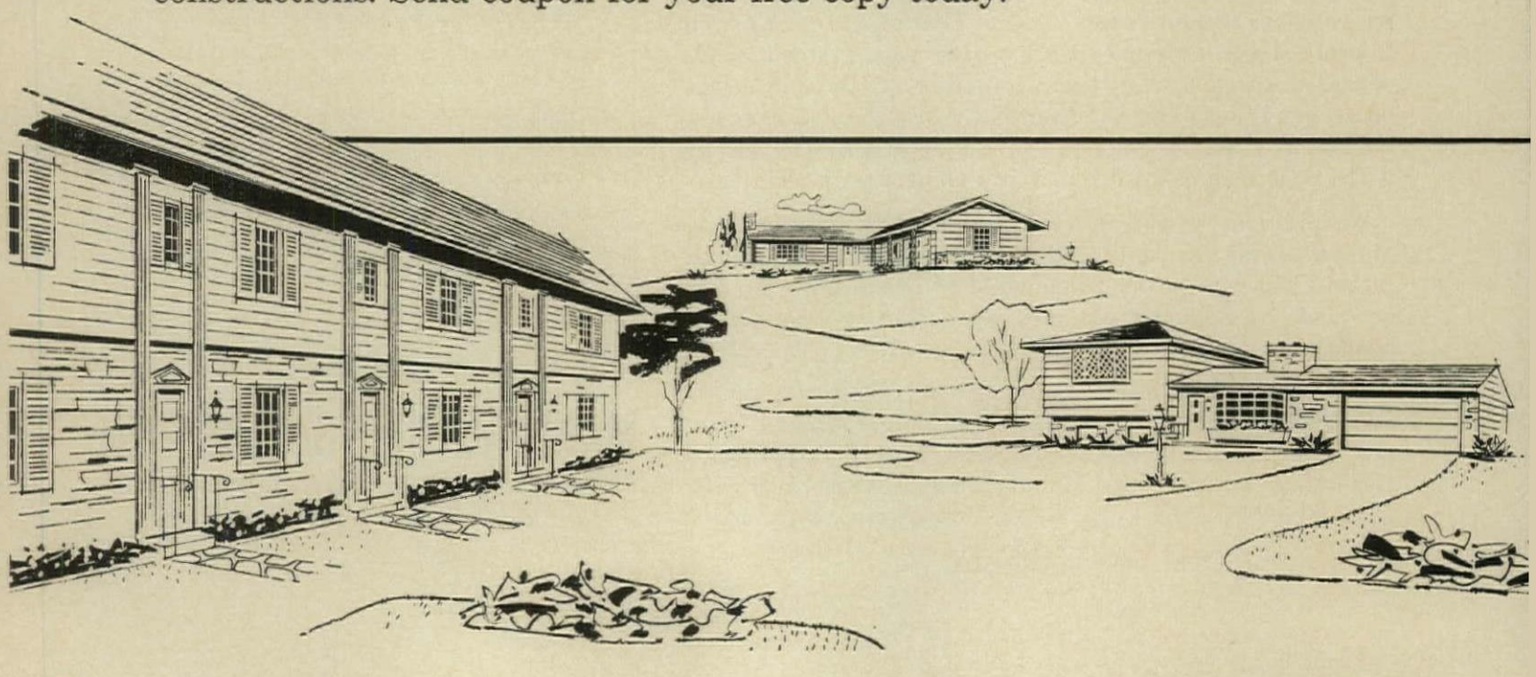
to your town houses and single family homes

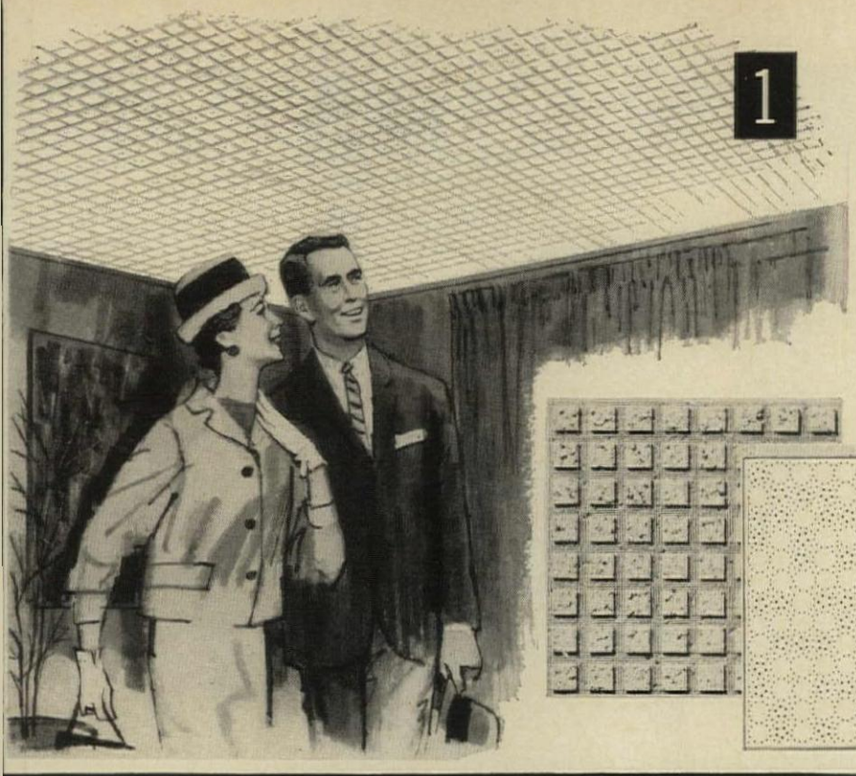
buyer preference

Yes, buyer demand for the modern comfort of Quiet Conditioned Living is increasing daily! Alert builders are turning this demand into sales advantages for their town houses, apartments, single family homes.

Through widespread publicity, as well as personal experiences, prospective buyers and renters have learned that noise *can* be reduced. In some cases, tenants have left apartments because of irritating noise that could have been eliminated by sound quieting construction.

To help you capitalize on this fast-growing buyer demand, Celotex offers a helpful brochure defining noise problems and showing drawings for test-rated constructions. Send coupon for your free copy today.

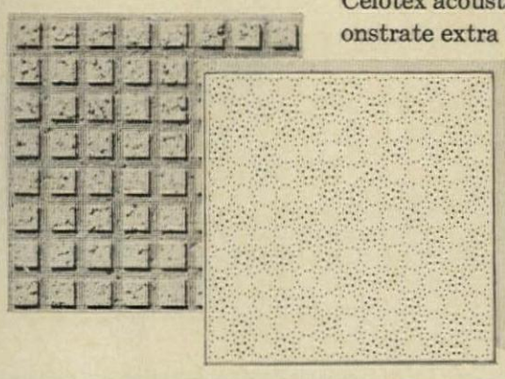




1

Quiet Conditioned Living *begins* with Acoustical Ceilings by Celotex

Celotex acoustical ceilings in the model home or apartment are visible evidence to the buyer that his builder has Quiet Conditioned the home. Prospective buyers and renters can *see* and *feel* the benefits of quiet. These are the ceilings that absorb and hush the irritating noises. People know this. Celotex acoustical ceilings dramatically, convincingly demonstrate extra value.

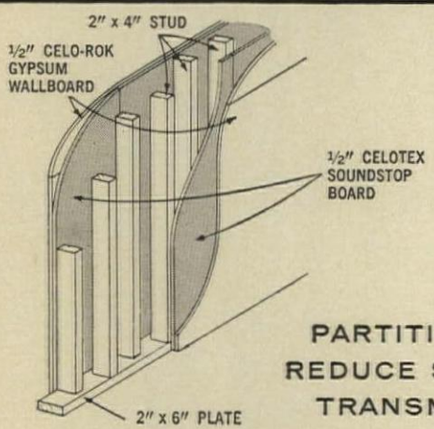


Two New Celotex Acoustical Tiles

Incombustible Mineral Fiber in exclusive 3-D *Riviera* pattern. Square, kerfed edges and striations make joint lines invisible, provide monolithic appearance.

Plastic Coated *Bolero.** Clear, permanent plastic coating gives added protection against soil and wear. Resists grease and oil, washes easily. Ideal for kitchens, kitchen-family room combinations.

**Exclusive, patented design—U.S.Pat. No. D-191,203*



2

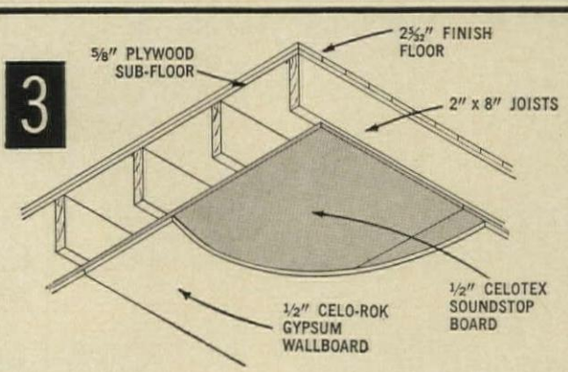
PARTITIONS THAT REDUCE SOUND TRANSMISSION

Construction shown here provides vastly improved Sound Transmission Loss over ordinary partition construction (½" gypsum wallboard on both sides of 2x4 studs 16" o.c.)

In this partition, both sides have lining of ½" Celotex Soundstop† Board and laminated facing of ½" Celo-Rok tapered edge Gypsum Wallboard. Excellent Sound Transmission Class (STC) :50.

Based on tests conducted by Geiger and Hamme Laboratories, Ann Arbor, Michigan.

†*Trademark*



3

SOUND DEADENING CEILING-FLOOR ASSEMBLY

This ceiling-floor assembly reduces transmission of both *airborne* sound (e.g., loud voices) and *impact* sound (e.g., dropped objects, footsteps).

Sound Transmission Class (STC) for airborne sound :42, as tested by Michael J. Kodaras Acoustical Laboratories, Long Island City, New York. On ceiling side, ½" Celotex Soundstop Board is applied to floor joists, with ½" Celo-Rok Gypsum Wallboard as interior finish.

Get the Facts on Quiet Conditioning by Celotex—Send for this FREE MANUAL

CELOTEX
REG. U.S. PAT. OFF.
BUILDING PRODUCTS

THE CELOTEX CORPORATION • CHICAGO, ILLINOIS

Dept. HH-113, THE CELOTEX CORPORATION
120 S. La Salle St., Chicago 3, Illinois

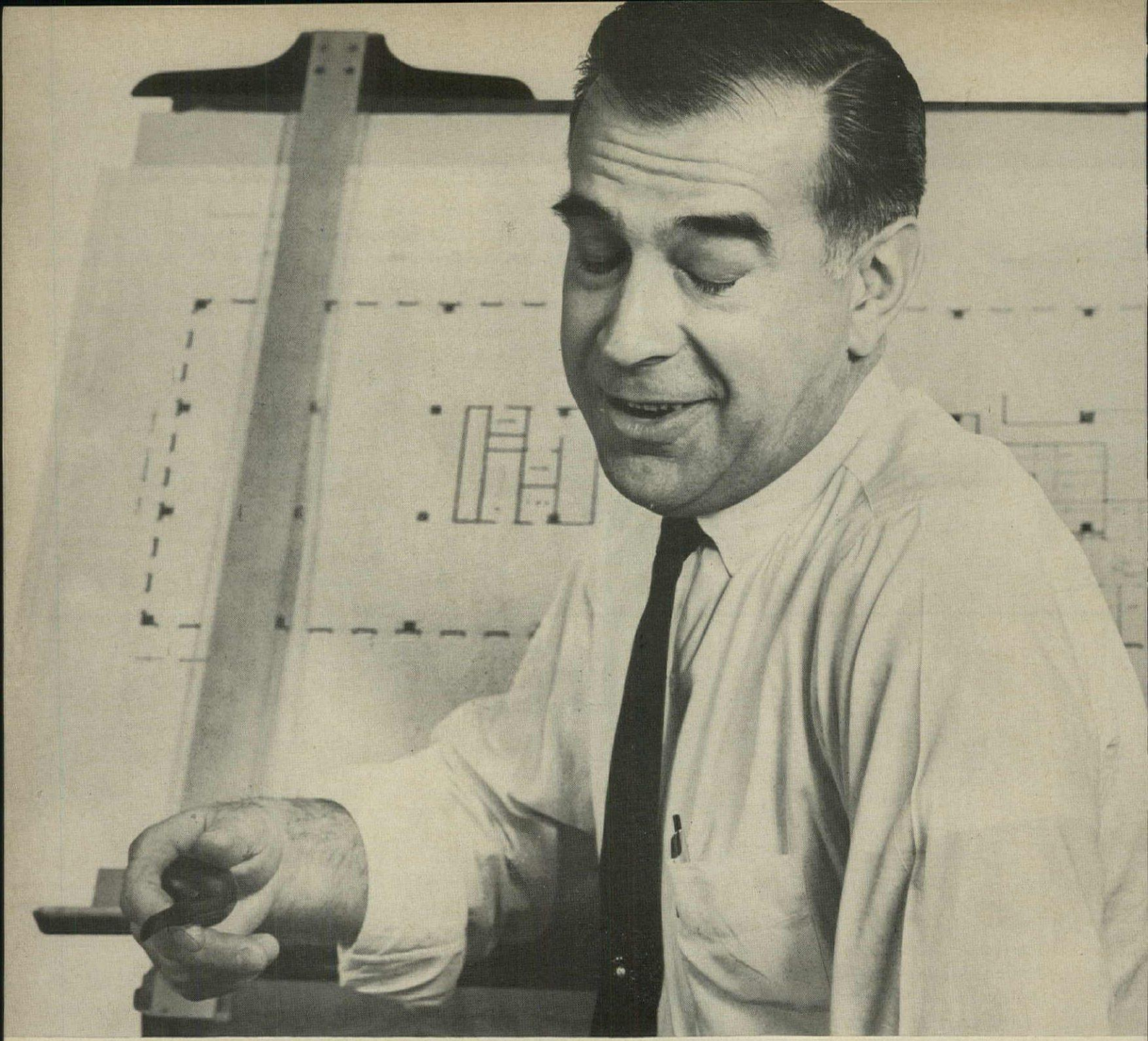
Please send me, without obligation, the FREE 8-page brochure, "New Building Techniques for Quiet Conditioned Living."

My Name.....

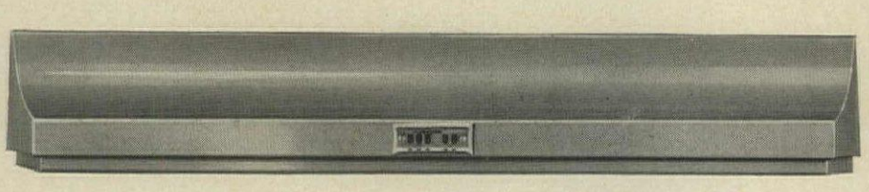
Firm Name.....

Address.....

City.....Zone.....State.....



That's right, Mrs. Jacobs . . . I always specify Broan



As an architect, I stay boned-up on kitchen built-ins. And I'm building a *Broan* into your new kitchen, Mrs. Jacobs — a Broan "Dual Blower" range hood.

It's a beauty. Clean lines. No clutter. Smooth, hand-polished corners. And invisible "heliarc" hand-welded seams. Comes in baked enamel or stainless steel finish to blend with your appliances. Installs like a dream; my electricians tell me they've never had it so good.

More important, the Dual Blower does the job for *you*. It operates at two speeds. Has a recessed light to brighten your cooking area. Cleans fast, soils slowly, always looks good. Pulls in *any* cooking odors around! Inside, you see, are two powerful "squirrel cage" blower wheels with a husky air delivery rating certified by Home Ventilating Institute. That means — well, that means you've got an odor-free kitchen, Mrs. Jacobs. This hood can really move air!

Incidentally, Broan treats its customers pretty well, too. Gives fast delivery on special orders. Puts thirty years experience behind every product. And keeps the prices low. I always specify Broan, Mrs. Jacobs. I watch the built-in market. I *know*.

BROAN

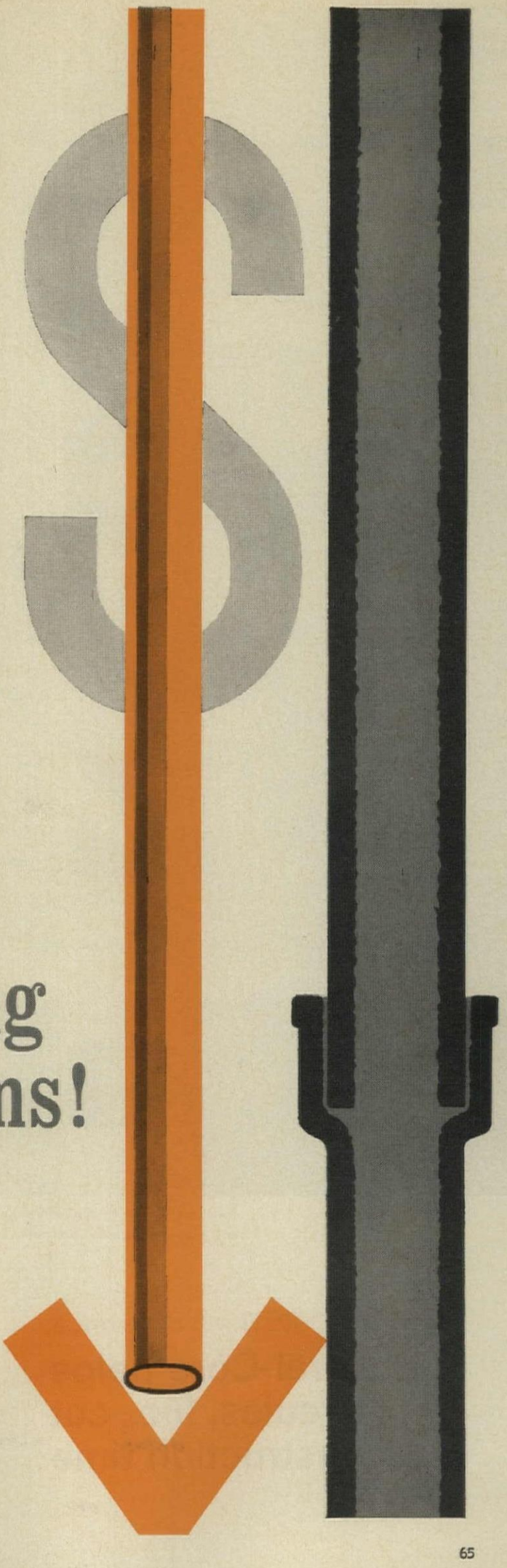
BROAN MFG. CO. INC., Hartford, Wis.
Manufactured in Canada by Superior Electrics Ltd.

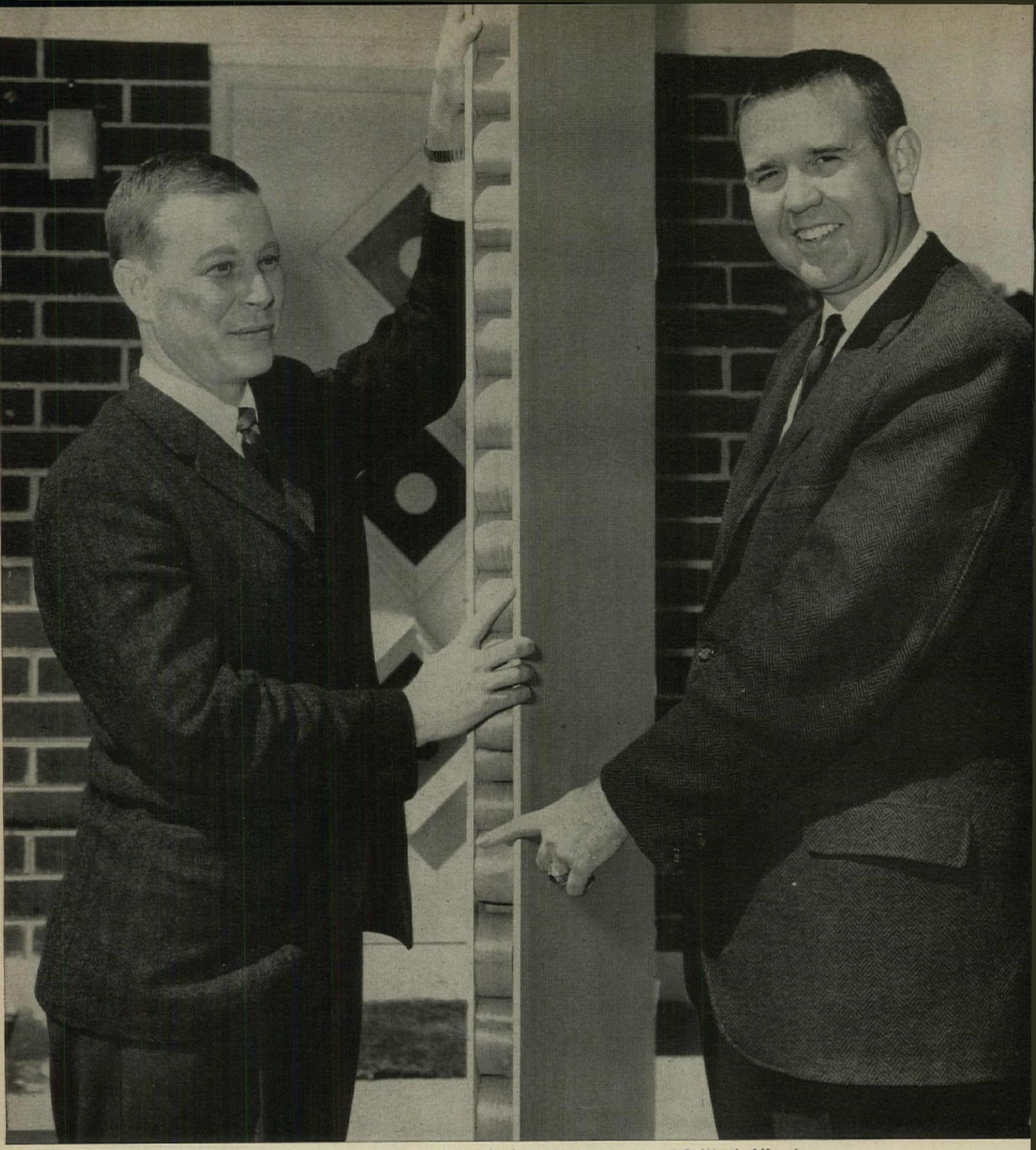
Build around copper for drainage . . . as well as for heating and water . . . and you give your multiple unit customers a better package. You offer more usable floor area (copper systems install in less wall space than cast iron) . . . lower maintenance (no costly trouble due to rust) . . . greater resale value (copper holds up). Send for illustrated brochure "Why It Pays to Specify Copper." Write Anaconda American Brass Company, Waterbury 20, Connecticut. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario. 62-1384

Copper lowers costs of Multiple Dwelling drainage systems!

ANACONDA®
AMERICAN BRASS COMPANY

Leading Wholesalers Stock
Anaconda Products



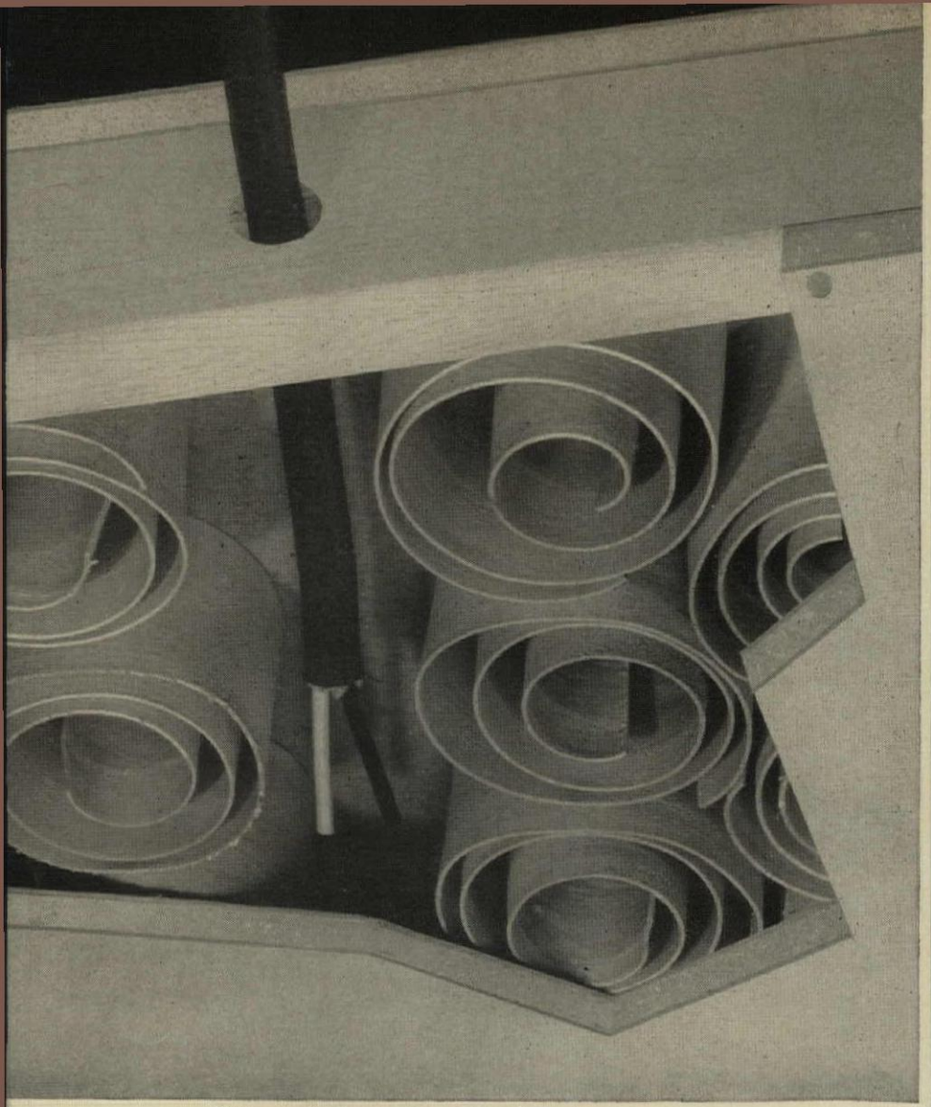


President William H. Walton (left) and Vice President Joseph D. Weed of Hercules, Inc., examine a Spiral-Core panel in front of one of their $8,200 detached homes.

The Gold Bond difference:

Spiral-Core helps Hercules, Inc., cut construction time

"We're using Gold Bond Spiral-Core panels in the second story of our Town House project and in our single-family, detached dwellings in the $8,000 to $10,000 price range," says William H. Walton, President, Hercules, Inc., Jacksonville, Florida. "They speed construction, are easy to transport to second-story level, and are simple to erect without employing additional trades. And they waste less space than the



Photograph of cutaway section shows the wiring channel which is built into each Spiral-Core panel.

Hercules liked the ease of transporting panels to the second floor of their handsome Town House project.

Large 4′ x 8′ panels go up quickly and easily, with less nailing and fastening, and reduced erection time.

conventional type of stud wall, an important consideration in lower cost homes." Despite its space-saving thinness, Spiral-Core acts a foot thick. Thump it, the sound is solid. And it has strong impact resistance. The core of each lightweight, but sturdy, 4′ x 8′ panel is made of precision-cut hardwood spirals. Exterior surfaces are tough gypsum wallboard. Only 2⅜" thick, Spiral-Core partitions can save up to 33 sq. ft. of floor space over conventional walls, in an average-size house. And erection time for *all* interior, nonbearing partitions is cut substantially. For samples and technical information, see your Gold Bond® building-supply dealer. Or write Dept. **HH113**, National Gypsum Co., Buffalo 25, N. Y.

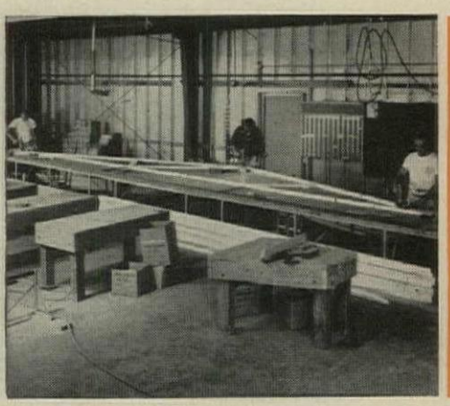
Gold Bond
SPIRAL-CORE

Gold Bond materials and methods make the difference in modern building

You're missing out on important savings unless you're using BOSTITCH® Staplers and Nailers

Plywood sheathing and subflooring can be quickly installed with BOSTITCH Mark II Staplers and Nailers. These air-operated tools enable home manufacturers to speed work and lower in-place costs.

Framework assembly, bridging joints, nailing windows and door frames—all can be speeded up appreciably with BOSTITCH Staplers and Nailers.



Truss nailing is four to five times faster at this manufacturer's plant with BOSTITCH Mark II Nailers.

Fasten it better and faster with

BOSTITCH®

STAPLERS AND NAILERS

Lightweight BOSTITCH Staplers and Nailers enable you to speed operations from 30 to 100% over manual nailing. They drive staples up to 2" long or nails up to 2½" long, operate on as little as 40 psi air pressure.

Call THE MAN WITH THE FASTENING FACTS. He's listed under "BOSTITCH" in most phone books—or write direct. 531 Briggs Drive, East Greenwich, R. I.

DON'T "SAVE" A DIME- AND LOSE A DOLLAR!

you can't afford to take a chance with anything less than VISQUEEN polyethylene film for permanent water vapor barriers

on warm side of outside walls . . . *on warm side of top floor ceilings . . .* *in crawl spaces . . .* *under concrete slab . . .*

Weak, thin-spotted film of irregular thickness . . . film that lacks body and strength . . . is easily punctured.

Moisture is admitted. Insulation soaks up water vapor . . . loses efficiency; floors buckle; sill plates rot; paint peels; siding and stud ends rot; carpets mildew; tile lifts.

The home owner loses thousands of dollars. The builder loses his hard-earned reputation.

With so much at stake . . . and with the best permanent water vapor barrier costing as little as $40 for the warm side of top floor ceilings and walls, and under slab for a 1200 sq. ft. home . . . by far the greater majority of architects and builders have long specified VISQUEEN film.

VISQUEEN film is specially formulated and manufactured for the specific needs of the builder. VISQUEEN film is by far the most uniform in thickness . . . because quality is controlled from raw materials through finished product. Superior strength and resistance to damage make VISQUEEN film more economical in the end.

FOR YOUR PROTECTION AGAINST SUBSTITUTES: LOOK FOR THIS TRADEMARK ON THE SELVAGE

information request tag
VisQueen
Trade Mark
clip this tag. HH-11
attach to letterhead, mail.

UNION CARBIDE VisQueen film
TRADEMARK
the first and foremost polyethylene film

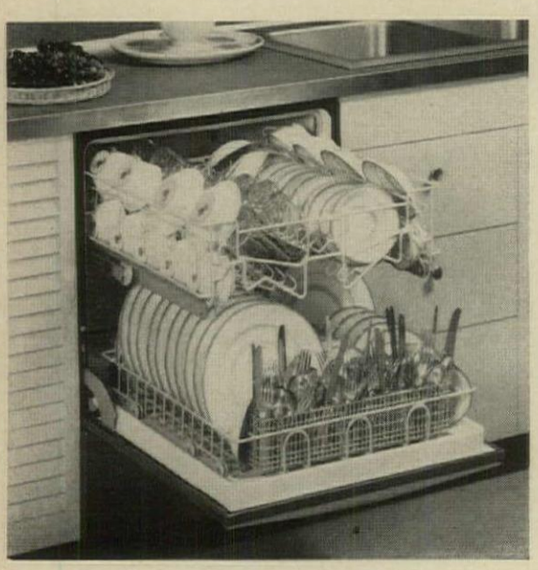
UNION CARBIDE

UNION CARBIDE CORPORATION
BUILDING MATERIALS DEPARTMENT
6855 W. 65th Street, Chicago, Illinois 60638

New "Drop-ins" from FRIGIDAIRE.

COMPACT 30 RANGE LOOKS BUILT-IN BUT INSTALLS WITH A SCREWDRIVER. Just leave a space in a cabinet or between cabinets for the Compact 30 and ease it in. A screwdriver is all you need and this handsome but inexpensive range is ready to beguile the most blasé prospect. Choose the finish that matches or complements your over-all kitchen design—Snowcrest White, Brushed Chrome or any of the four Frigidaire Kitchen Rainbow Colors—Mayfair Pink, Sunny Yellow, Turquoise or Aztec Copper. The Frigidaire Compact 30 Range is beautifully simple to install, simply beautiful to help you sell.

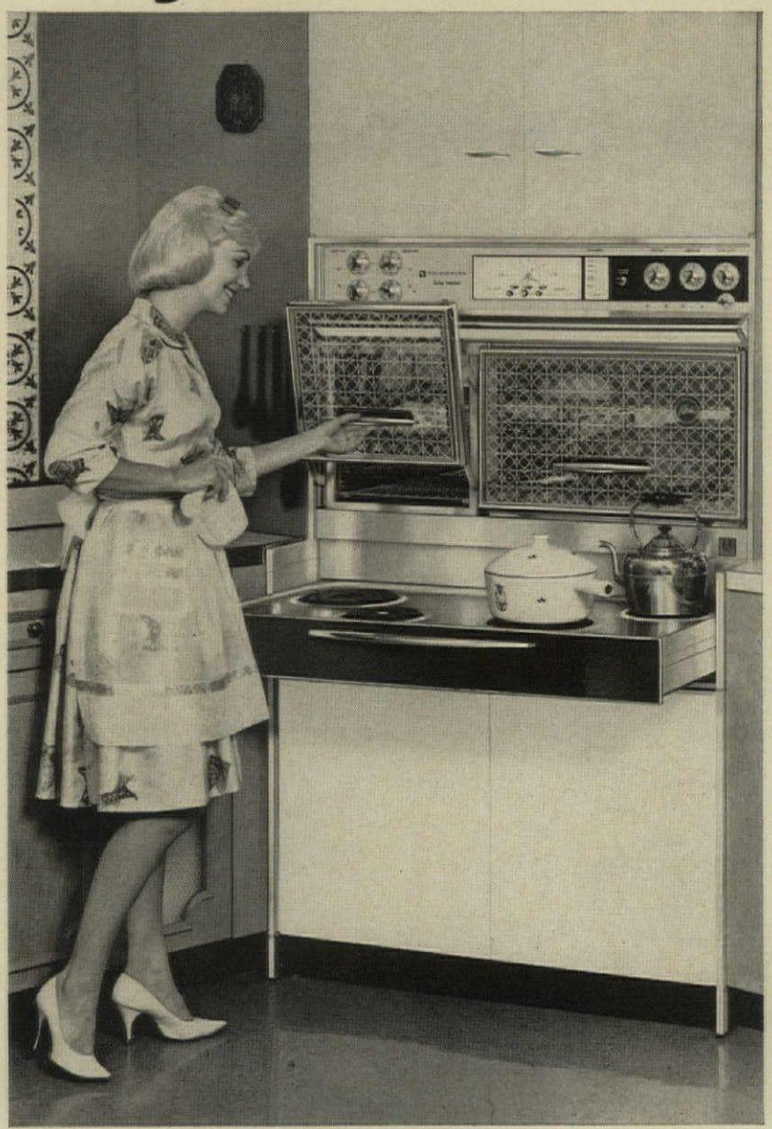
"TRUE" BUILT-INS, TOO. THEY FIT WITHOUT FUSS.



BUILT-IN DISHWASHERS. No modern kitchen is complete without this real time-saver. Frigidaire Dishwashers fit neatly under counter, install easily. Dishes can be kept in germ-killing temperatures many times longer than dishwashing by hand. Easy front loading, exclusive Swirling Water System. Choice of colors.

WALL OVENS & COOKING TOPS. Frigidaire offers a full line of built-in appliances approved for 0" clearance. Choose from Drop-Leaf Door Ovens (single, or double with Pull 'N Clean lower oven), the beautiful French Door Oven and single or double door Flair Wall Ovens. Cooking Tops, some with remote controls.

They install in minutes···LITERALLY



THE MAGNIFICENT FLAIR RANGE. Frigidaire Flair nestles glamorously into standard cabinet arrangements, with or without its matching base. Both the double door and space-saving 30″ models look luxurious but cost little or no more than conventional "top-line" ranges. Choice of colors, of course.

FROST-PROOF REFRIGERATOR-FREEZERS (Type illustrated) as well as all other Frigidaire Refrigerator-Freezers (and most Upright Freezers) quickly become built-ins with the inexpensive, easy-to-use Vent-and-Trim or Flush-to-Wall kits. Frigidaire sells many models in colors at no extra cost.

These are just a few of the many fine models in the wonderful world of Frigidaire Appliance convenience and beauty. Many of the appliances shown on these pages are not true built-ins but they give your kitchen that built-in look that prospects want. All are built to provide years of carefree service without costly repairs. All install in minimum time, require few critical tolerances.

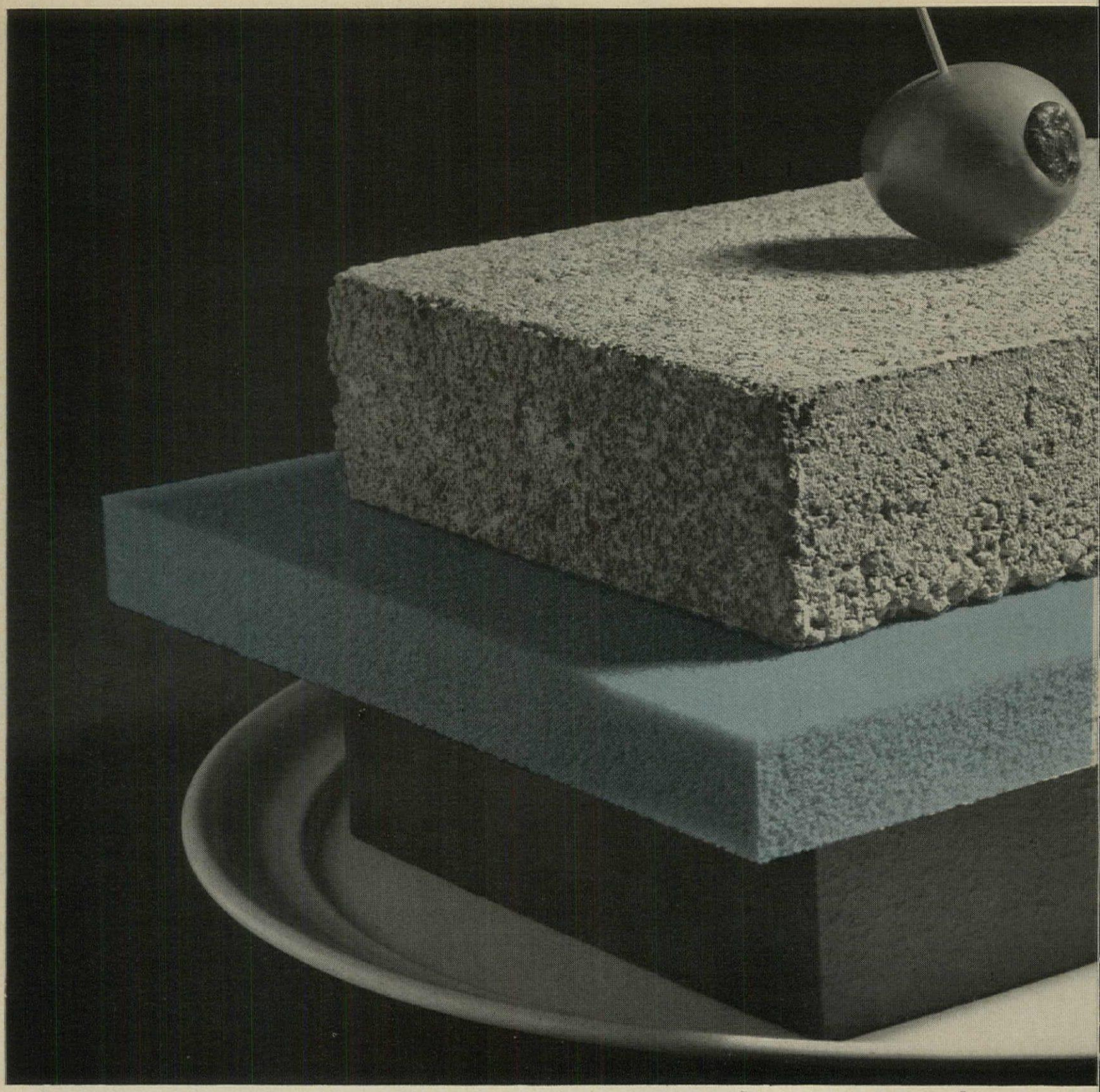
FRIGIDAIRE DIVISION, GENERAL MOTORS CORPORATION, DAYTON 1, OHIO

BUILD-IN SATISFACTION...BUILD-IN FRIGIDAIRE

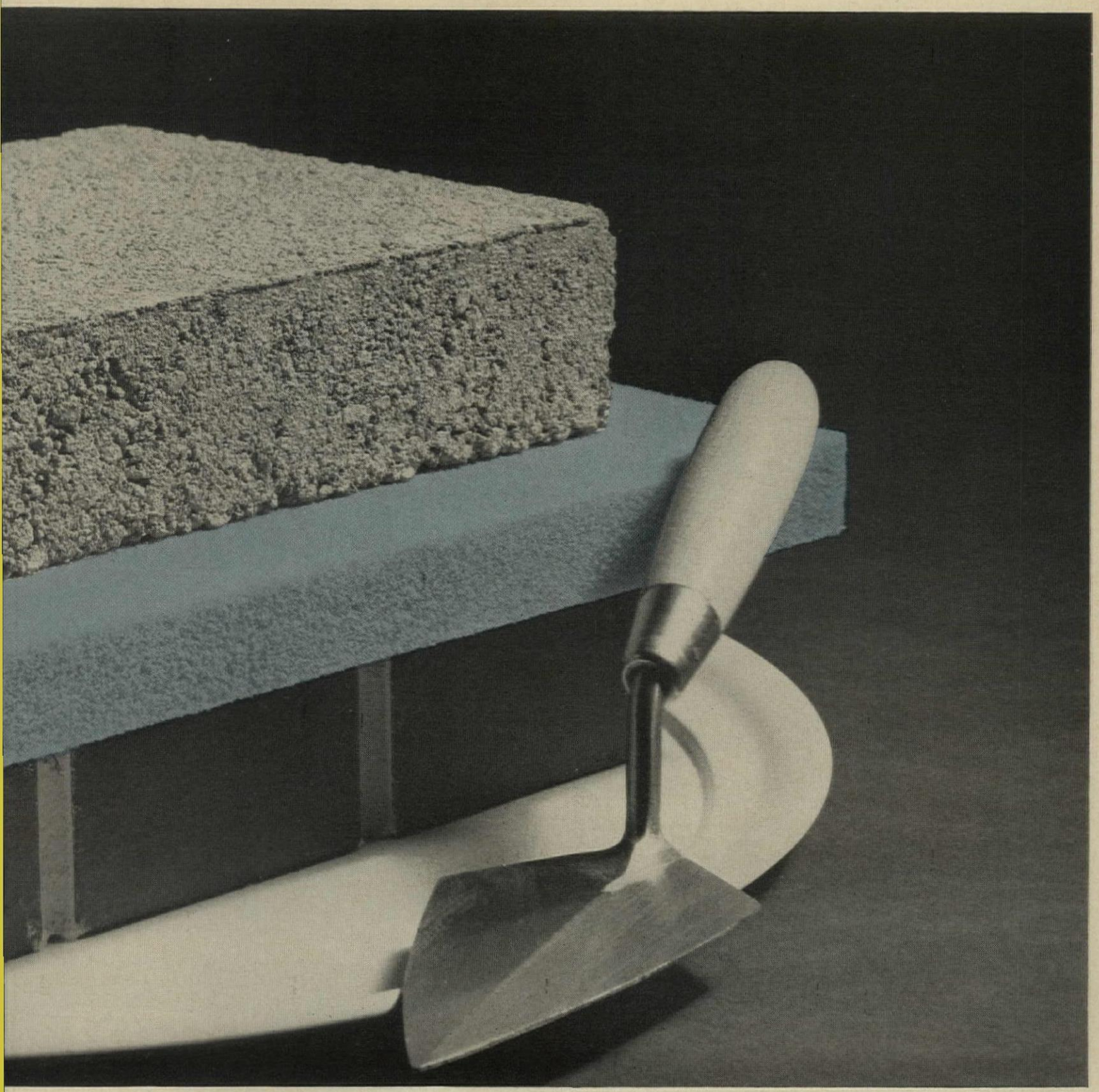
F

FRIGIDAIRE

FACTORY-TRAINED SERVICE EVERYWHERE



This is only one way you make a



sandwich with Styrofoam® FR.

No matter what wall materials you sandwich it between, Styrofoam FR brand insulation board saves you time, cuts out steps, trims your costs. Here's how:

Cavity Wall—You simply place blue Styrofoam FR between interior masonry and exterior brick. (If it isn't blue, it isn't the one-and-only!) Styrofoam FR cuts the wall's "U" value by one-half or more; keeps heating and cooling costs constant because it stays dry permanently.

Wallboard Base—You bond Styrofoam FR directly to masonry with Styrotac® bonding adhesive; wallboard to Styrofoam FR the same way. Single thickness of wallboard gives double-laminate quality. No furring, no nails, no "pops." No more insulation hollows or wallboard warping.

Form Liner—You attach Styrofoam FR to the form, pour your concrete and remove the form. Then apply finish to Styrofoam FR without furring or lathing. You build a better wall at no extra cost!

For more about making sandwiches with Styrofoam FR, see Sweet's Light Construction File under building insulation products and systems. Or write us: The Dow Chemical Company, Plastics Sales **Dept. 1014BP11, Midland, Michigan.**

Styrofoam is Dow's registered trademark for expanded polystyrene produced by an exclusive manufacturing process. Accept no substitute . . . look for this trademark on all Styrofoam brand insulation board.

DOW


CHEVROLET

It took the biggest 5 years in truck design history to bring you the

NEW 1964 CHEVROLET TRUCKS

The past five years have been big years of engineering progress for Chevrolet trucks. Important advancements have improved almost all phases of performance. That's why, if you're in the market for a new truck this year, you're sure to get a lot more truck than your money bought last time!

Just look at all these reasons for improved economy, durability and performance . . . now available in '64 Chevy trucks for practically the same price tag as four or five years ago:

A new ride that's almost as smooth as a passenger car's. You now get Independent Front Suspension on almost all light-duty Chevrolet models. First introduced in 1960, this was, and is, a major advance in truck design. Each front wheel, suspended by a rugged control arm, is free to step nimbly over bumps. One wheel's action doesn't affect the other. The truck rides smoother, much like a passenger car. Truck components and cargoes (and drivers) take less of a beating. Everything lasts longer.

New rear suspension, too. Chevrolet light-duty models now provide a smooth variable-rate coil rear suspension system. It adjusts automatically to road and load conditions. Gives soft springing for an easy ride when the truck's lightly loaded or running empty; then stiffens up with a full cargo for top capacity and durability.

New 6-cylinder engines that are stronger, lighter, more efficient. In '63, Chevy's famous truck 6's were made even more efficient. New manufacturing techniques cut dead weight—added to durability, economy, pulling power and torque. The new 230 Six, standard in conventional light-duty models, delivers 140 hp, 220 lb.-ft. of torque. The new 292 Six, the most powerful six ever built by Chevrolet, gives 170 hp, 280 lb.-ft. of torque. It's optional at extra cost.

A pickup body that's grown tougher year by year. The Chevrolet pickup body, too, has improved steadily in quality. Now, for example, Fleetside lower body sides are constructed of two thicknesses of steel. Thus dents on the inside don't mar exterior appearance. And body floors are made of carefully selected wood to last longer, minimize rust problems, give better footing. There's quality construction in the tailgate, also, so that it seals cargo in tightly and doesn't sag under a load.

Stronger, better insulated cabs. Extra insulation for '64 provides even more protection against weather and sound. There's a new easy-entry door design, too . . . plus the extra strength of double-panel roof, double-braced floor, box-section door pillars.

Tough ladder type frames. Starting in '63, Chevrolet light-duty trucks have been strengthened by sturdy frames of ladder design—frames that are strong, yet resilient also, to stand up better to all kinds of work. The 34" width eases the installation of special bodies.

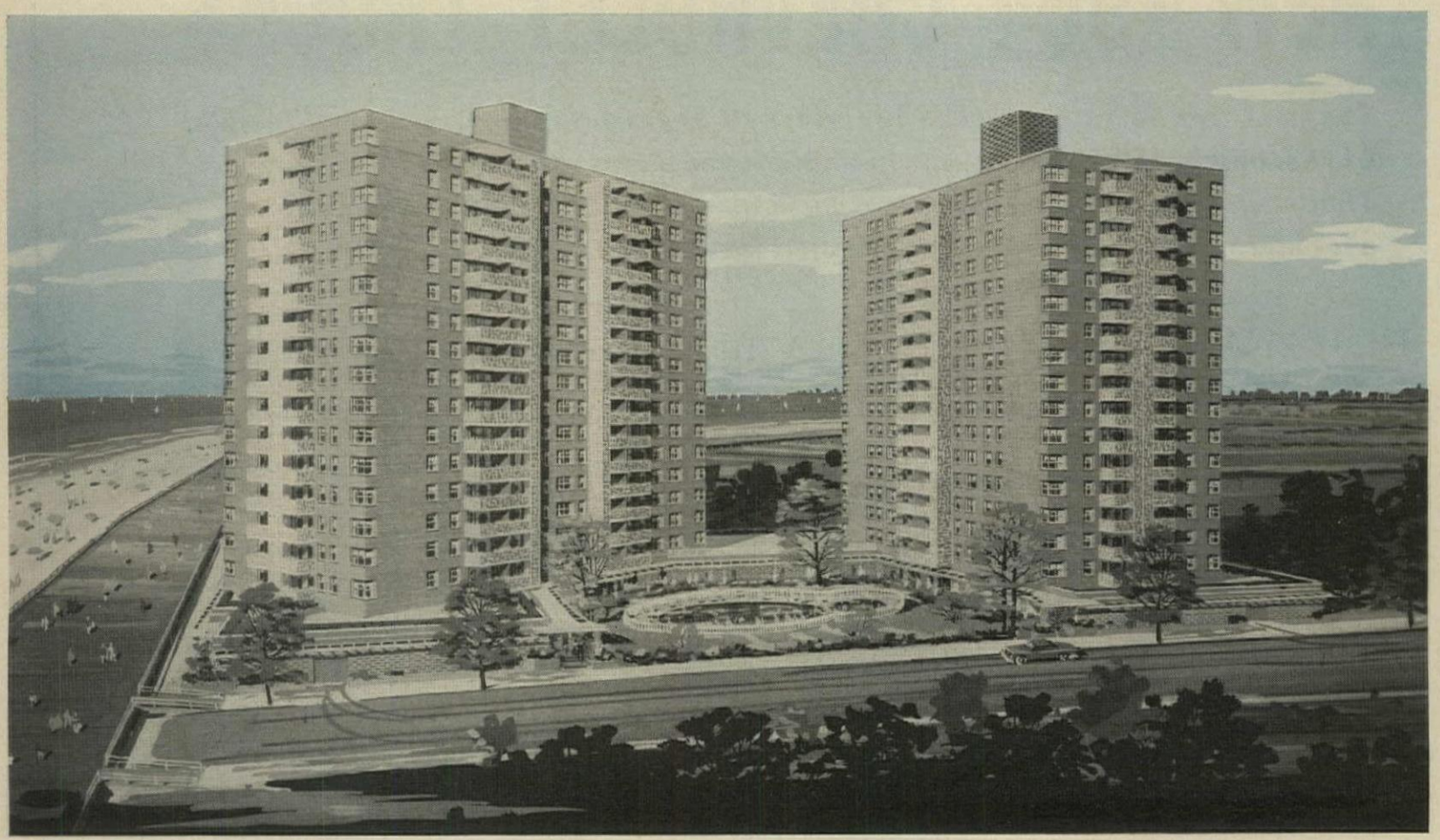
More truck for the money . . . and more trucks to choose from. This year, the Chevrolet lineup includes 14 versions of the most popular pickup in the land . . . a new more powerful edition of Corvair 95 (America's quality-built rear-engine truck, panel or pickup) . . . four new hi-cube Step-Van King models . . . the glamorous new El Camino deluxe pickup, plus a broad choice of conventional panel trucks, chassis-cabs, stakes, forward controls and work-or-play Suburban Carryalls.

If you're going to need a new light-duty truck in '64, we refer you to these models that offer all the benefits of the biggest 5 years in truck design history—the new Chevrolets at your dealer's now! . . . Chevrolet Division of General Motors, Detroit, Michigan.

QUALITY TRUCKS COST LESS

CHEVROLET

Brighton Towers: beautiful beach-front apartments with Kelvinator convenience



With a commanding view of New York's Harbor and the Atlantic surf, recently completed Brighton Towers offers apartment living in an all-season resort.

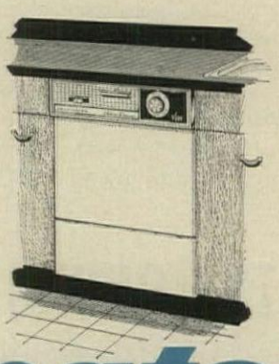
Twin sixteen-story towers, designed by Oscar I. Silverstone, A.I.A., are connected by a colonnaded entrance plaza. Luxury touches include swimming pools, health club, locker rooms, rooftop gardens and community lounge.

Built at a cost of $8,000,000, Brighton Towers' 448 units include efficiencies as well as two bath/bedroom apartment suites. Terraces with a solar screen design are oriented to splendid waterfront views.

Winning plaudits from the ladies are the reliable Kelvinator appliances in the kitchens. Stanley Lynn, Brighton Towers' builder, has found that Kelvinator's trouble-free design and superb quality can be counted on for lasting value.

Brighton Towers is located at Brighton, First Road at Boardwalk, Brighton Beach. For information call 212—SH3-6900.

Kelvinator 12.13-cu.-ft. Refrigerator: Everything within reach—easy-to-use door shelves—full-width frozen food chest with 68.6 pounds of storage area.



Kelvinator 6-cycle Automatic Dishwasher: Roll out racks for easy loading. Double-power cleaning action washes up to 12 table settings sparkling clean.

Kelvinator

Division of AMERICAN MOTORS CORPORATION, Detroit 32, Michigan
Dedicated to Excellence in Rambler Automobiles and Kelvinator Appliances

Gimmickry in design . . . materials distribution . . . underground wiring

Rx for uglification

H&H: Your what-not-to-do-never-a-dull-moment house (A Design-It-Yourself Kit, Oct.) is very amusing.

OLINDO GROSSI
Dean,
Pratt Institute
Brooklyn

H&H: Indescribably delicious . . . In addition to being extremely clever, the article contains considerable message.

JOHN L. SCHMIDT, AIA
construction specialist
United States Savings and Loan League

H&H: . . . The final result came as quite a surprise. It certainly makes a point.

As you know, I have been, among other things, especially interested in working toward improvements in housing design. NAHB is currently co-sponsoring interviews with homeowners in six cities in an effort to ascertain genuine needs and wants looking toward design for better living.

W. EVANS BUCHANAN
president,
National Association of Home Builders

Distribution dilemma

H&H: Your article [Sept.] on the aches and pains of distribution of building materials, is long overdue. This is a problem facing both manufacturer and builder. The builder rightfully resents being forced to pay a tribute by being required to buy from a local distributor. But consider the position of the manufacturer who has spent considerable time, effort, and money in developing a system of distribution. In this competitive era, every builder seeks to lower production costs. Every conscientious manufacturer joins him in his effort. This should be done sincerely, without the sham of phony "buying power" organizations. The manufacturer is tired of carrying water on both shoulders, and the builder is equally irritated at having to resort to nefarious purchase arrangements.

J. S. Ross, treasurer
Superior Laminates Inc.
Los Angeles

Subscription offices: HOUSE & HOME, 540 N. Michigan Ave., Chicago 11, Ill. Change of Address: Four weeks are required for the change. Please name magazine and furnish a label from a recent wrapper. If no label is available, please state as exactly as possible the address to which magazine has been sent. Changes cannot be made without old as well as new address. Editorial and advertising offices: Time & Life Building, Rockefeller Center, New York 20, N. Y. Address advertising correspondence to the advertising director and editorial correspondence to the managing editor. HOUSE & HOME will not be responsible for unsolicited manuscripts or illustrations submitted, and it will not return such material unless accompanied by postage.
TIME INC. also publishes TIME, LIFE, FORTUNE, SPORTS ILLUSTRATED and ARCHITECTURAL FORUM and with its subsidiaries the International editions of TIME and LIFE. Chairman of the Board, Andrew Heiskell; Chairman, Executive Committee, Roy E. Larsen; Chairman, Finance Committee, Charles L. Stillman; President, James A. Linen; Executive Vice President and Treasurer, D. W. Brumbaugh; Vice President and Secretary, Bernard Barnes; Vice President and Assistant to the President, Arnold W. Carlson; Vice Presidents, Bernard M. Auer, Edgar R. Baker, Clay Buckhout, R. M. Buckley, Jerome S. Hardy, C. D. Jackson, Arthur R. Murphy, Ralph D. Paine, Jr., P. I. Prentice, Weston C. Pullen, Jr.; Comptroller and Assistant Secretary, John F. Harvey; Assistant Comptroller and Assitant Secretary, Charles L. Gleason, Jr.; Assistant Treasurer, W. G. Davis, Evan S. Ingels, Richard B. McKeough.

CALIFORNIA WIRESCAPE
Can our affluent society afford it?

Underground wiring: costs vs. safety

H&H: Your article (Aug.) on underground electric distribution for subdivisions is full of distortions and misinformation. It implies that any power company that fails to get underground construction costs as low as overhead is asleep at the switch or insisting on unjustifiably high standards.

Underground distribution is a deluxe service and must be expensive. A conductor carrying high-grade insulation and shielding for 5,000-v. or 12,000-v. potential costs seven to ten times as much and will carry only 80% to 85% of a bare wire. It should be enclosed in a concrete-encased duct if one has a decent regard for integrity of service and safety, and integrity of service and safety are much more important than saving $50 a lot. In all probability the realtor will add $1,000 per house because of the underground feature.

When realtors say that they cannot sell a house costing $25,000 to $30,000 because the underground system costs $400 a lot, it is absurd. The extra cost is less than 2%

Palo Alto requires all new subdivisions to go underground. We credit the developer the cost of equivalent overhead construction, which amounts to $100 a lot. The cost for underground is $350 to $400 a lot, which includes the duct for the telephone cable. We have an affluent society which is willing to pay to remove the eyeball pain of seeing poles and wires. This being so, let's be consistent and logical and not insist on a substandard system that seriously impairs safety and service integrity.

E. A. HEATH, chief electrical engineer
City of Palo Alto, Calif.

• *Engineer Heath's opinions, which are shared by many utilities and municipal officials, are contradicted by the experience of Chicago's Commonwealth Edison, which, as noted in* HOUSE & HOME'S *article, has been putting wires underground for 30 years. Specifically:*

1. *Underground distribution may be considered a de luxe service, but it should not cost $400 a lot more than overhead in areas with normal ground conditions. Comm. Ed's extra cost is about $100 a lot (several other utilities levy similar charges). This is slightly more than double the cost of a typical overhead system.*

2. *Comm Ed's 12* KV *direct-burial primaries cost 30¢ a foot, and are standard with several manufacturers. Their safety, even when buried alongside telephone cable, was shown by tests in Line Materials Co.'s high voltage laboratories. The results have been accepted by Illinois' Public Service Commission. The integrity of underground service is attested by Comm Ed, which says that outages have been far fewer with underground than with overhead cable. In short, far from being a substandard system. Comm Ed's underground distribution has proved to be well above standard.*

HOUSE & HOME *agrees with Engineer Heath that overhead wires are an affront to the eyeballs, but disagrees that any society, however affluent, should have to pay unnecessarily high prices to remove them.*—ED.

The hope for better architecture

H&H: "The hope for better architecture" (Aug.) is an outstanding piece of journalism—thorough, level-headed, objective, and knowledgeable—worth far more than articles that keep pushing the panic button. Our problem is how to cause more of the constructive procedures to happen. AIA and NAHB should be able to find how to do it. Hardest problem of all is to influence public taste which has been distressingly reactionary for several years.

WILLIAM H. SCHEICK,
executive director
American Institute of Architects

H&H: You spent a great deal of time and effort in pulling together a tremendous amount of material. I hope that the [article] helps clarify the architect's role—and perhaps strengthen its position—in merchant-built house design.

A. QUINCY JONES, FAIA.
Los Angeles

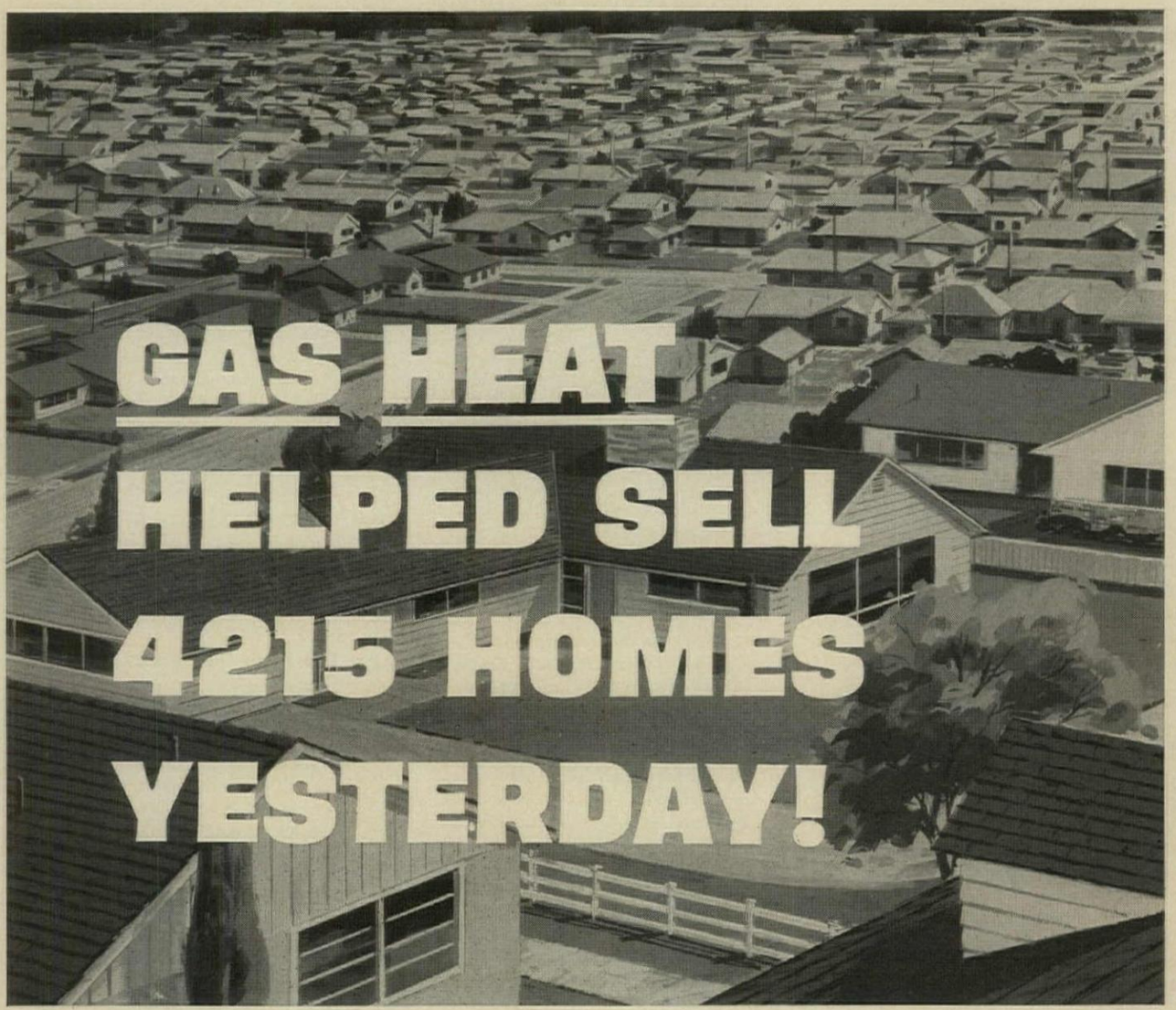
H&H: My compliments to you on an excellent, informative, and comprehensive article.

I was most interested in your thoughts on housing's developing technology, which I have held to be rather dismal when compared to developments in almost every other field of human endeavor. Revolutions have taken place in the materials and methods of producing even the most commonplace and mundane products. But we in the building industry are still married to the 2 x 4, and, more recently, to the 4′ x 8′ plywood panel, a combination which makes us hardly a skip-and-a-jump from mud and wattle construction. This applies to just about every type of prefab in the housing market.

A few strides have been made, but the 2 x 4 rides on. Where is the Monsanto plastic house which portended a giant step in our field? Isn't Disneyland a laughable place for it to have ended up?

Among other things, we're stuck with uneconomical procedures that become more so every day. I have no doubt that if homes could be created for half their prices by pro-

continued on p. 80



Buyers prefer the advantages of modern Gas heat... and Gas offers these extra advantages to builders, too!

Every day *4 times* as many buyers select homes with Gas heat—as all other heating systems combined!

They know it's quieter, cleaner, more economical heating. They've been *pre-sold* on it. And you can give them dozens of other arguments for Gas heating, too. For example, Gas heat is *flexible*. You can offer its quiet, clean, economical advantages either as hydronic heat, hot water or steam, or as a circulating, filtered warm air system.

You can adapt Gas heat to every buyer's needs, too, whether he wants central heating or individual room heaters. With a Gas warm air system it's even possible to use the same ductwork for Gas air-conditioning—at the time of installation, or as a later "add-on."

And long after Gas helps you make the sale, you'll have *another* reason to thank it. There are fewer moving parts in a Gas system—less to go wrong. Which means more satisfied customers, fewer call-backs.

This advertisement sponsored by the following

MANUFACTURERS OF RESIDENTIAL GAS HEATING EQUIPMENT

BRYANT MANUFACTURING COMPANY • DAY & NIGHT MANUFACTURING COMPANY • EDWARDS ENGINEERING CORP. • JANITROL DIVISION, Midland-Ross Corporation • NORMAN DIVISION, John J. Nesbitt, Inc. • THE PAYNE COMPANY • PREWAY, INC. • THE H. B. SMITH COMPANY, INC. • SUBURBAN APPLIANCE CO.

in co-operation with The American Gas Association

***It's smart sell to offer your prospects a chance to* LIVE MODERN...FOR LESS... WITH GAS**

ONE-STOP SHOPPING AT THE A.G.A. UNIFIED GAS EXHIBIT—BOOTHS 1324 TO 1329 AND 1423 TO 1432.

ducing factory-built units looking unlike anything seen before or imagined, people would adapt themselves very quickly in order to realize the savings.

But the vast homebuilding industry is essentially a lot of very small enterpreneurs. Will the new, well-financed managerial combinations change the fact that the technological potential of the greatest producing nation on earth has, so far, failed to move the housing industry into the 20th century, let alone the space age?

Your article has given me occasion to re-examine our operation and its present direction. I am inspired by the kind of approach which makes use of market research and design contests. For me, the discussions of architect-builder relations were academic, however. I get along with myself very well. [Architect Small designs all houses for Builder Small.]

ROGER SMALL
Connecticut Contemporaries Inc.
New Haven

How much landscaping is enough?

H&H: Although I hesitate to compound the argument, Theodore Osmundson's letter about the landscape development of the Purich model home (Letters, July) must be challenged.

Many of my colleagues and builders have not yet fully realized the benefits that can be derived from a fully developed model home site. Some of the benefits are:

1. Prospective buyers are better able to visualize their future site development as a result inspecting the model-home site.

2. The model serves as an added sales feature for the builder's sales force.

3. Exterior appearance of the yard is more important than the extra gimmicks inside. The yard becomes the focal point of the owners weekend recreation. The public has a real interest in the yard as an extra room.

4. Builder Purich has found that his image as a builder in Bergen County, N.J. has improved.

5. Osmundson says that the landscape architects greatest contribution to homebuilding is an application of our knowledge to subdividing and siting of homes. I agree. But most builders are not ready to accept this. Step No. 1 is to gain builder confidence through such elementary things as a model home landscape plan. Builders can easily recognize its direct benefits. As we gain builders' confidence, we can then begin to use our talents as site developers on a larger scale. We have been able to do this with several builders.

6. As a direct result of our services as planning consultants, several builders found planning boards exceedingly receptive to requests for approval of proposed developments. Most restrictions that builders complain about are a direct result of disregard for good land planning principles. These sometimes ridiculous restrictions are the only means public officials know to protect the town from mishandling of land by builders.

The housing industry is now concerned with the land problem. As our population grows, available open land will logically diminish. The answer lies with the housing industry and its efforts to improve its methods of using the land. This the landscape architects can do for all builders.

WALTER F. BRUNING,
landscape architect
Jamesville, N. Y.

The many-fingered federal puppeteer

H&H: Your conclusion [July] that "many federal aids to housing may now be doing housing more harm than good" is certainly accurate.

JOHN H. ROUSSELOT,
former member
House of Representatives
former FHA information officer
Arcadia, Calif.

THE NEW HOUSING INDUSTRY

Part VII of an eight-part series

Housing has long been criticized for lagging behind other industries in technological growth. Today the criticism is louder than ever—but only partly justified. Here is a 35-page report on . . .

Technology's promise and performance

Critics often compare today's new houses to houses built around 1920 and complain: "Same old house and a lot more expensive."

This is about as relevant as comparing a 1964 automobile—with a 350-hp. engine, automatic transmission, air conditioning, foam seats, and an FM radio—to a Model T and complaining: "Same old internal combustion engine and a lot more expensive."

Today's house is not the "same old house." True, houses today are being built on the same kind of foundations and on the same framing principles. But it is also true that today's houses are bigger, better planned, better heated, better cooled, better insulated, more convenient to live in, and much easier to maintain. And although they are indeed more expensive, the higher price reflects enormously inflated land costs and high land-improvement and utility requirements, as well as vastly increased labor rates and considerably higher prices for the commodities and products that go into the house.

Instead of housing's technology getting the blame for housing costing so much, it should get the credit for housing not costing more than it does. It is easy to say that basic housing technology has undergone little change, but the fact is that there have been great changes within that basic technology. As standard techniques, today's efficient builders use many prefabricated components—ranging from trusses and pre-hung doors and windows to prefinished siding and flooring. They use labor-saving machinery ranging from power saws to fork-lift trucks, from paint spray guns to automatic nailers. They use laminated countertops and new paints that last 10 or more years. If these and hundreds of other technological improvements had not been devised, and if builders had

continued

not adopted them, houses would certainly cost a great deal more than they do—and not be as good as they are.

All this is not to say that we could not do much better. But standing in the way of further progress are a mass of intertwined problems:

Progress so far has been made in the face of a market that insists (and this is its right) on wide variety in house design, features, and plan; and that is inclined to resist innovation.

Progress so far has been made despite the high cost and high risk of innovation. In an industry made up of thousands of small entrepreneurs, and hundreds of manufacturers and producers (none of which supplies more than a small part of the house), no one has yet had the resources (and the courage) to strike out effectively by himself against the status quo.

Progress so far has been made in the face of a staggering gauntlet of outmoded codes and other local restrictions administered by men who, in large part, lack either the know-how or the facilities to evaluate technological changes, and who therefore play it safe by turning them down.

The pressure of increased costs is finally beginning to puncture this rigid framework, and daylight is beginning to show through.

ITEM: Several near-revolutionary building systems, and the long-awaited mechanical core, are obviously—and finally—poised for a major breakthrough.

And because almost everyone in housing realizes at last that outmoded codes and local restrictions must not be allowed to block this kind of progress, forces with enough muscle to lick localism are now being brought to bear *(see p. 114, and* H&H *next month).*

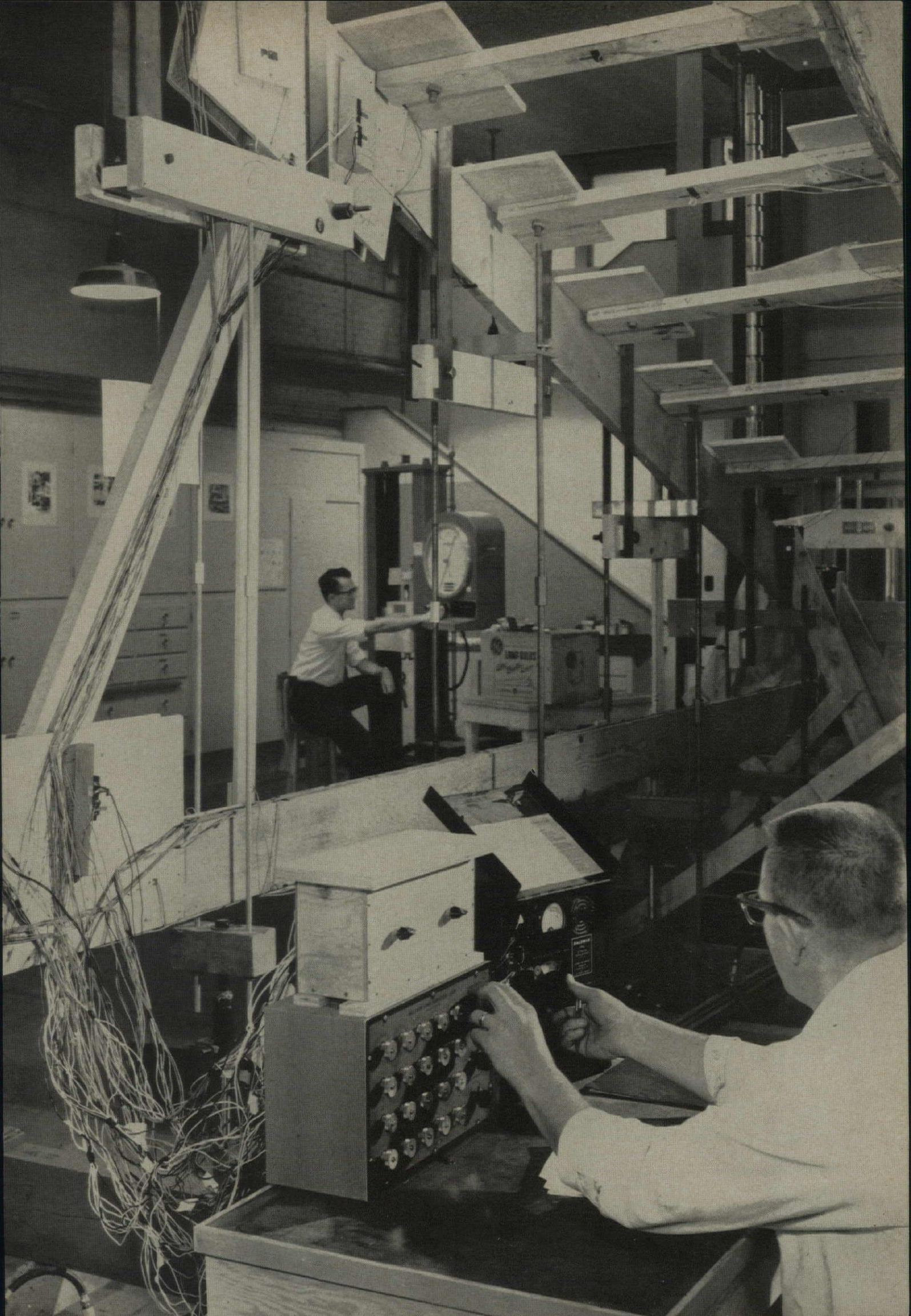
ITEM: Within the fragmented housing industry, a handful of well financed builders ("The Emerging Giants," H&H, Jan.) and big producers (notably chemical companies, aluminum companies, and steel companies) are beginning to push hard for change. In the residential building field, few of these have a strong commitment to existing channels of distribution and few have a strong vested interest in propping up conventional code and labor arrangements.

Will the buying public accept a product different from the house their grandparents lived in? No one really knows. But Alside, Armco, Rheem, and other big producers (see *p. 98*) have bet many millions of dollars that the public will buy a house that—at least structurally—is a long way from grandpa's house. (And a lot of people are buying offbeat little cars with the engine in the back because they see the sense and value of them.)

The problems blocking a more advanced technology are not going to disappear overnight, but as they are forced back, new technology will move in. As you will see on the pages that follow, the housing industry has—developed and waiting—a great body of unused technology. These ideas will take their places in the building process as soon as the way can be cleared. Many of the new systems in wood, steel, aluminum, and concrete, as well as the new cores, are competitive with conventional construction right now. They will cut costs when they can be mass-produced.

It is this present body of technical knowledge, plus the new ideas that will flow in when the incentive to innovate is increased, that will—quietly and perhaps sooner than we think—bring about the long-awaited industrial revolution in housing.

EXPERIMENTATION in new and better building methods is accelerating. Here, an experimental truss is checked with electronic strain gages at DFPA's research lab.



1 New building systems and products can rarely be evaluated in a laboratory or show room; they must be tried out by builders, in an actual house under actual field conditions. The scene of most try outs:

Research houses—testing ground for new technology

Since 1952, no less than four dozen research houses—built or financed by associations, manufacturers, and even builders themselves—have demonstrated and publicized new products, new materials and finishes, and new structural and mechanical systems. None of these houses has revolutionized homebuilding; all have contributed in some way to housing's urgent goal of building better for less.

Research houses owe their existence to a peculiarity of the homebuilding industry: Even if you invent a better mousetrap, chances are few people will pay attention. Builders must be shown that the mousetrap makes economic sense and that there is a market for it. Skeptical buyers must be shown that it really exists and that it will add to their living comfort. FHA and code officials must be convinced that it will not blow away in the first breeze. And manufacturers must be convinced that if they spend money developing a mousetrap, it will be seen and evaluated by both the industry and the public.

The last decade's research houses have proved to be the best way to do all this. Less important as houses than as showcases for new housing ideas, they have provided a means to field-test and de-bug new building methods and systems; they have given government and code groups data on which to base approval or disapproval of new ideas; and they have served as field laboratories where old and new methods and products can be precisely compared to each other.

Says Ralph Johnson, director of NAHB's research and technology division, which has built the industry's best known research houses: "There's no question but that research houses have been a major influence in accelerating the rate of technological change in the industry."

Many of the early research houses were little more than collections of forward looking—but not radical—planning and construction ideas. For example, the 1953 Trade Secrets House, NAHB's first research house, dramatized such features as open planning, truss roofs, storage walls, big glass areas, perimeter-loop warm air heating, and tilt-up construction. None were brand new even then, but neither were they widely used. Most are common today.

Did the focus that the Trade Secrets House put on these ideas hasten their acceptance? Probably so. And it is partly for this common-sense reason that many materials producers, to promote their products, have built some research houses that actually involve very little research.

Critics like to point out that the impact so far of research houses on the industry has been minor. Most of the new products and materials they introduce do not grab hold in the market—even a well-established building system like LuReCo, introduced almost a decade ago and perfected in a series of research houses, is used in a small percentage of today's new homes; and FHA approval of a new idea—plastic drain pipe is a good example—means little as long as code groups and local contractors give it the cold shoulder.

But to say this is to say that research houses should have revolutionized homebuilding, whereas the fact is that homebuilding advances only through evolution.

"Too many people think that research houses are trying to do more than they really are," says Architect Leonard Haeger. "Nothing is going to change the building industry overnight—innovation comes very, very slowly. But as it does come, the experience gained through research houses will be immensely valuable."

Adds Raymon Harrell, executive vice president of the Lumber Dealers Research Council: "If a research house provides just one new idea or product it has been worthwhile."

New ideas seep slowly into housing. The lessons of a research house built in 1963 will not change building in 1964 or 1965. But it may well be that by 1973, ideas that were experimental in 1963 will be the basis of housing's everyday technology. And the more research houses that are built, the more their impact will multiply.

To see some of the research house ideas that have created this impact, see the following pages.

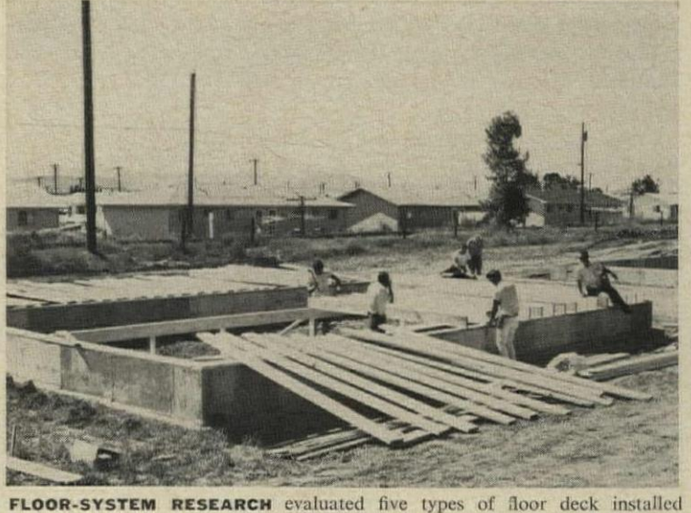
In some research houses 'pure research' uncovers previously unknown data

Accurate scientific information is rare in homebuilding, an industry notorious for doing things "because that's the way they've always been done." But some research houses have been built to supply such precise data.

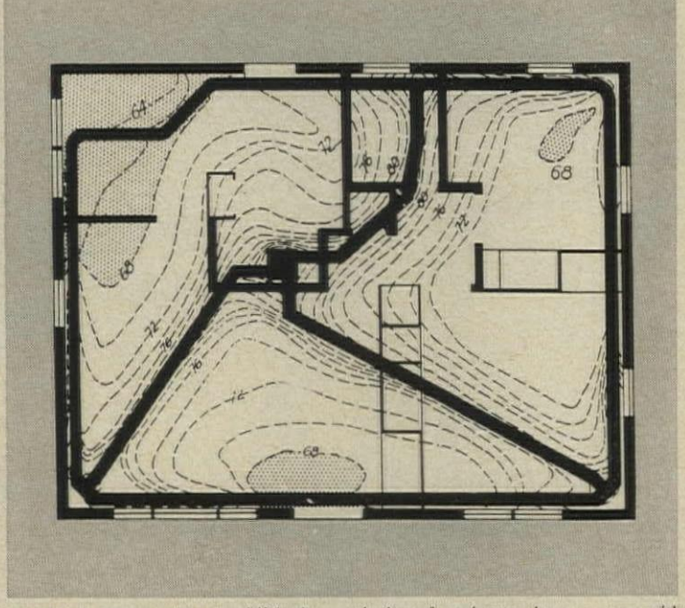
Most significant are the TAMAP (Time and Methods Analysis Program) houses sponsored by NAHB and The Stanley Works and built by Robert Schmitt of Berea, Ohio. Schmitt, already one of the country's most efficient builders, subjected one of his standard $16,700 models to a nail-by-nail methods and materials study, revised his operation on the basis of the study, and then built a second (and identical) house. Final results are still being studied, but Schmitt has estimated that costs on the second house could drop $1,000.

Most pure research projects study just one aspect of a house or building operation. Thus LuReCo's floor-study houses (co-sponsored by Weyerhaeuser) compared time and labor costs for five different floor systems. In NAHB's 22-house Air Conditioned Village, built in Austin, Tex. in 1954, cooling costs for various types of equipment and installations were accurately compared for the first time; the results formed the basis for much of today's air-conditioning technology. And in a University of Illinois research house in 1953, perimeter-loop heating was shown to be the best warm-air slab system.

TIME-AND-MOTION STUDIES helped Project TAMAP analyze methods of efficient Builder Bob Schmitt, revealed many ways to make him even more efficient, and showed how manufacturers could improve their products to contribute to easier, lower-cost use by builders.



FLOOR-SYSTEM RESEARCH evaluated five types of floor deck installed under identical conditions. Results: Cheapest system was 2 x 10 joists laid on 2′ centers, fastest was LuReCo's "Insta-Floor"; but differences among all five systems were small. Complete results will be announced soon.



HEATING RESEARCH established superiority of perimeter loop system with five radial ducts for warm-air slab heating. System with three radials (above) showed too much temperature variation; spider system with no loop had cold walls; overhead system was totally inadequate.

Dewey G. Mears

COOLING RESEACH checked comfort and cost of 22 air conditioning systems under actual living conditions in 22 houses. Results showed that correct installation of equipment and ducts could halve operating costs, also helped establish permissable noise levels for cooling machinery.

continued

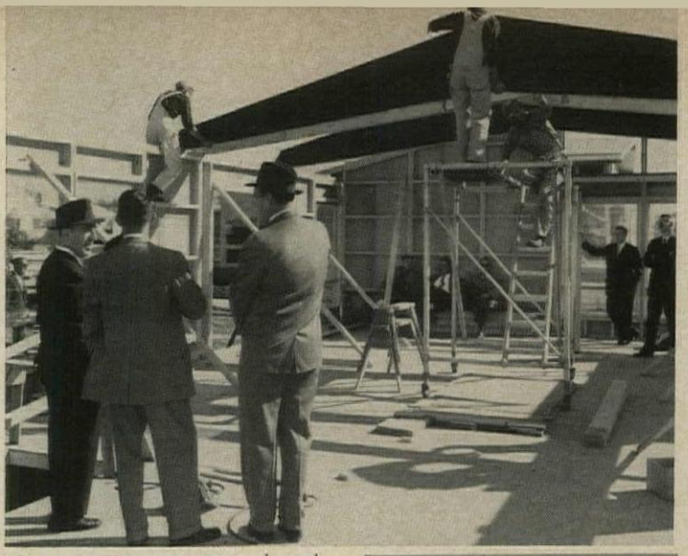
Producers use research houses to show new applications of new—and old—materials

Some houses promoted by building-product manufacturers merely substitute a new material or part for an old one. For example, the plywood box beams, used in the LuReCo-DFPA research house (top, right), were substituted for conventional trusses and solid beams. And the prefinished aluminum skin on Alcoa's Carefree House (near right) was used instead of wood or masonry—and nailed over conventional sheathing.

In other cases, modification of the construction system was necessary—or desirable—to accommodate the material. U.S. Gypsum devised a clip system to attach lath to steel studs on one of its Research Village houses (bottom, right). In the Crown Aluminum house, Architect Robert Engelbrecht designed sliding corner joints to take up expansion play in the aluminum siding as well as a new ridge venting system (bottom, left).

Some materials are applied to wholly new building systems. New steel framing was designed by Structural Clay Products Institute to support its prebuilt brick panels (far right) and by Architect Carl Koch for the Ferro porcelain enamel steel house (below, center).

A few research houses break completely away from traditional building processes. Best known of these is Monsanto's plastic house (below), currently on display in Disneyland, built of 16 cantilevered shell sections of glass-reinforced polyester.



DFPA-LURECO HOUSE showed possibilities of plywood components, led to formation of Plywood Fabricators Inc. to make them.

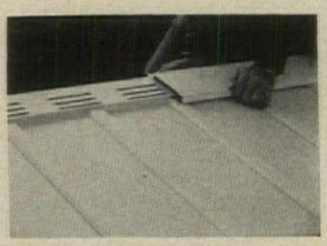
John W. Sweeney

ALCOA CAREFREE HOUSE, designed by Architect Charles Goodman, demonstrated use of prefinished aluminum siding.

SCPI BRICK HOUSE showed the feasibility of building with prefabricated brick panel sections over a steel frame.

Robert C. Cleveland

MONSANTO PLASTIC HOUSE was a spectacular demonstration of the structural possibilities of reinforced polyester plastic.



CROWN ALUMINUM HOUSE came up with new ideas—including new ridge venting system shown here—to exploit advantages of aluminum.

FERRO HOUSE was designed around the long-life qualities of porcelain-enameled steel. Material was used for both roof and siding.

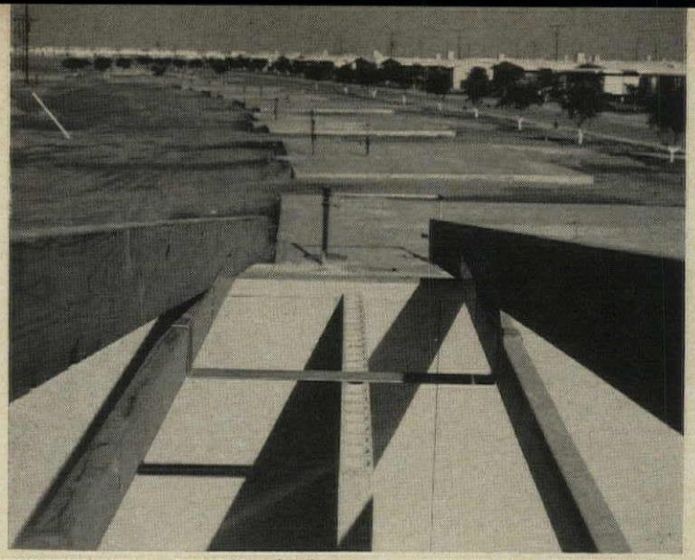
U.S. GYPSUM HOUSE mated an old building material — gypsum lath—with a new framing system of lightweight steel studs.

Hedrich-Blessing

. . . and a few builders carry out research projects right in their own houses

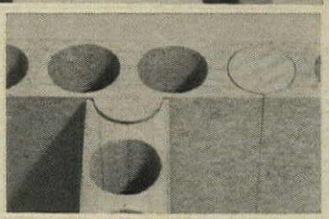
Not many can afford their own research division like Big Builder John Long of Phoenix, who developed the Cylindra-Core panel system (top, right) and whose tests of ABS plastic drain pipe provided data instrumental in persuading FHA to accept it. But a few progressive builders, trying to cut costs and improve their houses, not only field-test new ideas but also include them in built-for-sale houses. Examples:

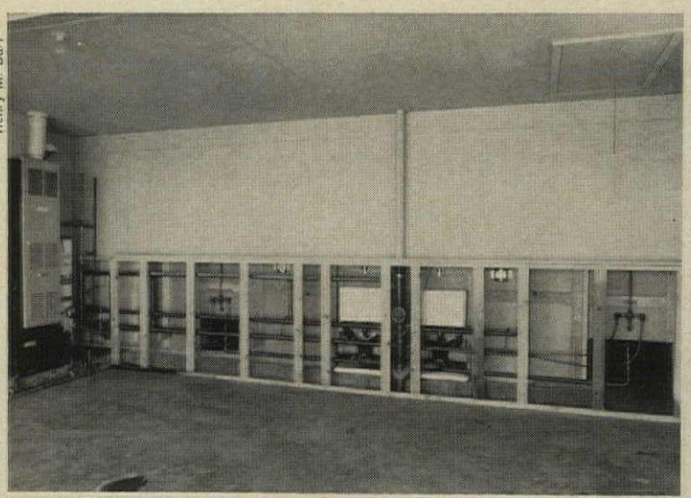
- Among TAMAP Builder Robert Schmitt's innovations is a floor plan that backs all plumbing up to the garage (center, right). No pipe goes under the slab, and the plumbing sub can complete his work in one visit.
- Builder Andy Place of South Bend pioneered the pier-and-poured-grade-beam foundation, later switched to a precast, prestressed beam that eliminated practically all of his weather-vulnerable, on-site foundation pours (bottom, right).
- Small Builder Thomas Douglas of Pittsburgh (10 houses a year) tried out Alcoa's new Alply foam-core panel, then developed an economical post-and-beam frame to accommodate it (bottom, center).
- Builder I. P. (Ike) Jacobs of Dallas attended a HOUSE & HOME Round Table on noise control, then went home and incorporated many of the Round Table recommendations in a Quiet House (bottom, left). Buyers were so enthusiastic that Jacobs has now made the sound-conditioning package standard in all his models.



Markow

EXPERIMENTAL PANELS, fabricated (and patented) by John Long, are made of sawdust, cement, and silica, joined by round splines that fit cylindrical holes (right) and adhesive. Materials is fireproof, can be worked like wood, and needs only to be painted inside and out. Metal strap braces partition.





Henry M. Barr

GARAGE PLUMBING WALL, designed by Bob Schmitt, permits house to be virtually completed before plumber comes in. Plumber enters the house only to set fixtures, then returns to the garage to do roughing and hookup. Wall is closed with removable panels, making repairs unusually simple.

SOUND-CONDITIONING was turned into a marketing feature by Fox & Jacobs, proved so popular it is now standard in F&J houses.

FOAM-CORE PANELS with factory-finished aluminum skins were used as curtain walls by Small Builder Tom Douglas of Pittsburgh.

Jay-Bee

PRECAST GRADE BEAMS (above) give Andy Place an all-weather foundation system, let him build crawl spaces at slab prices. Beams replace a highly efficient one-pour, beam-and-slab foundation which Place formerly used, and which was used in an NAHB research house (see next page).

Cloetingh & Deiman

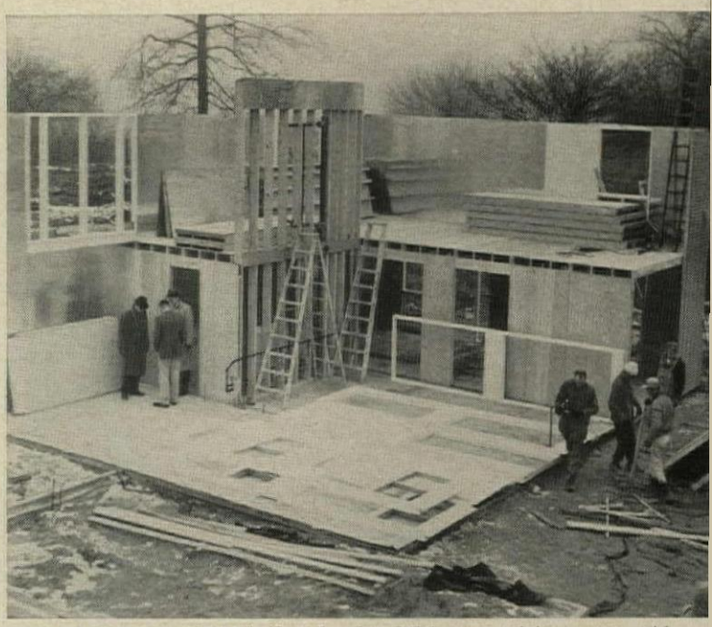
continued

Best known research houses with the broadest scope have been built by NAHB

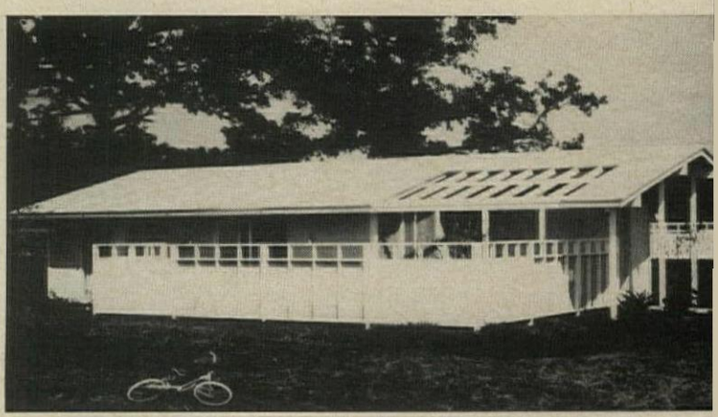
These houses have been the testing ground for innovations in every part of the house —foundations, walls, roofs, finishes, electrical equipment, plumbing, heating—as well as a showcase for hundreds of manufacturers' products. Indeed, the association's field-test research effort (of which research homes are the most eye-catching part) has grown to be a major contribution to speeding innovation in housing.

NAHB's early research houses were relatively limited in their aims. The 1952 Trade Secrets House (below), co-sponsored by LIFE magazine, concentrated on trusses and built-ins; the 1958 Nail House, a joint effort with Virginia Polytechnic Institute, tested a wide variey of special-purpose nails; and the Air Conditioned Village houses (*p. 87*) were built just to check cooling installations and costs.

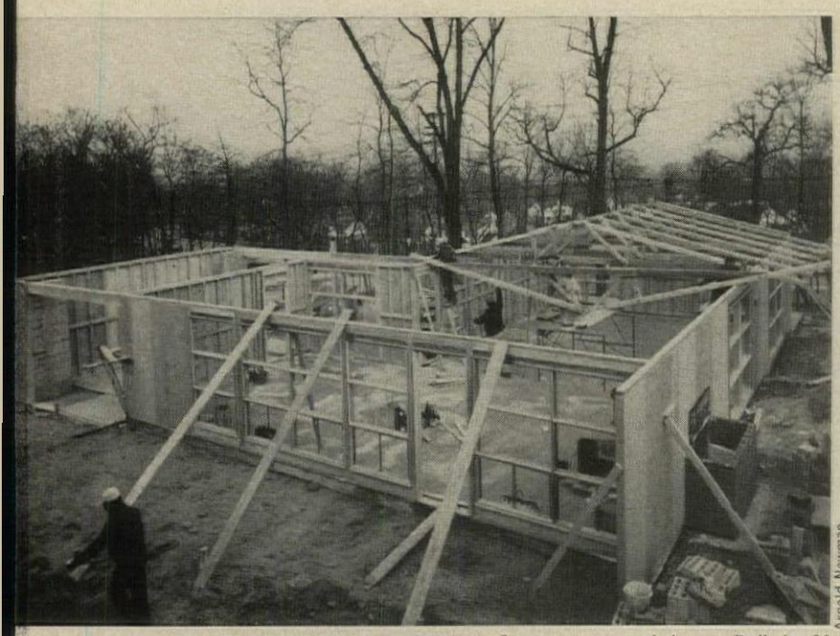
But beginning in 1957, NAHB built five research houses which have been virtually unlimited in their exploration of new products, new systems, and new ideas. Some of the more important contributions are shown on these pages. In addition, NAHB has used the houses in its continuous quest for: 1) foundations that can be built in winter as easily as in summer; 2) plumbing and electrical systems that can be installed by subs in a single visit; 3) prefinished components that reduce site finishing and buyer maintenance; 4) big pre-assembled parts that speed up the on-site building process.



1959 RESEARCH HOUSE in East Lansing, Mich., was a joint venture with Michigan State University. It was completely panelized, including two-story wall panels, a plumbing wall panel with plastic drain pipe, and cement-asbestos-faced foam-core panels instead of a concrete slab.

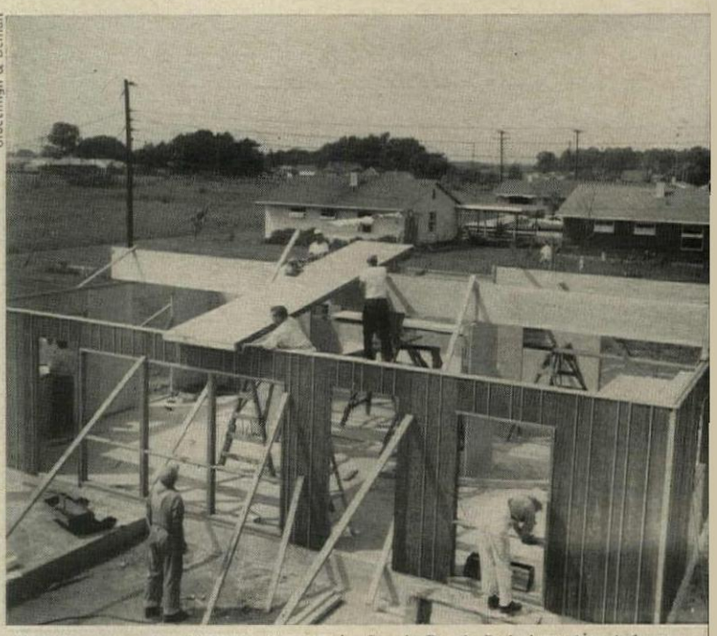


1958 RESEARCH HOUSE in Knoxville, Tenn., is probably the most handsome built by NAHB. Roofing is vertical strips of aluminum with factory finish. Other innovations included plastic drain lines, a plug-in wiring harness, pre-wired wall panels, and an aerobic sewage system.



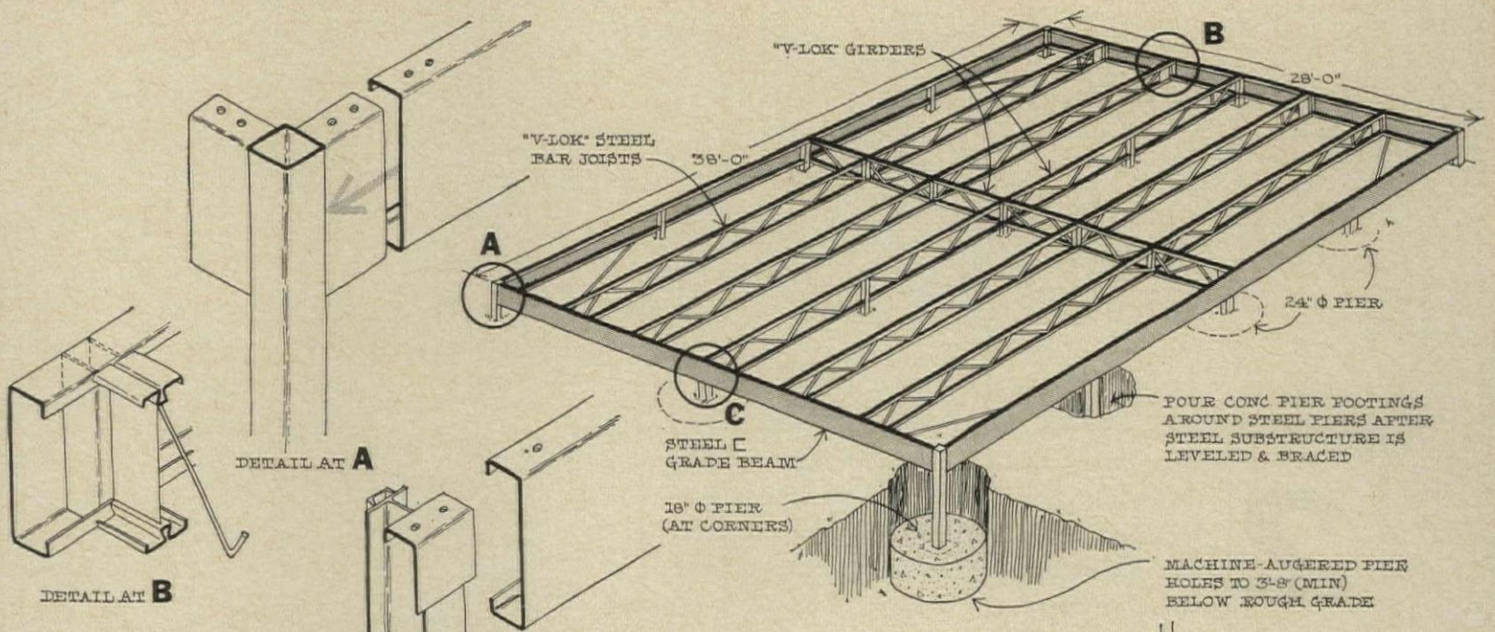
Arnold Newman

1952 TRADE SECRETS HOUSE was first NAHB research house. Built by 23 builders in 14 states, it introduced buyers to many of today's standard techniques: trusses, non-load-bearing storage walls, perimeter-loop heating, big window areas, open planning and the family room.

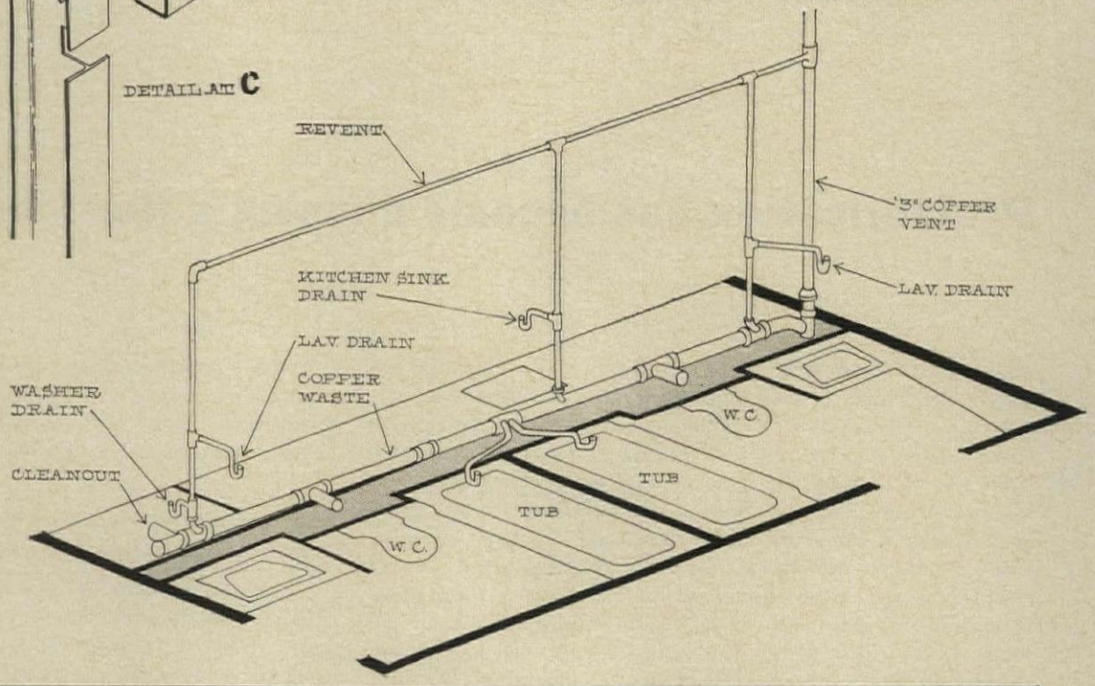


Cloetingh & Deman

SECOND 1958 RESEARCH HOUSE in South Bend, Ind. introduced foam-core panels for roof, walls, and partitions; deep plywood box-beams for roof girders; and face-mounted, ceiling height doors (which Builder Andy Place tried in his own houses, rejected because buyers objected).



LIGHTWEIGHT FOUNDATION of steel bar joists and box beams was introduced in the 1963 research house at Rockville, Md. Other features: a 1½-story truss, sheet-plastic-covered Bermuda roof, molded plastic bathroom and fixtures, and plastic waste and supply pipe.



ABOVE-SLAB PLUMBING and wall-hung toilet were innovations in the 1957 house at Kensington, Md. Another now-standard product was a furnace mounted next to the wall, with a through-wall, slip-in duct connection for the cooling compressor unit.

NAHB'S RESEARCH INSTITUTE: PIPELINE FOR PROGRESS, TECHNICAL ATTACKER OF THE COSTLY STATUS QUO

The Institute is best known for its research houses. This is natural, for not only are research houses its most spectacular work, but they grow out of the Institute's original aim —field testing products and systems for manufacturers. Today, the Institute runs three other technical programs which, although less widely known, may well grow to have more impact on the housing industry. Indeed, if even a sizeable slice of the Institute's plans come to fruition, it could easily become not only NAHB's No. 1 activity, but a strong lever for shaping housing's technology. Items:

1. In 1955, the Institute began helping manufacturers develop new products—some only in the idea stage when first discussed with builder-members of the Institute and its staff. More than 400 manufacturers have availed themselves of this service and while many of the fruits of these discussions have yet to appear in the market place (the talks are held in secrecy,) the tangible results have been impressive. They include machine stress-rated lumber; preformed, single-skin, textured siding material; Potlatch's Plylumber flooring; Simpson's pre-sawn redwood plywood; foamcore steel exterior doors; and wall-hung toilets.

2. In its own laboratory in Rockville, Md., the Institute does basic research and sells testing and engineering services to materials producers (the latter at a tidy profit). The Institute makes grants for work done in other laboratories.

"Our laboratory is an outgrowth of the need to establish a scientific basis for the industry," says Ralph Johnson, director of NAHB's research and technology division, "when you start engineering a house, instead of building it the way it's always been done, you need facts—mathematical criteria."

One down-to-earth result of the laboratory's work was proof that bridging added nothing to the strength of floor decks. FHA subsequently approved the elimination of bridging, and the major code groups are considering the same step. The bridging study cost the Research Institute $30,000, could ultimately save the industry $20 million a year.

(Another and potentially even more important project, now under way in the laboratory of the National Bureau of Standards, is financed by the Research Institute. A study of plumbing pipe, it includes an investigation of how much costly venting is really necessary for a drain and waste system.)

3. An industrial engineering program has recently been set up, largely as a result of widespread interest in the TAMAP houses. "This may be the most important of all the Institute's undertakings," says Johnson. "So far, we've barely scratched the surface of what we can do to improve building efficiency and productivity."

continued

2 Home manufacturing has been growing by leaps and bounds, chiefly because manufacturers have learned to adapt assembly line methods to non-standardized houses. Since others have followed their lead. . .

Prefabrication has become housing's No. 1 building method

Something close to 20% of all one-family starts this year will involve the output of some 750 home manufacturers. And virtually all of the other 80% of houses—though built by conventional builders—will be built with at least some prefabricated parts.

For example: more and more builders use prehung doors and windows, trusses, and prefabbed staircases. Of the 20,000 major retail lumber yards in the U.S., 12,000 are supplying components to builders. Precutting firms like Madway Main Line of Philadelphia and Albee Homes of Miles, Ohio have moved into component building and home manufacturing. Builders like South Bend's Andy Place, who have long had efficient on-site operations, are now buying components or building their own off-site. Other builders, like Dallas' Ike Jacobs, have become full-fledged home manufacturers selling to other builders.

The biggest reason prefabrication is growing is that it no longer implies standardization

Indeed, in some prefab plants it is literally true that no two identical houses ever come off the assembly line.

This does not mean that the industry has retrogressed, but rather that it has developed more sophisticated production processes. Home manufacturers are using cost-cutting automated tools like those shown on the facing page to produce what the market wants: individuality. Kingsberry Homes, for example, sells well over 100 different models, and each model can be varied. Nor has this variety been achieved at the cost of production efficiency. Kingsberry has cut its prices 17% in the last three years, while residential building costs have risen about 3%.

Key to this "variety with efficiency" is the standardization not of the whole house, but of parts of the house that do not have high "sales visibility"—trusses, roof sizes, some wall sections, doors, floor systems, and windows. This compromise lets home manufacturers keep their costs in line and at the same time add quality to the product.

Conventional builders who have been adopting and adapting the tools of the home manufacturers have maintained this same flexibility while benefiting from the cost savings of prefabrication. Since they started from the complete flexibility of conventional construction, they have moved into prefabrication only to the extent that it makes market sense for their areas and price classes.

There are other reasons why the home manufacturers' share of the market is moving up

1. More and more builders in today's competitive market want the services that most home manufacturers provide: market surveys, whole catalogues of design to choose from, advertising budgets, bookkeeping, sales help, and mortgage financing.

2. Like many of today's successful builders, home manufacturers have diversified their lines to include motels, nursing homes, schools, dormitories, row houses, garden apartments, shell housing, mobile homes, and odd-lot custom housing.

The profits in home manufacturing can be great. One home manufacturer had, in his last fiscal year, a net return of 75% on invested capital. In the same year, the top return among FORTUNE's top 500 companies was only 37%.

The biggest news of the year within the industry was Alside Homes' revolutionary house and marketing plans

Alside entered the market in September with a brand new panel construction system (*p. 99*), a fully automated plant—capable of turning out 15,000 contemporary houses a year (H&H, Oct.) and a sales approach aimed primarily at the odd-lot market. The company now has seven sales centers operating in Ohio and Michigan, but so far is keeping its sales figures a secret.

Besides this, there was little startling. National Homes, Kingsberry, Pease, Inland, Arbor, Continental, US Steel Homes, Scholz, Hilco Concord and Great Lakes were in the top spots. Great Lakes brought off the only significant acquisition of the year when it bought Don Dise's Craftway, and Place Homes. Crawford Homes bought 28.6% of Inland's stock, and placed three men on Inland's 11-man board.

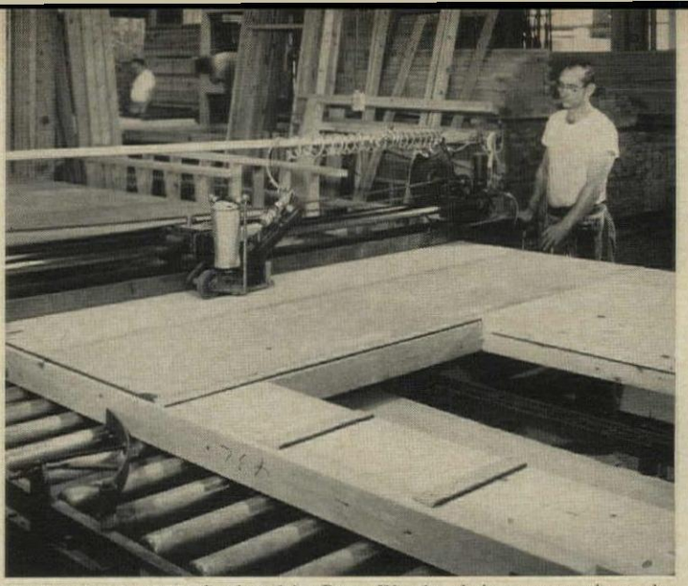
Home manufacturers are cutting their labor costs with more fast and flexible machinery

"If a home manufacturer can save $100 a house by adding $50,000 worth of machinery, it's simple arithmetic that he can pay for the machines over just 500 houses," notes Romer Good of Morgan Machine Co., which sold Arbor Homes its labor-saving equipment. "Put another way," says one manufacturer, "you can afford $1 million in new machines if you can do with just 15 fewer men in the plant over a 10-year period."

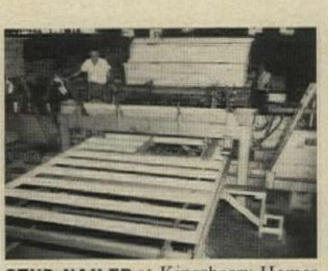
In 1959, Arbor Homes of Waterbury, Conn. was producing about 400 houses per year—each one different, fabricated by hand on big tables. Today, in the same 25,000 sq. ft. plant and with the same size workforce, but with machines (see opposite) that automate production of walls and roofs, Arbor produces about 1,800 houses per year. Each one is still different.

The pattern of invesment in plant varies among most major home manufacturers from a low of about $500 per house produced every year to a high of $1,000. On an average, total investment for home manufacturers in plant and equipment is less than $500,000, and the investment in machinery runs less than $200 per employee.

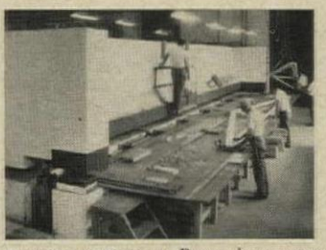
Alside Homes' investment is well above these averages. To produce its steel frame, foam-core sandwich panel houses (see *page 99*) it has invested $7½ million in plant and equipment—including about $20,000 per man in highly automated panel presses and metal finishing lines.



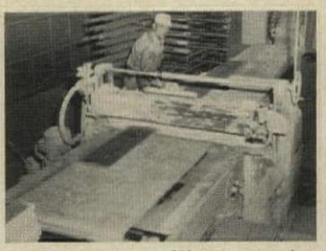
TRAVELING NAILER developed by Pease Woodwork is a pneumatic stapler mounted on a panel-saw frame. Machine can be set up to drive staples 3", 6" or 12" o.c. Tripping lugs under table automatically position gun over studs. Machine cost only $1,400, does work of 20 men hand nailing.



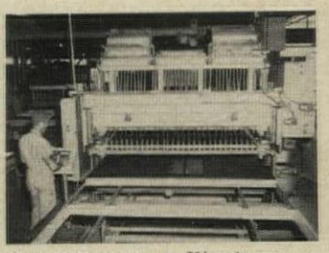
STUD NAILER at Kingsberry Homes completes the wall frames for 15 houses per 8-hour shift. Studs feed automatically from stack at rear.



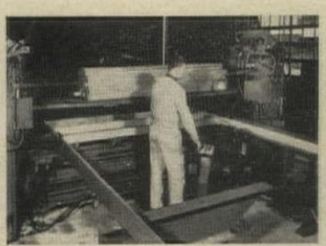
TRUSS PRESS at Pease is a mass of concrete operated hydraulically by a 3-hp. motor. Time per truss: 10 man-minutes.



FLOW COATER at Kingsberry prime finishes 150′ of lumber per minute It cost $6,000 and paid for itself in a year's time.



MULTI-NAILER at Kingsberry can drive 29 sheathing nails at a time, can handle walls for 15 houses per shift.

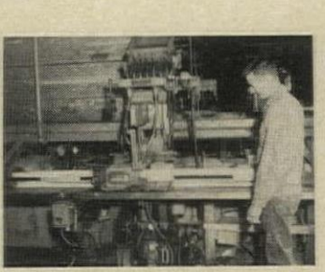


FRAME NAILER at Arbor Homes, operated by one man, nails plates and studs for 2,500 feet of wall per 8-hour shift.

TRUSS MACHINE at Inland Homes positions and drives plates on both sides of truss. Time per truss: 2½ man-minutes.

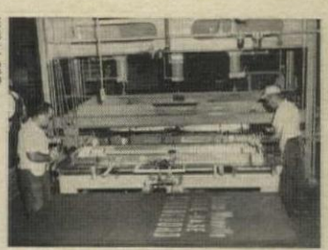
GLUE SPREADER at National Homes applies glue to sheathing (to receive aluminum siding) at a 1′ per sec. rate. Cost: $6,000.

Albini



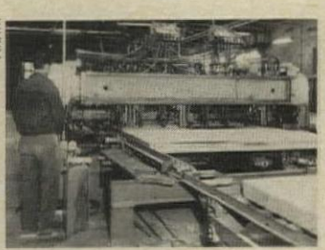
COMPONENT NAILER at Arbor Homes drives 16d nails to make headers and corner posts, lets one man do the work of five.

Gus Frank

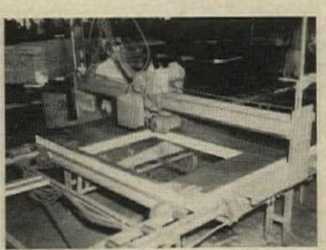


BARB PRESS at U.S. Steel Homes exerts 75 tons of pressure to press sheathing onto the barbs punched into face of steel studs.

Albini

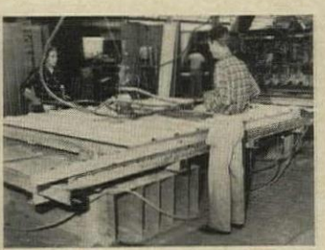


SHEATHING NAILER at Arbor Homes drives ten 6d nails at a time; lets one operator sheath walls for 10 houses per day.



TRIMMING SAW at Kingsberry Homes, operated by one man, automatically trims sheathing at the rate of 15 houses per day.

Phillips

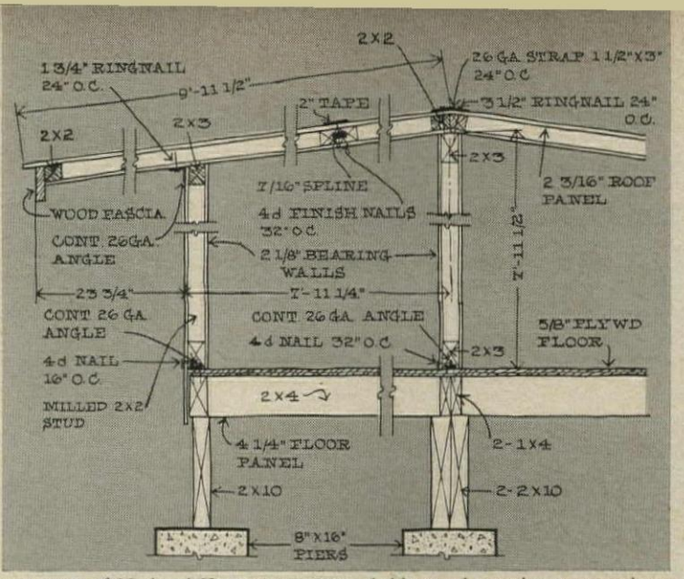


PANEL ROUTER at National Homes lets two men route out window openings through siding and sheathing in just five seconds.

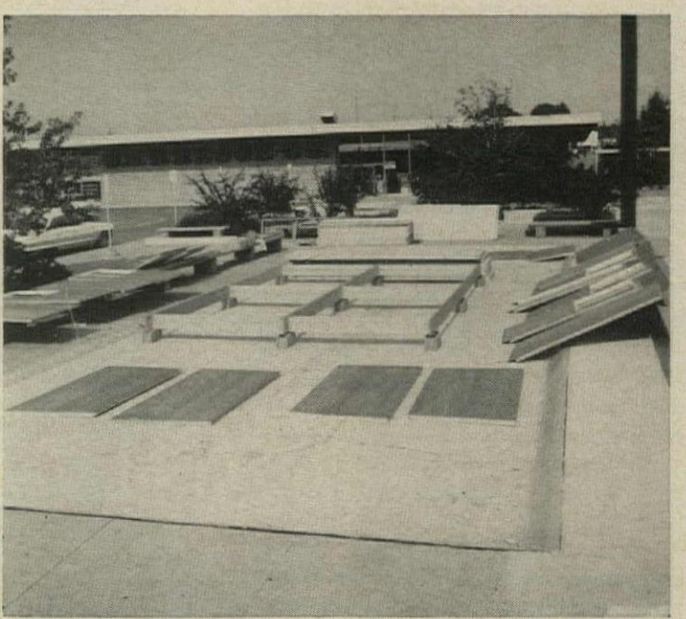
continued

Stressed-skin panels are coming back in manufacturers' low-low price houses

In the late 1940s and early 1950s, modular stressed skin panels—plywood skins glue-nailed to lumber framing—were the hottest item in housing technology. By the early 1960s they had all but faded away. There were two reasons: 1) The cost per sq. ft. was higher than conventional construction; 2) they were too small—manufacturers found it just as easy (and cheaper) to frame wall-length components. Now, National Homes' new vacation cottage (see drawings and photos this page) has stirred up new interest in these panels. The reason: Very few builders or manufacturers have been able to crack the big vacation house market in any volume because they could not handle the logistics—getting men and big components in and out of the woods at a profit to build a house for a price a buyer would pay. National Homes seems to have solved the logistics and cost by going to stressed skin panels with inexpensive 2x2 framing. This panelized structure has proved strong and rigid (though it would not be accepted in most code areas) and the panels for the small (384 sq. ft.) house are light enough to be hauled on a trailer behind a passenger car. The erection process (see photos) is so simple that a house can be assembled from the piers up by two men in four hours. Cost of the panel package is only $1,500—and National provides $75-down, seven-year consumer financing.



SECTION of National Homes' new stressed-skin-panel vacation cottage shows the simple way walls are toenailed to floors and roof panels are nailed to a metal angle at the head of the wall panels. Panel faces come unfinished, but the outer skin is cedar plywood.



FOUNDATION SYSTEM is simply nine concrete blocks or piers, topped with precut 2 x 10s to support the stressed-skin floor panels. Wall and floor panels—shown here ready to be placed on the double 2x10 foundation beams—are light enough so one man can handle them easily.

WALL PANELS have a kerf in their bottom edge so they can be easily positioned on galvanized tees nailed to the floor.

ROOF PANELS—which are plastic-surfaced—are set as soon as the center bearing partitions and archway are in place. The 384 sq. ft. of living space is divided into two bunk rooms, a living-kitchen room, and a bath area. No mechanical components are furnished with the $1,500 package.

ANGLE of galvanized steel is nailed to top of wall and underside of roof to anchor roof to cedar-plywood wall surface.

TOE NAILING fastens wall panels to floor. Vertical panel joints are made by toenailing each panel edge to a spline.

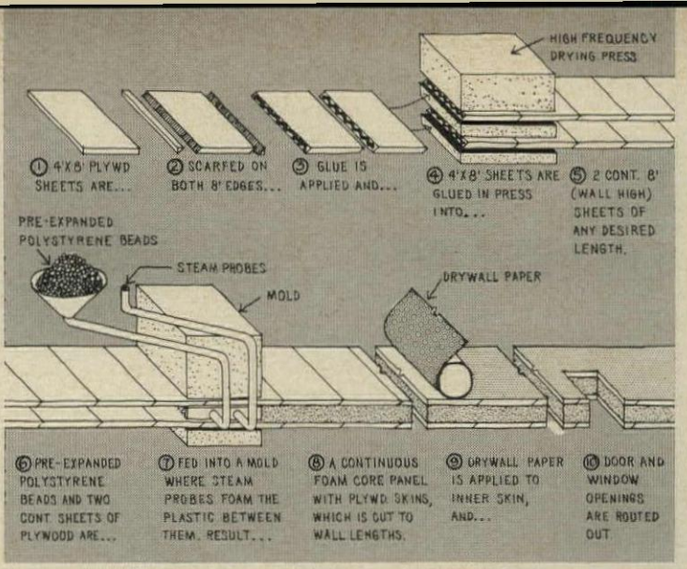
TAPE is hand applied to plastic surfaced roof panels to seal the joints — finishing the job. No further roof finish is necessary.

Foam sandwich panels are now used by one manufacturer—and the breakthrough looks near

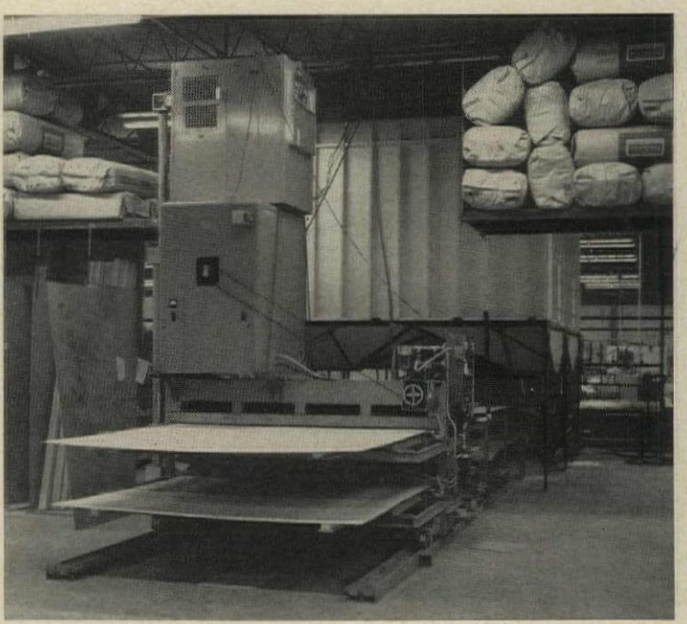
General Homes of Fort Wayne, Ind., has —with its house-length, jointless wall and roof panels—one of the most advanced panel systems. The diagram and pictures on this page show how the big plywood-skin, foam-core sandwich panels are made. Says General's president, William B. F. Hall: "The cost comparison between this system and site work is impressive. It takes over 500 manhours to build the walls and roof of a framed house on the site. To make and erect the same parts of a conventional [wood-framed] prefab house can take as little as 200 manhours. This system lets us do the job—with sandwich-panel walls and framed, panelized roof—in about 100 manhours."

Prices of the houses? "Competitive," says Hall, "with any other acceptable system in our marketing area." General—one of the last home manufacturers to abandon the 4′ stressed-skin panel—adopted its new house-length panels when Koppers (which developed the panel system back in 1958 and got FHA acceptance of it in 1959) bought a half-interest in General Homes last year.

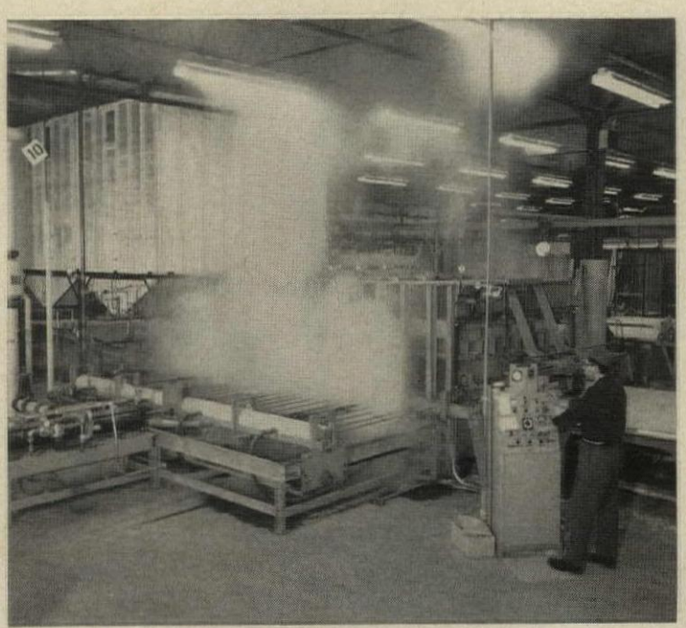
The new houses come to the site with wiring and plumbing lines already installed (in panel-edge chases) and ready for hook-up, with windows and doors in place and with kitchen cabinets on the wall. A special 44′ tractor-mounted crane is used to position the big wall-length panels on the slab.



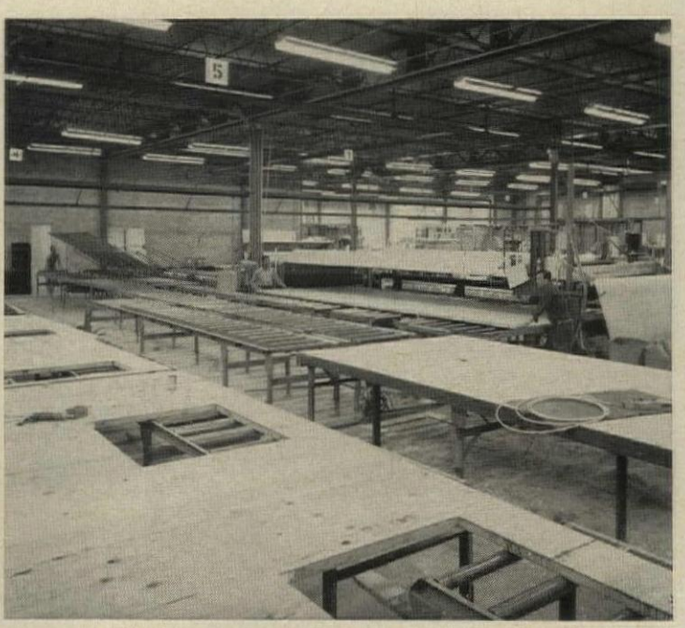
SCHEMATIC DIAGRAM of General Homes' Laminite process follows 4x8 sheets of plywood through plant as they are made into wall-length sandwich panels. Photos below show some of plant's equipment. This process, developed by Koppers, turns out walls for eight houses a day in General's plant.



HIGH-FREQUENCY GLUEING MACHINE glues scarfed 8′ edges of plywood in seconds. From here, the plywood—now in continuous sheets 8′ wide—moves to the panel press at rear where styrene is foamed to create the core. Bins store styrene bead.



FOAMING PRESS is operated by one man at control console at right. Two plywood sheets are fed into press. Then: 1) pre-expanded styrene beads are blown between them, 2) steam probes (lower center) are inserted, 3) steam expands the beads fully, 4) probes are withdrawn and 5) panel is complete.



PAPER SURFACE is glued to wall-length panel in machine at rear center. Paper is standard drywall paper, glued on with linoleum paste. Door and window openings are routed out and panel is turned over (see panel flipper at left rear) so window bucks can be set.

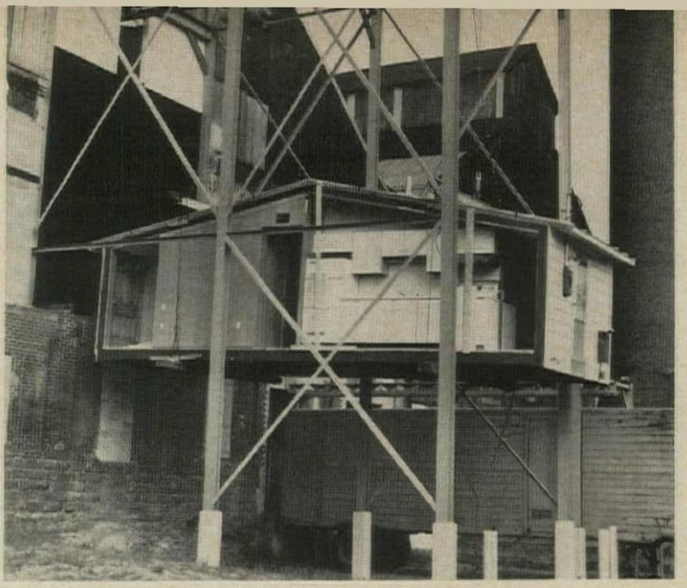
continued

New sectionalized houses could carry prefabrication to its logical goal

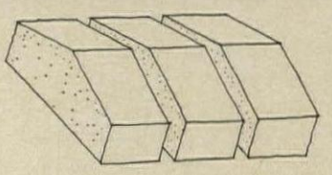
"Most of us are putting too little value into the house package," says one home manufacturer, "because we're still making only the cheapest part of the house in the plant. The expensive jobs—finishing and mechanical work—are still being done in the field."

In theory, sectionalized houses are the answer because they are fully finished in the factory under controlled conditions and simply trucked to the site in one or more loads. Furthermore, as Ohio Manufacturer John Slayter points out: "There's a lot more saving in them than just the reduced site work. You don't need any interim financing, and these houses are ideal for scattered lots where you risk losing money if you don't get in and out in one day."

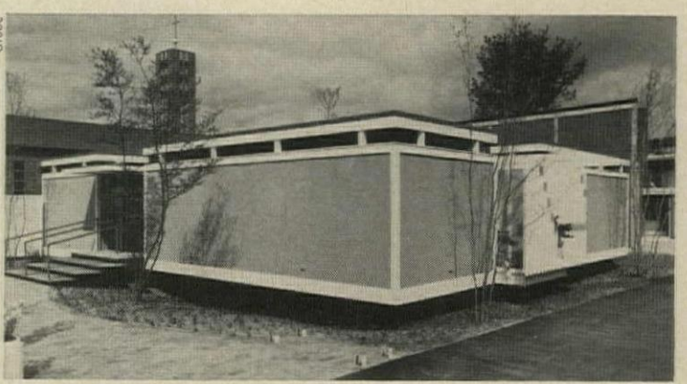
In practice, sectionalized houses still face problems. The biggest problem is size —most states limit trailer-load widths to 10′. A second big problem is inflexible design—largely the result of standardization. A third problem: In the field it can cost $250 a day to rent a crane; but in most odd-lot work the crane can set only one house a day. Some attempts to solve the size and design problems are shown here. Others include telescoping units, unfolding units like the Defense Department's relocatable house (H&H, Mar.), and hinged units in which the ends of a 60′-long section swing in to form a U-shaped house. For another example, see opposite.



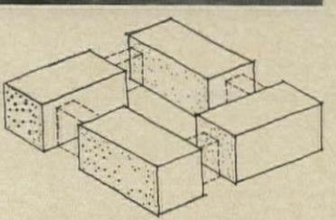
TRANSVERSE SECTIONS, instead of longitudinal sections, permit expansion of house to any length in this experiment by John Slayter, Newark, Ohio (H&H, Feb.). Welded steel channel frames 4′ o.c. surround the 12′-wide prefinished sections.

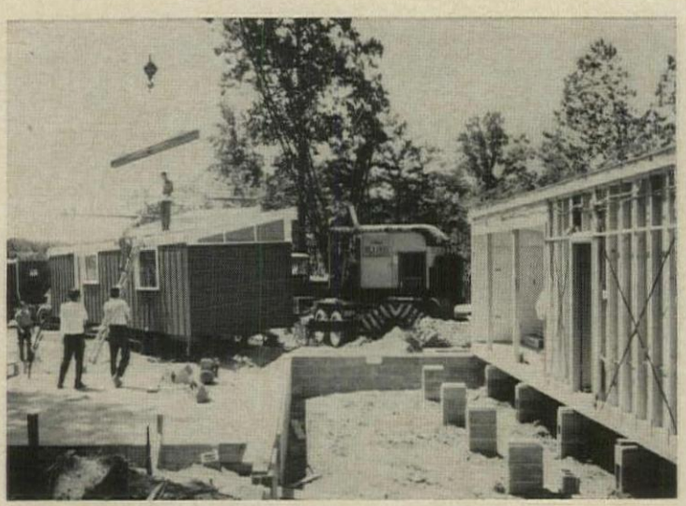


Globe

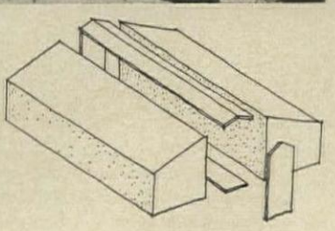


SELF-CONTAINED MODULES in house designed by Architect Robert Engelbrecht for U.S. Plywood at the Seattle World's Fair (H&H, June '62) can be set in line, around a court, or in any other arrangement for a wide variety of floor plans.





SIDE SECTIONS, completely finished in the plant, flank a panelized, drop-in center section in this pilot house by innovator Carl Boester. This idea solves the problem of over-the-road loads wider than 10′ (which are prohibited in many states). Side sections are 10′ wide; center section is 4′ wide.



FLOOR PANELS are dropped into center of Boester model after side sections have been set on foundation and piers.

FRONT-DOOR PANEL fits so precisely into center section it has to be dropped plumb into framed slots on the side sections.

. . . but the all-factory-built house has so far paid off for only a few companies

One of the few is Ralph Lester's Continental Homes of Boones Mill, Va. Continental introduced its Uni-Structure houses last January, has since sold 82, and expects to sell 400 in 1964.

Finished on the buyer's foundation, a 38′ x 24′ model costs the builder $7,090; a 44′ x 24′ model, $7,990. In Richmond, the larger model with a $1,500 lot and a $1,000 basement is the equivalent of a $15,000 conventionally built house.

Why are Lester's houses a success? There are five reasons—some meaningful to all sectionalized-house manufacturers and others peculiar to his operation and location.

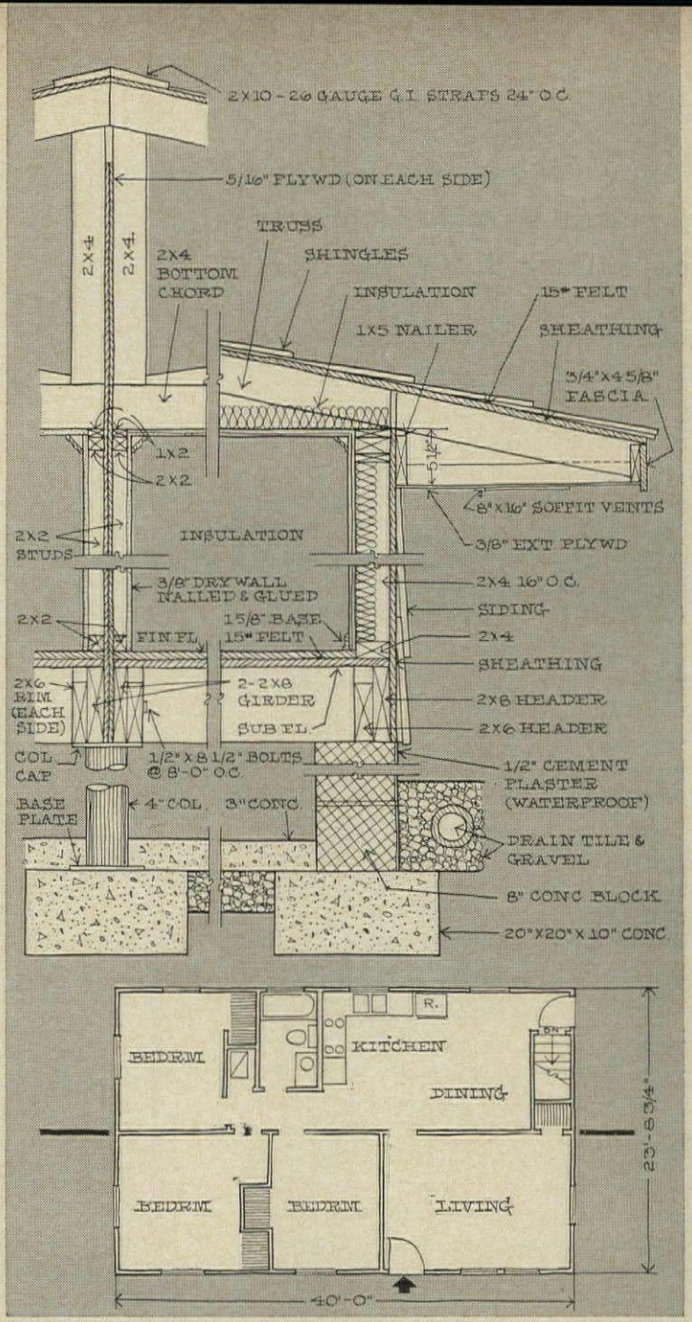
1. In transit, sections don't buckle because they are sheathed with plywood on the interior sides (details, right).

2. Positioning and joining the halves on the foundation takes four men only 1½ days. No crane is needed (photos, right). And joining simply involves placing door stops (plan, right).

3. Lester has obtained special permits to haul 12′-wide sections over some highways at specified times. Cost of a 200-mile haul: $250.

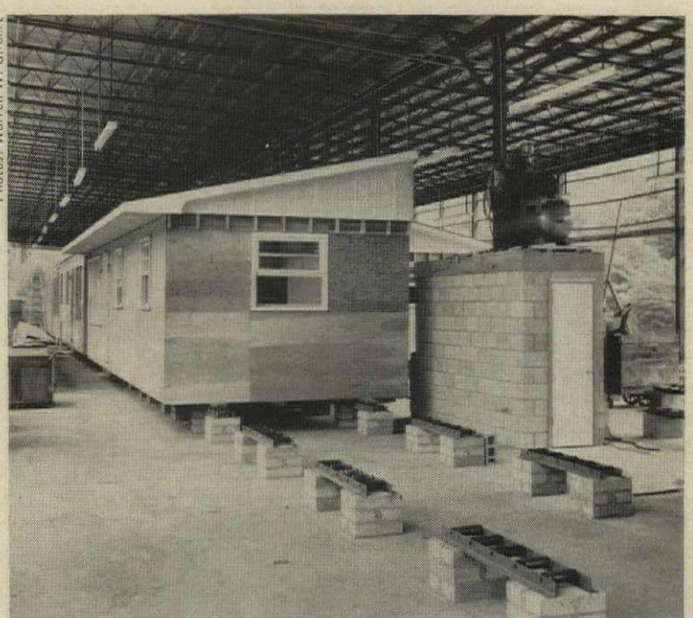
4. Lester cuts his materials costs by producing lumber in his own mill.

5. Most Uni-Structure houses are sold through odd-lot builders in rural areas where codes, if they exist, are far more lenient than in cities or suburbs.

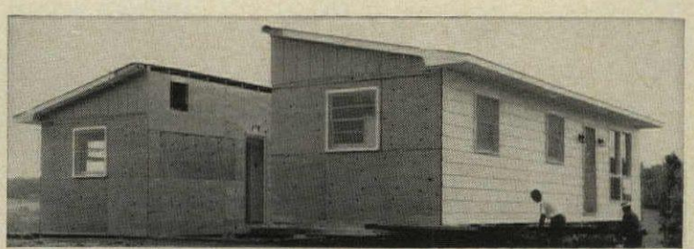


DETAILS of Uni-Structure show how the two sections of the house join in a double-framed (with 2x2's) wall with two plywood skins in the center. These center skins and the plywood wall sheathing make each house-half a strong stressed-skin box beam, minimizing racking in transport.

Photos: Warren W. Gilbert



IN FACTORY Uni-Structure half section moves on rollers, foreground, through eight work stations. After three to four hours at each station, section emerges fully finished—except for aluminum siding on ends, which is field applied to hide the joint between the sections.



READY FOR POSITIONING, the near section of the house has been jacked up off the six-wheel trailer that carried it to the side of the foundation. Steel beams—on which the house half rolls into position—are set on jacks across the foundation and perpendicular to the house section.

MOVING INTO POSITION, section has been lowered to rest on rollers on the steel beams. It is then pushed into place against the other half. Next, the section is raised on the jacks, beams are removed, and the section lowered to exact position. System takes about 12 man-hours, eliminates crane.

continued

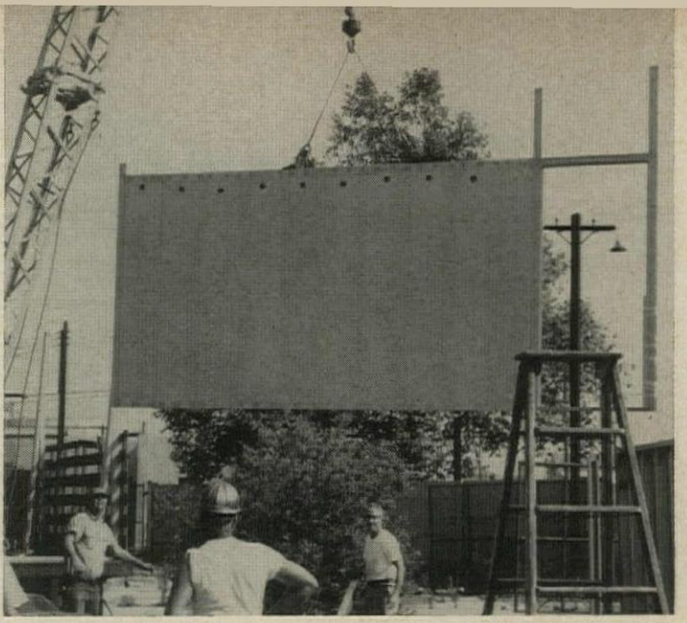
New steel systems are groomed by manufacturers for a place in the market

Here are three examples—all unveiled in the past year:

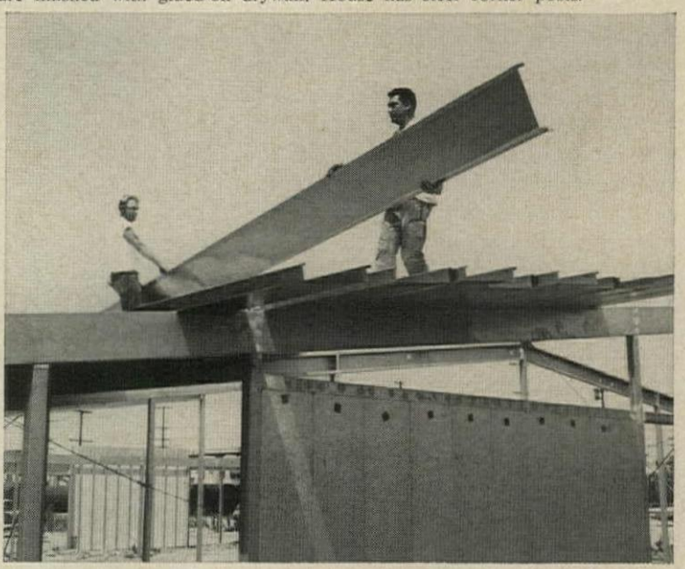
1. At the right is a system developed by Rheem Manufacturing's Rheemetal Building Division in Los Angeles and U.S. Steel for a retirement community with 156 two-bedroom units and 96 single-bedroom units. Its basic components are 1) long steel pans (bolted together to form load-bearing wall sections and the roof), 2) steel corner posts, and 3) steel roof beams.

2. Below is Armco Steel's system (H&H, Feb.) with wall panels and framing members similar to those made by Rheem. Armco has set up a subsidiary, Techbuilt Products Inc. in Middletown, Ohio, to sell both houses and components. Says William Witthe of Armco's market development division: "With a system like this, our tonnage of steel in houses could go from 450 this year to 96,000 in 1970."

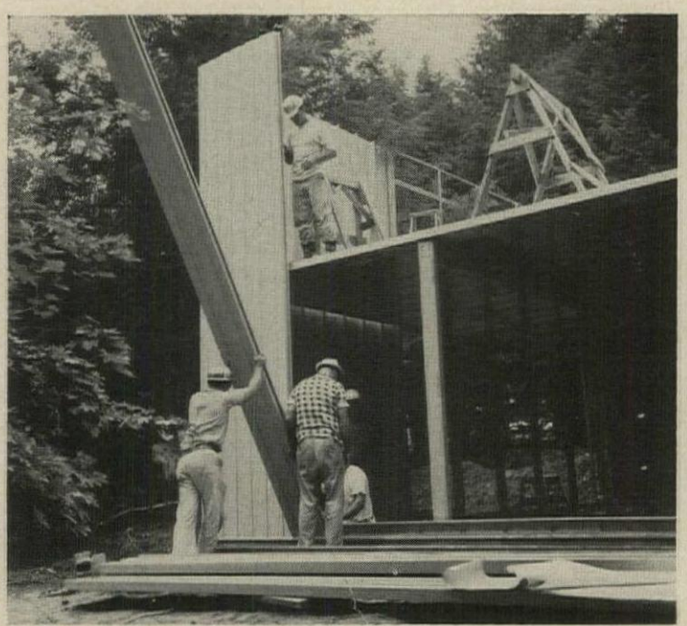
3. On the facing page is Alside Homes' new system—steel framing filled in with non-bearing sandwich panels and window walls. Alside offers 22 models at $18,000 to $40,000. Its 1964 sales target—a whopper for a new product—is 10,000 houses. To hit this target, Alside will focus on odd-lot house sales from retail display centers in key areas. Akron-based Alside Homes is a subsidiary of Alside Inc., the nation's largest aluminum-siding manufacturer.



RHEEM WALL PANEL is set on slab at California Builder Irving Kahn's community. Panel is made up of steel pans 16″ wide, 3½″ deep, and assembled with flat sides out. Inside, insulating batts are set into pans. Walls are finished with glued-on drywall. House has steel corner posts.



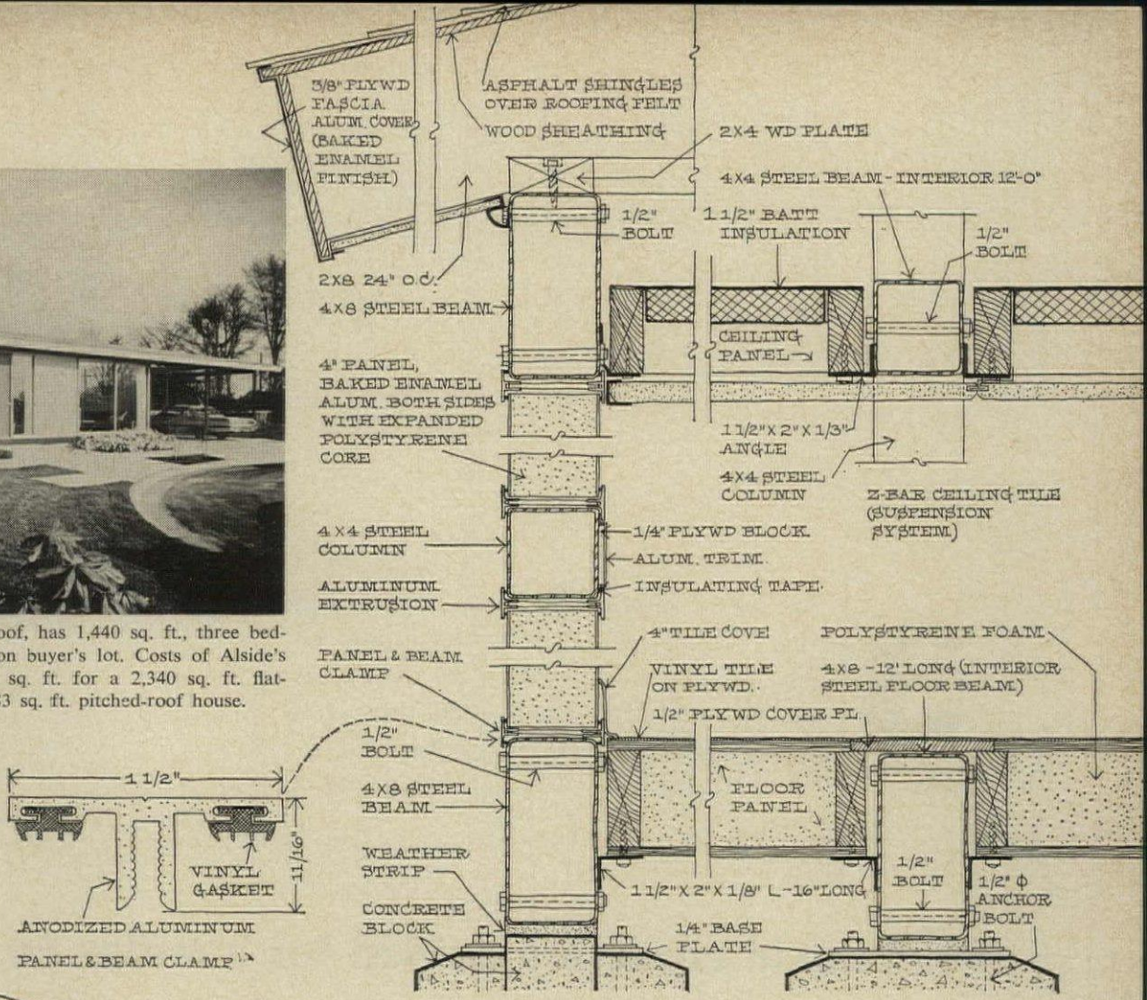
RHEEM ROOF PANS—same as those in walls (above)—are placed on steel beams with flat sides down. Insulating batts are laid in pans and topped with plywood deck. Three men can erect the shell of a three-bedroom, 1,400 sq. ft. house in 32 man-hours, finishing takes 64 man hours.

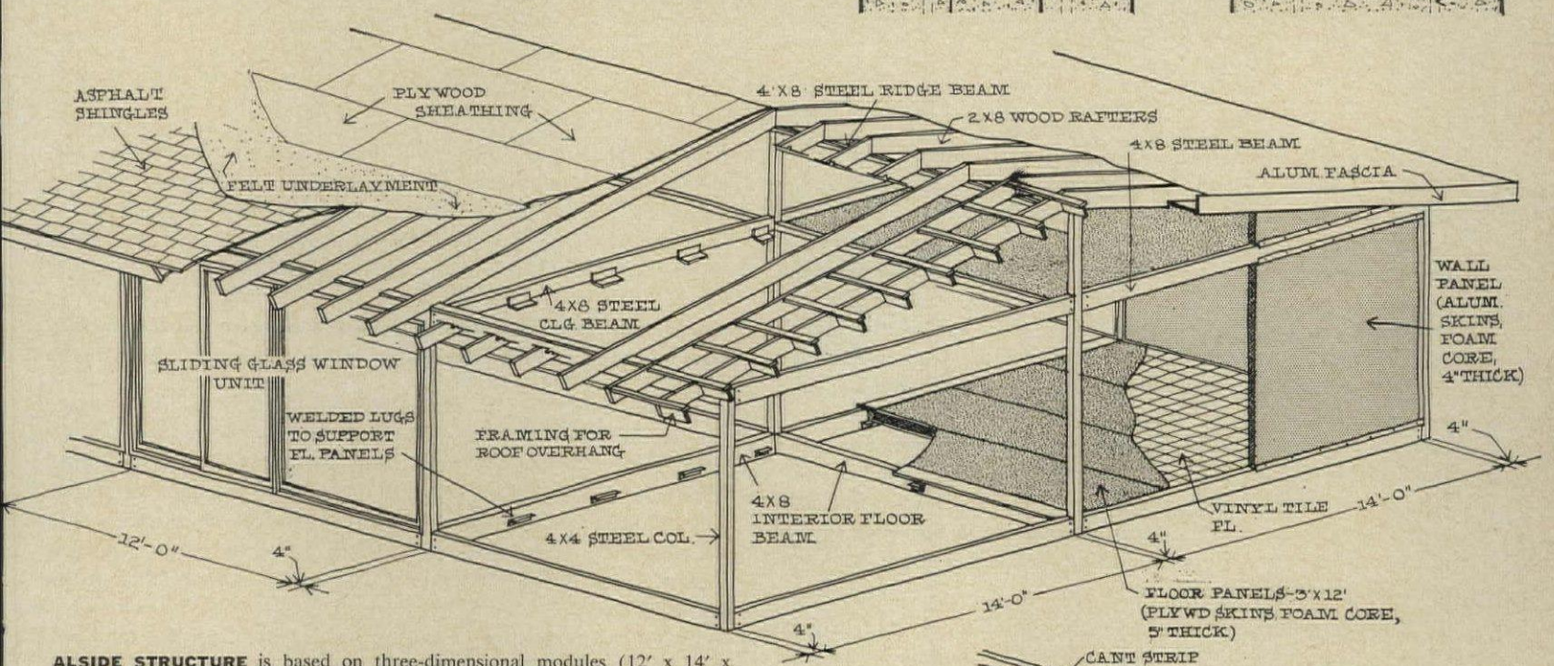


ARMCO WALL PANELS—steel pans like those in Rheem system (above)—are 16″ wide and two stories high. Similar pans 3″ deep form the floor; plywood subfloor is laid across the upright edges of pans. Like Rheem walls, Armco walls are finished with insulating batts and drywall.

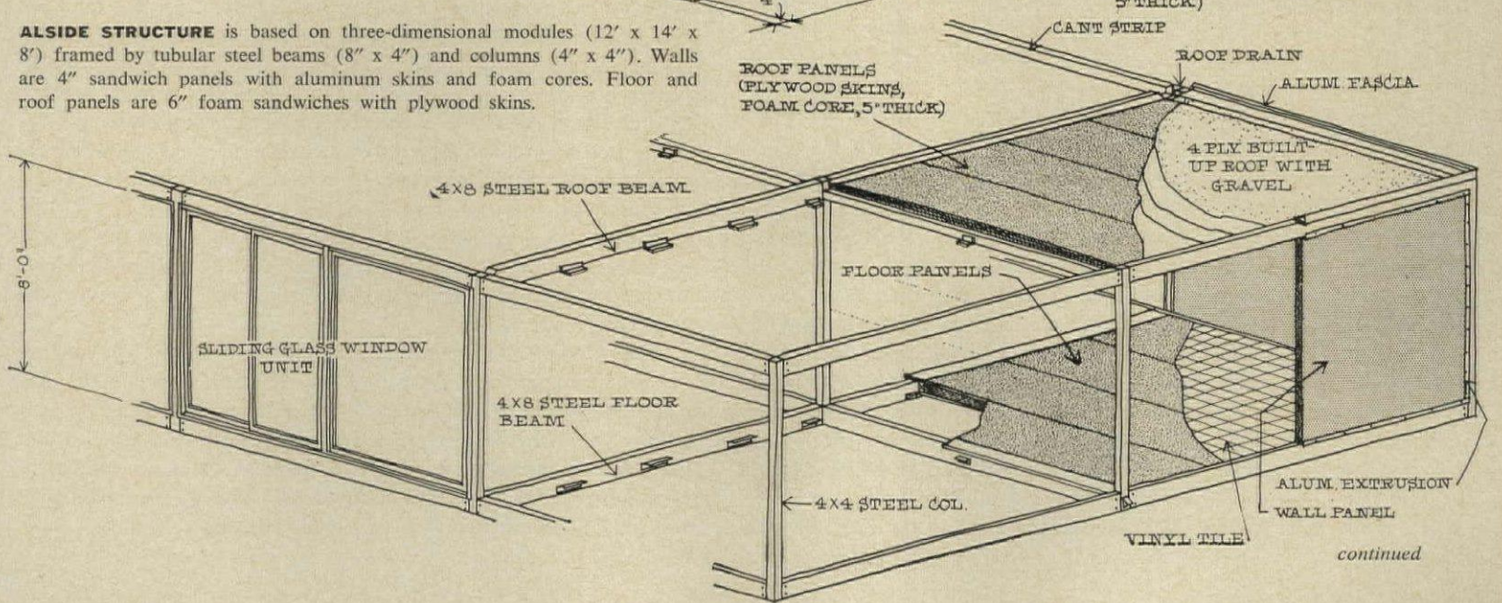
ARMCO ROOF PANELS are ridged pans 24″ wide and 2″ deep, rest on a complicated framing system of lateral and longitudinal trusses. The pans themselves form the roof surface. The prototype house being erected above and at left was designed by Architect Carl Koch.

ALSIDE HOUSE, this one with a pitched roof, has 1,440 sq. ft., three bedrooms, two baths. It will sell for $17,000 on buyer's lot. Costs of Alside's steel-framed houses run from about $11 a sq. ft. for a 2,340 sq. ft. flat-roof model to about $13 a sq. ft. for a 1,083 sq. ft. pitched-roof house.





ALSIDE STRUCTURE is based on three-dimensional modules (12′ x 14′ x 8′) framed by tubular steel beams (8″ x 4″) and columns (4″ x 4″). Walls are 4″ sandwich panels with aluminum skins and foam cores. Floor and roof panels are 6″ foam sandwiches with plywood skins.



continued

3 For years innovators have tried—with little commercial success—to group kitchen, baths, and utilities in one preassembled unit that needs only three connections at the site. Now it looks, as if . . .

Mechanical cores are poised for a major cost breakthrough

Ever since Buckminster Fuller designed a mechanical core for his Dymaxion House back in the 1920s, scores of architects, manufacturers, prefabricators, and industrial designers have tried their hands at designing cores. Most of the results were far too costly, but the principle remains sound; the core is still a sound approach to cutting the cost of the most expensive part (about 25%) of the house. As proof, today there are three cores on the market (all of them wood-framed units) made by the National Homes, Home Building Corp. of Sedalia, Mo., and Housing Service Company of Wausau, Wis.

Cores hold the promise of cutting down costly and sometimes inefficient field work by putting all the mechanical trades inside a factory where the wage scale is lower, the weather can't hold things up, and no one has to run down town in the truck to find another sweat tee. Up to now, this promise has never been fulfilled for two reasons:

1. There were, and still are, too many hurdles involved in marketing a house with a core: union rules, codes, building inspectors, a distribution system ill attuned to so complex a package, and the questionable sales appeal of a standardized core viewed against the variety of kitchens and baths that can built in the field. Kitchens and baths are the most merchandisable elements in the house, and most builders are unwilling to use the same designs in different model houses.

2. Even though cores can indeed be built more cheaply in the factory than in the field, the in-place cost usually remains too high. What many developers forget in figuring their costs is that the manufacturer's in-place (cost of building the core, shipping it, and installing it) must be about 28% lower than the in-place cost to the builder of the same elements installed conventionally at the site. This lets the core manufacturer take a 35% markup to cover his overhead and profit, and still keep the price to the builder 5% below conventional cost. Nothing less will give the builder a compelling reason to use a mechanical core.

Consider a typical 1,600 sq. ft. house selling for $20,000 without land. The kitchen, two baths, heating and air conditioning, and electric service panel, all installed conventionally, may cost between $5,000 and $5,500. Under the arithmetic outlined above the same elements in core form must cost the manufacturer no more than $3,600 to $4,000 in-place. A tall order, but possible.

Cores now have a competitive edge only in special cases. New systems may let cores compete under any conditions.

Volume purchasing and the high productivity of factory production should cut costs of a core 25% to 30% below comparable field costs, say many experts. But few firms except the three mentioned above have been able to build up enough volume to achieve such savings. The problem: most cores developed so far use conventional plumbing and electrical systems, so the in-place cost of cores is still too close to the cost of site-installed baths and kitchens.

"What we need," says Housing Consultant Carl Boester, "are new systems and designs that will give mechanical cores a much greater economic advantage. Tappan's Ultraflow water supply system is a good case in point. A single pipe brings water to each fixture. The temperature is determined by a solenoid mixing valve at the hot water tank. The valve has several preset temperatures which are selected by pressing one of several buttons at the faucet, and the button also turns on the water.

"Perhaps the core should be broken down into its component parts so that instead of one big standardized box, we would have elements that could be plugged into each other in a number of ways to provide variety."

Adds Designer William Snaith of Loewy/Snaith: "The core of the future might be a floor that's a mechanical grid containing waste and water lines, bus bars or power lines, and ducts."

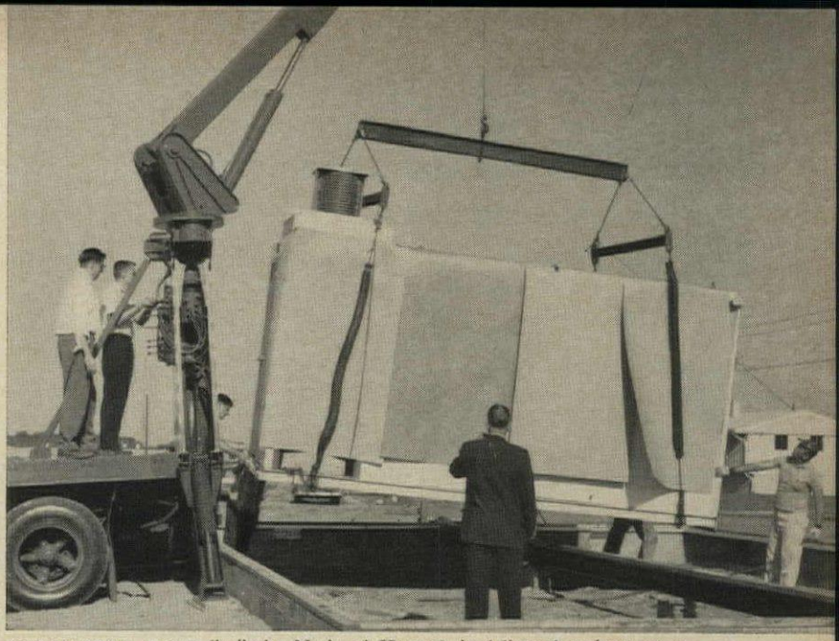
Forecasts Kingsberry Homes' John Odegaard: "By 1980 all our fixtures, appliances and other mechanical elements might be portable. They could be moved about the house by the homeowner and plugged into a floor grid wherever he wanted them."

Home manufacturers are seizing the lead in developing economical mechanical cores

The core shown here is the heart of National Homes new "core house" (cover) —a 973 sq. ft. model priced at $10,990 on the owner's lot that can be completed from the foundation up in only 62 man-hours. Says National's Ogden McMahon: "A core can cut the normal construction time for a manufactured home from 21 days to less than 5 days. If we prefinish the rest of the house we can complete it in two days. This means that we can cut as much as 15% out of the total cost."

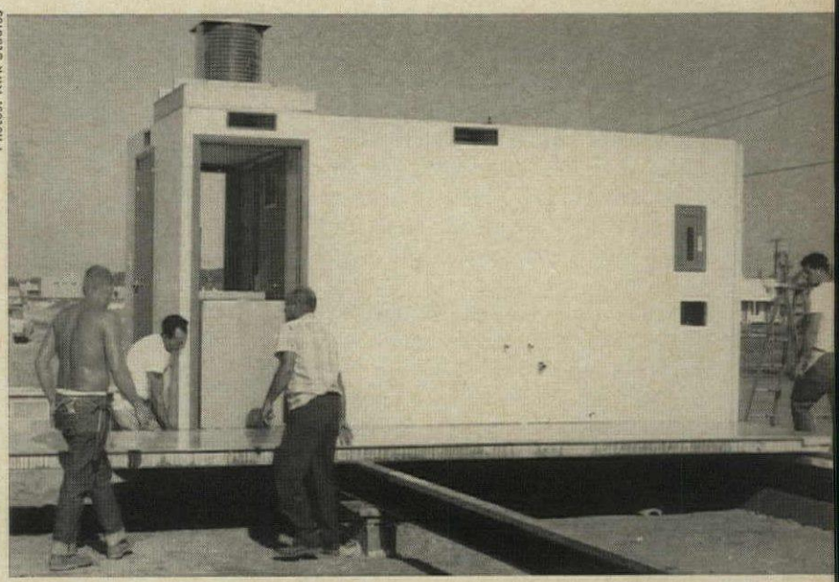
National has no illusions about the code problems in cores, so they are aiming their core house only at the scattered-lot and vacation-house market. But Home Building Corp. of Sedalia, Mo. has been marketing a bathroom and kitchen wall core (weighing 3,000 lbs and selling for $1,400 fob) with all its houses for the past six years. Says HBC President Neal Reyburn: "We've got seven union labels on the core and we've been able to solve almost all our problems by discussion and negotiation." HBC's unit measures 8'x9'x7' high and is of stressed skin construction. The company has just been awarded a Department of Defense contract totaling $3,873,000 to produce 488 houses using the cores for shipment overseas.

Another interesting project underway: Kingsberry Homes' experimental two-bath-kitchen-utility core that can be hinged to swing into L, Z or U-shapes for floor-plan variety.

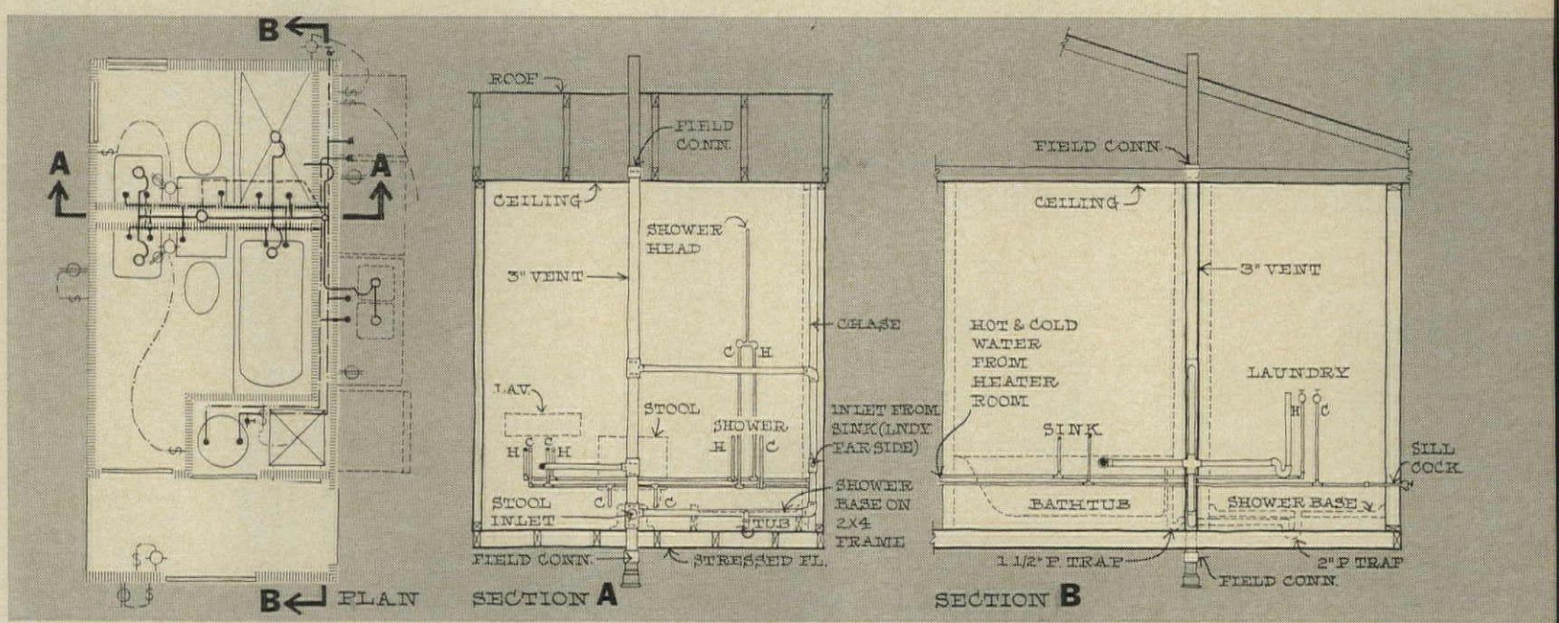


MECHANICAL CORE (built by National Homes) is delivered and set on a prepared foundation and center beam by a truck-mounted crane that also sets the floor panels. Note the retractable feet on the crane and the controls set at chest height on the crane post. Kraft paper protects the core in transit.

Photos: Kirk Studios



SITE WORK after the core is set in place takes only six hours: one hour for sheet metal work on the chimney and air conditioner housing (top of photo); three hours for electrical work (four junctions, three fixtures to hang); and two hours for plumbing connections.



PLAN of National's core shows position of two baths (one with tub and one with shower), furnace, water heater and self-contained air conditioning unit, plus all plumbing and wiring for kitchen and laundry equipment that is later installed on an adjacent floor panel (see lower photo above). Cross sections show how the plumbing tree is positioned within the stressed skin wall panels. All home manufacturers have used stressed skin floors and walls in their cores, not so much for structural support as for resistance to racking during shipment and setting on the foundation.

continued

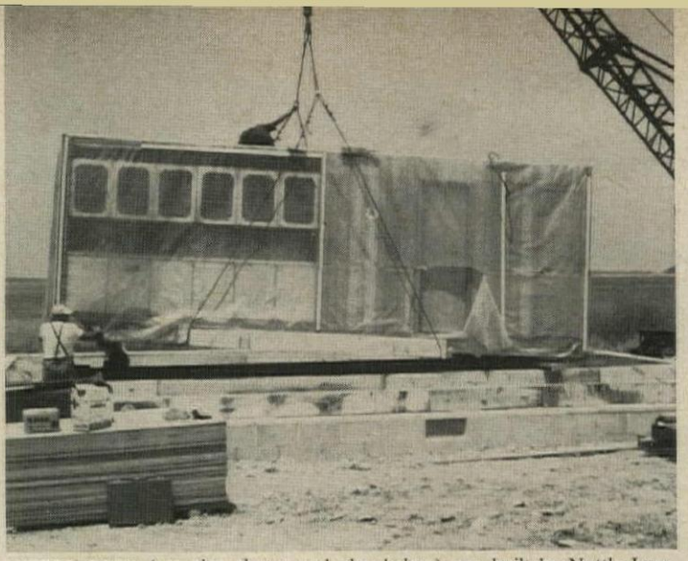
Lumber dealers and builders are developing cores for their own use

At a HOUSE & HOME Round Table three years ago, Builder Andy Place of South Bend said: "What we really need is a complete mechanical core 10′ wide, 14′ to 18′ long, with two bathrooms and kitchen wall. It should be less than 8′ high so it can fit under the structure of the house. It should have waste lines above the floor and wall-hung toilets."

LuReCo (Lumber Dealers Research Council) now has a core which, oddly enough, fits Place's specifications precisely. Its development was headed by LuReCo's executive vice president, Raymon Harrell, who worked with Architect James Lendrum to design the core and helped Lumber Dealer Carl Scholz of Vandalia, Ohio, build the first units (H&H, Oct. '62). These units sold for $2,377 each, but the new and luxuriously finished core pictured at right cost $6,352 on a first-try basis. The builder—Nuttle Lumber Co. of Denton, Md.—plans to build LuReCo cores, ship them to builders up to 100 miles away.

In Wausau, Wis., Housing Service Co., a merchant builder, has built over 500 houses using its own core—an 8′ x 12′ unit kit with one bath and a kitchen wall, glue-nailed construction, and 2x6s in the common plumbing wall that runs the length of the core.

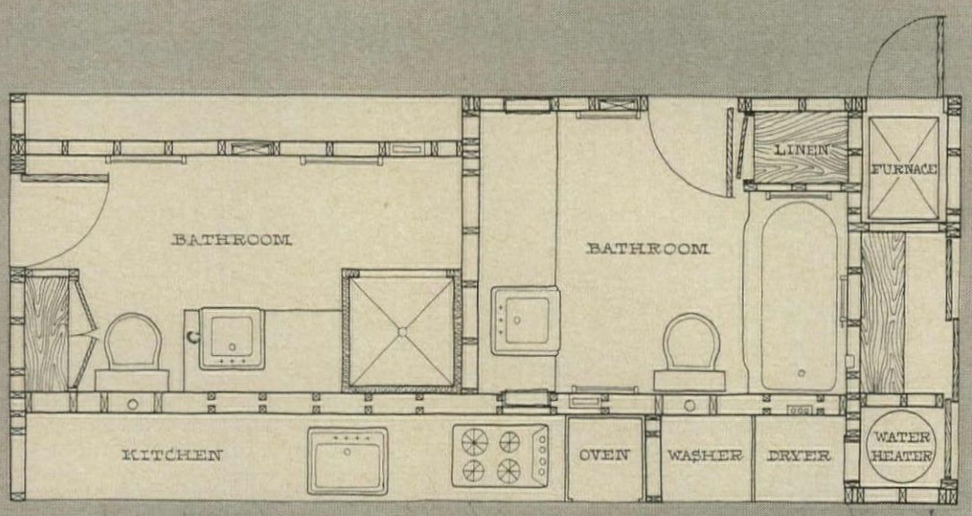
These cores—like the LuReCo cores—are glue-nailed to resist racking during transportation and placement.



LURECO CORE (see also photos and plan below) was built by Nuttle Lumber Co., Denton, Md., is shown being placed in a house by Builder Douglas Bennington. Says he: "We had no delays, no scheduling problems, no waiting for subs. I'd like cores for all my houses."

KITCHEN of core has ceramic tile backsplash and counter (none of which cracked in transit), all appliances, and 30′ of cabinets.

BATH has ceramic tile floor, mirrored wall, luminous ceiling—all installed and finished at the lumber yard instead of on the site.



PLAN of LuReCo core puts the kitchen, at bottom, along a common plumbing wall serving the two baths. Walls and floors are glue-nailed. Double framing in plumbing wall cuts sound transmission. Furnace and water heater, right, flank a closet with sliding doors, built-in shelves.

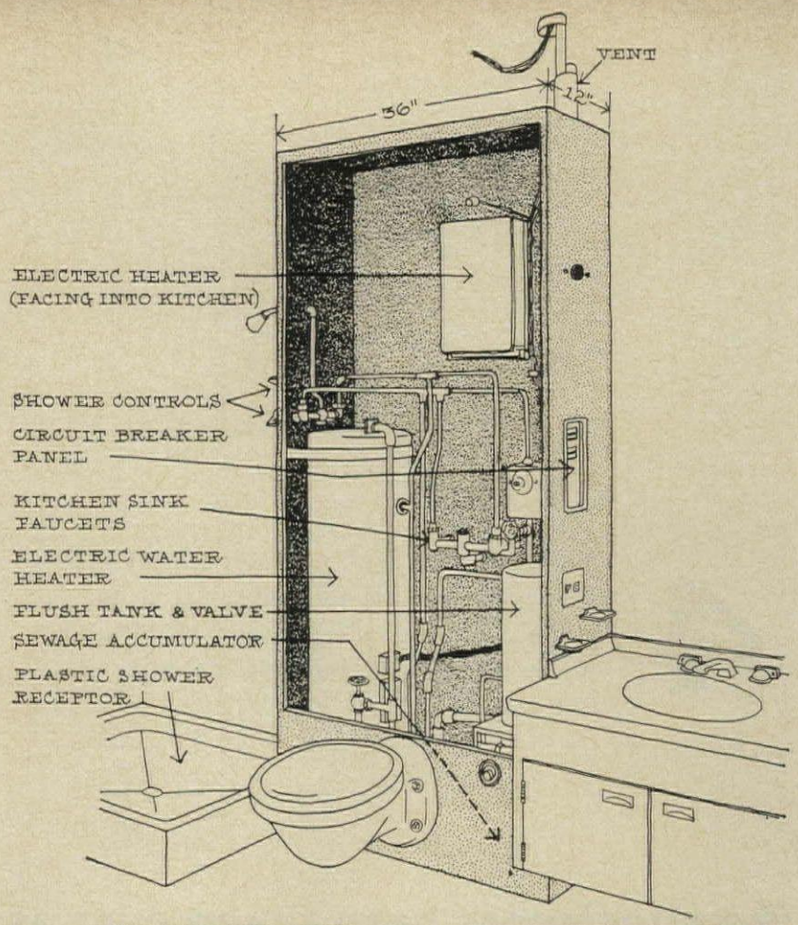
SECOND BATH (far left in drawing above), has shower stall, no tub. Both baths have plenty of closet space, broad vanities.

. . . and producers are trying totally new systems and materials for cores

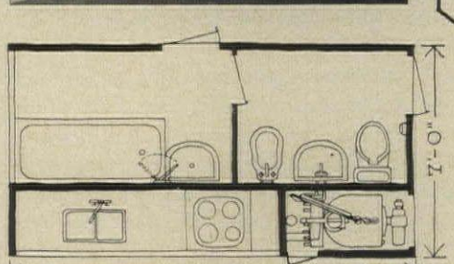
Monsanto, for example, has developed a "semicore"—which includes the plumbing system and service panel, but not the heating and air conditioning—to work with its modular plastic panel Lok-Pac house (see drawing at right and H&H, July). Lok-Pac was designed for shipment in unitized packages to far-off sites such as missile tracking stations. A complete core—bulky and "full of air"—cannot be shipped far economically.

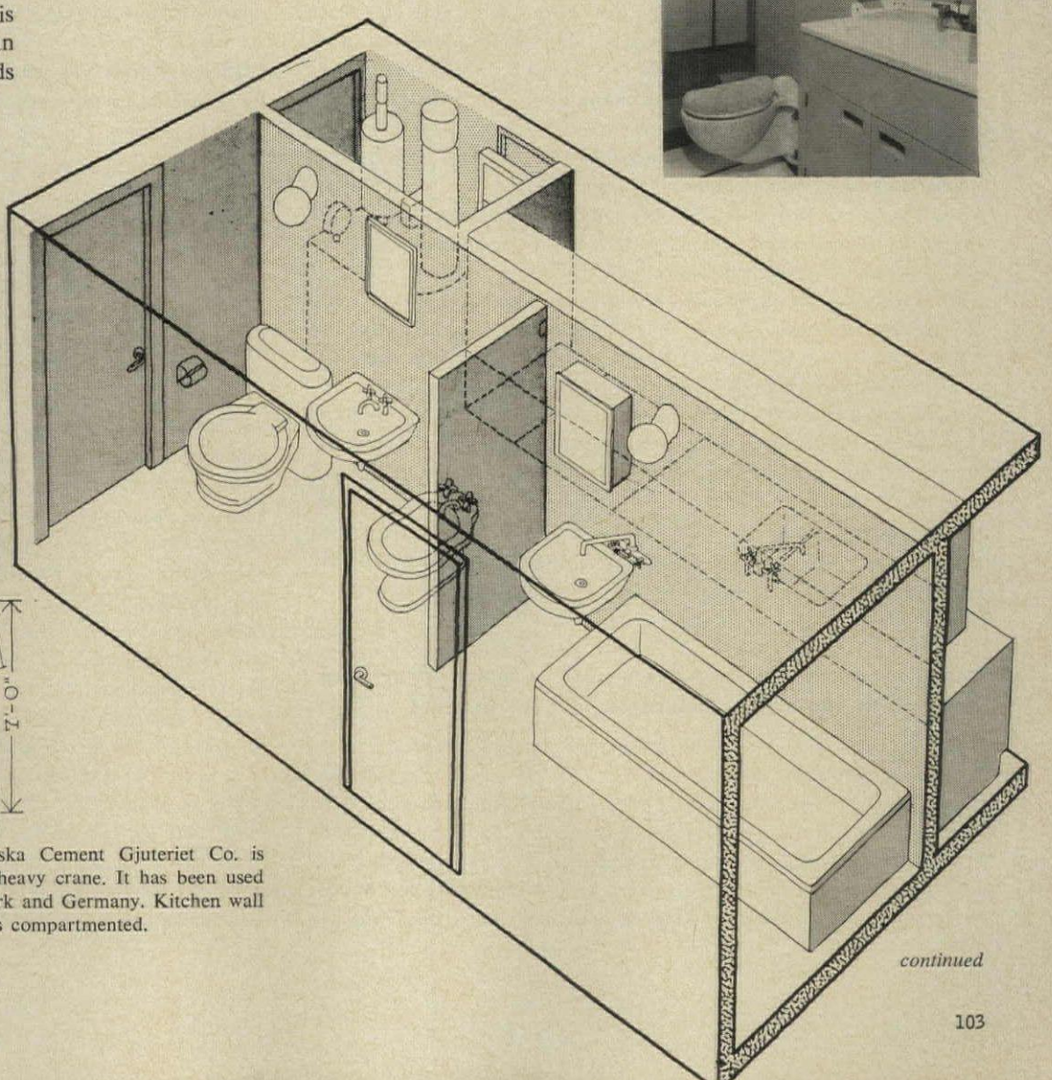
Two other companies—both plumbing fixture manufacturers— are reported tackling the mechanical core problem from a different angle. Instead of designing a complete core, which permits little plan variety, they are designing a line of plumbing components. These components, which insiders say are nearly ready for the market, include fixtures, hardware, the wall frame and finished surface behind the fixtures, plus all plumbing lines to a point where waste and supply connections can be made to the component with compression and clasp fittings. Such components, in various styles and finishes, could be combined in a number of different arrangements to provide a wide variety of bath and/or kitchen layouts.

In Europe and Russia, the type of concrete core shown below is very popular in apartment building. Wood construction is out of the question because of European codes and cost, and concrete casting yards are usually set up at the site.



APPLIANCE-LIKE CORE, above and at right, was designed for a prototype plastic panel house by Monsanto. The tall, thin enclosure contains the heart of the electric, water-supply and waste systems. Bath fixtures and kitchen equipment are shipped separately, connected at the site at a minimum labor cost.





CONCRETE CORE made by Sweden's Skamska Cement Gjuteriet Co. is 14'x7', weighs 9 tons and must be placed by heavy crane. It has been used in almost 3,000 apartments in Sweden, Denmark and Germany. Kitchen wall (photo) includes oven, range and sink. Bath is compartmented.

continued

4 Manufacturers and producers, with their extensive research and big research budgets, are playing a bigger and bigger role in developing new building materials and systems. In fact . . .

Manufacturers have taken over as the No. 1 innovators

The potential impact of their research in housing is incalculable. A typical product manufacturer or materials producer spends 2% of his gross sales on research and development, and there are more than a dozen building materials manufacturers with sales in excess of $200 million. No other segment of the homebuilding industry can even approach such an outlay for research.

Time was when most manufacturers limited their research to new products as such—paying scant attention to how those products fitted into the process of building a house. But times have changed. Today, more and more manufacturers are not only developing new products that fit construction systems, but are doing the total development job on wholly new systems in which their product or material plays only a part.

The need for this approach was brought out most recently by the TAMAP program (see *p. 87*), co-sponsored by the Stanley Works and NAHB. It showed that the value of a new product to a homebuilder depends almost entirely on its cost *in place*.

Some producers have long understood this. For example, says Jack Frost, Masonite's vice president of research: "We have been wrestling new products and systems into the market for decades. We knew it would take a lead time of five years to get our new coated siding system (H&H, Feb. '62) to the market, and that two of those five years would be taken up finding out the best way to apply it. More than 100 builders tried it out before we were sure we had the bugs out."

Today, most manufacturers' research is aimed at systems that exploit the clear advantages of their product

This is a much more meaningful approach than research into ways of substituting one product for another—and is most apparent among basic materials. Each material—and the way it is manufactured—has certain clear advantages over other materials. Consider wood. Its supply is gigantic. Its cost-strength ratio is lower than other materials. Given proper maintenance, wood-framed houses can—and do—last at least 300 years. But, in comparison with wood, steel is stronger and can handle longer spans. Aluminum will last longer exposed to weather. Gypsum can perform many jobs more economically. Plastics can be formed into shapes that would be prohibitively expensive in wood.

Biggest gains via research have been made by plastics producers and plywood producers

The use of plastics in housing has increased 50% in the last four years, according to Monsanto's market researchers, and there is every indication it will increase at the same rate in the next four. All the plastics producers are researching coatings, sheets and panels, tiles, laminates, films, foams, pipe fixtures, and hardware. The biggest news in the field is still DuPont's polyvinyl fluoride, 20-year film (see H&H, Feb.), which is now being applied to sidings and roof panels by a growing number of manufacturers and builders. But the most important material in the field is polyvinyl chloride. It can be made into almost any form. It is strong, resistant to most chemicals, self-extinguishing, and can be solvent-welded in the field.

Plywood is the only material that has shown more impressive gains in housing. In 1950, the average house used 500 sq. ft. of plywood; in 1963, it used 2,700 sq. ft.—some of it in highly engineered systems like those shown on the facing page. Behind this progress: Douglas Fir Plywood Association's research program—one of the biggest and best in housing. This program—like those of many of the big producers—covers not only product research, but research into new housing systems and designs.

But producers of other materials—anxious for the same kind of gains in the marketplace—are accelerating their development programs. As you will see on the pages following, new developments in rating and grading of wood are making its use much more efficient. A rash of steel houses is coming on the market. Aluminum is gaining in systems of its own, instead of simply as a substitute for wood. And there's exciting news in those old standbys —concrete, gypsum, and brick.

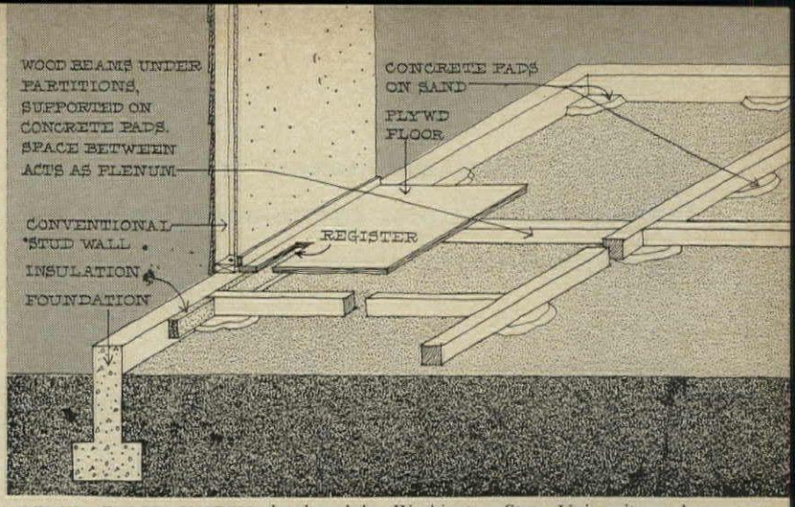
Lumber manufacturers have transformed wood into an engineered building product

Architects can now design with wood as accurately as they can with steel beams. The reason: electro-mechanical stress rating (EMSR) of dimension number makes it possible to grade lumber on the basis of its actual strength, and so decreases the big safety factor necessary in visual grading (H&H, Feb., '62).

EMSR was developed by Potlatch Forest Industries, and its potential benefits to housing are enormous. Codes permitting, it can save from 30% to 50% of the framing lumber now used in houses, and this means a saving of about $50 per house. For example, in NAHB's 1963 research house (*p. 90*) EMSR permitted the use of 2x8s 24″ o.c., instead of the conventional 2x10s 16″ o.c., with a consequent cost saving of 47%. Further, trusses of EMSR lumber may be 10% longer with no increase in lumber size. FHA accepted EMSR last May.

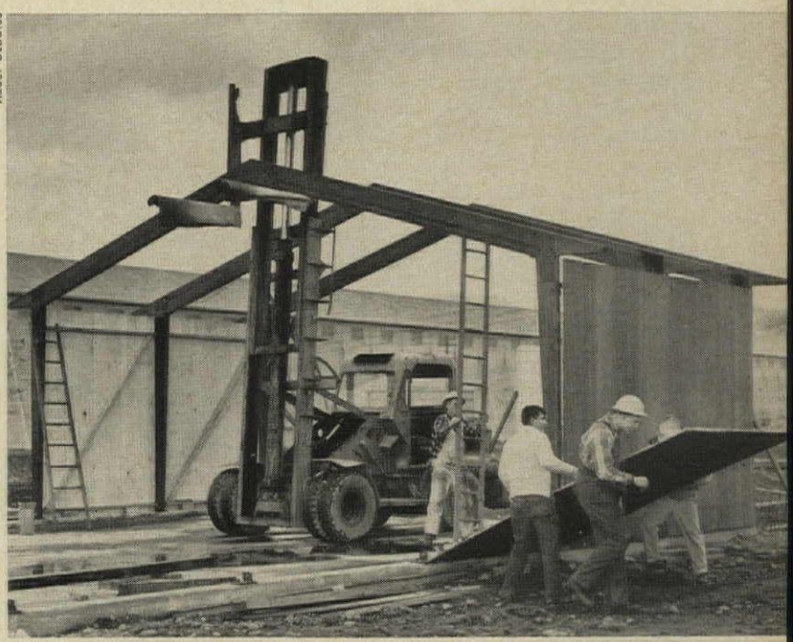
Another important step in making wood an engineered product was taken last May when the Department of Commerce's American Lumber Standards for actual thickness of nominal 2″ dimension lumber were changed from 1⅝″ wet or dry to 1½″ dry. This change should encourage the use of dry (less than 19% moisture) lumber and result in more stable house structures and less nail popping.

Shown below and at right are four structural systems which exploit the possibilities of engineered wood products.



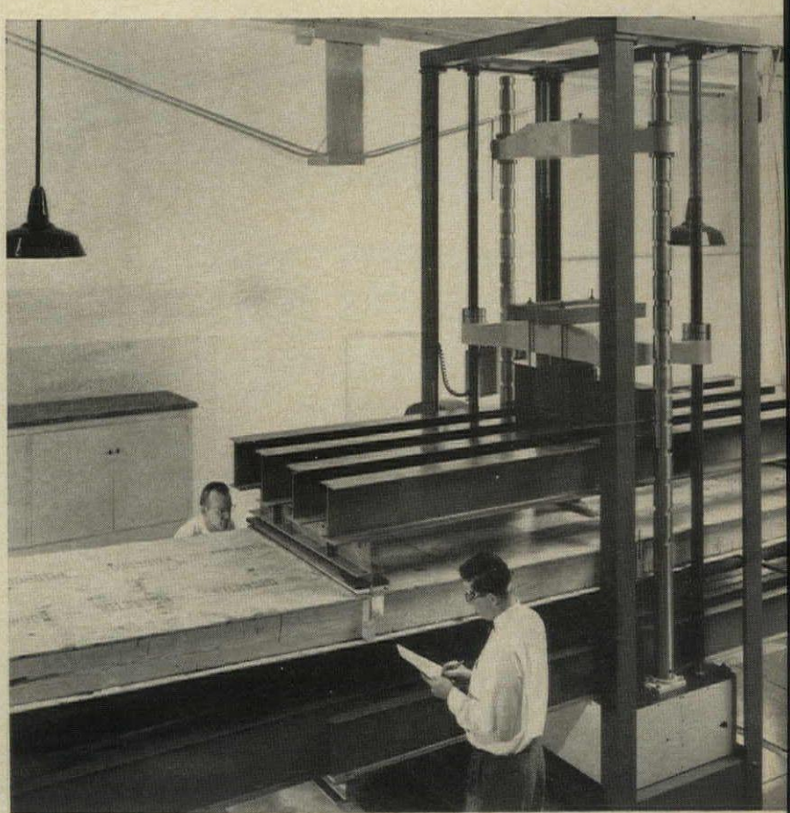
PLENUM FLOOR SYSTEM developed by Washington State University and sponsored by the NLMA uses short joists supported on small pads without footings. Grade beam is the only major concrete work. Deck can be heavy plywood or new laminated-lumber flooring.

Rader Studios



CLEAR SPAN BENTS made of glue-laminated lumber (glue is set electronically) span up to 24′. Set on 8′ centers they are used in barns and light commercial structures, may play a role in housing as well. Roofs and walls are laminated lumber panels.

2.4.1 FLOOR SYSTEM uses floor girders spaced 4′ o.c., decks them over with 1⅛″ t&g plywood that needs no edge blocking. The system permits an unusually clean basement ceiling. Workers here are using polyethylene to mask beams when basement ceiling is spray-painted.



STRESSED-SKIN PANELS, with plywood skins glue-nailed to studs, are tested in laboratory of the Douglas Fir Plywood Association. New wood engineering methods should reduce the size of panel framing members, bring cost of panelized construction closer to conventional framing.

continued

Steel and aluminum makers are developing both new components and new building systems

In recent years, U.S. steel mills have had a big problem: some 60 million tons of idle capacity. And they are working hard to make housing part of the solution.

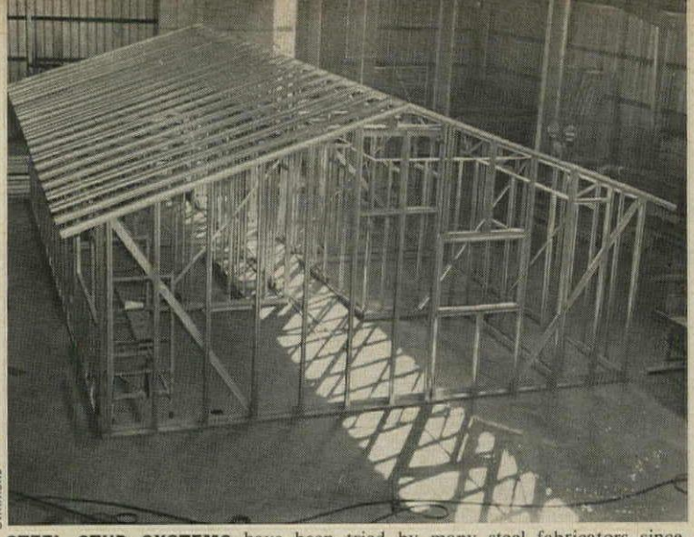
Items: NAHB's 1963 research house features a new steel foundation developed by U.S. Steel (*see page 91*) that should find its first markets in the north.

Both Inland Steel and U.S. Steel are about to market new galvanized-and-painted steel sidings so thin that when they are cut, galvanic action from both faces seals the edges against corrosion.

Bethlehem Steel says that west coast fabricators have sold 50% more structural steel on the west coast this year than last.

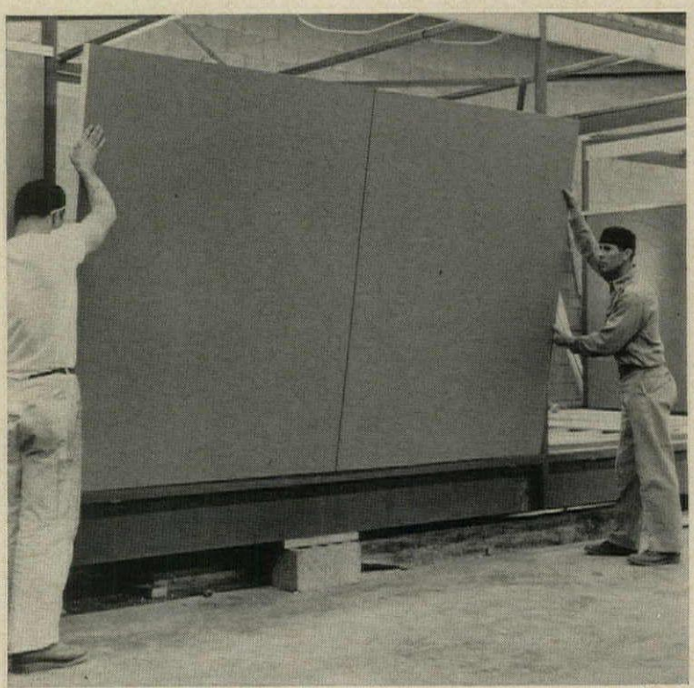
Rheem and Rohr Aircraft—both aided by U. S. Steel's know-how—plus Armco already have steel houses ready for the market. The goal of all of them: to boost steel consumption in the average house from 2.5 tons to 4 tons in the next decade.

Aluminum's role also seems to be changing. Aluminum siding, windows and doors, sills and gutters have been successfully marketed for a decade. Now aluminum sandwich panels—which made news a few years ago but never made the market—are reappearing. Alcoa's Alply system (see photos right and below) is being used in commercial construction, with a new joining system that has apparently licked the old bugaboo of through-conductivity. And sandwich panels are a key element in Alside's revolutionary new system.

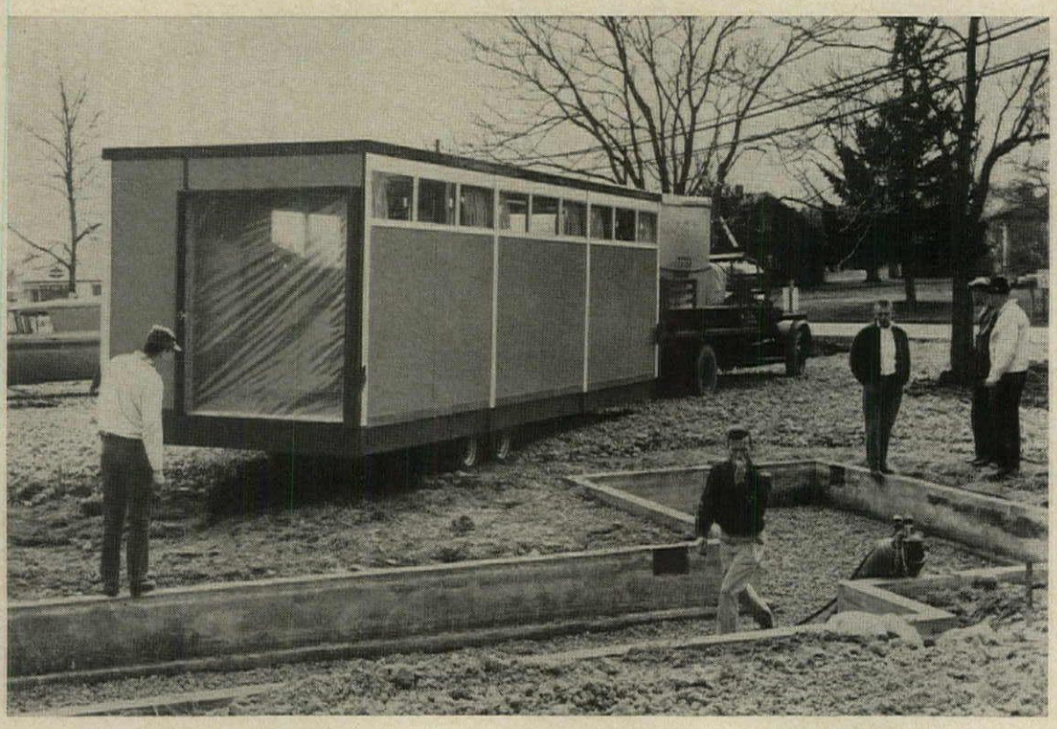


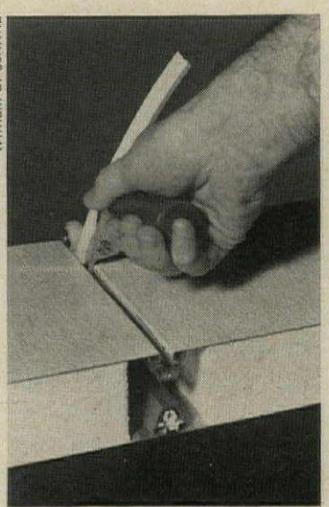
Simmons

STEEL STUD SYSTEMS have been tried by many steel fabricators since World War I. Except for U.S. Steel Homes—which built an engineered system of panels around its steel framing—these systems have failed to compete with wood studs, which offer much more flexibility.



BETTER WAY to use steel or aluminum in housing is in sheets, which take advantage of the metal's great strength and let the structure double as enclosure. (Steel studs waste material because they are much stronger than they need to be.) These panels are Alcoa's Alply.





William E. Cornelia

NEOPRENE JOINING SYSTEM lets sandwich panels be zipped together in three minutes. These are Alply panels with foam cores.

ALUMINUM PANEL STRUCTURE —a sectionalized branch bank of sandwich panels—is moved onto foundation.

Earth materials—concrete, asbestos, gypsum, brick—are finding new uses in housing

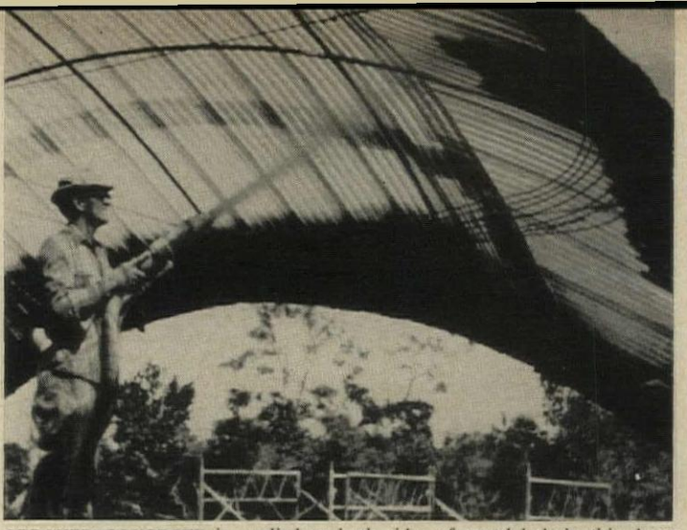
"There's a rich potential in these materials," says NAHB Past President Martin Bartling, now U.S. Gypsum's vice president for research. "They are cheap, plentiful, easy to process, and pretty indestructible."

Manufacturers have been experimenting with these materials for decades. And the work is beginning to pay off. Close to market are 1) extruded asbestos-cement moldings and window frames, 2) drywall with a layer of conductive graphite just under the paper surface for low-temperature electric radiant heat, 3) epoxy-bonded masonry panels for exterior cladding, 4) 4x8 sheets of asbestos cement with baked enamel finishes, 5) vinyl-wrapped gypsum board for bathroom tile back-up, and 6) plastic impregnated gypsum soffit board.

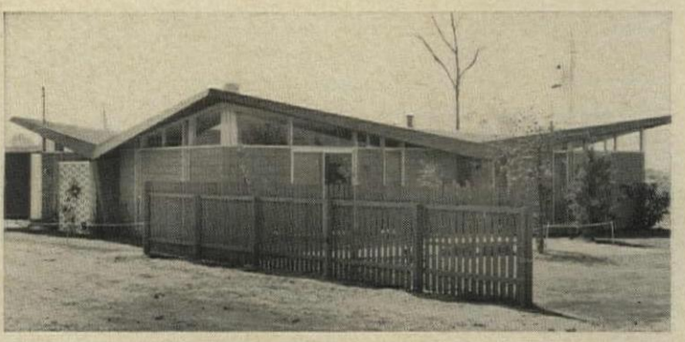
Not to be outdone by the plastics and metals producers . . .

The gypsum companies are experimenting with new panel systems using drywall skins with metal, wood, or gypsum inner frames, or foam or paper honeycomb cores. These panel systems are not limited to inside use (see photos below). And . . .

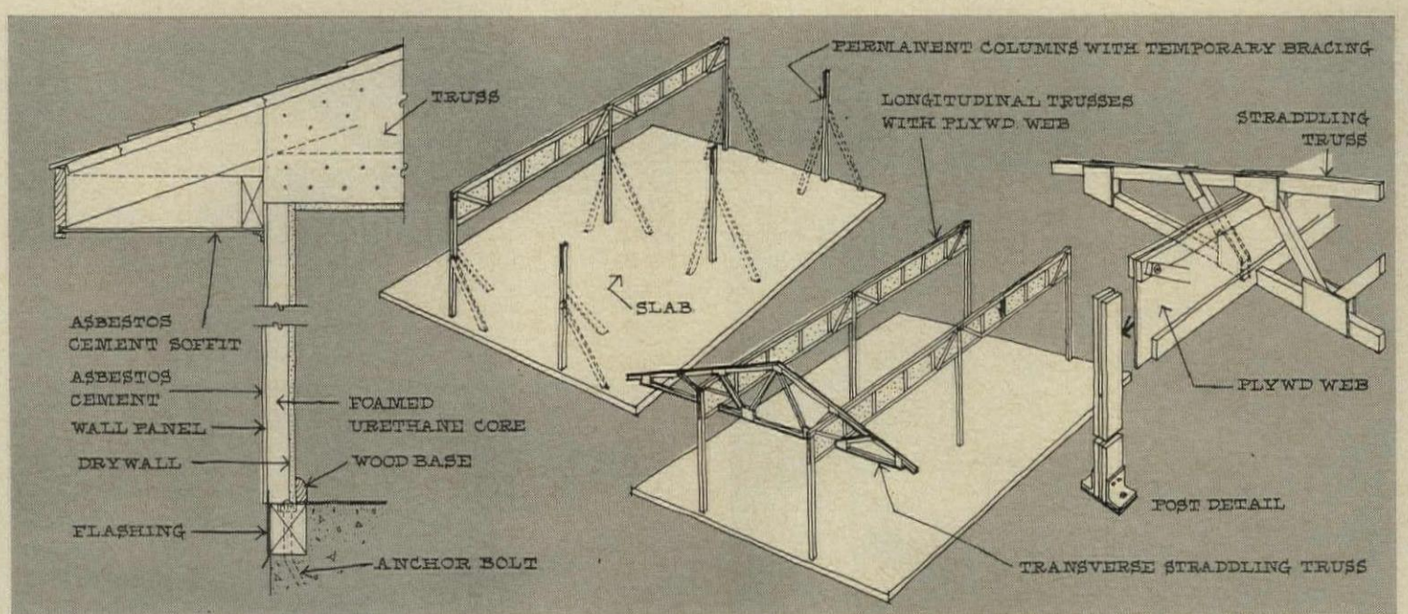
Concrete producers are trying to break into the market above the foundation level. Many projects are underway to explore the potential of spraying, and the forms of thin-shell structures (e.g., hyperbolic paraboloids). If the problems of complex design mathematics and formwork could be simplified, this strong, low-cost material would indeed have great potential.



SPRAYED CONCRETE is applied to both sides of metal lath in this dome house in Tavernier Key, Fla. (H&H, Aug.) It takes only two man-days to erect lath and reinforcing, three man-days to spray concrete. This technique, which needs no formwork, is becoming more and more popular in the U.S.



CAST CONCRETE in roof shapes can take on almost as many unusual forms as sprayed concrete. Architect Robert Des Lauriers used four hyperbolic paraboloids for the roof of the San Diego house shown at the top; Walter Weber of Colorado Springs precast trough shapes for the roof above.



PANEL SYSTEM FRAME was developed by National Gypsum for use with its experimental sandwich panel, shown in cross-section above. The panel uses an urethane core to which an outside skin of asbestos cement and an inside skin of drywall are laminated. Tested under living conditions in a house by Inland Homes at Piqua, Ohio, the panels proved strong and stable. National Gypsum is experimenting with a structural system (above) which would let panels be used as curtain walls; the whole weight of the roof is borne by the six columns, which can be built into partitions.

continued

Plastics producers are making a strong competitive bid in many parts of the house

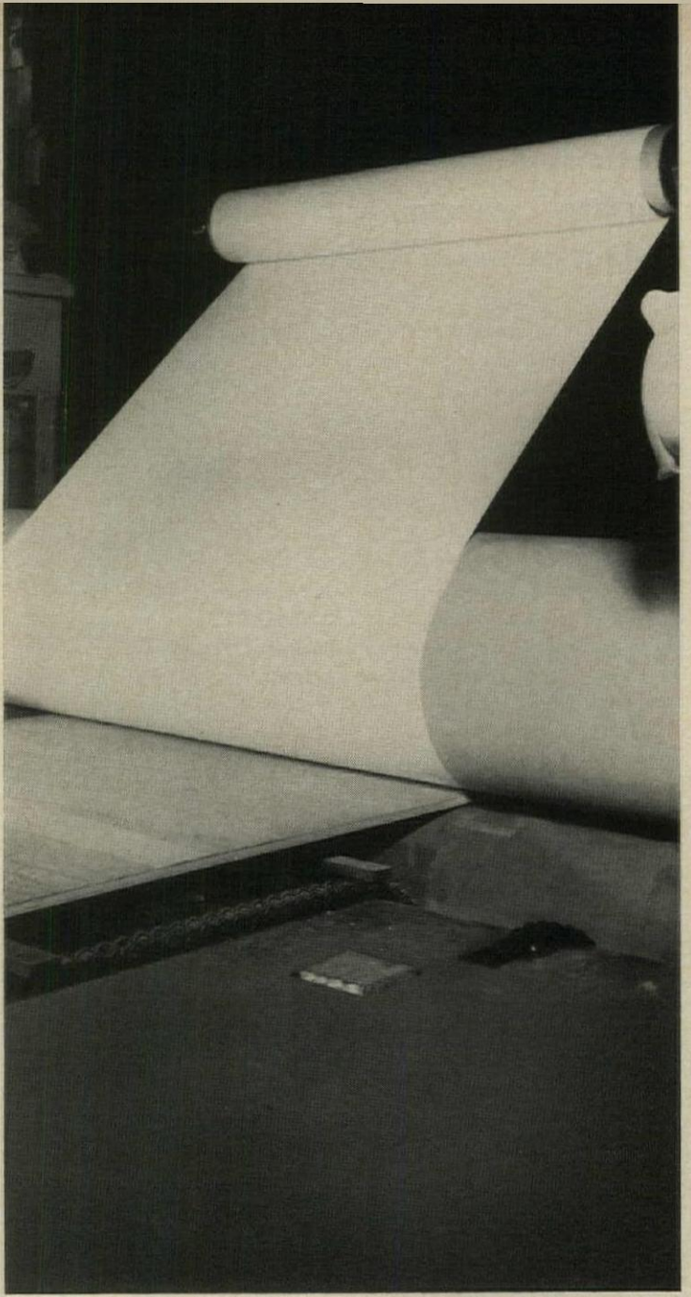
The burgeoning role of plastics is most noticeable in four areas:

1. *Coatings.* Synthetic plastic resins—particularly the new exterior and interior latexes—are today's big news in the chemistry of paints. These new formulations, plus urethanes and polyesters for floors, alkyds for durable exterior use, sprayed-on elastomers for roofing, and the ultra-tough films shown at the right—have service lives undreamed of even ten years ago.

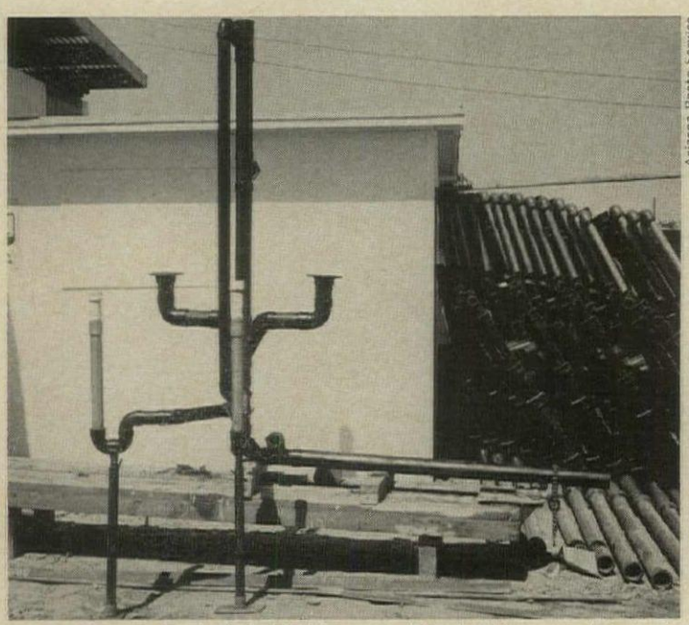
2. *Plastic plumbing* is beginning to make inroads in the marketplace. PVC and ABS pipe (see photos below) now has only 1% of the market, but plumbing experts forecast that they will account for at least 15% of waste, drainage and vent systems within 10 years. Hurdles to a bigger share of the market: codes, lack of an acceptable plastic pipe for hot water, and the high cost of molded fittings.

3. *Molded plastic fixtures*—basins, tubs, shower stalls and the like—which have caught on well in Germany and Italy are being tested-marketed in this country. The 1963 NAHB research house used experimental, glass-fiber-reinforced polyester shower and basin-toilet components (H&H, Feb.).

4. *Adhesives* are an area in which the plastics producers are way ahead of the housing industry. They have the capability —right now—of gluing a house together without any other fastening; of gluing any material to any other material.

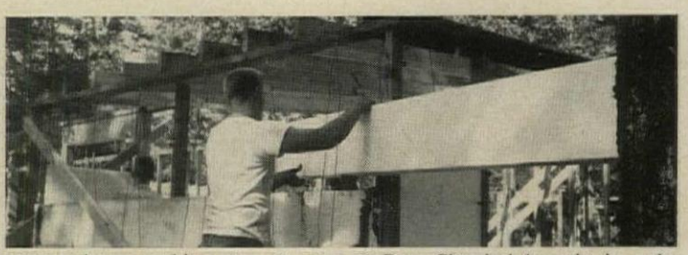


FILMS of polyvinyl fluoride have at least a 10-to 20-year life on plywood, aluminum or asbestos cement sheets; traditional sidings; and new forms of roofing. Many manufacturers are using the films, developed by DuPont, for a wide variety of exterior materials.

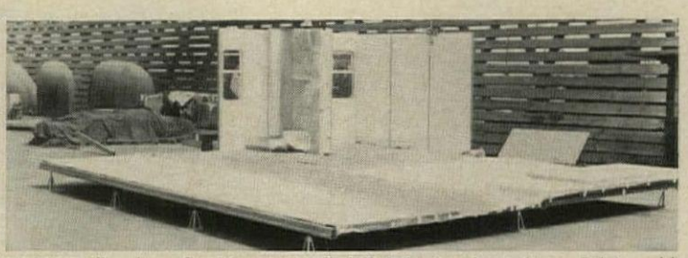


Arizona Photo Service

PIPES of ABS and polyvinyl chloride are used in plumbing trees that can be installed by one man, resist almost all chemical corrosion, and can be assembled quickly. An ABS joint can be solvent-welded in less than a minute; metal joints can take up to 5 minutes.



FOAMS began making news as soon as Dow Chemical brought its polystyrene plank on the market. Now taken for granted as foundation insulation, the plank can be used as a plaster base or as the core of sandwich panels. It paved the way for all the foams that are following it.



PANELS like those for Monsanto's Lok-Pak house above (H&H, July)—with cores of foamed styrene urethane, phenolics, urea formaldehyde, and other plastics—are edging towards the market. Prices are still too high but the volume of research underway holds promise that costs will fall.

Appliance and equipment makers are prepared to sell almost any product needed in housing

Today, manufacturers of appliances and air conditioning equipment can create a level of convenience and comfort that would have been impossible only a few years ago.

At a reasonable price, a builder can meet any buyer's comfort specifications with the vast choice of gas or oil warm air and hot water systems; of electric ducted or radiant baseboard systems; of central or room air conditioners and heat pumps; of air cleaners and humidifiers; of vent fans and spot heaters. And most of this equipment has been developed and marketed within the last 10 years.

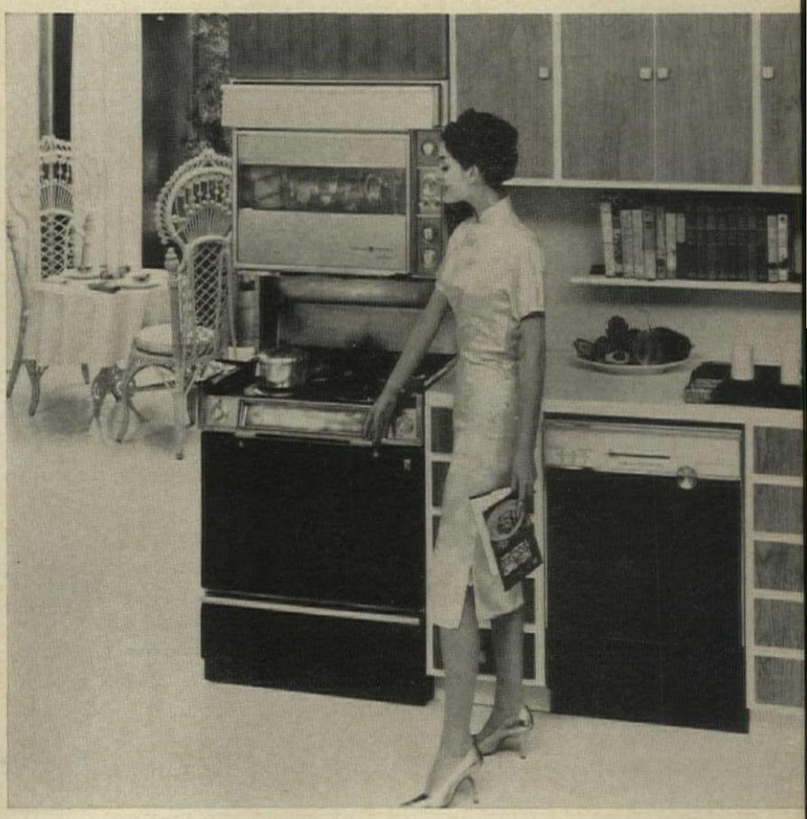
There has been similar progress in appliances. Only a few years ago, home washing machines could handle only eight pounds of laundry. Today they can take 14. Now, you can tuck an 18-cu. ft. refrigerator in the same space that a 10-cu. ft. unit took less than 10 years ago. And these and other appliances are being built at lower and lower costs; many units of equivalent capacity cost 20% less than 1957 units.

Beyond these gains lie untapped potentials: dielectric cooking appliances that can have a meal ready for the table in minutes; thermoelectric heating-cooling systems that have no moving parts; dishwashers that clean pots in seconds with hard-scouring sound waves. There seems little doubt that the highly competitive appliance manufacturers, all with great interest in research and budgets to match, will stay in the front rank of housing's technology.

Strock-LIFE

PURE RESEARCH is helping extend the effectiveness and useful life of many appliances. This experiment—at General Electric's lab in Appliance Park, Louisville—is studying the precise chemical reactions of detergents and soaps in water.

1906 RANGE AND OVEN (left) was a unit with 30 switches and plugs, 13 separate appliances. A castiron wood stove was probably as easy to operate. With the end of World War II, manufacturers began supplying the forerunner (right) of today's handsome, easy-to-operate appliances.



1963 RANGE AND OVENS are designed to be built into counters and cabinets, have built-in hoods and exhaust systems, oven liners that can be removed for cleaning, and control panels which—while they are simple to operate—can take over complex timing problems.

continued

5

The federal government has long backed much research which has a quiet impact on housing's materials and methods. Now, proposals to make the federal role bigger have made the idea hotly controversial.

Government research: many aims, few results, much furor

Every time (since 1949) that the federal government has poked more than a little finger into technical housing research, a large segment of the housing industry has risen in wrath to squelch the program.

Yet a lot of research that housing could use, so many technicians agree, goes unfinanced—and so not done. Case-in-point: performance standards. Housing technology is almost wholly without such a set of guidelines to what necessary functions and strengths the parts of a house should have. Yet without such abstract tools, much promising new technology must run a crippling gauntlet of ignorance before it comes into use.

We are concerned here with big government efforts, with their potential for working changes in how we build as radical as, say, the introduction of steel or concrete. Industry has long agreed that the federal government ought to spend much *more* than it does for building statistics. FHA's modest technical research program (*see page 112*) has produced no alarums. And Commerce's National Bureau of Standards (*page 112*) has performed valuable tasks for more than a generation.

The controversy over technological research is less paradoxical than it sounds. Private industry has had experience with government intrusion into housing technology—and private industry considers almost all of it bad. Wilson Wyatt, when he was housing czar amid the shelter shortage right after World War II, kept changing little rules, like approval for 2x3 vs 2x4s, or nailing end-on vs. sideways, simply rocking the boat when what was needed was all-out speed. Wyatt also committed the government to that celebrated $37 million fiasco, the Lustron house.

The big problem with federal research: how do you stop it short of favoring one product over another?

This was the central difficulty that led most of the private housing industry—and notably materials producers—into their successful fight to kill off HHFA's first postwar research program, on which the agency spent $3.4 million of the taxpayers' money in 1950-51, with small result.

The same arguments have prevailed—so far—in the latest squabble over proposals for a big step-up in federal support of technical building research. This is the Commerce Dept.'s effort to persuade Congress to appropriate $7.4 million to stimulate research in three industries it calls technically backward: construction, textiles, and machine tools. Assistant Commerce Secretary J. Herbert Holloman conceived the civilian industry technology (CIT) program as a way to fill what he views as big gaps in private research. He argued, for example, that construction spends only 0.3% of its sales volume for research and development, compared to about at least 1½% for growth industries.

Holloman made the error of formulating his program in semi-secret without consulting the 130-odd trade and professional groups serving the housing and building field. So he was carved up quite professionally before a House appropriations subcommittee and had to watch his housing research plan get cut off without a penny of the $1.6 million he sought. Committeemen sided with the view of Chairman Douglas Whitlock of Structural Clay Products Institute (and spokesman for the U.S. Chamber of Commerce), who contended that the Holloman plan would "tamper with the delicate free enterprise mechanism of America's largest fabricating industry." Or, as Rep. Frank T. Bow (R., Ohio), a subcommittee member, said: "The most efficient producers would be taxed to pay for the technological advancement of their most inefficient competitors."

During the infighting, Holloman asked Building Research Advisory Board (itself a private product that grew out of the 1949 fight against government research) to "restate" his original proprosals. BRAB came up with a four-point program which may let CIT go back to Congress in much amended form next year with more support from industry and labor.

However the CIT hassle turns out, industry soon must face up to the problem that one leader sees this way: "We have not done the job ourselves. We have not spent the money we should. Now, we have to do this on a bigger scale or we are going to lose the ball."

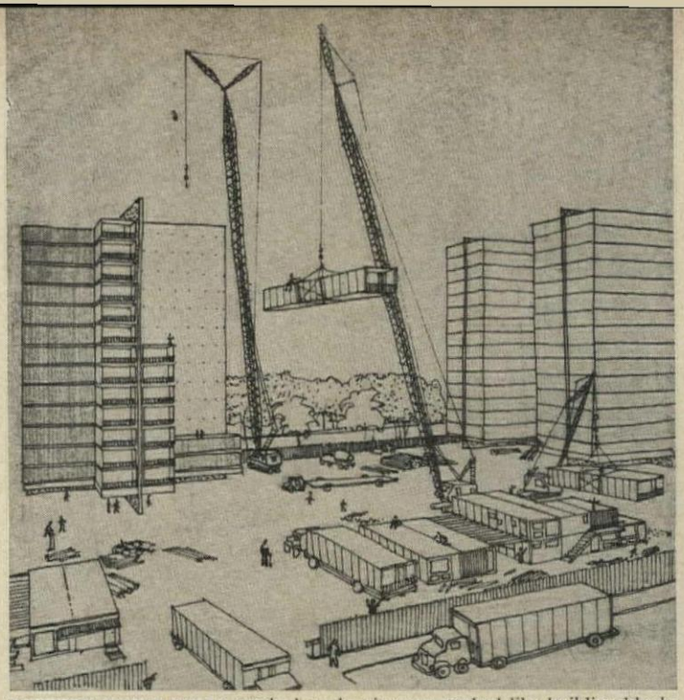
FHA and HHFA underwrite physical demonstrations of experimental ideas

In 1961, Congress authorized FHA to insure up to $1 million of mortgages on experimental housing ideas. FHA is using the money—$150,000 in committments so far—on projects "likely to reduce housing costs, raise housing standards, or improve neighborhood design."

There wasn't a murmur of opposition from the industry when Congress put Sec. 233 on the books. So far, FHA has looked at 50 proposals, committed six, shifted some half dozen (including a cluster-plan subdivision) to its regular programs. The agency has been disappointed that so few ideas have been offered—especially experiments involving land use, where the potential for cost cutting may be greatest.

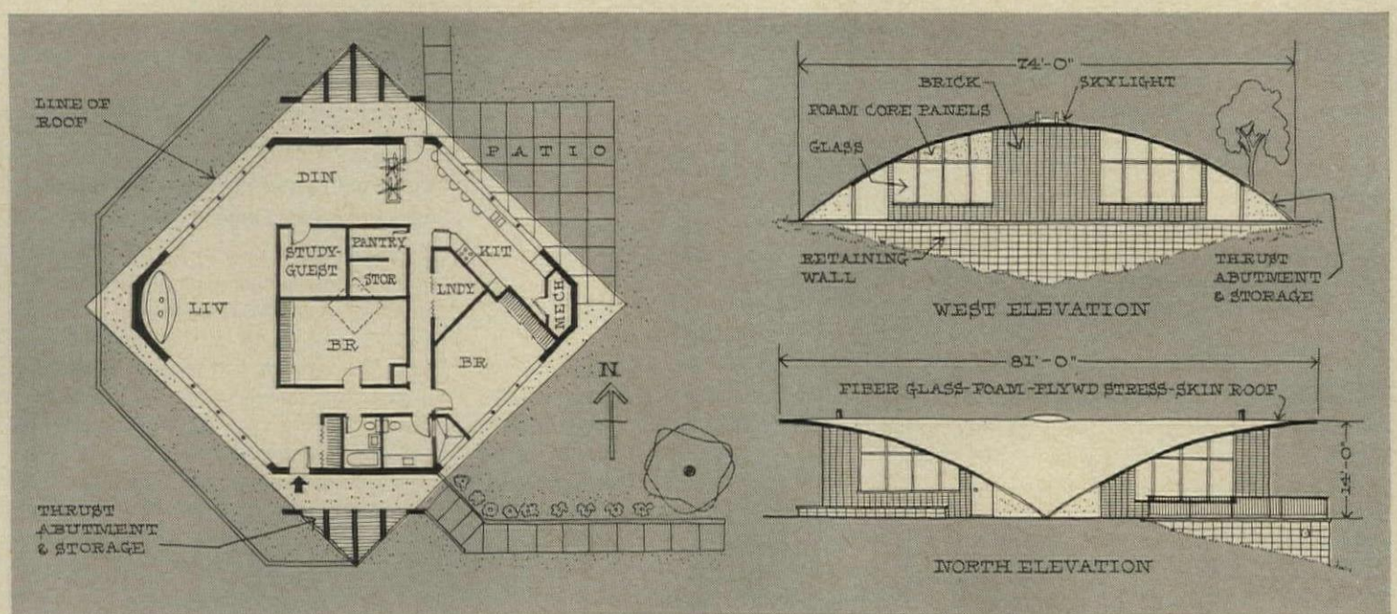
The first completed house was NAHB's Experimental House built by President W. Evans Buchanan (see *p 91* and H&H, Feb.). Others are shown here.

The Housing Act of 1961 also gave HHFA $5 million to demonstrate better ways to house low-income families. The agency is limiting its grants—$3.8 million for 23 projects so far—to projects involving actual construction or social experiments like rental assistance. The grants are available only to public agencies and nonprofit private groups. Sample: a San Antonio church group has $100,000 to help Mexican farm workers pay rent on 120 concrete row homes being financed under FHA's subsidized Sec. 221d3. The families will have five years to boost their incomes enough to buy the units.



FACTORY BUILT UNITS trucked to the site, are stacked like building blocks around a central core in Michigan City Ind., HHFA project designed by Ken Fryar Associates and built by Housing Research, Inc. A nine-unit prototype building is aiming at a $9,350 per-unit cost.

LOW MAINTENANCE HOUSE, one of FHA Sec. 233's first-completed projects, was built by Dallas Builders Fox & Jacobs. The house is expected to need no exterior painting for 15 to 20 years, has an easily washed interior paint surface, experimental film-coated siding and trim, plastic waste and vent lines, and a film-surfaced plywood roof system (right). Estimated extra cost: only 2%.



SEC. 233 EXPERIMENTAL HOUSE in Minneapolis has no bearing walls beneath the arching stressed-skin, plywood-urethane-glass fiber sandwich roof, which has a one-piece acoustical ceiling on its underside. The interior is 45′ x 55′. Keith M. Lang did the basic design and engineering and Architect Wallace Drake did much of the interior detailing. Builder is Hugh Thorson. Other experimental materials and systems used in the house include: foam-filled cavity walls; a one-piece plastic bathroom, plastic water and waste lines and new adhesives and sealants.

continued

Ten government research programs—and how they affect homebuilding

Some of the programs, like those operated by FHA and HHFA, are devoted exclusively to housing. Others, like the research done by the National Aeronautics and Space Administration, have only a fringe connection with homebuilding. But all have this in common: they aim at advancing housing's technology.

Housing & Home Finance Agency: experiments in housing the poor

HHFA has made 23 grants to public and private agencies totaling $3.8 million (out of its $5 million kitty) to demonstrate new or improved ways of housing low income families. The key word is *demonstrate* since HHFA will make a grant only if the results are to be tested (by an independent third party) in actual field experiments.

Among the ideas being tested: 1) a new look at mortgage risk criteria for low income minority group buyers of single family houses in Gainesville, Fla; 2) housing for Detroit's Skid Row population of low income men; and 3) use of rent certificates as a substitute for public housing in St. Louis. The first grant was made in 1962. None of the 23 projects has reported final results.

The grants may, but do not have to, involve the construction of new housing; and can deal with design, land planning, land acquisition and use, financing tenure, or rehabilitation.

FHA's technical studies: expert guidance for its building rules

FHA's technical studies program, started in 1956 and operated on about $300,000 a year, has outside experts currently analyzing no less than 21 ideas involving possible changes in FHA's construction bible, the Minimum Property Standards.

Results have ranged all the way from a simple device for measuring the thickness of glass to a $10,000 study of impact noise in apartments that tested and then rated 47 different floor and ceiling systems (only 14 of which exceeded FHA's minimum rating) (see H&H, May). Another important revision based on a study is the agency's new requirement of safety glass in exterior doors with large glass areas, as well as in shower doors and tub enclosures.

Most of the work has been carried out by the Building Research Advisory Board (BRAB), which calls together panels of experts to make the studies.

Among the current studies: durability of vapor barrier materials under slabs; national and local failure rates of septic tank systems; storage space requirements; and the creation and maintenance of common properties in residential developments.

Defense Project 12: unrestricted testing ground

Unhampered by zoning, building codes, or local restrictions, the armed services have offered their facilities to builders and manufacturers to test new materials and methods. Under a directive setting up Project 12 in May of last year, Secretary McNamara charged the Defense Department "to experiment with techniques which may bring new productivity to the construction industry."

The Department sets up no research facilities of its own, but offers its huge housing program (16,000 units under construction, another 7,500 going up this fiscal year) and its maintenance program (370,000 housing units must be kept in repair) as a field laboratory. Among the most promising avenues being explored: 1) the relocatable house (H&H, Mar.), of which 1,300 are on order for both stateside and overseas use; 2) combined subspace and finish-flooring in full house-width panels; 3) plumbing systems using plastic pipe and fittings, with various venting arrangements. Under consideration is a full scale test of the critical path method (H&H, April) and its applicability to homebuilding.

Project 12 is not budgeted separately, but promising ideas are incorporated into Defense's $300 million housing construction, repair, and maintenance budget.

National Bureau of Standards: framer of basic rules

Nothing affects the housing industry more basically than the National Plumbing Code, the National Electric Safety Code, and the fire safety provisions of building codes. Much of the technology in these codes came out of NBS' building research division.

NBS has been the government's most effective—and perhaps its least controversial—research arm in housing since the early 20s when Herbert Hoover, as assistant Commerce Secretary, started it writing a national building code. This job was amputated by the depression, but in the 30s NBS turned out some 150 studies of materials and standards that remain standard reference works. Much of this was financed by $100,000-a-year grants from FHA, PHA, and HOLC.

It takes a 92-page booklet to describe the bureau's current building research projects. NBS cooperates with both public and private agencies in developing the technical facts and means of measurement on which codes and standards for the safe and effective use of materials and equipment may be based. It also conducts research in chemistry, engineering, and physics on the properties of specific building materials, structures, and equipment.

Currently, 12 projects are underway for other government agencies. Among them: ways and means of testing and appraising venting systems in house plumbing in an effort to determine the necessity for venting; a study of thin-shell, pre-cast and pre-stressed concrete structures; a study of insulation and the effects of moisture on its performance. Also underway: studies of water vapor permeance of building materials and of means of measuring the coefficient of performance of several methods of air conditioning. The 175 scientists and engineers of the bureau spend almost $2 million a year in building research, about half of which is paid for by other government bodies.

Building Research Advisory Board: where experts advise the experts

This division of the private non-profit Congressionally-chartered (1863) National Academy of Sciences-National Research Council was set up in 1949 to study and advise on building science and technology. It grew out of the industry's contention that the government itself should stay out of technical housing research.

BRAB's 30-man body of appointed building experts tries to "bring the best brains to bear on the problems that government agencies need help on." For several years, its biggest client has been FHA, whose own technical staff is chronically too short-handed to cope with the welter of new ideas sprouting from the industry. BRAB studies for FHA include: criteria for warm-

air ducts, slab-on-grade standards, vapor barriers, ground cover in crawl spaces, and soil studies to determine foundation requirements.

BRAB's services may be contracted for by private industry as well as government agencies. It does no actual laboratory or field research itself, but compiles the findings of engineers, scientists, universities and research facilities throughout the country. It correlates unrelated research in building technology, stimulates investigations where a need is demonstrated, and advises and monitors research bodies and funds where impartial guidance is desired.

BRAB has two contracts to serve FHA. It provides interim opinion on specific problems like the ones above, and it has set up an advisory committee to help FHA pick out what research is most essential.

Forest Products Lab: incubator of tomorrow's wood technology

One of the oldest government research programs, Forest Products Laboratory was set up (under the Department of Agriculture) as an adjunct of the University of Wisconsin in 1910, moved to its own 10-acre facility in Madison in 1932. Its explorations into better ways to use wood have produced a long list of technological advances—though some of them have been taken up by industry with agonizing slowness. Case in point is the stressed skin sandwich panel, a principle used today in almost all factory-built wall, roof and floor panels. FPL developed it more than 30 years ago, and for 20 years almost nobody put the idea to use. FPL has also done research on laminated floorings, paint failures, and stress grading of lumber by machine (H&H, June).

FPL's current studies add up to a strong effort to keep wood competitive in tomorrow's building methods. They include investigations of: the potential of water jets and lasers for cutting wood (to reduce the waste of timber inherent in all sawing methods); a method of pre-stressing glue-laminated beams for improved load capacity; the use of polyethelene glycol to improve the dimensional stability of wood (one of the biggest drawbacks to the material); and a framing and wall coverage system for houses based on a 3′ or 4′ spacing of framing members, instead of the usual 16″ module.

Agricultural Research Service: from rural problems come housing answers

At Beltsville, Md., two divisions of the Department of Agriculture are digging into problems affecting the farm family and its housing. Their work is tailored to rural needs and problems, but much of it applies as well to general housing construction. *Agriculture Engineering Research* has developed a series of plans for farmhouses and offers working drawings through the agricultural extension service at most state agricultural colleges. Currently, the division is testing wood floors laid directly on the ground over gravel fill and a vapor barrier in hopes of getting a warm, resilient wood floor with the economy of the slab-on-grade.

Clothing and Housing Research has developed standards for the planning of labor-saving kitchens based on studies of housewives' work patterns. The division has also published guides for planning storage and activity areas in housing for low and middle-income families.

Much rural housing is free from zoning, codes, and/or restrictive labor practices, so agriculture feels free to experiment with materials or methods that could not be used in urban markets. For example: no building code would presently accept wood floors on grade or the experimental panels.

Agency for Int'l Development: technical help for overseas

One concern of this affiliate of the State Department is the use of American research and technological know-how to help underdeveloped countries find quicker solutions to their housing shortages. Housing an expanding population with limited natural resources and primitive building methods and labor is one of the biggest problems in many countries. So AID commissions studies into methods for minimum housing.

Sample project: a study of stabilized earth (a mixture of dirt and cement) housing, carried out by Texas A&M. It produced the negative, but still important, finding that such construction would save money only in areas where low cost and/or abundant aggregates were scarce or non-existent. Reason: just as much cement would be needed to stabilize soil as in conventional concrete masonry construction.

NASA: down-to-earth dividends from space

An orbiting space capsule, carrying a man around the earth in 90 minutes, appears pretty remote from a single-family house that will never leave its site. But, like much other government research, NASA's efforts to solve space problems constantly turn up findings useful to earth-bound industries. The ten NASA field centers report all successful technical innovations to the recently established (May, 1962) Office of Technology Utilization, which attempts to publicize them to the U.S. scientific and industrial community. Many industrial firms have adopted—or adapted—NASA processes to solve problems that their own research had never licked. Among them: metals forming methods, welding techniques, and non-stick coatings for molds and plywood presses. Ahead lie possibilities of more dramatic technical advances. For instance, better ways to fireproof steel structures than our present bulky wrappings of concrete could come from processes, designs and materials used to dissipate the heat from the re-entry of a capsule into the atmosphere.

Public Health Service: prober of housing's effect on health

Since 1958, PHS's Bureau of State Services has been giving research grants for studies of environmental health problems —about $226,000 per year in 12 projects.

At least two bear directly on housing: 1) a study of shortcomings in occupied space—room sizes, noise, vibration, lighting, ventilation, plumbing, and accident prevention and 2) an inquiry into problems of urban and recreation areas—air and water pollution, building lot areas, sewage and waste disposal, water supply, and population and density standards. Results have not yet been divulged.

continued

6 The big remaining question: why hasn't the rich lode of new ideas, both blue-sky and field-tested, been mined? Why isn't more of today's new technology reaching the marketplace? Here is a look at:

Technology's roadblocks—and how they can be broken

There is just no doubt that the housing industry cannot take full advantage of the technology available.

There are many new systems, developed and field tested, available right now—as you have seen on the previous pages. On the facing page are just a few of the new ideas researchers and engineers throughout the industry are working on. We know how to fuse brick together with lasers—souped-up light rays; we know how to build fuel cells that can supply electricity for years without refueling; we know how to build single-material panels with strong solid skins and insulating foamed cores. We have the knowledge to build anything from paper houses for underdeveloped countries to steel houses that can be fired into space.

Why hasn't more of this know-how been fed into the everyday —but all important—problem of building better houses cheaper? Why are so many good ideas lying unused?

Up to now there have been no criteria for choosing the best of the new ideas, and getting them to market

The problems of introducing a new idea, material, or system into the housing industry are unique. First, the merits of a given idea are hard to evaluate because, most often, they depend on a complex interaction with other parts of the house. (For example, when trusses first came along 20 years ago, they could not be sold purely as a substitute for roof rafters. They were, and are, more expensive to buy. They became popular only when the industry became aware of the indirect savings in construction time and plan flexibility that trusses make possible.)

Second, in the housing industry the decision to adopt a new system must be made thousands of times by thousands of individual architects and builders. And, typically, an innovation must perform well for a long period of time before it is widely accepted. By contrast, in the auto industry the decision of a handful of men can introduce a new idea to the nation.

Third, a new idea acceptable in one part of the country may not be acceptable in another—for technical reasons of climate, or soil conditions, or materials availability; or because of the personal prejudices of the market in various parts of the country.

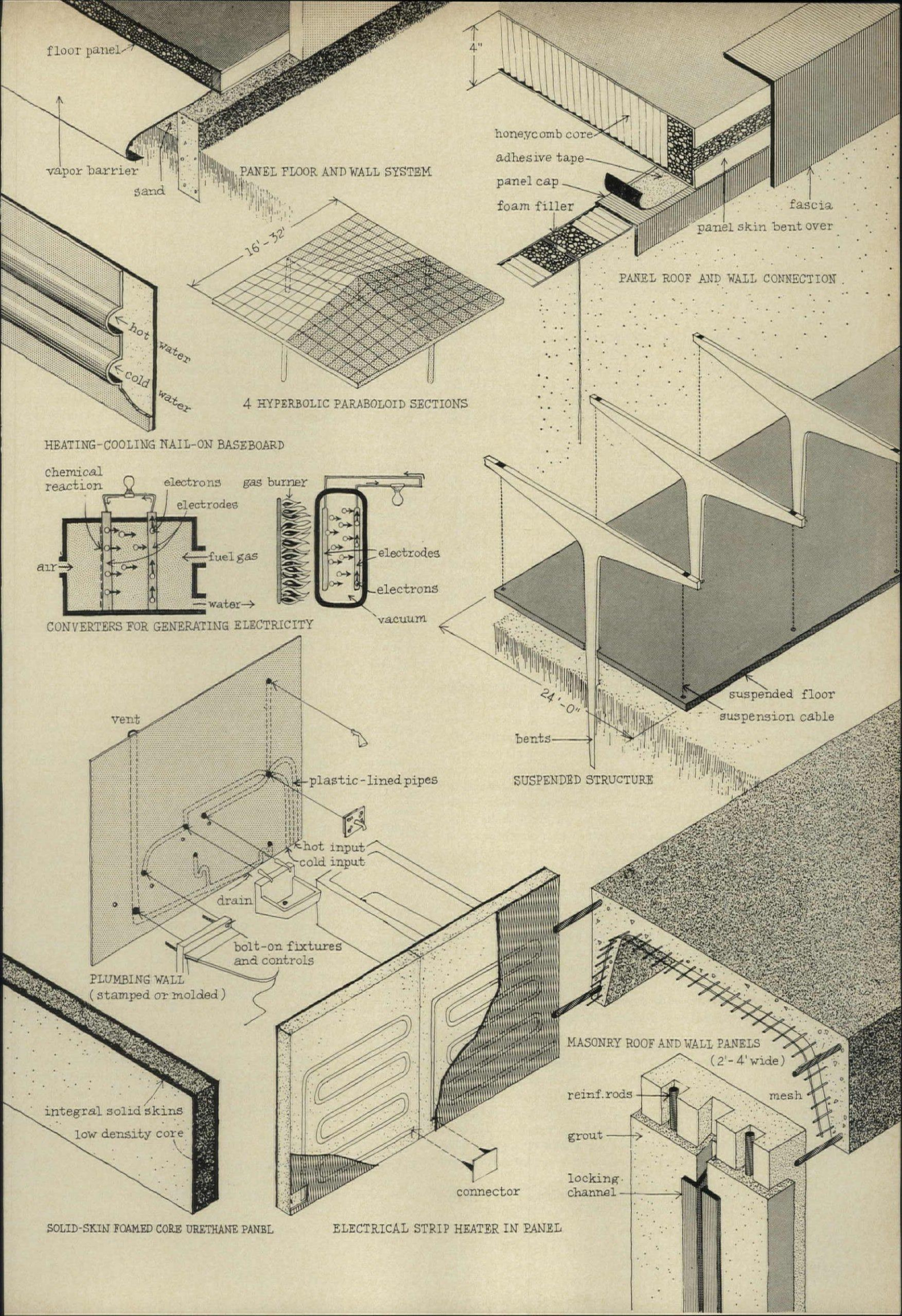
"We have to be prepared for a lead time of three to five years to bring a major innovation to market," says Edward Riley, marketing director of Simpson Timber Co. "After research and development get through with a new idea, marketing men take it over and test it with sometimes as many as a hundred dealers and builders. Then when we know it will work more executive decisions must be made, distribution established, code bodies and building officials thoroughly acquainted with the innovation [for more on codes, see below]."

. . . but criteria are being developed for picking the most important innovations

"First and foremost we must be guided by the market," says Martin Bartling, vice president for research of U.S. Gypsum and past president (1960) of NAHB. "We're in a buyers' market and are likely to remain in one. We can only bring to market an innovation that gives a builder's house added sales appeal—either by boosting quality or cutting costs."

Builder Don Huber of Dayton lists a second practical guide: in-place cost. "Many ideas" says Huber, "get lost because their costs are not known. The costs of producing something the first time don't mean much. And even if these costs can be projected for volume production, most builders want to know what it will cost installed in the field. TAMAP studies [*see page 87*, and H&H August and October '61, and January '62] have shown clearly that many innovations costing more to buy result in a lower in-place cost. And don't underestimate the effect of cutting in-place

IDEAS FOR THE HOUSE OF 197X abound in research labs and in the minds of researchers, engineers and architects across the country—ideas for totally new structures, new panels, new sources of power, new materials, and new uses for the old.


floor panel
vapor barrier
sand
PANEL FLOOR AND WALL SYSTEM
4"
honeycomb core
adhesive tape
panel cap
foam filler
fascia
panel skin bent over
PANEL ROOF AND WALL CONNECTION
16'-32'
4 HYPERBOLIC PARABOLOID SECTIONS
hot water
cold water
HEATING-COOLING NAIL-ON BASEBOARD
chemical reaction
electrons
electrodes
air
fuel gas
water
gas burner
electrodes
electrons
vacuum
CONVERTERS FOR GENERATING ELECTRICITY
24'-0"
suspended floor
suspension cable
bents
SUSPENDED STRUCTURE
vent
plastic-lined pipes
hot input
cold input
drain
bolt-on fixtures and controls
PLUMBING WALL (stamped or molded)
integral solid skins
low density core
SOLID-SKIN FOAMED CORE URETHANE PANEL
connector
ELECTRICAL STRIP HEATER IN PANEL
MASONRY ROOF AND WALL PANELS (2'-4' wide)
reinf. rods
mesh
grout
locking channel

costs. Suppose you could save 5% of the sales price of a house with new technology. With other costs and operations remaining as they were, that 5% could push your gross profit up more than 50%."

Housing Consultant Carl Boester suggests an unusual—but knowledgeable—guide: "One of the best ways to tell whether a new system is sound is to weigh it. This criteria is admittedly empirical, but most innovations in housing do weigh less than the thing they replace. One exception is the asphalt shingle, which weighs more than wood shingles. I don't believe anyone ever bothered to weigh the Lustron house."

Says NAHB's Ralph Johnson: "The Research Institute has worked out a list of goals for any new system. It must reduce on-site labor and number of skills needed; reduce the total weight of the house for transportation; improve the structure; minimize the effects of weather; improve handling and use of tools on the site; and increase the use of multiple-function parts."

And, adds Housing Consultant Leonard Haeger, "No major innovation can get to market unless the innovator has a pipeline to the local level. You have to do more than invent a better mousetrap. You have to have a marketing plan and the ability to carry it out right to the ultimate consumer."

The biggest roadblock of all is the chaotic plethora of local building codes in the U.S.

An NAHB survey of 900 cities with more than 10,000 population shows that 71% base their codes on one of the four proprietary regional codes*. But this kind of code unity is illusory. NAHB also finds that almost all of the 900 cities have modified the model code to their local liking. Over 90% of the cities have adopted the National Electrical Code—but 73% of them have amended it to suit their tastes. About half the cities adopted the National Plumbing Code—but most of them had changed parts of it to suit local conditions. Over half of the cities prohibit the use of prefabricated wall components. Over half prohibit the use of 3" waste lines in one-bath houses—even though National Bureau of Standards' tests show that this size provides a more dependable flow because the pipe force-cleans itself.

Summing up wasteful code chaos in official language, the White House Science Advisory Subcommittee on Housing points out that code requirements vary so much from place to place that "housing is denied the full advantages of mass production which have contributed so significantly to other sections of the economy."

A real solution to the code problem may have to come from the government—in form of performance standards

Housing experts of all persuasion—including code officials themselves—have long agreed that code unification would be a good thing. Abortive efforts to this end date from the Twenties, and the major code groups themselves had a go at it in the early fifties (and got nowhere). This year, the three major groups of building officials (SBCC, ICBO, and BOCA) again made a tentative move toward unification by establishing a national coordinating council "to collaborate in matters of mutual interest." All three of these proprietary regional groups have done much to improve codes, but they have always been subject to pulling and hauling by materials makers, insurance companies, and other interests—and none of them—as HOUSE & HOME pointed out (Nov. '62)—has a big enough budget to do the job properly (the biggest of them has only $309,000 a year to spend).

The only quick solution, many experts believe, is to let the federal government take a hand in code unification. Few people in housing want the government to assume any larger role in the industry; yet codes are one area in which only the government seems likely to supply anything like an impartial forum with enough muscle to get the job done. There is a groundswell of interest in a White House conference on this sticky problem. The goal: to write national performance standards—not codes—for new housing, and to create a set of tests to be used to determine whether or not a new product or system meets the standards.

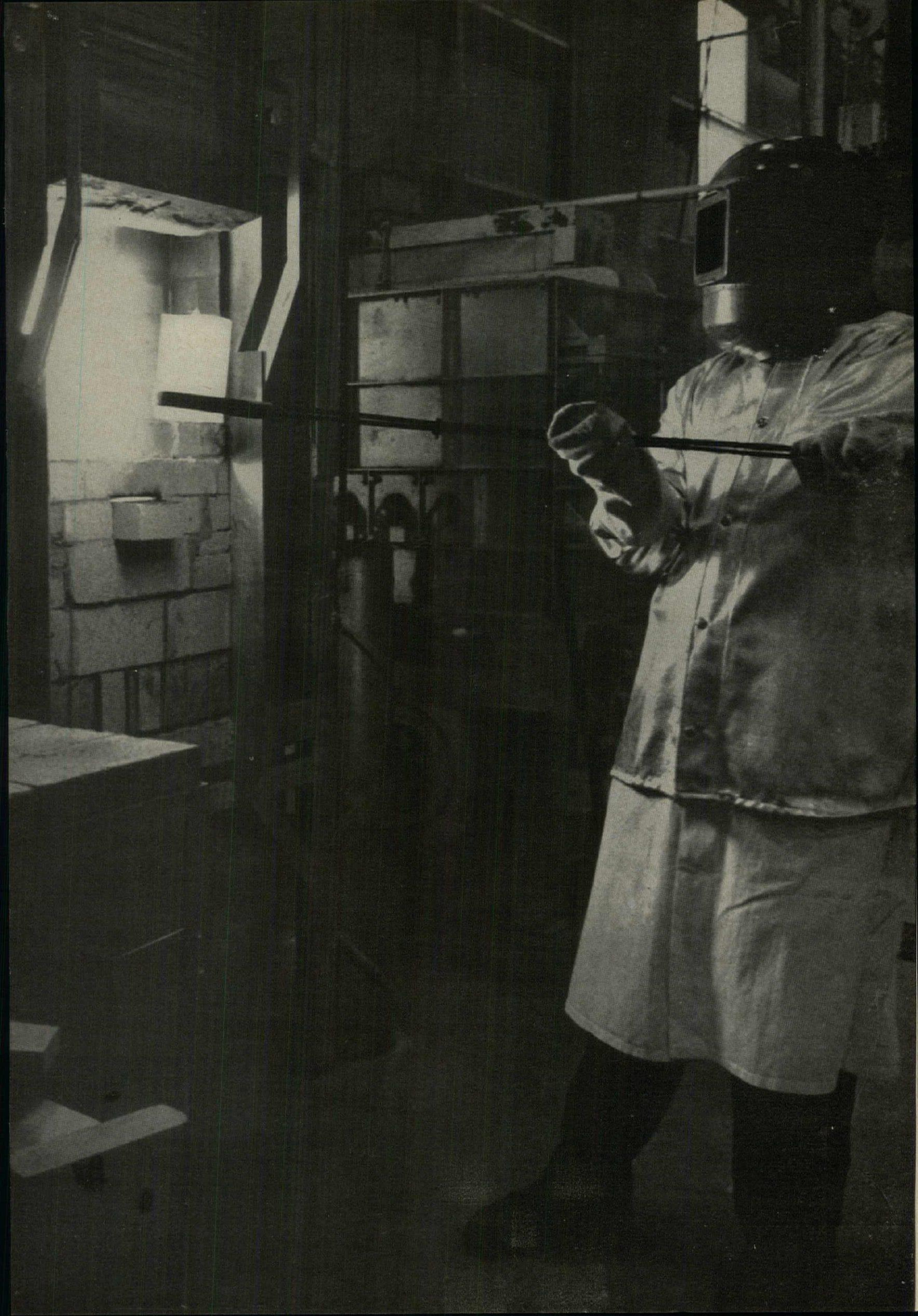
(Performance standards differ from codes in that they govern only the *function* that must be performed by any part of a house. For example, under a performance standard, a wall could be made of pressed corn flakes as long as it met the requirements of strength, durability, heat loss, and so on. In contrast, a performance *code* would read that "the frame walls must support . . ." tying you into an established system by implication. And a specification code, the commonest form, simply dictates "walls must be 2x4 studs 16" oc.")

National performance standards could open the way to sweeping changes in houses and the way they are built. Under a realistic performance standard, for example, mechanical cores would stand a real chance of broad acceptance—and a real chance of sharply reducing building costs. The industry would be in a position for the first time to reap the benefits of true industrialization—innovations that would not only lower housing costs (and this grows more important with every passing year) but provide a better product. With such basic changes made possible . . .

Housing's major problem would then be adapting industrialization to a product buyers will want. There is no doubt that if all other problems now blocking the industrial revolution in housing were magically swept away, the industry would still be faced with the problem of facing up to its disciplines, and selling the public on the result. Some architects complain about the design discipline imposed by industrialization—but architects have always had to subscribe to one discipline or another, and surely today's lack of discipline in housing design is a bad thing. Would buyers accept unfamiliar materials and forms? They would if the price was right. Efficiency in production, economy in building, and beauty in the end product are not mutually exclusive ideas. Housing technology—the existing ideas waiting to be used and the fresh ideas yet to be developed—can indeed produce a better house for less. What we need to do now is clear away the roadblocks, and start taking giant steps ahead. —RICHARD W. O'NEILL.

* International Conference of Building Officials (ICBO) code, Building Officials Conference of America (BOCA) code, Southern Building Code Congress (SBCC) code, and National Board of Fire Underwriters (NBFU) code.

NEW MATERIALS FROM INDUSTRY—for example, the glass coming from this furnace at Owens-Corning Fiberglas—could make tremendous differences in the way we build. Glass can be made stronger than steel, more flexible than plastic.



At town meetings like this . . .

How can developers sell high-density zoning?

Most builders and developers who have petitioned for a zoning change—particularly a change permitting apartments in the suburbs—have felt the ire of worried homeowners at town council and planning board meetings like the one above.

One builder-developer who has faced this almost automatic opposition with far better than average success is Carl M. Freeman of Silver Springs, Md. Freeman has been pushing good high-density zoning in the metropolitan Washington area for more than ten years. He is still far from satisfied—and still experiences occasional setbacks—but his persistence has paid off:

- His company, Carl M. Freeman Associates, has designed, built, and now owns about 5,000 rental units in 11 Washington-area projects. Current vacancy rate: only 0.4%.
- His construction volume—including projects in Baltimore and Annapolis, Md., Harrisburg, Pa., and Des Moines—will be nearly $20 million for the fiscal year ending June 30. Fifteen thousand people now live in Freeman's Washington apartments, and he expects to have 45,000 under roof by 1968.
- His top-flight organization and record of award-winning, financially successful projects are bringing him many new opportunities to boost his volume by expanding into new areas. Item: A Des Moines group asked him to bid on a $5 million urban renewal project, then awarded him the job under fixed-price bidding on the basis of his plans and designs for 400 garden and elevator-type apartments.

Says Thomas Harkins, Freeman's president: "We are staffed with architects, land planners, engineers, construction experts, apartment managers, lawyers, and other top personnel. We can do everything in our own office—buy and develop land, design, build, and manage. We believe our success depends on controlling a project from start to finish."

Despite his company's impressive record and enviable reputation, Freeman expects dogged and widespread opposition whenever he asks for a change to higher-density zoning.

"There's always at least one person or one group with a vested interest in opposing the change," he says. "Inevitably, a homeowners' association shows up. And in well-to-do neighborhoods residents chip in enough to hire high-priced legal talent and fight on through the courts. They worry about school taxes, about traffic congestion, and about the effect of nearby apartments on their house values. Politics enters the picture, too. In one New Jersey town we were blocked by Republican office holders who said they frankly didn't want to be flooded by an influx of Democrats into our proposed rental apartments."

Some of the strongest opposition has come from planning offi-

L. F. Stockmeyer

City News Bureau

CHAIRMAN CARL FREEMAN (center) meets twice weekly with his top executives. From left: Alfred H. Carter, general counsel; Joseph P. Della Ratta, vice president; Mrs. Kathleen Kalish, secretary; Freeman; Thomas P. Harkins, president; Melvin Mandell, John J. Grady, vice presidents.

cials—and it draws acid comment from Freeman: "The so-called planners are responsible for the land massacre, the row on row of uniform houses on treeless plots that desecrate much of America today. They have done this with minimum square-footage requirements and archaic zoning laws. Under these laws, if you make $6,000 a year, you live in a certain type of house and you live over there. If you make $10,000, you live in another type over here. They put a price tag on people and tell them how they should live."

What has turned Freeman's opponents into proponents?

Freeman's success stems from his thoughtful land planning and his thorough approach to each zoning problem

Biggest asset going for him in his long campaign for better high-density housing is his record of providing ample green spaces around well sited, well designed, and well equipped buildings. When he switched from building houses to building rental units in 1952, his Americana project was the first in the Washington area to offer medium-priced apartments with balconies and air conditioning.

Freeman's approach to zoning problems starts with far-in-advance land buying—necessary, he points out, because rezoning usually takes a year or more of planning, conferences, and presentations. Land slated for early use is bought subject to rezoning within 18 months. Land not scheduled for use in the next five years is bought outright.

Each rezoning effort is coordinated by Vice President Joseph Della Ratta and handled in part by Freeman's staff, in part by outside consultants and researchers whose fees total anywhere from $10,000 to $25,000 per project. Here, says Freeman, is what has to be done to counter objections and present a convincing case at public hearings:

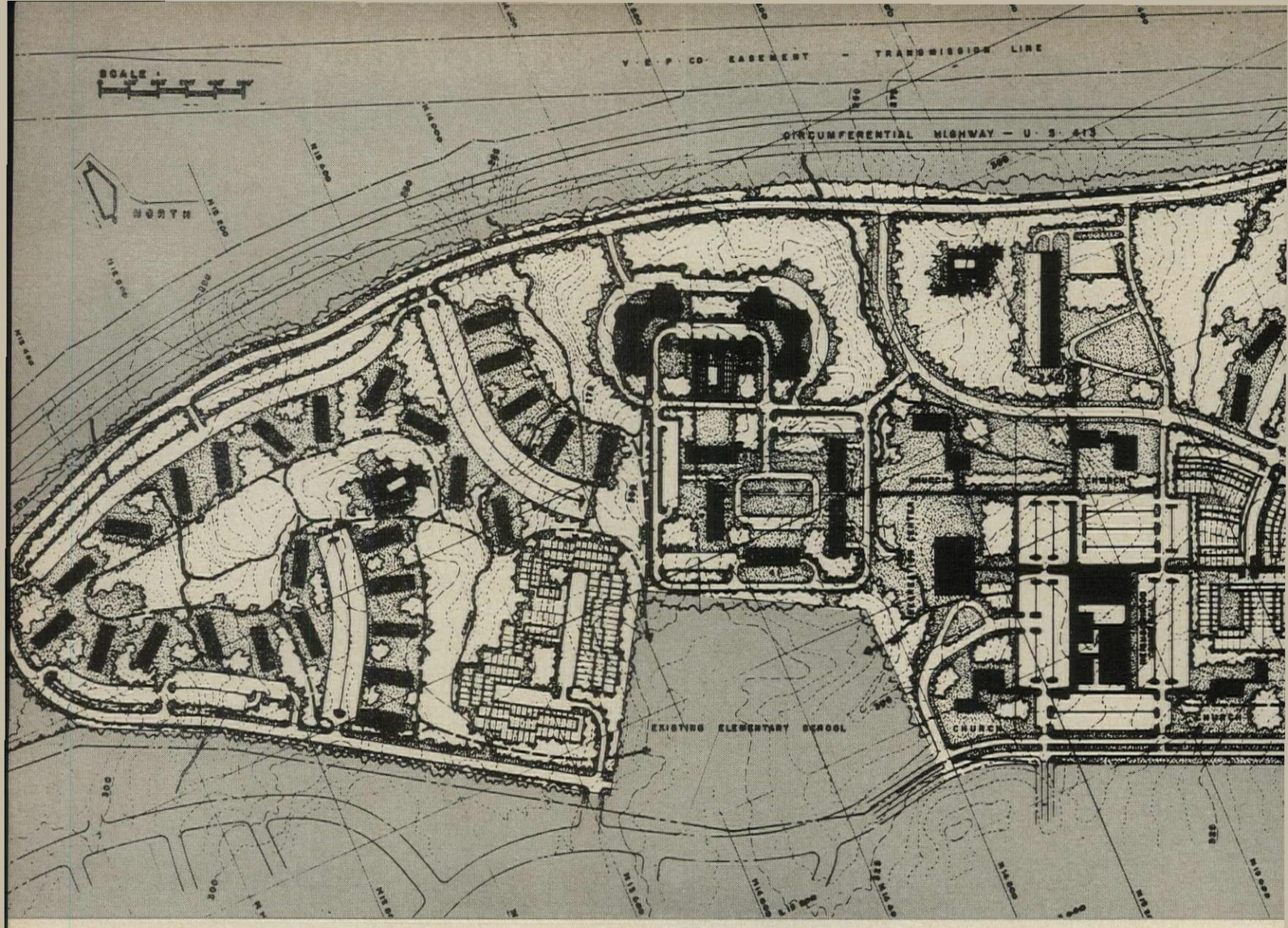
1. Run a market survey. Figures showing a local demand for rental housing always bolster a rezoning proposal, Freeman notes. He hires a market research firm to count the current supply of rental units, check vacancy rates at various rent levels, determine the area's number of under-35 and over-50 persons (major rental prospects), and then suggest the minimum demand for apartments. Actual demand usually turns out to be greater than predicted—probably because Freeman's well designed projects appeal to some people who are not ordinarily considered prospects for rental apartments.

2. Run a traffic survey. Freeman has a traffic expert study the volume and flow of traffic in the area, then predict how much new traffic the proposed apartments will create. The study also includes prospective parking requirements.

3. Check the effect on nearby home values. In one recent zoning case, Robert Gladstone & Associates, a research firm retained by Freeman, presented data showing that nearby home values do not fall when well-planned rental units are built close by. Basis for this finding: a study of single-family house valuations in a similar area where apartments were built.

4. Check the effect on taxes—particularly school taxes. Researcher Gladstone also prepared and presented a tax study that compared tax revenue and school costs generated by two possible

continued



uses of Freeman's 25-acre site: 1,000 rental apartments or 116 houses with a market value of $30,000 each. Results:

	1,000 Rental Units	116 Houses
True value	$16,350,000	$3,480,000
Assessed value (55%)	8,993,000	1,914,000
State and county taxes	311,000	66,000
School taxes	228,000	49,000
No. of school students	213*	116*
School costs	91,000	50,000
Tax advantage to schools	137,000	none

* Estimated at one child per house; 0.012 child for 450 one-bedroom units; 0.263 child for 450 two-bedroom units; 0.891 child for 100 three-bedroom units. Data on rental units reflect present figures in other Freeman projects.

5. Hire a local lawyer. Says Vice President Della Ratta: "The lawyer is a key man. Few zoning ordinances are alike, and most communities have their idiosyncracies. So we pick a respected lawyer who knows the local officials, understands timing problems, and is familiar with the ins and outs of local zoning. Under no circumstances do we—or our lawyers—consider special favors to local officials, and fortunately we have never had to face this problem. Our contacts with officials are limited to official meetings. At all other times our lawyers speak for us."

6. Meet only with committees of civic groups—not with the full membership. Why? Says Freeman: "At open meetings of civic and neighborhood associations, hecklers often take over and turn the sessions into a shambles."

7. Use visual aids. At each zoning hearing, Freeman displays a model of the proposed project, also distributes photos and fact sheets on the number of units, parking areas, the percentage of land to be used for recreation, and the like.

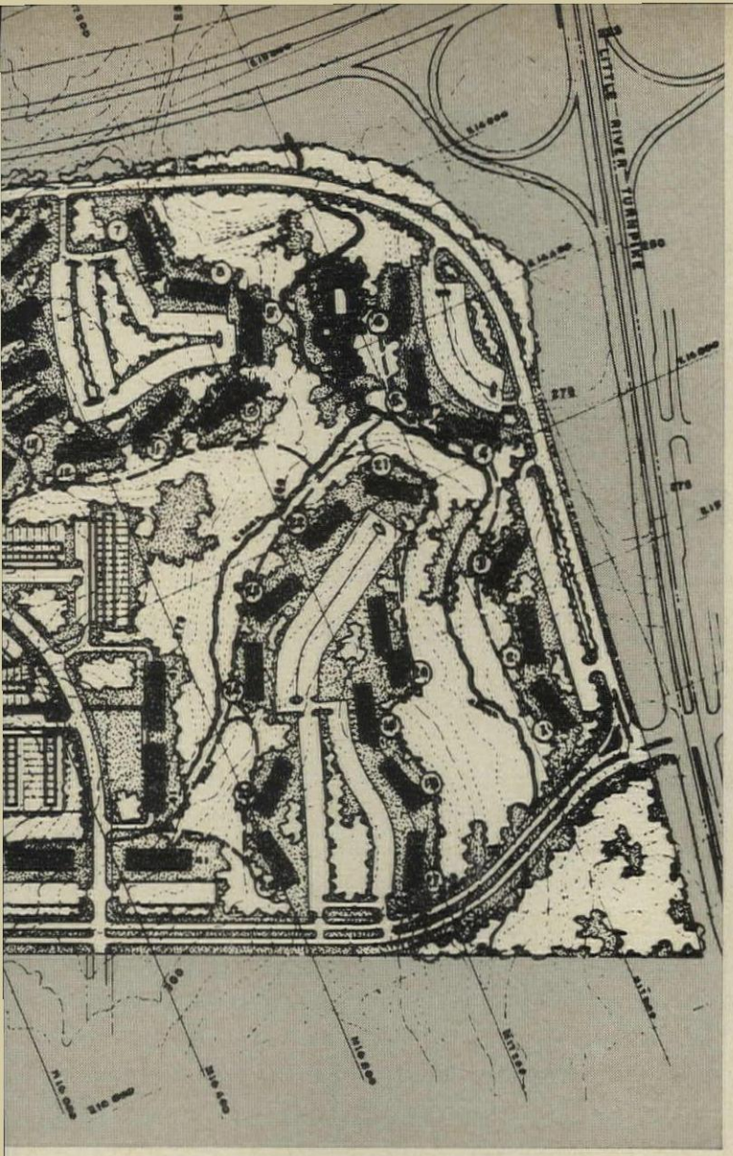
8. Take the key people to a finished project. Freeman won rezoning in Annapolis only after taking a busload of Annapolis officials on a tour of his earlier Washington projects.

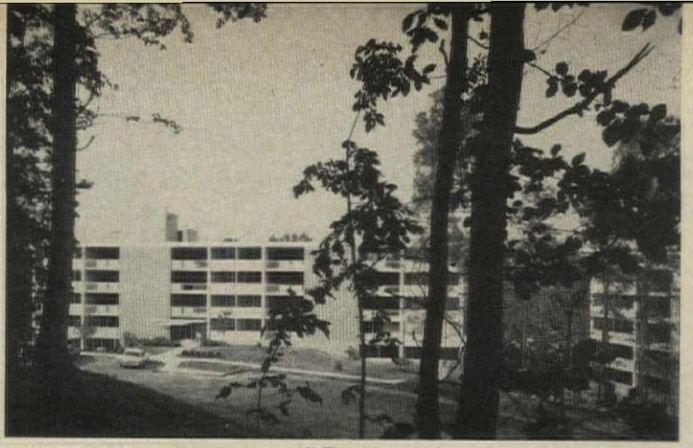
"The most difficult problem," he says, "is to make people understand what you intend to do. And the better the proposed project, the harder it is to convince them of its merit. They can't visualize something better, can't comprehend the varied uses of space that are possible. Again and again we have found that nothing gets accepted by local authorities or the public unless you can find a way to show a finished product."

What's needed even more than rezoning, says Freeman, is a new kind of zoning and a better mix of housing

"I am for zoning laws that force developers to build better communities and build for a better mixture of people. We need average density zoning so we can fit the buildings to the topography. We can have self-contained communities with variety to satisfy diversified tastes. Most zoning laws preclude this."

Around Washington, Freeman has been in the forefront of the fight for new kinds of zoning. He organized the Suburban Maryland Builders Association 12 years ago to conduct an educational campaign on new multiple-family zoning. This effort paid off last year when Montgomery County set up a new zone that cuts square footage per unit provided a high proportion of acreage is left





J. Alexander

NEWEST AMERICANA (a name all Freeman projects bear) has by-now standard design for firm's masonry buildings. This one is in a 2,000-unit tract.

Robert E. Hurwitz

HILLSIDE BUILDING is two stories on higher side (above), four stories on lower side. Units are on ground level or only one flight from ground.

240-ACRE VIRGINIA TRACT for 3,000 units has 70 acres of untrammeled parks and recreation areas. Site is along main Washington-area highway.

green and other quality standards are met.

In Fairfax County, Va., Freeman worked with county officials to develop the highly successful plan shown above. Rather than try to build a relatively small number of units 20 to the acre, as zoning would have allowed, Freeman asked zoning for the whole tract at only 11½ units per acre. This obtained, he was able to retain many natural assets of the land—streams, woods, and the like—and to site buildings, plan traffic arteries, and offer neighborhood facilities to best advantage. Today the three-year-old, 3,000-unit community has 700 occupied units, and demand is strong for more than 300 town houses and medium-rise apartment units going up.

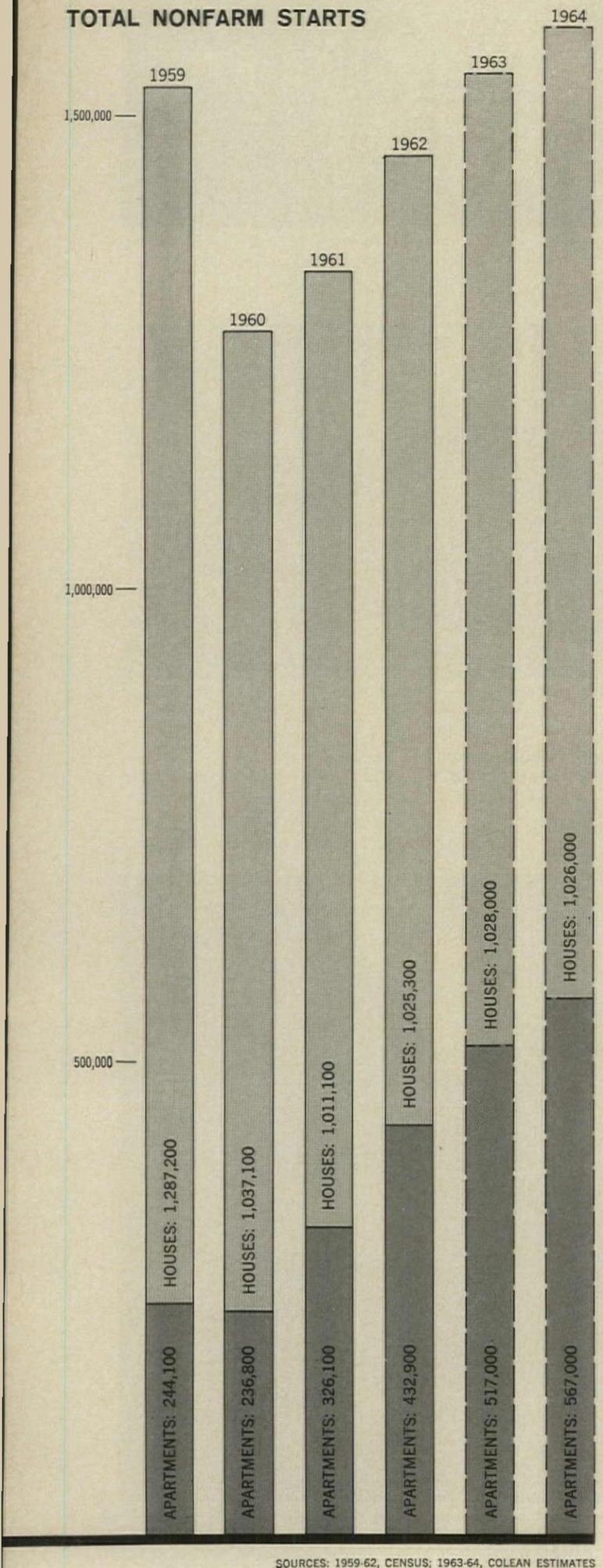
Fairfax County has since adopted a planned community ordinance furthering this kind of land use for tracts of 750 acres or larger. The ordinance provides that developers who get the liberalized zoning must fulfill their promised use of the land or the zoning may be canceled. Land Planner William C. Burrage, who as county planning director developed this concept, recently joined Freeman's staff.

Sums up President Harkins: "We are now adequately set up to do more and more community projects if we can get the enlightened zoning needed. We will never go into a venture without building the best we know how. We build everywhere to meet the toughest possible competition that can develop in the future. If we build what the public will continue to like, our vacancies will stay low—and low vacancies are the key to successful high-density projects."

(Village Administrator Raymond M. Urquhart of Bronxville, N. Y., has studied the restrictive effects of zoning and codes in New York. For his findings and recommendations, see NEWS.)

J. Alexander

TOWN HOUSES in Fairfax project (above left) have balconies and garden patios, three or four bedrooms, 1½ or 2½ baths, rent from $195 to $260.



An analysis by Economist Miles L. Colean

Forecast for 1964 housing: a near-record year— 1,593,000 nonfarm starts

Housing has gained this year for the third year in a row and now stands close to an all-time peak. Private and public nonfarm housing starts should reach 1,545-000 in 1963—a rise of 21% from the 1,274,000 level in recession 1960 and a 6% jump from 1962's 1,458,300.

Next year, housing output should go still higher, The outlook is for total starts of 1,593,000 units—which will probably make 1964 the second-biggest year in U.S. housing history.*

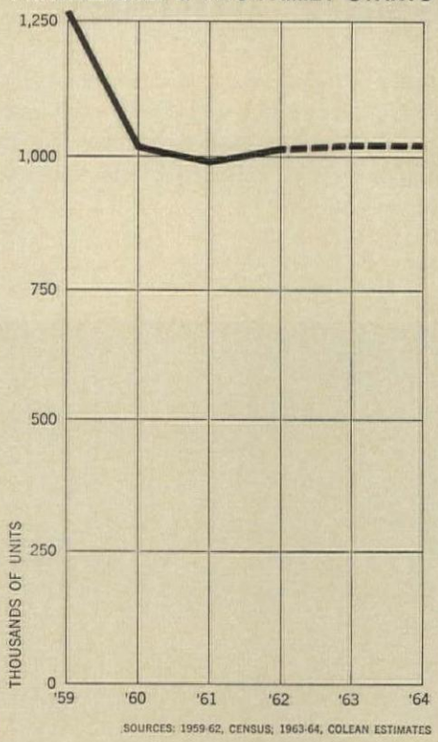
Private nonfarm housing should reach 1,520,000 units this year and gain 50,000 in 1964 to 1,570,000 units. All of the increase will come in apartments, which should account for some 35% of private starts (compared with 28% for 1962). One-family homes can be expected to hold steady at their 1963 level of 970,000 starts.

In dollar outlay terms, private nonfarm housing is already at record level. This year expenditures will rise to around $19.6 billion. Next year should produce a new record outlay of some $20.2 billion.

Public housing—that is, housing built and owned by local authorities and subsidized by the federal government—has been in a decline for several years. Regularly published government figures conceal this because they also include housing built for military and defense-related families both by direct appropriation or under FHA's Capehart program. This hybrid mixture of "public housing" accounted for 52,000 starts in 1961, but will probably produce only some 25,000 this year and 23,000 next. To state it another way, public housing would thus shrink from 3.8% of total nonfarm starts in 1961 to only 1.4% next year.

*The 1,593,000 estimated nonfarm starts would be tops for the years since 1959 for which Census has comparable figures. NAHB estimates that the 1950 explosion of shelter housing produced an all-time record 1,721,000 starts, and that 1955 saw 1,555,000 starts.

PRIVATE ONE- & TWO-FAMILY STARTS



SOURCES: 1959-62, CENSUS; 1963-64, COLEAN ESTIMATES

Outlook for homes: same as this year

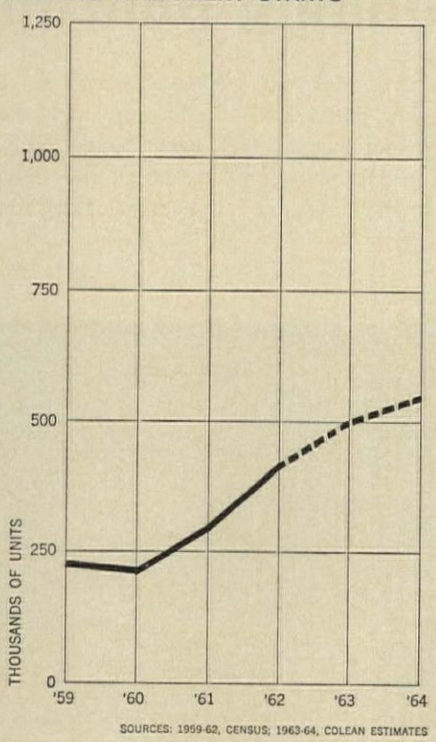
Considering the underlying market forces, one-family house building has held up remarkably well. Private, nonfarm one-family starts will gain ½% from 965,200 in 1962 to 970,000 this year.

Even a decline would have been no surprise. The number of persons is shrinking in the 25-44 age bracket that historically has provided the biggest group of home buyers. And many builders were fearful that efforts to promote racial integration in housing would hurt sales.

One-family housebuilding has been fueled (as has the apartment boom) by the greatest outpouring of mortgage credit ever. The easy availability of credit has been mainly evident in longer maturities and big loan-to-value ratios. And mortgage interest rates themselves have sagged mildly (but are not likely to drop further next year). Conventional mortgages have remained exempt from the year-old Presidential Order against race bias in housing, and conventional financing has more than filled the gap left by the continuing decline of FHA and VA starts. FHA starts (151,000) and applications (172,000) during August hit a seven-year low.

Stable demand next year (another 970,000 one-family homes and another 50,000 private two-family homes) means a selective and discriminating market. More than ever, the major demand will be not for a cheap house but for quality at whatever the price—even in a trailer. One evidence: the average cost of one-family houses started in 1963 is up slightly from the $14,325 average of 1962.

PRIVATE APARTMENT STARTS



SOURCES: 1959-62, CENSUS; 1963-64, COLEAN ESTIMATES

The apartment boom: a slight increase

The six-year-old apartment boom should begin to slow down next year—temporarily.

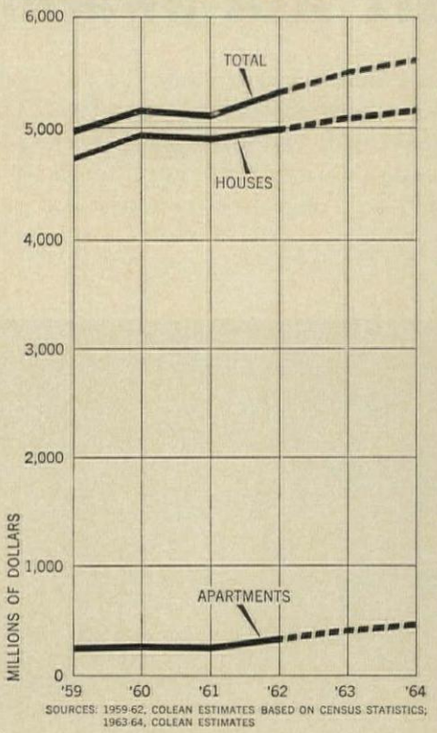
Even so, its momentum (and the long lead-time between decisions to build and actual construction) should carry private rental housing to a new postwar peak.

The nation has seen nothing like it since the late Twenties. Some 500,000 of this year's 1,520,000 private nonfarm starts will be in apartments (that is, in structures for three or more families) For multi-family housing, this is an astonishing 20% gain from 1962 levels. For 1964, a further 10% gain is in prospect—to 550,000 units.

Why should gains in apartment building begin to taper off? Fears grow that in many areas the supply of apartments may be reaching saturation—even though vacancy rates as reported by the Census Bureau (*see p. 136*) are more than ½% below their second quarter 1961 peak, and show no definite tendency to rebound. But New York City has experienced a glut of new high-priced apartments this year and last, and the same situation seems likely to develop elsewhere. Apartment demand is harder to analyze than demand for one-family homes. And a surplus of apartments can easily become a whopper before builders can reverse the trend. For once an apartment is begun, the decision to build is final.

Moreover, more and more mortgage investors are beginning to express fears that easy financing is producing some shaky projects—which may face trouble.

REMODELING EXPENDITURES



SOURCES: 1959-62, COLEAN ESTIMATES BASED ON CENSUS STATISTICS; 1963-64, COLEAN ESTIMATES

The fixup market: still growing

Census has just slashed its official estimate of how much money goes into residential upkeep and improvements. Its old figures, Census says, appear about 20% too high.

Census now places outlays for residential alterations and repairs for 1962 at $11.3 billion—$5.04 billion for upkeep, $6.317 billion for improvements. That is a whopping comedown from Census' 1960 estimate of $13.1 billion and its 1961 estimate of $13.8 billion for the fixup market.

The lower figures are based on revised and improved statistical methods. *They don't mean the fixup market is shrinking.* Instead, says Census, it shows a consistent "small increase"—in the area of 5%.

This market growth should continue, not only because the business climate is good but also because the stock of housing to keep up is growing. And the new Census figures provide insights into what fixup work builders can tap. Items:

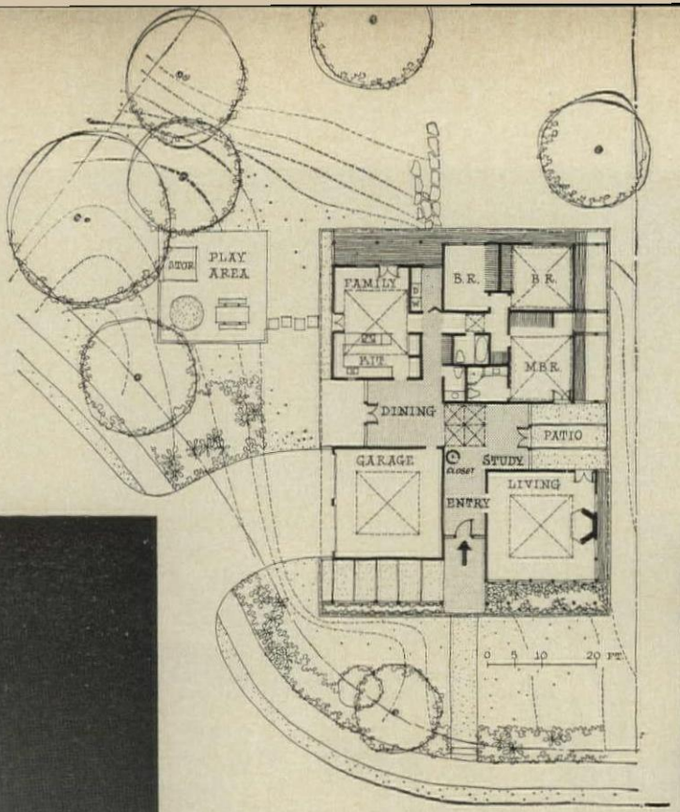
- Over half the $11 billion-a-year outlay —$6.3 billion—is spent by owner occupants of one-family homes. They spend 62% of the $6 billion ($3.7 billion) on additions, alterations, and replacements.
- The biggest identifiable chunk of what owner-occupants spend on improvements is for outside additions and alterations ($964 million)—and some 57% of that is subcontracted.
- For rental property of all types, expenditures amount to some $5 billion divided about 50-50 between maintenance and improvements.

For more details on key market influences, see p. 136

Six AIA award-winning built-for-sale houses

These houses are the winners of the one Award of Merit and five Honorable Mentions in the 1963 Homes For Better Living program (six Honor Award winners in the merchant-built category were published in July). Though all are speculatively built, they range from prototype and problem-site houses to tract houses in repetitive production. Taken together, they show the high standard of design that is possible with intelligent builder-architect collaboration. And they show that the result of this collaboration is well received by an important segment of the homebuying public.

Photos: © Ezra Stoller Assocs



AWARD OF MERIT

CLASS: *over $25,000 including land*
ARCHITECT: *Bassetti & Morse (John M. Morse, partner-in-charge)*
BUILDER: *R. O. Bordner Construction Co.*
LANDSCAPE ARCHITECT: *Richard Haag & Associates*
LOCATION: *Seattle*

Flexible plan, left, here oriented to a dual-frontage corner plot, can be easily rearranged to suit varied lots and family requirements.

Front view of house shows generous protected porch and entry. Two-car garage has a driveway from the side street of the corner lot.

1. A house of ideas seen by millions of prospects

This built-for-sale house was not put into tract production. But it was given wide exposure to the homebuying public (see below). And it is a house with many ideas applicable to other model houses: 1) careful delineation and separation of living areas for maximum privacy without sacrificing informality; 2) minimum use of expensive space for circulation; 3) modular (4′) planning; and 4) the design element of peaked roofs over the various zones, unified and tied together by a flat roof plane. The relative independence of the four zones (living, sleeping, kitchen/family, and garage) from each other makes this plan easily adaptable to different sites and orientations, or for repetitive use in a subdivision.

Architect John Morse of Bassetti & Morse designed this house for the Georgia-Pacific Corp. and *House & Garden*. It was shown to 12,000 people (including hundreds of Northwest housing industry leaders) during the opening weeks of the Seattle World's Fair. It was designed to sell for under $35,000, though an exceptionally expensive Lake Washington view lot (at $15,000) boosted the cost of this house to $45,000. It was sold before completion.

Window wall, on two sides of the living room unit, has a feeling of openness emphasized by the height of the open-ceiling peaked roof.

Center-of-house space, used for a study and a dining room, is dramatically lighted by a four-bay plastic skylight in the flat roof.

Kitchen-family room has its own pyramidal-roof, gets extra daylight from the clerestory windows above the walls on all four sides.

continued

Photos: John Hartley

Low silhouette of the flat-roofed house adds a look of extra width. Beams over the entry court create an interesting light and shadow pattern.

Recessed ceiling lighting and fireplace flanked by sliding glass doors add design interest in the big (15′ 6″ x 23′ 6″) living room.

Charles Aqua Viva

View toward garden court shows the excellent traffic circulation of the central entry. Family room and kitchen are behind the bookcase wall.

HONORABLE MENTION

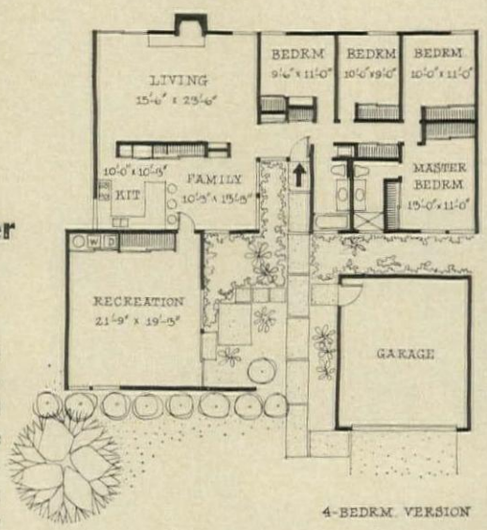
CLASS: *between $15,000 and $25,000, with land*
ARCHITECT: *Homer Delawie*
BUILDER: *Drogin Homes Inc.*
LANDSCAPE ARCHITECT: *Kenneth K. Hayashi*
LOCATION: *San Diego*

2. Flexible-plan price leader for a luxury subdivision

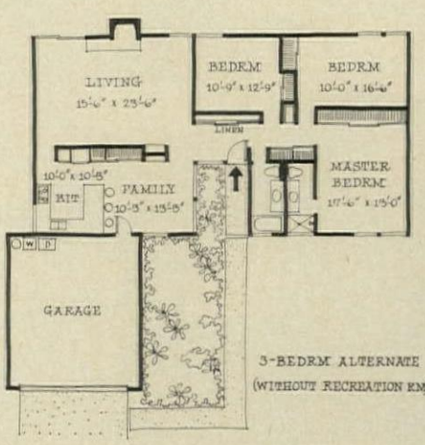
For its San Diego subdivision of houses priced up to $40,000, Drogin Homes wanted an attractive model at the lower end of its price spectrum—preferably one that would permit plan variations for differing family needs and incomes. Architect Homer Delawie (who won an Honor Award for another builder house—H&H July), designed this clean-lined contemporary that sells from a top price of $25,000 (in a four-bedroom version with a large recreation room, see plan right) to as low as $23,000 in a three-bedroom, two-bath version (lower right).

Both versions are oriented to an entry garden-court, which is visible from the living, family, and recreation rooms. Exterior walls are shop-fabricated—complete with sash and siding—in 8′ panels, and the clear-span roof permits the use of non-bearing, laminated drywall partitions.

The house has accounted for eight out of 51 sales in the project.



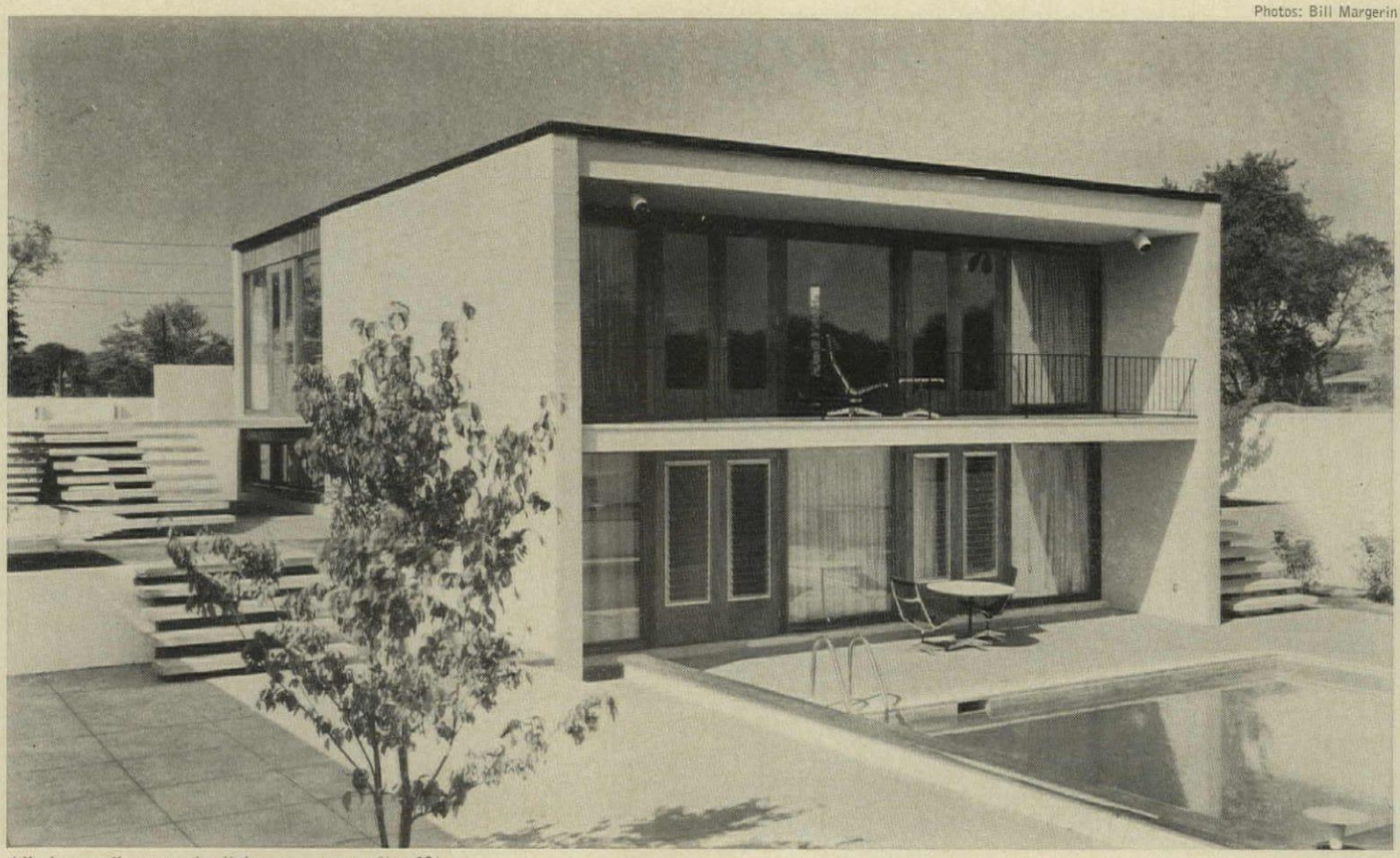
4-BEDRM. VERSION



3-BEDRM. ALTERNATE
(WITHOUT RECREATION RM.)

Basic plan is a 30′ x 56′ rectangle. More expensive version (top) uses same rectangle with recreation room added, has smaller bedrooms.

Photos: Bill Margerin



All-glass walls open the living room to a 6′ x 32′ balcony overlooking the pool, and first-floor bedrooms to the terrace.

HONORABLE MENTION

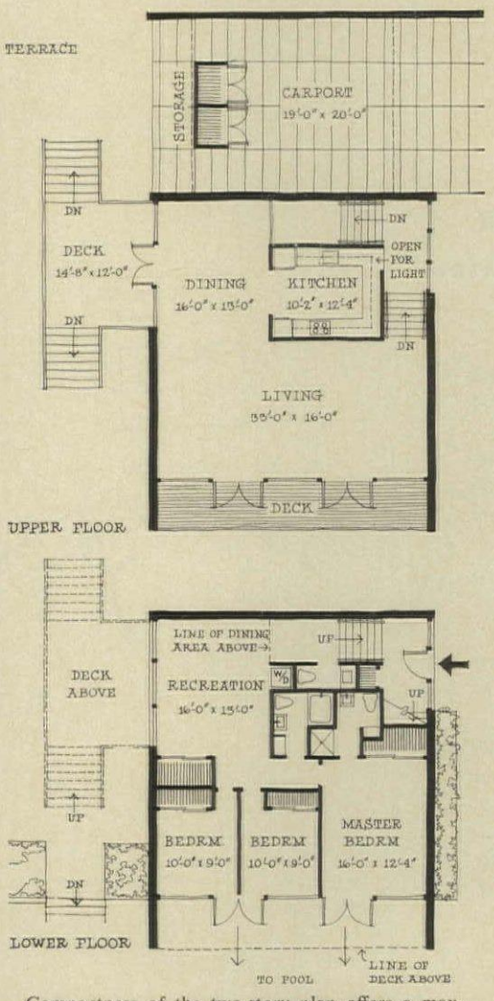
CLASS: *over $25,000, including land*
ARCHITECT: *Kuhn & Drake*
BUILDER: *R & S Builders Co. Inc.*
LANDSCAPE ARCHITECT: *Carol Johnson*
LOCATION: *South Plainfield, N. J.*

3. A masonry cube within a private walled enclosure

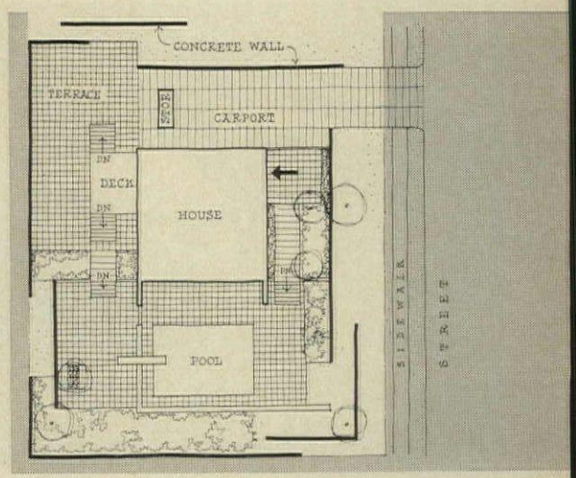
This contemporary house and its big outdoor living area are screened from its conventional New Jersey neighbors by high block walls. A first prize winner in the Horizon Homes design program sponsored by the Portland Cement Association, the house was sold for $35,000, including the swimming pool and the masonry walls (which added about $8,000 to the cost). Builders John Specht and Nicolas Risoli also sold a larger version of this house in a nearby community.

Garden walls were used to enclose the entire irregular 90′ x 130′ lot, creating a series of private outdoor areas for relaxation or entertainment. A precast concrete deck off the upper level serves as an informal outdoor dining area.

Another innovation for the area was the use of radiant electric heat (with cables sandwiched between a double drywall ceiling). Concrete block sidewalls are cavity type, filled with poured insulation.



Compactness of the two-story plan offers a maximum of living space (2,048 sq. ft.), plus spacious grounds, on a normal sized plot.

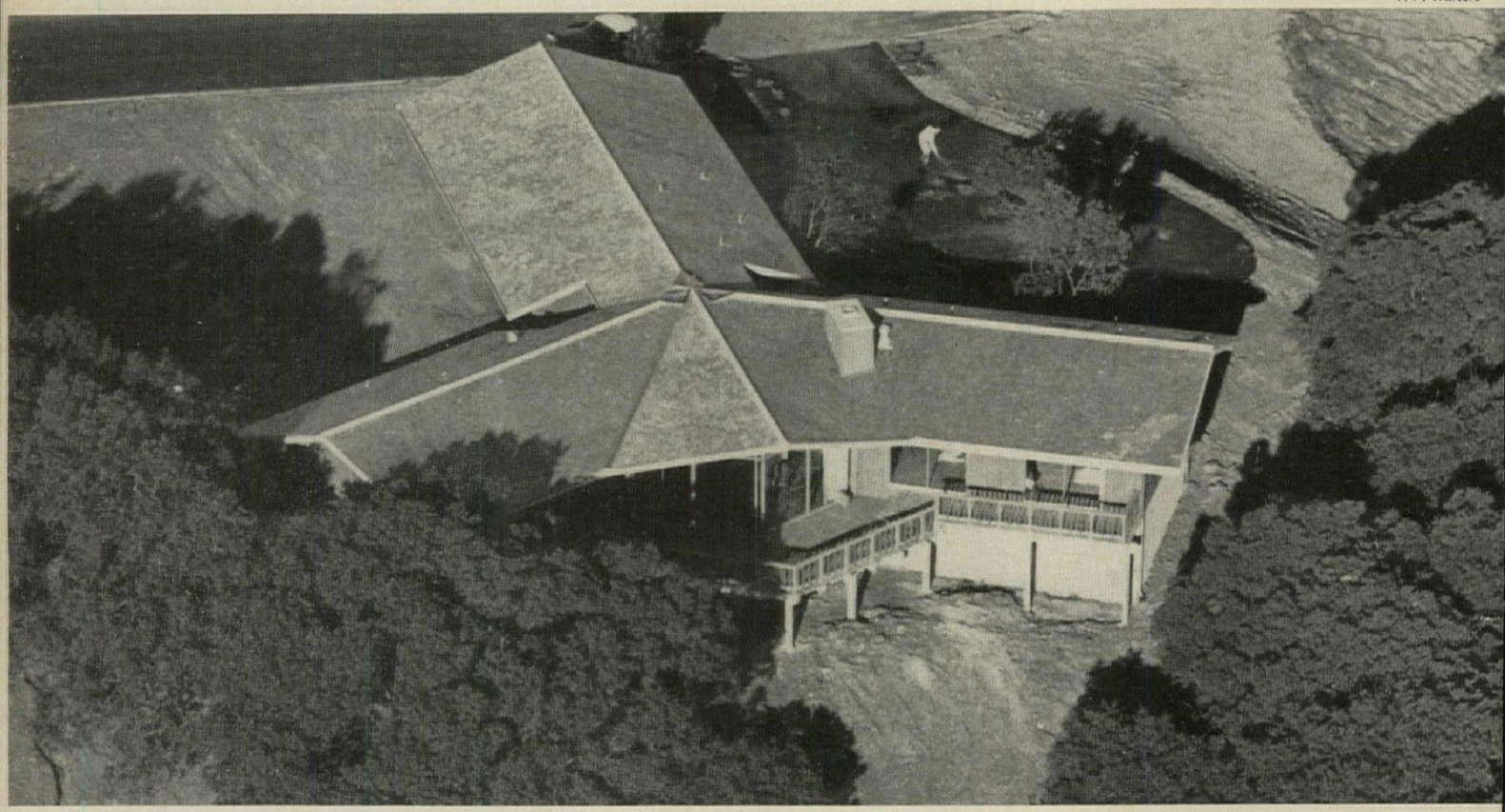


Overlapping perimeter walls give complete privacy to the corner lot without the forbidding look of an unbroken masonry barrier.

Dining area opens onto a raised concrete deck. French doors are used throughout the house as openings to decks and patios.

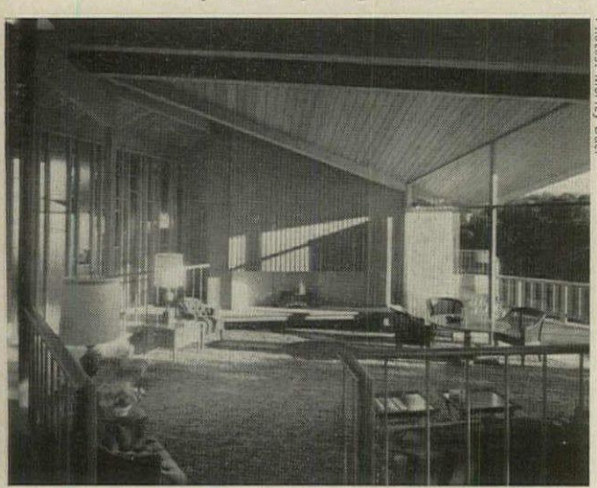
continued

T. F. Walters



Bird's eye view shows how the house hugs the hillside, creating a sheltered position for the balcony, which rests on posts and beams.

Deck floats above the slope, oriented to the view of valleys and Mt. Diablo to the East, and well protected by the generous roof overhang.



Photos: Morley Baer

From within, the six-sided living room looks onto the deck through floor-to-ceiling glass, becoming the focal point for the whole house.

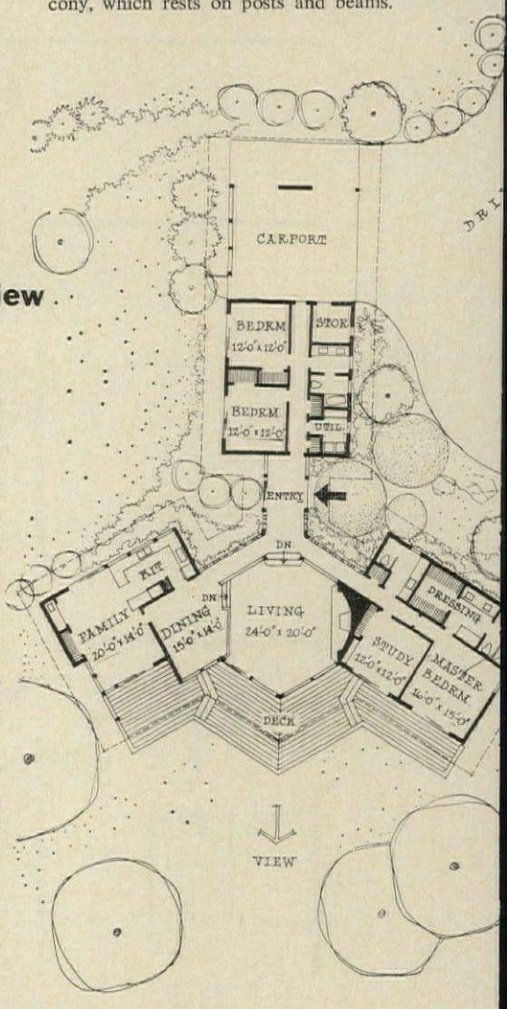
HONORABLE MENTION

CLASS: *over $25,000 including land*
ARCHITECT: *Ian Mackinlay,* AIA
BUILDER: *Simonds & Stringer Inc.*
LANDSCAPE ARCHITECT: *Royston, Hanamoto, Mayes & Beck*
LOCATION: *Lafayette, Calif.*

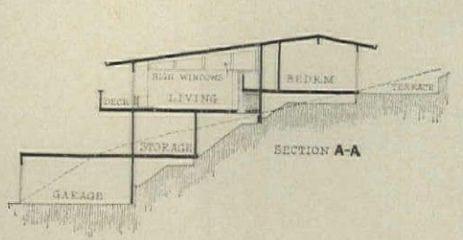
4. A Y-shaped design that reaches out to a great view

This house, one of the three or four speculative houses that Builders James Simonds and Bruce Stringer build and sell each year, lies at the bend of a hillside road, perched on a ledge like an eagle's aerie. Architect Ian MacKinlay capitalized on the site by radiating two wings out from a central living-room core, and gave all three major areas (master bedroom, living room, and dining and family room) equal access to a spacious balcony overlooking the view. Although the site under the house itself is fairly level, it falls away sharply.

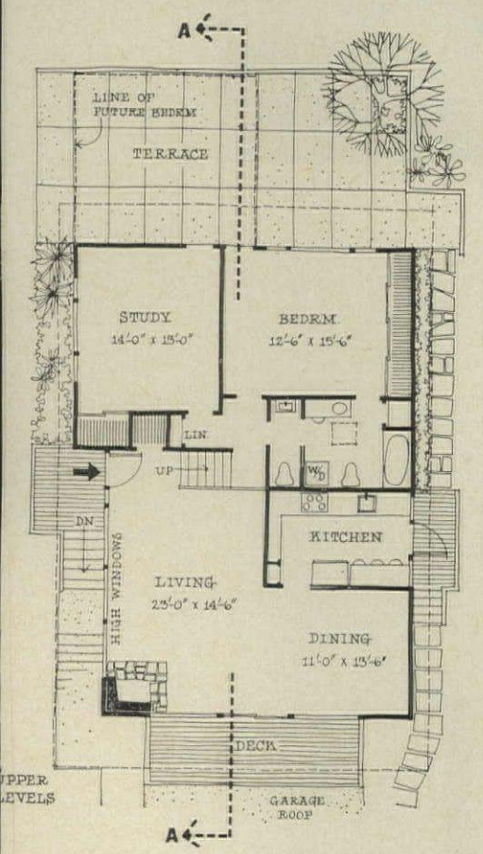
The house, which was sold for $77,000 including land, turns its back (the garage and secondary bedrooms in the stem of the Y) to the street and to the prevailing west wind, giving the deck complete protection and privacy. The separation of the two bedroom areas provides privacy for a family with grown children or grandparents in the house.



Bedroom areas at opposite ends of the floor plan have separate bath facilities. Study adjoining the master bedroom can double as a guest room.



Steep hillside site (right) is only 40′ wide, in a built-up area. Disturbance of soil for foundations is minimum (see section, above).



Split-level plan has short stairway from living room to bedrooms above. Side porches open off kitchen and living room as alternate entrances.

HONORABLE MENTION

CLASS: *between $15,000 and $25,000, with land*
ARCHITECT: *Amiram Harlap,* AIA
BUILDER: *Penso and Ford*
LOCATION: *Oakland, Calif.*

5. A house that stair-steps up a steep, narrow lot

From front to back, this lot slopes 44′ up the hillside in an established Oakland, Calif. neighborhood. Convention would have called for extensive excavation and retaining walls. But Architect Amiram Harlap, working with the hillside rather than fighting it, designed the house as a series of levels and high foundation walls. Tucked in below the upper, split-level, living-bedroom area is a service-storage area (intended as a future recreation room or office). The garage is at street level. The living and dining rooms overlook the view to the front, while the bedrooms are oriented to the privacy of the rear garden—the one flat area of the plot (where a future addition to the house could be built).

The exterior is of redwood boards and battens, carried through to the facings of the living room deck and the garage door.

This house sold quickly to "a family that preferred the city to suburbia."

Living room has two-sided fireplace as a focal point. Obscure glass panels above side wall admit light, but retain privacy.

Dining room also faces the deck. Hardwood floors were used throughout, except for sheet vinyl flooring in kitchen and bath.

continued

Deep overhangs (4′) on all four sides of house protect exterior walls and glass from sun and rain. Beams are exposed throughout.

HONORABLE MENTION

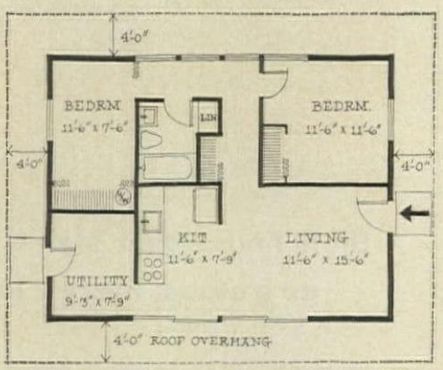
CLASS: *under $15,000 including land*
ARCHITECT: *Mary Lund Davis,* AIA
BUILDER: *The Ron Mitchell Corp.*
LOCATION: *Tacoma, Washington*

6. A panelized house selling for $5,995 on buyer's lot

This award winner is also a best seller. It has accounted for 100 of the 300 sales made in the last 18 months by Tacoma's Ron Mitchell, one of the country's largest odd-lot builders.

Although the house is small (800 sq. ft.), it offers a lot of space for the money ($7.50 a sq. ft.). It also offers deep roof overhangs, a 16′ glass wall opening onto a terrace (above), and a choice of slab or crawl space and gas or electric heat.

One reason for the low price, says Mitchell, is an efficient structural system—a combination of post-and-beam framing and shop-built 4′ x 8′ and 8′ x 8′ panels. The panels are faced with siding of rough-sawn redwood plywood, which is also used as paneling in the living room and hallway where it contrasts with painted walls. Mitchell uses the same structural system in five larger models (up to 2,300 sq. ft.), which, among them, have also produced 100 sales in 18 months.



Plan is 24′ x 32′, provides open kitchen-living area, interior bath, and separate entrance to utility room which also serves as mud room.

Open kitchen includes ceiling exhaust fan but not appliances, which are extra. Natural wood ceiling is exposed underside of roof decking.

How to know you've saved dollars,

before you've spent a dime

CHOOSE THE REPUBLIC PACKAGE! To get all the conveniences of one source of supply, one purchase order, and one invoice, plus prompt delivery *when you want it,* with minimum paper work, always specify the Republic Package of Building Products!

One purchase order to your man from Republic can cover all these from Republic; doors, frames, windows, folding closet doors, patio doors, all cabinets for kitchens, gutters, downspouts, metal lath, drainage and subdrainage products.

You'll get the best in steel or aluminum windows—or, better still, install new Republic FREEDOM STAINLESS STEEL WINDOWS—the ultimate in durability and permanent beauty, and priced for every home.

Save more time and more dollars with Republic NEWPORT Packaged Doors and Frames for interiors...doors that almost hang themselves! Another almost automatic installation, TARTAN Door Frames.

Save time on the job and on callbacks ...and put the savings in your pocket! Send the coupon for details on the Republic Package, today!

REPUBLIC STEEL
CORPORATION
MANUFACTURING DIVISION
Youngstown 5, Ohio

REPUBLIC STEEL CORPORATION
MANUFACTURING DIVISION • DEPT. HO-6389
YOUNGSTOWN 5, OHIO

Tell *us* more about the savings and convenience of the Republic Package.

Name_____ Title_____

Company_____

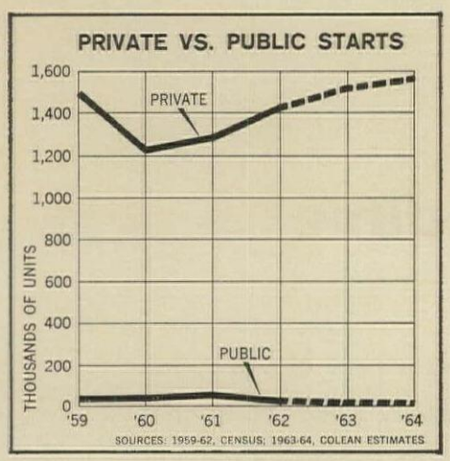
Address_____

City_____ Zone_____ State_____

The 1963 housing market: a surge of rentals despite a fading FHA

Few years have seen more crosscurrents in residential building than 1963. Apartment construction is up dramatically—to 33% of private nonfarm starts for the first six months of the year, compared to only 15% as recently as 1959. Homebuilding at best is steady.

More than ever, the market is turning to quality. The shell house boom is over, but the surviving shell house producers are generally offering more complete and better equipped units. Prefabricators seem to be keeping their share of the new housing market—and big companies are also moving to, and vigorously promoting, more expensive and higher quality models. Mobile homes (whose probable 220,000-unit production in 1963 is not counted in the housing starts totals) are offering bigger models with more luxurious appointments.



FHA's and VA's share of residential building has fallen to a 19-year low—only 19% of private nonfarm starts. And the decline, which began in 1960, has accelerated this year. But conventional financing, amid sagging interest rates and the biggest outpouring of mortgage credit on record, has more than filled the gap.

With an intensified drive for racial integration in housing, with the nagging threat of stiffer credit imposed by the worsening deficit in the nation's international accounts, and the possibility that apartments may be overbuilt (or close to it) in some cities, a year that began with an uncertain outlook is ending with confused prospects. Almost the only disrupting element that 1963 missed was major new housing legislation; but this seems sure to be a disturbing element next year.

The 20% jump in apartment construction (to 500,000 private nonfarm units) accounts for virtually all the upthrust in this year's housing. In absolute number of units started, the U.S. has never seen anything like it; in proportion of total starts, nothing since the late 1920s has equalled it.

Behind the rental boom: easy money, tax breaks, land prices

Four major influences underlie the surge in apartment building:

1. Mortgage money has been in copious supply on very favorable terms. Most of it has come from life insurance companies and mutual savings banks, but many pension funds have got into the act and both commercial banks and S&Ls have been notably active, too.

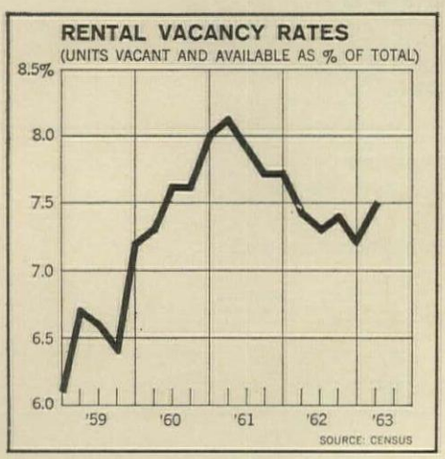
2. Tax incentives provided by the fast write-off provisions of the 1954 Internal Revenue Act have come into full play. So both investors and builders look on rental housing with enthusiasm. And real estate trusts, operating under the improved tax treatment accorded them in 1961, have provided a new source of equity as well as mortgage money.

3. Land cheap enough for one-family houses grows harder and harder to find in metropolitan areas where the big market lies—so the basic economics of marketing housing are turning builder interest to apartments. The growing availability of land in urban renewal areas—mainly for apartments—has been an extra incentive.

4. Fears that pressures for racial integration will upset marketing of housing units seem to be much less in apartments than in one-family homes. One reason is the flood of conventional mortgage financing, which remains exempt from federal anti-bias sanctions. FHA financing will account for only about 10% of apartment units this year—a drop of one-third from 1962's 15% share.

Key question for 1964: is rental financing too lush?

Key indicators point to 1964 as another year when housing's gains will be almost wholly in apartments: the volume of financial commitments, the trend in contract awards, the stability of vacancy levels (on a national basis), and the apparently undiminished enthusiasm of builders and investors.



But mortgage investors are growing more cautious—not only because of rising signs of apartment overbuilding in scattered cities (*see p. 00*) but also because of a growing feeling that apartment financing has grown too lush.

No one has been more outspoken on this point lately than Chairman William McChesney Martin of the Federal Reserve. In a statement to the House banking committee, he has viewed with alarm "a general tendency throughout various parts of the credit structure to relax the standards on which credit is granted." He adds: "We have seen signs of reductions in down payment requirements by lenders, lengthening of maturities, escalation of appraisals of the value of collateral supporting credits, and a tendency to permit large borrowings relative to the expected income or cash flow of the borrowers." And among the properties where such "credit deterioration has been most marked," Martin lists "multi-family apartment projects." Economists for both the life insurance and mutual savings bank industries (the two main sources of apartment loans) have made similar comments.

Up to now, published data on vacancies (see graph) and rental trends do not offer any clear evidence of overfinancing. A Federal Reserve staff study, under way for several months, has not yet reached definite conclusions. But the expressions of apprehension continue; they could mean lenders will be more hesitant to finance rental projects next year.

Nationally, any slowdown in apartment construction seems sure to be short-lived —although individual cities can overbuild themselves into a more prolonged market

indigestion. For the nation, the composition of the population, problems of land prices and urban transportation, and the rapid rise of condominiums all point to a rising trend to multi-family residential building for the rest of this decade. The trend may waver, but its central direction seems certain to be up.

Rising foreclosures: another push for the rental market

Since 1959, foreclosures of nonfarm mortgages (see graph) have almost doubled—from a rate of 2.34 per thousand mortgage homes to 4.40 per thousand this year. In actual numbers, foreclosed mortgages have climbed from 44,075 in 1959 to an estimated 97,000 this year.

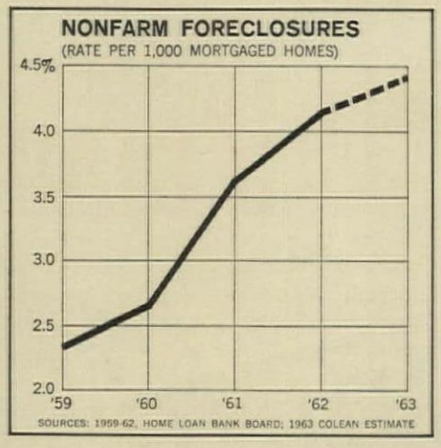
By historical comparison, this foreclosure rate is not alarming—especially in view of the giant additions to the U.S. housing supply since World War II. But it means that upwards of 100,000 distressed home properties are going onto the market in a single year. True, this is only about 0.4% of the total of home mortgages outstanding. And the severity of foreclosure rates varies widely from city to city. Some have rates as low as was typical of the early 50s. Others—generally in areas plagued by unemployment—have foreclosures heavy enough to depress an already sagging demand for new housing. Smart builders will keep a close watch on how disposition of foreclosed homes may affect their chances for selling new ones.

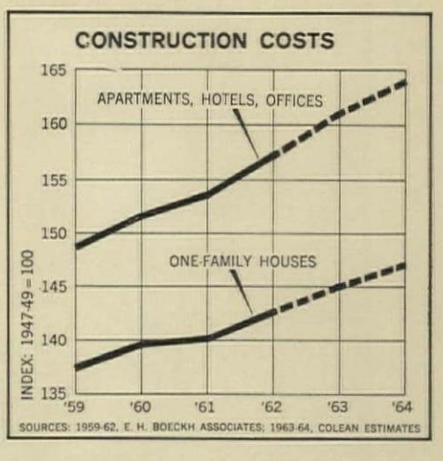
The sharp rise in foreclosures over the last four years cannot be laid wholly to credit deterioration. Up until the end of the 50s, real estate price inflation usually let homeowners unable to meet their mortgage payments sell their homes—often at a profit. Now that prices of existing homes have stabilized (indeed, in some areas they show a small drop), this escape route is closed.

Fortunately, the rise in foreclosures has led to new concern with credit standards. Lenders are giving credit examination a sharper look. This is likely to forestall further trouble in the future. It will also cut the number of buyers who will qualify to buy a new home. So out of the foreclosure rise comes another influence promoting a stronger rental market—and a stable home buying market.

Outlook for costs: higher; for mortgage money: tighter

The cost of residential construction is likely to be more stable next year than it has been this year. According to the Boeckh index (see graph) the cost of one-family building rose about 2% in 1963 (from 142.5 to 145 compared to a 1947-49 level of 100); apartment building costs went up about 2.3% (from 157.2 to 161).





Only a small increase is in sight for next year—to 147 for one-family homes, to 164 for apartments. Improving efficiency of builders 'methods will help to offset a continuing rise in labor costs (which themselves may rise less in 1964 than this year). Materials prices, which have been remarkably stable for two years, now show signs of firming; but no marked rise is in sight.

The average cost per unit of one-family homes will continue to climb, chiefly because the trend is toward more space and higher quality.

For mortgage money, no immediate change looms—either for its availability or its cost—despite the Federal Reserve's concern over deteriorating credit. Recent moves by the Fed and the Treasury to boost short-term interest rates have stemmed from international rather than domestic problems. And they have been designed in a way that is, at least, not intended to affect the supply of long-term funds (of which mortgage money is the major part). But if the U.S. deficit in its international accounts—the drain on our gold stocks—grows worse, it could force the Fed and/or Treasury to take steps drastic enough to affect long-term loans. The prospects should grow clearer before the end of this year. And the situation will bear close watching throughout 1964. In any case, you can be almost sure that mortgage interest rates, which have dropped slightly this year, will ease no further.

If Congress adopts a tax law that gives the U.S. economy a major shot in the arm, it is possible that the money managers might move to tighten long-term credit irrespective of the plight of the dollar internationally. But at this point the details of tax revision remain uncertain, although Congress apparently will adopt some kind of a legislation either late this year or early next.

Prospective modifications in the treatment of capital gains resulting from depreciation deductions on income property (see News) may take some of the appeal out of apartment investment.

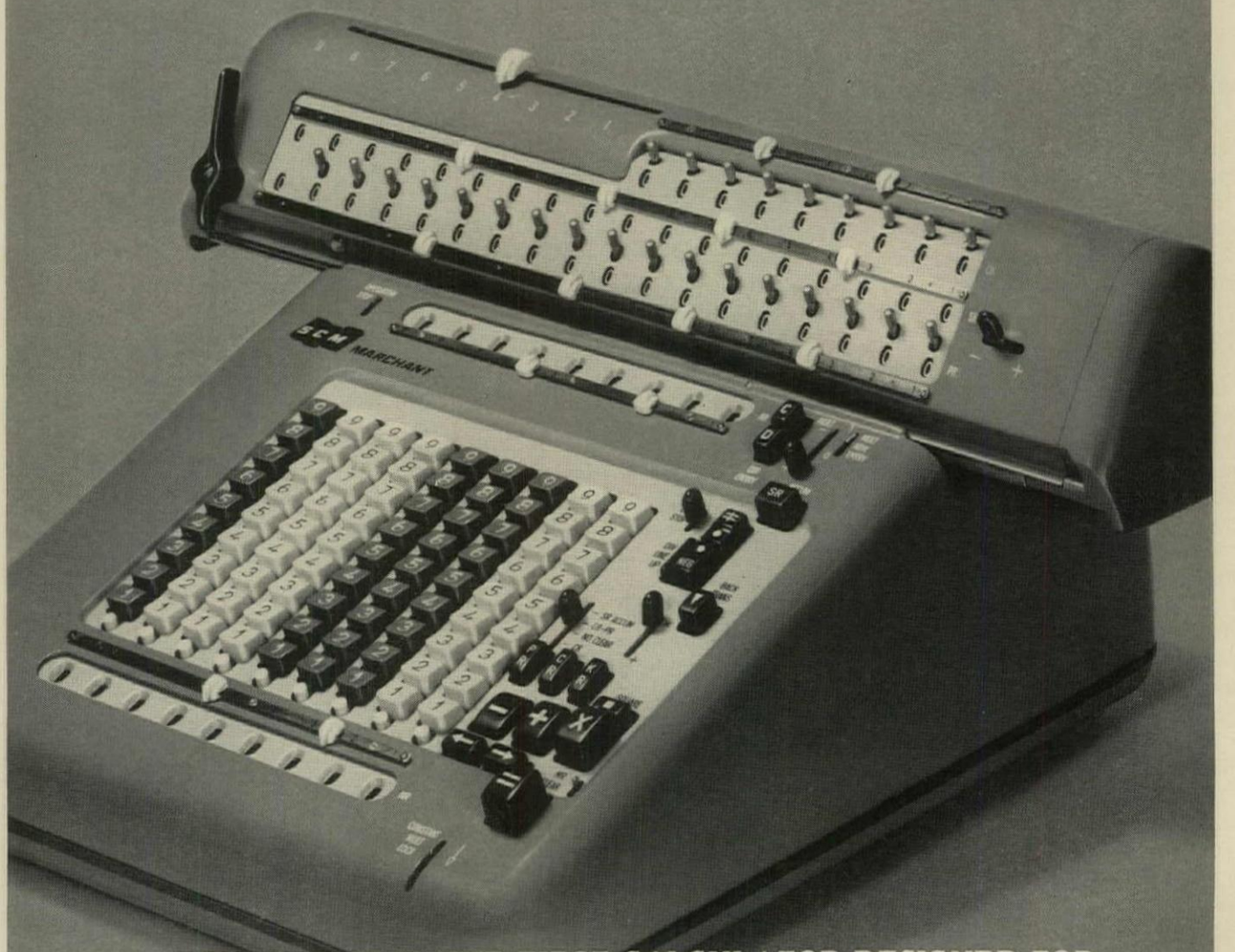
NONFARM HOUSING STARTS BY OWNERSHIP AND STRUCTURE 1959-'64

(in thousands)

	1959	1960	1961	1962	1963	1964
Total nonfarm starts	1,531.3	1,274.0	1,336.8	1,458.3	1,545.0	1,593.0
One-family	1,228.7	986.6	961.1	970.0	973.0	972.0
Two-family	58.5	50.5	50.0	55.3	55.0	54.0
Three- or more family	244.1	236.8	326.1	432.9	517.0	567.0
Total private starts	1,494.6	1,230.1	1,284.8	1,429.0	1,520.0	1,570.0
One-family	1,211.7	972.3	946.4	965.2	970.0	970.0
Two-family	55.8	43.8	44.0	48.3	50.0	50.0
Three- or more family	227.1	213.6	294.6	415.2	500.0	550.0
Total public starts	36.7	43.9	52.0	29.3	25.0	23.0
One-family	17.0	14.3	14.7	4.8	3.0	2.0
Two-family	2.7	6.7	6.0	7.0	5.0	4.0
Three- or more family	17.0	23.2	31.5	17.7	17.0	17.0

Sources: 1959-62, Census; 1963-64, Colean estimates. Details may not add to totals due to rounding.

THE CONTRACTOR'S CALCULATOR



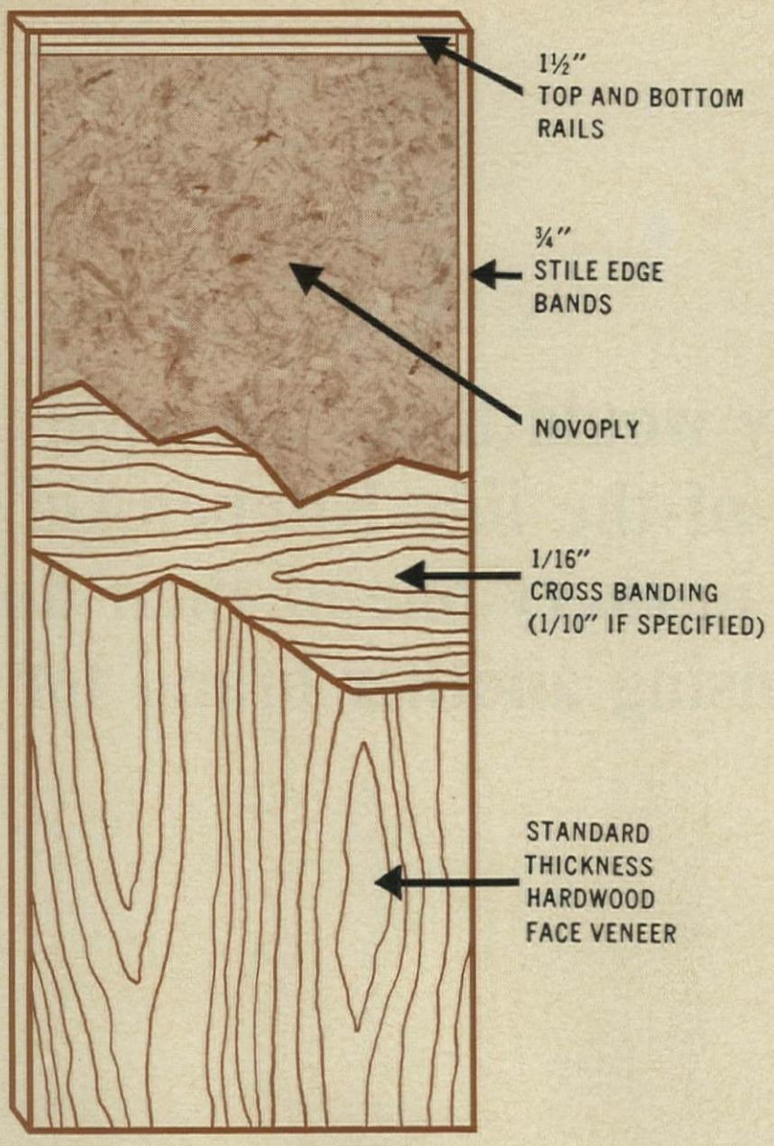
MARCHANT VSR IS THE FIRST CALCULATOR DESIGNED FOR THE CONTRACTOR. A x B x C CALCULATIONS PLUS SELECTIVE STORAGE OF ANSWERS *AND* BACK TRANSFER OF TOTALS.

This new-type Marchant calculator is the most complete calculator ever developed for the complicated figure work involved in the contracting business. For estimating, the Marchant VSR can multiply three or more factors and store all the answers. The VSR is designed to simplify the figuring of invoices and payrolls. It has five visible registers of proof, including the exclusive visible storage register. You can check your work and see what's in storage at a glance. You can transfer automatically accumulated totals from the visible storage register back to the keyboard for reprocessing. The Marchant VSR is the next-best thing to a computer, at a fraction of the cost. Call your SCM Marchant representative now.

SCM CORPORATION, 410 PARK AVENUE, NEW YORK 22, N.Y.

Smith-Corona Typewriters · Marchant Calculators · Photocopiers · Adding Machines
Cash Registers · Data Processing Systems · Telecommunication Systems · Office Supplies

SCM



NEW Weldwood Novoply Core Doors

outperform lumber core doors (and cost less, too!)

This is a new hardwood-faced flush door of superior quality for interior or exterior use. It is flatter and has greater dimensional stability than wood core doors. It is superior in balance, strength-to-weight ratio, and stiffness. The reason is its core of Novoply®.

We developed Novoply specifically for this kind of use. It is fabricated from new wood and special resins with a 3-ply balanced construction, free of internal stresses. Moisture inhibitors in the resin retard movements of moisture, so that lineal expansion is 15/100 of one percent in all directions.

Novoply has engineered flatness, more uniform density and thickness than lumber because we have better process control than Nature has in growing trees. And Novoply has an ideal surface for laminating.

This is why the Weldwood Novoply Core Doors outperform lumber core doors in slam tests, soak tests, exposure tests, and everyday service. Equally important, Novoply makes possible economies in material and manufacture, which are reflected in the door price.

Weldwood Novoply Core Doors are available 1¾" thick in standard sizes up to 4' x 8'. Faces may be domestic or exotic hardwoods, Micarta® or other high-pressure laminates. Write for complete information today.

WELDWOOD®

ALGOMA-MADE
NOVOPLY CORE DOORS
Products of United States Plywood

Cross section of Novoply. Dense outer plies are made of resin and wood flakes specially prepared from virgin timber. The lower density core is of resin and medium-sized wood chips.

United States Plywood H&H 11-63
55 West 44th Street, New York 36, N. Y.

Please send me construction details and specifications on the new Weldwood Novoply Core Doors.

Name.....

Firm.....

Address.....

City.....**Zone**.....**State**.....

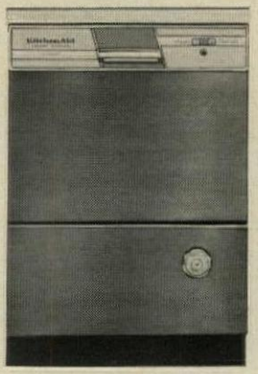
Why would these Memphis builders put top-of-the-line KitchenAid dishwashers in every one of their homes after using another brand for 15 years?

The answer could probably be summed up in one word—"distinctiveness". Albertine and McCrory will build about 150 homes this year in the Memphis area. All will have a KitchenAid Superba dishwasher even though the homes range from $18,000 to $50,000.

We asked them why. "Competition is getting tougher", said Albertine. "Of course, KitchenAid costs more, but on the other hand, we have a quality reputation to uphold, and we know that a product like KitchenAid instills buyer confidence. It keeps us ahead of the other guy, too".

"It's just smart business to include an appliance that customers respect", added McCrory. "Many of our salesmen tell us that women know and accept KitchenAid. And we know that once you've sold the kitchen, you've practically sold the home".

There are a lot more good reasons for installing KitchenAid dishwashers . . . reasons that have made them the first choice for years of quality home builders across the nation. Some that are outstanding: unique Vari-Front panels that match any kitchen decor, and one of the finest service records in the business. Your distributor will tell you more. Or write *KitchenAid Home Dishwasher Division, Dept. KHH-3, The Hobart Mfg. Co., Troy, Ohio. Compare and you'll install the best.*



COME SEE US AT THE N. A. H. B. SHOW BOOTHS 1129-1132

KitchenAid®

DISHWASHERS

Are Americans too mobile to tolerate good design in houses?

THE DOMESTICATED AMERICANS. By Russell Lynes. Harper & Row, New York. 308 pages. $6.50.

Hardly anyone in his right mind would describe today's average new house in America as architecturally handsome or as having strong character or as looking particularly permanent. This fact has been of great concern not only to architects but to lenders, builders, and just about everyone who plays a part in producing homes. And most are baffled as to why this is so.

But not Author Lynes, who has written this book to explain just why our American homes have got the way they are. The main reason, he says, is that this is a nation of people always on the go—from one place to another and from one social class to another — and people like these cannot really desire a kind of architecture that reflects permanence or stable character.

There is more mythology than history, says Lynes, in the popular belief that the American homestead is the stronghold of democratic institutions and a symbol of the permanence of the family. Ours is actually "a society as mobile as wheels," he says. "To move is as natural to the American as maintaining roots is to the European."

As Lynes sees it, this mobility has always been true of Americans and will continue so, despite past and present "pressures to make us stay put that have come from politicians and architects and clergymen . . . We have had the virtues of home ownership preached to us by the real estate interests; they talk about permanency, though it is obviously to their interests to encourage mobility."

Today's house, he believes, is regarded more as a piece of equipment than an institution (and he says the family auto is practically a part of the house). As for our creating an outstanding housing architecture, he is pessimistic:

"Every conscientious effort on the part of Americans to establish a permanent domestic architecture has failed. We have groped our way from one style to another hoping that we would hit on something that might suit us, but how could we expect to find it when we were neither willing to stay still in one place nor on one social level?"

Luxury lovers. If home buyers do not want permanence or beauty in their homes, what do they want? Lynes' answer: "The minimum requirement of the American home is luxury, or at least the illusion of luxury, which is comfort plus the effect of extravagance."

AUTHOR LYNES
He serves up a tart meal.

Most of the book—certainly most of its charm and accuracy —is a chronology of U.S. housing from early log houses to modern times, and a tracing of the metamorphosis to show why we live as we do in the kinds of houses we have. Lynes is weakest in his knowledge of today's state of the homebuilding art. Although his book is not a heavy-handed attack on the housing industry, he occasionally displays emnity. Examples: "Most" postwar houses are "jerry-built," and "real-estateism may be one of the most dangerous 'isms' we must face in the long run."

Lynes, who also authored "The Tastemakers," sees things as a social historian and critic—a role that comes naturally. (He is also managing editor of *Harper's* Magazine.)

The book is a tasty meal for anyone with an appetite for choice tidbits about past and present houses and home life. But it doesn't seem to offer a main course for architects, builders, and others who want to design, build, and sell better houses to more families. It may, in fact, offend some of the industry's more staunch defenders, but most will delight in Lynes' wit. Here are some samples:

• "Today's house is merely yesterday's house skinned down, its irregular shapes removed, and the remaining shell equipped with gadgets. Stylistically it has come very nearly full circle from stylelessness to contrived gorgeousness back to stylelessness again. Today's house is a closer relative of the log cabin than of any kind of architecture that has intervened . . . Like the log cabin it is an architecture built as much to move out of as to move into: it is a way-station architecture."

• "The architect today, whatever his convictions, cannot be sure of his client's ambitions, to say nothing of his tastes. The architect today has a doctrine to sell, along with everything else he may want his client to accept in size and convenience and materials. The architect of the Greek revival house had a presold client, in a sense; he was not concerned with introducing his client to the future or even to the present; he was concerned only with making the past convenient, or as convenient as Greek style allowed."

• "Most of today's houses are not architecture in its adventurous or even in its safest aesthetic sense. They are merely shelter of more or less convenience and comfort, more or less flexible, more or less inoffensive to look upon. . . Today's housing is part of a package—house, lot, neighborhood — all precooked and deep-frozen. . . . Its relation to architecture is nearly nonexistent."

• "Edison . . . invented the modern house—the house of switches, effortless heat, unseasonable coolness, humming and sloshing gadgets, and uninterrupted opportunities for theatrical and musical performances."

• "The automobile is the most modern thing about most of today's houses . . . Indeed, it is when the car is performing domestic functions that it is at its best—as mobile nursery, unchaperoned parlor, sun porch. It is at its worst when it tries to perform the functions of a commuter train or other kind of urban rapid transit."

• "Every increase in efficiency in the household seems to call forth a compensating desire for nonsense, luxury, and sensuousness. A house, after all, is not merely a machine for living but a place to indulge the whims of the flesh, and in no place can they be more assiduously cultivated than in the bathroom. So there has been a new wave of interest in extravagant bathrooms, and in this affluent era the bathroom is the easiest place to put money down the drain."

• "The kitchen has been called the heart of the house and its soul. Today it might most accurately be called its laboratory."

• "The figures on home-ownership are misleading. There are a great many Americans who own their own houses but who would prefer not to. They are caught by the housing shortage that was made so acute by the Second World War; they buy because they are unable [sic] to rent."

• "It seems unlikely that the boarding house contributed as much to the delinquency of children and their parents as have the housing developments of our own time or the dreary sameness of our mass-produced, single-class suburban wastelands."

• "The period of transition from the parlor to the living room coincided with a transition from 'gentility' to 'graciousness.' Graciousness . . . appears to mean a mingling of the ingredients of formality, mellowness, generosity, openness, privacy, hospitality, and restraint—all qualities that threaten . . . to cancel each other out."

• "In general, businessmen below the level of top management have dens; executives who have prospered and live in expensive [homes] have libraries; professional men — doctors, lawyers, academics, clergymen — have studies." —ROBERT MURRAY.

A practical guide to fruitful market research

HOW TO DO HOUSING MARKET RESEARCH. By Uriel Manheim. National Assn. of Home Builders, Washington, D.C. 185 pp. $25.

Too many facts can spoil a market research study. Reason: They bore the reader and he loses interest, even in the useful information. And too many generalities—even a few of them—produce the same result.

This sage advice is typical of the down-to-earth material in Economist Manheim's guidebook for local homebuilders' associations. The book tells what kinds of market research some HBAs are doing, describes and evaluates different types of research, shows how to get data, reproduces many types of graphs and charts, and presents some case histories.

No local HBA any longer has

continued on p. 148

an excuse to procrastinate in doing its own market research or hiring the talent to make one. And this book should be useful for almost anyone — builder, lender, real estate broker, or others — who can gain from market research in his area.

What's wrong with our land-use controls?

LAND-USE CONTROLS IN THE UNITED STATES. By John Delafons. Harvard University Press. 100 pages. $3.50.

U.S. community planners should think less about specific ways to control land use and more about broad objectives.

So suggests Author Delafons of Britain's Ministry of Housing & Local Government, who spent a year studying land-use controls in this country. His report, issued by the Joint Center for Urban Studies of the Massachusetts Institute of Technology and Harvard University, points up the contrast between centralized controls in Great Britain (and other European countries) and decentralized practices in the U.S.

In Delafons' view, a clearer statement of over-all objectives in our developing communities—in particular, a clearer statement of public policies—would lead to better controls.

He cites two "promising" new trends in our efforts to adapt zoning to modern conditions.

The first trend is to broader regulations based on the total planning of an area. For instance, a New York City ordinance on residential density not only permits a wide range of building types but also considers the capacity of a neighborhood in terms of public transportation, schools, etc. New York also allows a bonus in building height if the builder sets aside more land than is strictly required for open space —plazas, arcades, playgrounds.

The second trend is to more flexibility in zoning. For instance, a revised Chicago ordinance allows special permits for a wide range of uses (churches, hospitals, an airport) in retail districts.

Despite these improvements, Delafons sees three stumbling blocks to future progress:

1. *Planners have generally become impatient and discouraged with the whole idea of zoning.* But, the author points out, controls are here to stay and we have to build on them. Moreover, some new ordinances show what can be done when planners apply their skill to zoning.

2. *Communities lack power to compensate owners for damages to property rights and values as a result of zoning and subdivision regulations.* This inhibits ideal planning, says Delafons, but the situation is unlikely to change.

3. *Demand is growing (mostly from lawyers) for more precise controls.* These, Delafons contends, would lead to less flexibility and leave little room for intiative by builders and developers.—B. J. TRUMPBOUR.

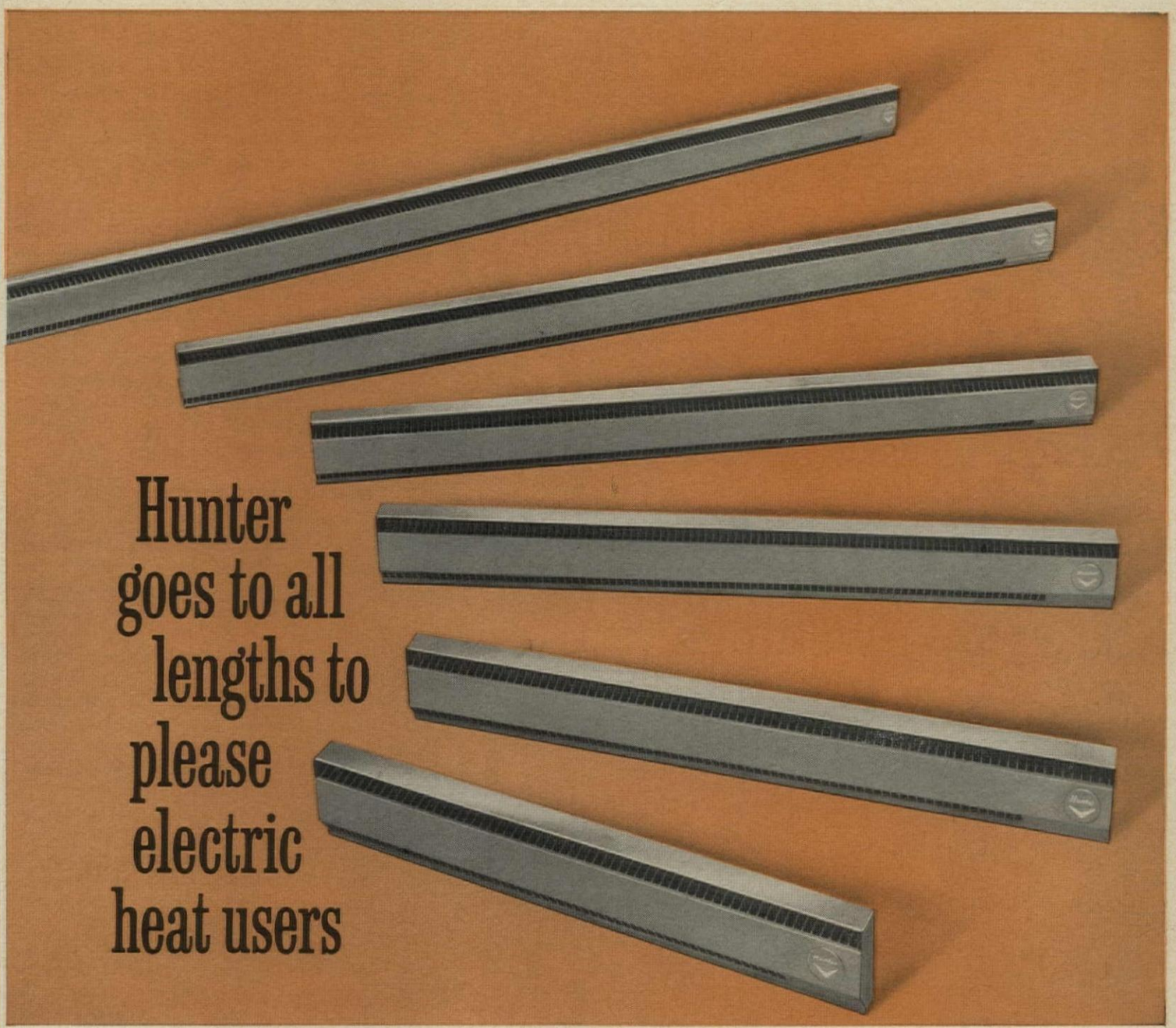
Relocation: a look at the human problems

ESSAYS ON THE PROBLEMS FACED IN THE RELOCATION OF ELDERLY PERSONS. Institute for Urban Studies, University of Pennsylvania, Philadelphia. 223 pp. Free.

Relocation of families — particularly the elderly—as a result of urban renewal, highway construction, and other public projects takes much away from these people in the way of home, income, and roots—but does little to replace the losses. Indeed, says the study, "a change in address often means a rise in housing expenditures for the same or lower quality accommodations." Moreover "relocation often puts additional strains on the already strained health of the elderly, leading to problems that might not otherwise exist."

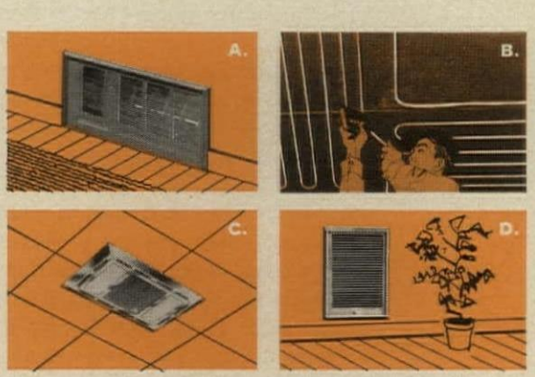
These five studies suggest that "just compensation" should include far more than replacement of living quarters or payment for a small business. The relocation agency should provide advice and help in many areas of health, economics, and sociology, and the relocatees themselves should have a voice in the process. Typical of the skills that should be on tap are: social workers; education, recreation, and homemaking experts; business, real estate, and financial consultants; psychologist and physician; welfare workers and experts in race and community relations. In short, the relocation agency should be all-inclusive in its approach and centralized in its structure (and, needless to say, much larger in its budget).

The studies, by 11 experts in relocation problems, were commissioned (under a Ford Foundation grant) by the Institute for Urban Studies and the National Association of Housing and Redevelopment Officials.



Hunter goes to all lengths to please electric heat users

New 3′ and 5′ convection baseboards combine with 4′, 6′, 8′ and 10′ units for any length needed



A. Forced Air Baseboard can be recessed, using new 3-piece accessory trim kit to frame opening. **B. New Ceiling Cable** is completely clean, absolutely safe and, of course, silent. Requires no maintenance. **C. Bathroom Trio Ceiling Unit** heats, lights, ventilates. Similar Duo unit heats and ventilates. **D. New Wall Heaters** combine safety grill, economy price. Available in radiant and fan-forced models. Both install easily between standard 16″ studs.

Now Hunter Heatliners fit almost anywhere. Two new lengths give complete versatility. Patented heating element uses *less* power to produce *more* heat at *lower* operating temperature. Easy installation. Fast warm-up. Quiet operation. Deluxe Heatmaster baseboards available in 32″ and 48″ lengths.

Hunter also makes portable convection, Vycor® infrared and unit blower heaters.

MAIL FOR CATALOG

Hunter Division, Robbins & Myers, Inc.
2432 Frisco Ave., Memphis, Tenn. 38114

Please send your electric heat catalog to:

Name_____

Company_____

Address_____

_____

HUNTER ELECTRIC HEAT

It's Matchless!

R&M®

How sound-conditioning adds value and increased sales appeal to single family homes and multi-dwellings

The problem of noise is a problem of human comfort. The control of disturbing noises—called *Sound-Conditioning*—is a relatively new technique in the building industry. And, the effective control of noise is a problem that no builder can afford to ignore, any more than he can design and build homes or multi-dwellings without adequate wiring...or heating...or air-conditioning.

Now, the home buying public is conscious of the importance of sound-conditioning and will demand it as much as any other built-in facility.

First, let's see in what types of dwellings sound-conditioning is most needed and then, who benefits most when an adequately sound-conditioned house or multi-dwelling is on the market . . .

SINGLE FAMILY HOMES

Today's houses are noisier. Also, they're smaller than they were, say fifty years ago, and today, they are designed with a more open plan.

A house, basically, is intended as a shelter. But more than that, it is a place to relax, away from all the hustle and bustle of our fast-paced living.

But noise invades our homes . . . noises from appliances, noises from bathroom fixtures, and noises from energetic children playing in another part of the house. Noises inside and out!

The main problem in sound-conditioning single-family houses is that all of these "local" noises must be confined or dampened. Privacy—for work, study or relaxation—becomes possible only in an adequately sound-conditioned home.

Next to providing shelter and living comfort, a house should provide a noise-free environment. The answer, we believe, lies in sound-conditioning . . . to give everyone individual comfort, privacy and greater personal relaxation.

DUPLEXES

The duplex house, with two families existing under a single roof and sharing many of the service facilities—heating and air-conditioning, for instance—presents some unique sound insulation problems. A common floor/ceiling separates families and in the case of a private entranceway, a common wall.

From the standpoint of practical acoustics, the occupants of duplexes experience the same degree of noisiness found in single-family houses, but *multiplied by two families!* Here, each family unit must be considered as a single dwelling when applying the principles of noise control.

Thus, sound-conditioning in the duplex includes not only reducing noise in the single-family unit, but isolating and pro-

tecting the family from noise originating in the neighboring family unit.

APARTMENTS

Most noise problems that occur in single-family houses and duplexes apply to apartments in the multi-dwelling.

Apartments, however, have specific noise problems of their own. The most crucial, of course, is the common wall between apartments. Noise transmission that might not be too troublesome between rooms in a house becomes unbearable between separate families.

What the apartment dweller probably isn't aware of is that there are plenty of noise "leaks" not caused by raucous neighbors, such as those occurring through light switches not backed up . . . or uninsulated heating or air-conditioning ducts that are noise carriers throughout the apartment and from apartment to apartment.

Thus, sound-conditioning can give the apartment dweller the kind of individual comfort and relaxation found in the sound-conditioned single dwelling, including all the benefits of greater privacy.

IF YOU ARE A BUILDER...

You can sell your customer on sound-conditioning as something of genuine *quality* and *value* in the home . . . not only a "sanctuary from the hustle and bustle," but a built-in facility that makes the house much more valuable on the market. In many ways, sound-conditioning has the same appeal that air-conditioning once had—and still has—in selling a house.

IF YOU ARE A MORTGAGE LENDER...

Sound-conditioned houses are more easily merchandised because of additional selling features. Your prospects are willing to pay for it . . . pay *more* for it, too. You benefit through extra business from customers who believe in the comfort values of sound-conditioning . . . those who wish to make improvements to cut down noise. And, don't overlook the fact that a sound-conditioned house has *greater resale value,* that it is more valuable to a prospective mortgagee!

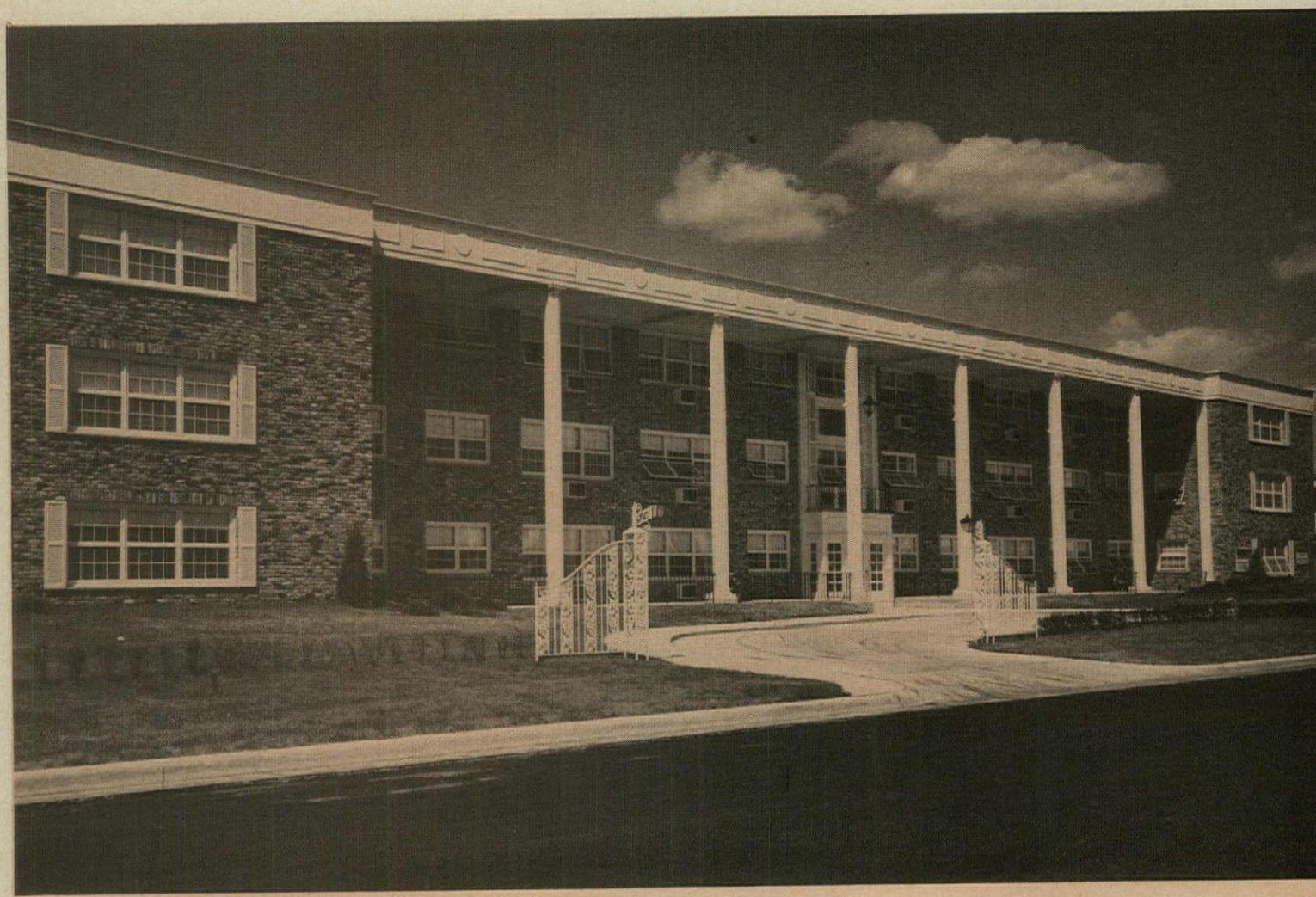
IF YOU ARE A REALTOR...

Consider the added selling points you find in a house that offers your prospects greater protection from noise . . . more relaxed, easier living. Remember that a sound-conditioned house also gives you the opportunity to sell *quality . . . modernity . . .* and greater immediate value to a buyer. Good sound-conditioned houses cut down tenant turnover, too. It's a better house to live in because it offers so many extras, and such a house is much more valuable in the long run.

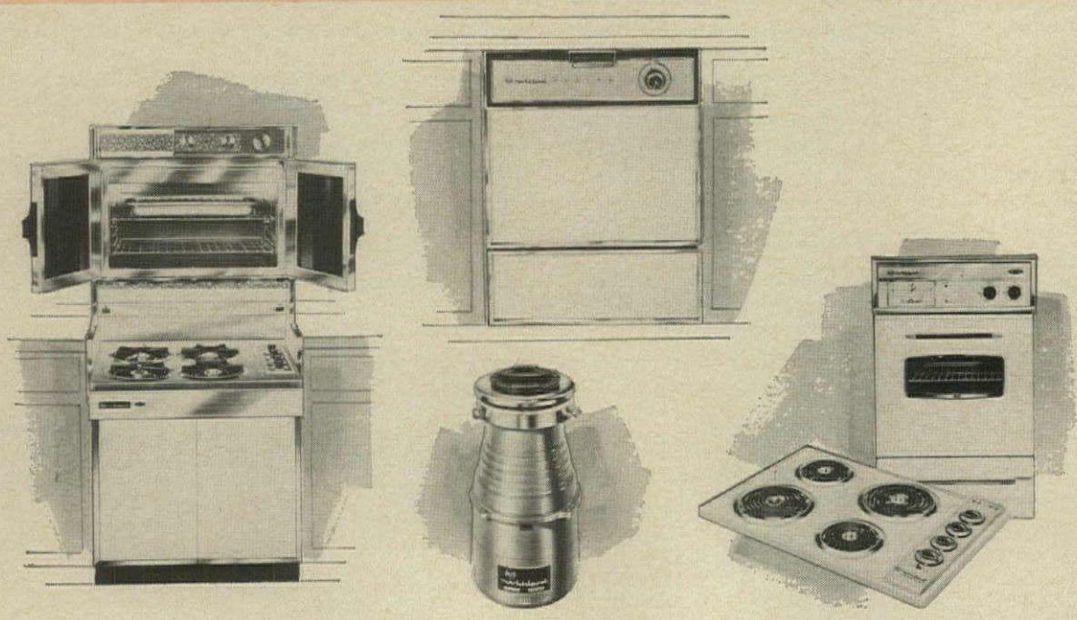
MINNEAPOLIS, NEW ORLEANS...

more and more quality builders

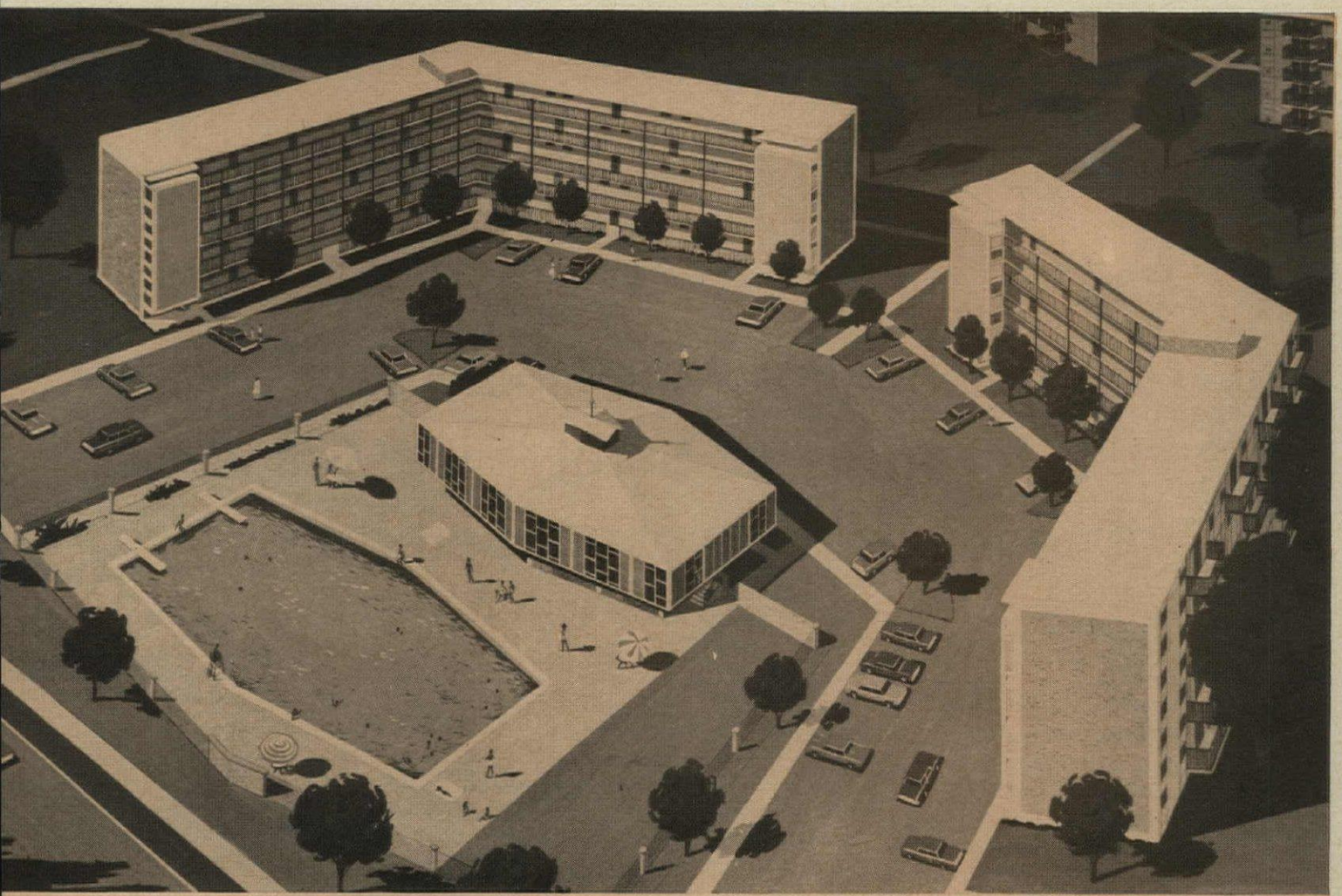
RCA WHIRLPOOL



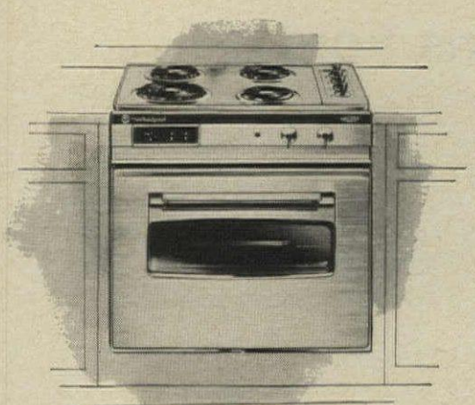
With White Gate Manor (above), Mr. Irwin Minter, President of Fairview Construction Company, offers Minneapolis apartment prospects a dramatic new concept in home living. It provides gracious living features like: an automatic elevator, oversize units, solarium and sun deck, voice control security system, plus RCA WHIRLPOOL color-coordinated kitchen appliances and air conditioners for that *extra touch of value.*



everywhere are installing appliances!



Above is another example of one of America's top builders installing RCA WHIRLPOOL appliances to add quality and prestige to his project. It's the glamorous Victory Drive Plaza, a $25 million, 1420-unit complex on the west side of the Mississippi in New Orleans. Mr. L. P. Smith, President of Victory Drive Plaza, said the wide acceptance of RCA WHIRLPOOL appliances was the big factor in his decision to select this famous brand.



Large and small builders alike from coast to coast know that today's prospects for apartments and homes want dramatic innovations and quality throughout that says . . . more for your money. That's why so many successful builders are adding that *extra touch of value* with the RCA WHIRLPOOL brand.

How? Well, the RCA WHIRLPOOL appliance package plan gives you the selection of a full line of *gas or electric* appliances from one source. It can increase your discounts, decrease your paper work because you place one order, pay one invoice. You get better color and design coordination. Common gas or electric range cutouts permit fast substitution without costly revision. Call your RCA WHIRLPOOL distributor for details about this unique package plan.

Your greatest asset is our quality performance!

Whirlpool CORPORATION

Contract and Builder Sales Division, Administrative Center, Benton Harbor, Michigan

Manufacturer of RCA WHIRLPOOL Automatic Washers • Wringer Washers • Dryers • Washer-Dryers • Refrigerators • Freezers • Ice Cube Makers • Ranges • Air Conditioners • Dishwashers • Food Waste Disposers • Dehumidifiers

Use of trademarks (R) and RCA authorized by trademark owner Radio Corporation of America

All tempered **Tuf-flex** glass for sliding doors bears a ceramic-fired identification in a corner of the unit in compliance with the new FHA regulations. (Shown actual size.)

Now! for Patio Doors...
L·O·F Tempered Safety Plate Glass
at nearly the cost of tempered sheet

Tuf-flex® 200 now available—1/5" thick

- **Absolutely free of objectionable tong marks**
- **Costs little more than tempered sheet glass**

Now you can offer home buyers the beauty of twin-ground and polished *safety* plate glass in patio doors and side lights at moderate cost. In addition to clear plate, *Tuf-flex* 200 is available in grey or bronze tints for glare and heat control.

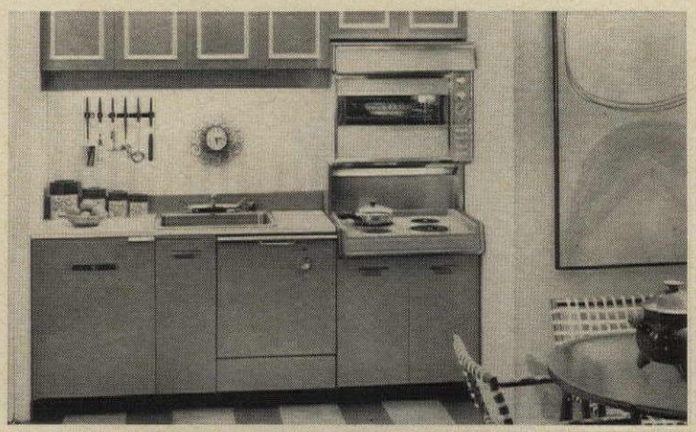
New *Tuf-flex* 200 Tempered Safety Plate Glass is three to five times stronger in resisting impact shock than regular plate glass of the same size and thickness. It meets the new safety standards of the F.H.A. and V.A. The new thicknesses can be installed in sliding door frames now on the market . . . and can be fabricated into 5/8" *Thermopane*® insulating glass units. Standard sizes of *Tuf-flex* 200: 28" x 76", 34" x 76" and 46" x 76". Nonstandard sizes available on quotation. *Thermopane* units made with *Tuf-flex* 200 come in these sizes: 33" x 76¾", 45" x 76¾", 34" x 76" and 46" x 76".

Heavier ¼" *Tuf-flex* Safety Plate Glass is also available at sharply reduced prices in *Parallel-O-Plate*®, *Parallel-O-Grey*® and *Parallel-O-Bronze*.

For prices and technical information, contact your L·O·F glass distributor or dealer (listed under "Glass" in the Yellow Pages). Libbey·Owens·Ford Glass Company, 811 Madison Avenue, Toledo, Ohio.

Libbey·Owens·Ford Toledo, Ohio

Kitchens

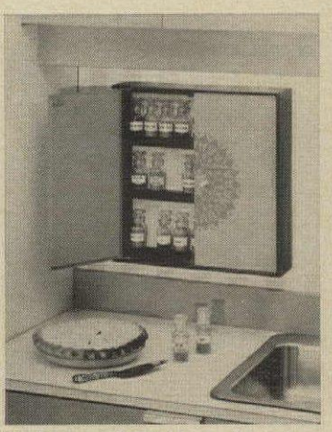


Compact kitchen includes all major appliances but is small enough to fit into a closet-sized space. The 90"-wide unit includes a 6½-cu. ft. undercounter refrigerator (left) with a freezer section; a 24"-wide dishwasher (center) which fits under a 6"-deep sink bowl. Plumbing fits in an adjacent 12" area with an offset sink bowl and disposer. The range has an eye-level, glass-door oven, four surface burners, and storage cabinets below. Spacemaker kitchens are also available 87", 77", and 69" wide. General Electric, Louisville.

For details, check No. 1 on p. 171

Indoor barbecle hood is 2' high, provides a dramatic decorative effect. Chuck Wagon hoods come in four styles; in stainless steel, coppertone, and decorator colors; with or without scallops. Hood mounts directly to soffit. Broan Mfg., Hartford, Wis.

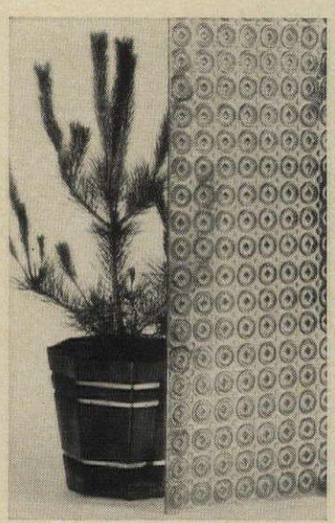
For details, check No. 2 on p. 171



Spice cabinet has walnut double doors with an abstract design, comes in three color combinations. The three shelves are 4½" deep, have lipped edges. Retail prices: 18" square cabinet is $60, 28" square is $85. Howard Miller Clock Co., Zeeland, Mich.

For details, check No. 3 on p. 171

Materials

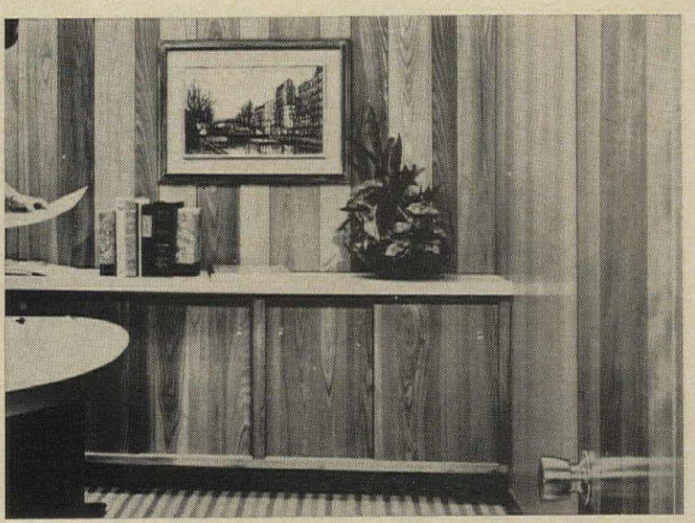


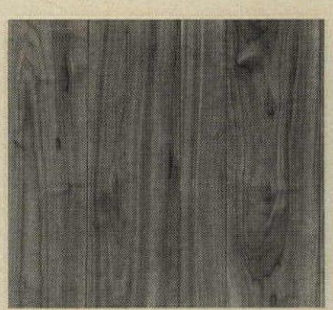
Translucent sheets (left) are plastic molded into a heavy relief pattern. Thickness varies from ⅛" to ⅝" so the play of light gives iridescent effects. Bot-L-Glas sheets are 2'x6', can be easily cut, are dimensionally stable. Carlton, Pasadena, Calif.

For details, check No. 4 on p. 171

Plywood paneling and accessories (right) are factory finished and matched—including molding, cabinet and door fronts and frames, and color nails. Di-Man-Ply comes in 15 finishes. Panel sizes: from 4'x7' to 12'. Vancouver Plywood, Charlotte, N.C.

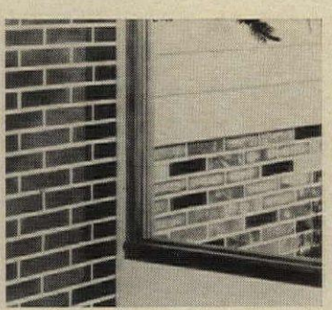
For details, check No. 5 on p. 171





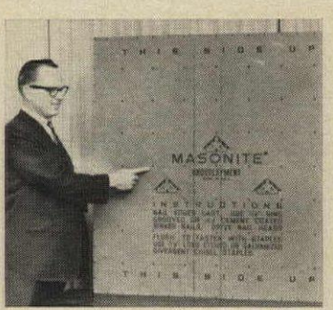
Wall paneling is available in 11 random-grooved hardwood veneers bonded to a hardboard core that provides dimensional stability. Coronet panels are 4'x8'x¼", have a three-coat acrylic finish for durability and easy maintenance. Abitibi Corp., Detroit.

For details, check No. 6 on p. 171



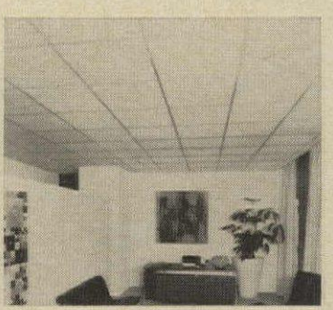
Brick veneer is applied with adhesive directly to either interior or exterior walls. The adhesive holds the bricks to the wall, so no foundation support is needed. Bricks are 12"x3"x⅜" and come in new and used finishes. Z-Brick Co., Seattle.

For details, check No. 7 on p. 171



Floor underlayment now comes marked for nailing or stapling and with brief installation instructions. Small crosses are printed at 6" intervals across the panel surface and lines at the edges are placed 3" apart. Masonite Corp., Chicago.

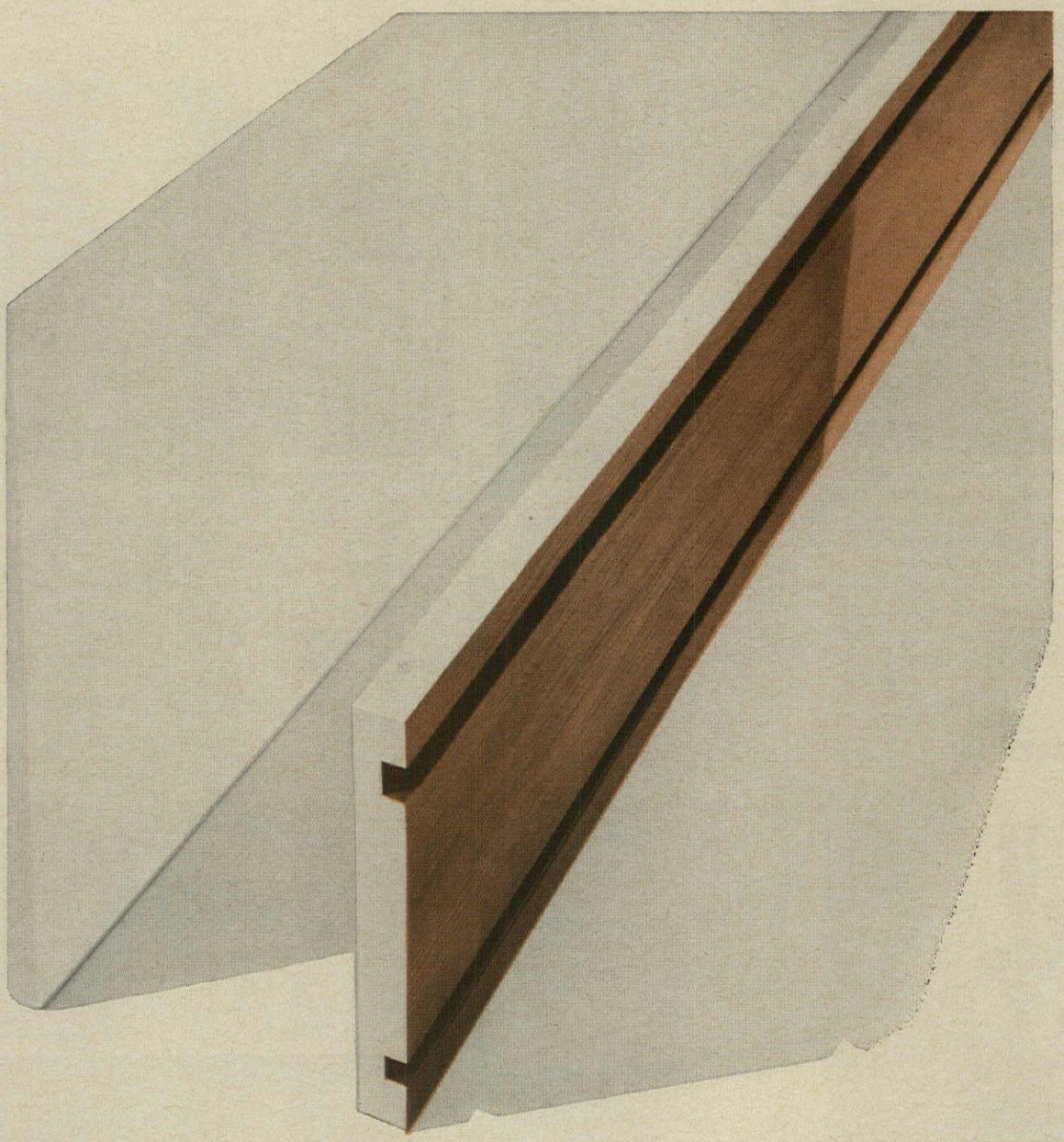
For details, check No. 8 on p. 171



Gypsum ceiling tile has a two-hour fire rating in a lay-in suspension system. Firestop-120 is reinforced with extra glass fiber which provides strength as well as fire protection. Tiles come in 2'x2' panels. Bestwall Gypsum, Ardmore, Pa.

For details, check No. 9 on p. 171

New products continued on p. 157



COST CUTTERS

PALCO PAINT-PRIMED REDWOOD PLOWED FASCIA, SIDING

NEW! PALCO DOUBLE-PLOWED FASCIA BOARD cuts on-site labor. One plow on back fits ¼" soffit, the other, ⅜". Eliminates cost to apply soffit mouldings. Available in any combination of specified lengths — and mill primed! With fascia and Palcote paint-primed siding you save two ways! Write for literature.

CRA

PALCO® PAINT-PRIMED REDWOOD

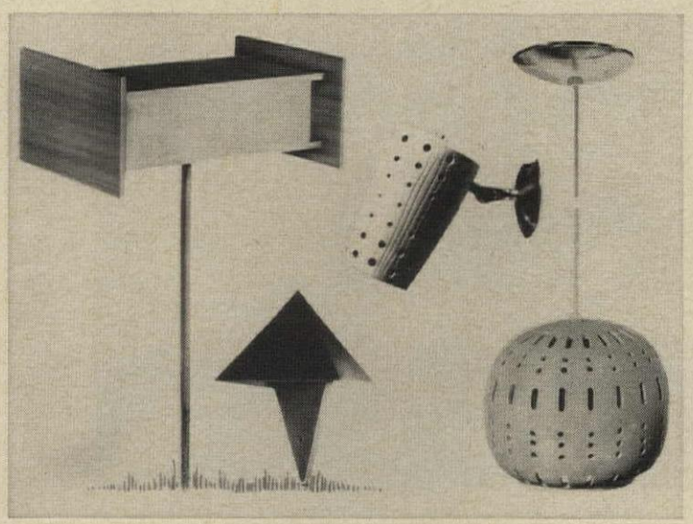
Architectural Quality

THE PACIFIC LUMBER COMPANY

San Francisco - 100 Bush Street • Chicago • San Marino, Calif.

8586

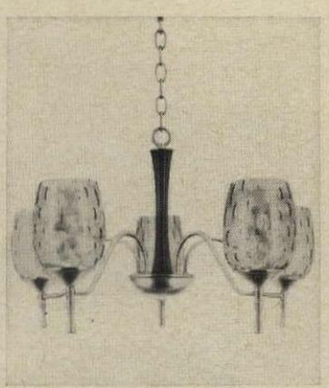
Lighting



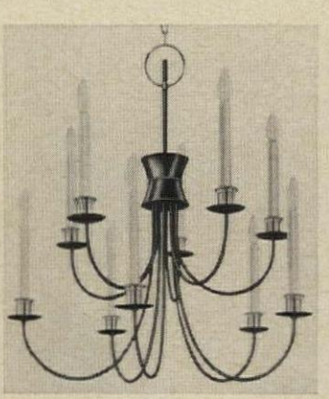
Outdoor lighting (left) for gardens, lawns, walks, entrances, and patios is available in a variety of contemporary incandescent fixtures that suit any architectural style. In aluminum, fiberglass, redwood and ceramic for maintenance-free outdoor use. Silvray Lighting, New York City.
For details, check No. 10 on p. 171

Early American fixtures (right) are part of Lightolier's new "Collector's Group," designed for authenticity in scale, color, detail, and materials (wood accented with brass, wrought iron, handblown glass.) One- to eight-light units. Lightolier, Jersey City.
For details, check No. 11 on p. 171

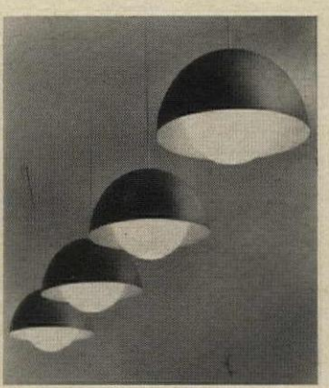
Wrought-iron fixture uses red, amber or green cylinders to complement or contrast with furnishings. Three-light unit is 20" in diameter, designed for use in living and dining rooms as well as foyers and reception areas. Majestic Lamp Co., New York.
For details, check No. 12 on p. 171



Five-light chandelier is a combination of solid brass and fruitwood. Amber hand-blown thumbprint glass is used with crystal flame bulbs. The Delier series includes one-light, solid-brass ceiling and wall fixtures. DelVal Mfg. Co., Philadelphia.
For details, check No. 13 on p. 171

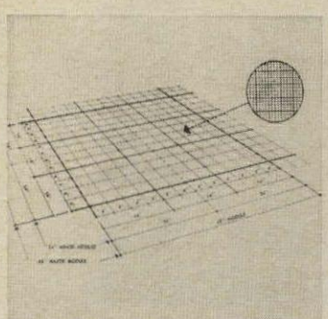


Chandelier series features sweeping steel arms in black matte, with polished brass trim and white candles. Five- and ten-lamp versions are made, priced at $54.95 and $95. Matching three-candle wall bracket is available. Moe Light Div., Louisville.
For details, check No. 14 on p. 171



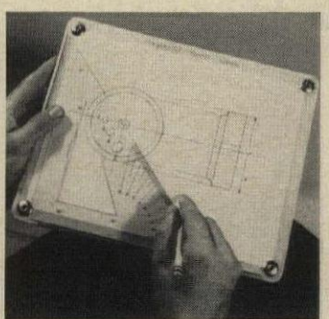
Contemporary fixture is a large (31") metal hemisphere housing a 20" open-bottom globe which can accommodate up to 500 watts. Outer shell is available in chrome, white, red, blue, yellow, black, and brass. Habitat, Inc., New York City.
For details, check No. 15 on p. 171

Office supplies and equipment



Modular-grid paper—ruled to 4", 16", 24" and 48"—is intended to simplify design of houses built to the new "Unicom" standard of coordinated modular construction. Sheets are available 17"x22", 18" x36", and 24"x36". Home Planners, Inc., Detroit.
For details, check No. 16 on p. 171

Drawing files fold against a wall when not in use. Hinged supports fasten the steel frame to wall mounting. Rubber-tipped clips hold sheets on ten removable hangers. Sizes: 23", 30", 36", and 42". 24" model costs $41.95 fob. Lewbill, Scottsdale, Pa.
For details, check No. 17 on p. 171



Compact drawing set can be used on the job or on the plane. Included: 9¾"x12¼" polystyrene board with retractable straight edges, 30°/60° and 45° triangles calibrated as rules and as a protractor. $4.95, less in quantity. Graphostat Co., East Orange, N.J.
For details, check No. 18 on p. 171

Special calculator for architects and builders adds and subtracts feet, inches, and fractions. Mechanical conversion of fractions to a total figure speeds computations and dimension checks. Adds to 999,999', 11-15/16". Victor Comptometer Corp., Chicago.
For details, check No. 19 on p. 171

New products continued on p. 160

Profiles in total-electric living— by General Electric

Birmingham Housing Corp., Birmingham, Ala. Builder Ed Lewis features Weathertron® heat pumps in all 7 of his projects. Taking advantage of General Electric's promotional assistance, Lewis had over 3500 people visit his homes the first two weeks after opening.

General Electric's program for total-electric Medallion Homes and Apartments has speeded sales and construction for these builders. It can do the same for you.

As a starter, you enjoy the advantages of General Electric product quality and dependability.

General Electric experts will help you plan an advertising and merchandising program tailored to your market and your project.

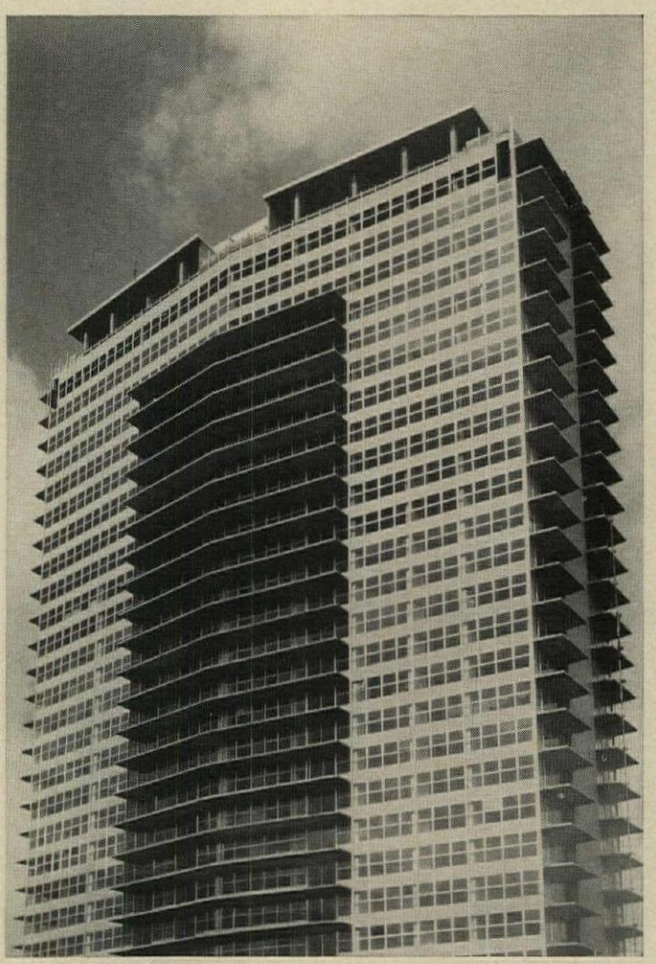
Along with the promotional aid, you receive invaluable technical assistance from experienced G-E Design and Application engineers... and that includes kitchen and laundry designs.

With this kind of support, your Homes and Apartments will sell faster, rent faster and be easier to build—when they are Medallion Homes, equipped by General Electric.

By any measure...There is nothing just as good as General Electric

Progress Is Our Most Important Product

GENERAL ELECTRIC



The 800 in Louisville is Kentucky's newest and tallest apartment building. Built by Drybrough Enterprises, this 247-unit Medallion Apartment features complete G-E kitchens. Builder Fritz Drybrough is using a customized General Electric promotion program to boost rental sellout.

Residential Market Development Operation
General Electric Co., Appliance Park, AP-6, 230
Louisville 1, Kentucky

I'm interested in General Electric's program for Medallion Homes. Please send me more information.

Name_____

Company_____

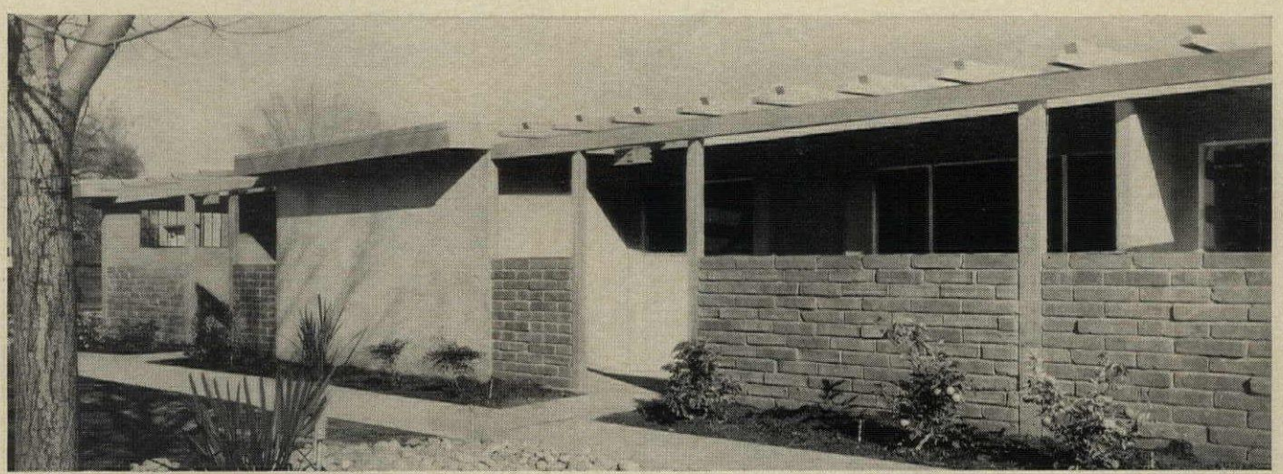
Address_____

City_____ State

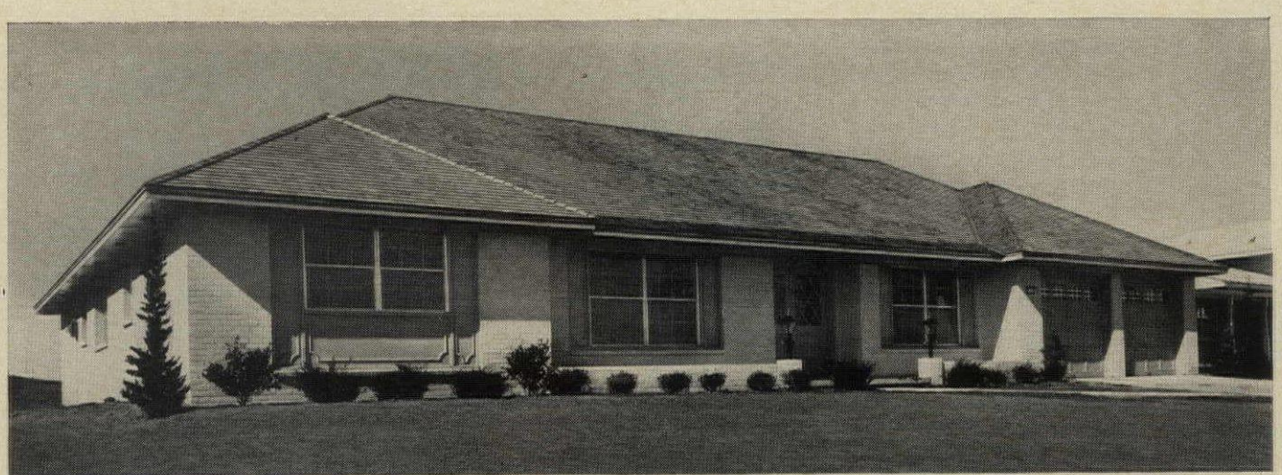
HH-11

Chicot Terrace, Little Rock, Arkansas. This brand-new, 85-home, Gold Medallion winner opened on February 10th and is already 25% sold. Every house in the Wickard-Baldwin, Inc., project is total electric and fully equipped from kitchen to heating plant by General Electric.

Clifton Knolls, Schenectady, N. Y. In the midst of a severe cold climate, these total-electric homes are kept warm with General Electric baseboard electric heat. Builder R. Van Patten says "... my buyers love it." 130 Gold Medallion homes are already sold; and another 500 are planned.



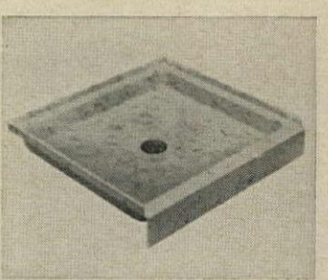
River College Manor Apartments, Sacramento, California. The first unit of 32 total-electric apartments was eighty percent rented three weeks after completion. Construction is now under way on the balance of the 64 apartments. Builder: V. Hal Treadaway. Features: General Electric kitchen appliances, electric heating and cooling.



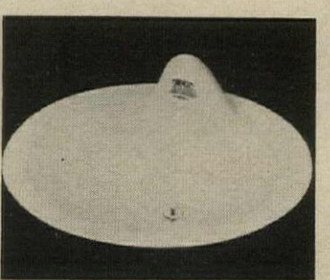
Southmont Estates, Tulsa, Oklahoma. The sale of one hundred and thirty General Electric equipped Gold Medallion Homes in only fourteen months led builder Irv Berman to start a second Medallion project with a backlog of 10 homes sold. These homes feature General Electric kitchens, intercoms, heating and cooling systems.

Baths

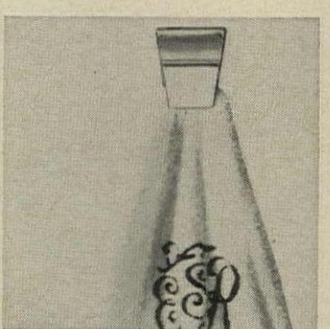
Tub and sink bowl are made of manufactured marble that is said to be nonstaining and four times stronger than quarried marble. Tub cap, a vanity top, and tile are also made of Venetian marble. Retail prices: 15"x19" bowl, $32; 5' tub, $225; marble per sq. ft., $6.75. 12 colors. Venetian Marble Co., Dallas.
For details, check No. 20 on p. 167



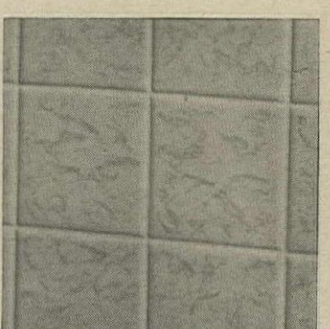
Shower floor is molded to a marblized, nonporous finish that is slightly embossed to provide a nonslip foothold without affecting drainage. Receptor rests on subfloor or slab, needs only drain-to-waste connection. Summit Industries, Compton, Calif.
For details, check No. 21 on p. 167



Single-handle faucet is built in over the bowl, has touch-control mixing valve. The Cobra-Lav comes in round, oval, and rectangular shapes, made of enameled cast iron matched to fixture colors of all manufacturers. Graning Co., El Monte, Calif.
For details, check No. 22 on p. 167



Chrome towel clip fits in many places in a lavatory, laundry, or mudroom where lack of space prevents using a bar. Towel drapes with a snap without folding or threading. S-type screw makes it easy to install. Miami-Carey, Middletown, Ohio.
For details, check No. 23 on p. 167



Textured tile has a marble pattern in green, beige, sand, grey, pink, blue, azure, gold or lilac on a white background. Ceratile comes in 4¼" squares for use on walls and for vanity and countertops. Cambridge Tile Mfg., Cincinnati.
For details, check No. 24 on p. 167

continued on p. 165

Now save up to $100 per home with ABS pipe and fittings for DWV

CYCOLAC® brand

HEAVY DUTY ABS PIPE POLYMERS

Simply multiply $100 by the number of homes you will build and see why it is so important for you to specify ABS pipe for DWV! Yet saving dollars, on materials and installation, is only one important advantage offered by ABS DWV.

Profit-wise builders should consider that skilled workmen can install ABS pipe and fittings made of CYCOLAC brand HEAVY DUTY POLYMERS faster than copper or cast iron. On-site assembly requires only an ordinary saw, a brush and a can of solvent cement. One man easily lifts an entire basement assembly and attaches it in position. And heavy duty CYCOLAC ABS actually out-performs conventional materials in DWV systems. It's smooth and chemical resistant... won't corrode, resists build-up, and is unaffected by hot drainage water.

Get all the facts, now, from our new "ABS Pipe Manual, Book IV"... just off the press. Write for your free copy on your company letterhead. Please address your letter to Dept. *HH-11,*

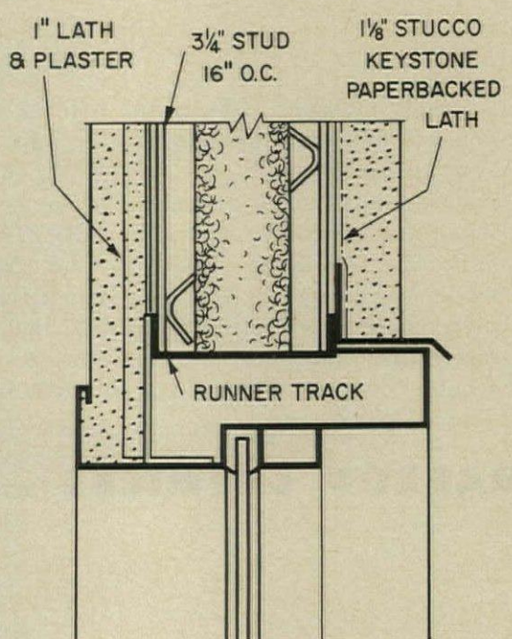
See this economical heavy duty ABS pipe at the NAHB Show

MARBON CHEMICAL DIVISION **WASHINGTON, WEST VIRGINIA**

CYCOLAC IS A REGISTERED TRADEMARK OF BORG-WARNER

MARBON B-W CHEMICAL BORG-WARNER

Columbia Park State Home, The Dalles, Oregon ARCHITECTS: *Mockford & Rudd, Oregon City, Ore.*



$2.00

PER SQUARE FOOT

Cost of hospital wall system of new Keystone Spraywall

GENERAL CONTRACTOR: *Paul B. Emerick Co., Portland, Ore.* PLASTERING CONTRACTOR: *Ivan Sletta, Portland, Ore.*

This new construction method utilizes a simple system of metal studs, Keymesh® Paperbacked Lath and spray-on exterior wall.

It is the most meaningful breakthrough in curtain wall construction since glass and metal.

Keystone Spraywall is low cost, of course. (This hospital addition was done for $2.00 a square foot, from the plastering on the inside to the Botticini Marblecrete finish on the outside.)

Its hourly fire ratings are excellent. (The rating on this building is 2 hours.)

But more than that, Spraywall's design possibilities are endless, because of its plasticity. Using Keystone Spraywall, you can *sculpt* the walls; curve them, create hyperbolic paraboloids, shape them in any way you can imagine. Then finish them to meet your design requirement in any color, any texture, with or without embedding stones.

Keystone's new Keymesh Paperbacked Lath is the product that makes Spraywall possible.

For complete information about applying this simple system to your next job, call your Keystone Representative, or write us.

KEYSTONE STEEL & WIRE COMPANY, Peoria, Illinois

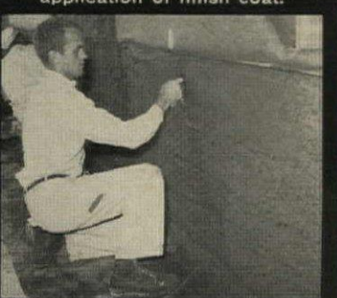
MAKERS OF KEYCORNER · KEYSTRIP · KEYWALL · KEYMESH AND KEYMESH PAPERBACKED LATH · KEYDECK · WELDED WIRE FABRIC · NAILS

Steel studs go up first.

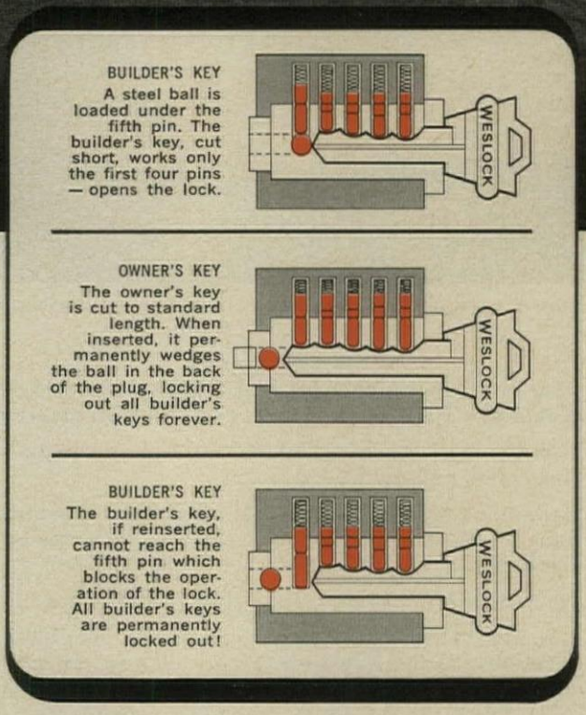
Then Keymesh Paperbacked lath is applied.

Portland Cement is sprayed on.

Cement trowelled prior to application of finish coat.

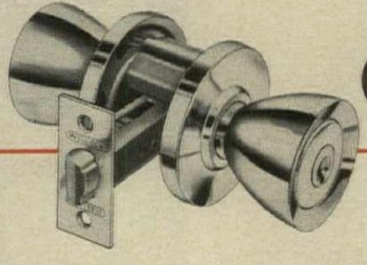


THIS TINY STEEL BALL CAN BE YOUR MOST POWERFUL MERCHANDISER!



It's the heart of new Weslock OWNER-GUARD® *Security*

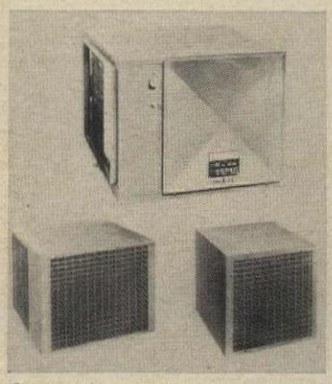
Now you can give your homebuyer the protection he demands. The first time he uses his key, OWNER-GUARD automatically **locks out** all other keys used during construction. From that moment on, the owner's key is the **only key** that will open his door. This is the kind of solid security benefit you can demonstrate... and sell! Starting today, install OWNER-GUARD and merchandise it to your prospective home buyers. Available on all Weslock Keylocks.



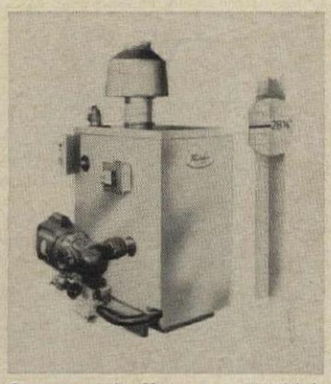
WESLOCK® *does more for every door!*

Weslock Company, Huntington Park, California

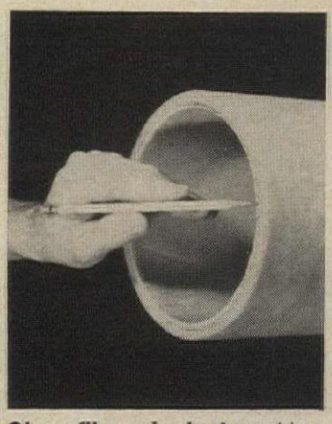
Heating and air conditioning



Separate cooling unit is designed to be used with hydronic heating systems. The evaporator-blower (top) is mounted in attic or ceiling, and connected with pre-charged tubing to the outdoor or through-wall compressor. American-Standard, New York City.
For details, check No. 25 on p. 167

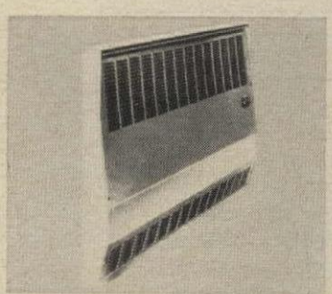


Compact boilers are 28" high by 19½" deep, available in nine sizes from 50,000 to 250,000 BTU-input. Designed for use with gas, the units are factory-wired for either continuous or intermittent circulation. Thatcher Furnace Co., Garfield, N.J.
For details, check No. 26 on p. 167



Glass fiber air duct combines high acoustic absorption and high insulating value. Called Micro-Aire FS, it is available in sizes from 4" to 16", and in 6' lengths. Joints are made with standard sheet metal fittings. Johns-Manville, New York City.
For details, check No. 27 on p. 167

Individual room control of temperature in warm air systems is provided by this new system. Thermostats in each room operate motor-operated dampers on registers, and manual controls are provided in case of outages. White-Rodgers Co., St. Louis.
For details, check No. 28 on p. 167



Electric wall heater—the "Curv-Aire Classic"—is designed for surface mounting, is only 3" deep at center, 20" high. Units are 24" to 60" long in ratings from 750 to 3000 watts; at 120, 208, or 240 volts. Federal Pacific Electric Co., Newark, N.J.
For details, check No. 29 on p. 167

Heater-light-exhaust combination is rated at 120 volts, features adjustable mounting flanges and a pre-wired switch assembly for easy installation. Unit has a 1,250-watt Calrod heating element, two 60-watt recessed lamps. General Electric, Schenectady.
For details, check No. 30 on p. 167

Publications start on p. 161

For copies of the free literature, check the indicated number on the coupon, page 171.

Technical literature

VINYL PANELS. 8 pages. Performance data: flammability, light transmission, chemical resistance, load bearing. Recommendations for cutting, drilling, laps, spans, and caulking. Diagrams of attaching panels to wood, metal, and each other; flashing details. Fasteners, sealants, and filling strips. Monsanto, St. Louis. *(Check No. P1)*

PLASTIC WATERSTOPS for joints in concrete construction. 8 pages. Advantages, suggested specs, design and installation details. Also: joint units —flashings; premolded joint fillers; and sealing compounds. Electrovert Inc., New York City. *(Check No. P2)*

1963 FIRE TEST RESULTS. 22 pages. Testing of construction and materials outlined. 50¢. Also: WARM-AIR HEAT. 24 pages. Revised NFPA standard details conditions for use of concealed ceiling spaces. 50¢. For copies, write National Fire Protection Assn., 60 Batterymarch St., Boston, Mass.

VINYL WALL COVERINGS. 8 pages. Detailed information on weights, thicknesses, tensile and tear strengths; UL ratings and fire hazards; wall preparation, hanging instructions, and testing procedures; how to specify accurately. L. E. Carpenter & Co., New York City. *(Check No. P3)*

LUMINOUS CEILING SYSTEM of expanded aluminum honeycomb. 4 pages discuss ventilation, radio frequency, shielding, lighting, and application data. Charts and graphs are included. Nova Industries, San Leandro, Calif. *(Check No. P4)*

BASEBOARD RATINGS. Lists ratings on 153 units tested at the IBR laboratory. 75¢. For copy, write Institute of Boiler & Radiator Manufacturers, 608 Fifth Ave., New York City.

ROOM AIR CONDITIONERS. Final 1963 directory lists 1,321 models tested for cooling capacity, and power use. National Electrical Manufacturers Assn., New York City. *(Check No. P5)*

Installation brochures

FLOOR UNDERLAYMENT. Instruction sheet covers preliminary work; application over wood subfloor, over old finish floor, and using filler; finishing. Masonite Corp., Chicago. *(Check No. P6)*

SUSPENDED GRID CEILING and light diffusing panels. 4 pages. Layout planning sheet, four-step installation instructions. Light diffusing panels and grid parts shown. Leigh Products, Coopersville, Mich. *(Check No. P7)*

SUBFLOORS. 6 pages. Preparation of concrete and suspended subfloors for rubber and solid vinyl flooring and cove base. Instructions on moisture testing. Rubber Manufacturers Assn., New York City. *(Check No. P8)*

Catalogs

REFRIGERATORS, FREEZERS, AND AIR CONDITIONERS. Specification folders on each line and data sheets on each model. Refrigerators: 23 models, 44 pages. Freezers: 9 models, 22 pages. Room air conditioners: 19 models, 32 pages. Admiral Corp., Chicago. *(Check No. P9)*

ALUMINUM SIDING AND ACCESSORIES. 9 pages. Illustrations, specs, colors, and packing data. U.S. Aluminum, Franklin Park, Ill. *(Check No. P10)*

TOWEL BARS, RINGS, soap dishes, and paper holders. 12 pages. New double-base bar, photos, sizes, finishes, and price list. Installation diagrams and instructions. General Chrome Inc., Bridgman, Mich. *(Check No. P11)*

WOVEN-PILE SEALS. 16 pages. Features, selection charts, and enlarged drawings of each type seal. Schlegel, Rochester, N.Y. *(Check No. P12)*

WIRING DEVICES. 76 pages. Photos and data on switches, receptacles, outlets, dimmers, wallplates. Slater Electric, Glen Cove, N.Y. *(Check No. P13)*

SHOP EQUIPMENT. 16 pages. Features, drawings, and sizes of work benches, carts, and tool stands. Penco Shop Equipment Inc., Oaks, Pa. *(Check No. P14)*

Merchandising aids

PARQUET SAMPLES KIT. 7½" x 10" samples show woods and finishes of Mutschler kitchen cabinets and storage units. Also: personalized aluminum nameplates for inside cabinet doors. Mutschler Brothers, Nappanee, Ind. *(Check No. P15)*

INSIDE FOUR HOUSES. 40 minutes. Slides describe how four model houses were decorated. For showing, write Armstrong Cork, Bureau of Merchandising, Lancaster, Pa. *(Check No. P16)*

CEILING TILE. 12-page booklet of rooms designed around decorative ceiling tile patterns. Also jumbo postcards with room scenes in color. Certain-teed Products Corp., Ardmore, Pa. *(Check No. P17)*

Product bulletins

SHOWER RECEPTOR for corner installation. 6 pages. Drawings show drain section and plan. Specs and installation data on four other B-W shower receptors. Borg-Warner, Mansfield, Ohio. *(Check No. P18)*

CORRIDOR LIGHT. 4 pages. Dimension drawing with top and side views, cross section, exploded view of unit's features. Silvray Lighting, New York City. *(Check No. P19)*

TELESCOPING SCAFFOLD. Data sheet. Photos of features, description of how it operates, specs. Baker-Roos, Indianapolis. *(Check No. P20)*

WALL AND FLOOR TILE. 8 pages. Styles, colors, sizes for baths, kitchens, entries, patios, and family rooms. Stylon Corp., Milford, Mass. *(Check No. P21)*

PLASTIC VANITIES. Provincial and contemporary styles, three finishes, 12 sizes described in a 4-page folder. Andy Place Products, South Bend, Ind. *(Check No. P22)*

WALL PANEL SYSTEMS. 8 pages. Spline panel system and batten or t&g panel system are explained. Mounting schemes are shown with typical details and cross section drawings. General Electric, Coshocton, Ohio. *(Check No. P23)*

REMOTE WINDOW CONTROLS for use in schools. 8 pages. Photos of Roto-drive and swan-neck systems in use and parts of each. Teleflex Inc., North Wales, Pa. *(Check No. P24)*

SEAMLESS RESILIENT FLOORING. Folder shows six new patterns in color, lists advantages. Torginol, Huntington Park, Calif. *(Check No. P25)*

CLIP-ON BRICK VENEER. Folder shows application and colors for interior and exterior uses. Meridian Brick, Mineola, N.Y. *(Check No. P26)*

STEAM VAPOR BATH GENERATOR. 4 pages. Wall-hung, recessed, and medicine-cabinet models are described. Cutaway view. Installation and operating instructions. Mist-Aid Corp., New York City. *(Check No. P27)*

UNDERCOUNTER DISHWASHER. 4 pages. Data sheet. Features and installation procedure. Frigidaire, Dayton. *(Check No. P28)*

TEMPERED SAFETY PLATE GLASS DOORS. 8 pages. Photos show how Tuf-flex doors open buildings visually; distinctive push-pull bars. Libbey-Owens-Ford Glass Co., Toledo. *(Check No. P29)*

ALUMINUM RAIN CARRYING EQUIPMENT. 4 pages. Photos, description, and drawing of each part. Selection chart. Hastings Aluminum Products, Hastings, Mich. *(Check No. P30)*

SEALED GAS WALL HEATERS. 6 pages. 16,500, 24,000, and 30,000 BTUH. Kresky Mfg., Petaluma, Calif. *(Check No. P31)*

APARTMENT-HOUSE MAIL BOXES, magazine racks, and tenant directories. 4 pages. Selection charts. Also: poolside boxed telephones. Jensen Industries, Los Angeles. *(Check No. P32)*

LOADERS. 8- or 12-page booklet on three models. Photos, features, and specs. J. I. Case Co., Racine, Wis. *(Check No. P33)*

DAMPER REGULATOR with spring lock for air handling systems. 4 pages. Features, photos, and dimensions. Farr Co., Los Angeles. *(Check No. P34)*

POST-TOP LAMPS for outdoor lighting. 4 pages. Cutaway and description of features. Selection chart. Westinghouse Electric, Cleveland. *(Check No. P35)*

PARTICLEBOARD. 4 pages explain properties and performance. National Particleboard Assn., Washington. *(Check No. P36)*

PAPER HOLDER. Data sheet. Two models with reserve-roll space. Miami Carey, Middletown, Ohio. *(Check No. P37)*

APARTMENT-HOUSE MAIL BOXES. 4 pages. Quality, grouping, structure, and finishes. Photos and selection chart. Auth Electric Co., Long Island City., N.Y. *(Check No. P38)*

FORKLIFT TRUCKS. Data sheets on 1,500-lb. to 25,000-lb. capacity models. Towmotor Corp., Cleveland. *(Check No. P39)*

ELECTRIC BASEBOARD HEATERS. 4 pages. Features are illustrated and discussed, specs, thermostats and relays. Markel Electric Products, Buffalo. *(Check No. P40)*

continued on p. 171

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION (Act of October 23, 1962; Section 4369, Title 39, United States Code)

1. Date of filing: October 1, 1963 2. Title of Publication: HOUSE & HOME

3. Frequency of Issue: Monthly

4. Location of Known Office of Publication: Time & Life Building, Rockefeller Center, New York, New York 10020

5. Location of the headquarters or general business offices of the Publishers. Time & Life Building, Rockefeller Center, New York, New York 10020

6. Publisher: Ralph Delahaye Paine Jr., Time & Life Building, New York, New York 10020; Editor: Henry R. Luce, Time & Life Building, New York, New York 10020; Managing Editor: Gurney Breckenfeld, Time & Life Building, New York, New York 10020.

7. Owner: Time Incorporated, Time & Life Building, New York, New York 10020; the names and addresses of stockholders owning or holding one percent or more of total amount of stock are: Carson & Company, *P.O. Box 1426, Church Street Station, New York 8, New York; French & Company, *c/o State Street Bank and Trust Company, P.O. Box 351, Boston, Massachusetts; Margaret Zerbe Larsen, c/o Time Incorporated, Rockefeller Center, New York 20, New York; Roy E. Larsen, c/o Time Incorporated, Rockefeller Center, New York, New York 10020; Leslie & Company, *c/o Irving Trust Company, One Wall Street, New York 5, New York; Henry Luce Foundation, Inc., c/o Chemical Bank New York Trust Company, P.O. Box 1368, Church Street Station, New York 8, New York; Henry R. Luce, c/o Time Incorporated, Rockefeller Center, New York, New York 10020; Henry Luce, III, c/o Time Incorporated, Rockefeller Center, New York, New York 10020; Henry R. Luce & Maurice T. Moore trustees under revised trust agreement dated 6/9/61 for the benefit of Henry R. Luce et al, c/o Chemical Bank New York Trust Company, P.O. Box 1368, Church Street Station, New York 8, New York; Merrill Lynch, Pierce, Fenner & Smith, Inc., *70 Pine Street, New York 5, New York; J. C. Orr & Company, *c/o The New York Trust Company, Income Collection Department, 100 Broadway, New York 15, New York; Powers & Company, *P.O. Box 1479, Church Street Station, New York 8, New York; Shaw & Company, *P.O. Box 1426, Church Street Station, New York 8, New York.

* Believed to be held for account of one or more stockholders.

8. The known bondholders, mortgagees, and other security holders owning or holding one percent or more of total amount of bonds, mortgages, or other securities are: None.

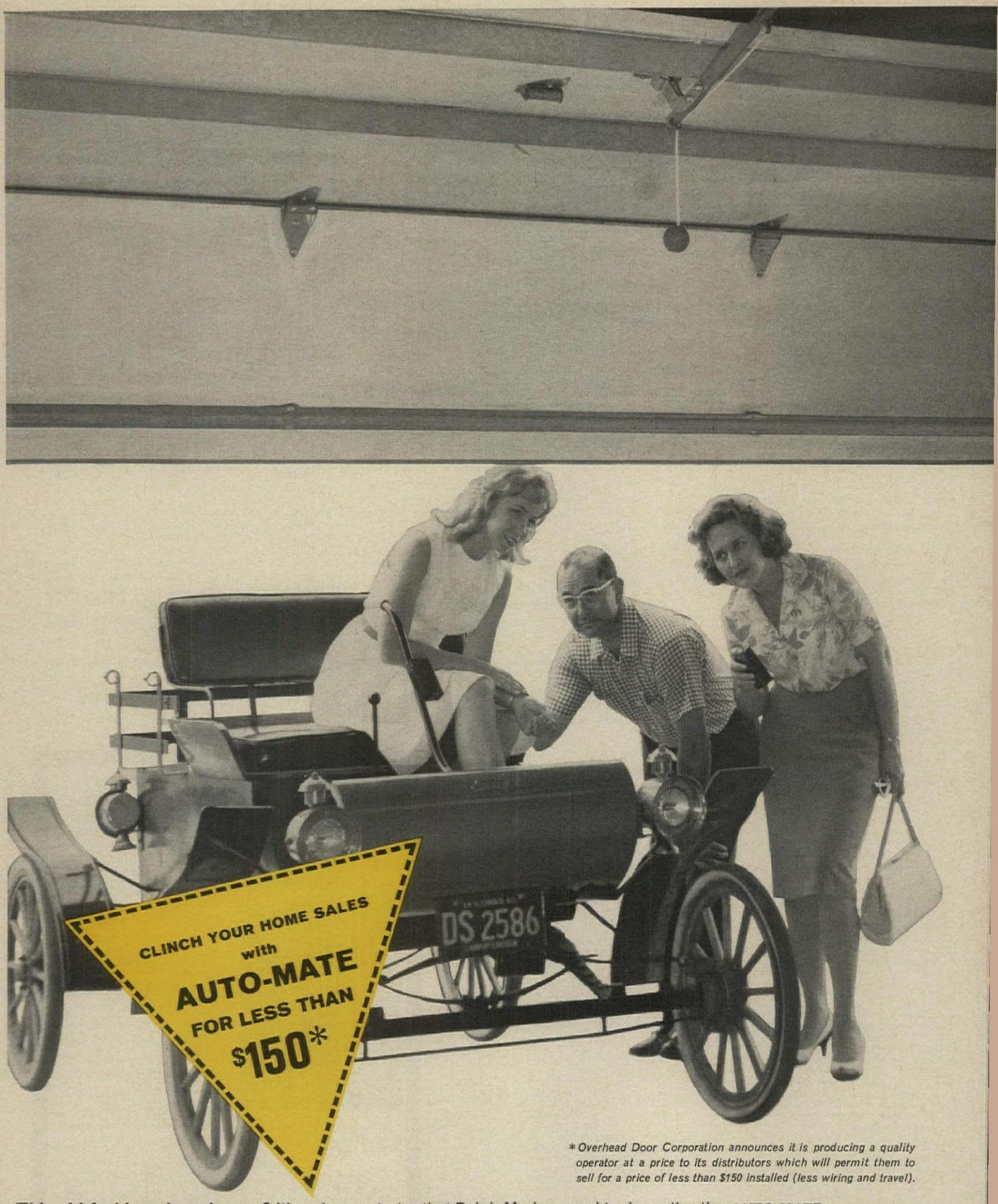
9. Paragraphs 7 and 8 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner. Names and addresses of individuals who are stockholders of a corporation which itself is a stockholder or holder of bonds, mortgages or other securities of the publishing corporation have been included in Paragraphs 7 and 8 when the interests of such individuals are equivalent to one percent or more of the total amount of the stock or securities of the publishing corporation.

10.

	Average No. Copies Each Issue During Preceding 12 Months	Single Issue Nearest To Filing Date
A. Total No. Copies Printed (Net Press Run)	148,483	149,387
B. Paid Circulation		
1. To term subscribers by mail, carrier delivery or by other means	136,701	138,185
2. Sales through agents, news dealers, or otherwise	326	71
C. Free Distribution (including samples) by mail, carrier delivery or by other means	9,699	8,942
D. Total No. of Copies Distributed. (Sum of lines B1, B2 and C)	146,726	147,198

I certify that the statements made by me above are correct and complete.

L. W. MESTER,
Business Manager



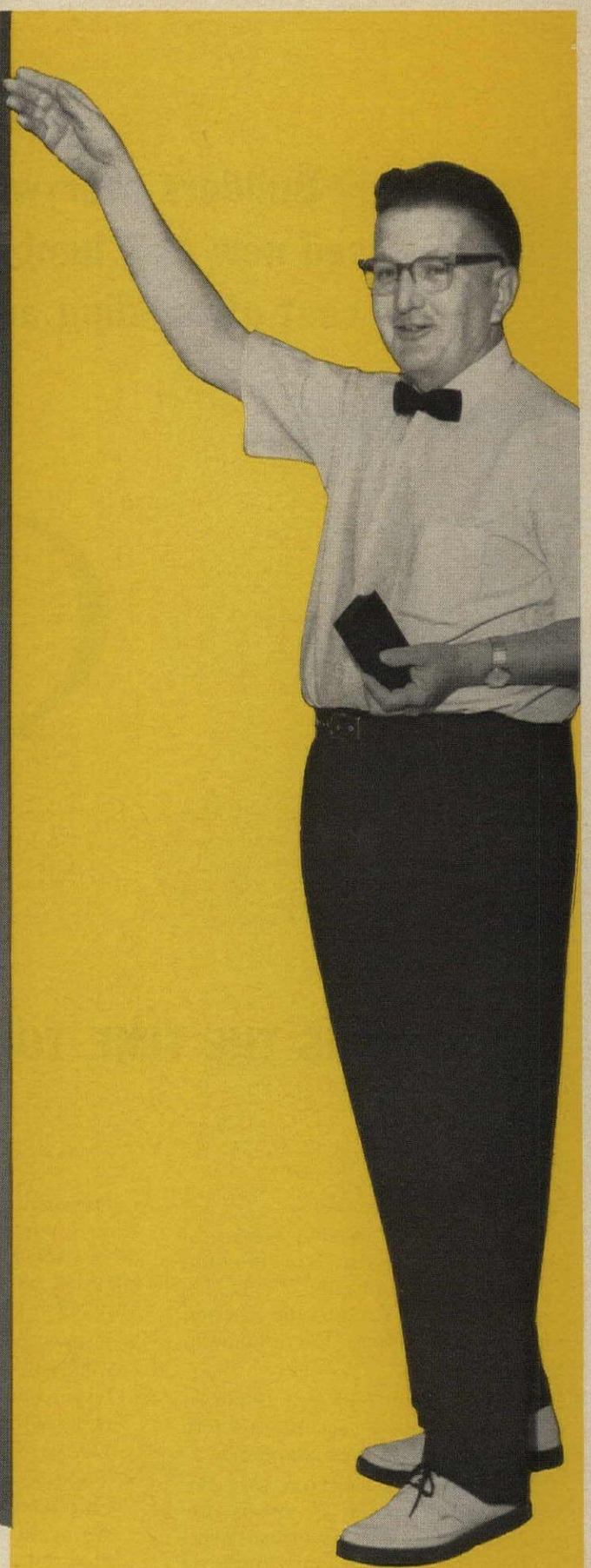
*Overhead Door Corporation announces it is producing a quality operator at a price to its distributors which will permit them to sell for a price of less than $150 installed (less wiring and travel).

This old-fashioned gas buggy? It's a demonstrator that Ralph Markus used to dramatize the AUTO-MATE Automatic Garage Door Operator on his modern Marlis Homes. *Every* Marlis Home comes equipped with AUTO-MATE as a standard, no-extra-cost feature. But Mr. Markus is a true showman. What the car *really* demonstrates is that every home in his area *without* AUTO-MATE is as old-fashioned as this car! ■ Think what AUTO-MATE can do for *your* homes! Dramatic demonstration appeal. A prestige home feature. AUTO-MATE has all the fine-quality features—safety reversing, overload protection, UL approval, separate radio unit, extra garage-lighting circuits—features that have made "OVERHEAD DOOR" operators famous for years. ■ Here's the sales appeal that can help you close a sale faster—with top mortgage evaluation. *Include* AUTO-MATE as a no-extra-cost feature of *your* "package." Contact your "OVERHEAD DOOR" Distributor today for details—plus a complete point-of-sale display kit for your homes.

NEW-FANGLED WAY TO SELL HOUSES!

"When we included the AUTO-MATE Garage Door Operator *free with every Marlis home,* we knew we had a winner. It's the greatest selling plus for us since built-ins!" says Ralph Markus, developer of Camelot and builder of 2000 homes in northwest Chicago suburbs.

THE "OVERHEAD DOOR" TRADE MARK *the original*



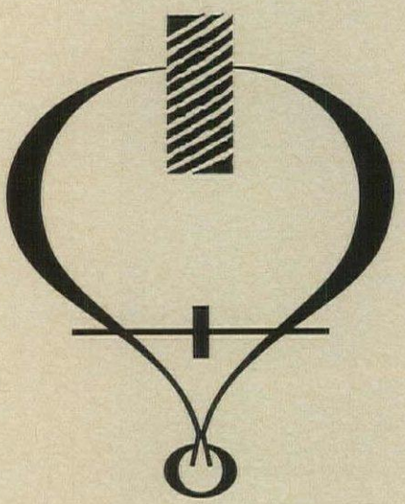
Ralph Markus, President of Marlis Construction Company, is an enthusiastic booster of the AUTO-MATE Garage Door Operator.

OVERHEAD DOOR CORPORATION

General Offices and Manufacturing Division: Hartford City, Indiana. **Manufacturing Distributors:** Dallas, Texas; Portland, Oregon; Cortland, New York; Hillside, New Jersey; Lewistown, Pa.; Nashua, New Hampshire.

In Canada: Oakville, Ontario.

Builders everywhere are endorsing the proposed new ALS lumber standards which will cut the cost of building and lead to better housing



NOW IS THE TIME TO MAKE YOUR VOICE HEARD!

Here's what you can do:

1. Write today to the National Bureau of Standards, Department of Commerce, Washington 25, D. C., expressing your support for Revised Simplified Practices Recommendation 16-53.

2. If you are on the Department of Commerce list of acceptors, vote favorably on the new standards.

The present system simply doesn't meet builders' needs for economical, precisely engineered lumber products. The new standards proposed by the American Lumber Standards Committee represent the greatest single advance in lumber quality in many decades.

Opportunities for reducing the cost of quality construction with wood are heavily dependent upon official adoption. Among other things, the new standards will:

- Establish minimum thicknesses for both green and dry lumber based on the dimensions the material will assume in place on the job.
- Tighten up moisture content requirements in dry lumber to 15 per cent average, 19 per cent maximum.
- Reduce building costs by engineering dry lumber products to realistic stress and grade demands.
- Provide clear identification of dry lumber meeting the new standards for visible proof of quality construction.

Weyerhaeuser has supported these long overdue reforms from the outset and today we are already making kiln-dried framing to the new specifications.

If you support the new standards, won't you take the time now to make your voice heard?

Weyerhaeuser Company
Wood Products Division, Tacoma, Wash.

More product bulletins

PREBONDED PANELS with laminated plastic surface. Data sheet. General Electric, Coshocton, Ohio. *(Check No. P41)*

LUMINOUS CEILING PACKAGES. 4 pages. Patterns, sizes, and installation details. Kosman Lighting, San Francicso. *(Check No. P42)*

BOILERS AND AIR CONDITIONERS. 6-page folder shows three oil-fired boiler series, five oil-fired winter air conditioner lines, and two central air conditioner lines. Thatcher Furnace, Garwood, N.J. *(Check No. P43)*

TV-FM RECEPTION AIDS. 8 pages. Photos, descriptions, specs, and prices. Jerrold Electronics, Philadelphia. *(Check No. P44)*

For more information check the numbers below (they are keyed to the items described on the New Products and Publications pages) and send the coupon to: HOUSE & HOME, Rm. 1960, Time & Life Building, Rockefeller Center, New York 20.

Note: HOUSE & HOME's servicing of this coupon *expires Feb. 29, 1964.* If you contact manufacturers directly, it is important that you mention the issue of HOUSE & HOME in which you saw the item.

New products — **November**

1. ☐ G.E. compact kitchen
2. ☐ Broan indoor barbecue hood
3. ☐ Howard Miller spice cabinet
4. ☐ Carlton translucent sheets
5. ☐ Vancouver matched plywood products
6. ☐ Abitibi wall paneling
7. ☐ Z-Brick veneer
8. ☐ Masonite floor underlayment
9. ☐ Bestwall Gypsum ceiling tile
10. ☐ Silvray outdoor lighting
11. ☐ Lightolier Early American fixtures
12. ☐ Majestic wrought-iron fixture
13. ☐ Del-Val five light chandelier
14. ☐ Moe Chandelier series
15. ☐ Habitat contemporary fixtures
16. ☐ Home Planners modular grid paper
17. ☐ Lewbill drawing file
18. ☐ Graphostat compact drawing set
19. ☐ Victor Comptometer calculator
20. ☐ Venetian Marble tub and sink
21. ☐ Summit shower floor
22. ☐ Graning single-faucet sink bowl
23. ☐ Miami-Carey towel clip
24. ☐ Cambridge textured tile
25. ☐ American-Standard cooling unit
26. ☐ Thatcher compact boilers
27. ☐ J-M glass fiber duct
28. ☐ White Rogers temperature control
29. ☐ Federal Pacific wall heater
30. ☐ G.E. heater-light-exhaust

Publications

P1. ☐ Masonite vinyl panels
P2. ☐ Electrovert waterstops
P3. ☐ Carpenter vinyl wall covering
P4. ☐ Nova luminous ceiling
P5. ☐ NEMA room a-c directory
P6. ☐ Masonite floor underlayment
P7. ☐ Leigh suspended grid ceilings
P8. ☐ Rubber Manufacturers subflooring
P9. ☐ Admiral refrigeration
P10. ☐ U.S. Aluminum siding
P11. ☐ General Chrome towel bars
P12. ☐ Schlegel woven-pile seals
P13. ☐ Slater wiring devices
P14. ☐ Penco shop equipment
P15. ☐ Mutschler parquet samples
P16. ☐ Armstrong "Inside four houses" film
P17. ☐ Certain-teed ceiling tile patterns
P18. ☐ Borg-Warner shower receptor
P19. ☐ Silvray corridor light
P20. ☐ Baker-Roos telescoping scaffold
P21. ☐ Stylon wall and floor tile
P22. ☐ Andy Place vanities
P23. ☐ G.E. wall panel systems
P24. ☐ Teleflex window controls
P25. ☐ Toriginol resilient flooring
P26. ☐ Meridian Brick clip-on veneer
P27. ☐ Mist-Aid steam bath generator
P28. ☐ Frigidaire undercounter dishwasher
P29. ☐ L-O-F tempered glass doors
P30. ☐ Hastings aluminum gutters
P31. ☐ Kresky gas wall heaters
P32. ☐ Jensen apartment-house mailboxes
P33. ☐ J.I. Case loaders
P34. ☐ Farr damper regulator
P35. ☐ Westinghouse post lamps
P36. ☐ National Particleboard Assn. folder
P37. ☐ Miami-Carey paper holder
P38. ☐ Auth apartment-house mail boxes
P39. ☐ Towmotor forklift trucks
P40. ☐ Markel electric baseboard heaters
P41. ☐ G.E. prebonded panels
P42. ☐ Kosman luminous ceiling
P43. ☐ Thatcher heating and cooling
P44. ☐ Jerrold TV-FM reception aids

Name .....Position.....

Firm .....Kind of business.....

Street .....

City.....State.....

I wish to enter a subscription to HOUSE & HOME for ☐ 1 year, $6; ☐ 3 years, $12; ☐ new; ☐ renewal (U.S. and possessions and Canada only)

Name .....Position .....

Firm .....Kind of business.....

Street .....

City.....State.....

Award Winning Company Announces New Line

—a new concept in kitchen design

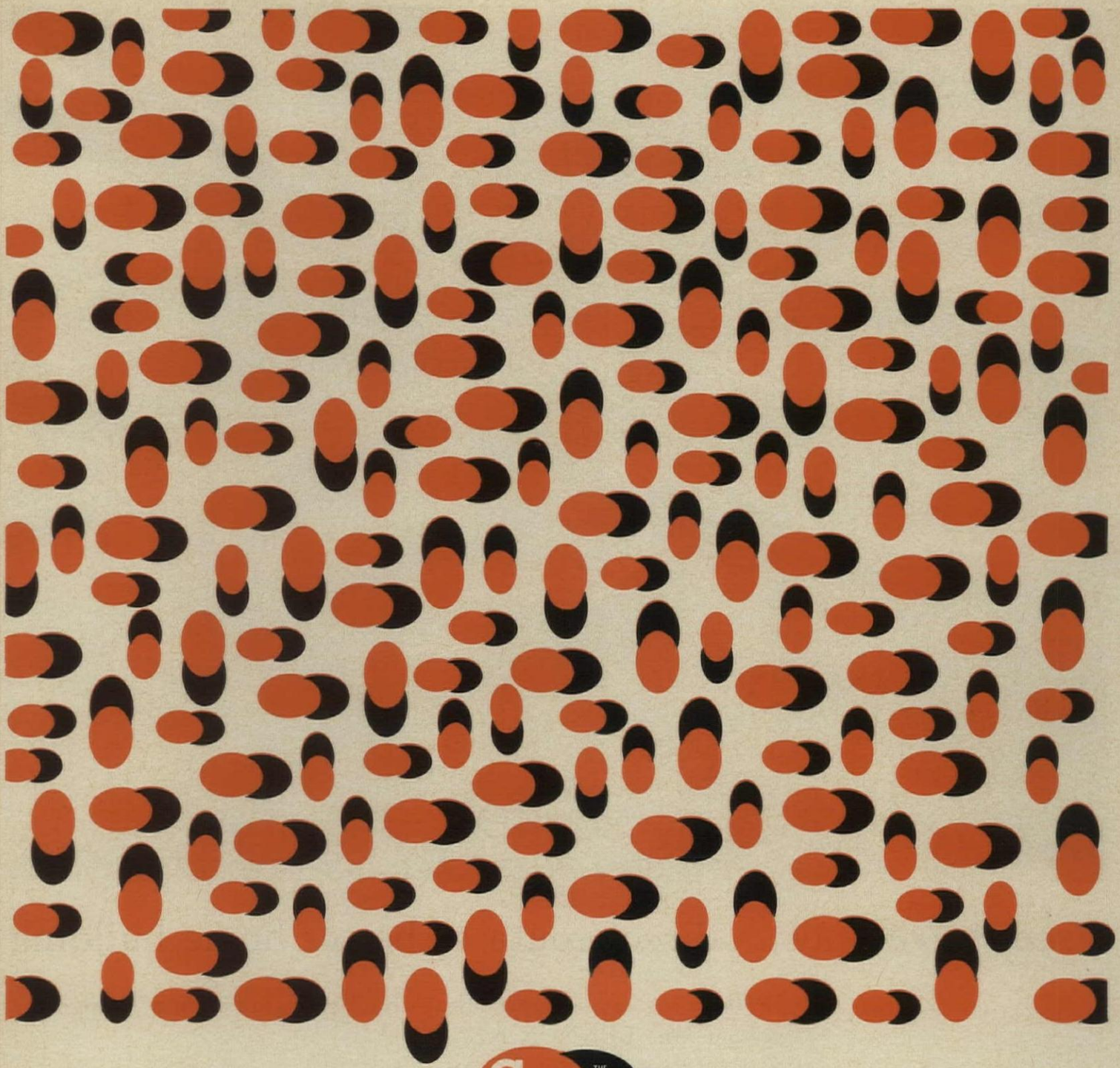
Kitchen Kompact's new Series is high-style cabinet sophistication–yet moderately priced for a wide range of installation types. It's a smart, clean design "at home" with any decor. The series wears Kitchen Kompact's reputation for fine quality and craftmanship. It is designed for quick, easy installation and years of trouble-free use.

TO BE INTRODUCED AT BOOTH 954-955 NAHB CONVENTION & EXPOSITION.

NATIONAL KITCHEN CABINET ASSOCIATION · PREFINISHED NKCA QUALITY ENGINEERED KITCHENS

KK Kitchen Kompact

JEFFERSONVILLE, INDIANA



Geon® VINYLS THE MATERIAL DIFFERENCE IN BUILDING

NEW EMBLEM FOR QUALITY BUILDING PRODUCTS ONLY

If building is your business you'll be using rigid vinyls more and more. Sometimes it will be in products that are totally vinyl, other times in products that are partly vinyl— inevitable because of the versatility of this new material.

Since vinyl is our business, we are anxious that it be used correctly. So we have established an identification program that includes provisions designed to assure quality and performance in products using Geon vinyl.

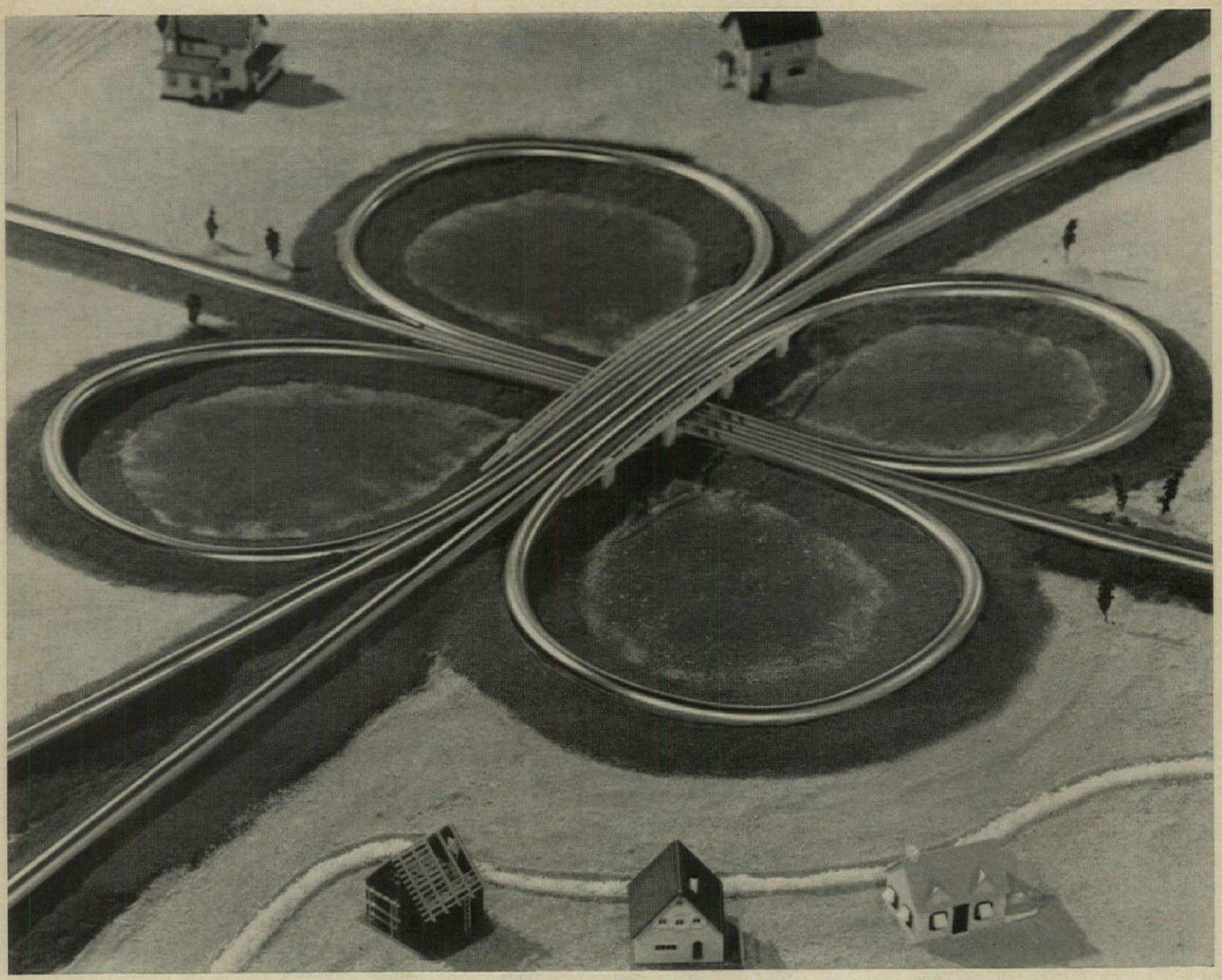
The presence of this emblem is your assurance that the manufacturer makes a high-quality product of proven performance, using Geon vinyl, "The Material Difference in Building". His guarantee covering workmanship and performance, coupled with his usage of quality materials, is your assurance of many years of service.

Soon manufacturers will be using this new emblem. For facts on the properties of Geon rigid vinyl and our identification program, write B.F.Goodrich Chemical Company, Dept. CJ-5, 3135 Euclid Avenue, Cleveland, Ohio 44115. In Canada: Kitchener, Ontario.

B.F.Goodrich

B.F.Goodrich Chemical

a division of The B.F.Goodrich Company



Freon* Freeway... direct route to better home building

Freon Freeway—a new, "bug-free" refrigerant flow control system—the LENNOX RFC™.

This ingenious freeway tube will make your residential air conditioning as simple, affordable and foolproof as the kitchen refrigerator! Gone are yesterday's problems. No unpredictable expansion valves. No "cap" tubes to clog. No capacitors to go wrong. No receivers to cause trouble. Installation is quicker, less costly. New years of trouble-free service are added. Yes, it's time to take a new look at air conditioning, and a new look at home design. For when you design your homes around LENNOX air conditioning you design in, almost free, the freshest sales story a builder ever told. Get up-to-date on air conditioning. Write LENNOX, 22 S. 12th Avenue, Marshalltown, Iowa.

National Association HOME BUILDERS Annual CONVENTION EXPOSITION Chicago December 11-15 1963

BOOTH 1165

*DuPont registered trademark

AIR CONDITIONING • HEATING **LENNOX**

Extra Point for You

Window Beauty... *that puts money in the bank*

YES—MODERN WOOD WINDOW UNITS CUT WINDOW HEAT LOSS BY AS MUCH AS 21%

Even while windows of Ponderosa Pine are pleasing the eye and blending harmoniously with charming interiors, *they're saving you money too.* • For the Ponderosa Pine which frames the glass areas of windows provides 1770 times the insulating value of aluminum. Heat leaks there are cut to a minimum, fuel costs reduced. • Windows of Ponderosa Pine work for you in summer too, blocking out summer heat—as no metal can. And they help keep air-conditioning costs appreciably lower. • Make sure that your new home, or your proposed remodeling, includes the very *practical* beauty of Ponderosa Pine windows.

Send for your FREE folder "Window Facts", Ponderosa Pine, Dept. HH1, P.O. Box 4988, Chicago 77, Illinois

WOODWORK OF *Ponderosa Pine*

PONDEROSA PINE WOODWORK—*An association of lumber producers and woodwork manufacturers* • 39 South LaSalle Street, Chicago 3, Illinois

This advertisement will appear in February House Beautiful; *March* House & Garden *and Spring issue* House Beautiful's Building Manual; *spring issue of* New Homes Guide; *September* House Beautiful; *October and November* House & Garden; *November* Home Maintenance & Improvement; *and December* House Beautiful.

You can offer your customers extra cash value with wood window units. This ad drives home the fact that wood windows can effect fuel savings by their ability to reduce heat loss *appreciably.* Write us for FREE *Window Facts* booklets available for your customers, Department HH-1.

PONDEROSA PINE WOODWORK

An association of Lumber Producers and Woodwork Manufacturers • 39 South LaSalle Street, Chicago 3, Illinois

ADVERTISING INDEX

This advertisers index published by HOUSE & HOME is a service to its readers. HOUSE & HOME does not assume responsibility to advertisers for errors or omissions in preparation of these listings.

W denotes Western edition
S denotes Southern edition