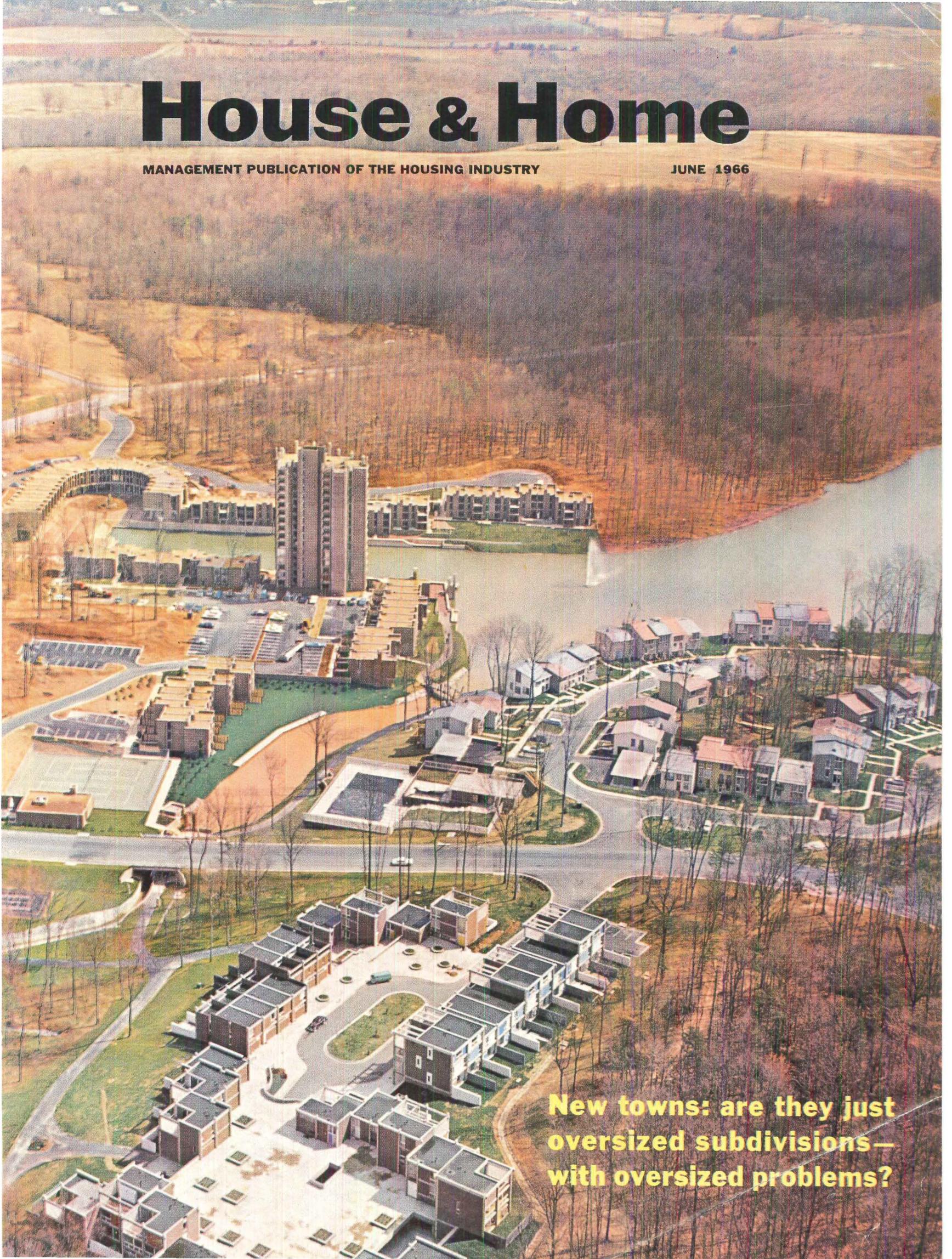


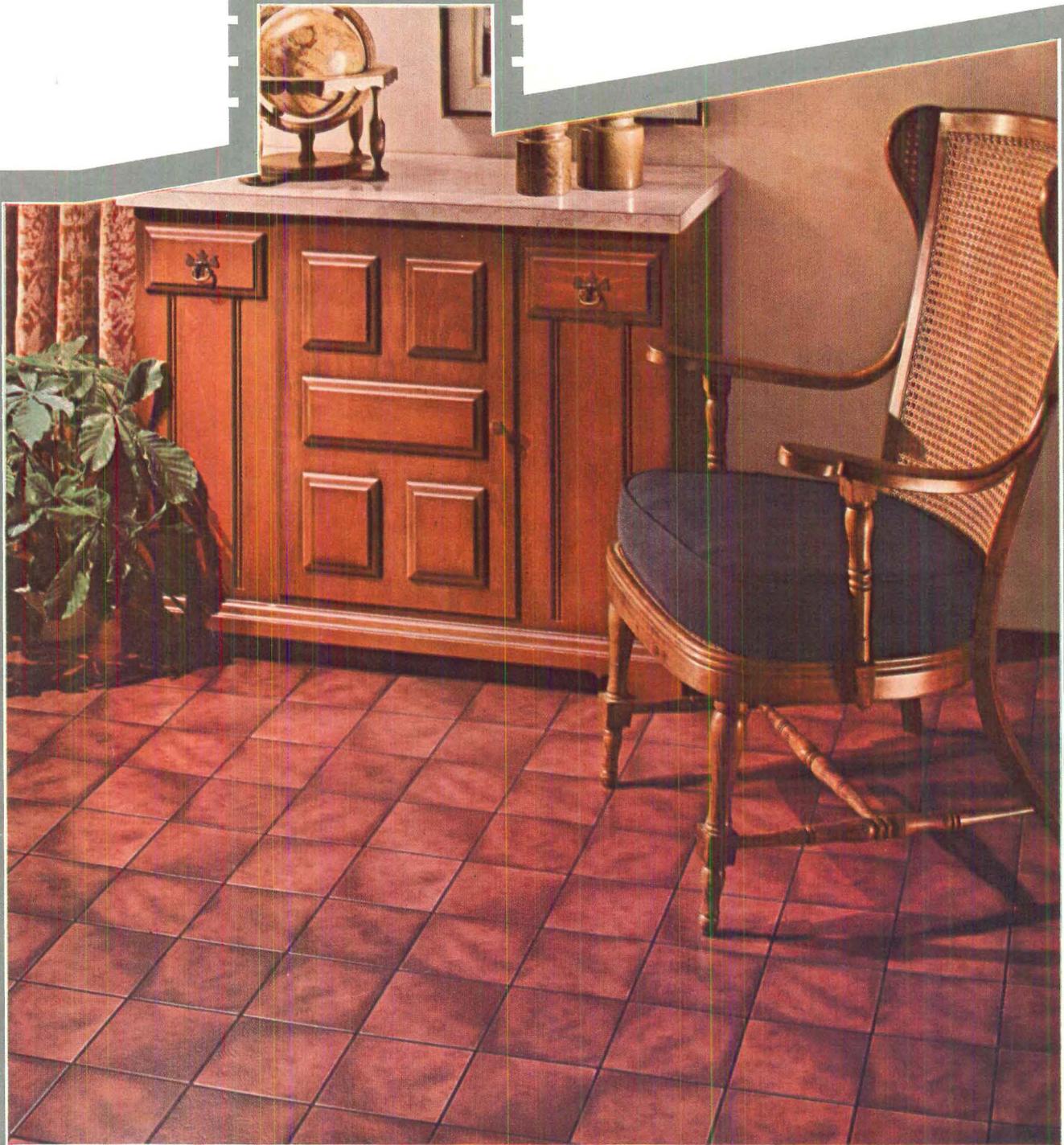
House & Home

MANAGEMENT PUBLICATION OF THE HOUSING INDUSTRY

JUNE 1966



New towns: are they just oversized subdivisions—with oversized problems?



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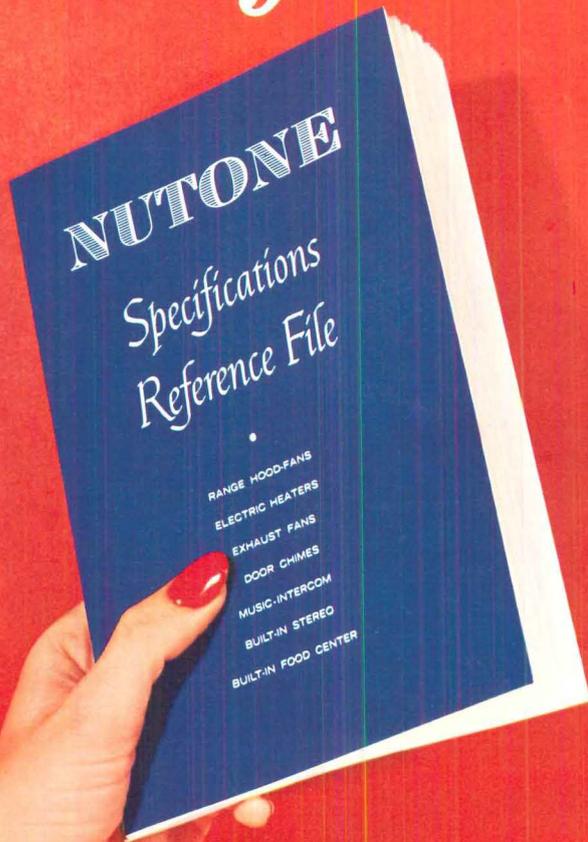
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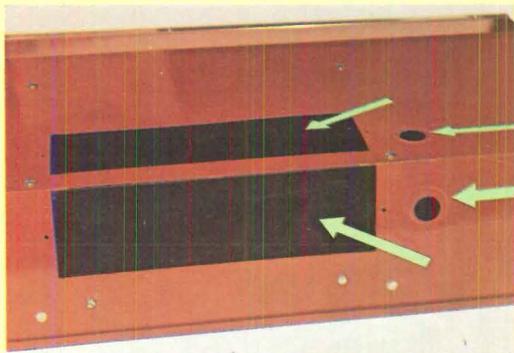
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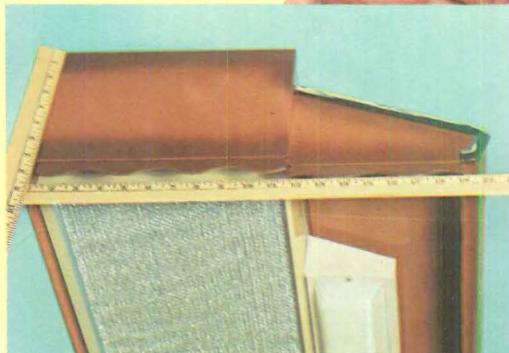
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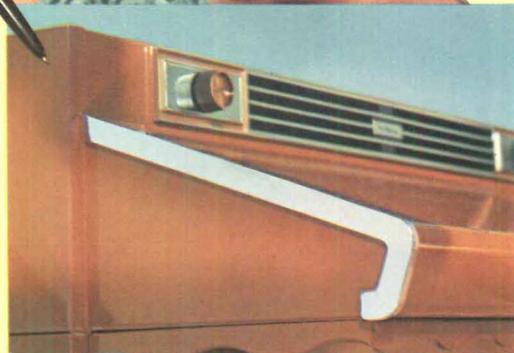
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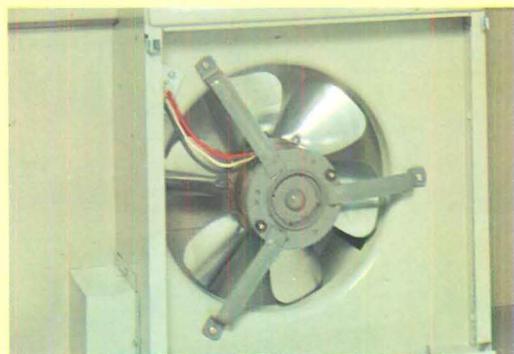
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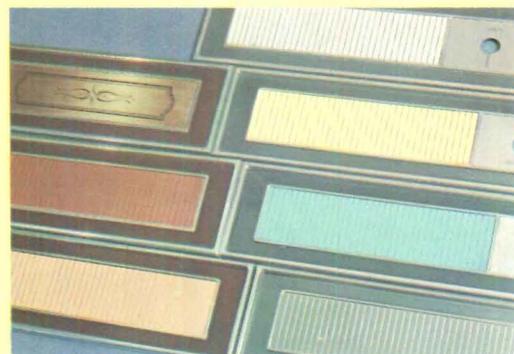
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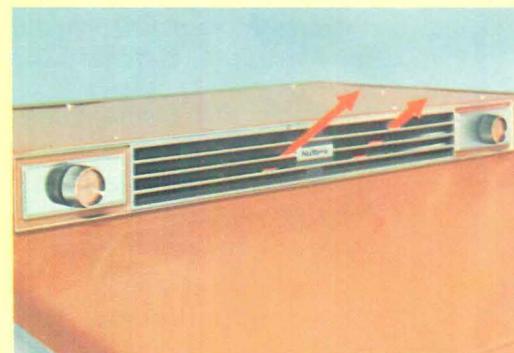
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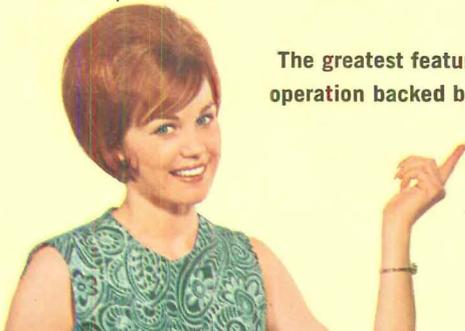
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House & Home

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VOL. XXIX NO. 6

JUNE 1966

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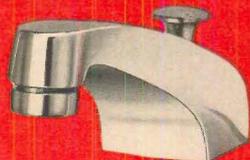
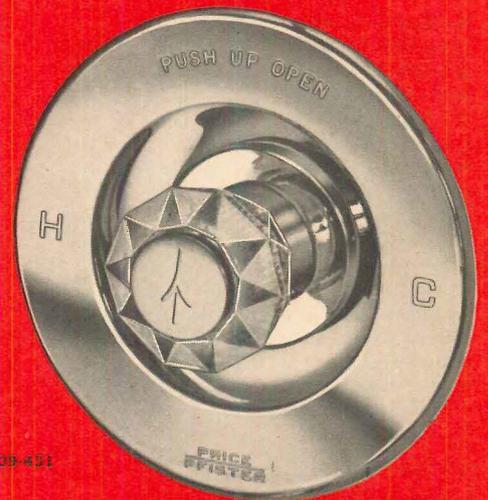
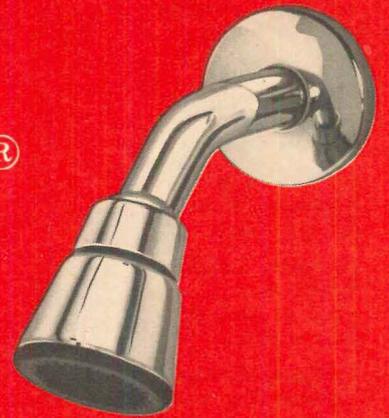
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WASHINGTON WIRE

Bias rollback

California's referendum barring the state from enforcing anti-bias housing laws (it was called Proposition 14 when enacted in 1964) was reversed by the state Supreme Court last month.

The decision let Washington housing execs release \$80 million of renewal funds held until California cities guarantee they can enforce federal anti-bias rules.

And the California Real Estate Board, an originator of Proposition 14, said it will contest the "astonishing twists of logic" in the decision.

FNMA vs. FNMA?

FNMA, the secondary mortgage agency, may be forced to compete with itself for scarce mortgage money. The Senate has passed and sent to the House a bill directing FNMA to sell participations in federal loans to colleges, farmers, veterans and students. NAHB opposes the measure.

Lumber lumbering

The squeaky machinery for producing a national lumber standard once again failed to get an industry consensus on 1½-inch 2x4s. The Commerce Dept. has set a September deadline to write new standards.

Housing bill sidetrack

Chances for passage of President Johnson's cities demonstration program were seriously diminished last month when the Senate and Housing subcommittees decided to consider it separately from the popular mass transit program. HUD lobbyists had hoped mass transit's appeal would carry 1966 housing bill through Congress.

Low-income push

Congress is giving HUD's low-income demonstration program all the money it asked this year to start research on pre-cast concrete apartment components, factory-made concrete houses, and aid to non-profit sponsors of low-income housing. New chief is Bernard T. Craun.

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RESERVE's MARTIN
 "Simple, clean-cut, increase in taxes"

H&H staff



ADMINISTRATION's HUMPHREY
 "More important than how we build more houses"

LBJ's dilemma: overcure for inflation or possible overkill for housing

Those alternatives are being pressed on President Johnson by combatants in the sharpest and most complex economic battle in a decade.

Housing men are shouting that government monetary policies to slow incipient inflation may well have a killing effect on housing. They are calling for government relief louder than at any time since tight-money 1957. But in tight-money 1966 the script has changed: the senator who got housing \$1 billion in FNMA money in 1958 is now the President, and impressing housing's distress signals on Johnson's palace guard of advisers is a tortuous task.

United front. The money crisis has united five major housing trade associations for the first time in years. Last month the NAHB, Mortgage Bankers Assn., U. S. S&L League, National Association of Real Estate Boards, and National Association of Mutual Savings sat down behind closed doors with members of Johnson's inner circle of advisers to hammer their point.

Participants were close-mouthed about what transpired, but one ventured that the government men finally seemed to be gaining an appreciation of the long lead time needed to finance housing.

"A retrenchment in loan commitments has begun, and the full impact of the shortage will not start to show up until mid- or late summer," said U. S. S&L League President C. A. Duncan.

"Don't talk to us of a good first quarter or the flow of mortgage funds," snapped another S&L man. "What concerns us is the commitment level."

Even the statistics on commitments are muddy at best. Home Loan Bank Board figures show S&L commitments through March running 5% ahead of 1965, but U. S. League researchers call these data "rough." HLBB reports that S&L construction loans to builders have fallen 16% behind 1965 through March. And NAHB's recent study of builder operations showed that nearly 60% did not depend on take-out commitments at all.

Housing men blame the shortage of mortgage money and commitments on Federal Reserve Board policy which lets commercial banks pay up to 5½% interest on certificates of deposit, and thereby draws savings into banks where it goes for business loans instead of mortgages.

Builders want a \$25,000 minimum clamped on certificates of deposit to keep them from draining money from thrift institutions, and HLBB Chairman John Horne urged the House to do so last month.

Taxes, anyone? Most housing industry associations favor an income tax hike to ease inflationary pressures. The one exception is NAHB, whose directors weighed the wisdom of a tax increase last month and decided instead to call for a rollback of perhaps 10% in federal spending. But Republicans in Congress have been getting their noses bloodied in vain attempts to cut spending 5% on some measures.

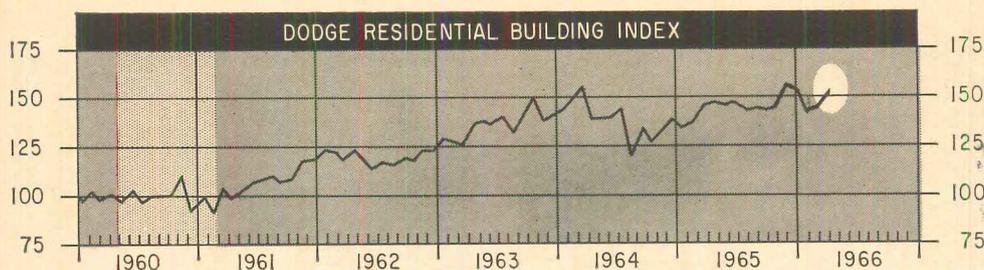
Tax-hike proponents got a convert inside the LBJ circle when FRB Chairman William McChesney Martin told an assemblage of savings bankers in New York City that a "simple, clean-cut, across-the-board increase in taxes" would be the "logical way" to deal with inflation.

Grin and bear it. But Vice President Hubert Humphrey made a special appearance before NAHB directors to plead for support for President Johnson's stand that no further action is warranted now.

"I come with a message more important than just how we build more houses—important though that may be," Humphrey told the builders. "It is how we build a better America and a better world."

Humphrey said he could not say the builders' "sensible" suggestions would be accepted by policymakers, but, "you will receive a friendly and receptive audience."

At month's end, Treasury Secretary Henry Fowler argued a tax hike might be an "overcure" — that it might stall the economy instead of slowing it down. And LBJ aides told businessmen that a tax hike was still an even bet.



Housing market: all systems 'go' for a banner year except money

A pronounced uptrend in the F. W. Dodge Co. residential building index in the first quarter (graph above) is but one of many bullish housing indicators.

The Dodge index, which measures contracts signed for future housing starts, ended March at an upbeat 154, just two points below last November's all-time high of 156. Dodge Economist George W. Christie reports one-family housing activity propelled the index upward.

But the jarring controversy over mortgage money (see p. 5) obscures the housing market's strong underpinnings.

New strength. Despite the money fight, housing's picture brightened last month.

Building permits, another indicator of future housing activity, are firm at an annual rate of 1.3 million units, 3% ahead of the comparable 1965 count.

Vacancy rates are trending downward, and James Downs, Real Estate Research Corp. head, says vacancies in all types of buildings are at their lowest since 1961.

Housing inventory is at its lowest point since 1962, says the Census Bureau. No more than 7% of builders responding to NAHB's spring survey of builders cite apart-

ment overbuilding in their markets.

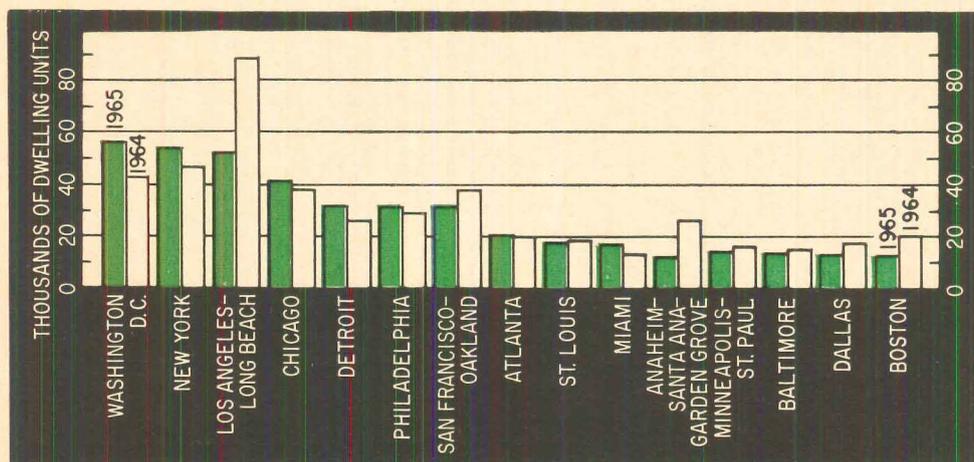
Cost-price push. Housing men have been hit hard by rising materials, labor, and money costs. Interest is up sharply, labor up 4% over last year, and building materials up 3%. The homebuilder's normal reaction is to pass on these costs to his buyers.

Downs notes, "Every contractor, supplier, and worker has rushed into the inflation act by adding a few percents to his price while the taking is good. Although we believe that some of it will stick, we're not buying the bundle."

Downs fears the resulting higher prices for apartments and investment housing will choke off demand. Unless prices back down, he foresees less volume.

But one private economist notes: "Very possibly these two forces (higher prices and demand) are just about canceling each other out for the time being."

The long-time upswing in U. S. business has filled consumers' pockets. Indeed, the U. S. S&L League suggests that the early drop in savings (with resulting moans from mortgage men) may have been the result of a consumer spending binge.



Los Angeles drops from first place as biggest U. S. market

The kingpin of U. S. housing for over a decade fell all the way to third place last year. This graph, prepared by Security First National Bank of Los Angeles from preliminary Census Bureau figures, tells the disappointing story.

Los Angeles starts plummeted 41% to

52,155 in 1965. At the same time Washington jumped into first place with a 31% burst to 55,917 units, and the New York City metropolitan area finished second with 54,155 units, up 17%. Apartments accounted for all strength in both markets. In Los Angeles apartments dived 50%.

Price-hike blizzard of '66: labor and materials on rise

Price hikes are busting out all over this spring, forcing homebuilders to boost house prices sharply: Items:

- A survey of eight major St. Louis builders showed they expect to raise house prices 5% this year. Builder Fred Kemp has boosted prices \$1,100 in a year; Marvin Deutch has posted two boosts of \$500 each since February.

- National Homes raised prices to its builder-dealers by 5%, effective in July. A Home Manufacturers Assn. survey found that 16 of 27 prefabbers have either raised prices or plan to do so. Sharp lumber and plywood price hikes were blamed—although they seemed to hit a plateau in mid-May.

- Cement prices, long the low-man on the totem pole, increased in the East and Midwest. Ready-mix prices jumped 30¢ to 60¢ a cubic yard in Philadelphia after truck drivers won a wage hike.

- Union wage scales hit \$4.47 hourly in the first quarter, up 0.4%. Labor is still critically short in many busy homebuilding areas, but an NAHB conference last month reached no consensus whatever on what to do about it. Just the fact that so many different groups showed up—from the Operating Engineers to the Urban League—indicated the wide concern.

Two major utilities cut costs of buried wiring

Cleveland Electric Illuminating Co. and Pacific Gas & Electric Co. are lowering their charges for underground wiring.

The Cleveland utility ended a 35¢-per-foot charge for all new developments with 20 or more houses. Builders still must bear all costs for house connections, but CEI estimates it has cut the builder's total cost for underground wiring by 15% to 20%. CEI buried wires to 926 lots last year and has 2,000 more in planning.

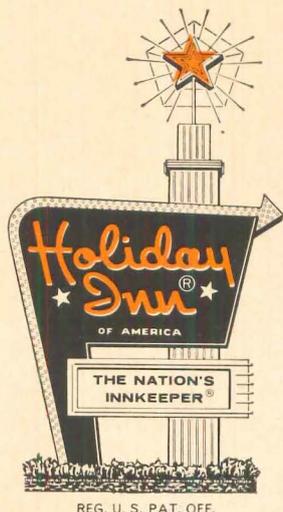
PG&E, the utility serving Northern California, cut its basic charge from \$1 to 90¢ a front foot for buried wires when the builder does all trenching, backfilling and substructure construction. The utility also set up standard charges for doing this work at the request of the builder, instead of making separate estimates on each job.

But northern California cities and builders contend the new rates are still high and are pressing for further cuts before the state Public Utilities Commission.

Nearly one of four houses is a prefab, makers claim

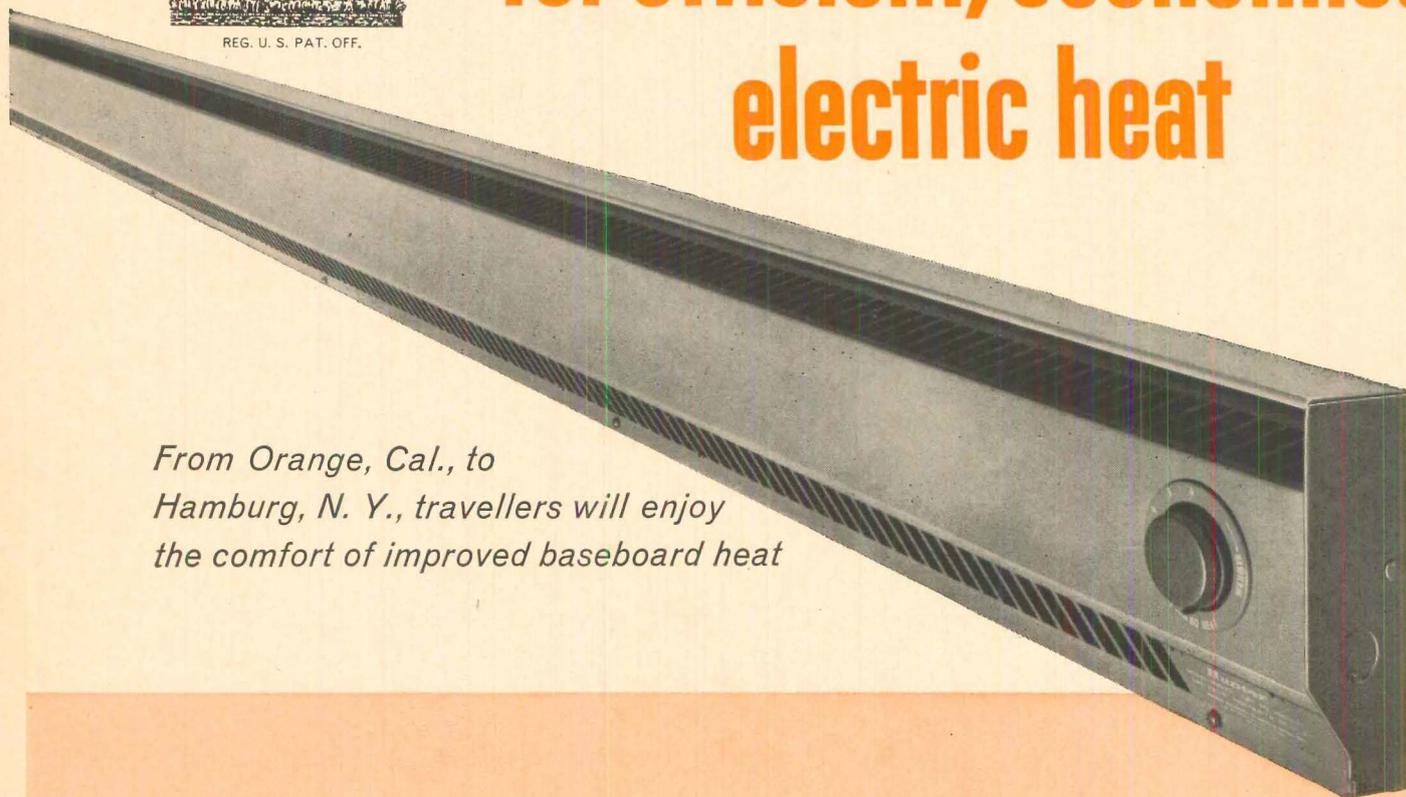
U. S. home manufacturers produced 232,829 one-family houses last year—or 24% of all one-family starts. The growth—up from 20% only two years ago—shows up in the annual survey of prefabbers by a national accounting firm for the Home Manufacturers' Assn.

The home manufacturers also produced 36,915 multifamily units for a total volume of nearly 270,000 units.



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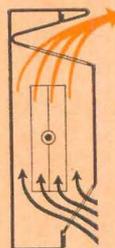
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CONNALLY

Rustlers in the NAHB corral, or— who really goes to the builder show?



HOFHEINZ

Photos: H&H staff

All you have to do is look at the brands, pardner.

Since back in '41, this outfit called the National Association of Home Builders and the nesters in Chicago have been running this big roundup every year. Call it the NAHB convention and exposition.

All the ranch-house builders in the country put on their Sunday-go-to-meeting clothes and come. Least ways, it seems that way from all the hands strolling up and down that range they call McCormick Place. Near 35,000 some years, I hear tell.

All those hands are looking for some new do-dads they can take back home to build into their houses. Beats going to a general store for builders and—well—for those big companies that make do-dads and knick-knacks, where else could they find so many builders in one corral.

But Chicagoans are such fun-loving hosts they stopped taking a close look at the brands on the herd at roundup.

Now, down in Houston a band of

Texans wanted to rustle that annual roundup for a big new corral they called the Astrodome. And they knew all about such things as brands, and started counting.

Know what they found? Only about 13% of that herd in Chicago were builder-members of NAHB. Nearly 16% were architects and subcontractors and other housing professionals. But a whopping 71% were strays—guests of builders and exhibitors.

That was the ammunition the Houston boys needed. They packed up the fanciest band of convention rustlers they could find and headed for the spring pow-wow of NAHB directors in Washington last month. They wanted that builders' roundup in the Astrodome in December 1968 so much they pulled off the slickest stampede ever.

First came Houston Mayor Louis Welch, who promised 1,000 courtesy cars to the builders, so they wouldn't have to wrestle for cabs as in Chicago.

Next came Texas Gov. John Connally, who left no doubt that in his

opinion Texas' natural beauty, climate, and recreational facilities would attract far more builders. He mentioned fishing in the Gulf of Mexico, hunting in 25 million of acres of gameland. And when other members of his band flashed a slide picture of golfers in December, the builders just gasped in memory of December's ice and snow in Chicago.

Then Judge Roy Hofheinz came on with a stump-speech flourish. "I come to you as sole owner [of the Houston Sports Assn., operator of the Astrodome] having to call no board to act on what I say today. When you come to Houston, you are not inheriting a public subsidy from the race tracks [McCormick Place is operated by a public agency]." He pledged to guarantee that NAHB would match the highest profit ever in Chicago, \$750,000.

"If you come to Texas, it will be Katie, bar the door."

After that kind of talk, the builders voted to go along with the convention rustlers, provided all the legal strings can be tied up neatly before 1968.

NAHB gripes, but FHA stands on escrow for downpayments

FHA's insistence that builders hold downpayments in escrow can be traced largely to a few recent skip-outs in the Washington, D. C., area, where local newspaper coverage tends to stimulate complaints from consumer-conscious congressmen.

FHA's order requires builders to hold in escrow all downpayments or advances made by prospective homeowners, except for obvious custom houses.

Led by NAHB's First vice president, Wilmington Builder Leon Weiner, NAHB members voiced their displeasure to FHA Commissioner Philip Brownstein last month because the action came when builders were already being squeezed on mortgage funds. Brownstein agreed that the timing was unfortunate but suggested there was no "right" time.

Since then, NAHB has been trying to get the ruling postponed—but with little success. Brownstein has turned down a suggestion that builders be required to post a bond because, he says, this would only give prospective homeowners the right to sue. He has also rejected a proposal—similar to a Pennsylvania requirement for realty agents—that cash be earmarked to go into house construction.

Several states already make escrow-type

set-asides necessary, FHA lawyers say.

Negotiations between FHA and NAHB are continuing, with Brownstein insisting he is more than ready to consider any alternatives so long as prospective homeowners are fully protected.

Post Office orders rural mailboxes—pretty ones, too

Mrs. Johnson's pitch for beauty and the Post Office Dept.'s desire for economy are headed for an eyeball-to-eyeball clash if NAHB has its way.

Postmaster General Larry O'Brien has urged local postmasters to enforce a three-year-old rule requiring roadside mailboxes in new subdivisions. The ruling has already led to curbside delivery at 7 million new houses in urban areas and thus saved the government \$100 million a year.

But some builders are complaining, and NAHB is pressing postal authorities to modify the ruling.

"With utility wires going underground, why should builders be required to sprout mailboxes at the curb?" asks an NAHB staffer.

O'Brien's men have an answer: they sponsor Mailbox Improvement Week each year to adorn those poles with pretty mailboxes.

NAHB adopts national rules for 'Registered Builders'

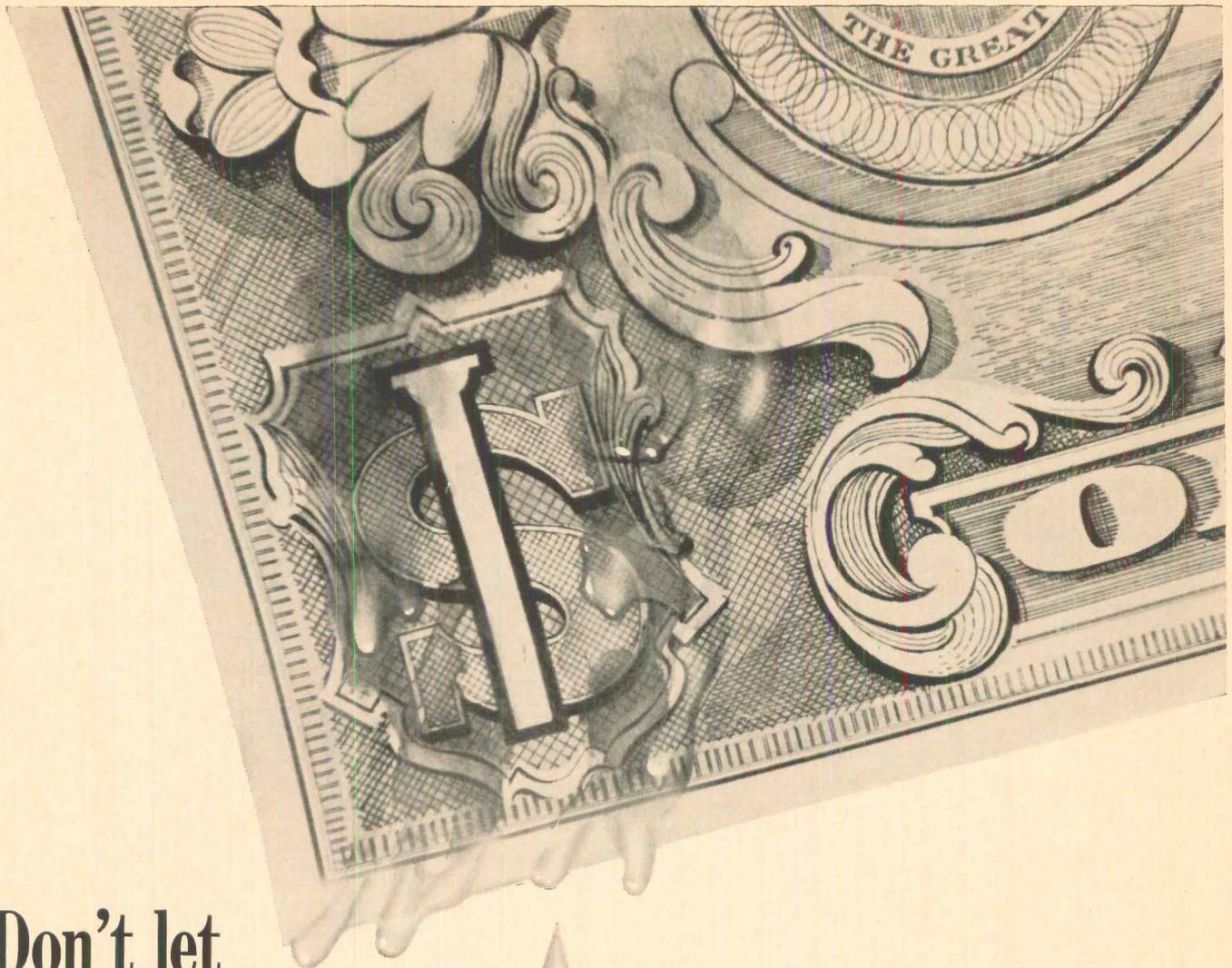
Homebuilders who want to call themselves "Registered Builders" in their advertising must agree to abide by new nationwide minimum standards.

NAHB directors ordered the standards into effect last month to end two years of fitful and serio-comic debate. Two years ago the builders' trade association reacted to a spate of Congressional criticism by proposing that its local affiliates set up programs under which certain "Registered Builders" would guarantee their houses and agree to submit all disputes with buyers to a grievance committee.

But NAHB directors could never agree on what builders had to do to become "Registered" or whether the national body had any right to tell local associations how to run "Registered Builder" programs. Many directors feared that NAHB members who did not or could not be "Registered" would in effect become second-class citizens.

The new rules say Registered Builders must be reliable and financially responsible, must guarantee their houses for one year, and must comply with rulings of local grievance committees.

About 60 local builder associations now operate Registered Builder programs and 50 more are studying them.



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Anti-bias bill reaches hesitant Congress

President Johnson's bill to ban race bias in all private housing has almost no chance of passage this year—but could become law in 1967.

The Administration sent the bill to Congress last month after a lengthy debate behind closed doors.

The bill has been roundly damned by staunch integrationists and conservative realty men alike—but for different reasons. Realty men claim it would drastically infringe on an individual's right to own and transfer property. Integrationists assail it as too weak, because they say it leaves too much to the initiative of individuals who could easily be unwilling or unable to act effectively.

Interstate? The President's proposal is rooted in the constitution's interstate commerce clause, as well as the 14th amendment (equal rights), according to Attorney General Nicholas Katzenbach.

He contends that money moves interstate, and money is involved in any housing transaction; so wherever the money goes, the federal policy of non-discrimination must follow. Sen. Everett Dirksen (R. Ill.), a frequent champion of civil rights bills, retorts that nothing could be less interstate than a house rooted in a state's soil.

Under questioning, Katzenbach admitted that perhaps a "Mrs. Murphy" rule ought to be added, exempting small rooming houses from the act to ease administration.

But, during the preliminary Congressional hearings this year, Administration

spokesmen stuck to a hard-nosed policy line and seemed unwilling to begin political horse-trading.

Procedure. When it finally came, the President's bill was condemned by a leading civil rights' group, the National Committee Against Discrimination in Housing, as "totally inadequate." The group called for extending the 1962 executive order to conventionally financed housing.

Top Administration aides told HOUSE & HOME that President Johnson believes the people would acquiesce once Congress acted.

"We feel builders would be more willing to sell to Negroes once Congress has established the law of the land," said Cliff Alexander, White House expert on civil rights. "Until then, competitive pressures tend to discourage them."

Under the existing executive order barring discrimination in FHA and VA houses built after 1962, FHA has received 90 complaints (which represent only a portion of what's been accomplished by the order, FHA spokesmen insist).

Of the 90, 49 complaints were found to be justified. Of the 49 successful complainants, 30 bought the houses in question and 19 failed to buy for personal reasons. Among the remainder, eight builders won their point that complaints were unjustified, six builders were de-listed from FHA eligibility for refusing to sell to Negroes, and five complainants were ineligible for FHA insurance.

Renewal builder and ex-mayor join HUD

Joining the HUD lineup are H. Ralph Taylor, who has been associated with urban renewal building from Sacramento to San Juan, and Don Hummell, former Tucson, Ariz. mayor who served as president of the League of Mayors.

Taylor, 47, will become assistant secretary for demonstrations and intergovernmental relations, a spot that would place him in charge of a just-beginning study of building codes and zoning practices, and President Johnson's demonstration cities program, (NEWS, Mar.) if it is approved.

Hummell, 58, will be assistant secretary to run both public housing and urban renewal, which are consolidated under the new department.

These appointments, made by President Johnson last month, bring top echelons of the Housing and Urban Development Dept. up to full strength.

Taylor first gained national prominence at the helm of New Haven's dynamic rebuilding program. In 1959 he joined the organization of Redeveloper James Scheuer, and stepped in to complete several of his projects when Scheuer was elected to Congress in 1964. Taylor is known for insisting on design quality in his



TAYLOR



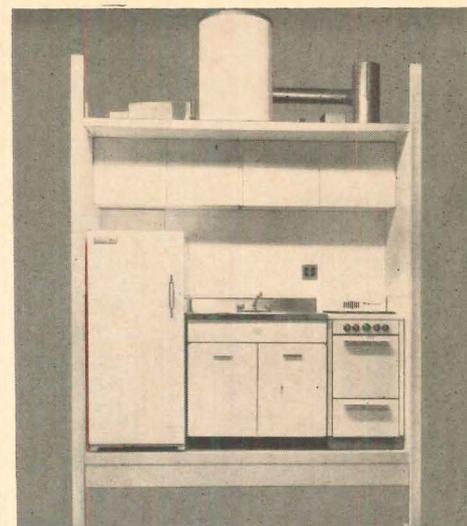
HUMMELL

new apartments, and one project, El Monte in the San Juan area, won FHA honors for design in 1963.

Holder of a master's degree from Harvard, Taylor for the past two years has headed the renewal consulting firm of Taylor-Hurley Associates.

Hummell, during his term as president of the mayors' group, was one of the early advocates of creating a housing department. As mayor of Tucson, he sparked planning for the city's first renewal project (later dropped by the city) and backed an annexation drive which expanded the city from 14 to 72 square miles and from 50,000 to 212,500 persons. He holds a law degree from the University of Michigan.

Dick Gray



Can this mechanical core cut slum fixup to 48 hours?

An all-steel core was unveiled last month as the key to remodeling New York City tenements in 48 hours (NEWS, May). It was designed by Brandt Corp. of Long Island City with the help of U. S. Steel Corp. The first fifteen will be installed later this month in stacks of five (note legs at top and bottom) lowered through 8'x8' holes cut in roof and floors. Bath is on reverse side; heating and hot water equipment on top.

Embattled rent supplements are here to stay at last

Congress has finally voted the money to pay for the rent supplement program it approved eight months ago.

The victory lets FHA begin processing inquiries from private builders who want to build nearly 100,000 units to compete with public housing in sheltering low-income families. A federal subsidy would pay the difference between 25% of a family's income and normal rent in the supplemented units.

Congress agreed to pay the supplements this year only after a see-saw battle that began in January when Housing Secretary Robert Weaver asked Congress to let him spend \$30 million to use through June.

Last month Congress finally relented and provided \$12 million, but only after a cliffhanging 46-to-45 vote in the Senate. President Johnson had to promise to initiate an Eskimo housing plan before Sen. E. L. Bartlett gave his key Alaskan vote.

But this was only a prelude—the real fight came over getting money for the coming year. Late last month, after much arm-twisting and last-minute deals by the President's lobbyists, the House finally voted 192-to-188 to provide \$20 million, \$15 million less than asked. The Senate was expected to give grudging endorsement to the House's action this month.

The sum is less than 10% of the \$253 million subsidy federal taxpayers will pay to public housing during the year.



Ben Pekin
President
Ben Pekin Corp.
Des Plaines,
Illinois

*"We have been most successful...
Majestic Thulman Fireplaces
are a prime mover!"*

The West Oaks development in Des Plaines, Illinois, features the first duplex home in the area with a sunken living room, plus a built-in Majestic Thulman Fireplace.

When builder Ben Pekin designed this latest model (which also includes an atrium patio), he was reaching for a new, uncertain market in his area and price range (\$21,000 to \$23,900).

"We have been most successful," he writes. "Never before in my long experience has a model been accepted so overwhelmingly by so many people. We had to withdraw advertising programs . . . so we could catch up on our orders . . . All of us on the sales firing line agree the Majestic Thulman Fireplace is one of the prime movers in this successful promotion."

Like many other successful builders who use Majestic Thulman Fireplaces, Ben Pekin is looking at future house plans for other interesting ways to build in these popular, versatile, cost-cutting units.

Make your own plans for future profits! Plan to include Majestic Thulman Pre-Built Fireplaces and turn house-lookers into home buyers!



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Ben Pekin, Pres., Ben Pekin Corp., Des Plaines, Ill., inspects work on new "West Oaks" development.

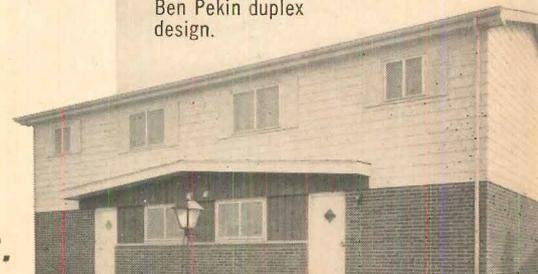
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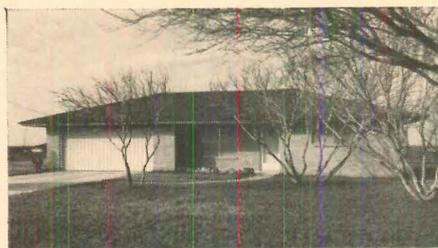


SINCE 1907

The Majestic Company, Inc.

The "Atrium," newest Ben Pekin duplex design.





Corpus Christi, Tex.: 1400 sq. ft. Ranch.



Portsmouth, R.I.: 1900 sq. ft. Colonial.



Dubuque, Iowa: 1325 sq. ft. Ranch.



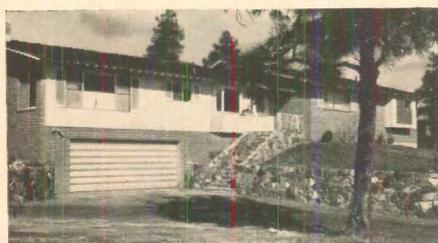
Port Huron, Mich.: 1400 sq. ft. Cape Cod.



Baxter Springs, Kans.: 1326 sq. ft. Ranch.



Mequon, Wis.: 1400 sq. ft. Ranch.



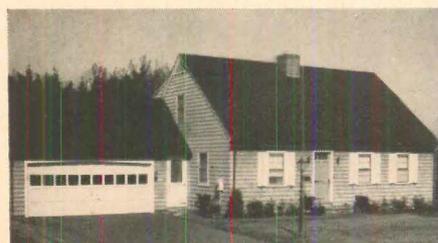
Prescott, Ariz.: 2000 sq. ft. Ranch.



Wichita, Kans.: 1720 sq. ft. Ranch.



Maryville, Mo.: 3850 sq. ft. Ranch.



Forestdale, R.I.: 1553 sq. ft. Cape Cod.



Johnstown, Pa.: 3033 sq. ft. Contemporary.



Anderson, Ind.: 3000 sq. ft. Ranch.

Now in every part of the country are selling faster with modern

Across the nation, new electrically heated homes are going up at the rate of over 800 a day. And that means they're *selling* just as fast.

For example, the builder of a new Texas subdivision featuring electric heat moved all thirty-eight homes (like the one shown at upper left) within one month. And in a new Southern California development of 104 electrically heated homes (upper right), fifty-five were sold in the four months before construction was completed

—many before the ground was even broken.

Whatever size, style or price home (or apartment) you build, you add a major selling feature with recognized sales appeal when you install modern flameless electric heat. And you'll speed construction in the bargain.

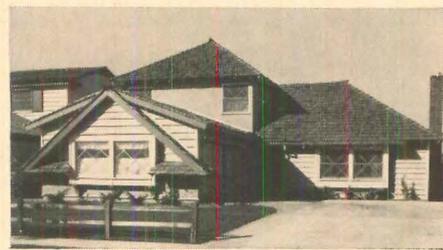
Find out now how you too can profit more by taking advantage of the growing demand for electric heat. Sometime soon, talk it over with your electric utility company.



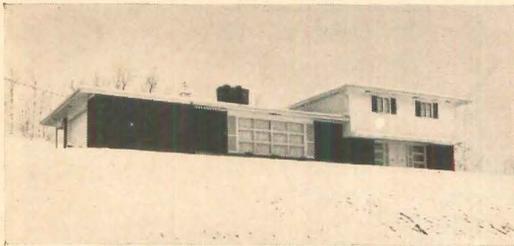
Warren County, Ohio: 1600 sq. ft. Ranch.



Tappan, N.Y.: 1320 sq. ft. Bi-Level.



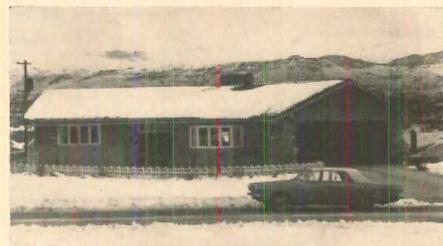
Redondo Beach, Cal.: 1750 sq. ft. Provincial.



Connellsville, Pa.: 3062 sq. ft. Split-Level.



Kingston, Pa.: 1219 sq. ft. Ranch.



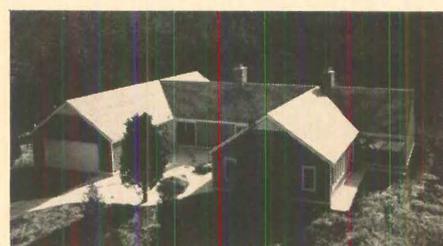
Denver, Colo.: 3000 sq. ft. Bi-Level.



Lexington, Ky.: 3020 sq. ft. Colonial.



Cumberland, Md.: 2000 sq. ft. Colonial.



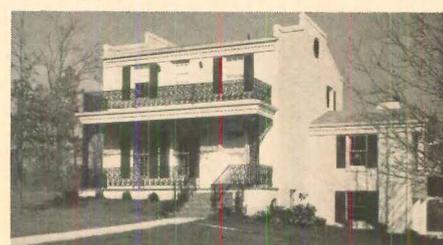
Woodbridge, Conn.: 3000 sq. ft. Ranch.



Marion, Ohio: 3200 sq. ft. Ranch.



Zion, Ill.: 2426 sq. ft. Ranch.



Birmingham, Ala.: 2300 sq. ft. Reproduction.

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<p>Baseboard units take up little space, permit room-by-room temperature control. Two types are available: radiant or convective.</p>	<p>Radiant ceiling heat uses small wires concealed within ceilings, ceilingboard or wall-paper. Each room has individual temperature control.</p>	<p>Heat pump heats home in winter, cools it in summer. One thermostat setting maintains any desired year-round temperature.</p>	<p>Wall panel heaters, with heating coils behind decorative grilles, provide radiant heat with natural or fan-forced convection.</p>	<p>Central systems are available for either hot water or warm air heating in which flameless electric units supply the heat.</p>

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Experts probe realty taxes—and find a can of worms

House and apartment builders have long been second to none in complaining that realty taxes are too high.

Now studies of the property taxing system by three nationally known experts add up to a strong suggestion that the nation may be paying a steeper price than expected—but not for the commonly accepted reason.

The price: an irrational and distorted pattern of land use that retards improvement of slums, makes effective planning impossible in the suburbs, and rewards communities sharp enough to see the gimmicks in today's tax laws.

Two of the three experts—Charles Abrams, Columbia University's urban-planning chairman, and Jerome E. Pickard, the Urban Land Institute's research director—delivered their views to the American Society of Planning Officials convention in Philadelphia. The third—Dick Netzer, New York University economics professor—made his observations in the first full-scale study of property taxes in 35 years, *Economics of the Property Tax* published by the Brookings Institution.

The full story. The real estate property tax has served as the principal villain in most recent tax studies, but Abrams casts it in a minor role.

Two aspects of the federal tax treatment of real estate—tax exemption and capital gains taxes—are far more decisive in the major land-use decisions by large industries than either planning or local property taxes, said Abrams. And more often than not these major corporate decisions shape land use and housing trends more completely than the best city planning.

Tax-free factories. "Tax exemption to induce industrial settlement is a growing device," Abrams told the planners. "It is something novel—and it hasn't been examined fully."

Cities, and even states like New York and Pennsylvania, are building an increasing number of factories to lease to industries—and paying for construction with public bonds that are exempt from federal income taxes. What's more, many communities are sweetening the deal with exemption from real estate property taxes.

Cities began using bonds to finance industrial plants in 1959, when \$18 million worth were issued. This inducement has attracted so many companies that the annual total soared to more than \$200 million last year.

"Now the use of these tax exempt bonds is heading toward a bizarre stage," Abrams warned the planners. He cited three examples:

1. The 610 citizens of Louisport, Ky. marketed \$48.5 million of bonds—or \$79,500 per person—to build an aluminum rolling mill to be leased to Harvey Aluminum Co. Harvey will save \$250,000 in real estate taxes that it would have paid on a privately owned factory.

2. Cherokee, Ala. (population: 300)



ABRAMS



PICKARD

Photos: H&H staff

issued \$25 million in bonds to build a chemical plant.

3. A Holiday Inn was built with municipal bonds because it would produce 27 new jobs.

Abrams' provocative conclusion:

"In other words, private real estate is becoming public. You are beginning to get a socialization of private real estate by Wall Street."

Tax-free land development. Real Estate developers have not ignored the attractiveness of tax-free bonds to investors. In several states—notably California and Texas—developers have arranged to set up special-purpose districts to issue tax-exempt bonds for financing improvements. Among those going this route are the developers of Foster City on San Francisco Bay and Clear Lake City outside Houston.

Said Abrams: "In one California case, a bond issue was unanimously approved by the only two voters in a tract of land, both of whom were officials of the land owning company; \$178 million of tax exempt bonds were floated to reclaim and develop land assessed for tax purposes at about \$354,000."

Locked-in owners. In the older central cities, Abrams said, the federal capital gains tax laws are an unsuspected brake on private urban renewal. Here is why:

Many close-in older properties were bought years ago at relatively low prices. If an owner wants to sell, he must pay a 25% capital gains tax; and if he has recently mortgaged his property, he could be taxed on his mortgage proceeds as well. So he would end up paying 50% or more of the sale proceeds to the federal government.

"Either way," said Abrams, "he'll hold on to it for it doesn't pay him to sell. The result is that considerable property in the older cities can no longer be voluntarily sold and assembled for much needed new developments. This is responsible for a growing catalog of old buildings that persist in the central cities and retard neighborhood regeneration."

But public urban renewal is an easy exit for these locked-in property owners.

Reason: they escape the capital gains tax if their property is condemned by a city and if they reinvest the sale price in other real estate within a year.

"I believe this is becoming one of the principal deterrents to urban development and is contributing to holdouts in much-

needed strategic central improvement," said Abrams.

'Get all you can.' Both Netzer and Pickard stick strictly to the impact of the real estate property tax itself.

Said Pickard, who has just completed a ULI study* of the tax impact in northern New Jersey: "The rules of the game are terrible—the suburban communities say, 'Get all you can and the devil with the other people.'"

The New Jersey communities he studied were seeking new industries primarily to increase their tax take without increasing housing and school costs.

Netzer calls this "fiscal mercantilism" because the towns try to export costs and import tax dollars.

"From the fiscal standpoint," he says, "the best of all possible worlds appears, to many suburban decision makers, to be development of the community's vacant land by campus-type offices and laboratories and by housing expensive enough to assure that there will be few school children (because of the anticipated age levels of the owners)."

By Netzer's measurement, inter-community competition for new industries has distorted land-use patterns within metropolitan areas.

Property taxes pay 48% of all local government costs, according to Netzer's study. He says dependence on these taxes "encourages land-use planning in the developing parts of urban areas designed to maximize narrow, parochial fiscal advantage rather than economic efficiency or larger social goals."

Pickard sees another effect: "Property taxation and present land use policies subsidize horizontal expansion while penalizing vertical growth."

Exits from muddle? Both Netzer and Pickard agree that the tax base of local governments must be broadened to lessen dependence upon property taxes. But they do not agree on exactly what to do.

Netzer suggests a package of four taxes that would yield about 15% more than the property tax: a site-value tax set at half the rent of land; user-type property charges; a housing tax not exceeding 5% of housing expenditures, and a land-value increment tax. He argues that the present property tax viewed as an excise tax, amounts to 17% of property owner's housing costs, far higher than other excise taxes.

Pickard also sees hope in a broader based tax that will lessen the pressure on communities to zone for the highest taxes.

"I leave a double challenge," he told the ASPO convention. "To you planners, let us find a way to make planning less dependent upon tax considerations. To the tax experts, find a way to move a broader based tax for local governments."

—KENNETH D. CAMPBELL

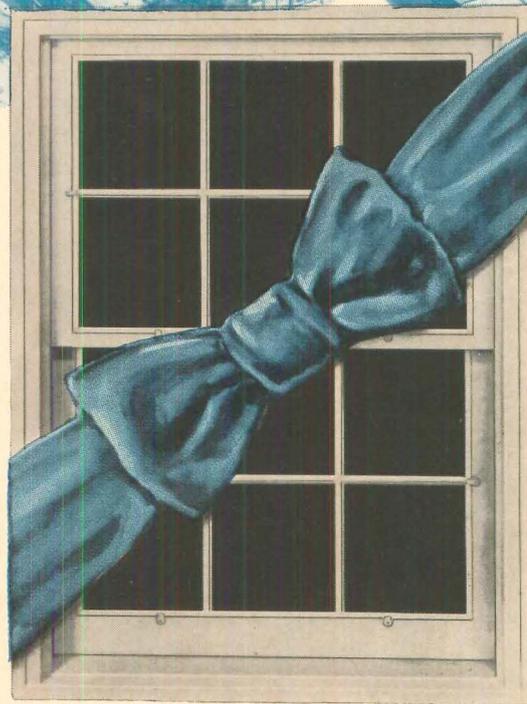
* *Taxation and Land Use in Metropolitan and Urban America*, ULI, 1200 18th St. N. W., Washington, D. C.

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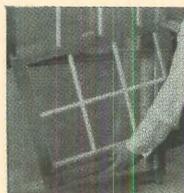
Caradco salutes America's builders on its 100th birthday by presenting the century's greatest Double Hung Window Unit . . . the C-100'. Caradco has been researching up to the C-100' in terms of total experi-

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Operation

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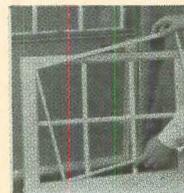
Removability

Sash are easily removed from inside without tools. Just press to the side and lift from frame.



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Acting as both track and weatherstrip the stainless steel maintains constant seal between window and frame.

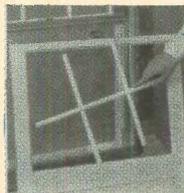


Storm Panels-Screens

Metalbound storms mount "piggy-back" on outside of sash. Screens have fiberglass wire.

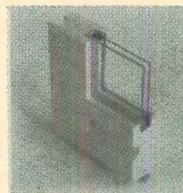
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Tighter mortgages—where has all the money gone?

The decade's wildest mortgage market has advanced again on tighter credit, and concern over money's disappearing act has now become a virtual obsession in the mortgage and housing industries.

The national secondary market's yields, resuming their rise after a brief pause, no longer attract financing for new housing. Investors now reap 6.02%-6.15% on FHA's new 5 3/4% single-family loan. That's the highest since a 6.40% peak in 1960, and it is 150 points above long-term bond yields. Discounts charged to builders have risen to 5%-6% in much of the nation (see chart below).

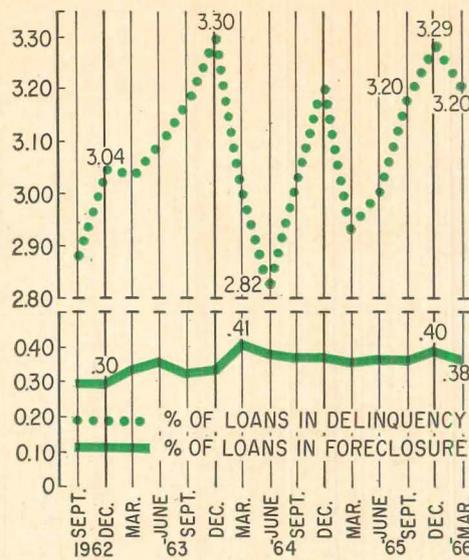
But despite high yields, funds are still not returning to the mortgage market from their old sources—the savings banks, savings and loan associations and insurance companies. The money just is not there.

Where, then? Savings banks and S&Ls lost \$1 billion in savings accounts in April, ten times their loss in April 1965. Mortgage experts have been blaming commercial banks for luring savings away from mortgage lenders by paying 5 1/4% on certificates of deposit, but the paradox of the savings equation is that commercial banks show no appreciable gain. In April the 380 banks that report to the Federal Reserve gained \$1.9 billion in time deposits, eligible for certificates of deposit at interest up to 5 1/2%, but they lost \$1.7 billion in passbook savings on which they were obliged to pay only 4%. The commercial banks were merely shifting money from one pocket to another—and paying up to 1 1/2% to do it.

Economists Saul Klamon of the National Association of Savings Banks and Oliver Jones of the Mortgage Bankers Assn. suggest the money moved into the stock market, short-term bonds, and consumer durables. Other analysts cite mutual funds and U.S. savings bonds, and still others just wonder. It's the mortgage market's most intriguing guessing game.

Appalachia in split levels? For the builder, there was only one truth: money was not coming into housing. And there appeared wide indications that new-house building was beginning to suffer.

The National Association of Home Builders called financial leaders into emergency session in Washington to acquaint government leaders with the severity of the crisis in housing credit (see p. 5). Executive Vice President Norman Strunk of the U. S. S&L League (5,000 associations) told the House banking committee that housing could undergo a major recession if mortgage-source savings do not recover, and the league's president, C. A. Duncan Jr., warned that homebuilding could become the Appalachia of the national economy. President Harry P. Greep of the National League of Insured Savings Assns., the other big S&L trade group, said his surveys showed that conventional mortgage rates would go to 6 1/2% in many areas and 8% in some.



PROSPERITY halts uptrend in delinquencies among 3.5 million FHA-VA and conventional mortgages studied in latest Mortgage Bankers Assn. survey. Foreclosures are almost unchanged.

Cry California. Twin blows staggered California.

1. The Federal National Mortgage Assn. refused to buy \$15,000-plus mortgages (NEWS, May), cutting support from under FHA lending in a state where 90% of all new-house loans exceed the new limit. Gov. Edmund Brown made a personal plea to President Johnson to remove the ceiling, and Rep. Richard Hanna (D.,

Calif.) introduced legislation in Washington to ease FNMA's borrowing restrictions so the agency could lift the \$15,000 curb.

2. The Federal Home Loan Bank Board, credit pool for the S&Ls, virtually froze advances used for loans on speculative housing. Several S&Ls simply halted all loans for new-home building, and Bart Lytton's two big associations in Los Angeles and Palo Alto closed their loan departments and dismissed 70 men. Lytton said no loans would be made until July. The state's S&Ls had lost \$400 million in savings in April, and most associations raised conventional mortgage rates to 7%-plus to dampen lending.

"The West Coast S&L situation is desperate," said Executive Vice President Nat Rogg of NAHB. And some builders disclosed that a few Coast associations were actually refusing to honor oral construction loan commitments already made, so severe were strains on their liquidity.

Housing permits in the 14 counties of southern California were off 31% in the first quarter—from 33,267 to 22,869. The state's annual rate was down to 133,632, although it built 292,000 units as recently as 1963 and 185,000 in 1965.

The brighter side. Yet there were indications of long-term stability.

In mid-May the stock market's Dow-Jones average was at its lowest in nine months after some of the sharpest daily losses since the Kennedy assassination in November 1962. Experts reasoned that money that had rushed into stocks would

HOMEBUILDER'S MORTGAGE MARKET QUOTATIONS

Reported to HOUSE & HOME in week ending May 13.

City	FNMA Scdry. Mkt. v. FHA-VA		FHA Sec. 203b Discount paid by builder Min.-Down* 30-year Immed. w			FHA 207 Apts. Firm Commit.	Conventional Loan Rates			Construction Loan Rates
	5 1/2	5 3/4	5 1/2's	Trend	5 1/2-6 1/2		Comm. banks, Ins. Cos. 75%	Savings banks, S&Ls 80%	Savings banks, S&Ls Over 80%		Interest+fees All lenders
Atlanta	5 3/4	3 3/4	3 1/2-4 1/2	Steady	5 1/2-6 1/2	a	6 1/4-6 1/2	6 3/4-7	6 1/2-6 3/4	6 1/2-7 + 1 1/2-2
Boston	4 3/4	2 3/4	par + 1	—	a	a	5 3/4-6	5 3/4-6	6	5 3/4-6
Chicago	5 1/4	3 3/4	4-5	Up 1	7	7	6	6-6 1/2	6 1/2	6 1/2 + 1-2
Cleveland	5 1/4	3 3/4	5	Up 1	5 3/4-6	a	6	6 1/4-6 1/2	6 1/4-6 1/2	6 1/2 + 1-2
Dallas	5 3/4	3 3/4	4-5 1/2	Up 1/2	7 1/2	2 1/2-3 1/2	6 1/2 + 1-2	6 1/2 + 1-2	6 1/2 + 1-2	7 + 1
Denver	5 3/4	3 3/4	4-5	Steady	6-7	a	6 1/4	6 1/2	6 3/4	6 1/2-6 3/4 + 1-2
Detroit	5 1/4	3 3/4	3 1/2-4	Down 2	6	8	6 1/2	6 1/2	6 1/2	6 1/2 + 1
Honolulu	5 3/4	3 3/4	4 1/2-5 1/2	Up 1/2	6-7	a	6 1/2-7	6 3/4-7 1/4	7 1/2	6 1/2-7 + 1 1/2-3
Houston	5 3/4	3 3/4	5-6	—	7-8	a	6 1/4-6 1/2	6 1/4-6 3/4	6 1/2-7	6 1/2-7 + 1 1/2-2
Los Angeles	5 3/4	3 3/4	5-6	Up 1	7-8	a	6 3/8-6 3/4	6 3/4-7.2	6 1/4-6 3/4	6 1/2-7 + 1 1/2-3
Miami	5 3/4	3 3/4	5-6	Up 1	6-8	a	6-6 1/2	6-6 1/2	6-6 1/2	6 1/2-6 3/4 + 1-1 1/2
Newark	4 3/4	2 3/4	3	Up 1	a	5-6	6	6	6	6 1/2-6 3/4 + 1
New York	4 3/4	2 3/4	2 1/2-3	Up 1	a	5	6 + 1	5 3/4-6 + 1	6 + 1	6-6 1/4 + 1-1 1/2
Okla. City	5 3/4	3 3/4	4-5	Up 1	6-7	a	6-6 1/2	6 1/4-6 3/4	6 1/2-6 3/4	6 1/2 + 1-2
Philadelphia	4 3/4	2 3/4	3 1/2-4	Up 1/2	a	6-8	6	6	6	6 1/2-7
San Fran.	5 3/4	3 3/4	4 1/2	Steady	a	5	6 1/4-6 1/2	6 1/2-7	7-7 1/2 + 1-3	6 1/2-8 1/2 + 1 1/2-3 1/2
St. Louis	5 3/4	3 3/4	4	Up 1/2	6-8	a	6 1/4-6 1/2	6 1/2-6 3/4	6 3/4	6 1/2-7 + 1-2
Wash., D.C.	5 1/4	3 3/4	5-6	Up 1	7-8	6-7	6 + 1-2	6 + 1-2	6 + 1-2	6-6 1/2 + 1-1 1/2

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

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

URETHANE FOAM PROJECT REPORT

Builder News III[®]

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

MOBAY

BN-4

FHA OKAYS RIGID URETHANE FOAM AS STRUCTURAL INSULANT IN SELF-SUPPORTING ARCH ROOF FOR EXPERIMENTAL DISPLAY HOUSE

To stimulate fresh, new thinking in housing and encourage the use of new designs, materials and structural methods, Section 233 of the National Housing Act permits the FHA to insure mortgages on properties that involve new and untried items which are likely to reduce housing costs, raise living standards or improve neighborhood aesthetics.

The newest FHA experimental home under this program, Arch House '66 near Minneapolis, is attracting national attention because of its advanced design and utilization of over 25 new materials and products in unique and highly functional ways.

The soaring, arched roof is the most striking feature of this house and it dominates all other design elements. The main support of the lightweight roof structural system (patent pending) is provided by its stressed-skin construction. Spaces between the arches are filled with foamed-in-place rigid urethane combined with plywood and glass-reinforced plastic facings for a strong sandwich-type construction covering 2000 sq. ft. of living area.

Finished roof load of only 5.8 psf allows the 45 by 55 ft. internal span of the structure to be completely self-supporting, with no posts or columns to break the spacious open-plan interior between the room wall height of 7½ ft. and the curving acoustical ceiling. Two massive concrete abutments resist the horizontal thrust of the roof and double as storage enclosures.

The exterior brick cavity walls are also filled with rigid urethane foam, poured at the site. The high insulating ability of urethane foam (k factor 0.11 @ 70°F) reduces heat loss sufficiently to permit efficient use of huge expanses of glass in the walls. Each curving window bay consists of four insulated glass sections below a row of urethane foam cored sandwich panel sections, from 8 to 13 feet in height.



Rigid urethane, foamed in place at the job site, provides structural insulation on roof and in brick cavity walls.



Lightweight urethane foam permits internal span of roof to be fully self-supporting over 2000 sq. ft. of living area.

For further information on this project, please contact any of the following sources:

Project Engineer: Keith M. Lang, 5038 Dominic Spur
Hopkins, Minn.

Consultant Architect: Wallace Drake, St. Paul, Minn.

Builder: Hugh Thorson Construction Co.
Minneapolis, Minn.

Foam supplier: Archer Daniels Midland Co.
733 Marquette Ave.
Minneapolis, Minn. 55440

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

MOBAY CHEMICAL COMPANY, CODE HO-7, PITTSBURGH, PA. 15205

now rush back into savings.

Yields on government bonds, which had maintained pressure under mortgage yields, pointed instead to stability. The long terms of 1987-92, yielding 5.76% on March 1, were delivering only 4.61% ten weeks later.

Discounts on HOUSE & HOME's FHA mortgage chart were generally up only ½% to 1% on the month, far less than the dizzy rises of 2% and 3% in April and May, and "steady" reappeared on the chart for the first time since March.

And in New York, where 126 mutual banks account for 60% of the savings industry, the 15 largest savings banks increased deposits \$6.8 million in the first five days of May to reverse the April savings outflow.

Of banks and boats and cats. Despite encouraging long-term prospects, mortgage men were gloomy. The Mortgage Bankers Assn. filed 1,200 strong into its national conference at the New York Hilton as if it were lining up for sentencing. President

Emanuel Brotman of the J. I. Kislak Mortgage Corp. dismayed all hands further with his blunt plaint, "The mortgage business is lousy."

Senior Vice-President Guy Noyes of Morgan Guaranty, firing a fastball for the commercial bankers, warned that yet another change in Regulation Q might allow these banks to pay more than the sky-high 5½% now allowed on certificates of deposit—a rise that would create a new threat to mortgage sources. Vice President Everett Mattson of the big mortgage banking house of T. J. Bettes Co. shook his head after the first dismal day and observed: "Down in Houston we can't get enough money to build boats to float cats on."*

In their distress the mortgage bankers, as in times past, turned for consolation to Economist Klamman of the savings bankers.

He did not fail them.

The reassuring bulk of Senior Vice President August M. Strung of the Bowery

Savings Bank (\$2 billion in mortgages) bolstered the dais as the economist rose to speak, and Klamman's words painted a picture of better times.

"The stage has been set for a more orderly, viable mortgage market," he said. "The competitive position of government-underwritten loans in financial markets has been improved, and the unsettling market effect of expectations of a further contract rate action has been removed.

"That the current mortgage-market stringency will ease is certain. When it will ease, nobody knows."

—EDWIN W. ROCHON

*Mattson was apparently thinking in terms of the English author Edward Lear's famous 19th century children's poem: "The owl and the pussycat went to sea/In a beautiful pea green boat." Mattson and another HOUSE & HOME mortgage adviser, President B.B. (Bus) Bass of American Mortgage & Investment Co. of Oklahoma City, often talk of the market in near-parables. Said Bass recently: "The investor has been like a possum, lyin' behind a log, and it's time he came out."

Paradox: while Canadian banks bulge, builders beg loans

Canadian savers have squirreled away \$9.9 billion in bank accounts—nearly \$500 for every man, woman, and child in a population of 20 million. It is the highest per capital savings rate in the world.

Yet builders complain that mortgage money has virtually dried up for residential construction, an industry employing 500,000 persons directly or indirectly.

"We are already facing a shortage of funds that is stopping production," says President Jean-Yves Gélinas of the National House Builders Assn. of 1,300 builder members.

Starts have yet to reflect lending stringency. In fact, the first quarter's total—23,075 units—was 2.8% higher than in the similar 1965 period.* But building permits, which react much faster, were down

*Canada's 166,565 starts were up 0.5% in 1965 for an all-time record.

32% in metropolitan Toronto in the first three months. Toronto accounts for 23% of Canada's new urban housing.

Rate spiral. Like the U.S., Canada is caught in an interest rate war.

The Central Mortgage & Housing Corp., Canadian equivalent of the FHA, has increased the homebuyer's interest on government-insured National Housing Act loans from 6¼% to 6¾% (NEWS, Mar.). NHA loans comprise 35% of all mortgage debt, and CMHC makes more than half of them direct. Insurance and trust companies write the rest.

Canada's eight chartered banks can lend legally only on NHA loans, and then at interest no higher than 6%, so they have been mere spectators in the Canadian mortgage market since 1959.

Withdrawal pains. What is worse, say builders, the government is now turning

down virtually all NHA applications. The building industry is writhing in a spasm of withdrawal pains.

Solutions? Builders and bankers have proposed two solutions to parliament.

1. Free the CHMC rate from government control, letting it float in response to free market forces.

2. Free the banks to lend at competitive rates and to make conventional as well as NHA mortgages. This would let the banks back into mortgage lending, where they invested \$1.3 billion before NHA rates began moving above 6% in 1959. In the last seven years, because of the Bank Act ceiling, the banks have made mortgage loans for only \$16.7 million, and their portfolio has fallen to \$810 million.**

**NHA and conventional loans totaled \$2.55 billion in 1965, up from \$2.31 billion in 1964. Canada's mortgage debt outstanding is \$17 billion.

U.S. sues appraiser to recover \$125,000 overvaluation

The Federal Savings & Loan Insurance Corp. has filed its first—but probably not its last—suit to recover damages directly from an appraiser on an overvaluation.

FSLIC officials say the suit* against Chicago Appraiser Walter L. Cook is but the latest move in a campaign against appraisal abuses in some of the 4,350 federally insured S&Ls supervised by the agency. They also hint that the FSLIC will file similar actions when other appraisals appear grossly exaggerated.

A Federal Home Loan Bank Board official told the Senate banking committee in April that appraisals "were deliberately set too high" in several S&Ls that the HLBB now lists among its 25 "serious problem

*Northern district Ill., eastern div., No. 66C.

cases." The HLBB is urging new legislation to halt such abuses.

Chicago case. The FSLIC accuses Cook of putting a \$200,000 valuation on a one-story, concrete garage and lot with a "full, fair market value [that] did not exceed \$25,000." Cook approved the property in Posen, Ill., west of Chicago, in 1961.

The agency says the old Beverly S&L† granted a \$150,000 loan on the basis of Cook's appraisal, and was thus "damaged in the sum of \$125,000"—the amount by which the loan exceeded the property's market value. The FSLIC wants to collect

†The Beverly liquidated voluntarily during the Chicago S&L scandals of 1963 (NEWS, Nov. '63) and sold all assets to FSLIC. The agency thus got the Posen mortgage. FSLIC says no payment on the loan has ever been made.

the \$125,000 excess from Cook.

'Malice is the gist.' A second count seeks the same damages from the borrower, Paul E. Pickle, president of Central States Mortgage Co. of Posen in 1961, for submitting Cook's appraisal to Beverly. (Pickle, formerly a Beverly officer, has been sentenced to prison on charges growing out of Beverly's liquidation.)

A third count seeks the same damages from Cook and Pickle jointly for conspiracy, and all three counts ask "a special finding that malice is the gist of the action."

A malice finding prevents a defendant from pleading bankruptcy to avoid paying. The creditor may jail the debtor if the debt goes unpaid.

—RECK JOHNSON

NEWS continued on p. 23



Your prospects know the Kentile name! They see Kentile full-color full-page advertising month after month in *Life*, *Look*, *The Saturday Evening Post*, *Better Homes and Gardens*, and other leading national magazines. Shown above: kitchen floor in Kentile® Au Naturel Vinyl Asbestos Tile.

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KENTILE
VINYL FLOORS

Au Naturel's extra thickness helps hide underfloor irregularities. Has deeper texture, too. Au Naturel is an extra sales feature for model homes, stores, and offices. Ask your flooring man.

The Deane brothers lead southern California's new-

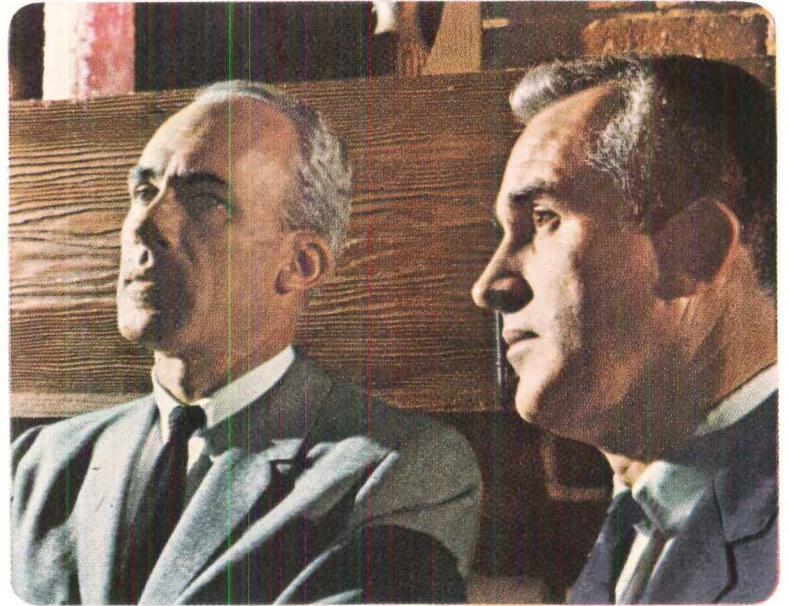
“ You have to give the house-hunter visual excitement. Hit 'em between the eyes. Give them something to remember you by. Alcoa's updated approach to new construction puts aluminum right in line with our ideas on selling homes.”

Ben and Jim Deane are restless men. They are constantly looking for new ideas and inspiration that will excite the explosive southern California market.

That's why the Deane brothers have built an organization of hand-picked experts—hard-working creative people whose stock in trade is ideas. And that's why Deane Homes are complemented with products made of Alcoa® Aluminum.

“You see,” Jim Deane explains, “our primary concern in building homes today is what 'she' wants. It has to be interesting, creative. We can't—we *won't*—put up a house that we, ourselves, aren't inspired by.”

The leading example of the Deanes' “creative inspiration” is their famous Garden Kitchen. This innovational design captures the vibrant colors of the California landscape. When the sliding aluminum windows above the kitchen counter are opened, the Garden Kitchen blends naturally to



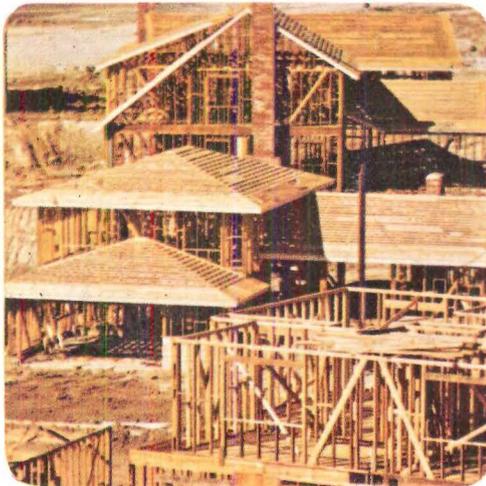
become a convenient extension of the patio.

Ben Deane tells what makes the Garden Kitchen tick: “We've chosen several areas of the home that can make it come to life. Points of vital impact that the new-home buyer isn't likely to forget. That kitchen is one of those areas. It has punch. Drama.”

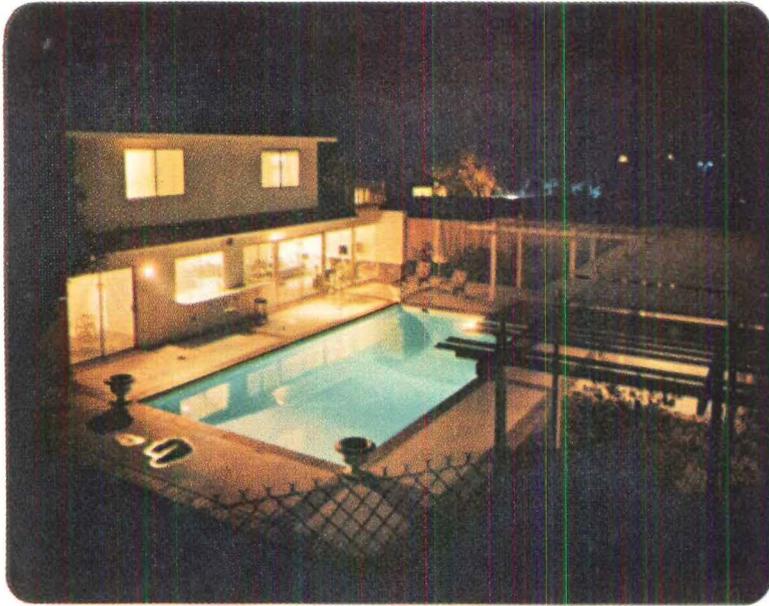
Sliding glass windows and doors in gold-anodized Alcoa Aluminum are an integral part of Deane Homes' Garden Kitchens. Why gold-anodized?

Ben Deane explains, “Why does our Garden Kitchen look the way it does? Even to the strips in the lighted ceiling, we've gone to gold-anodized aluminum. We're simply concerned with using the material that comes off most dramatically for the dollar. The flair of gold-anodized products is part of the chemistry of our Garden Kitchen. Remember, we want impact.”

“Nowadays, as far as aluminum sliders are concerned,”



home market with a solid guiding philosophy: impact.



Jim Deane continues, "they're 'in' in California. Anodize them and you're just one more step up the ladder."

Another vital impact point of many Deane Homes is the patio-pool area. The Deane brothers' research and creative departments dictated a natural, yet private, feeling throughout.

Jim Deane says, "That screened patio can be a very dynamic thing when it's done right. Of course, we use an Alcoa Aluminum super-structure. It takes a less gigantic beam to

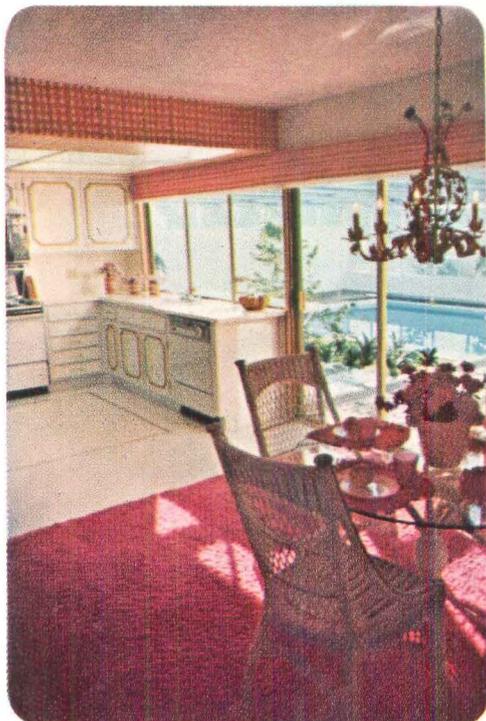
do the job. But there's more to it than that. Aluminum lends to the feeling of airiness. And, practically speaking, nobody ever has to crawl up there and try to paint it.

"Every area of every home poses its own particular problems. We lick those problems by discovering how every dollar that we put into the home becomes a visible dollar. The more Alcoa can help us uncover that excitement, that impact, the more they help us in that final sale."

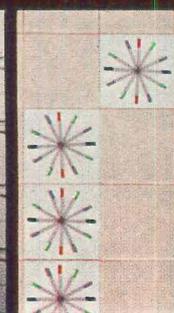
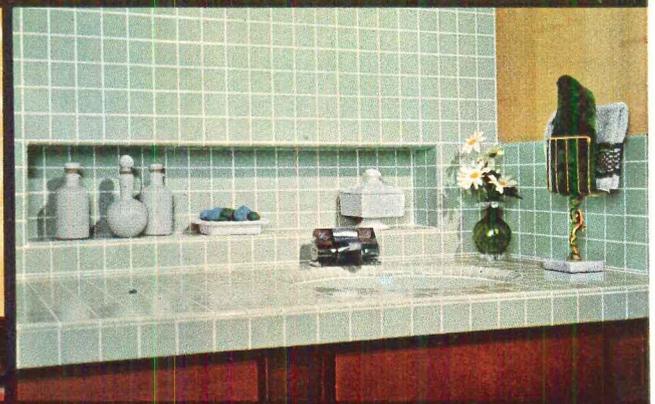
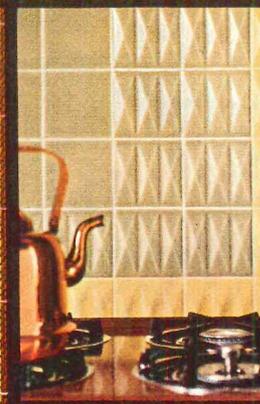
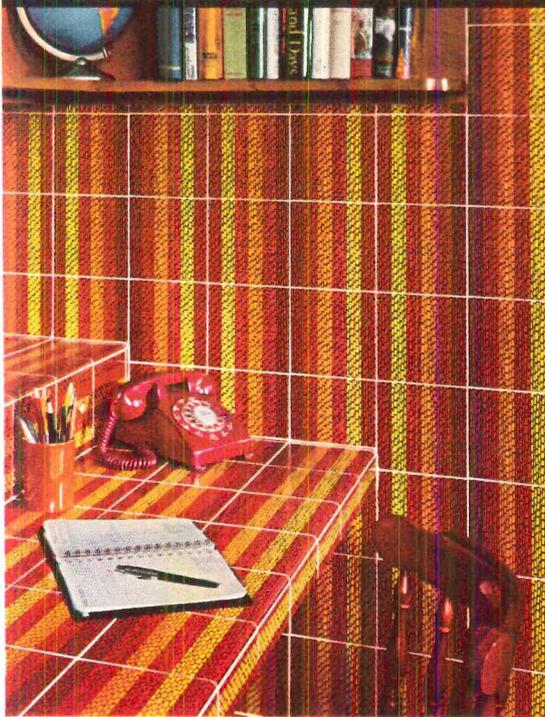
If you, like the Deane brothers, are interested in putting that vital impact into the homes you build, and want additional information on aluminum, write: Aluminum Company of America, 1015-F Alcoa Building, Pittsburgh, Pa. 15219.



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Pomona puts more "that's for me" excitement into a home... for so little cost. Potential buyers have a sales-proven soft-spot for Pomona's quality and warm-sell charm. Women love its richly accented beauty, durability and ease of maintenance. Designers love Pomona's fantastically complete line of sizes, textures, shapes

and colors... plus floor tile, wall tile, pavers and mosaics. Name it... Pomona has it. Builders "buy" it, because Pomona triggers buyer action... puts floor-to-ceiling salesmanship in any room. That's hard sell! **Pomona Tile Manufacturing Co.** 216 South Reservoir Street, Pomona, California (91766)



Why can't prefabbers turn a profit on overseas housing?

National Homes thinks they can.

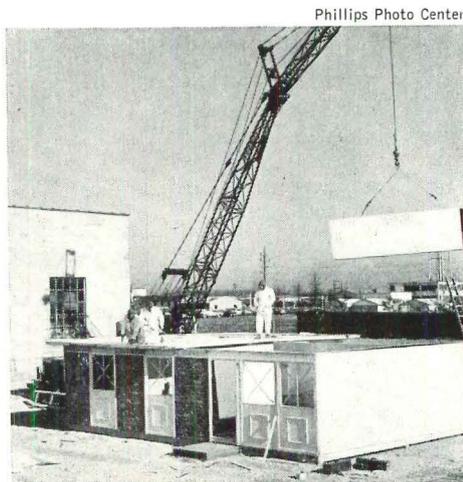
It has lost half a million dollars in learning how, but it is now bidding on military housing contracts in full confidence that it can deliver at a profit. National's secret:

Do most of the work in stateside shops so that inept overseas laborers cannot damage components and prevent the use of new money-saving techniques.

National is the second major company to report a loss on military prefabs in 1965. Lusk Corp. (Phoenix, Ariz.) lost \$2 million on a \$4 million contract for 510 units for the Defense Dept., and the setback figured in a creditors' request to reorganize Lusk in bankruptcy (H&H, Jan.).

National now discloses that its 1965 net fell from \$1.4 million to \$831,440 despite a revenue increase from \$69 to \$72 million. It traces most of the \$570,000 decline in earnings to the high cost of producing houses under government contracts. National's \$12.8 million military order was for 1,300 three- and four-bedroom units for U.S. bases all over the world.

Inept workmen. Lusk has blamed rigid government specifications for much of its loss. National's Chairman James R. Price has a slightly different analysis, and his findings may provide guidelines for any company hoping to supply the growing market for overseas housing.



PHILLIPS PHOTO CENTER
THREE-BEDROOM PREFAB will be 90% completed in National Homes plants in the U.S.

Price says National's Knox Homes division did only 40% of the building job at its Thompson and Augusta plants in Georgia. That left 60% to be done by foreign workmen who, Price says, damaged many components beyond use and also made it impossible to employ high-speed, money-making techniques. So National now hopes to have its own plants do 90% of all work on a new three-bedroom model (H&H April.) Military officials who

have seen the model stress its built-in efficiency and economy. Says Mortimer Marshall of the Navy's Bureau of Yards and Docks:

"The low cost (\$7,295 for 768 sq. ft.) is unbelievable for a three-bedroom house. This type normally sells for \$10,000 to \$11,000."

Mortgages to rescue. National's pre-tax earnings from house sales plummeted 77% in 1965—from \$2,017,925 to \$1,065,357—and the pre-tax loss on the military contract has been estimated as high as \$1.2 million by analysts. The company finished in the profit column only because of its financing subsidiaries, which increased their profits from \$886,019 to \$1.2 million.

National Homes Acceptance Corp., the mortgaging subsidiary, added \$40 million in servicing volume to bring its portfolio to \$682 million. That's a record for the company, the seventh largest mortgage banker in the nation. But President Frank P. Flynn Jr. admits NHAC lost money on loan originations. It made its profit on servicing, at an average fee of 3/8%.

Mortgages have been a major source of National's earnings since 1960. Flynn expects them to provide substantial profit in 1966 but not as much as in 1965. His estimate: \$800,000 net.

Builder Joe Eichler sells company to California group

Joseph L. Eichler, at 65, has made the deal on the second try. He is selling his majority stock in Eichler Homes, the San Francisco building and development company he founded 18 years ago, to Charles H. Parr Sr. and a group of associates. Parr heads Coleman-Parr, a Los Angeles advertising and marketing company.

Sunset International Petroleum, now Sunasco, had agreed to pay \$5 million in notes and debentures for Eichler Homes 18 months ago. But Eichler's retirement was part of the bargain, and the deal collapsed (NEWS, Jan. '65 et seq.). In the new deal, he remains as chairman but Parr succeeds him as president.

No price was revealed. Market value on the Eichler family's 65% holding is \$5 million. The company built \$100 million worth of houses and apartments.

Building stocks. Savings and loan shares plummeted 9% after discouraging California earnings reports, the month's sharpest decline of any category on HOUSE & HOME's index of building issues. The general index fell 5%. Averages:

	Mar. 15	Apr. 7	May 9
Building	5.26	5.55	5.29
Prefabrication	4.03	3.82	3.75
S&Ls	9.43	8.72	7.93
Mortgage banking	13.72	12.60	11.92
Land development	7.09	7.06	7.26
Average	7.49	7.49	7.18

HOUSING'S STOCK PRICES

COMPANY	May 9 Bid/Close	Chng. Prev. Mon.	COMPANY	May 9 Bid/Close	Chng. Prev. Mon.	COMPANY	May 9 Bid/Close	Chng. Prev. Mon.
BUILDING			BUILDING			BUILDING		
• Adler-Built Inc.	1/4	- 3/4	First West Fin. ^c	4	.....	Christiana O. ^b	4	- 3/8
• Capital Bld. Ind.	65¢	.....	Gibraltar Fin. ^c	12 1/2	- 2 1/2	Coral Ridge Prop.	5	- 3/8
Cons Bldg. (Can.)	1.85	+ 85¢	Great West. Fin. ^c	7 1/4	- 1 1/2	Cousins Props.	16	+ 3
• Dev. Corp. Amer.	1 1/2	- 1/8	Hawthorne Fin.	7 3/8	- 3/8	Crawford	2 1/2	+ 1/4
Dover Const.	1	- 3/4	Lytton Fin. ^c	6 5/8	- 1/2	Deltona Corp. ^b	12 1/2	- 1/2
Edwards Eng.	2 1/2	- 1/2	Midwestern Fin. ^b	3	- 1/8	• Disc Inc.	2 1/2 ^d	- 1/8
Edwards Inds.	1 1/4	- 3/16	San Diego Imp. ^c	5 3/4	- 3/4	Fla. Palm-Aire	2 1/4	.....
Eichler Homes ^b	3 3/4	.....	Trans-Cst. Inv.	3 1/8	- 3/8	Forest City Ent. ^b	4 1/2	+ 3/8
• First Hartford Rlty	6 1/2	- 1/4	Trans Wrld. Fin. ^c	6 7/8	+ 1/2	Garden Land	4 1/2	- 1/4
First Nat. Rlty. ^b	1 5/8	- 1/8	Union Fin.	7 1/8	- 1/2	Gen. Devel ^b	6 3/4	- 1/4
• Frouge	4 1/4	- 5/8	United Fin. Cal. ^c	6 1/2	- 5/8	Gulf American ^b	10 5/8	- 1 1/2
General Bldrs. ^b	27 1/8	+ 1/8	Wesco Fin. ^c	13	- 1 1/2	Holly Corp. ^b	1 1/8	- 1/8
Kavanagh-Smith	3	- 1/8				Horizon Land	3 3/4 ^d	+ 1 1/8
Kaufman & Bd. ^b	15 1/4	- 1 1/2				Laguna Nig. A. ^h	11 1/4	- 5/8
Levit ^b	10 3/4	- 1 1/4				• Laguna Nig. B. ^h	3 1/4	- 3/4
Lou Lesser Ent. ^b	4 3/8	+ 1/8				Lake Arrowhead	5 3/4	- 3/4
Lusk	1 1/16	- 1/16				• Macco Rlty.	11 3/4	- 1/2
Pres. Real. A. ^b	117 1/2 ^d	+ 7/8				• Major Rlty.	55¢	+ 10¢
• Sproul Homes	1 1/2	- 5/8				• McCulloch Oil ^b	9 1/4	- 1 1/8
U.S. Home & Dev.	1	- 1/4				So. Rlty. & Util. ^b	3 1/8	- 1/8
Jim Walter ^c	19 5/8	- 1 3/8				Sunasco ^q	18 1/2	.....
Del. E. Webb ^c	37 1/8	+ 1/8						
PREFABRICATION			MORTGAGE BANKING					
Admiral Homes	1	- 1/4	Advance	6 3/4	- 1/2			
Albee Homes	15 5/8 ^d	- 1/8	• Amer. Mort. Ins.	9	- 1/2			
• Continental Homes	3 5/8	+ 5/8	Associated Mtg.	7 1/2	.....		
Gt. Lakes Homes	1 1/8	.....	Charter	5 1/2	+ 2 3/8			
Inland Homes ^b	4 3/4	- 1/4	Colwell	13	- 2			
Madway Mainline	11 1/2	- 1/2	Cont. Mtg. Inv. ^c	27	- 2 3/4			
Modern Homes	3 1/2	+ 1/2	• Cont. Mtg. Ins.	6	- 1/2			
Natl. Homes A. ^g	3 5/8	- 1/8	• FNMA	75	- 3 3/4			
• Nationwide Homes	1 1/4	.....	First Mtg. Inv.	14 3/4	- 1 1/4			
• Seaboard Homes	3 3/4	- 1 1/8	• Kissell Mtg. ^b	4 1/4	- 1/2			
• Seaboard Homes	1 1/16	- 1/16	Lomas & Net. Fin. ^p	27 1/8 ^d	- 1/8			
Steel Crest Homes	5	+ 1/8	MGIC ^o	26 1/2	- 1			
Swift Industries	2 3/8	.....	• Mortg. Assoc.	4 1/2	- 3/8			
			• Southeast Mtg. Inv.	9 1/2	- 1			
			United Imp. & Inv. ^b	3 7/8	- 7/8			
S&Ls			LAND DEVELOPMENT					
American Fin.	14 3/4	+ 2 1/8	All-State Prop.	36¢	.....		
Calif. Fin. ^c	5	- 5/8	• American Land	1-1/16	+ 1/16			
• Columbia	2	.....	Am. Rlty. & Pet. ^b	3 3/4	+ 1/2			
Empire Fin.	6 1/4	- 1	Arvida	8	.....		
Equitable S&L	13 1/4	- 1 3/8	Atlantic Imp.	20 ^d	+ 1			
Far West Fin. ^c	7 3/4	- 1 3/4	Canaveral Intl. ^b	4 3/8	+ 1/4			
Fin. Fed. ^c	15 1/8	- 1 7/8						
First Char. Fin. ^c	137 1/8	- 1 3/4						
First Fin. West	5 1/4	- 5/8						
First Lincoln Fin.	6 1/2	- 1						
First Surety	3 1/2	- 1/4						

a—stock newly added to table. b—closing price NYSE. d—not traded on date quoted. g—closing price MSE. h—closing price PCSE. k—not available. p—formerly Wallace Investments. q—formerly Atlas Credit and Sunset Int. Pet. —not included in averages. x—adjusted for 4-for-3 split.

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

SHORT-TERM BUSINESS LOAN RATES

Percent interest and (net change) in year

LOAN SIZE	New York City	7 other Northern & Eastern cities	11 Southern & Western cities
\$1-10	5.92 (+.30)	6.10 (+.25)	6.23 (+.21)
\$10-100	5.78 (+.42)	6.05 (+.50)	6.01 (+.33)
\$100-200	5.66 (+.56)	5.82 (+.56)	5.77 (+.41)
\$200 and over	5.34 (+.72)	5.46 (+.61)	5.50 (+.51)

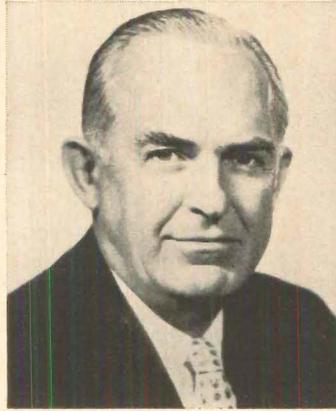
Source: Federal Reserve Board, April, 1966.





ZISETTE

"We have found that almost every home buyer or apartment renter wants to live on Oak Floors. Because of this, our company has installed them in thousands of homes and apartments across the nation." R. R. Zisette, Exec. V. Pres., Kaufman & Broad Bldg. Co., Southfield, Mich.



CRAWFORD

"Oak Floors are always in good taste, and our customers insist upon having them. We are using them throughout our new town of Crofton, Md." W. Hamilton Crawford, Pres., Crofton Corporation, Crofton, Md.



GRANT

"We take a stand on hardwood floors—because, in our opinion, no floor covering on a concrete slab can match the foot-pampering comfort and gleaming lifetime beauty of rich Oak Floors." Robert H. Grant, Pres., Robert H. Grant & Co., Builders of the \$92 million community of "Stardust Homes" in Southern California.

LEADING BUILDERS SAY:

You're right in style with Oak Floors

Exposed wood has popular appeal in today's new homes. Wood-paneled walls, wood cabinets and, of course, wood floors are high on home buyers' lists of most-wanted features. In floors, the trend is away from fixed wall-to-wall coverings to area or accent rugs on a background of rich hardwood. When you install Oak Floors you can be sure the style is right, sure of immediate buyer acceptance. And when you specify flooring produced by a N.O.F.M.A. member mill, you can be sure it meets strict standards for milling and grading.



N·O·F·M·A Oak Floors

Richer looking · Longer lasting · More comfortable

National Oak Flooring Manufacturers' Association

814 Sterick Building, Memphis, Tennessee 38103

Wanted: a better climate for innovation, no national code

That was the consensus of some 200 business and government leaders who met in Washington in mid-April to smooth the road to new and better building technology.

What precipitated the meeting was the recent recommendation by three government commissions that the U.S. develop a national model building code. The commissions are the Commerce Dept's LaQue Committee, the Advisory Commission on Intergovernmental Relations, and the National Commission on Technology, Automation and Economic Progress.

Behind their recommendation lies the seeming inability of technological innovations to reach the marketplace.

With pressure mounting to clear the innovation roadblock—possibly by developing a national code—HOUSE & HOME and the American Plywood Assn. called the April meeting.

The two-day session covered three closely linked areas—research, which could lead to better standards and codes; standards, upon which codes could be based; and codes themselves. Out of the discussions came five major points:

1. Building technology needs help from the government

Four speakers cited reasons:

1. Said Robert H. Ryan of the National Commission on Technology, Automation and Economic Progress: "Even if the housing industry could increase its volume 30% over present levels, something like eight million sub-standard housing units would still be standing by 1970. We need a direct attempt to reduce housing's costs through technological invention, but there is little pressure for new methods in the private sector."

2. Said Morton J. Schussheim, HHFA's assistant administrator for program policy: "From 1950 to 1965 the Boeckh Index for residential construction rose 44%, and the consumer price index rose only 31%. The private sector seems totally unable to slow this spiral; therefore, the government must be concerned with building technology. Private industry and the universities must still develop performance criteria, but they will need government grants to do it."

3. Said James R. Turnbull, APA's executive vice president: "In rehabilitation, private enterprise working by itself could not possibly handle the job that needs to be done, for instance, just in New York City. Working at a one-a-day pace, it would take private enterprise, using present building methods, 40 years to fix up New York's 43,000 old-law tenements. Only a government commitment to the work will let private enterprise do the job faster."

4. Said Robert M. Dillon, executive director of the Building Research Advisory Board: "The ultimate solutions to many problems in construction innovations lie more in the realm of political decision and legal determination than in any area of technology. The federal government will have to be involved, if only as an advisor

to states and municipalities, if political and legal climates are to nurture changes."

Housing and Urban Development Secretary Robert C. Weaver summed it up this way: "We must decide on the proper role of the public sector in research and the roles that industry, foundations, and universities can also play, if we are going to make the breakthroughs that are needed to meet the future demand for housing."

2. Government should do what industry cannot do by itself

James L. Pease Jr., vice president of the Pease Woodwork Co., recommended that the government sponsor research to establish adequate performance standards. He said this research, directed by an industry-government board, should establish techniques to measure the performance of any product or method.

Three necessary levels of research were summed up by Richard W. Bletzacker, director of the Building Research Laboratory at Ohio State University. They are:

1. "Basic research into the effects on buildings of natural phenomena such as wind, waves, fire, and earthquakes; physical phenomena such as the mechanics of materials and energy conversion; and human behavioral phenomena such as sociopsychological patterns, physiological tolerances and environmental influence."

2. "Applied research to develop principles and techniques for the design and analysis of building systems."

3. "Product development to produce materials, composites, components, and subsystems—all of which may lead to better ways to fabricate, assemble and construct buildings."

Bletzacker pointed out that the private sector's major research effort has always been in product development, which, he said, is where it should be. But in basic and applied research, the private sector must undertake responsibility or abdicate it to government-sponsored programs.

Basic and applied research could lead to performance standards—the area Secretary Weaver finds most worthy of government involvement. Said he: "The development of performance standards, which can be applied in different detail under different sets of circumstances, is work that HUD could undertake with the industry and professionals. We're not going to effect a change immediately, but if we approach this work with a type of agnosticism that does not accept things as self-evident truths, but examines everything, we'll accomplish something."

"And the industry must be involved with us. Without its support, without the support of labor, and without the involvement of elected officials, this will be a very academic performance."

Allen V. Austin, director of the National Bureau of Standards, pointed out that the need for government regulation is minimized if usable performance criteria are available.

"The government effort should be focused on assuring an adequate technical basis for developing such criteria," he said. "If the government can help provide the means to evaluate performance, private groups can establish the performance standards essential to a free, competitive society."

Professional societies like the American Society for Testing Materials and the American Standards Assn. can and do establish criteria, said Leroy C. Gilbert, ASTM's assistant executive secretary.

"But," he added, "there is a real need for funds to underwrite the cost of such testing, and this should be the joint responsibility of industry and the federal government."

Lest engineers concentrate too heavily on the technical side of performance standards, a former AIA president, Philip Will Jr., urged that researchers also keep in mind the functional aspects.

"Functional standards relate primarily to a building as a whole and to its major systems," said Will. "Does the building serve the owner's intended purposes? Does it provide the appropriate environment?"

"So long as public health and safety are not jeopardized, owners and designers are free to set standards that satisfy functional requirements. Meaningful standards can only be derived from the coordinated energies of the entire building community without dictation from any single agency, public or private."

The biggest problem in developing performance standards may be that not everyone wants them.

"We could have developed standards long ago," said Technical Director F. Crampton Frost of the American Standards Assn., but groups having strong self-interest either refused to cooperate or deliberately blocked efforts to that end."

3. Most code problems are overrated and can be solved

Most industry leaders at the meeting felt that exaggerated code problems had prompted the three government commissions to recommend a national model code. Said Thomas R. Flint of APA: "Some 90% of code problems must be classified as code misuse."

He gave three examples: "1) using a code to maintain a favorable competitive position for local industries and builders; 2) applying a code as a cover-up for inadequate local administration or lack of staff to enforce the code; 3) upgrading codes on the questionable premise that higher materials requirements will partly offset poor workmanship."

But the fact remains that thousands of communities adopt, amend, and enforce building regulations "irrespective of their impact on building technology," said James Pickford of the Advisory Commission on Intergovernmental Relations.

James Pease agreed and added, "A few of the many variations between local codes



RYAN



TURNBULL



DILLON



WEAVER



PEASE



BLETZACKER

are necessary because of geographic and climatic differences. But most of them seem to occur because of selfish interests, lack of knowledge, lethargy, or politics.

"Why," Pease asked, "do two codes having the same snow and wind load requirements vary in their truss design criteria. I refer to one code that requires a 20 lb. live load with 1/2" sheathing while another code requires a 30 lb. live load with 3/8" sheathing. This kind of variation just does not make sense."

These inconsistencies are "one of the weaknesses of our system," said Paul E. Baseler, secretary of the National Coordinating Council of Building Officials Organizations and executive director of BOCA. "We're inclined to look at accomplishments in light of what the model-code groups do. And there are some variations between what they do and what is done at the local level. How to get away from this is the \$64,000 question."

"We believe a public relations program showing how the public benefits from modern building regulations is about the only answer."

Actually, the multiplicity and nonuniformity of codes is something of a myth, said Superintendent Robert C. Levy of the San Francisco Bureau of Building Inspection. He recalled that a national sampling of cities with populations over 10,000 showed that 81% used one of the four model codes. In California, he said, only two cities do not use the uniform building code, and both of them pattern their basic code provisions after the uniform code.

Why, then, do local codes seem to vary so much? Levy's explanation:

"We can divide a building code into two distinct parts. One deals with engineering characteristics, which are quite uniform throughout the country because, once we set a few standards, mainly stresses, we can come up with a reasonable answer through normal design techniques.

"The other distinct part deals with fire—preventing it, halting its spread, and rescuing people from burning buildings. This part, which probably amounts to 75% of the pages in a code, is where codes differ widely.

"There are two reasons for the differences:

"First, the basic parameters of fire design are still generally not known. Such subjects as heights and areas, travel distances, sprinkler values, and smoke and combustibility requirements need further exploration. We also know very little about

the fire loading of many types of occupancies and less about how to correlate fire loading with hourly ratings of buildings.

Second, local fire-fighting conditions lack uniformity. Within 50 miles of San Francisco, for example, we run the gamut from a rural area, where the first engine might not appear until half an hour after the alarm, to the city of San Francisco, where the maximum interval between the alarm and the arrival of firemen is four minutes."

4. Few people want a national code with its bigger problems

Said HUD's Weaver: "I intend to resist a national code for several reasons. First, this is a very heterogeneous country, and I just can't conceive of a national code that would be equally effective in Portland, Me., and Miami, Fla. Second, the power to impose zoning and building codes lies not within the federal government but with the state, which usually delegates it to local authorities. We have enough problems now of being accused (unfairly, I must say) of interceding in local decisions. To push a national code would be political suicide and probably unconstitutional."

Said San Francisco's Robert Levy: "Under a state or a national code, the building official would have absolutely no authority to approve a system. He'd look at the book and say, 'Sorry, it doesn't meet the code.' Then he'd have to go to the state capital for appeal or interpretation. And in the state house, he'd face a larger bureaucracy than in the individual city, so he'd have to jump through more hoops.

"What's more, when any higher level of government preempts jurisdiction from a lower level, the jurisdiction never returns to the lower level, even if it doesn't function as expected."

St. Louis' consulting engineer, Bengt F. Friberg, agreed: "A national model code could not long prevail without administrative machinery of frightening authority. Regional emphasis and honest difference of opinion come to grief in a single all-inclusive code authority. Vigorous innovation and private encouragement cannot easily be imagined under a national code with its absolute monopoly of final decision."

"You might put it another way," said J. Neils Thompson, president of the National Society of Professional Engineers. "If there are, in fact, 5,000 building codes in the U. S., they are a lot more flexible

than one national code. All these codes create headaches for the industry, but the intensity of the headaches is probably less than if we had a national code. At least the local codes can be adjusted to local environments and conditions."

5. There is no one way to cut building costs dramatically

Said NAHB's Ralph Johnson: "Take something as drastic as omitting the exterior walls. You'd save only 3% to 4%.

"Even small improvements are very difficult to achieve. For example, the roof truss system in NAHB's latest Research House reduces the number of trusses by more than half and uses the same size members. Yet the net result is a saving of a few cents per square foot of roof. And careful analysis showed that the conventional floor system produces better value than any of the floor panels. That is why this 'lagging' industry is not using floor panels.

"In fact, I question whether our industry is really lagging. The industrialization of homebuilding itself has been a most significant innovation. For instance, take highly mechanized earthmoving, power tools that cut on-site labor and improve productivity, prehung doors and prefabricated windows, sheet materials, gap-filling glue, prefinished interior and exterior surfaces, electromechanically stress-rated lumber, and hundreds of other products that have come into use in just the last decade."

"These innovations owe their existence to intense competition," said APA's James Turnbull. "Thousands of construction companies and product and material suppliers, competing strongly on a local level, provide a vast inventory of inventiveness and imagination."

"Even though we still have the problem of housing low-income families," said Nicholas L. Maczkov of American-Standard, "there is little recognition that the U. S. provides more house for the money and does it faster than any other nation. We are second to none in our level of housing and building achievement."



WILL



LEVY

**If the builders around you
are offering air conditioning,
wall-to-wall carpeting, trade-ins,
marble-topped pullmans and atriums,
what does that leave you?**



Automatic landscaping irrigation control for around \$100

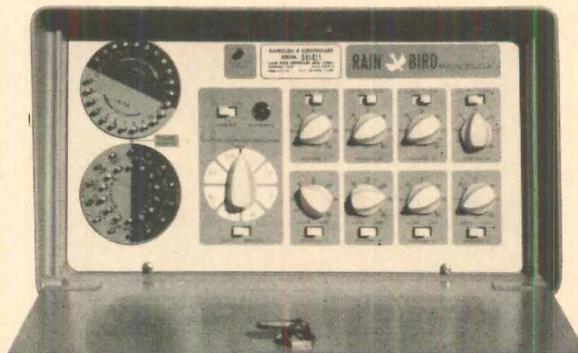
A good home in a good location is often not enough anymore. Competition is rough. You need exclusive features to talk about. Something to hook prospects' attention and to pull them out to hear your sales story.

And this is it! The Rain Bird Electronic Controller.

You install it as an inclusive feature, on a wall or pedestal. People all too familiar with disposals, intercoms and relay systems, stop and look at this one.

You explain that the Rain Bird Electronic Controller is included in the price of the house. That it will turn all their sprinklers on and off for just the right amount of watering; at the best time; and even when they're on vacation.

So when they come to put in their landscaping, the best



part is already taken care of—automatic irrigation control.

Note that you're not stuck with the normal contractor's investment for a sprinkler system of \$500—\$800. You invest little more than \$100. The home buyer installs sprinklers, pipes, valves.

What do you get out of it? Three things:

1. A good talking point—in your advertising, and on-site.
2. A better guarantee that new buyers will progress with their landscaping (and help improve your new community, aiding further sales).
3. A small profit on your small investment.

The controller sells for \$165.00.

If this sounds like a good idea to you, by all means write us and we'll provide details of the complete program.

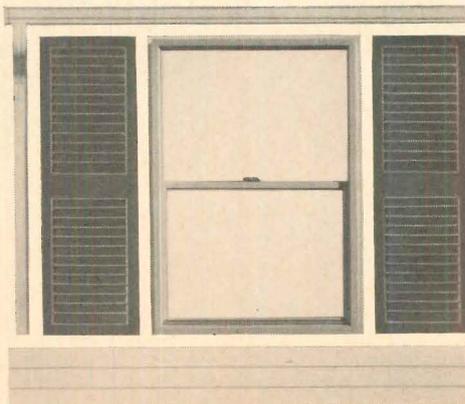
RAIN BIRD

Rain Bird, Glendora, Calif. 91740 (in the West); or Rainy Sprinkler Sales, Div. L. R. Nelson Mfg. Co. Inc., 1012 West Pioneer Parkway, Peoria, Ill. (in the East and Midwest).



This homeowner is busy keeping his house in shape (with thanks to vinyl)

So why isn't he painting? Repairing a rusted downspout? Or freeing a window that's stuck? Instead of just relaxing? □ Those chores don't exist where he lives. His house is wrapped in vinyl siding with color that goes clear through; painting is unnecessary. Gutters and downspouts are vinyl, too, and can't rust out. Even the windows are cased in vinyl, slide freely in all kinds of weather. Vinyl shutters add lasting beauty. □ New products made of Geon® vinyl enter the home building picture regularly. As each one does, homeowners get more leisure time. Vinyl is easy to maintain, resists weather, won't conduct heat or cold, will not support combustion. Whether you buy a home, build one, or remodel, be sure to consider vinyl. If you do, you'll also need two trees and a hammock.



B.F. Goodrich Chemical Company
3135 Euclid Avenue, Dept. H-5
Cleveland, Ohio 44115

I'd like to see manufacturers' literature as follows:
 Vinyl clad windows, Windows—part vinyl,
 Vinyl siding, Vinyl gutters and downspouts,
 Vinyl shutters, Vinyl electrical raceway.

NAME _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____



B.F. Goodrich Chemical Company

“He’s out to lunch.”

“We’ll send someone out next Tuesday!”

“Sorry, he’s no longer with the company.”

“He’s on another line—can you hold?”

“He’s in an important meeting. Can you call back later?”

“Don’t call us, we’ll call you.”

“You’ll have to call the Service Department.”

The run-around. Can you afford it?



Builder Bernard Jaffe can't. That's why he buys Bryant heating and air conditioning.

He knows that our Distributor or Dealer will follow up after the sale.

If even the slightest problem develops, he'll have Johnny-on-the-spot service.

Jaffe's used Bryant heating and cooling equipment for his last four apartment projects in the Norfolk, Virginia area. By the end of 1968, he

plans to build five more projects with a total of 1892 apartment units. And heat and cool them all with Bryant.

And good service after the sale isn't the only reason why. He also likes our competitive prices. Our versatility that meets all his design and construction requirements.

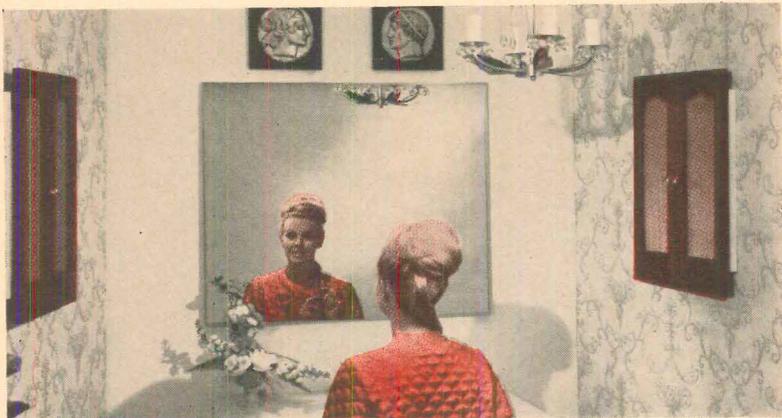
Bryant makes all kinds and sizes of units. Heating and cooling. Gas and electric.

So why not look into Bryant for your next job? Remember, you can get almost anything from Bryant. Except the run-around.

For more details, see your Bryant dealer, distributor or factory branch. Or write Bryant Manufacturing Company, Indianapolis, Indiana 46207.

bryant

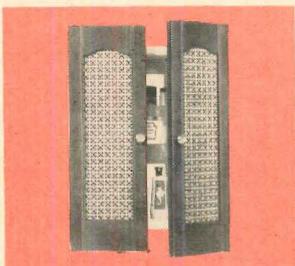
Now! Grote solves the builder's bathroom dilemma — wall mirror or storage?



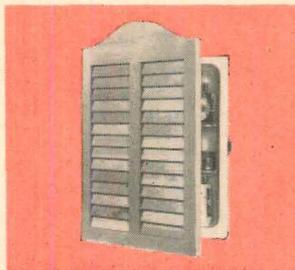
Whether the setting is contemporary, provincial, or classic, Grote Universal Decorator Vari-style cabinets (shown on side walls above) are right at home, look custom-built.

Traditionally alert to the builder's problems, Grote now answers one perplexing the 23% of the builders who use big wall mirrors in bathrooms — how to provide both storage and big-mirror glamor. Grote's sidewall decorator cabinets combine practicality with beauty to permit full exploitation of the bathroom as the great new frontier for adding glamor . . . sales appeal that will sell or rent a home or apartment weeks earlier. Write for new Catalog C-366 to get the formula for this bathroom sales magic.

Grote Vari-Style Universal Decorator side-wall storage cabinet. Rich wood frames combine with choice of interchangeable door inserts (gold fretwork, gold mesh, or mirror) to complement any decor, offer complete decorative freedom in building or remodeling.



American Heritage economy reversible swing-door side-wall storage cabinet. Handsome louvered door finishes elegantly in wood tones or in colors to match walls or woodwork on the job.



THE Grote MANUFACTURING CO.
PO Box EH-766, Madison, Indiana

Yes, we'd like to know Grote's answer to the big mirror bathroom dilemma — glamor or storage? Let's see your high-style side-wall storage cabinets. Send your new Decorator Catalog C-366.



Name _____

Street _____

City _____ State _____ Zip _____

Signed _____ Title _____

NEWS

Should city planners be lobbyists? ASPO picks a leader who says yes

H&H staff

In the 32 years since its founding, the American Society of Planning Officials, the national body of professional planners and citizen members of planning boards, has never taken an official stand on a national issue.

But last month ASPO elected a new president, **Aaron Levine**, who may well end those halcyon days.

"ASPO has close to 4,000 members now, he says, "and we are urging that it begin making its views known on public planning issues."

Levine, 48, who became executive vice president of the Oahu Development Conference in Honolulu in 1962 after spending ten years with Philadelphia's Citizen Council for City Planning, sees ASPO as a "citizen agency parallel" of the new Housing and Urban Development Dept.

"For the first time we have a concentrated apparatus [HUD] concerned solely with city development," he says.

If ASPO follows Levine's lead, chances are that much of the planners' lobbying will not sur-



ASPO's LEVINE

"Inject the citizen viewpoint"

face publicly. In Levine's 13 years as the paid staffer for organizations representing the citizen power structure in Honolulu and Philadelphia, his *modus operandi* was to work behind the scenes with official planning agencies "to inject the citizen viewpoint and try to head off conflict" before plans were unveiled publicly. His method helped smooth the path for Philadelphia's dramatic downtown revival and Levine now expects it to get results for ASPO.

Planning battle in Eden: a draw

Fremont, Calif., is a city short on tradition (only ten years old), smallish in population (about 90,000) but large enough in uncluttered landscape (more than 95 square miles) to dream of rivaling nearby San Francisco as the jewel of the West.

This alchemy is to be worked through modern city planning. To transform Fremont into a model planned city, an aggressive city planner, **Roy Potter**, has experimented with cluster zoning and density bonuses for builders who leave hillsides un-sullied (Potter's work won him H&H Man of the Year honors.)

Only trouble is that Fremont's citizens can't quite agree on what constitutes good planning. Last month those who disagree with Potter—including many local builders—won a half-point by electing a dentist and sometimes-critic, **Dr. Hugh Block**, to one of two vacant city council seats. But the voters also re-elected Mayor **Donald Dillon**, the staunchest defender of Fremont planning.

Builders and developers are particularly interested in the council's make-up because, they say, zoning decisions can raise or lower land values by as much as \$1 million a month.

"This is the last mother lode

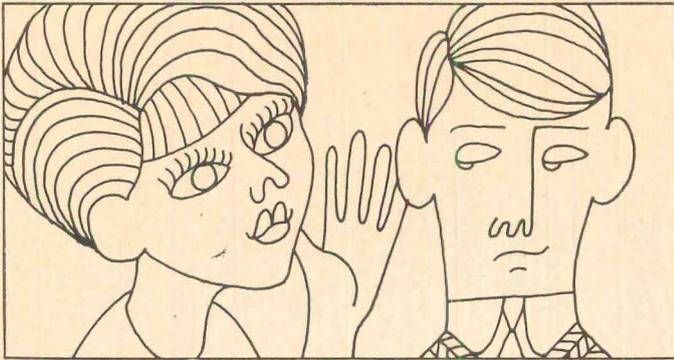
in California—land and lots of it," observed Mayor Dillon. "The development right of the 20th century is like the gold mine of the 19th."

With so much at stake, reports circulated that Dr. Block and his unsuccessful running mate (eight candidates sought the two seats) were spending \$50,000 to be elected. "Exaggerated," replied Dr. Block. "Double it," snapped an opponent.

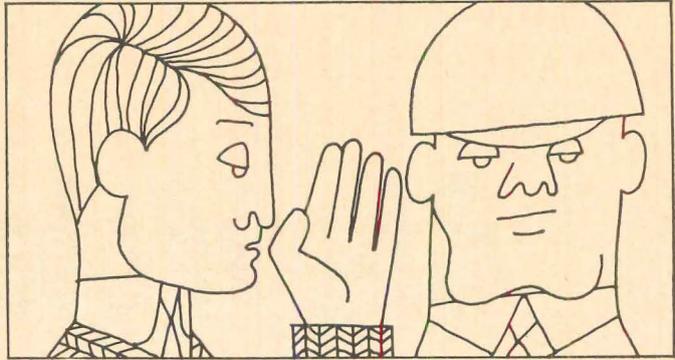
But no one accused the incumbents of selling zoning favors. On the contrary, opponents accused Potter and his planners of wanting quality building so much they favored big operators with enough capital to do large-scale imaginative planning. Development plans were judged not by conventional subdivision rules but by "fuzzy" standards that gave subdividers great freedom. They could experiment—if they wanted to spend the time.

Dr. Block said these free-form standards have not worked out and have, in fact, led to unusual requirements that frightened away 90% of prospective new industries. As a result, he charged, Fremont's growth has leveled, and the city "is sterile in look and thought."

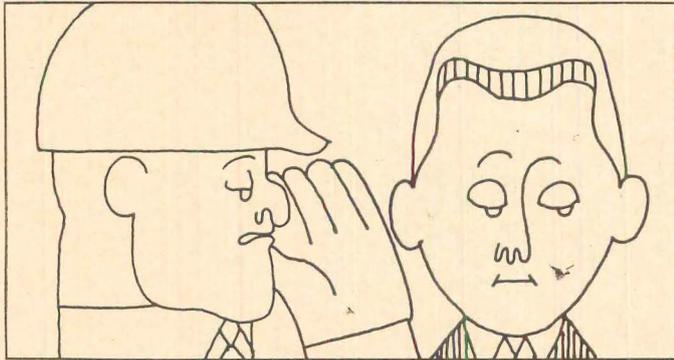
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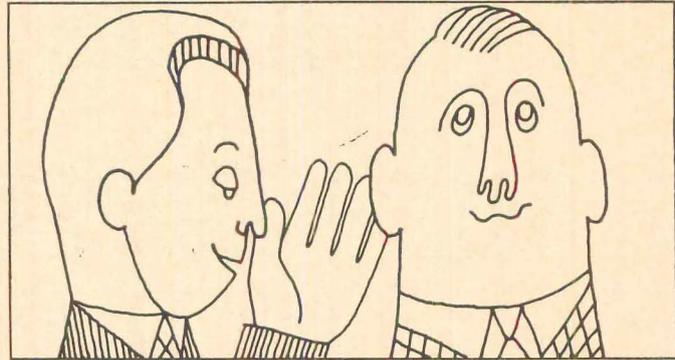
Housewives told architects...



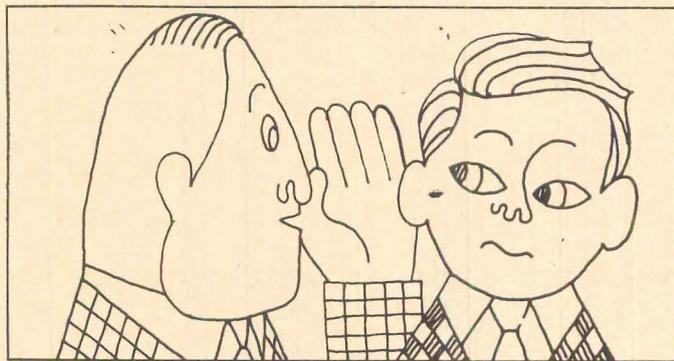
who told builders...



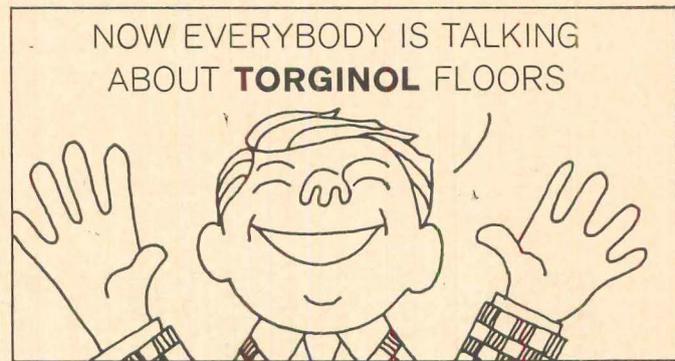
who told contractors...



who told distributors...



who told dealers about Torginol seamless-waxless floors.



No wonder! Torginol seamless-waxless floors are imaginative, practical and sell the housewife every time by offering her unlimited decorating colors and designs. She also loves the fact that her floors are waxless and maintenance is reduced to a daily swish of a damp mop. They are also virtually stain, scuff and skid proof too.

Because they're seamless they can be applied inside, outside, even poolside. No matter where applied they're resiliently comfortable and offer years of dazzling, unmarred beauty.

Torginol's coast-to-coast team of 5 plant facilities and more than 15,000 trained applicators is proving the superiority of these floors over all others time and time again.

For enthusiastic customer acceptance and quicker sales and a higher level of profits at a cost that's competitive—be sure to specify Torginol. You'll build up an inventory of satisfied customers. For detailed information without obligation and a FREE full color brochure, fill in the attached coupon.

Torginol of America, Inc.—AI
1708 Gage Road
Montebello, Calif. 90640



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Street _____

City _____ State _____

TORGINOL

Aristocrat OF SEAMLESS-WAXLESS FLOORING
MONTEBELLO, CALIF. • LONG ISLAND, N. Y. • ATLANTA, GA. • CHICAGO, ILL. • DALLAS, TEXAS

Chevrolet offers 18 pickups...just to be sure there's one that's right for you!



3 FLEETSIDE MODELS—Trim-lined Fleetside bodies are offered in 6½-ft. and 8-ft. lengths. Double-wall lower body side panels keep cargo dents from marring exterior appearance, and tough wood floor planking is joined by full-length steel skid strips. Maximum GVW ratings from 5,000 to 7,500 pounds.

Chevrolet builds 18 basic pickup models to cover the whole range of pickup jobs. Whether you need a smart El Camino runabout, 4-wheel drive for backwoods work or a big 9-ft. body, you can get it from Chevrolet!

Standard power in most models is the big new 250 Six—a real going combination of economy and performance. Also available is the rugged 292 Six and the snappy 283 V8. And, for the first time, you can now get a big 327 V8 in all but 4-wheel-drive models. Transmission offerings include both 3-speed and 4-speed gearboxes, plus two automatics—a smooth 2-speed Powerglide and an all-new 3-speed Turbo Hydra-Matic.

But this is only the beginning! For the big choice in pickups, plus the big choice in truck equipment, your Chevrolet dealer is the man to see. . . . Chevrolet Division of General Motors, Detroit, Michigan.



6 FOUR-WHEEL-DRIVE MODELS—Go-anywhere traction is offered with either Fleetside or Stepside bodies in 6½-ft. or 8-ft. lengths. Extra rugged chassis and drive line includes 2-speed transfer case. Maximum GVW ratings from 5,600 to 7,600 pounds.



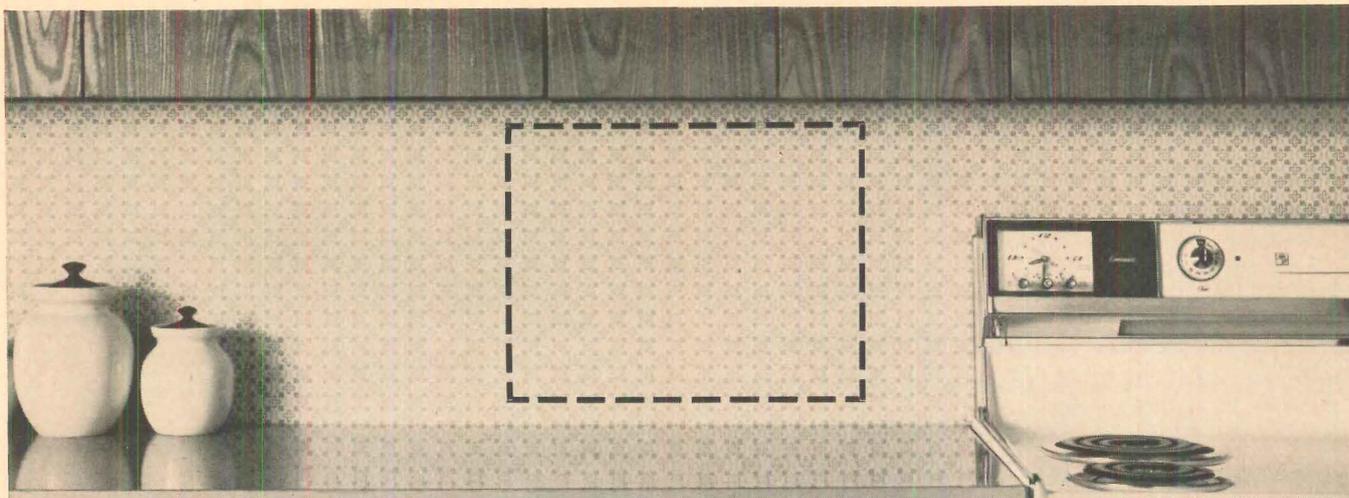
4 EL CAMINO MODELS—Carry over half a ton of cargo in these sleek, stylish haulers. Six or V8 power. Luxurious interiors, smooth ride and a host of luxury options—air conditioning, bucket seats, Comfortilt steering wheel.



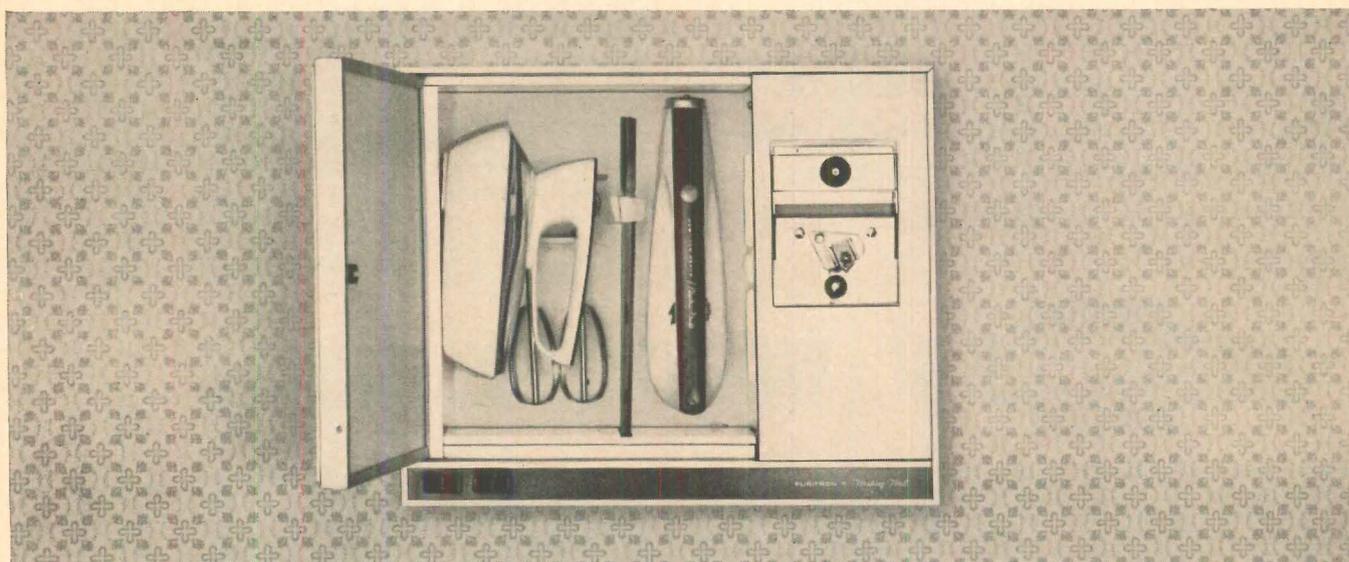
WORKPOWER TRUCKS



5 STEPSIDE MODELS—Available with 6½-, 8- or 9-ft. bodies. Feature flat interior body walls and handy side steps between cab and rear fenders. Same rugged planked floor construction with full-length steel skid strips as in Fleetside models. Maximum GVW ratings from 5,000 to 7,800 pounds.



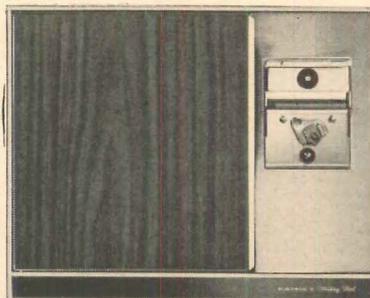
Put this wall space to work!



NEW PURITRON WORKING WALL

New idea in built-in kitchen convenience! Puts more eye-appeal into your model kitchens; gives prospects another good reason to buy.

The big news in small built-ins is the new Puritron Working Wall—an elegantly crafted cabinet that holds three basic appliances (Hamilton Beach Electric Knife, 3-speed mixette and an electric can opener) . . . plus two outlets of its own. Prospects warm up to it fast; find the added efficiency and quality they look for in a modern kitchen.



Installation is easy. Just fit the cabinet between wall studs, connect to a 115V line . . . and you're in business. The decorator door can be easily customized to match the decor of any kitchen.

Put new Puritron Working Wall to work for you—stimulating added interest in your kitchens . . . and softening up sales.

HAMILTON BEACH **SCOVILL**
BUILDER PRODUCTS DIVISION

For your nearest supplier or information on the new Puritron Working Wall, write: Puritron, Dept. HH-6, 15 Stiles St., New Haven, Conn. 06512.

NEWS

continued from p. 32

His entry scratched at Santa Anita, Lou Lesser rides East for new cash

Walter Daran



ENTREPRENEUR LESSER

Bets on another entry

It's a brand new horse race for California's flamboyant **Lou Lesser**, a builder who likes the long parlay.

City Investing Co. of New York City, a community developer with land holdings near Denver and Houston, has tentatively agreed to a merger with Lou Lesser Enterprises Inc. of Beverly Hills. The new deal shaped up only four months after the collapse of Lesser's plan to sell out to Santa Anita Consolidated, a California racetrack and shopping center owner (NEWS, Dec. *et seq.*).

The Santa Anita stock swap placed a \$14.9 million price on Lesser Enterprises, a diversified real estate development and investment company. Lesser's residential projects include Conejo Valley and Thousand Oaks northwest of Los Angeles, but the company earned only \$200,000, or 16¢ a share, in the six months ending Dec. 31 compared with \$425,000, or 35¢ a share, in the same 1964 period.

City Investing is not saying how much it will pay for Lesser, but President **George T. Scharffenberger** says the merger will involve a multimillion-dollar stock exchange. His company does not blink at price tags in millions. It spent \$8.2 million in

March for the 17% interest held by Canadian financier **Louis A. Chesler** in Florida's General Development Corp. (or \$6.42 a share for 1,292,702 shares).

The Santa Anita deal would have qualified 2,751,201 shares of Lesser Class B stock for dividends. Presumably, Lesser and his associates seek the same dividend treatment in any exchange with City Investing. They own most of the Class B, but are limited on the amount of dividends they can collect until 1970.

City Investing, listed on the New York Stock Exchange, is best known as developer of Sterling Forest, a 30-sq.-mi. residential and industrial community 30 miles from New York City.

Mortgage men choose Gilliland; Crow on tap

John A. Gilliland, 52, vice president of Stockton, Whatley, Davin & Co. of Jacksonville, Fla., will be the next president of the Mortgage Bankers Assn. of America, whose 2,000 members represent more than \$50 billion of the \$352 billion in mortgage debt.

Gilliland, whose company services \$532 million in loans, was nominated at the MBA's national conference of 1,200 mortgage executives in New York. He will succeed **Ewart W. Goodwin**, president of the Percy H. Goodwin Co. of San Diego, at the MBA's Philadelphia convention this fall.

Clair (Bus) A. Bacon, 51, president of Mortgage Investments Co. of Denver (servicing: \$228 million), will replace Gilliland as MBA vice president. **Lon Worth Crow Jr.**, 53, president of the Lon Worth Crow Co. of Miami (servicing: \$197 million), steps into line for the presidency via his nomination as second vice president. Bacon and Crow are H&H mortgage advisers.

PREFABERS: **Nissie Grossman**, 55, is the new president of L. Grossman Sons, Braintree, Mass., materials dealer and producer of 300 to 500 component house packages a year. He succeeds his uncle, **Sidney Grossman**, at the helm of the family company.

PRODUCERS: **Donald W. Davis**, 44, is the new president of The Stanley Works, New Britain, Conn., toolmaker that sponsored NAHB's time and motion (TAMAP) study. He succeeds **John C. Cairns**, 66.

ARCHITECTS: **Francis D. Lethbridge**, Washington architect cited as a 1965 Man of the Year by H&H for his work with merchant builders, has been named a Fellow of the American Institute of Architects. The AIA elevated 65 other members to the honorary rank, including housing design award winners **Edward Larrabee Barnes** of New York City, **Bertrand Goldberg** of Chicago, and **Robert B. Price** of Tacoma.

DIED: **Richard J. Gray**, 79, head of the AFL-CIO building trades until 1960, May 2 in Washington.



The exterior is the one part of your home everybody sees.

Isn't it worth a little extra attention?



Any good salesman will tell you that making a good appearance is half the battle.

Which is why Olympic Stain is such a good salesman. Olympic's whole purpose in life is to make wood look good. And that's exactly what it does.

Unlike paint, Olympic penetrates. The stain actually sinks right in to become part of the wood—accenting, coloring and protecting the natural beauty of the grain and texture. Because Olympic doesn't form a film, it can't crack, peel, flake or blister, either.

Result: your exteriors look better right from the start—stay looking better years longer.

Try it and see. But don't blame us if your competitors keep calling up to ask what you're using.

For color samples and information about staining, write: Olympic Stain, 1118 N.W. Leary Way, Seattle, Washington 98107.

Prospects said, "We want homes designed for
DEMAND AAMA QUALITY CERTIFIED



"AAMA Quality Certified aluminum prime windows and sliding glass doors are low maintenance—they end painting, never swell or rot. We use them on our most expensive homes."

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Past President,
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The manufacturer warrants by affixing this label that this window or door is a duplicate of samples independently tested, inspected and certified in accordance with American Standard Practice for Certification Procedures, ASA Z34.1, to comply with the applicable specifications of Architectural Aluminum Manufacturers Association.

CODE 00-0



*NAHB Research—San Antonio
Texas Parade of Homes, May, 1965

low maintenance."* Switch to aluminum and...

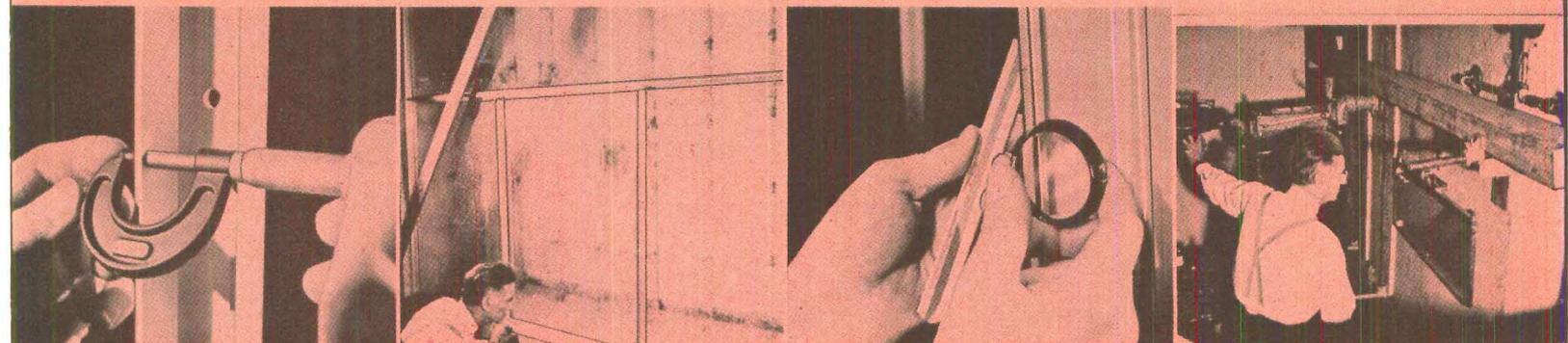
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only AAMA members offer aluminum
prime windows and sliding glass doors with

✓ **CONSISTENT QUALITY**

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Metal thickness is carefully measured.

Windows are tested for water resistance and air infiltration.

Framing dimensions are checked.

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millions know the AAMA Quality Certified seal!



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this year in BETTER HOMES & GARDENS, HOUSE BEAUTIFUL, AMERICAN HOME, and HOUSE & GARDEN—publications read by your best prospects for new homes. Last year, the AAMA seal was also nationally advertised on NBC Television's popular "Today Show" starring Hugh Downs.

PUBLICITY

telling the AAMA Quality Certified story is appearing everyday in national magazines and your local newspapers. AAMA publicity also is regularly being featured on local radio and television programs. This constant stream of publicity keeps your prospects aware of the AAMA seal as an assurance of quality.

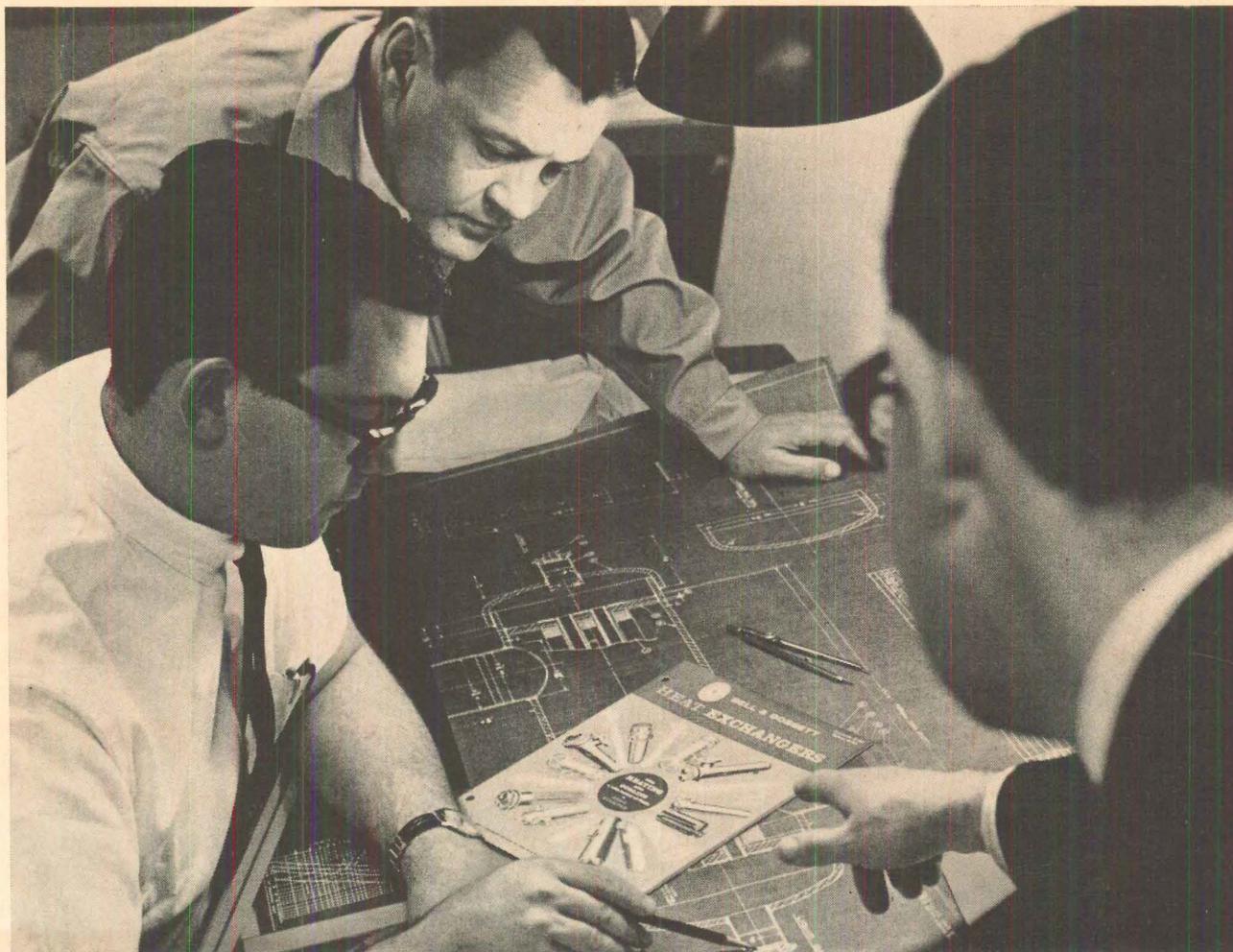


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MANUFACTURERS ASSOCIATION

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Basic product quality is often taken for granted. To assure you that it's built into every B&G unit, Bell & Gossett produces *only* ASME heat exchangers... made in accordance with the stringent code requirements of ASME and stamped with the "U" symbol. But, that's only part of the story.

You need a pump to put a heat exchanger to work. Bell & Gossett makes both pumps and heat exchangers. B&G Representatives are found coast to coast...with the know-how to put these products together like nobody in our industry. Standard vessels

and pumps are in stock in 38 major cities. Large component inventories at the factory (including stainless steel) permit customized design in record time...and competitively priced.

Check your local B&G Representative for help on your heat exchanger application. For a free copy of Bulletin HE-260, covering the B&G line, write ITT Bell & Gossett, a division of International Telephone and Telegraph Corporation, Morton Grove, Ill., Dept. 10M.

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Flair

new patterned Plexiglas® adds dramatic sales appeal to homes

Colorful stained glass effects such as those shown in the illustrations make new homes distinctively different . . . turn prospects into buyers . . . produce quick sales for the home builder. The material that makes it possible? FLAIR patterned PLEXIGLAS acrylic plastic.

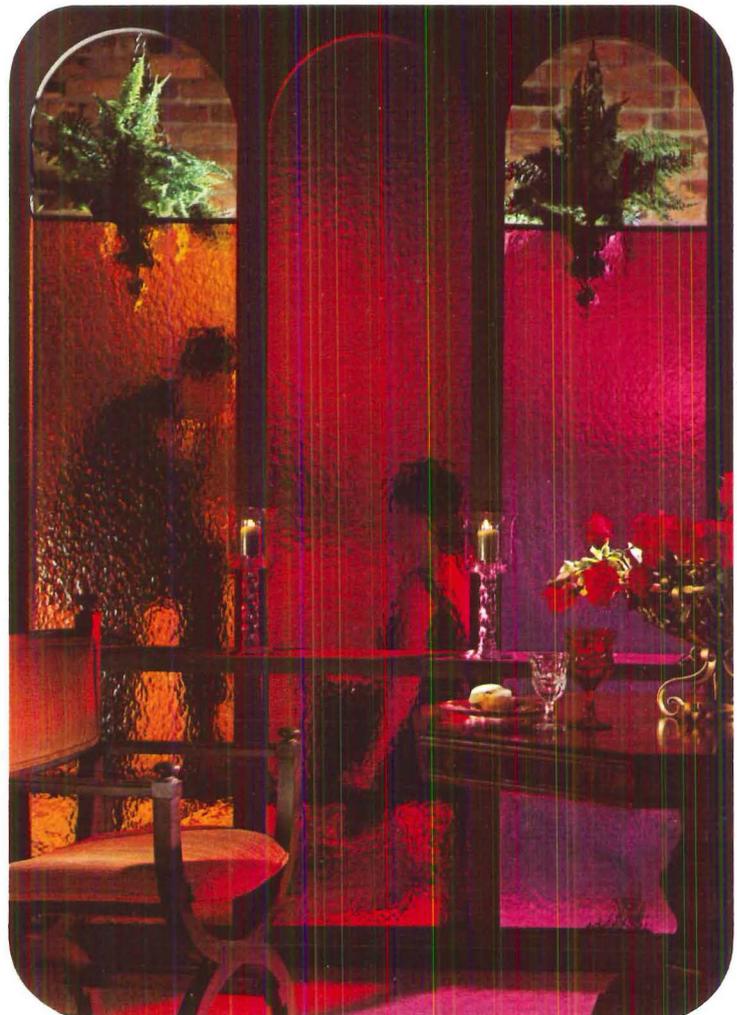
FLAIR comes in a radiant spectrum of 17 transparent colors and colorless . . . is available in sheet sizes up to 4 by 8 feet. This beautifully textured material is safe and easy to handle and install because of its light weight and great resistance to breakage. And its breakage resistance is a sales feature for the homeowner. PLEXIGLAS, a slow burning plastic, is generally subject to the same regulations as untreated wood in building-installations.

Learn how FLAIR can enhance the homes you build. Write for your copy of our brochure, color samples, and the names of Authorized PLEXIGLAS Distributors in your area who stock FLAIR for immediate delivery.



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Mortarless brick flooring helped a home builder sell 100 homes

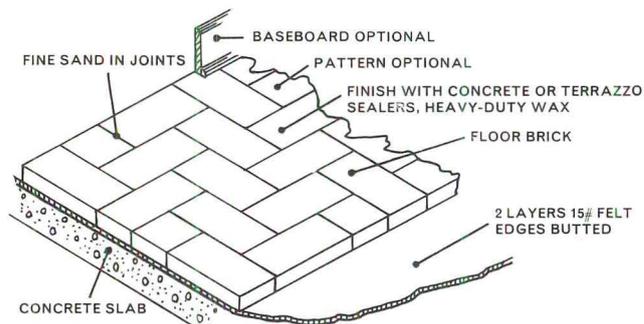
Mortarless brick flooring is a simple and surprisingly economical way to put the beauty, prestige and permanence of brick to work inside your homes.

Brick is a good salesman, as Kavanagh-Smith & Co., Greensboro, N.C., proved. E. J. Michelotti, director of design and engineering, specified mortarless brick flooring in the family rooms of 100 homes ranging in price from about \$16,000 to \$18,000 and located throughout North Carolina. It helped make these homes the company's best-selling line—and Michelotti says, "they cost about 40 cents a square foot," which is considerably less than a good grade vinyl tile floor.

How to do it

Mortarless brick flooring requires no special skills. Kavanagh-Smith & Co. used semi-skilled labor to install it. The firm used standard brick pavers that are about one-½ inches deep, four inches wide and eight inches long. The slab was covered with two layers of 15-lb. felt. Brick pavers were placed tightly together. Fine, dry sand was swept into joints. Brick and joints were sealed with commercial grade concrete heavy-duty sealer applied generously and allowed to dry for 24 hours. Heavy-duty wax was applied and buffed.

(For a mortarless brick patio or walk, brick and sand can be used in the same manner, assuming that a well-drained base is available, or is installed.)



The sales-building advantages:

- Permanent beauty and color.
- An easy-to-clean floor that needs almost no maintenance and lasts, and lasts, and lasts, etc.

SCPI Structural Clay Products Institute
1520 18th St., N.W., Washington, D.C.

But we'll tell you one.



They feature Tappan Time Machines.

Tappan Twin-Temp Combo: The refrigerator-freezer that's practically a supermarket in the kitchen. Over 20 cu. ft. of storage in only 36" of space. No defrosting ever. Classic built-in look, but a snap to install. Match cabinets with door inserts. Also in white, coppertone or Lusterloy.

Tappan Reversa-Jet Dishwasher: Sticky food can't hide from Tappan's powerful reversing spray arms. They wash in both directions to get dishes clean all over. Three models—all designed to save you installation time. Match cabinets with

wood or choose Lusterloy, coppertone, provincial, turquoise or yellow finishes.

Tappan Profile Range: All the features women flip for at an incredible low price. DuPont TEFLON liners in both ovens lift out and wash in the sink without scouring. Single oven or over-and-under models, gas or electric. Slip-in or drop-in installation. Available in white, coppertone or smart new Provincial styling (the new look that helps sell houses).

Tappan Disposers: The disposer with more do's than don'ts. Makes food waste—and customer complaints—disappear.

Installs in minutes. *Tappan Vent Hoods:* No outside wall? No problem with Tappan no-duct hoods. Wide choice of ducted models, too. *Tappan Kitchen Cabinets:* Perfect setting for the Time Machines. Superb craftsmanship, beautiful woods. Ask your distributor to show you the complete Tappan Line.

TAPPAN Time Machines

The Tappan Company, Mansfield, Ohio • Tappan-Gurney, Ltd., Canada

BUSINESS IN THE MAKING

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

CALIFORNIA—**BAKERSFIELD**: Apartment, \$1,250,000. Sponsor: Dr. D. O. Prosser. Plans: Kenney Assoc., San Carlos. **CALIFORNIA CITY**: 100 houses, \$1,350,000. Builder: East Town Building Co. Plans: Eugene Conroy, Sherman Oaks. **CHATSWORTH**: 43 houses, \$645,000. Builder: Farralone Properties, Los Angeles. Plans: David Freedman, Beverly Hills. **CYPRESS**: 70 houses, \$1,750,000. Builder: Cantrell, Maxwell & Davidson, Bellflower. Plans: Ralph Lerch, Fullerton. **DAVIS**: Cluster housing development, \$1,380,000. Builder: Gentry-Liggett Development. Plans: Norman H. Dyer, Danville. **HUNTINGTON BEACH**: 300 houses, \$6.6 million. Builder: Luxury Homes, Anaheim. Plans: Noegle & Molone, La Jolla. **IRVINE**: 275 houses, \$7.7 million. Builder: Dunn Development. **LOS ANGELES**: Senior citizens apartment, \$1,765,000. Sponsor: Bethel Manor. Plans: Joseph Colombo, Santa Ana; 100 houses, \$1.8 million. Builder: Lee Lasky Co., Sherman Oaks. Plans: Robert E. Jones, La Jolla; Senior citizens apartment, \$2.5 million. Sponsor: Progressive Baptist Church. Plans: Cary K. Jenkins, Beverly Hills. **NEWPORT BEACH**: 390 houses, \$9,750,000. Builder: John D. Lusk & Son, Whittier. **SAN DIMAS**: 35 houses, \$700,000. Builder: Hy-Wel Enterprises, c/o William K. Speer, designer, Claremont. **VILLA PARK**: 110 houses, \$3,750,000. Builder: Sterlings Ranchos Division, Jewell Construction, Tustin. Plans: Martinez, Edwards & Steele Architects, Corona Del Mar.

CONNECTICUT—**HAMDEN**: Garden apartments, \$600,000. Sponsor: Veggo Larson, New Haven. Plans: Simeone & Wendler Assoc., New Haven; Apartment, \$1 million. Sponsor: Cross County

Enterprises, Wilton. **NEW LONDON**: Garden apartments, renewal area, \$2 million. Sponsor: Carabetta Brothers Builders, Meriden; Garden apartment renewal area, \$4 million. Sponsor: Urban Properties, Pittsburgh, Pa. **ROCKY HILL**: Apartment complex, \$800,000. Sponsor: A. Schneider & B. Rosen, Wethersfield. Plans: Irving Rutherford, Hartford.

ILLINOIS—**BLOOMINGTON**: Apartments, \$1 million. Sponsor: St. Louis Apartment Builders, St. Louis, Mo. Plans: L. E. Spellman & Assoc. **CHICAGO**: Condominium apartment, \$3 million. Sponsor: L. Snitoff, c/o Weinper & Balaban, architect; Apartments, \$1.1 million. Sponsor: Community Renewal Foundation. Plans: Dubin, Dubin, Black & Moutoussamy; Apartments, \$1 million. Sponsor: Alba Company. Plans: Jerome Soltan. **GENEVA**: Apartments, dormitories & retired persons residences, \$10 million. Sponsor: Christian Residences c/o Harper Corp., Downers Grove. Plans: Richard Lee Wu, Downers Grove; 200 houses, \$10 million. Sponsor: c/o Borroto & Lee, architects, Miami, Fla. **MOUNT PROSPECT**: 300 houses, \$8 million. Builder: Di Mucci Builders. Plans: Mario P. Deri, Chicago. **PALATINE**: 300 houses, \$9 million. Builder: Federal Homes, Prospect Heights. Plans: Robert G. Berlow, Skokie; 150 houses, \$7.5 million. Builder: Kuntze Building Corp., Des Plaines. **ROCKFORD**: Row houses, \$3 million. Builder: Oswald & Schaides. Plans: Dubin, Dubin, Black & Moutoussamy.

IOWA—**BURLINGTON**: Apartments, \$600,000. Sponsor: c/o Glenn Romkey. **DES MOINES**: Apartment & shopping center, \$3 million. Sponsor: Irvin J. Caspe & Assoc; Apartments, \$700,000. Sponsor: Darwin T. Lynner. **DUBUQUE**: Dormitory, \$600,000. Sponsor: University of Dubuque. Plans: Durrant, Dieninger, Dommer, Kramer & Gordan; Condominium apartment, \$1.5 million. Designer: c/o Thurston, Stiermen & Assoc. **IOWA CITY**: Apartment, \$800,000. Spon-

sor: Frank Eicher. **ORANGE CITY**: Dormitory, \$700,000. Sponsor: Northwestern College. Plans: William Beuttler & Assoc., Sioux City.

KANSAS—**EL DORADO**: Apartment, \$800,000. Sponsor: Flint Hills Lodge Corp., c/o Leaper & Gilbert, architects, Wichita. **KANSAS CITY**: Apartments, \$3 million. Sponsor: Carl Johnson; Apartment & office building, \$1 million. Sponsor: Meadow Oakes Gardens, Kansas City, Mo. **LAWRENCE**: Apartment & swimming pools, \$3 million. Sponsor: Bruce Yeakel. Plans: Design Enterprises, North Kansas City, Mo. **TOPEKA**: Apartment complex, \$1 million. Sponsor: Fountainbleau Inc. Plans: Knight & Remmele; Apartments, \$1.5 million. Sponsor: Viking Investment. Plans: Design Enterprises, Kansas City, Mo.

KENTUCKY—**BOWLING GREEN**: 35 houses, \$700,000. Builder: Bernard & Moore, c/o Daniel & Tippet. **LEXINGTON**: Apartment, \$1 million. Sponsor: Jerry Aske. Plans: Paul J. Kissell; Townhouse apartments, \$1.2 million. Sponsor: Bill Kraner, Thomas Larcomb & Charles Larcomb, Columbus, Ohio. **LOUISVILLE**: Apartment complex, \$4 million. Sponsor: Urban Properties, Dallas, Tex. Plans: Jenkins, Hoff, Oberg & Saxe Houston, Tex.; Row houses, apartment & shopping center, \$10 million. Builder: Fincastle Heights Mutual Ownership Corp. Plans: Lloyd G. Schleicher.

MARYLAND—**BALTIMORE**: Apartments, \$1 million. Sponsor: L & R Associates. Plans: Morris Steinhorn; Apartment, \$1 million. Sponsor: Joseph Meyerhoff Corp. Plans: Collins & Kronstadt, Leahy, Hogan, Silver Spring; Apartment, \$2,750,000. Sponsor: Park Central. Plans: Milton Schwartz & Assoc., Philadelphia, Pa. **GAITHERSBURG**: Apartments, \$2 million. Sponsor: Kraft Construction. Plans: Morton Noble, Washington, D.C. **ROCKVILLE**: 30 houses, \$690,000. Builder: Hampshire Assoc. Plans: Madis Valge Assoc., Silver Spring; 50 houses, \$2 million. Builder: Ken

Business continued on p. 50

"Great new grills cover the whole hole."

"Three power units that whisper Quality!"

"And they all use the same rough-in box."

Broan's Swingin' New Bath Fans!

Now there's a fan for every application . . . three side-discharge models for wall or ceiling installations: an 80 CFM model with 4-pole motor and squirrel cage impeller; a 60 CFM job with 2-pole motor and squirrel cage; and a 50 CFM version that uses the world's most proven motor . . . already installed in over a million bathrooms. Also a 6" vertical discharge model (not shown). On big jobs, you can order the rough-in boxes all at once, and order the power units later. What else? It's a Broan.

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BROAN HAS 6 SWINGIN' NEW HOODS, TOO!

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Carina . . . about \$3.95 per square yard

Build your homes with Goodyear vinyl flooring. Raise the sales appeal. Not the price.

When the home comes equipped with Carina 72" sheet vinyl by Goodyear—it's easy to set up a sale. And, at about \$3.95 per square yard, retail—it's easy on your budget, too! Like all sculptured vinyls by Goodyear, it has a look of luxury... the flair of decorator styling... yet costs far less than other quality sheet vinyls.

Carina is one of many new sculptured, stone, mosaic, woodgrain, travertine and translucent patterns available in a wide selection of both tile and 72" sheet vinyl.

Install on, above, and below grade. See your nearest Goodyear distributor. Or write Goodyear, Flooring Dept. R27, Akron, Ohio 44316.

GOODYEAR

Freeman Realty Company, Bethesda. Plans: Albert Girard Mumma, Washington, D.C. RIVERDALE: Garden apartments, \$1,750,000. Sponsor: K.S.S. Joint Venture, Washington, D.C. Plans: Mayne-Oseroff-Van Beisen & Assoc., Arlington, Va. SILVER SPRING: Garden apartments & townhouses, \$4.8 million. Sponsor: DiMaio Brothers. Plans: Cohen-Haft & Assoc. TOWSON: Garden apartments, \$4.8 million. Sponsor: Martin Weil, Assoc., Silver Spring. Plans: Dreyfuss & Assoc., Washington, D.C. UPPER MARLBORO: Apartments, \$25 million. Sponsor: Stewall Corp., Silver Spring. Plans: Vincent De Gutis & Eugene A. Delmar, Silver Spring; Garden apartments, \$1,293,000. Sponsor: Investor Service, Washington, D.C. Plans: Donald Olivola, Falls Church, Va.; Garden apartments, \$2.5 million. Sponsor: First P-G Corp., Arlington, Va. Plans: Donald Rigoni, Arlington, Va.

NEW JERSEY—ALLAMUCHY: Redevelopment project in residential community, \$50 million. Sponsor: Panther Valley, East Orange. Plans: Goubert Delnoce Whitney, New York City; Royal Barry Wills Assoc., Boston; & Walter Pfeiffer, Morristown. COLLINGSWOOD: Senior citizens housing, \$2,265,000. Sponsor: c/o James R. Osborne Jr., architect, Huntington, N.Y. NORTH BERGEN: Garden apartments, \$1,040,000. Sponsor: Independent Realty. Plans: Barnett Singer, Bayonne. PARSIPPANY: Garden apartments, \$5 million. Sponsor: Rochelle Gardens c/o Raymond Wells, architect, Paramus. TRENTON: Multiple housing project, \$500,000. Builder: Sandean Construction, Princeton. Plans: Walker, Sander, Ford & Kerr, Princeton.

NEW YORK—ANNANDALE: 60 houses \$1.5 million. Builder: c/o Raffo Engineering Assoc., Staten Island. BAYSIDE: Apartments, including townhouses, two family houses, \$14.4 million. Sponsor: Morris Sosnow & Jerrold Lieberman, Mineola. Plans: Samuel Paul & Seymour Jarmul, Jamaica.

FISHKILL: Garden apartments, \$5 million. Sponsor: Mount View Realty Corp., Ossining. Plans: Miguel Franco, Poughkeepsie. HARRIMAN: Dormitory, \$1 million. Sponsor: Queen of the Apostles College. Plans: Anthony J. DePace, New York City. HEMPSTEAD: Residence halls, \$2 million. Sponsor: Hofstra University. Plans: Warner Burns, Toan, Lunde, New York City. HUNTINGTON: 25 houses, \$650,000. Builder: Roundswamp Properties, Inc., Woodbury; 20 houses, \$500,000. Builder: Torland Builders. KINGSTON: Garden apartment, \$1.5 million. Sponsor: Mathew Fasolino, New Paltz. Plans: Judd L. Reisner, New York City. MONROE: 74 houses, \$1.4 million. Builder: El Roi Estates Inc., Spring Valley. Plans: Morton Marcus, Pearl River. NEW YORK CITY: 22 houses, \$550,000. Builder: Laconia Realty Corp. Plans: Lucian Pisciotta. REDHOOK: Garden apartment. \$1.6 million. Sponsor: Bridge Heights Realty, Far Rockaway. Plans: Milton Chazen, Poughkeepsie. SMITHTOWN: 160 houses, \$3.2 million. Builder: Sisto Rotondi & Sons, West Islip. Plans: Siegmund Spiegel, East Meadow. TROY: Garden apartments, \$1.2 million. Sponsor: Troy Acres Inc., Poughkeepsie. Plans: Ralph Gionta, Poughkeepsie. WICOPEE: Garden apartment, \$5 million. Sponsor: Mango Realty, c/o S. J. Kessler & Sons, architect, New York City.

TENNESSEE—CHATTANOOGA: Residence halls, \$1.2 million. Sponsor: Tennessee Temple College. Plans: Harrison Gill & Assoc. FRANKLIN: 65 houses, \$3,250,000. Builder: Martin Construction, Nashville. GATLINBURG: Condominium apartments, \$4 million. Sponsor: c/o Dudley, Rightmeir, Morrisette & Assoc., Virginia Beach, Va. KNOXVILLE: Garden apartments, \$1 million. Sponsor: Knoxville College. Plans: McKissack & McKissack, Nashville. MEMPHIS: Garden apartments, \$3 million. Sponsor: Eastlawn Memorial Park. Plans: John H. Doggett & Assoc.

TEXAS—ARLINGTON: 75 houses, \$1,312,500. Builder: Foster Homes. CORPUS CHRISTI: Apart-

ments, \$700,000. Sponsor: Peerman Corp. EL PASO: 40 houses, \$600,000. Builder: Blackman & Assoc., Fort Worth. HOUSTON: 40 houses, \$1.6 million. Builder: Leo V. McConnell. KINGSVILLE: Apartments, \$1 million. Sponsor: Willard H. Hammond, Corpus Christi. Plans: Arthur D. Steinberg, Houston. LUBBOCK: Apartment, \$1 million. Sponsor: c/o designer, Lance Drafting Service. PASADENA: Apartment, \$2 million. Sponsor: Judwin Construction Co., Houston. Plans: Ressler & Applebaum, Houston.

WASHINGTON—AUBURN: Apartments, \$1 million. Sponsor: United Homes. PARKLAND: Residence hall, \$2.1 million. Sponsor: Pacific Lutheran University. Plans: R. B. Price, Tacoma. RICHLAND: Apartment, \$750,000. Sponsor: Davin & Young, Walla Walla. SEATTLE: Housing for Elderly, \$1.5 million. Sponsor: Kingston Village. Plans: Young, Richardson & Carleton; Apartment, \$2 million. Sponsor: I. Anches, Plans: Bindon & Wright. SPOKANE: Apartment, \$1.8 million. Sponsor: R. D. Guthrie, L.J. Andrews & J.H. Tucker. Plans: J.H. Aylor & Assoc.

WISCONSIN—BROOKFIELD: Apartments, \$1 million. Sponsor: United States General Inc., Milwaukee. FRANKLIN: 30 houses, \$600,000. Builder: Fred A. Mikkelson Inc., Milwaukee. MADISON: Apartment, \$1 million. Sponsor: c/o Peters & Martinsons, architect. MILWAUKEE: Garden apartments, 80 beach houses & apartments, \$6.5 million. Sponsor: Margolis & Drobac. Plans: Sheperd Assoc; Apartment, \$800,000. Sponsor: Wuesthoff Realty. Plans: Richard Blake Assoc; Apartments, \$1 million. Sponsor: c/o Landry Survey & Engineering Services. RACINE: Apartments, \$1 million. Sponsor: Durrand West Corp., c/o T.H. Christiansen, designer, Milwaukee; Apartments, \$600,000. Sponsor: U.S. General Construction Co., Brookfield. WEST DEPERE: Residence hall, \$1.1 million. Sponsor: St. Norbert College. Plans: Berners Schober & Kilp, Green Bay.

Leaders start on p. 58



"It's a fan-forced heater.
It's a vent fan.
It's a light."

"Entire power unit
swings into the
housing and plugs in."

"2 separate motors. This baby really performs!"

Broan's Swingin' Combination Unit!

In one unit — complete 60 CFM ventilation, fast, 1500 watt bathroom heat and strong, yet glare-free, light. With the Broan 650 combination unit, you can heat, ventilate and light all at the same time, use any function alone, or any combination. The two-motor system is the reason . . . with separate motors for the fan-forced heater and for the vent fan. Why make three separate installations when one will do? Broan also offers two-way combination units: heater-fan, heater-light and fan-light. All guaranteed five years. What else? It's Broan.



BROAN HAS
6 SWINGIN'
NEW HOODS, TOO!

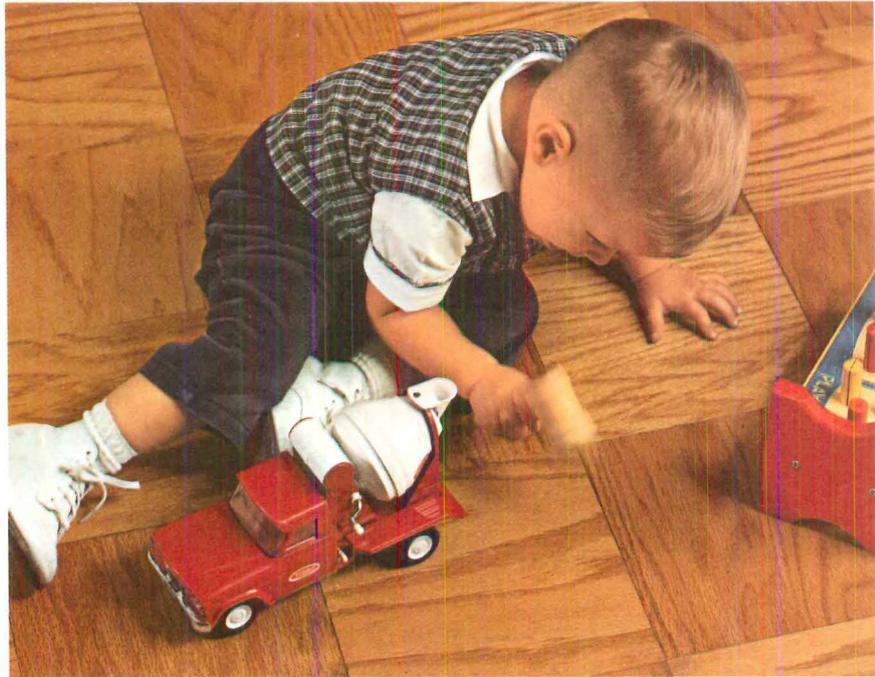
BROAN

Broan Manufacturing Company,
Dept. 6H, Hartford, Wisconsin
Member Home Ventilating Institute

exclusive new Bruce[®]



Scuff-proof



Child-proof



Moisture-proof



... and Beautiful

*Costs no more than
regular hardwood floors!*

Oak Blocks



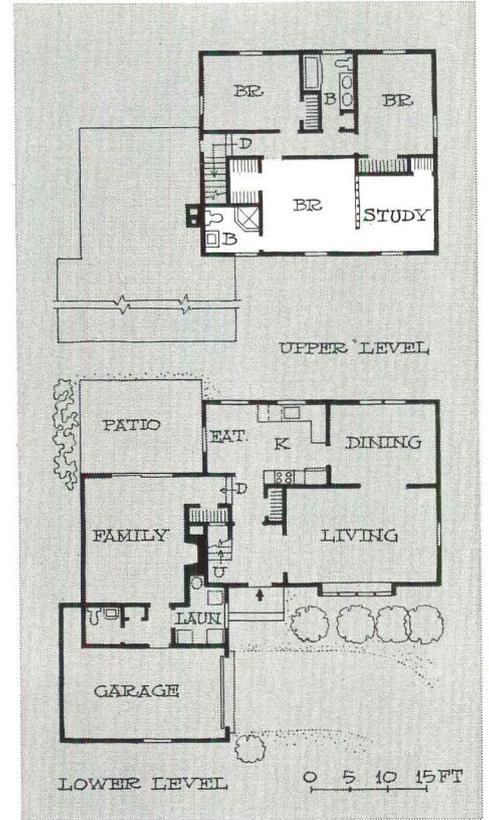
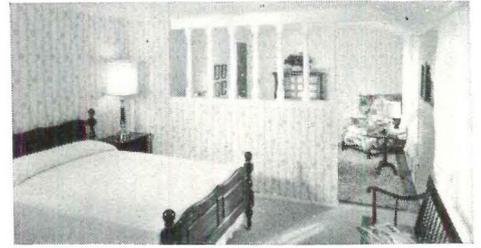
MAIL FOR SAMPLE

E. L. BRUCE CO.
1558 Thomas St., Memphis, Tenn.—38101

Send free Bruce Laminated Block, technical data
and price information to:

Name _____

Firm _____



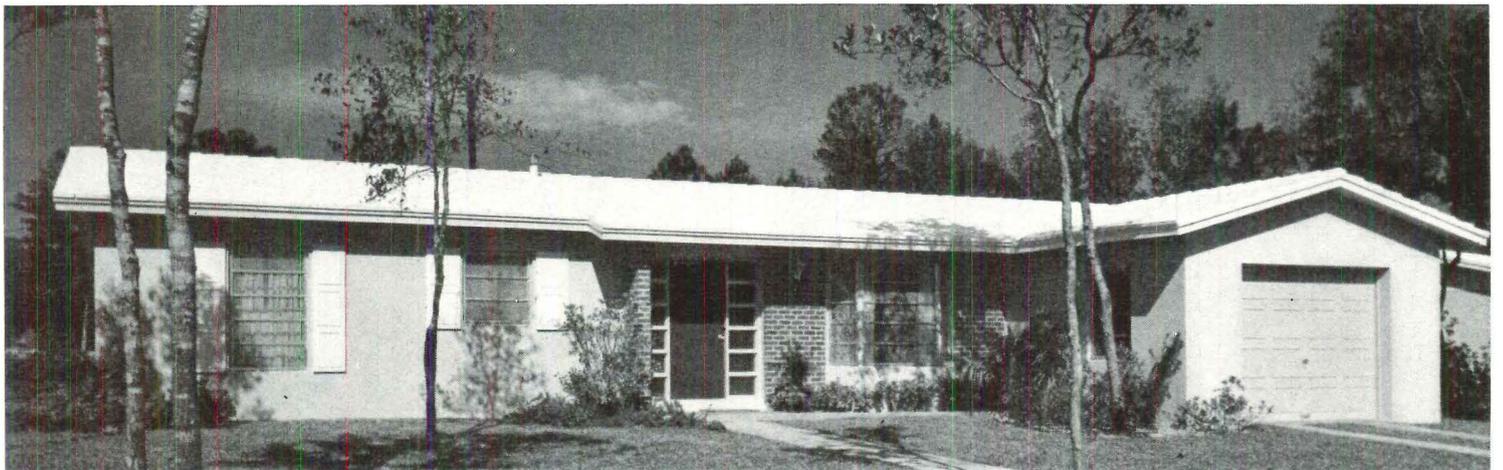
A two-story house with a real parents' retreat . . .

The entire front half of the second floor is devoted to a large master bedroom suite which includes a separate 100-sq.-ft. room for reading or private TV watching. And this whole area is separated from the other two bedrooms by a hallway and a wall of closets.

An alternate plan turns the master-bed-

room study into a fourth bedroom.

Another feature of this \$24,300 house by Barclay Homes Inc. is the large family room on the lower floor, completely separated from formal living areas. It has a large fireplace, its own bath, and entrances from the garage and the rear patio. Location: Haddonfield, N.J.

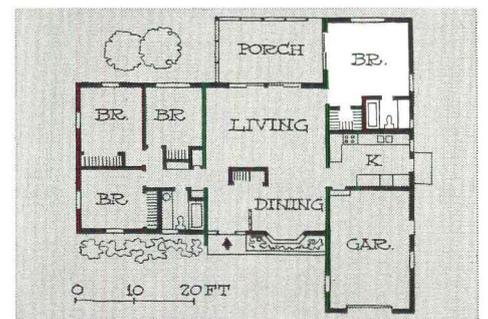


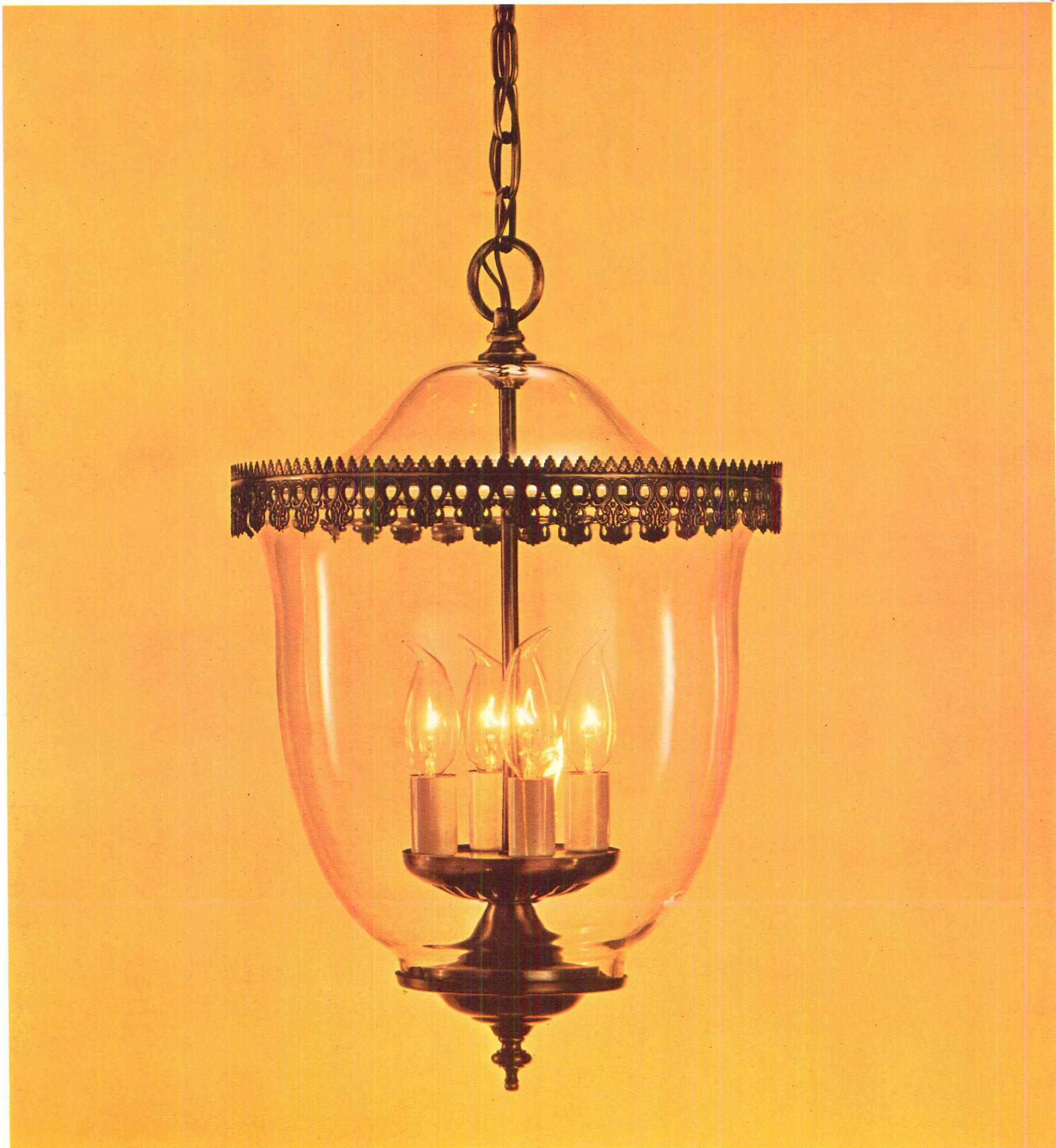
. . . and a ranch with a really private master bedroom

The master bedroom is at the rear of the house, tucked behind the kitchen, so it is separated from the other three bedrooms by the entire living area. It has its own full bath, a big walk-in closet, and easy access to the screen porch through sliding glass doors.

This \$19,650 house is the top of a

new 15-model line recently introduced by Mackle Bros. in its Deltona, Fla., project. The addition of the fourth bedroom and the more spacious bathrooms with built-in vanities reflects a change in the buyers at Deltona from retirement couples to the young families with children now being attracted to the area.





with fashionable Moe Light

She's as style-conscious of decor as she is of clothing. She'll decide whether to take a second look at your model homes. So give her something special to remember: a Moe Light foyer lantern with antique brass accents on a clear crystal bell.

For more ideas on how to sell the fashionable homemaker, write to Residential Lighting Division, Thomas Industries Inc., 207 East Broadway, Louisville, Kentucky 40202.

MOE LIGHT
BY THOMAS

EVER SEE STUCCO YOU CAN NAIL ON IN BIG SHEETS ?

You have now.



Ripple-Tone Panels by Gold Bond look like stucco. Only better. More economical, too.

They come in prefinished asbestos-cement sheets up to 4' x 12', in a wide range of handsome colors, with a Plasti-Clad finish that carries a 10-year warranty against peeling, blistering or crazing. Also available in a very durable Plasticrylic® finish. Remember Ripple-Tone when you want a durable, low-maintenance accent material.

Call your Gold Bond® Representative or write
National Gypsum Company, Dept. HH-66A, Buffalo, N. Y. 14225.



CUT OUT AND SWING A LITTLE AT "STANDARD" DOOR PRICES.



Here's the great way it goes when you specify Republic's new Imperial Full Flush Door line:

Your client gets a standard cost handsome, smooth, seamless, quiet door that you can list for everywhere in the job. Its economies are so obvious that you won't raise a single cost-conscious eyebrow.

Then you can come on strong with creative ideas. The Imperial lets you design virtually any kind of glass or louver treatment you want—and you do it with production-line thrift because of Republic's glass frame section with snap-in glazing bead that shapes to almost any shape.

Door frames, special effects for lights and entrance-ways, are just as economical with Republic's new Universal Frame line. Seams and corners simply interlock, very simply. No gaps. No pinch. Just fit. Every time.

When you show building owners this Republic combination you'll have a sure hit going for you.



This STEELMARK of the American Steel Industry on a product assures you it is modern, versatile, economical Steel. Look for it on products you buy.



MANUFACTURING DIVISION

REPUBLIC STEEL CORPORATION

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THE MAN FROM
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I want to know all about the new Republic Imperial Door . . . like the fully welded complete perimeter channel, the patented universal frame that *always* fits, the five-step rust proofing, the baked-on preprime coat, the continuous hinge and lock reinforcement, the interlocking corners, the prepackaged shipping protection, the overnight delivery from 15 warehouses. So send the literature.

Name _____ Title _____

Company _____

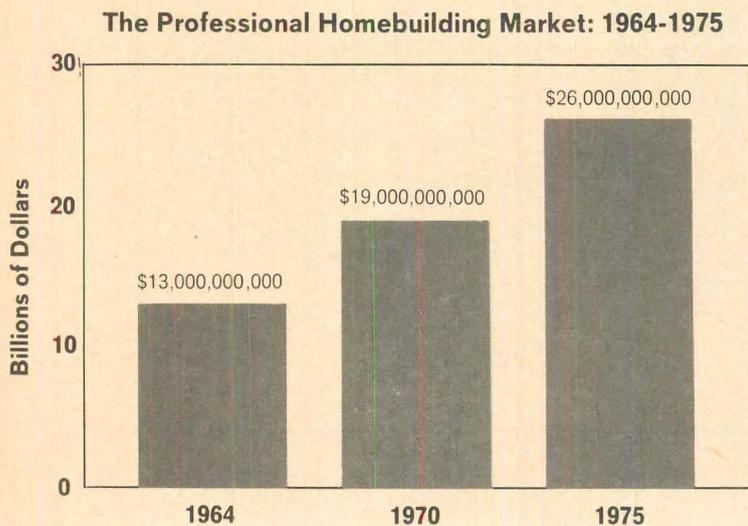
Address _____

City _____ State _____ Zip _____

On May 1, 1966, Sweet's published the most comprehensive study ever completed in the \$13 billion homebuilding market

This new study will help many manufacturers do a better marketing job.

Two years in preparation. A national cross-section of builders personally interviewed in 4- to 8-hour sessions. The result: 250 pages packed with vital new marketing information.



The new study's major purpose is to strengthen marketing programs—by laying bare the complex processes in the homebuilding market.

And it will do just that. Here are a few of the new findings:

1. Residential construction is the largest marketing opportunity for building-products manufacturers—and separate marketing approaches are needed to reach its 4 sub-segments: (1) single family houses (2) multi-

family houses (3) farm buildings (4) non-house-keeping buildings.

2. 25% of the country's builders control 75% of all professionally-built single-family housing construction.

3. Builders determine the type and brand of products over 60% of the time—for 75% of the products.

4. Architects are the originators of product specifications in less than 5% of typical professionally-built houses.

5. The buyer of the house exerts almost no buying influence over building products in professionally-built houses.

How did Sweet's get these facts?

15 colleges participated.

Collegiate Associates for Market Measurement (CAMM) was hired by Sweet's to do the research. Under CAMM's direction, teams from 15 colleges and universities interviewed 300 builders in 15 Standard Metropolitan Statistical Areas.

Then Case and Company management consultants, experienced in construction industry projects, organized and interpreted the raw data.

Buying influences pinpointed for 73 products.

The new study, *The Homebuilding Market, Its Characteristics and Buying Practices*, examines homebuilding as it's never been examined before, and takes each of 73 building products—step-by-step—through the buying process.

It defines the homebuilding market—in detail. Included are market forecasts to 1975, basic characteristics of buildings in the market, a comprehensive breakdown of the market segments, and answers to questions like: What's the average cost of homes in the homebuilding market? Who builds them? How many? How many rooms do they have? Who supplies the plans? Architects? Engineers? Designers? Plans Services? To what extent are subcontractors used? What is the role of the dealer?

These are some of the questions answered in Section 3 of the new study.

Homebuilder's role dissected.

The builder is the most important individual in the buying process. He's the only person concerned with *all* aspects of the completed product—the land, design of the home, materials and products used, where products are purchased, who does the actual construction, and the final sale of the building.

To handle these responsibilities, he plays 3 roles—all at once.

1. He's a *construction manager* for the house—concerned with source of supply, construction advantages and cost of materials.
2. He's the *salesman* for the house—concerned with how various building products will help sell his end product.
3. And he's a *businessman*—concerned with making a profit.

The Homebuilding Buying Process

The study focuses directly on the *flow* of products—from point of manufacture to final placement in the

home. And most important, it pinpoints the buying influences acting on them each step of the way.

Products are selected and installed in new homes in 4 distinct stages:

1. *type of product* decision.
2. *brand of product* decision
3. *actual purchase* of product.
4. *installation* of product.

The building products manufacturer's most important consideration is "who is responsible for these decisions and actions?" Sweet's has the answers for 73 types of products—in Section 6.

73 building products re-grouped—in terms of brand awareness, brand decision.

Building products fall into 4 distinct categories:

1. mechanical and electrical products
2. structural commodity products
3. finishing products
4. customizing products

Understanding why these groups exist, how they differ, and how the builder sees them according to brand importance, may make a substantial contribution to many marketing plans. Section 4 gives the details.

How important is price?

Perhaps extremely important. But not always. It depends on the product. Section 4.3 covers in detail many buying considerations *other* than price that often determine a product's competitive edge.

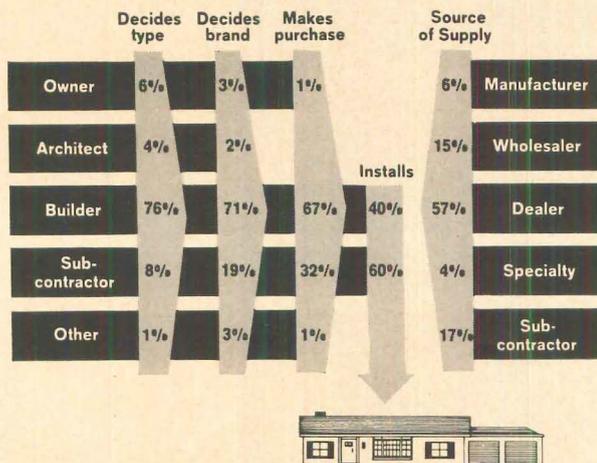
Putting this new information to good use.

The new study also tells the marketer how to apply these hundreds of vital new facts to *his* marketing situation. In Section 5 particularly.

This is only a suggestion of the *wealth* of the new marketing information contained in this new homebuilding study. It is by far the most exhaustive piece of research ever completed in the homebuilding market. When read and properly applied, it will be a most important tool for helping build stronger, more productive marketing programs—to the mutual benefit of the manufacturers and their builder customers.

If you are a manufacturer of building products, your Sweet's representative will be glad to show you how this research can help you sell builders more effectively. Call him today, or write to:

Light Construction Buying Process Median of 73 Products

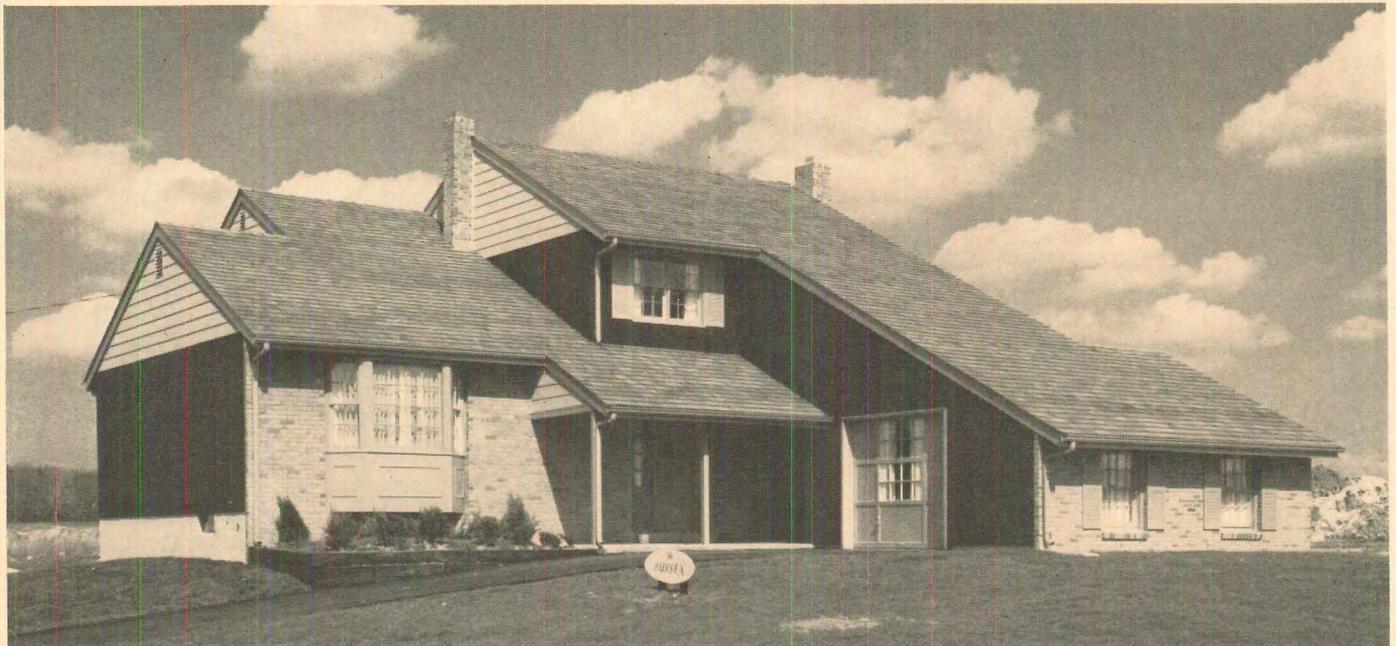


In the study, there are 73 buying-process flow charts, showing the percentage of influence exerted by each buying factor at each stage of the process. The hypothetical "typical" or "median" product is depicted here.

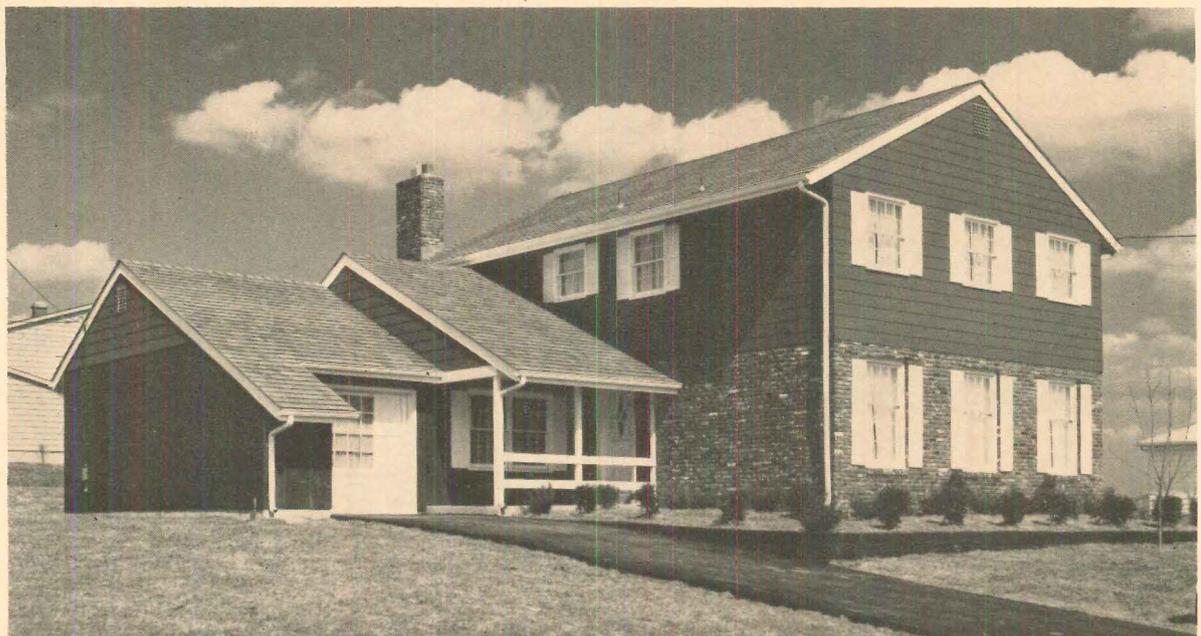
Sweet's Construction Catalog Services, Marketing Dept., F. W. Dodge Co., Division of McGraw-Hill, Inc., 330 West 42nd Street, New York, N.Y. 10036



The Brittany is a bi-level French Provincial home now going up in Wellington at Woodcrest. It features 2½ baths and is available with either three bedrooms and a den or with four bedrooms.



The Sussex is typical of the roomy, comfortable homes designed for family living which Cornell Development Company is building in Wellington at Woodcrest. This house is available with three or four bedrooms.



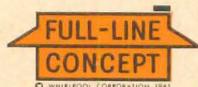
The Salem, an L-shape Colonial design, has an unusual family room, four bedrooms and 2½ baths. Like all Cornell homes in Wellington at Woodcrest, it features RCA WHIRLPOOL appliances in its "open end" family kitchen.

"We bought 'sales insurance' when we put RCA WHIRLPOOL appliances in our homes"

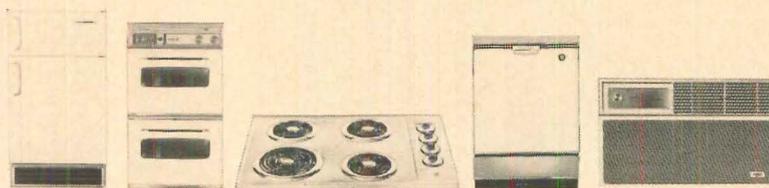
That's the statement made by Bernard Seidman, president of Cornell Development Company, builders of Wellington Homes at Woodcrest, in Cherry Hill, New Jersey. "There's really only one reason for a builder to select one line of appliances over another," says Mr. Seidman, "and that's to insure that his homes will have consumer appeal." When Cornell selected RCA WHIRLPOOL appliances for Wellington Homes at Woodcrest they made a decision that proved his point. Because Wellington Homes are really taking off. Their buyers love them. And one major reason they give for their extreme satisfaction is the RCA WHIRLPOOL appliance package in the kitchen. In addition to "sales insurance", Cornell got some extra dividends, too, when they decided on RCA WHIRLPOOL appliances. According to Mr. Seidman, "The Whirlpool Full-Line Concept has saved us time and work. We got delivery when promised. And we know that Whirlpool stands behind its appliances.



This roomy family kitchen of The Salem is typical of all the kitchens Cornell Development Company is building into their homes in Wellington at Woodcrest. Included are an RCA WHIRLPOOL Connoisseur® electric range, an undercounter dishwasher and a food waste disposer. RCA WHIRLPOOL refrigerators are available as optional equipment.

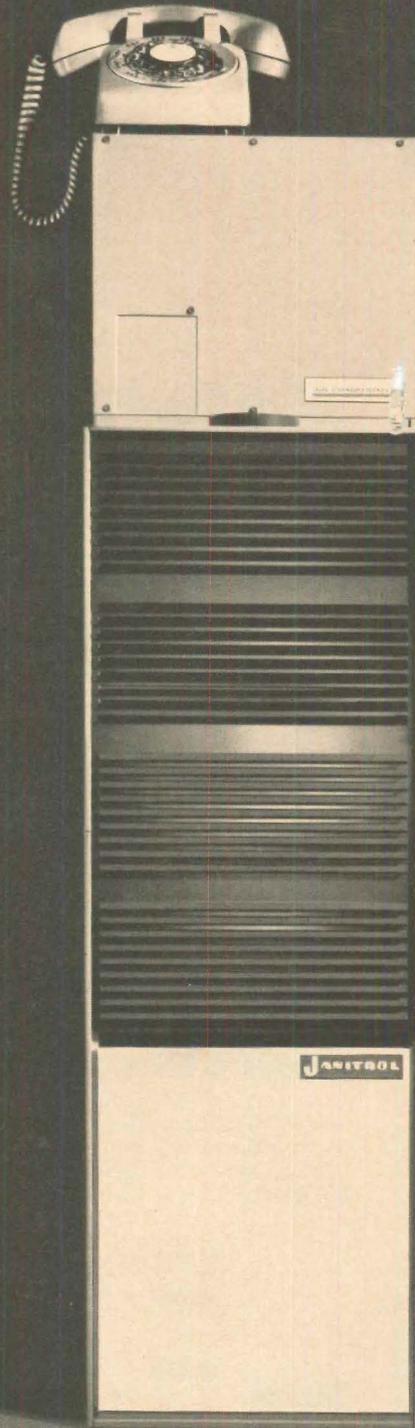


Whirlpool's Full-Line Concept could be saving you time and trouble, too. Figure it out for yourself. You deal with one man instead of three or four. You sign one order, get undivided responsibility and service. You can choose from an enormous selection for either fuel . . . gas or electric . . . and whatever your choice, you get any appliance a kitchen could need from one dependable source. And because all RCA WHIRLPOOL appliances are design and color coordinated, you can forget about mismatches. Your distributor can tell you all about RCA WHIRLPOOL gas and electric appliances and what the Full-Line Concept can do for you. Call him today.

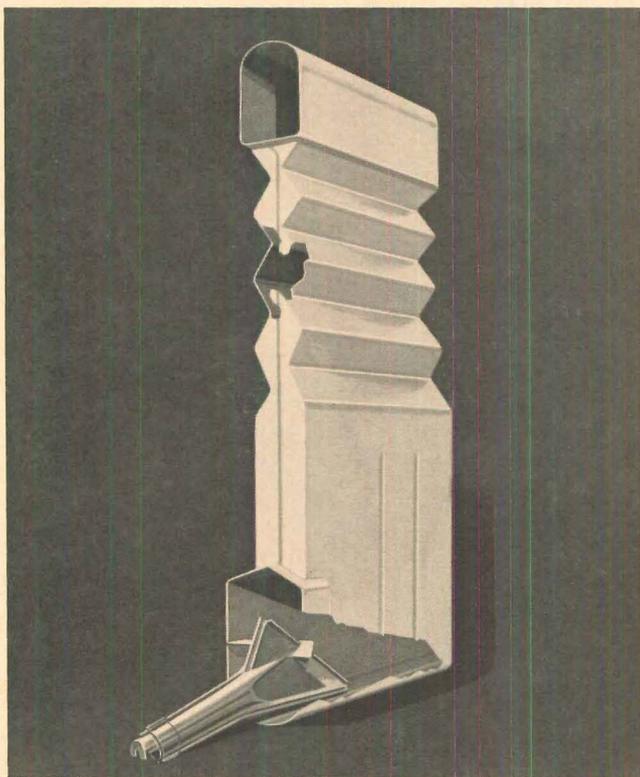


RCA WHIRLPOOL Appliances are Products of Whirlpool Corporation, Benton Harbor, Michigan. Trademarks ® and RCA used by authority of trademark owner, Radio Corporation of America.

What do you hear from the job?

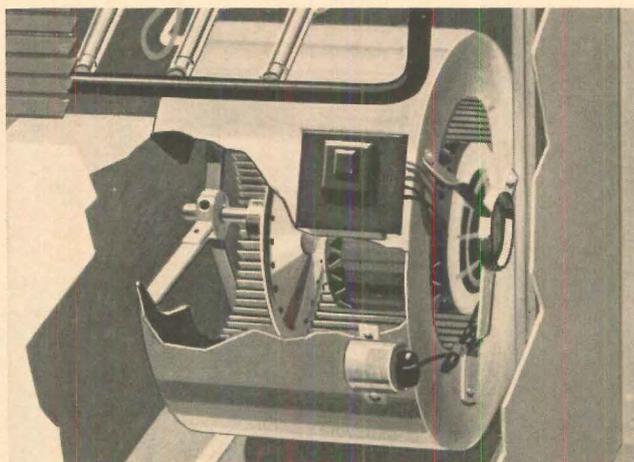


Nothing but good news with
JANITROL
Superline furnaces.
Here's why...



Exclusive, New Uni-Jet Burner. This burner positively won't lint or clog up. In fact, it won't plug up, flash back or burn in the orifice. It won't howl, roar, whistle rumble, or slip out of position. It won't bang on start-up or pop on shutdown. It won't squawk on LP or peak shaving gas. It won't eat up a serviceman's valuable time in making delicate air adjustments. It won't carbon up the heat exchanger no matter how the air shutter is positioned. And speaking of heat exchangers, the Janitrol Super Thermex heat exchanger offers lower fuel costs due to its unique serpentine design. It's turbo-flow action changes the velocity and direction seven times for fast, efficient heat transfer.

These features make it comfortable for everyone: subcontractor, builder, owner.



Exclusive, Unique Uni-drive Blower System. Don't confuse the exclusive Janitrol Uni-drive with ordinary direct drive. Sure, the blower wheel is mounted on the motor shaft, but after that it's different as day and night. The four-speed Permanent Split Capacitor motor shaft extends clear through the blower housing. The far end of the shaft's supported in a rubber-cushioned, self-aligning, heavy-duty, outboard bearing and held in a rigid three-armed bracket. That's double support. That's what it takes to end noise, vibration and motor whip in a direct drive unit.

This naturally quiet operation is a bonus for the home buyer and saves the builder and installer a lot of grief, too. Each noise Janitrol took out ended a potential service problem with it . . . a wear, a tear, a stress that could mean a premature breakdown.

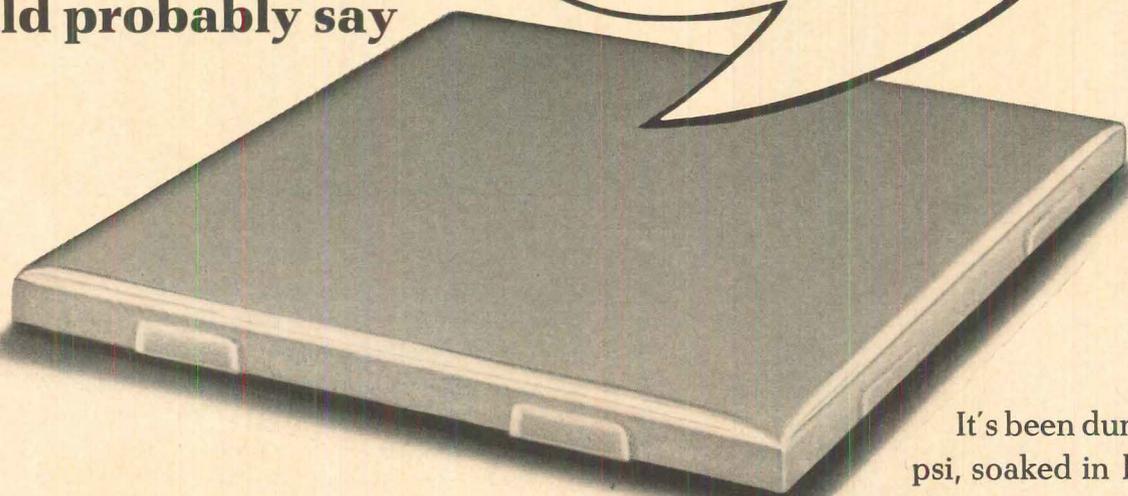
And that four-speed split capacitor motor lets you tap in for the right speed and air delivery to meet the specific heating and cooling load.

Available in upflow and downflow models, 50,000 to 150,000 Btu. All quick-convert for quiet cooling.

Contact your Janitrol Dealer. The name's in the Yellow Pages.



**If this tile could talk
it would probably say**



It's been dumped in steam at 100 psi, soaked in boiling water, measured more ways than a beauty contest winner, peered at for visual defects and given a thermal shock test for good measure. In all, it's gone through 11 tests to make certain that it's good enough to bear the mark "Certified Tile." All part of a program by the Tile Council to provide you with a positive way of getting the qualities you look for in ceramic tile.

"Certified Tile" meets the highest standards of the industry as determined by independent laboratory testing and carries this triangular certification mark. You can rely on it.

For further information about certified quality tile write: Tile Council of America, Inc., 800 Second Ave., New York 10017.



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**wondrous wallboard, sir.
Durasan seems invincible.**

Holy Catastrophel!

That vinyl surface is tougher than tiger teeth.
 And the gypsum-rock core is fireproof.

Durasan could remain invincible forever.

Right! So if you can't lick Durasan® Panels,
 join them. (Where you join them you can get
 matching vinyl-surfaced metal trim.) Neat!

Eight standard fashion colors. Four handsome
 woodgrain patterns. Custom colors on special order.
 Cost? Less than building bare walls and decorating
 them with vinyl. Quick. Call your Gold Bond® Building
 Supply Dealer. Or write to National Gypsum Company,
 Department HH-66G, Buffalo, New York 14225.
 Zip!





The "OVERHEAD DOOR" electric is tougher than Jack, Dave, Rick, Mike, and Scott



Fully transistorized, portable transmitter opens and closes garage door automatically by radio control from your car.

Don't get us wrong. The "OVERHEAD DOOR" electric is much more than just tough and pretty. It's also the most reliable, convenient garage door there is. But chances are the first thing your prospects will notice about our door is its obvious beauty. The woman of the house will like that. It complements the overall beauty of the home. And the man of the house will doubtless be impressed by its rugged construction. He knows this means dependable

service, longer life. But the clincher is left for you to demonstrate: the door's built-in convenience. Just put the small portable radio transmitter in your prospect's hand and let him see for himself how wonderfully easy it is to open and close a garage door by just pressing a button. Explain to him that he can operate the door without leaving his car. He'll like that. So will his wife. Suddenly you've sold a door, and a house.



and as pretty as Linda.

We make doors that can dress up any home you build, regardless of architectural style. They're installed by our own factory-trained door specialists, and are backed up with a full one-year written warranty. You can choose The "OVERHEAD DOOR" electric with absolute confidence. It's the best garage door in the world. We ought to know, we invented them a long time ago and we've been improving them ever since. Along the way, we've

built the largest nationwide network of door installation experts and distributors to serve you. Include The "OVERHEAD DOOR" electric in every home you build. It'll prove to be the best salesman you ever had. Another open and shut case for The "OVERHEAD DOOR". For more information about the men who stand behind The "OVERHEAD DOOR", please turn the page.



OVERHEAD DOOR CORPORATION
General Offices: Dallas, Texas 75202
Manufacturers of The "OVERHEAD DOOR"
and electric operators for residential and commercial buildings



The men standing in back of The "OVERHEAD DOOR" also stand behind it.

These are door specialists. They're factory-trained, service-minded, and know more about doors than anybody else in the world. They're the kind of men you'll be dealing with when you select The "OVERHEAD DOOR". The door you'll be dealing with is the best there is, and has been since 1921. The "OVERHEAD DOOR" and electric operator save you time and money because they are installed, warranted,

and serviced by your local distributor. Get the one and only original; The "OVERHEAD DOOR". It will help boost your sales. For complete details contact your local distributor. He's listed under "OVERHEAD DOOR" in the white pages of your phone book. Or, refer to our catalogue in Sweet's Architectural File. For more information on what's behind The "OVERHEAD DOOR" please turn back one page.

Sales • Installation • Service



OVERHEAD DOOR CORPORATION • General Offices: Dallas, Texas 75202 • Manufacturers of The "OVERHEAD DOOR" and electric operators for residential and commercial buildings

LETTERS

Sewage treatment

H&H: I have just seen your fine presentation on package sewage treatment plants [Apr.]. In many ways this is the best article on the subject which has appeared to date.

BRIAN L. GOODMAN, director of research
The National Sanitation Foundation
Ann Arbor, Mich.

Profitable trade-ins

H&H: your answer to J. A. Kalns' letter [Apr.] was clairvoyant.

Until last fall, we never considered the FHA discount in arriving at market value. Our offers were based on full market value, and we simply absorbed the almost non-existent discounts.

Recently when discounts went to 3%, 4%, and 5%, we considered several solutions including the one you mentioned. Although we are still experimenting, we still base our offers on market value. But we now add part of the FHA discount to our standard 6% sales fee and 1% trading fee. We decide how much to add after considering the property and the owner's familiarity with discounts and after consulting with the builder who sent us the trade-in offer.

THEODORE D. BELL
First Trade-In Homes Corp.
Chicago

Lumber standards

H&H: Your editorial on lumber standards [Apr.] contains many excellent points. One paragraph bothers me, however. You state, "Lumber might then win back much of the market it has lost to other materials in the last two generations. (The building industry is using no more lumber now than it did in 1910, when our volume of building was only a fraction of what it is today.)"

Going over the markets lost by lumber in the past two generations, these things stand in my mind: 1) board markets were lost to plywood; 2) window markets were lost to steel and aluminum; 3) floor markets were lost due to concrete slabs; 4) moulding markets were lost due to changing designs and changing styles; 5) many commercial markets were lost to steel and cement because of fire restrictions; 6) roofing markets were lost to asphalt shingles because of lower installation costs.

Nowhere can I think of a major market which has been lost because the green and

HOUSE & HOME's 1965 editorial index, an eight-page reference guide, is now available. If you'd like a copy (there's no charge), write to: Reader Service, HOUSE & HOME, 330 West 42 Street, New York, N.Y. 10036.

dry sizes of framing lumber were the same.

Nor can I find any cases where a cost saving of a few percent, which as might be affected by a change to 1½" lumber, would win back any markets for wood framing. In areas where cement block construction now prevails, I have never found that a change of ¼" in lumber sizes would swing the market back to wood.

We are very anxious to see new size standards, as you are. But we want to see them more as an expediency to get standardized span tables, standardized grades, etc., and to end the costly bickering in the lumber industry. We do not believe new size standards will win back any markets for wood.

When you say the building industry is using no more lumber now than was used in 1910, you are overlooking 12 billion sq. ft. of plywood, 2.7 billion sq. ft. of hardboard, 500 million sq. ft. of particleboard. And you are overlooking other fibrous materials that come from the log that once made only lumber.

H. D. MAYHEW, editor
Crows' Forest Products Digest
Portland, Ore.

Scattered-site-building

H&H: Your description of Woodward & Sons' scattered-site operation [Apr.] is the best article we have seen on why people buy manufactured homes.

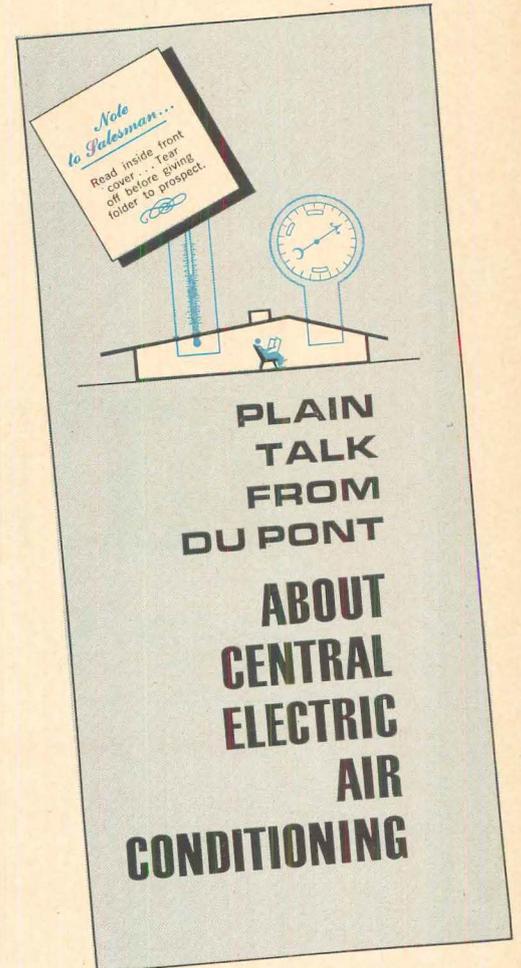
ROBERT C. WELLMAN, vice president
Hodgson Houses, Inc.
Millis, Mass.

Urban renewal

H&H: Thank you for a masterly editorial, "Renewed cities for the great society" [Mar.]. Your appraisal of the problems and the programs is excellent. I hope the industry will recognize the truths you have set forth and will cooperate with the long-overdue corrective measures proposed.

RICH FOWLER
Tucson, Ariz.

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Look what other builders say:

"Acrylite Skywindows have drawn many comments, and all good . . . product is really seen and admired."

Mr. Bob Jennings
of Bob Jennings, Inc.,
Daytona, Florida

"The Acrylite Skywindows are wonderful! People are particularly impressed with the two we used to lighten

an 18 x 20 upstairs room that otherwise would have been just an attic storage room."

Mr. C. K. Dart,
Building Contractor
Eugene, Oregon

". . . reaction has been excellent . . . we used two in the kitchen, one in the fam-

ily room and one in the bathroom. The people really seem to like them."

Mr. Richard O. Ballschmider,
Realtor,
Sheboygan, Wisconsin

". . . enthusiastic reception of the 'Skywindows'. We had to slide one of the ceiling panels back to prove there

was no electric illumination."

Mr. William S. Cassilly,
President Cassilly Realty Co.
Webster Grove, Missouri

"caught the fancy of many visitors . . . we think they're great!"

Mr. O. A. "Bud" Winkler
of Kinberger-Winkler,
Louisville, Kentucky

For more information, see *Sweets Light Construction file 6e/Am.*

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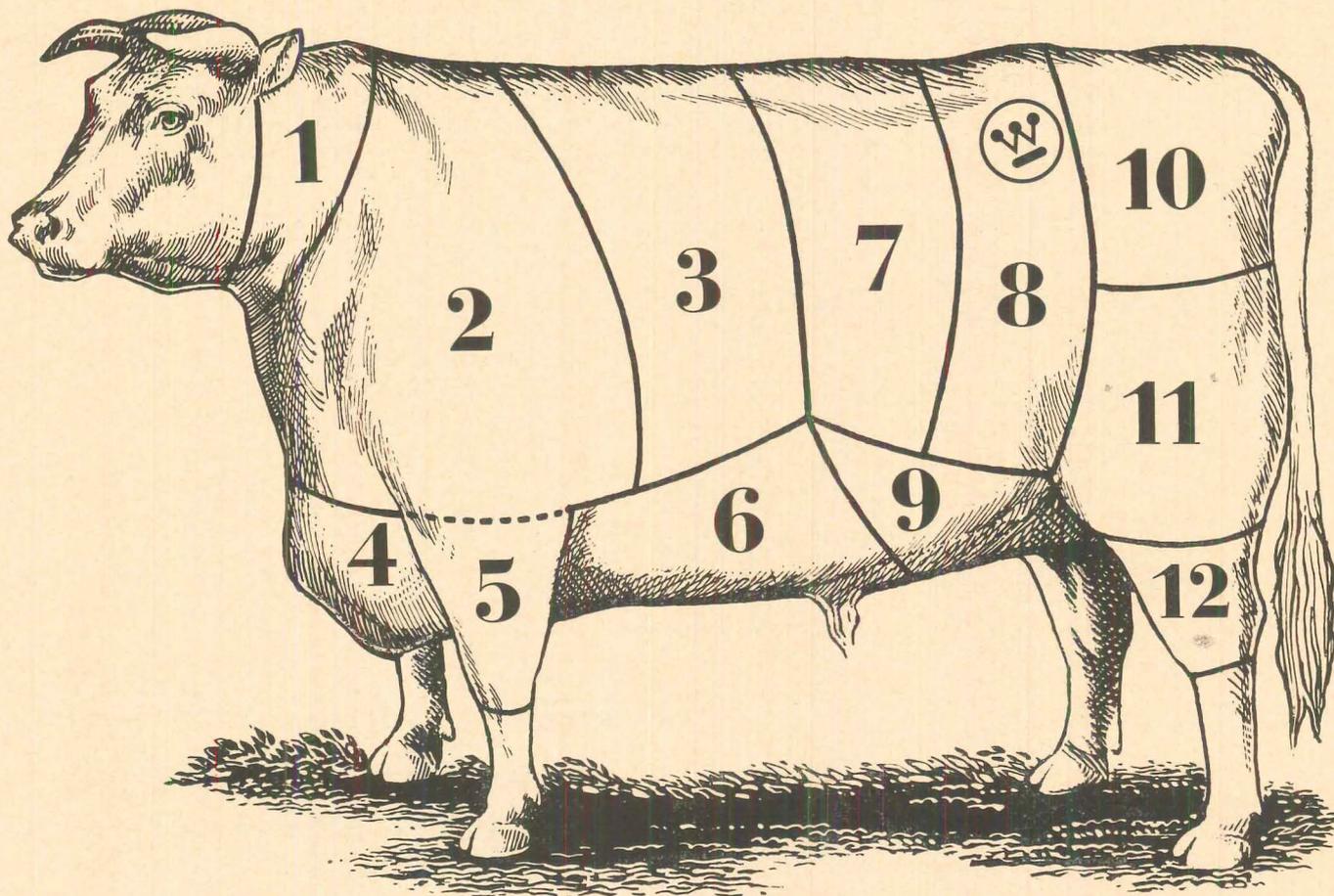
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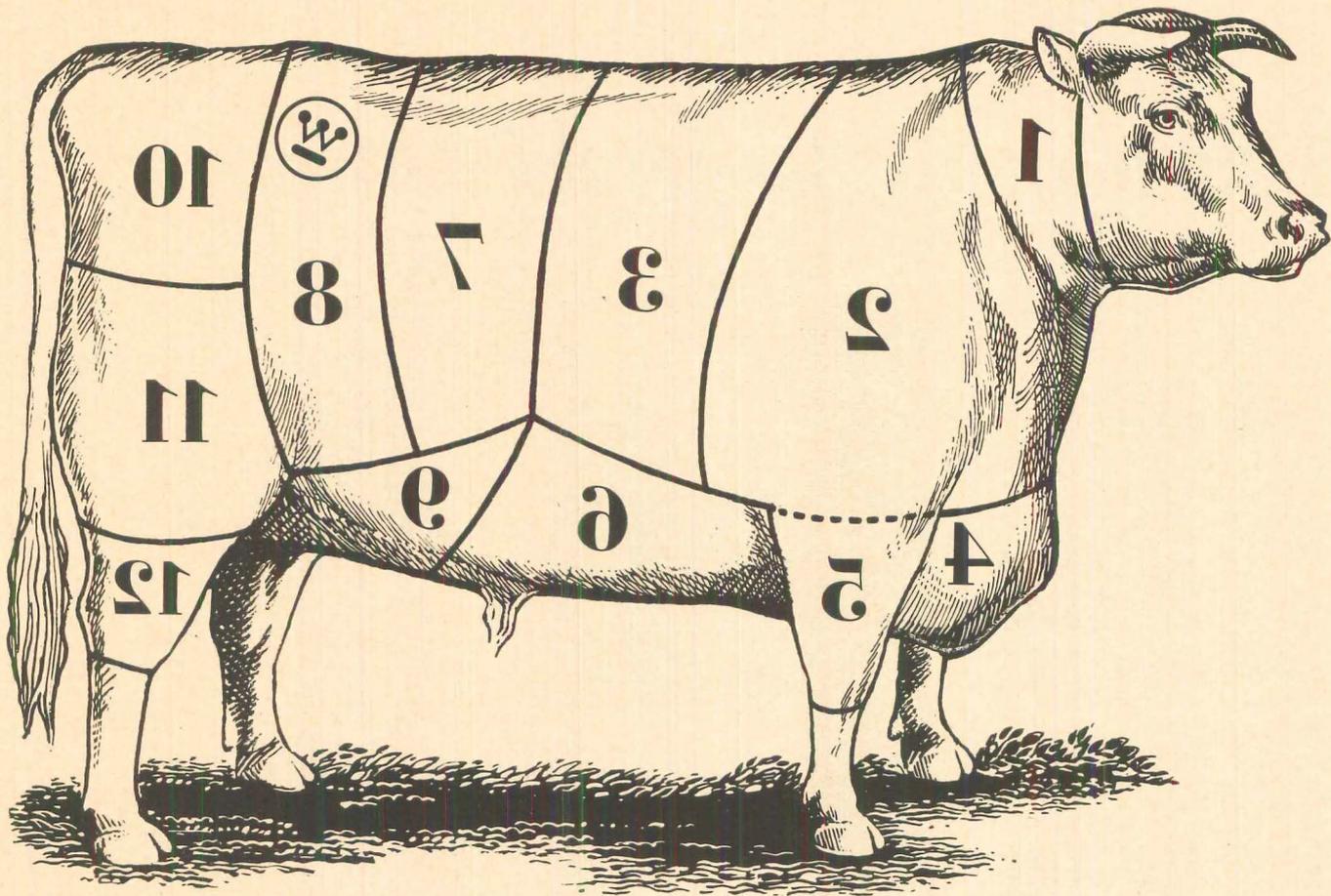
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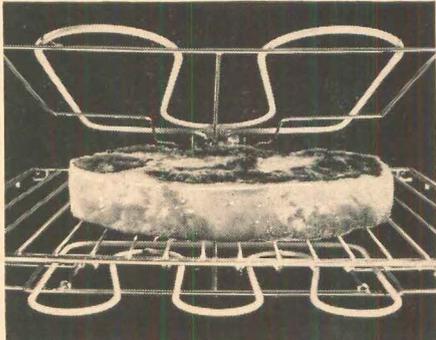


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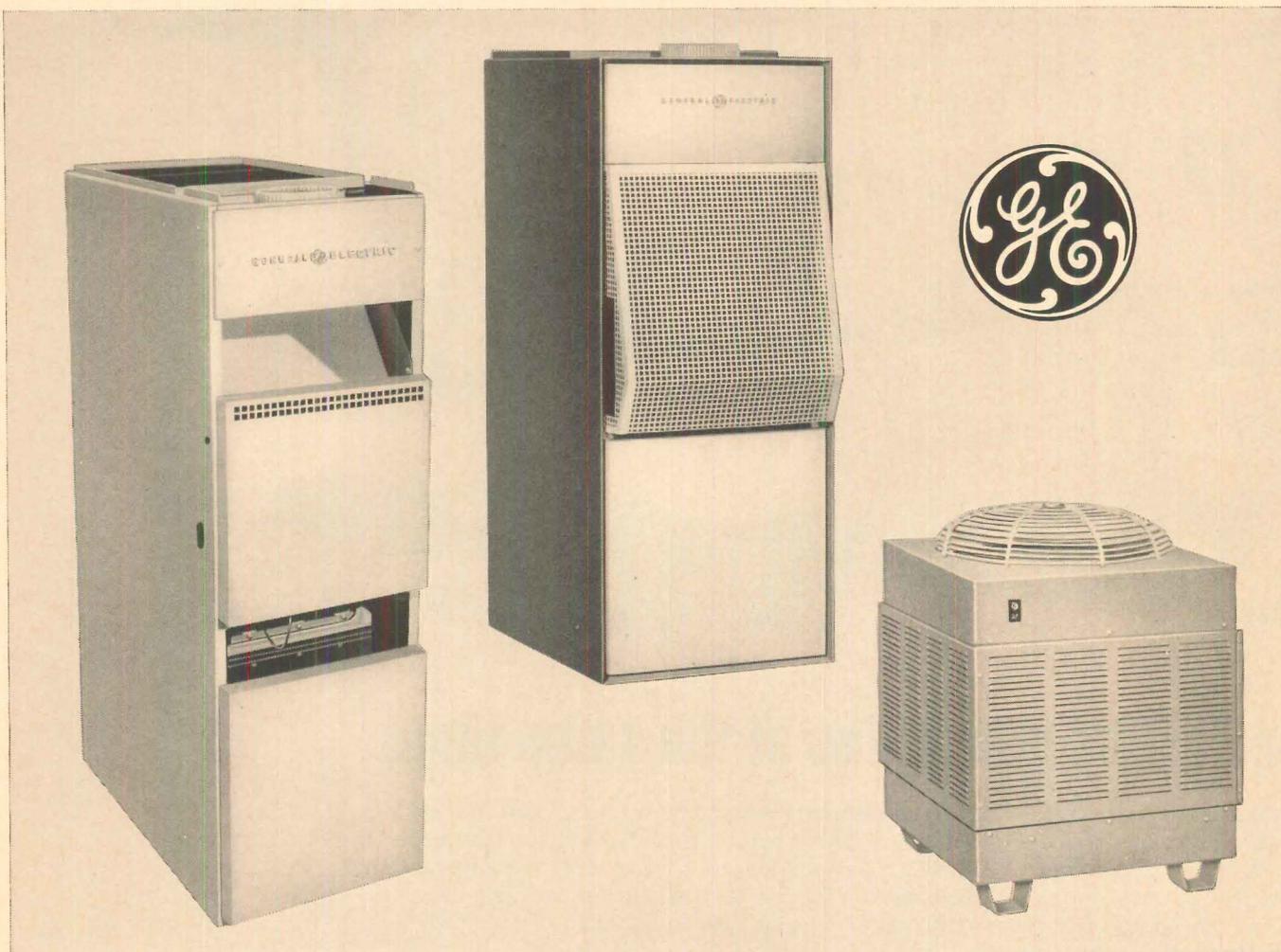
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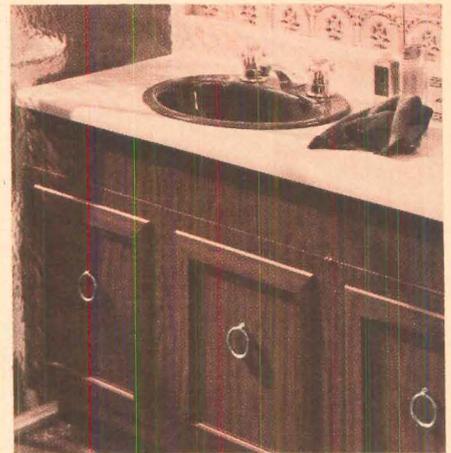
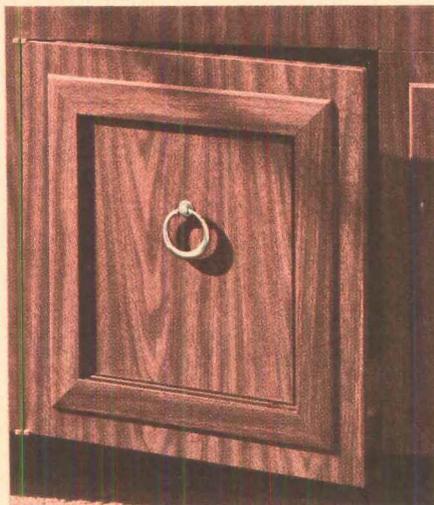
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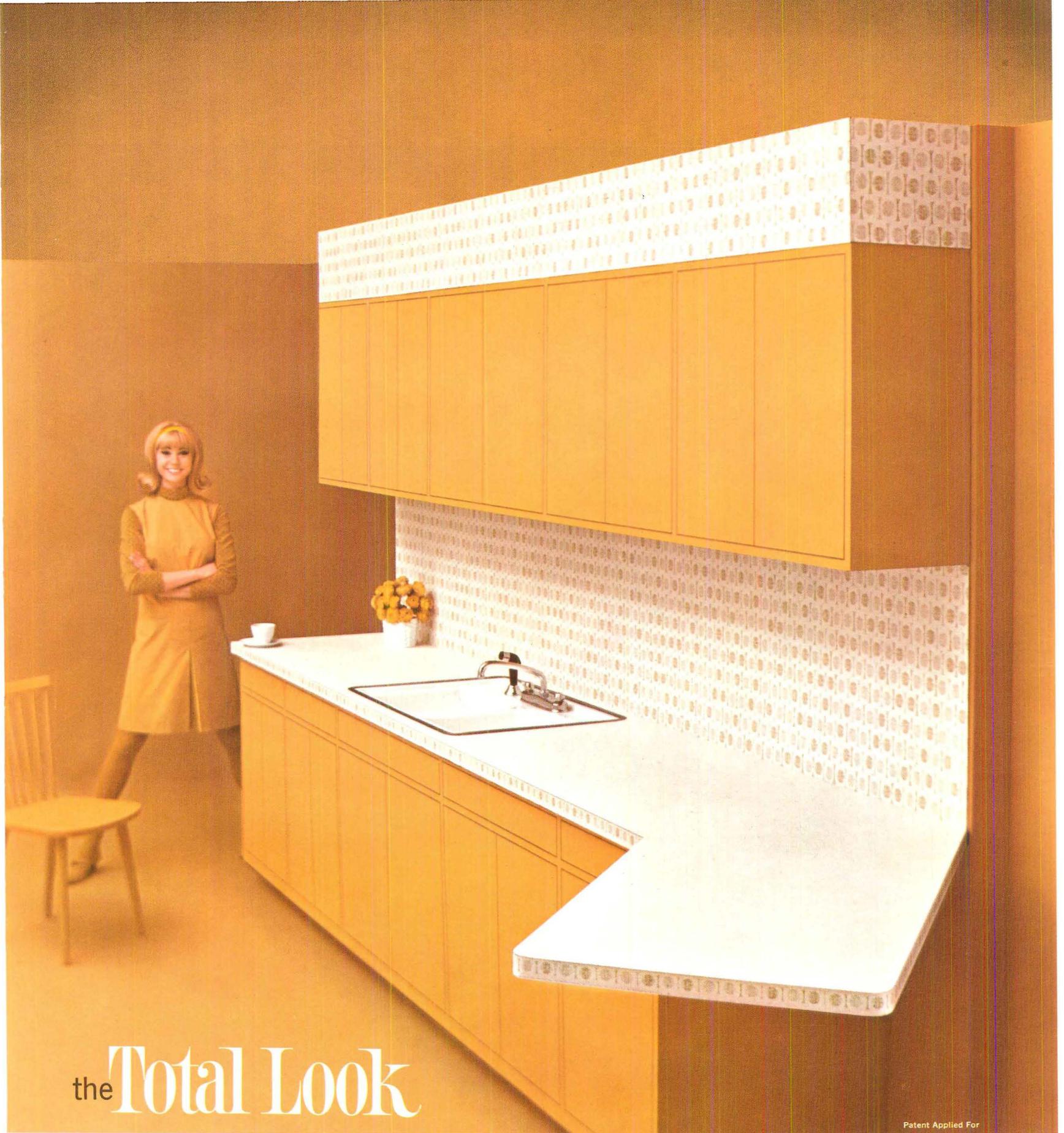
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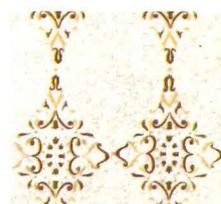


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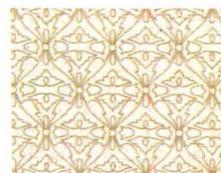
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PPG makes the glass that makes the difference.

These five builders tell how they cashed in on Honeywell Electronic Air Cleaners



"Control panel is a talking point"

Mr. Richard H. Wieland, Builder of Brookwood,
Prince Georges County, Maryland

"We featured the Honeywell Electronic Air Cleaner in the 1963 Parade of Homes. Now, it goes in about half of our homes. Most people do not know about electronic air cleaning, but they do know about air pollution, and they react favorably when we go into a little sales pitch.

"We sell the air cleaner as

part of Comfort Conditioning along with a humidifier and air conditioning. We don't intend to make a big profit on the air cleaner, but feel it is important because it helps make our homes more saleable. We believe electronic air cleaning is on the increase and will feature it again in the 1966 Parade of Homes."

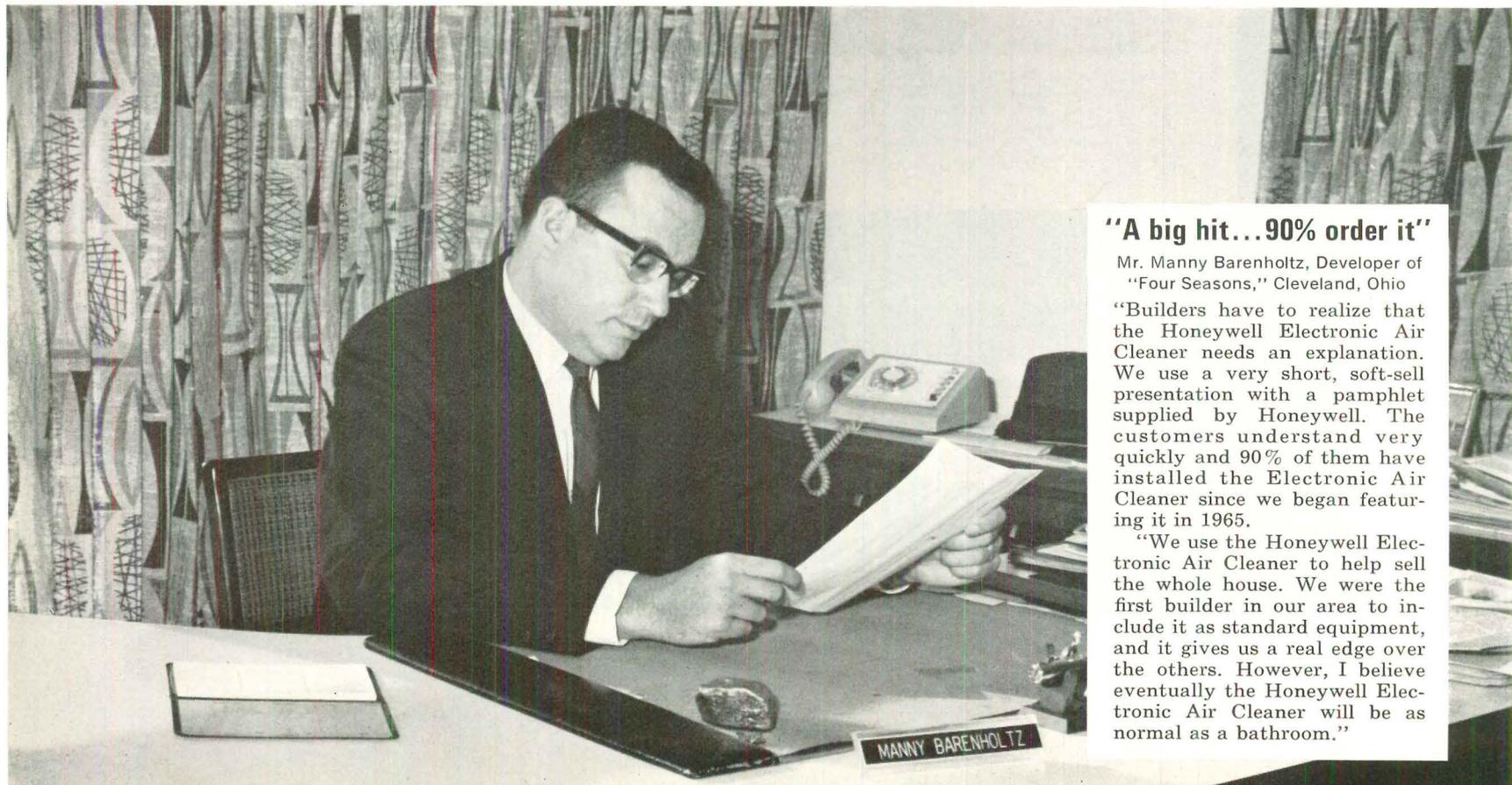


"We give the best, Electronic Air Cleaner is standard"

Mr. Lee Rosenberg, Panitz & Co., Inc.
Builder of Rumsey Island, Joppa, Maryland

"Rumsey Island, along with our other development, Joppa Town, is a planned community where every home has direct access to Chesapeake Bay through a series of canals. Our people are the type who like to come home and jump into their boats. Minimal housekeeping is important and the Electronic Air Cleaner is a strong feature for our homes.

"We don't believe in extras. All homes have a system that includes air conditioning and electronic air cleaning, a humidification system, and a central vacuum cleaning system. Our homes are more saleable because they have a sophistication that others don't offer. We feel that all homes should get to this point."



"A big hit... 90% order it"

Mr. Manny Barenholtz, Developer of
"Four Seasons," Cleveland, Ohio

"Builders have to realize that the Honeywell Electronic Air Cleaner needs an explanation. We use a very short, soft-sell presentation with a pamphlet supplied by Honeywell. The customers understand very quickly and 90% of them have installed the Electronic Air Cleaner since we began featuring it in 1965.

"We use the Honeywell Electronic Air Cleaner to help sell the whole house. We were the first builder in our area to include it as standard equipment, and it gives us a real edge over the others. However, I believe eventually the Honeywell Electronic Air Cleaner will be as normal as a bathroom."



"Our house of the future includes clean air"

Mr. Theodore H. Bentley, Builder of Hollywood Highlands, Hollywood, California, and creator of the "SteelStone"® concept in tract housing

"Our house is the first really new house in Southern California since the adobe. My Associate, Chester Groves, and I use the 'Steel-and-Stone' method of construction like high rise apartments for a home that is fire-proof; earthquake resistant; rot, vermin and termite proof; and should last 100 years. Our house

will not become obsolete. Naturally, air conditioning is standard, but why cool dirty air? This is the smog capital of the world. I won't add frivolities, but the Honeywell Electronic Air Cleaner is functional, as well as a status symbol. It's all part of the 'home-of-the-future' concept and it really sells homes."



"Put it in a Comfort Conditioning Package"

Mr. Marco Santi, President of Marco and Soave Co., Warren, Michigan

"We like to compare the Electronic Air Cleaner to power steering in an automobile. People really appreciate it when they have it, but they wouldn't pay to have it installed after they own the car. We make the Honeywell Electronic Air Cleaner part of a Comfort Conditioning package that includes Ther-

mopane glass, 3" insulation, marble window sills and an Electronic Air Cleaner.

"It's all or nothing and most buyers take the whole package. They respond to appeals for health and cleanliness. They easily understand electronic air cleaning. It helps sell our houses without over pricing them."

Honeywell Electronic Air Cleaner removes 95%* of the dust, dirt and pollen passing through it

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Only the large airborne particles can be seen, but the invisible particles do most of the real damage. They can irritate allergies, soil windows and drapes, and leave a dingy haze behind mirrors and pictures.

The Honeywell unit traps particles so tiny that it would take about 7,000 of them to stretch across this (·) dot!

In a new home, the Honeywell Electronic Air Cleaner may be included in the mortgage for under \$2.00 per month.

For more complete information and literature, write Honeywell, Dept. HH6-423, Minneapolis, Minn. 55408.

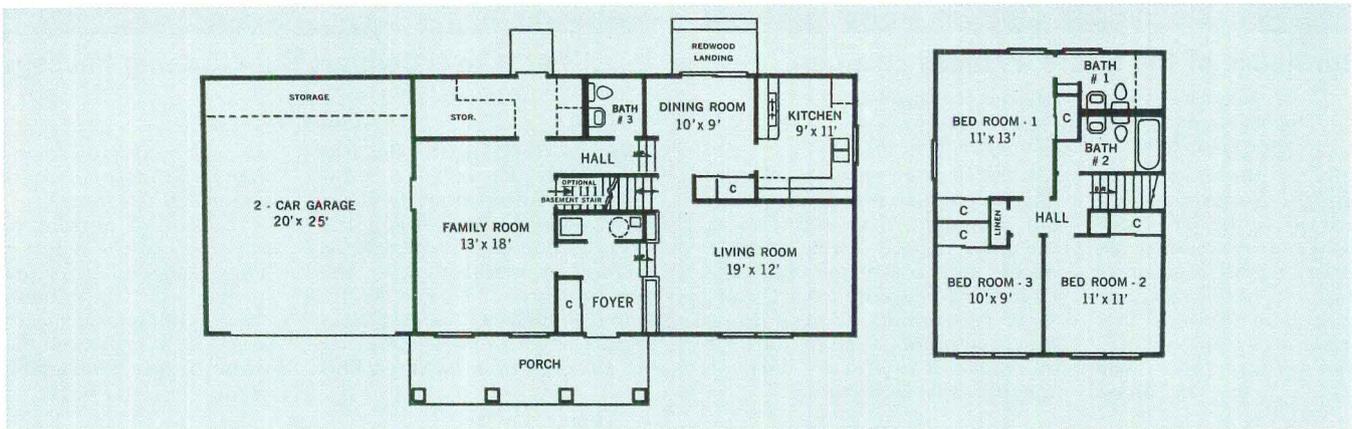
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The Kingsberry "Franklin." Builder: Demetree Builders, Inc. Location: Kingsridge Subdivision, Decatur, Ga.

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appointments. You get professional marketing help, Kingsberry's liberal co-op advertising allowance, competitive construction financing . . . and faster sales.

Find out more about Kingsberry VALUE today. For a starter, send in the coupon below and we'll have our local Kingsberry representative give you an approximate sales price on the "Franklin" model shown above for your area. In your location, it may be *more* than \$22,000 . . . and it may be *less*.



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 Please have your local Kingsberry representative call on me with price information on the "Franklin" for my area and details about Kingsberry. I have _____ lots ready to build on. In 1965 I built _____ houses in the \$ _____ price range.
 I am interested in construction financing.

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Address _____ Phone _____

City _____ State _____ Zip Code # _____

EDITORIAL

Not-housing the Great Society

LBJ's way out of an overheated economy in election year ... It only hurts when we laugh, Mr. President

Monetary restraint is the only instrument the Administration has used thus far to curb a worrisome inflation. And that instrument has effectively knocked lower-income families right out of whatever housing market existed for them.

Even middle-income buyers are effectively barred from new housing because of the high price of money and their inability to qualify. Lenders, shoved to the wall by tight money, have had to tighten their standards to a point where a buyer has to come on almost like Fort Knox before the lender will even look at him. And skyrocketing costs of copper, lumber, and labor have forced builders everywhere to raise house prices sharply during the past six months.

The result is that only families with good incomes and equity are buying new houses today. This market may allow the housing industry to keep starts as high as they were in 1965, but both buyers and builders in the low-priced market are just plain out of the ball game.

Why has the Administration singled out housing and the lower-income buyer to bear the whole load of curbing inflation, when a general tax hike would have spread the load equitably throughout the economy? Because monetary restraints promise to make only small waves, while a tax hike would make big waves both in Congress and among the constituency.

We all know that juggling words and promises to please everyone is a politician's lot, especially in an election year. Usually a good politician can get away with smooth talk, and even double-talk, if he balances it adroitly enough and if no one gets hurt too badly. But the President, in sticking to monetary policy and avoiding a tax hike, really tripped himself up. His public pronouncements have shown that he is aware of the importance of lower-income housing in his plans for the Great Society. But all the cultural, educational and economic ideals will be so much whistling in the wind until a solid foundation of hope is established through adequate housing for those who don't have it now.

There are three ironical aspects to the situation which make the Administration's policies particularly galling to the housing industry:

1. Congress itself is feeding the boom. Early in the

year Congress boggled at the President's budget and called for major slashes, but the realities of re-election plus a little adroit politicking by Administration forces turned the tide. In recent weeks Congress has been adding millions to all kinds of bills, from school lunch programs to a national air museum. The added tab: some \$3 billion on top of a \$1.8 billion deficit.

2. Rent supplements were heavily attacked both in committee and on the floor of House and Senate. Only the deftest log rolling by the Administration kept the program alive.

3. Administration appeals to business, labor—and anyone else who would listen—might as well have been made to a bunch of wooden Indians. The boom in wages, incomes, consumer spending, capital goods, corporate profits, and investment in plant continues unabated.

Whether we are in an inflationary period or just an overheated economy is an academic question. The crux of the matter is that the Administration is tolerating the unbridled boom. And only the Administration can slow it down—through changes in spending, monetary policy, or taxation. Congress obviously isn't going to slow down spending, and monetary policy changes don't do much except strangle the low end of the housing market. That leaves taxes.

The President needs standby legislation to raise or lower taxes. If he got tough about it, he could get it and use it when necessary. And it's not too late even now, according to three leading fiscal experts: Walter W. Heller, former Chairman of the Council of Economic Advisors, Paul A. Samuelson of the Massachusetts Institute of Technology, and William McChesney Martin, Chairman of the Federal Reserve Board.

We also think, along with the NAHB, that the President should establish a board of advisors, drawing members from the Federal Reserve Board, the Home Loan Bank Board, the Comptroller of the Currency, the Secretary of Commerce, the Secretary of the Treasury, the Secretary of the Department of Housing and Urban Development, and the Council of Economic Advisors. Purpose of the board: to consider in joint consultation the impact of any Administration action on all elements of the economy.—RICHARD W. O'NEILL



New towns: are they just oversized subdivisions— with oversized problems?

On the whole, yes.

Regardless of the press, which has tended to hail new-town development as a religion rather than a business, few of today's giant subdivisions meet the planning standard inherent in the new-town concept: a self-sustaining community that offers both employment and the best in urban and suburban living to people of all economic levels.

And all of the current new towns have met serious problems at almost every step from financing to sales.

Size is at the root of these problems. The commonly accepted dividing line between just a big development and a new town is the 6,000-acre mark. There are many projects of up to 3,000 or 4,000 acres that are doing well; so far, virtually none of the 50-odd projects of more than 6,000 acres can, by any stretch of the imagination, be called successful.

The logical conclusion: once a development grows beyond the 6,000-acre mark, its problems become too big—and too expensive—to be handled.

What are these problems? Can new towns make economic sense today—or ever?

To find the answers to these questions, HOUSE & HOME made an in-depth study of four new towns. They are:

Reston, Va., begun in 1962 by Simon Enterprises. Projected population: 75,000. House sales to date: 210.

El Dorado Hills, Calif., begun in 1961 by El Dorado Hills West Inc. Projected population: 75,000. House sales to date: 380.

Clear Lake City, Tex., begun in 1962 by Humble Oil & Refining Co. Projected population: 180,000. House sales to date: 625.

Columbia, Md., begun in 1963 by Community Research and Development Inc. Projected population: 110,000. Ground will be broken in two months.

The story of these troubled giants begins on the following page.

VILLAGE CENTER, grouped around a high-rise tower, is the first phase of Reston, a new town west of Washington, D. C.

New towns are trapped in a three-sided dilemma: location vs. finance vs. sales

Each side represents a tough problem in itself. And since all three are interlocked, new-town developers can't solve one unless they solve all three. Conversely, if any one of the problems remains unsolved for very long, the other two get worse—in geometric proportion.

There are other problems too, such as attracting industry and working with local government, which contribute to the basic dilemma and also add headaches of their own.

All these problems are listed below, together with examples of how they have hobbled the four case-study new towns.

Problem No. 1: location

Big enough parcels at low enough prices are way out of town

Almost every new-town developer has had to go well beyond established areas of development to find the right combination of land and price. This makes it tough to lure buyers, and it also creates physical problems in land development. Few far-out areas have either the roads or the utilities required by a new town, even in its early stages.

Robert E. Simon Jr. had to go 18 miles west of Washington, D.C. to find a 7,180-acre parcel for Reston. And even there the land cost \$13 million, or \$1,900 an acre. (As a rule of thumb, new town developers do not like to spend more than \$1,500 an acre.)

Allan H. Lindsey spent \$9 million (back in 1959) for 9,000 acres that are a full 25 miles from Sacramento. And Humble Oil & Refining Co. built Clear Lake City on 15,000 flat acres 25 miles from Houston. Humble had owned the land for 28 years (original cost: \$300 an acre), and had intended to develop it for industry because Houston buyers considered the area the wrong side of town. But Humble switched to houses after NASA's Manned Spacecraft Center moved in next door.

These early new town developers tended to overlook the remoteness of their sites, believing that their open-space planning and other amenities would bring buyers out from the suburbs. But they have learned that remoteness robs them of far more sales than their amenities can attract. At Clear Lake City, for example, a huge advertising campaign that featured a \$1 million recreation center pulled 50,000 visitors during its opening. But only 36 people bought homes the first month.

Location also runs up development

costs. It's obvious that 7,000-acre-plus parcels of open land can be found only in rural areas, and these areas will have totally inadequate roads and utilities.

At Reston, more than \$14 million will be spent for roads, sewers, and water. And El Dorado Hills spent \$1 million just for a five-mile, four-lane access road. Eventually, the road would have been built by local government, but El Dorado's sales couldn't wait.

James W. Rouse, whose Columbia is close to the ground-breaking stage, has been the most scientific of the new-town developers in picking his location. He decided that 1) he needed at least 10,000 acres to make the project worthwhile, and 2) the cost should be no more than \$1,500 an acre. He studied many metropolitan areas, and while he couldn't find a big enough, cheap enough parcel close to a city, he may have found the next best thing—a site directly between Baltimore and Washington, D. C. And by purchasing his land quickly and quietly, he held to the \$1,500-an-acre limit.

But Columbia still needs utilities, and it is 15 and 23 miles respectively from the centers of Baltimore and Washington. It remains to be seen whether this is close enough.

Problem No. 2: financing

New towns go millions in the hole before the first house is built

Rouse has already borrowed \$50 million for Columbia, though ground has yet to be broken. Simon had his \$40-million real estate empire tied up in Reston before he got his first loan. ("I was hocked to the hilt," he says.) Lindsey recently closed a lease-back deal with John Hancock Life Insurance Co. for \$14 million.

It is obvious that this kind of heavy financing is available from only a handful of rich sources. It is equally obvious that if those sources can be persuaded to back a new town, it will be on their terms.

Reston is a case in point. Between 1962 and 1964 Simon made unsuccessful attempts to borrow money from 80 different sources, including banks, insurance companies, and big corporations. Finally, just five days before Simon would have had to abandon Reston, Gulf Oil made a \$15 million commitment. The price: first mortgages on all of Simon's land, an option to buy stock in Reston, and the only gas station in town.

After Simon finished refinancing only

\$3.5 million was left, so last fall he borrowed \$21 million from John Hancock. The price: title to all undeveloped land in Reston. Simon must buy it back in annual chunks—at appreciated prices.

Even now, Simon does not rule out the possibility of another major loan.

Some backers have second thoughts that leave the new-town developer in a damaging situation. Simon's financial woes began when a potential investor promised him \$6 million. Simon started Reston with his own money, but when he went back for the loan, the investor handed him instead a list of 20 reasons why he had changed his mind. ("My favorite," says Simon, "was: 'What if the national capitol was moved to Denver?'")

The same sort of thing happened with El Dorado Hills' first backers. Hale Brothers Associates, owners of Broadway Stores, decided not to wait for long-range profits after El Dorado's first two disappointing years. In a complicated deal, Hale Brothers left Lindsey with the El Dorado Hills land but took 80% of other land Lindsey and Hale Brothers owned jointly in a separate corporation.

Even the \$3.2-billion Humble Oil & Refining Co. has shown an increasing reluctance to tie up more money in its own Clear Lake City. Instead, Humble has borrowed money from Chase Manhattan Bank (and possibly others) and transferred it to its development company.

More and more investors are realizing they can take the risk out of financing a new town if they can get control of the appreciating land. And the land does appreciate at unbelievable rates. El Dorado Hills land has climbed from \$6.7 million to \$29 million in six years.

Investors have also learned that they don't have to own the land to control it. At Columbia, for example, Connecticut General Life Insurance Co., together with Teachers Insurance Annuity Assn. of America and Chase Manhattan Bank, loaned \$50 million to Rouse. In return, Connecticut General will get 50% of the land profit and (if it wishes) a strong say in major decisions. The other two investors hold long-term mortgage notes.

Problem No. 3: sales

The cost of financing far outweighs the realities of the market place

Every new-town developer finds himself in this double bind. His cash flow situation demands a big and increasing volume of

sales right from the beginning. But his far-out location, which often isolates buyers from shops and schools, makes sales difficult in the early months.

Commercial facilities will eventually be built—indeed, it is from this source that new-town developers hope to make much of their profit. But commercial interests are reluctant to move in until there are residents.

The developer's only way is to push early sales—at a loss, if necessary—and subsidize early commercial facilities.

In the three case-study new towns where houses have been built, the sales volume fell far short of cash-flow requirements.

At El Dorado Hills, the developers projected 400 house sales their first year, but sold only 120, though they cut their profits drastically. Total sales in more than three years: 380.

At Reston, Developer Simon has 90 of his first 227 townhouses still unsold. And though he hopes to sell 350 redesigned units this year, he had sold only 25 by the first of May. Now three outside builders have 24 acres under option for townhouses that will be \$3,000 less expensive than Simon's.

At Clear Lake City, early market studies promised sales of 1,200 houses a year. But since 1963, a total of only 625 houses have been sold.

Although no houses have yet been built at Columbia, the sales projections required to meet cash-flow demands are high enough to worry even the most optimistic builder. Rouse hopes to capture fully 15% of the Baltimore-Washington, D.C. corridor market. That means he must start by selling 500 houses in 1967, and add 500 more sales every year until they level off at 2,500 in 1972.

Rouse is confident he can meet this schedule. But other new-town developers now scoff at market projections.

"It is a lot of guesswork," says Simon. "Who can tell what the market will be like five or ten years from now?"

Investors, too, have grown weary of unfulfilled projections. Though they still ask for them, they put far more weight on the value of the land and its probable appreciation rate.

Problem No. 4: industry

It's needed most in the early stages, and that's when it's toughest to get

Industry is the cornerstone of the new-town concept: It represents both land profits and a potential source of buyers and renters. The trouble is that industry, like commercial interests, wants to locate where people already are living. So again, in order to persuade industry to move into a new town which is just getting started, concessions must be made—usually at the

expense of profits. And if one developer does not make concessions, there is a good chance his competitors will.

That is exactly what happened at Clear Lake City. General Electric had agreed to occupy a new building—if the ceilings were raised about a foot to accommodate special equipment.

Clear Lake City executives refused. But the developers of Nassau Bay, an adjacent community, accepted the deal. The resultant revenue got Nassau Bay off to a flying start, and it has become a rugged competitor both for other industry and for homebuyers.

Logically, the concessions that must be made increase in proportion with the size and prestige of the company being wooed. So big employers are often eyed with mixed emotions by new-town developers.

William E. Finley, vice president of Columbia, points to three dangers in accepting a large industry in the new town's early stages: 1) the project could take on the look of a company town; 2) extra roads and utilities would have to be built immediately to accommodate it; and 3) a big company could drive a very hard bargain for a large site. "The developer," says Finley, "could lose money on the deal, even in the long run."

Furthermore, a new town must be selective about the types of industry it accepts, especially in the town's early stages. Some new towns have such stiff density requirements (number of employees per sq. ft. of building), they tend to ban anything but high-paying "think factories".

At Reston, a few of Simon's aides frown on assembly plants because few workers could afford to buy houses in Reston's price range. Simon himself is more concerned with the town's appearance.

"The building that houses the industry must be good looking," says Simon. "And we are also wary of factories that would bring heavy truck traffic into town."

Many new-town developers have chosen to rely on the expansion of nearby industry to provide homebuyers for the first few years. But this method carries no guarantees either.

Clear Lake City is a case in point. Its developers thought they could rely on the nearby Manned Spacecraft Center, which employed 3,000 people when it opened. It was expected to expand enormously. But here's what happened:

1. The Spacecraft Center was delayed a year. Employees began working in temporary quarters in Houston, and settled either in that city or on the side farthest from Clear Lake City.

2. After the Spacecraft Center moved to its present site, a confidential comunique was circulated, according to reliable sources, that warned employees not to buy homes because they might be transferred again soon.

3. The first astronauts bought homes in neighboring Nassau Bay (the same competitor that won the General Electric plant). Nassau Bay thus took on the image of a prestige community, and higher-paid executives tended to buy there.

4. The Spacecraft Center is now slowing down its expansion plans. Those employees who are finally buying in the Clear Lake area may be too few and too late.

El Dorado Hills had an equally unhappy experience with a big nearby company. Aerojet General Corp. employed 20,000 people in the early 1960's, and was scheduled to expand to 30,000 by 1963 after El Dorado Hills opened. Instead, Aerojet lost key government contracts and 10,000 employees were let go.

Problem No. 5: government

The size and complexity of new towns leads to many local complications

Most new towns are built in rural counties whose officials are used to handling the decisions and red tape that goes with perhaps 200 houses a year. Into these hamlets come the new-town developers to force feed the area's growth with thousands of houses.

So it isn't surprising that all new-town developers have run into local troubles. Even if the county wants to cooperate, the many requests a new town makes lead inevitably to delays. And delays can be disasters for the new town. Because of whopping overhead, a two-week setback can cost their developers more than \$40,000.

Difficulties arise in every area that is under local jurisdiction. Here are examples of the most common:

Zoning. As Rouse began planning Columbia, Howard County, Md., elected a slate of county commissioners pledged to curb urbanization. Shortly after they took office, Rouse disclosed that he had purchased 10% of the county and wanted urban zoning. It took him a year to win over county residents and the officials (H&H Oct. '65).

"Even so, we were lucky," says Rouse. "Five years before we would have gotten a flat 'no'. And five years later the sewers would have been extended and the land would have cost too much for us."

A zoning fight takes time as well as manpower. An early project manager of El Dorado Hills took one of his aides off another job and told him not to show up again until he had won the necessary zoning for the whole project. The aide didn't come back to the office for nearly six months.

Land Engineering. Reston won the zoning it needed, but its land improvements still must meet the same stringent requirements as any other subdivision in Vir-

ginia's Fairfax County.

For example, Simon has asked permission to build winding roads that would preserve trees and add to the town's rural look. But the county has demanded that swaths as much as 100 ft. wide be cleared for the roads. And Reston has also been asked to supplement natural drainage streams with drainage pipes.

Says one employee: "We don't have time to fight every decision. We would have to stop and argue about each tree and each stream in town."

Reston developers claim they could save \$500 a lot if the so-called "extra requirements" were waived. But there is little chance the county will yield.

Schools. Normally, local governments try to put schools in growing areas. But the best of intentions can go astray.

At Reston, construction bids for a new school were much too high and were rejected. Simon needs a school to sell houses, so he now has no choice but to bid on the school himself. And he has to make sure that his bid is low enough to be accepted, so profit must suffer.

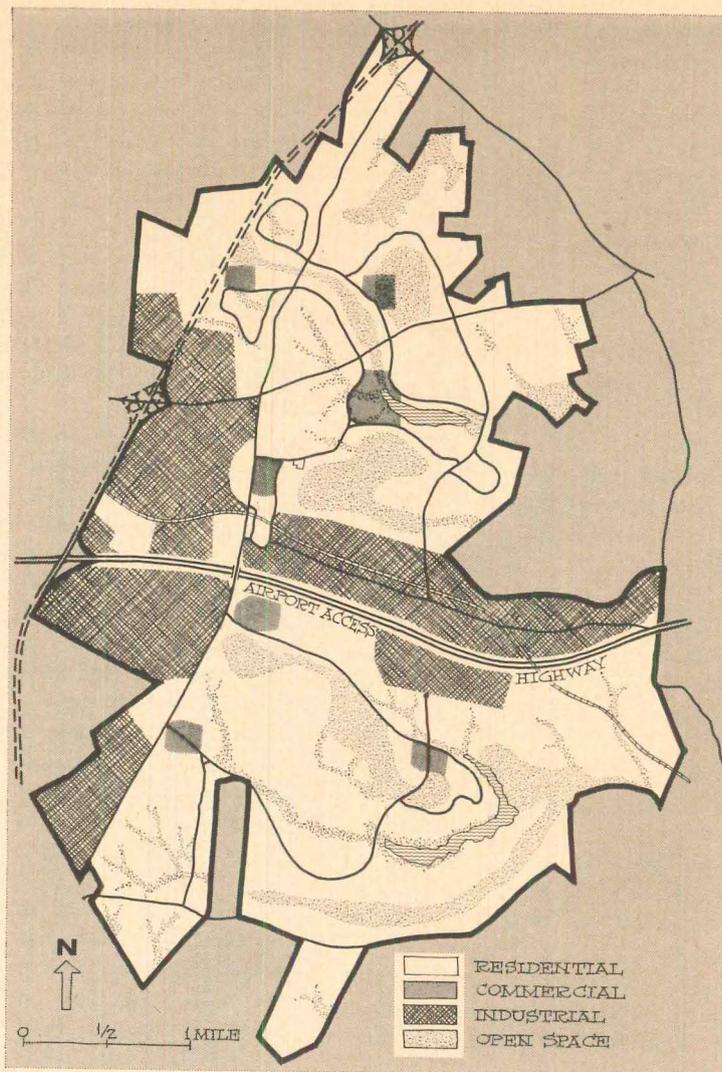
Access roads. Inevitably, new-town developers jump ahead of road construction to find low-cost land. Then they must decide who will extend the roads to their project—the state or their own crews. Both methods have been tried and both have proved costly.

As noted above, Lindsey spent more than \$1 million to build a divided four-lane road linking El Dorado Hills to a freeway five miles away. The state did put an interchange at El Dorado's front gate, but they also required that the private road meet state highway specifications.

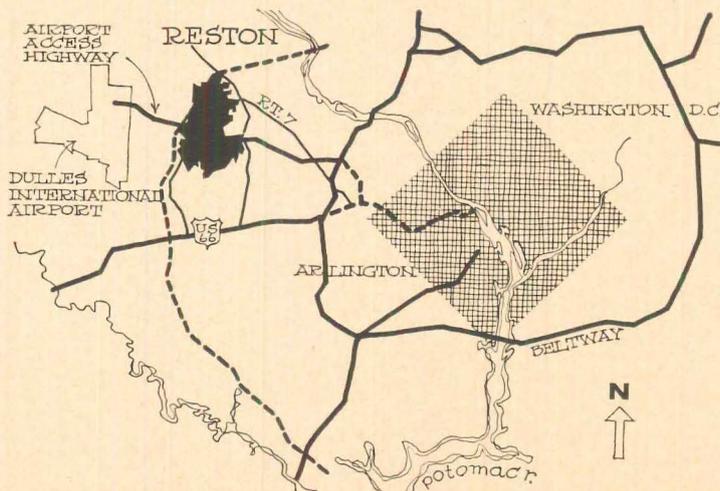
At Clear Lake City, Del E. Webb Corp., an early partner with Humble Oil, decided in 1963 to gamble that the state would build a major access road. Humble is still waiting for the road (Webb pulled out of Clear Lake City in 1964). But chances are it will be built soon, because Humble has finally agreed to join in the construction.

Says a former Webb employee; "If we had built the road, every employee at the Manned Spacecraft Center would have had to drive through Clear Lake City to get to work." And he adds that had the access road been built, the Spacecraft Center's front gate probably would have been turned to face Clear Lake City. (As it is, the Center faces Clear Lake's old nemesis, Nassau Bay.)

Developer Simon suffers the most bizarre lack of access roads. A four-lane highway runs right down the middle of Reston, but no one can get on or off. The road links Dulles International Airport with downtown Washington, and it is used almost exclusively by government officials and foreign dignitaries. Simon has asked the Federal Aviation Agency to provide access for Reston, but no action is expected.



Reston: a fine concept and a



LOCATION MAP shows Reston in relation to Washington, D.C., and major highways. Airport road lacks access ramps, so visitors use Route 7, a two-lane road which is scheduled for widening to four lanes by next summer. The drive from Washington takes 25 minutes.

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Air Photographics Inc.



FIRST VILLAGE includes high-rise building and garden apartments. They are renting well.

Bill Graham



Robert Lautman



FIRST TOWNHOUSES have striking designs, but they were difficult to build and expensive. Average price: \$33,000. Sales so far: 137 of 227.

Bill Graham



NEW TOWNHOUSES have conventional look but are easier to build. Average price: \$29,000.

handsome start—both hamstrung by management problems

More than any other giant development, Reston represents the new-town ideal. It's hard to fault the plan, which includes permanent greenbelts winding through seven distinctive villages, and enough industry to employ 50% of the town's work force. And the first village center (*photo above, and cover*) is a striking example of urban architecture.

The concept is good because it is the work of a cultured and dedicated man—Robert E. Simon, a former owner of Carnegie Hall. Simon has deep personal involvement in Reston (the town's name is taken from his initials). Ironically, it is his determination to build a dream town that has led to his troubles.

Simon decided to build primarily townhouses so that Reston would have a maximum amount of open space. Financing costs were pressing him, and he was forced to throw together a management team to get things rolling. Result: the first townhouses came in \$7,000 too high—and 13 months late. Here's what went wrong:

Simon gave his architects too much freedom, and they ignored the realities of house building. Says one employee: "It took a genius to frame those first 227 townhouses." Because there were 37 different floor plans—plus special features in each house—construction workers continually ran into unfamiliar problems. The inevitable result was long delays. And since Simon did not have late penalties in his subcontractor's agreements, there was

little he could do to speed things up.

The architects used non-standard building materials. One used concrete beams, another used special millwork. The result: extra expense and complications. Special brick, made only by one company, was specified for the village center. When the center was half finished, the company went bankrupt, and Simon had to put it back in business with a personal loan.

Simon himself didn't understand how to build and sell houses. He built his townhouses as if they were heavy construction, having the subcontractors pour all the foundations at once, then continuing to build all the houses together, step by step. And he did not have a model area, so buyers had to take long hikes through the village to see each of the 37 floor plans.

Simon believes he has now solved his problems by hiring a so-called "new wave" of aides. He notes that though his townhouses are still being designed by architects, plans are simplified for easier construction. And thanks to his new construction manager (whom he hired away from Builder Ross Cortese), the newest townhouses were built in five months. There are just five different floor plans, and they are placed all together in one model area.

But sales are still lagging. In March only 17 of a projected 30 townhouses were sold (this was still the best month in Reston's history). And after 2½ years Simon is still waiting for FHA approval so he can broaden his market by lowering down payments.

continued

Meanwhile, visitors to Reston must drive the last seven miles along a two-lane country road.

Problem No. 6: who builds?

Developers lack experience, outside builders look out for themselves

Almost invariably the developer is an entrepreneur whose experience is in land and commercial development rather than in the basics of designing, building and selling houses. As a result, he is seldom a successful builder himself.

The alternative is to bring in experienced outside builders. But this approach has also proven unsuccessful. The developer quickly finds that he has traded lack of experience for lack of control.

Basically, the developer and the builder have quite different aims. The developer wants lower-cost houses because his profit comes from the long-range volume of lot sales. But the builder wants higher-priced units because his profit comes from the house itself.

At Reston, a combination of inexperience and a desire for beauty led Simon to give his architects too much freedom; they produced townhouse plans that were difficult and expensive to build.

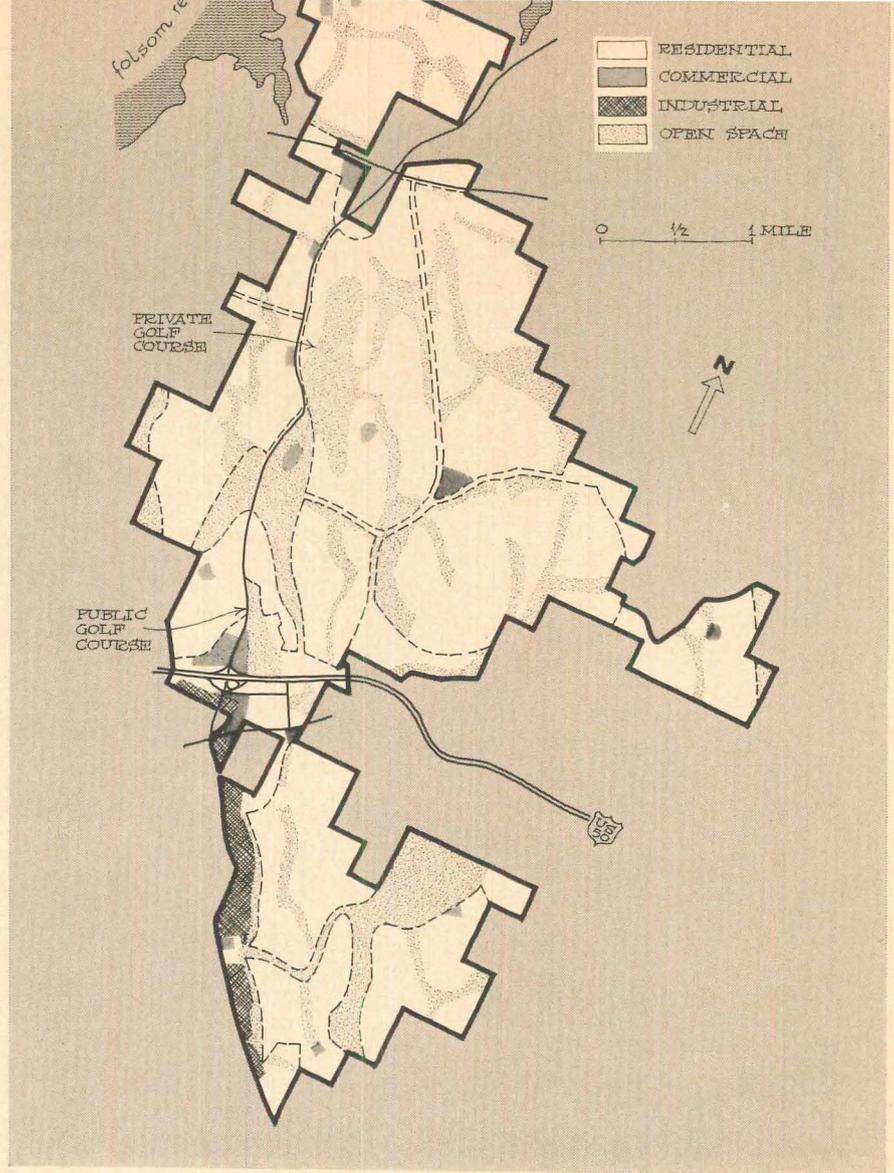
At Clear Lake City, Humble Oil joined with Builder Del Webb in what at first seemed an ideal partnership of big money and building know-how. Humble took 70% of the profits and handled the financing; Webb took 30% of the profits plus a straight 5% building fee.

But the partnership was a dud. Webb missed the market and sold less than half of the 288 houses he built. And he left a residue of ill-will in Houston that hurt Clear Lake City. Some subcontractors went bankrupt at the project, so others refused to bid for jobs there later. And confusion about who would establish a bank at Clear Lake City disenchanting parts of the Houston business community.

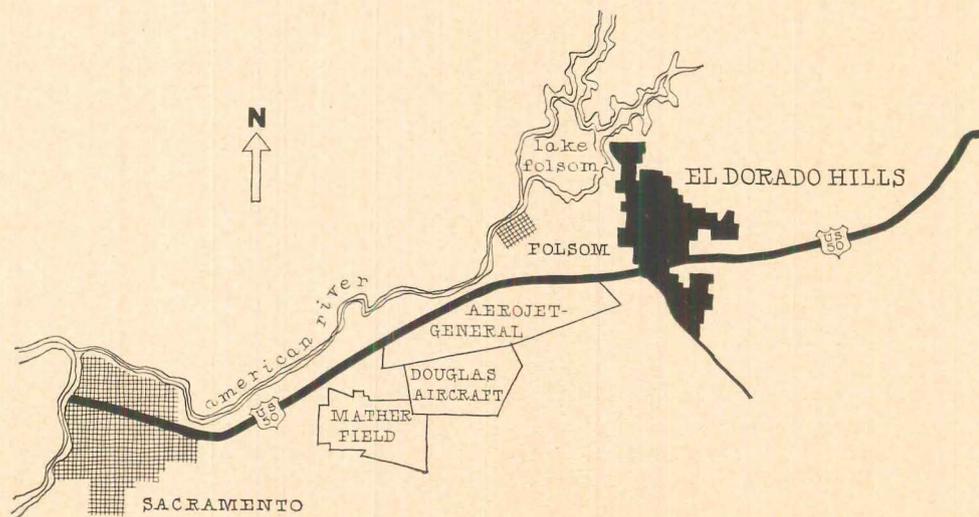
After Webb departed, in early 1964, Humble put its own staff in charge of the project and sold lots to outside builders. But the Humble men lacked experience, and the outside builders, among other things, replatted their lots and squeezed eight houses onto land that was meant to accommodate six.

At El Dorado Hills, both building approaches were tried. Developer Lindsey began by hiring a construction supervisor and paying him a straight \$500 for each house built. But when sales moved slowly, Lindsey decided to option 5,000 lots to an outside builder, William Lyons, in order to save the \$500 fee.

It was a mistake. Lyons, a highly successful builder in Southern California, missed the tight Sacramento market by about \$500, despite Lindsey's warnings to



El Dorado Hills: beautiful land



EL DORADO HILLS is located 25 miles from Sacramento, Calif., and eight miles from Aerojet General Corp. Route 50 construction is behind schedule and may not be completed for five years. By car, it is a 40-minute drive to Sacramento. There are no regular buses.

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WOODED LAND in the Sierra foothills borders huge Lake Folsom, California's leading park.

and a good plan are hurt by a sickly market

Back in 1959, Developer Allan H. Lindsey was so taken by the rolling and wooded land shown above that he bought 9,000 acres—without really knowing what he would do with it.

It wasn't until two years later that Lindsey decided to put a new town on his land. The timing seemed right: Sacramento was booming, and El Dorado Hills lay right in the path of its logical expansion pattern. Furthermore, Congress had just given Lindsey first rights to pump water from federally controlled Lake Folsom next door. So Lindsey hired Victor Gruen, who drew a superb plan featuring greenbelts and small neighborhoods (H&H, March '63).

But by the time El Dorado Hills opened in 1962 the Sacramento market was already weak. About a year later Aerojet General Corp. laid off 10,000 workers and the market collapsed

completely. Lindsey was particularly hard hit. Aerojet was right next door to El Dorado Hills; now buyers had to be drawn almost entirely from Sacramento, 25 miles away. And Sacramento residents seem to have an inbuilt dislike for long commutes.

Faced with this market, Lindsey chose—and still follows—a conservative course. He didn't try to draw buyers with a stunning commercial complex like Reston's or a giant recreation center like Clear Lake City's. Instead, he has concentrated on offering the best houses for the money in Sacramento (at the expense of much of his profit). And he has held to his master plan.

Lindsey has reason for hope. His recent \$14 million loan will allow him to open new models this summer in a wider range of prices, so he can get a bigger chunk of what market there is.

Photos: Sirlin Studios



WATER TREATMENT PLANT is at north end of project. It (and sewers) can serve 3,000 homes.



SEWER PLANT is at south end, so costly utility pipes had to be run the length of project.

continued

keep prices low. The result: a liquidation sale of 34 of the 40 Lyons homes that hurt El Dorado Hill's image.

Lindsey has now gone back to building the houses himself. But he is still having trouble finding the right man to head the building program.

Problem No. 7: residents

If buyers aren't kept happy, they can tie up the entire project

When a buyer purchases a home in a new town he immediately becomes a resident with definite legal rights and powers. If enough residents don't like the way the new town is progressing—or not progressing—they can do something about it.

In some new towns the resident members of sewer boards can vote not to continue development. In others, community associations control assessments to maintain parks and other common property.

"For all practical purposes," says a Columbia executive, "an association could keep us from building a whole village."

Such resident revolts are most likely after the town has grown for about five years. And that's when the developer may be starting to make his first clear profit.

Some new town developers have tried to guard against revolts by keeping as much control as possible over resident organizations.

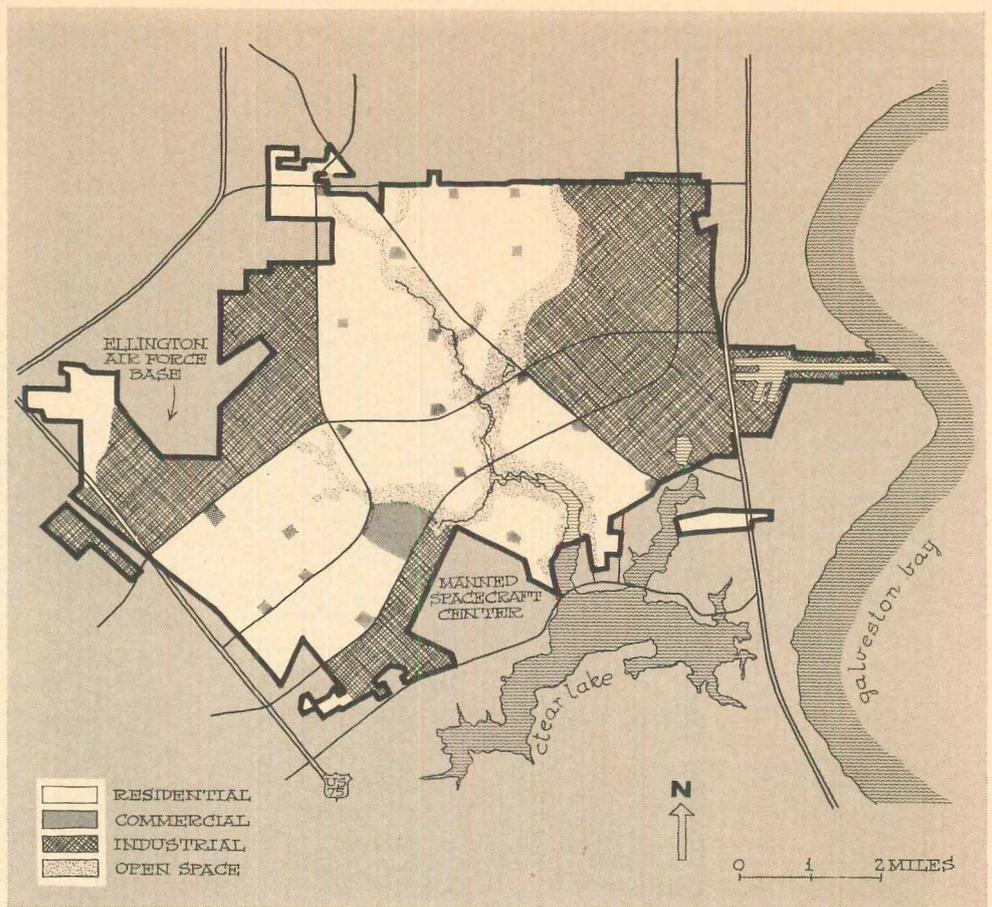
At Clear Lake City, the first sewer board was appointed after the first ten families had been persuaded to buy houses at reduced cost. Two of the board members were actively building in Clear Lake City at the time.

At El Dorado Hills, Developer Lindsey's executive vice president, Carl J. Kowall, is the board chairman of the water district. Kowall points out, however, that he was elected by his fellow residents.

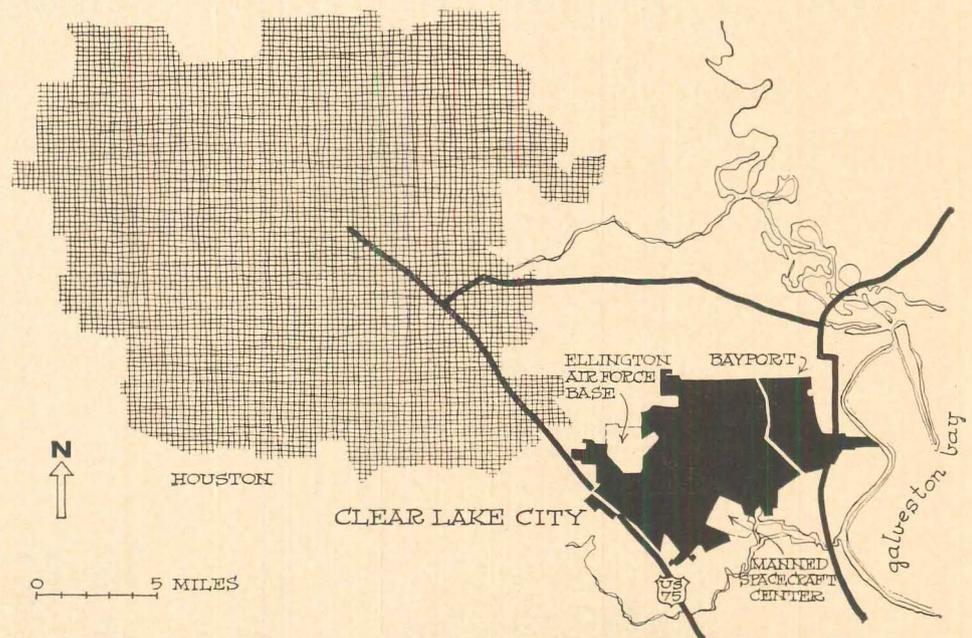
Other new town developers have put emphasis on cooperating with residents right from the beginning. At Reston, each buyer automatically becomes a member both of a neighborhood and a townwide group, and developer Simon is a frequent visitor at their meetings. Says Simon: "We want to show the residents that their welfare is at the heart of our project."

And says Developer Rouse: "If we can't do a good job for our residents at Columbia, we deserve to have the project taken out of our hands." Columbia residents will get that power in about 10 years through a community association that Rouse himself organized.

But just as unhappy residents can hurt a new town, happy ones can help. Developer Lindsey was pleasantly surprised to learn that the John Hancock Co. loaned him \$14 million partly because a private survey showed that 98% of his 2,000 residents liked El Dorado Hills.

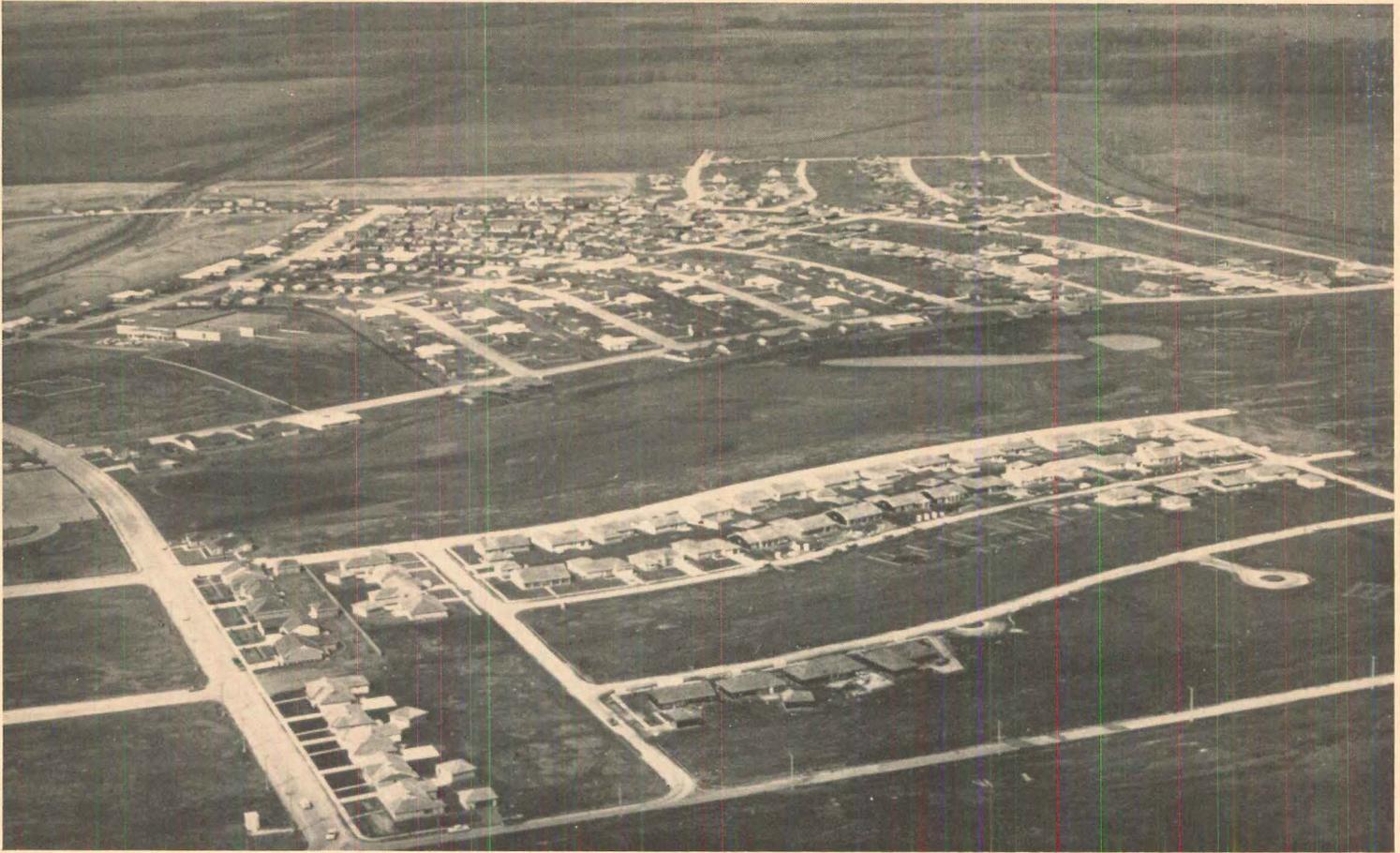


Clear Lake City: an unhappy



LARGE-SCALE MAP shows Clear Lake City 25 miles from Houston, next to the Manned Spacecraft Center. Bayport, on northeast side, is a heavy industrial project that is also being developed by Humble Oil & Refining Co. It may soon be merged with Clear Lake City.

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FIRST NEIGHBORHOOD has ordinary tract look. Houses are lined up on bald prairie land.

mixture of instant sprawl and builder problems

Good planning—marked by permanent open space and careful zoning—is the *raison d'être* of giant subdivisions. When the planning is done well, as it is in Reston, a new town can provide a real answer to the problem of urban sprawl. But if planning is all but ignored, the project will be little more than a huge tract. And so far, that seems to be what happened to Clear Lake City.

Part of the problem is that Clear Lake's developer, Humble Oil & Refining Co., is inexperienced in homebuilding. Says one member of the development team: "Master plans are a waste of money." The result of this attitude is a sketchy overall layout that sets aside only 4% of the project's 15,000 acres for parks. And although the land is flat and almost completely bald, the developer has planted no trees at all.

But Humble doesn't deserve all the blame. Del E. Webb Corp., an early partner, got Clear Lake City off to a poor start.

Webb made what appeared to be a series of marketing mistakes, and wound up selling only 120 of the 288 homes he built. He

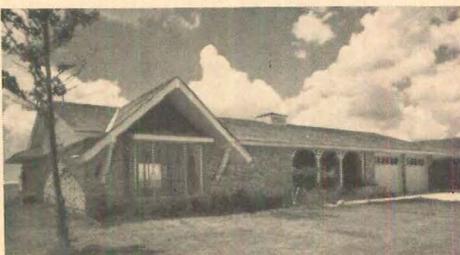
put up California-style homes, and found to his surprise that Spacecraft Center employees from California wanted Houston-style homes, just like their new neighbors'. Webb's \$18,000-to-\$24,000 homes were a little high for the market. And while he put in quality, he put it where buyers couldn't see it.

Webb gave Clear Lake City a tract look by not bringing in outside builders, whose houses would have added variety.

Webb failed to heed buyer-preference studies. Result: he built a nine-hole golf course few people wanted, and a single huge recreation center for buyers who wanted several small centers.

Webb faced complaints of poor workmanship. Some buyers, for example, had to have their lawns seeded five times because landscapers turned up only in bad weather.

Webb is no longer associated with Clear Lake City, but the poor planning remains. Humble has brought in ten outside builders, but they are averaging only 30 houses a month—little better than Webb's pace.



CALIFORNIA-STYLE HOUSE built by Del Webb didn't sell. It was priced at \$12 a sq. ft.



HOUSTON-STYLE HOUSE offered by local builders is selling better. It is priced at \$10 a sq. ft.



HUGE RECREATION CENTER has three swimming pools. Buyers wanted neighborhood centers.

Gordon Adkins

In the face of all these problems, will new towns ever make economic sense?

It's too early to say for sure. No new town has progressed far enough to give an accurate indication of its long-range profit potential.

But there are plenty of opinions. California Builder Edward Eichler, who made a study of new towns on a Ford Foundation grant, thinks most developers will be lucky if they make a 6% profit. Charles Haar, HUD's assistant secretary for metropolitan planning, points out that British new towns were greeted with similar skepticism, but are doing well today. (Those towns, however, are controlled—and subsidized—by the British government.)

U.S. new towns have certainly had their early troubles. But it must be remembered that they represent first attempts by their developers. Says Simon: "No one knows very much about this business. It is all trial and error."

But though the basic problems will not go away, new solutions may be coming up. Specifically:

General Electric, and possibly other giant corporations, are about to get into the act. G.E. has been sizing up new towns for about two years and is beginning to put together a management team. Reportedly, G.E. has \$500 million to spend in new towns.

The question is not when will big corporations move into the market, but how. If they become operating developers who consolidate small builders into their organization, it could mark the beginning of giant homebuilder companies. (It could also mark the beginning of a decline in new-town esthetics. The best new towns owe their quality to the dedication of men who are, at least to some degree, building monuments to themselves.)

It is more likely, however, that corporations will make loans in return for supplier contracts. That would give new-town developers a new source of funds even after their land has been traded off. A small-scale example: Gulf Oil will build and fuel a central heating and cooling utility at Reston.

Federal aid for new towns may be on the way in the form of FHA insurance for large private (and public) land developments. Such a bill is before Congress now, championed by HUD as "an alternative to urban sprawl." But it carries a ceiling of

\$25 million—too little to make a real difference to a big new town.

Furthermore, the bill probably won't pass until its proponents can explain clearly just who would benefit by it.

HUD's Charles Haar says the bill offers the only way small builders can participate in new towns on a large scale. (But small builders are already doing much of the building in new towns.)

Developer Rouse says that sufficient federal aid will multiply new towns, and adds that new towns will be the vehicle giant companies use to take over the homebuilding industry. (Rouse plans to start another new town in about five years if Columbia does well.)

Developer Simon says honestly that federal aid would increase his profits.

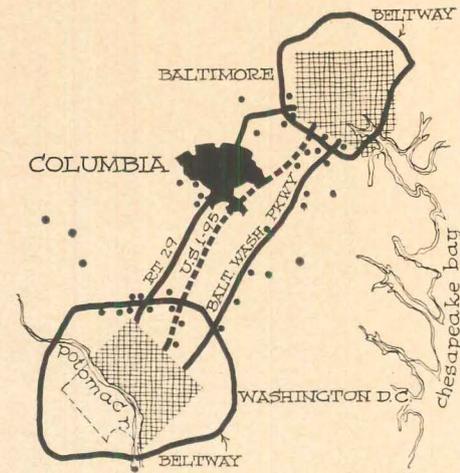
Opponents of the federal aid bill argue that all the government would be doing is subsidizing millionaire developers with money that is desperately needed in existing cities. And Edward Eichler says there is nothing special about the new-town concept that warrants federal aid.

While the arguments run on, new towns seem to be getting a form of federal aid right now. Each of the four case-study towns either has a major government installation or stands a good chance of getting one soon. Clear Lake City has the Manned Spacecraft Center; Reston is about to get a 2,000-man government agency; Columbia has been considered as a site for the Government Printing Office; and El Dorado Hills is adjacent to a possible site for a new atom smasher.

Are these only coincidences, or do they reflect a semi-official government policy? Reportedly, President Kennedy encouraged his Cabinet to locate expanded government agencies in new towns whenever possible. But under President Johnson, the emphasis has shifted to existing cities (e.g., the Demonstration Cities Program). According to some sources, that shift explains why Kennedy-appointed Stewart Udall, Secretary of the Interior, has promoted towns like Reston in public while keeping his direct help behind the scenes.

Is it inside information or sheer naivete that prompts key members of Reston's staff to insist, "The Federal Government won't let us fail"?

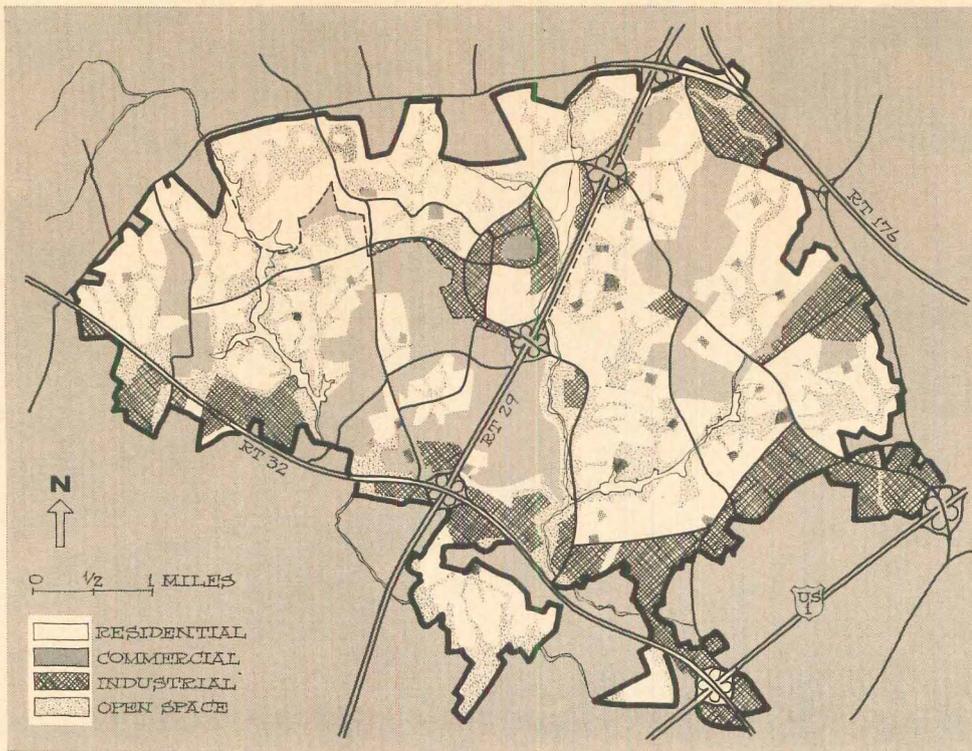
—FRANK LALLI



COLUMBIA is located 15 miles from Baltimore and 23 miles from Washington, D.C. The dots represent 37 major industries that employ more than 70,000. Area employment goes up 10% annually.

Columbia:





CHIEF PLANNER Morton Hoppenfeld, an architect, supervises a team of 20 designers.

planned to the nth degree, it has yet to face its first real test

Photos: R. R. Rodney Boyce



DESIGN CONFERENCE between architects and designers takes place in large planning room.

It's hard to see how James Rouse could have been more scientific in planning Columbia. From the beginning, he hasn't wavered from a classic textbook approach:

Rouse first decided how much land he needed to build a real city. Then he spent months searching from Massachusetts to Virginia for a logical location, deciding finally on a site the size of Manhattan (14,000 acres) between growing Baltimore and booming Washington, D. C.

Before going any further, Rouse turned to financing. He purchased 1,000 acres of his proposed site—just enough to convince three investors (p. 94) that the entire parcel could be assembled for \$1,500 an acre. Satisfied, the investors loaned Rouse \$50 million, more than enough to get the project under way.

Rouse's next step was most unusual. For more than a year he consulted with 60 of the country's outstanding social planners, and in 1964 he brought some of them together for a total of 200-hours of brain-storming (H&H, Dec. '64). Result: a sociological pattern that is the basis of Columbia's master plan.

Rouse's zoning was approved in 1965 (it took a year), and he has now brought together a team of 20 architects and designers to plan what he calls "the mosaic of the city." Every detail is being considered, from brand-new traffic signs and street furniture to the precise siting of each house on its lot in the first village.

But it is difficult to say how much of all this careful planning will pay off.

Already there have been complications: Bids for a dam came in high, and for a while it seemed that some decorative fountains would have to go. There have been delays: Plans for the first village came back from Howard County, Md., officials with 50 minor objections which took six weeks to resolve. An executive who had exuded confidence earlier now admits that the project is three months behind schedule.

Finally, some important questions have not been answered. Who will the first builders be? And how can Columbia executives enforce the policy of open occupancy that Rouse has demanded for his new town?

All-Electric Homes Cost Less To Operate!

Pacific Power & Light Company advertisement

A Homeowner Tells of His Experiences With Gas Heat —

And Why He Switched To Oil

Fuel Oil News

THE BIG SWING TO GAS AIR CONDITIONING

Southern California Gas Company advertisement

The UPGRADE PROGRAM for Gas Air Conditioning

Air Conditioning, Heating & Refrigeration News

Electric heating surges in '65

Electric Heat and Airconditioning

Should hydronics go electric at all?

Air Conditioning, Heating & Refrigeration News

A LOSER IN THE BATTLE OF THE FUELS... UNTIL ELECTRO-HYDRONICS SAVED THE SALE

Domestic Engineering

Defense Department Bans Packaged Heat Pumps...

The Blue Blaze

Utilities Help Spur Use of Heat Pumps

Air Conditioning, Heating & Refrigeration News

Heat Pump Called Most Economical

Air Conditioning, Heating & Refrigeration News

Rate Discrimination — Electric Heat's Other Weapon

Fuel Oil News



As this grim tale unfolds, Mr. & Mrs. Public...



Holy bombshell!



OILMAN's there in a nick of time! Gas Salesman knows he's licked! How can his \$239 to \$1400 gas installation compare with OILMAN's \$99 oil modernization miracle?



Holy Heat! That was close! If not for OILMAN, they'd also be paying an extra \$100 to \$200 a year in extra fuel bills. That's how much less it costs for clean modern OIL HEAT!

Good Grief! Don't be switched to costly gas! Let OILMAN give your furnace the \$99 MIRACLE TREATMENT! SEND THIS COUPON TODAY! OILMAN WILL TELL YOU ALL ABOUT IT!

FUEL FACTS 271 Monitor Street, Brooklyn 22, N.Y. T-21

NAME _____

ADDRESS _____

NAME OF OIL SUPPLIER _____



FUEL FACTS (Serving Brooklyn, Queens, Bronx, Staten Island, Westchester and Long Island) 271 Monitor Street, Brooklyn 22, N.Y. Fuel Facts advertisement

Substantial Resistance Here to Heating Homes Electrically

The Milwaukee Journal

No Wonder... All-Electric Homes Sell Faster!

Pacific Power & Light Company advertisement

WHY THE BIG PUSH ON GAS RESIDENTIAL AIR CONDITIONING?

Air Conditioning, Heating & Refrigeration News

N.J. Contractors' Association Attacks Electric Heating Subsidies

Air Conditioning, Heating & Refrigeration News

Why Do People Convert to Electric?

Electrical World

Use of Electricity in New Homes Increasing in Washington Area

The Washington Post

Claims, counter claims, and counter-counter claims escalate . . .

The war of the heating systems

There's the battle of fuels and the battle of equipment. And these major battles are split into countless little skirmishes. Everybody's confused—including the contestants.

But any builder stands to benefit if he can sort out the facts. Here's what he can get:

1. So many options in heating-system planning that even houses in the lowest price range can have all-season equipment. This is largely because tough competition has spurred a vast new array of heating equipment.

2. A choice of deals that range from merchandising help to cash in the pocket. So much heating-promotion money is floating around today in so many different forms that it's almost impossible to avoid taking.

But the facts are not easy to sort out. What makes it difficult is the smoke screen thrown up by:

1. *Modern heating terminology.* Examples: total comfort, total heat conservation, flameless fuel, fossil fuel, insulation R/numbers, infiltration loss, triple glazing, electro-hydronics, zoning.

2. *Contradictory claims.* Examples: This fuel is really cheapest. This kind of heating system is really most comfortable. This kind of heating system is really most efficient.

3. *Regional price differences.* Gas prices, for example, are rock-bottom in the South and West where natural gas is abundant, but not in the Northeast and Midwest. Electricity prices, which look high away from the Tennessee Valley Authority and the Pacific Northwest, are nevertheless being trimmed all over the country.

These facts, at least, are clear:

Electricity is the aggressor in this war—its promoters spend twice as much money as anybody else. Gas and oil are the defenders. Backing up the fuels—but fighting among themselves at the same time—are the equipment manufacturers.

But to accurately judge what all these factions are really offering, you have to know a lot more than just fuel and equipment claims. You also need to know the sales strategies and marketing goals that dictate those claims. That's what you'll find on the next four pages.

FUEL—everybody claims lowest cost but the answer is anybody's guess

No one will ever come up with a universal, unchallenged answer because there are too many price, cost, and discount factors — and too many ways to define, break down, and alter those factors. Try starting out, for example, with a sampling of the industry's current heating-cost comparisons.

How much does it really cost? Take your choice of statistics

What the statistics prove depends not only on who's publishing them but also on what part of the country they come from. An ad run in New York papers last month by Fuel Facts of Brooklyn claims "gas costs at least \$100 more than oil every year." The statistic is not documented in the ad, so a skeptical reader could easily pass it off as oil propaganda.

But in most fuel skirmishes, documentation can be had by the barrelful. The Pacific Power & Light Co. surveyed 300 homes in Washington and Oregon and found that all-electric homes cost less to operate every month of the year. Average annual savings over gas: \$46.57.

Gas, tired of cost studies based on sample groups of houses, thought up a more direct approach. East Ohio Gas Co. of Cleveland built two identical houses last fall in Canton, Ohio — one heated by electricity, the other by gas. They were built to the electric industry's thermal

specifications, their thermostats were locked at precisely the same temperature, and impartial technicians were brought in to referee the two heating systems' performance. The result, needless to say, is bad news for electricity. In the first five months, the gas system burned \$74.40 worth of fuel, the electric system used more than twice that—\$187.53 worth.

The Electric Heating Assn. turns to the government for support. According to the Bureau of Labor Statistics, oil retail prices rose 36.9%, gas rates jumped 45.4%, but electric heating rates dropped 21.5% between 1946 and 1963.

However, oil and gas promoters can show with the Better Heating-Cooling Council's table of comparative fuel costs (box below) that electricity is still the most expensive heating fuel by far.

In the absence of clear-cut cost statistics, the winners of the fuel fight are often those who can do the best selling job—and offer the most attractive bonuses.

How much does it really cost? Take your choice of subsidies

Depending on how many houses are involved, there can be lots more—or less—than meets the eye in the cost of a heating system. Fuel sellers shave their prices through a variety of bonuses ranging from trading stamps (for homeowners who switch fuels) to cash.

Most big gas and electric utilities, and some oil-dealer associations, will buy advertising for builders, map out builders' marketing programs, and supply them with model-house salesmen. Then they will throw in equipment and engineering discounts and perhaps some other price breaks arrived at privately.

But the most effective form of heating-fuel subsidy is probably the permanent rate discount. Reason: it is a salable benefit to the home buyer.

Electricity is the unchallenged leader in rate discounting, and in its hands the permanent discount becomes a two-edged sword. First, it challenges oil and gas prices by giving a special low electricity rate to all-electric houses (now ranging from 1.0¢ to 1.5¢ per kilowatt hour). Second, it penalizes oil and gas heating customers—who also buy electric power, but only for lighting and appliances—by not giving them the special low rate.

Electricity recently added another kind of inducement. Some insurance companies now offer special low rates to electrically heated houses on the grounds that electricity, because it is flameless, is safer.

But a builder buying heating today can't make a decision strictly on the basis of fuel price, operating cost, and bonuses. He still must find out what's required of him in the way of house design—specifically, thermal design.

How much does it really cost? Take your choice of insulation

The thermal design of a new house is crucial to electricity promoters, but gas and oil men couldn't care less about it. Reason: barring sharp cuts in electricity rates or dramatic improvements in equipment, the only way an electric heating system's operating costs can be brought within the range of gas and oil is through strict heat conservation.

So the electric-heating industry has rules about insulation — 6" in ceilings, 4" in walls, 2" in the floor—and recommends such details as tempered-glass fireplace enclosures to prevent heat loss up the chimney. This concern about heat loss has inspired new forms of insulation like foamed-in-place plastics and triple glazing (drawing, opposite) and created new concepts like "total heat conservation."

Gas and oil men sneer at total heat conservation. Their insulation recommendation is still generally the minimum: 2" in ceiling, 1" in walls, 2" in floors. They call attention to the problems of tight houses — namely, high humidity and odors—for which the electric-heat people openly recommend separate dehumidifying and air-filtering machinery.

But despite its problems and its extra expense, total heat conservation pays off two-fold for the electric-heating industry.

'Circle your local fuel rates and compare . . .'

So suggests the Better Heating-Cooling Council on a wallet-sized card (right) that compares the cost of using electricity for resistance heating with the cost of gas or oil hydronics.

Example No. 1: Electricity at 1.5¢ per kwh and fuel oil at 13¢ per gal. Fuel oil price would have to increase almost four times to 48.9¢ per gal., or electric rate would have to drop to 0.4¢ per kwh before electric resistance heating became equal in cost.

Example No. 2: Electricity at 1.3¢ per kwh and gas at 11.7¢ per therm. Gas price would have to increase to 30.5¢ per therm, or electric rate would have to drop to 0.5¢ per kwh before electric resistance heating became equal in cost.

Electric Resistance Heating at:	Is the same as paying these prices for—	
	Fuel Oil*:	Gas*:
2.0¢/Kwh	65.2¢/Gal.	46.9¢/Therm
1.9 "	61.9 "	44.5 "
1.8 "	58.6 "	42.2 "
1.7 "	55.4 "	39.9 "
1.6 "	52.1 "	37.5 "
1.5 "	48.9 "	35.2 "
1.4 "	45.6 "	32.8 "
1.3 "	42.4 "	30.5 "
1.2 "	39.1 "	28.1 "
1.1 "	35.8 "	25.8 "
1.0 "	32.6 "	23.4 "
0.9 "	29.3 "	21.1 "
0.8 "	26.1 "	18.8 "
0.7 "	22.8 "	16.4 "
0.6 "	19.6 "	14.1 "
0.5 "	16.3 "	11.7 "
0.4 "	13.0 "	9.4 "
0.3 "	9.8 "	7.0 "
(3413 Btu per kwh)	(139,000 Btu per Gal. #2)	(100,000 Btu per Therm)

* At 80% efficiency.

It not only makes operating costs look better—it also gives the homebuyer a no-risk deal.

**No need to doubt cost estimates
—you can have them insured**

Electric heating installations are now so scientific that a national insurance company is willing to take bets on how much fuel they'll use. The company, Marsh & McLennan Inc., will write a warranty on the estimated operating costs of any approved electric-heating system—one that meets the electric utilities' standards for house insulation, system design and equipment—and back it for three years. It pays up to \$1,000 whenever operating costs exceed the initial estimate by more than 10% (similar to \$50-deductible auto-collision insurance). The homeowner, who pays \$7 a year for the policy, is reimbursed by the heating contractor.

All this engineering and promotion work obviously demands a great deal of money. And some of the fuel sellers are beginning to wonder if they can really afford it.

**Gas and electric utilities
lead the costliest fuel battles**

According to McGraw-Hill's *Electrical World* magazine, electric utilities spend 3.8% of their operating dollars on promotion while gas utilities spend 1.8%. Electricity, being a young competitor, would naturally have to spend more to catch up.

But the gas utilities are taking a new look at how much the electricity promoters are willing to spend. This may cause the gas people to redefine the limits on how much further they will go to induce homebuilders to buy gas.

The American Gas Assn. got an outsider's perspective on the problem last year by hiring a researcher, David Sage Inc., to scout the electric industry's sales and promotion methods in homebuilding markets. Sage's report describes four types of heavy financing support offered to builders exclusively by electric-heat interests: 1) land development financing; 2) interim construction financing; 3) permanent financing of apartment buildings; 4) permanent financing of built-for-sale housing in the form of second mortgages.

This is moving far away from the point of sale, Sage points out, and thus has a doubtful effect on electric-heating sales in general. The researcher has this advice for the gas people: "The gas utility able to offer creative marketing assistance may find this to be the strongest inducement of all."

The utilities aren't the only ones questioning how much they should spend to win builders. The oil dealers are also questioning how much the utilities should spend.

**Oil dealers fight the utilities
by hauling them into court**

Lacking the big promotion money of the utilities (oil dealers say their average annual profit is \$50 a consumer), the oil industry is constantly challenging the legality of the utilities' promotion spending.

Oil jobbers put an end to gas and electric heating bonuses in North Carolina in 1963. They got the state's General Assembly to approve a bill stating: "No public utility shall offer or pay any compensation or consideration, or furnish any equipment to secure the installation or adoption of its regular utility service" unless the utility commission approves. Some North Carolina utilities have since been turned down when they tried to get such expenditures okayed.

Other states have been petitioned by oil dealers to pass similar legislation.

Oil dealers, backed by the National Oil Fuel Institute, are also seeking laws against these practices:

1. Rate discrimination — the oil industry's term for giving all-electric homes lower electrical rates than homes heated by oil or gas.

2. Insurance discrimination—the oil industry's term for giving lower insurance rates to houses heated by electricity.

But oil dealers aren't entirely above handing out promotion assistance. On New York's Staten Island, oil dealers got together last year and made an impressive sale of hydronic oil-heat systems in an area dominated by ducted gas heat. Their method: teaming up with a manufacturer to share builders' sales and ad costs.

Teamwork — more specifically, the breaking up of obsolete old teams and the setting up of effective new teams—is how the fuel sellers make their inroads.

**Survival means new alliances of
fuel men and equipment makers**

Who's working with whom is not always clear in the fast-moving heating industry, but it usually makes sense.

Consider these alliances:

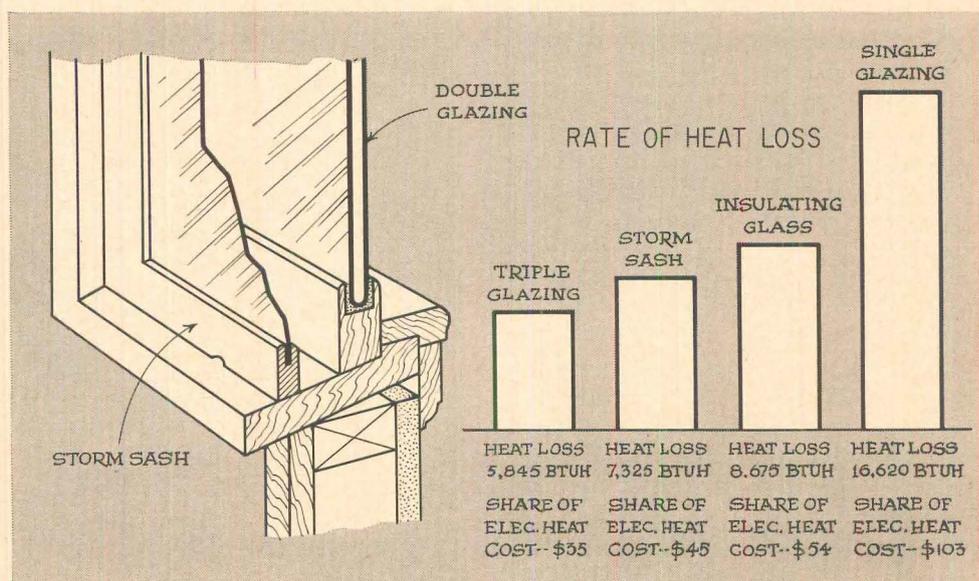
1. The International Oil Burner Co. is now one of the most active suppliers of electric heating equipment.

2. Some four dozen coal companies are charter members of the Electric Heating Assn. Their own residential heating market having died out, the coal people are now anxious to increase electric-heating loads because coal-fired steam generators produce much of the country's electricity.

3. The Better Heating-Cooling Council, champion of hydronic heating, fights electric-resistance heating but is not adverse to electric boilers—and actively promotes electric air-conditioning.

The president of the American Gas Assn. spelled out his new battle plan in March in the AGA house organ: "AGA is exploring the possibility of working with the Mechanical Contractors' Assn., Better Heating-Cooling Council, American Boiler Manufacturers Assn. and other groups to develop a joint, united attack in the heating battle."

But getting the equipment manufacturers to take sides in the fuel battle isn't easy. Many of them—as the rest of this story explains—don't have to fight.



Triple-glazing—the ultimate in heat conservation

Three-layer windows—double-glazing plus storm sash—have been proposed by electric heating men as a key goal in their quest for total heat conservation. The bar chart above, showing how heat loss through triple-glazing compares with

heat loss through double and single glazing, is from studies by American Electric Power Service Corp. The figures are based on a one-story house with 217 sq. ft. of window and door area and a 75°F thermostat setting.

EQUIPMENT—the question is what kind provides the most comfort

As long as the fuel sellers are spending such huge sums on promotion (*see p. 107*), the heating-equipment manufacturers may as well get in on it. How? By making equipment for all three fuels. But one thing they can't resolve is which kind of equipment produces the greatest comfort.

Total comfort—what it is depends on who's selling it

There's no denying that total comfort is the heating system all modern houses should have. But what is it, really?

Ducted warm-air manufacturers—who probably originated the term—say total comfort is a ducted warm-air heating system that incorporates a central air-conditioner, electrostatic air cleaner and humidifier (*drawing, below*). According to a 30-page booklet on the subject published by Lennox Industries, the blower must run constantly—never shut off—and supply registers must be located on the floor. As for what fuel to use, Lennox, like other manufacturers, doesn't discriminate: "The heating element in a ducted central system can be hot water, electric coil or direct-fired heat exchanger." What's more, Lennox doesn't mind admitting that a ducted total comfort system probably costs just as much to operate as a non-ducted total comfort system because of the added cost of running the blower all the time.

Hydronics manufacturers—who use pipes instead of ducts—say total comfort is two separate systems. One is a hydronic (hot-water) heating system with baseboard radiation. The other is a ducted central air-conditioner with supply registers near ceiling height (*drawing, opposite*). All this equipment sounds more expensive than the ducted warm-air system, but it's well worth it, says hydronics' chief promoter, the Better Heating-Cooling Council. First, it puts the winter-time hot-water radiation where it should be—at ankle level. Second, it lets summer-time chilled air enter where it should—overhead. The logic: warm air rises, cool air falls. This logic, BHC points out, is flaunted by the ducted warm-air industry's use of dual-purpose floor ducts.

Electric-heat manufacturers—who have a decided edge because they make such a wide array of equipment—say total comfort is any kind of heating-cooling system you want to buy. They sell radiant ceiling panels and baseboard convectors for straight resistance heating, duct coils and electric furnaces for ducted warm-air heating, electric boilers for hydronic heating,

and heat pumps. The last category deserves closer attention.

Electric heating's key to total comfort: the heat pump

This is the year of the heat-pump breakthrough. Two manufacturers—Westinghouse and General Electric—have shown that the heat-pump industry is finally getting serious about making this heating-cooling appliance as dependable as standard central heating equipment.

This strengthens electricity's competitive position for two reasons:

1. The heat pump, unlike electric resistance heating, lets electricity salesmen offer a four-part total comfort system—heating, cooling, air cleaning, and humidifying. That's because the heat pump operates through duct work.

2. Heat pump economics are favorable. A University of Illinois study showed that the heat pump's heating cycle uses less electricity than either of two other kinds of electric-heat equipment that also permit a total comfort system—a central electric furnace or electric duct heaters. Coupled with the operating cost of its cooling cycle, and given moderate local electricity rates, the heat pump's year-round performance can be very competitive.

Heat pumps have moved into the northern states in just the last couple of years. They were originally designed for the

South, where all they had to do in the way of heating was take off the chill on frosty days. Moved to the North, and made to operate under full winter heating loads, heat pumps turned out to be somewhat frail. Last year the U.S. Defense Dept., a big purchaser of heat pumps, discovered from a sampling of 10,000 units that heat-pump compressors had a 30% failure rate. Defense promptly announced it would not buy another one until someone made a better model.

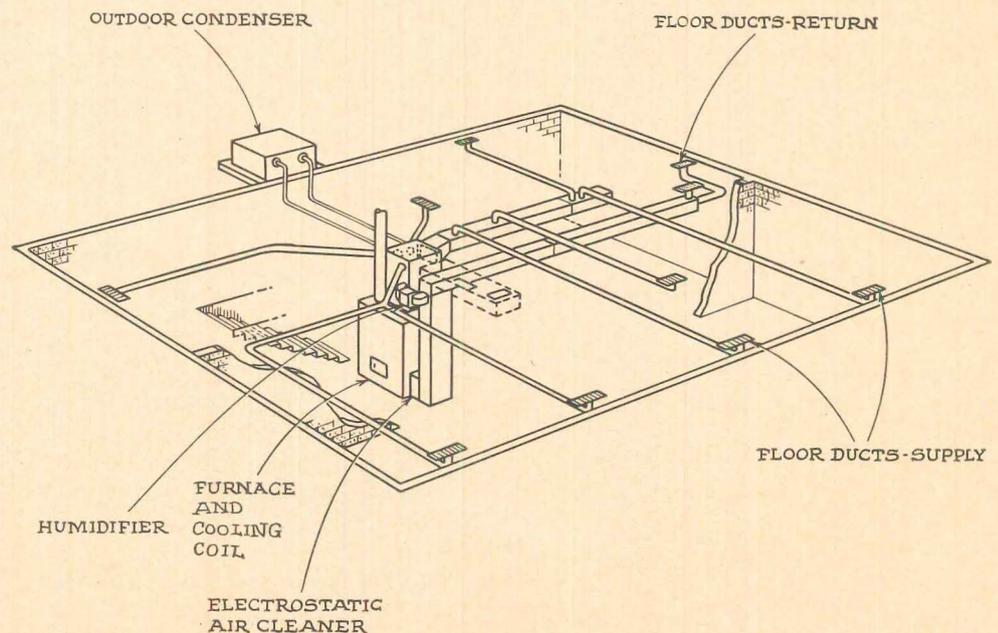
So General Electric and Westinghouse have revamped the heat pump, and now other companies are following suit. Specifically, the manufacturers have made their heat pumps more reliable and easier to maintain by simplifying circuits and reducing the number of components. General Electric is spending \$1 million this year to promote heat pumps along with air-conditioning equipment in general.

What's being done with air-conditioning equipment is an important story to another group of heating-equipment makers.

Hydronic heating's key to total comfort: quick-connect cooling

To minimize the cost of adding overhead air conditioning to a hydronic heating system, the hydronics industry draws on the good news of modern cooling technology.

The news is that air-conditioning manufacturers now ship hermetically sealed split systems with quick-connect couplings so that installers no longer have to 1) blow contaminants out of the condenser and evaporator coils, 2) braze joints, 3) charge the system with refrigerant and 4) check for leaks.



DUCTED WARM AIR equipment manufacturers say the ideal total comfort system is a furnace with constantly running blower, plus air-conditioner, electrostatic air cleaner and humidifier.

Thus a spokesman for the Institute of Boiler and Radiator Manufacturers could claim at a recent hydronics seminar on cooling: "Cost of the separate direct expansion air-conditioning system is kept to a minimum by the use of ready-to-install equipment like packaged units and pre-fabricated ductwork."

Ironically, those same sales points are also used by hydronics' direct competitor—the ducted warm-air industry—to promote warm-air heating equipment.

Central air conditioning, the constant beneficiary of all total comfort promotions, is now installed in one of every three new houses. In 1960 the figure was only one out of nine.

But not all air-conditioning promoters are enjoying this increase as fully as they would like.

Gas utilities' key to total comfort: gas-fueled cooling

Gas is way behind in the field of total comfort. It usually gets only half the total comfort package—the heating half—while electricity gets the cooling half.

But gas has the potential for winning the whole package—it all depends on the acceptance of the gas-absorption air conditioner.

So far, though gas cooling has been available for some time, it has barely dented the homebuilding market. Reasons: it costs more to install a residential gas air conditioner, and homebuilders and homeowners don't know much about it.

Two gas groups are now working hard to change all that:

1. The American Gas Assn. has begun a one-year research project on the mechanics of gas cooling to bring down instal-

lation costs and make them more competitive.

2. A group of utilities called UPGRADE—Utilities for Progress in Gas Residential Air Conditioning—is spending more than \$12 million a year to tell builders and homeowners the merits of gas cooling.

The gas industry even has its eye on the possibility of all-gas homes. And, in fact, there are some. They are hooked up to natural-gas-fueled generating plants that produce not only heating and cooling but also electricity. This system cuts out the electric utilities, but it is not likely to make significant inroads for a while.

One reason is that the heating industry now has its customers expecting smaller, not larger, equipment.

The new look for equipment is compact, simple, and efficient

Not only is heating equipment getting smaller, it's getting more sophisticated. Check this recent offering from an electric-heating supplier: "computer-like thermostats that anticipate future levels of heat and cold through built-in patterns based on past weather conditions."

The electric people started the compactness trend with their resistance heating, which needs no central distribution machinery. Both warm-air and hydronics manufacturers have tried to compete by shrinking their furnaces and boilers to make them as inconspicuous as possible. New electro-hydronic boilers, for example, are so slim and lightweight they can be hung on a wall (see p. 144).

The electric people—with their concern over operating costs—also started the efficiency trend. They promote room-by-

room zoning and 100% fuel efficiency. So the hydronics promoters now say six zones should be standard in hot-water systems. And at least one major manufacturer has completely redesigned all its oil-burning equipment to make it run more efficiently in less space.

Compact heating equipment is a particularly powerful weapon in the remodeling market.

Quick-conversion equipment can snatch away old customers

With compact, versatile, fast-hookup heating plants, the fuel sellers can switch an existing heating system from one fuel to another in half a day.

One of the oil dealers' worst nightmares is an electricity salesman selling a long-time oil-hydronics customer on how easy it is to rip out the bulky old oil-fired boiler and substitute a sleek new electric boiler. A current battleground for this kind of conversion is the original Levittown on Long Island.

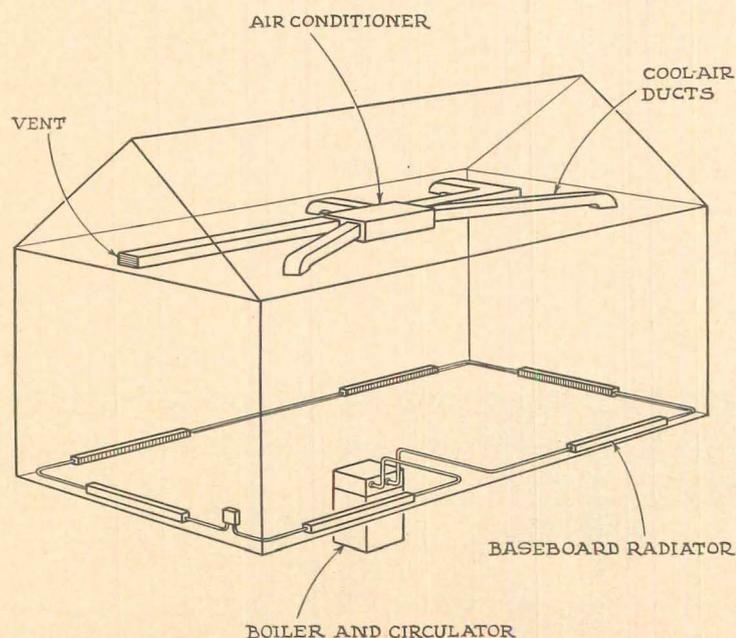
Electric heat people have still other benefits to offer remodeling customers:

1. The ease of snaking wires through walls and floors—as well as the elimination of the old gas or oil furnace or boiler—when electric resistance heating is installed.

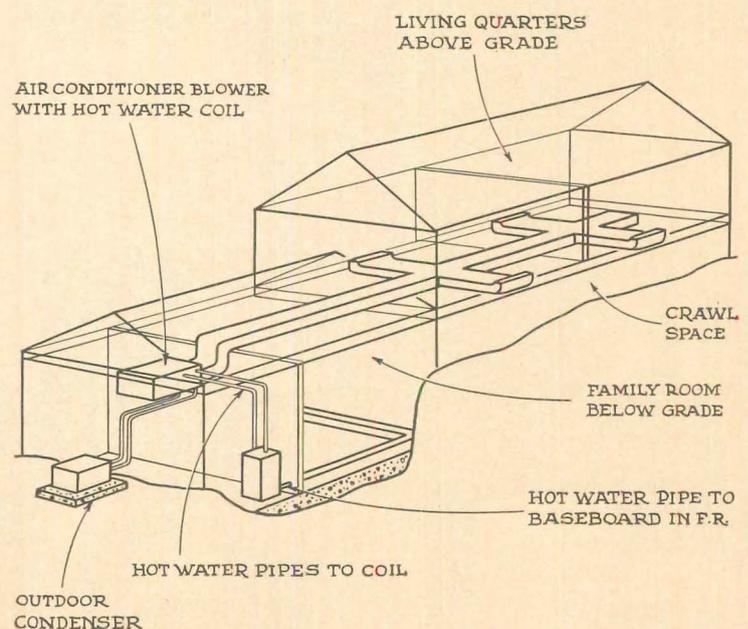
2. The ease of hooking a heat pump or electric furnace to existing ductwork.

Hydronics salesmen are banking on the versatility of small-diameter piping to win conversions. They claim it can be pulled through walls and between floors as easily as snaking wires. And for replacing a warm-air system, they suggest passing new hydronics piping through the old ducts.

—H. CLARKE WELLS



HOT-WATER RADIATION plus overhead air-conditioning is hydronics manufacturers' idea of total comfort. They say it makes more sense than a warm-air system with all-purpose floor ducts.



DUCTED HYDRONICS is an expensive way to incorporate the comfort of hot-water radiation in below-grade rooms with the heating-cooling flexibility of forced-air ductwork above grade.



Photos: Michael Tenzer



Round Table

How to speed new products from the men who make them to the men who use them

Critics constantly assail the chaotic distribution of building materials and products in the housing industry. Their observations are accurate, but their conclusions are wrong. It isn't the distribution pattern that makes every builder's operation different from the next man's; it's those differences that create the distribution pattern. Only as homebuilding's systems grow more standardized will distribution do the same.

Every distribution level, from the manufacturers to the builders who retail the finished product, took part in HOUSE & HOME's two-day Round Table held in Los Angeles. They agreed that the only unbreakable rule in distribution was that there were no unbreakable rules. They agreed that distribution was merely a series of functions: manufacturing, shipping, warehousing, financing, inventory control, delivery and installation. Any system that fulfilled these functions and gave the lowest in-place cost to the end product—a house or apartment—was a good system. Any system that permits an inefficient step, or an over-expensive step, is a bad system.

The free-wheeling discussions showed that there are many different ways to good distribution. Every builder, sub-contractor, wholesaler, jobber, distributor or manufacturer can measure his performance against the conclusions drawn by these experts. For highlights of the sessions, please turn to p. 112.





Participants

Anderson, Don, manufacturer
Kwickset Lock Co.
Anaheim, Calif.

Anderson, John, manufacturer
Olympic Stained Products Co.
Seattle, Wash.

Barker, Frank, manufacturer
Shakertown Corp.
Winlock, Wash.

Broad, Eli, builder
Kaufman & Broad Bldg. Co.
Los Angeles, Calif.

Burkett, Abel A., contractor
Newbridge Electric Co, Inc.
Syosset, N.Y.

Burt, James A., manufacturer
Aluminum Co. of America
Pittsburgh, Pa.

Carrington, Walter, builder
Austin, Texas

Cheek, George C., manufacturer
American Plywood Assn.
Tacoma, Wash.

Cummings, Kenneth A., manufacturer
Thomas Industries, Inc.
Louisville, Ky.

Dawkins, DeWitt C., Jr., lumber dealer
Dawkins Lumber Co.
Jacksonville, Fla.

Deane, Ben, builder
Huntington Beach, Calif.

Eberle, W. D., manufacturer
Boise Cascade Corp.
Boise, Idaho

Goodman, Charles S., professor
University of Pennsylvania
Philadelphia, Pa.

Moderator: **Richard W. O'Neill**, editor, House & Home

Jaeger, Robert, manufacturer
Whirlpool Corp.
Benton Harbor, Mich.

Harper, Don, manufacturer
Emerson Electric Co.
St. Louis, Mo.

Lamb, L. Cecil, manufacturer
U.S. Steel Corp.
Pittsburgh, Pa.

Leitch, Richard, architect
Newport Beach, Calif.

Meckstroth, Donald R., manufacturer
American-Standard Corp.
New York, N.Y.

Pease, James L., Jr., manufacturer
Pease Woodwork Co.
Hamilton, Ohio

Peterson, Virgil, manufacturer
Red Cedar Shingle Bureau
Seattle, Wash.

Phillips, Robert O., manufacturer
Simpson Building Supply Co.
Seattle, Wash.

Place, Andrew, builder
Place & Co.
South Bend, Ind.

Primack, Samuel, builder
Perl-Mack Homes, Inc.
Denver, Colo.

Reid, Charles, contractor
C. J. Reid, Inc.
Montvale, N.J.

Richey, Thomas W., builder
S. V. Hunsaker & Sons
Irwindale, Calif.

Schaub, Richard, manufacturer
Waste-King Corp.
Los Angeles, Calif.

Schmitt, Robert F., builder
Berea, Ohio

Seidel, Ted V., manufacturer
Barrett, Div., Allied Chemical Co.
New York, N.Y.

Shedden, James H., lumber dealer
Lord & Bushnell Lumber Co.
Chicago, Ill.

Shelley, David L., manufacturer
O'Keefe & Merritt Co.
Los Angeles, Calif.

Simons, Thomas W., manufacturer
Artistic Brass, Inc.
Los Angeles, Calif.

Slemp, William, manufacturer
Potlatch Forests, Inc.
San Francisco, Calif.

Smales, Fred B., manufacturer
U.S. Plywood Corp.
Los Angeles, Calif.

Smalley, Marvin, manufacturer
Price-Pfister Corp.
Los Angeles, Calif.

Smith, Dallas, manufacturer
Schlage Lock Co.
San Francisco, Calif.

Sneddon, Thomas, lumber dealer
National Lumber & Building
Materials Dealers Assn.
Washington, D.C.

Thompson, Clarence A., lumber dealer
Thompson Lumber Co.
Champaign, Ill.

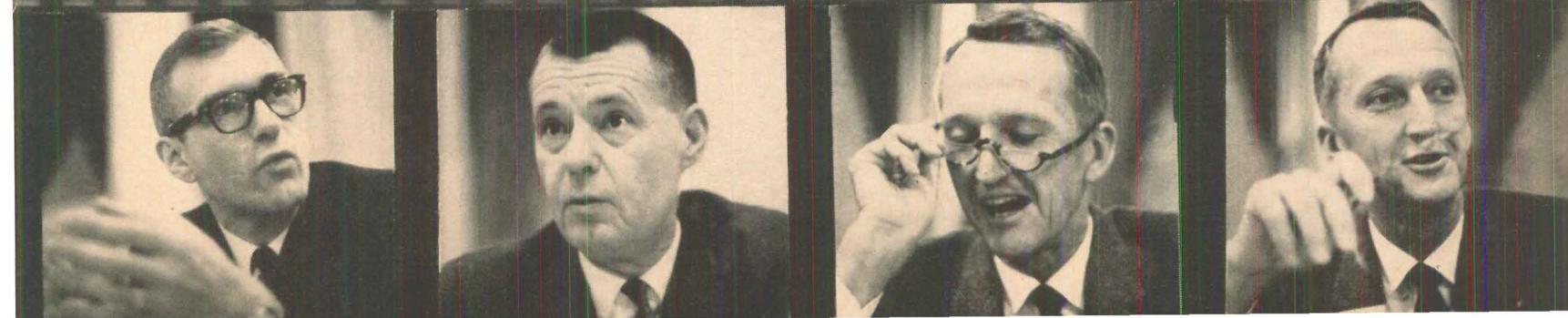
Watt, Ray A., builder
Gardena, Calif.

Weinberg, Lawrence, builder
The Larwin Group
Beverly Hills, Calif.

Weyerhaeuser, George, manufacturer
Weyerhaeuser Co.
Tacoma, Wash.

Yeonas, Gus, builder
Vienna, Va.

continued



1 Many builders would like to buy direct, but by-passing the normal distribution system is no panacea

Any channel of services is a good distribution system if it results in the lowest cost of the end product—a dwelling for sale or rent. The cost is determined partly by price, but equally by delivery, financing, and the cost of warehousing and inventories.



George Cheek: There are five kinds of people who can and do buy in carload lots: 1) independent warehouse, 2) mill warehouse, 3) office wholesaler, 4) retail dealer, and 5) final user. Sometimes materials go through three different hands before they get to the final user.

Eli Broad: In large metropolitan areas we are better off buying from a large wholesale lumber yard than buying directly. In smaller cities we have found it to our advantage to buy lumber direct from the mill. The distribution of materials is going to be done in the most economic manner.

Andrew Place: We like to buy direct, yet we realize it wouldn't make sense for us to stock huge quantities of many items. We buy them from the distributor, who stands behind us.

Walter Carrington: If builders want to use "icing on the cake," like a really fine set of trim, we have to take on the responsibility of the distributor. We have to inventory the glamorous trim because we are not able to get a distributor in our town to warehouse, inventory and service this product.

Fifteen years ago our company opened a lumber company to buy from the manufacturer. Now we find that we can buy lumber locally for less money than we can actually warehouse and service it ourselves.

Dewitt Dawkins Jr.: Merchandising lumber and building material is changing tremendously. Competition is forcing us to get out and stock these added lines, which we do with great pleasure. We must stock and sell

what our customer wants, and we have long since quit resisting the needs of the marketplace.

Robert Schmitt: The dividing line in buying direct or buying through your subcontractor is which is more economical. I can't possibly buy light fixtures and hardware direct and stock them, but dealers and the distributors can. However, 90% of our costs are in ten classes of material and these are the ones that we try to buy direct.

James Shedden: Seventy-five per cent of builders build 25 houses or less a year, and these builders are a great market for the lumber dealer because they do not buy direct. There are lots of dealers who can save Mr. Schmitt money on an "in place" basis. We have dealers who handle their material probably more efficiently than the average builder could ever think of because they handle it in volume.

Broad: On military housing projects, manufacturers sell directly to our subcontractors. I can't see any difference between a military project and building three or four hundred homes in the Los Angeles Metropolitan Area. Why not sell our subcontractor in L. A. direct?



Don Meckstroth: If I were a short-line producer I would seriously consider that, but I am not. We provide a substantial amount of variation for today's market which demands customizing from you builders. So we supply your contractors most efficiently through distributors.

Charles Goodman: You go to an air conditioning distributor because you have the problem

of parts for maintenance and repair. It is most economic to let the repair inventory be combined with inventory for new construction, and a distributor does that more economically than a contractor.

Dawkins: Most dealers in my area of the country are pretty sensitive about a manufacturer coming in and trying to sell both him and his customers. Given a free choice, they would stop buying from that manufacturer.



James Pease Jr.: If you have an economic reason for buying direct from a manufacturer, he ought to sell to you, and not protect some distributor because he signed an agreement with him 55 years ago.

The one thing a distributor or dealer doesn't like is a manufacturer who, without good, long-range economic reasons, disrupts the market for a certain period of time. Then six months later, the manufacturer comes in and decides he can't sell at that price. He pulls out of the market, after having disrupted it. This is one of the most serious complaints the distributors have against manufacturers who sell direct.

Place: We are all guilty of marking things up when we don't have a right to.

Now I don't think that is what we want, but there has to be some compromise between that and the mark-ups our distribution systems have today.

Schmitt: I think that competition in distribution is such that, automatically, unnecessary distribution hands get eliminated. Most distributors are in two businesses. One is servicing the small builder who builds an average of 25 homes or less, and the other that of a broker handling direct shipments to a big builder. He merely performs a billing function and carries the account.

A contractor or subcontractor needs material at a specific time in order to coordinate the job. What happens when material coming from the manufacturer does not arrive on time? That is where the distributor can serve his function. He has an inventory; he tides the builder over,

or the dealer over, until the direct shipment arrives.

Samuel Primack: Buying direct or not, the issue is to get the goods there at the proper time to save money in the construction process.

Pease: What we need to do in the distribution system is to eliminate those steps which do not contribute to the value of the end-product, the house. It does not really make much difference whether the manufacturer sells the builder direct or not if he can provide the service. But if he shelters an inefficient step by his distribution system he is not rendering a service to the industry or to himself.

W. D. Eberle: I think too many distributors and builders forget about credit when they talk about buying direct. The distributor will pay in five days, or ten days, or 15 days, but builders want 120 days, which runs right up against return on investment.

Clarence Thompson: We give a discount to anybody who pays by the tenth of the month, and the majority of our builders pay us by the tenth of the month. If they can't get their construction money, we set up construction money loans. We charge them three-quarters of one per cent for the money they borrow plus 6% straight interest.

Shedden: Our accounts receivable are 90% paid by the tenth of the month, and we do business with many different types of builders. We don't give a builder a 2% discount after 120 days. It is not good business.

Gus Yeonas: Manufacturers should inform builders of their production schedules. I think there should be more flexibility in the production line.



Robert Jaeger: He put his finger right on the problem. The only way we can give color and style choice is with distributors who will inventory, plus regional warehouses. If a builder has decided on which product he is going to use and then doesn't deviate from that, it can be warehoused in all areas.



Primack: That sounds good, but we try to allow as much consumer choice as possible. And warehousing a certain color two months in advance may not help us. Most manufacturers tell us, "We need at least two weeks on it." That's not good enough for us. We can't use someone who doesn't have good warehousing facilities for us to draw on.

Don Harper: Buying direct is

2 Distribution is not itself an end, but part of the building process affected by changing conditions

Builders sometimes forget that an efficient distribution system can contribute real labor- and time-savings to on-site building. But most distribution systems suffer from an inability, based on economics, to meet changing demands.

Meckstroth: We need distribution systems between us and the builder because we only sell components of finished elements in a house, and builders buy finished elements, usually through sub-contractors. For instance, we build components of an air conditioning system. Someone else must make a working system that has real performance in a specific installation.

Many people feel the manufacturer makes the air conditioning system. That is a fallacy. We are convinced that we should market to all builders through a professional wholesale distributor and professional contractor organization. The reason the contractor is essential is that he has to create the system that ends up as part of the house.

The logistics of local supply and credit must be accommodated by a wholesale distributor or by ourselves. We feel that the professional wholesale distributor does it more efficiently and is more a part of the community.

Cheek: One of the services somebody has to supply is inventory handling. If all you make are 8-ft. long 2x4s, distribution and inventory aren't much of a problem. If you make 50 kinds of appliances in seven different colors and you have to sell them direct to a builder who may build

no panacea. Builders recognize that there is good service and convenience involved in working through a distributor. There is some back-up inventory, and quick change potential. For their own specific needs they can't inventory enough, whereas a distributor who services 40 or 50 or more dealers in an area can keep enough to provide the quick changes Sam was talking about.

Goodman: You don't want to push the inventories too far forward because if you do you will end up with a lot of greens at the end of the pipeline when you need yellows, and a lot of colors you are not using out at the end of the pipeline.

But the new computerized inventory systems are much more responsive to changing needs.

300 houses or may build 25, you have to have a hell of an inventory, and those are the problems the distributor and the dealer ought to solve.

Primack: We decided to take the distributor—not the manufacturer—and purchase through him. He would have to take over the servicing. The five-year guarantee would be his problem, and he would provide a servicing agent. We only have to install the unit, and then we are completely out of it.



Place: Take air conditioning. Twenty years ago we used 16 hours of labor to uncrate the equipment, charge it with gas, and install it. It was a real nightmare. Today one man can do the job in four hours. Today we are buying more labor in your products. In 1939 building cost us about 40% for material and about 60% for labor. Now it

is about 60 to 65% for material and 35 to 40% for labor. Today's manufacturer product is marked up 20% and that 20% has added about 750 bucks to an ordinary \$15,000 house.

William Slemp: Distribution hasn't changed for years. Nobody wants to change distribution—the dealer, distributor, or manufacturer—but I think it is a necessity because of new products, new methods and new materials.

Part of the problem starts with the fact that the building industry is a custom industry. But manufacturers by and large are volume producers, and when you try to get these two together you create a problem.

George Weyerhaeuser: It is perfectly logical that manufacturers have differing policies on distribution depending upon the character of their line. A broad line manufacturer will probably use a broad line distribution system. He will probably bypass a builder's business if that builder wants to buy direct. Builders have a short-line requirement, and should be buying through a short-line supplier, if they insist on buying direct.



Robert Phillips: Those who are talking about distribution are affected primarily by the market itself. You are affected by what the end user wants. The wood industry is trying, through development, research and manufacture of specialties, to develop a philosophy similar to what the builders in this room have developed—namely the satisfaction of a market place. This philosophy is foreign to many old forest product manufacturers who were able historically, at some price or another, to sell their entire production.

Richard Schaub: Tradition and policy stand in the way of more efficient distribution.

For instance, a high-rise apartment builder may require no distribution system to serve him other than a truckload of supplies moving directly from the factory to the site. The home builder can probably serve himself best by sitting down with potential suppliers to analyze the distribu-

tion services he requires. They should then submit their quotations to him based upon the most efficient distribution program that they can set up to meet his needs.

James Burt: No matter what product aluminum creates as an end product, if we distribute it ourselves we conflict and compete with existing distribution systems. We are trying to find our way into the proper niche in the housing industry.

Kenneth Cummings: We offer a variety of components—more than a thousand lighting fixtures. It is very difficult for us to say to someone who is building 100 homes with 40 items that he is performing a distributor function and we'll sell him direct. The order itself is welcome, but what happens to our other 988 items?

Basically, a distributor must warehouse a full line, he must perform a sales function for the manufacturer, he must take care of all the credit, and he should be predominantly wholesale.

Schaub: We subscribe to a partnership concept between ourselves and our key exclusive distributors in our major markets. We have found that our own factory branches cost us as much, or more, than the independent distributor's costs of distribution.

But if a builder has minimal requirements for local warehousing and staging, products will be moved to the builder's site directly from our factory.

In agreement with our distributor, we will circumvent him and sell that builder directly. If a builder is willing to take unto himself some of the responsibility, by anticipating his requirements, taking delivery in large quantities and storing them at his own site, we will pass along the savings which result.



Thomas Richey: In the shell home business we found that in metropolitan areas we worked directly with manufacturers, but when we got out in the country we had to work with distributors. Where we used distributors, we were getting one type and color of roofing. With the manufacturer's sales force, we found we

could have other colors at the same price, and we were able to get a leg up on the competition.



Thomas Simons: Most distributors carry such a broad spectrum of products that they can't afford to spend the necessary time to bring choices and other lines to the attention of their better builder customers. We manufacturers have to go out and educate the builder, and then sell the distributor.

3 Factory-owned distribution can replace ineffective independents, but it is resented by most distributors

Some manufacturers have set up their own distribution to get product penetration where the normal system failed to do the job, but it takes capital and management talent which often could be better used by the parent company. One solution is to beef up a poor distributor with advice and talent until he can stand on his own feet.



Schmitt: I think manufacturers of large-dollar items do a much better job of distributing products than their dealers. But there are exceptions: hardware has to be handled by the local dealer. Light fixtures are the toughest nut. I tried to do it direct, and it didn't work out, but it doesn't work out on local independent distribution either.

O'Neill: Can the manufacturer leave himself at the mercy of an inefficient distributor, or should manufacturers set up owned and operated distribution systems?

Schaub: It is a matter of allocation of resources, financial and human. We have found it necessary to open up our own distribution in a number of major

Dallas Smith: Often, the local dealer or distributor has some other design he wants to move. The market is there, yet the dealer won't move, and there is nothing we can do to start him. He won't, or can't, make this investment in broadening his line.

Cummings: There isn't an easy answer. We introduce a new line about every 18 months. We bring our distributors into a meeting and we show them the line in person. We pay all their expenses, but we tell them to come in with an order pad.

We give them reasons to buy: dating, discounts, and better products. We do a little preselling at the builder level. You have to put a little excitement into your new products to get the distributor to buy them and move that other material off the shelf.

markets where either our previous distributor went out of business or failed to do the job adequately. But we are painfully aware that it takes dollars to do this, dollars that we would normally use in the development of new products or the expansion of our product line. And it takes manpower and management talent. So we would rather stay out of this, since we consider ourselves a developer and manufacturer of products rather than a distributor. But if we don't do it, it would be tantamount to withdrawing from some markets.

Eberle: You cannot leave a poor distributor in a major market. Our first desire is to find another one and help build him up. We operate our own distribution points in seven states. We do that to know what is going on in the field, but we demand a return on investment from that distribution point. If it cannot make a return on investment for us, it can't do so for a good distributor.

Weyerhaeuser: I think company-owned distribution can meet different objectives, one of which

is defensive, where you can't abandon a market; another is to provide initial thrust to new products, reaching markets that require specialized effort.

Simons: When we bring out an unusual new design we have to show it to the builder ourselves. Our distributors, though they do a nice job for us in many respects, never get the entire message across. If we go out and do the job ourselves, however, we build resentment at the distributor level.

Cheek: I know of two instances in plywood, where we sold the local code and we sold the builder, and even after the builder asked for the product, we couldn't get the distributors to try to get it. We had to take it direct to the builder in New York just to get it in place.

Schmitt: Builders often aren't interested in new products because the distributor who handles the new product isn't one who will carry them for 60 to 90 or 120 days. This is no small part of this whole problem of new product acceptance.



Fred Smales: I agree that no manufacturer can successfully promote products through ineffective distribution. If the manufacturer can't get the job done otherwise, he had better get in and do it himself. Usually, it can be done by independent distributors. It is a strange market that doesn't have one good distributor or one which could be built into a good distributor. But nobody is as interested in selling a product as the manufacturer. He must accept the burden of failure, if normal methods of distribution do not produce results.

Pease: A real question for the manufacturer is whether his product line is broad enough and market potential big enough to support the same functions that the distributor would support. Most distributors handle more than one line and in going into new markets, we demand our own distributor salesman to produce \$600,000 worth of business a year. If we can't get that much

potential out of a market, we rely on other distributors.

Phillips: Company-owned distribution provides a vehicle to market new products, and today's specialties become tomorrow's commodities only by nature of moving this merchandise closer to the market.

I once knew a firm that had dropped product lines because they lacked the vehicle to get them out where builders even saw them. In many cases they dropped products without knowing whether they were any good or not. Company-owned distribution might have saved them.

Ted Seidel: Where we find inefficient distribution, we make every attempt to upgrade the inefficient distributor with the help of our own people, with dealer-builder calls, subcontractor calls. In most cases, we have been able to make outside distribution more effective by additional work.

Marvin Smalley: Several years ago we realized we had to have our own supply houses, not because the outside supply houses were not successful, but because we couldn't expect to have complete efforts of distributors who carried other lines in competition with our own. Since we have disassociated ourselves from the other supply houses, our line has much more acceptance than it used to have, although the original supply houses did get our line started.

Cummings: On the other hand, we built our business on outside distribution, even though there are always weak areas. If an area is weak, we work with it by adding manpower, or enlisting some distributor to merchandise our material.



Harper: I wonder whether the people who go into controlled distribution ever run up against problems with their independents. What happens when the independent in one area finds out the manufacturer is going toward controlled distribution in others?

Eberle: This is a very serious problem. We have had to take

the policy that these are different segments of the market, and hope that people will accept this reasoning. We have the same problem where we are competing for the large builder, the industrial account or the prefabricated home manufacturer.

Thompson: Many of the manufacturers' problems arise from the fact that there aren't enough distributors to take care of all the manufacturers. You have a real problem, because the manufacturer who really wants to get in is going to do so one way or another. And when he does, and does not follow some of the usual practices, this upsets everybody else. Thus the distributor has a responsibility to see the manufacturer represented.



David Shelley: Ten years ago we had prime distributors in major markets. As other people began producing building equipment, they would go to this distributor, and failing to sign him as a distributor, they would go to the distributor's customer.

Smith: This happens in builder hardware quite often. Our dealers' franchise is based on the amount of potential volume in the area. If the dealer just takes the market he feels he can handle, we open up another dealer. We would never consider going to direct selling, however, because it would only alienate other dealers.



Don Anderson: We have cast our lot with outside distributors. We live and die with their vigor and their support. Our appeals are built to these people, our promotion is designed for them. The shortness of our line is in consideration of these people. We have spent years developing and supporting our policies with these independent distributors.

Distributors' reluctance to

stock new lines is understandable. There are lots of problems phasing out the old. So the less you bring to them, the better they like it. They hate to be disturbed.

But more and more today we get an open door policy. People want new products. We measure the ability of a distributor, the support he wishes to give us and what we can give him.



Shedden: When we find a distributor or manufacturer setting up his own distribution to sell our customers, we don't buy from him anymore.

Slemp: We feel that the right distributor is the best way to go, because he has the key profit motive of being an independent businessman. You can't get that kind of loyalty in an organization.

Burt: When we try to define a good wholesaler we think about one who attempts to protect our name, which we try to build up with national advertising. We attempt to market end products through wholesalers exclusively, but we already know that certain large manufacturers won't permit us to go that route. And we also know that certain wholesalers won't permit us to do the kind of job that should be done to fit our definition of a distributor.

We don't have enough control, really, of a wholesaler or a dealer, to tell him he must be an applicator because the wholesalers sell a lot of other products, too.

Frank Barker: We play it by ear. With the large builders, we sell commodities because they won't buy from a distributor. Our line is pretty broad. And we try to define specialties to the distributor because we feel he can do a good job, and they are usually sold in small job lots. But when we do sell direct, most of our distributors understand it.

Seidel: Many manufacturers realize that we have to come up with something more than price and delivery and service for the dealer. We have to think about his business. He might have three competitive lines and we want to add ours. I see no reason why he should, unless we can offer services that help him.

4 Manufacturers becoming home-builders seems to be no way to beat the problems of distribution

Local problems and local marketing have been the downfall of manufacturers who tried to go all the way to the homebuying public. Corporate overhead at the local level mushrooms, and a fatal confusion sets in between pushing the product or material and getting a proper return on capital investment.

O'Neill: What about the manufacturer who has and will continue trying to circumvent the distribution system and go right into homebuilding direct?

Smales: All we have learned so far is that it frequently takes longer, it costs more, and you make less.



Eberle: There's going to be lots of experimenting in the next two or three years. But we get into the question of return on investment. If a manufacturer is not making a return on investment, then he's got to change his system. If distribution channels and builders today do the job, they can do a better job than we can.

My guess is that various companies are going as far down the line as they have to to get their share of the consumer dollar. Manufacturer's projects will be done on a franchise basis, on a joint-venture basis, on a whole series of different kinds of bases. The question is: "How do you get the return on investment and increase your share of the consumer dollar as opposed to somebody's else's?"

Meckstroth: From the standpoint of a component manufacturer's profits, I think actually becoming a builder will be quite rare in my lifetime. The reason: a standardized house is usually not saleable and the way most manufacturers generate a high return on investment is by making components in large volume, and letting somebody else accomplish the system variations necessary for a marketable house.

Eberle: I think that is true, but I don't think that we should

duck the issue. If there is better communication between us and builders, there are going to be openings for manufacturers in homebuilding. They may get burned; but they may succeed.

Goodman: I think manufacturers will not go all the way to the house, because the advantage disappears as you reach the local level. There are so many other things that go into a house, plus local problems. Marketing of the house is becoming more important, and this is quite unlike marketing basic metals. No aluminum company has successfully competed in the aircraft business, and it is relatively simple compared to the housing business.

Pease: Manufacturers in homebuilding have not succeeded, not only because of the nature of the business and the problem of control, but because they don't have enough of their product going into the end product to justify the time and trouble it takes.

The home manufacturer has found the same thing. We haven't gone into homebuilding successfully because even we supply only 20 per cent of the house cost. There isn't enough in it.

Schmitt: Also, experienced management personnel for building operations are not available for hire. Partners, yes; not hired hands.

Slemp: I would concur that our responsibility lies in producing parts. We can sell parts nationally, but a major manufacturer building houses nationally is impractical.



Burt: We manufacturers may

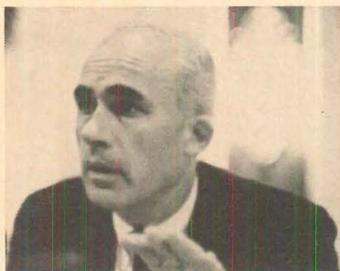
become land developers, because we are all in a position where we can no longer grow through the acquisition of other companies. We all have capital, and most of us already own a lot of land. We know how to buy and how to develop land.

Smalley: Why should anybody want to go into competition with his customers unless he has to? If I can make a product and sell that product to another user, I would prefer to do that. I don't want to get involved in something I don't know about.



Goodman: I want to remind you of the importance of maintaining the discipline of the competitive market. You get a better competitive discipline when business motivation comes from the market rather than from the producer.

A builder is concerned with getting the job done as economically as possible. This does not hold as strongly if the system is controlled by the producer. If a manufacturer interjects his products in a project uneconomically, he removes it from the discipline of the competitive market.



Ben Deane: The people in heavy construction are a good case in point for the manufacturers. They will tell you that

they are the best builders in the world, and they are. So they feel that they should be the best home builders. They build a couple hundred houses; they build them fast; they build them easily, and they build them well. Then they have to eat them, because they related the houses to engineering and production and not to marketing. One of the easiest things we do is build a house; the hardest is to market it.

Smales: One thing running through our conversations is the need for variety in housing. We tried to develop an ideal wall, roof, or floor section to produce in quantity, warehouse, and sell as a commodity. We discovered we had more problems in engineering and drafting than in manufacturing. Every job seemed to be different. To date, we have not developed a simple assortment of components which we could produce in volume and distribute profitably.

We also found that although shop labor is less expensive than site labor, overhead can pile up rapidly in the shop. Comparing labor, we have discovered that some of the site methods are pretty efficient; it isn't easy to profitably replace them.



Weyerhaeuser: A lot of us are going further down the line with our management strengths working for growth. It is not a threat to our distribution chains. We are going to turn to large builders to work with them. We may buy the land, but we are not going to do the complete job without expert help. We are going to see vertical integration, with builders and builder-dealers working right alongside the major manufacturers developing big projects.

Shedden: When a builder buys his materials from a lumber dealer, the dealer influences which commodity products are used.

Pease: Right. It's not often that the builder specifies the brand to his supplier. He may unconsciously specify the brand the supplier happens to carry. The builder must often delegate the responsibility for getting the right material to his distributor-supplier. That is a function of the distribution system. If the builder is big enough to have his own purchasing agent, to that extent he is his own distributor. But the supplier must at least recommend to the builder the kind of material to satisfy the builder's need. It is up to us to provide the materials to meet this need.



Lawrence Weinberg: In my company we use the word commodity for 2x4's or even bathroom fans, and the purchasing agent has complete discretion in specifying them. He can buy whichever one he thinks is reliable and can get at the lowest price. But with what we call a sales feature product, as differentiated from a commodity, we clearly define which one we want.

Pease: Often the builder changes suppliers to get the product he wants.

Deane: I agree. For any of those things that are sales features, we don't let the supplier, distributor, or anyone else tell us what to buy.

Pease: He doesn't tell you, but I think he recommends. If you have a good supplier you are apt to take his recommendation.

Deane: He will propose, but the decision is still ours.



Yeonas: The average builder is

concerned with the marketing appeal of the product. There are certain areas where we can be influenced, but we specify very definitely those products which affect the marketability of the finished home. The sub, dealer or supplier has very little to say.

Carrington: If there is any product the builder thinks will help him sell his houses, he will go to any trouble to get it.



Virgil Peterson: Can dealers talk a builder out of a new product because they don't wish to alter their inventory?

Thompson: It depends on the product and whether there is a similar product equal to it.

Primack: We go almost to the nuts and bolts in what we want included in a house, whether a subcontractor supplies the material or whether we buy it direct. We are quite rigid in this. One reason is that even a commodity item might cause us maintenance headaches later on. The thing that can kill you is saving a dollar in first cost, but spending ten to install and maintain this product.

Broad: There are some misconceptions held by manufacturers as to how builders select their products. We are rarely influenced by architects or distributors. We select a product as the result of 1) seeing it in a competitor's home, either in the market area we are in or in another area of the nation; 2) seeing it advertised in a magazine; and 3) seeing it at the NAHB show. Rarely would it be as the result of someone actually calling on us, or a distributor bringing it to us. Once we make the decision, we will do whatever we have to do to get the products, even going through the entire distribution system.

Charles Reid: The average builder I work with relies upon me to specify plumbing, heating, radiation, and air conditioning. If he wants my services as a subcontractor he has to use the materials that I buy in quantity for me to give him a good price.

If I thought I could help the builder sell the top of the line and people would pay for it, I

5 Builders often let suppliers select products and materials, but not the highly visible sales features

Sub-contractors and suppliers often determine what items go into the house by using only the brands, materials or products they normally buy. But volume builders insist on complete control over those highly merchandisable products that often make or break the sale of the house.

would certainly promote it. But I promote the line that I think I can sell, and that will help the builder to sell, I can increase my business most by helping the builder to sell houses.



Carrington: If I wanted a purple bathtub because they were helping to sell houses and my plumber wouldn't get it, I would get a new plumber.

Reid: We will give you anything you want as long as you realize that it is not a run-of-the-mill item, and you have to pay extra for it. Most builders do realize this and they will pay the premium.

Dick Leitch: In housing, the architect does not often specify for the builder. We have been architects for merchant builders for 15 years, doing 1000 or so more units per year, and I have written about four sets of specifications. Other than filling out *The FHA Description of Materials* form, we really don't write specifications. The builder has other problems — bidding, purchasing, merchandising and so forth. All I need to know about the oven and range, for example, for my plans is whether it is a drop-in or a two-piece unit. We might only write the word fan. Any specification would be pointless.

Primack: When you specify a particular design, however, you automatically favor brick, stucco, wood, lap siding, horizontal or vertical siding.

Leitch: Yes, we do influence exterior appearance. I get literature and read all the ads, but we can only recommend.

Ray Watt: We design and specify around our own feedback from our sales organization, through our color coordinator and from what we find people want. We are always trying out new products. We have much more detailed sessions on specifications than we used to.

Five people are involved in our decision making: The architectural head, the sales manager, the purchasing agent, myself, and the man responsible for the model.

O'Neill: Of course, as we build

more and more multi-family housing, the architects will assume a larger role. No builder is going to go out and build an 18-story condominium without assistance from a skilled architect. But even here, he doesn't give the architect carte blanche.

Broad: Whether I, my architect, my purchasing agent or my subcontractor specifies, I like to see materials sold in-place, on a labor and materials basis. I want to know what it is going to cost me in-place, and would like to buy it that way. This might mean a merging of the subcontractor's and the dealer's function. They would be one and the same.

Reid: We sell a complete job, plumbing and heating, and give builders a year's guarantee and a year's service.



Broad: In Los Angeles we purchase a completed house frame from a subcontractor who buys the lumber direct from the mill. In other cities, we purchase the lumber and sub out the labor.

Weinberg: Buying that way must be flexible. For instance, we buy our lumber on an annual basis. We do subcontractor framing on a labor basis only because we can get a better price.



Schaub: Could subcontractors absorb the function of the distributor and rely on direct factory shipments without having to absorb the same kinds of costs that the distributor carries today?

Reid: We would love to do that, but most major manufacturers will not do this because very few subcontractors buy in large quantities.

Schmitt: I arrived at a conclusion diametrically opposed to Eli Broad's. Not only have I elim-

inated all subcontractors, but I decided to take the responsibility of the handling of materials, and therefore the purchasing and distribution of materials, from the time they left the manufacturer until they were put in place. I now look on myself as a glorified materials handler in the broad sense of the word. Today the direct cost of my new home, without overhead, is about 20% developed lot, 20% labor, and 60% material. Of this 60% material, about 40% is nationally distributed.

By following this policy we have reduced our costs over a four year period by about 10%.

Now, during that period we increased our overhead by about 400%. But that additional management enabled us to reduce our materials cost and our materials handling costs, particularly the latter, by 10%.

All of this has gone into more amenities. We have heated swimming pools, tennis courts, underground wiring, landscaped areas, parks; every feature known to make the neighborhood a pleasant place, to make the house a complete house.

This is not taking somebody's profit away. It is a saving in the handling of material. Some of it is distribution cost, but much of

the cost of distribution is the inefficiency of many hands handling products and materials.

For example, we handle a piece of lumber for the wall once today. Five years ago it was handled five to seven times.



Abel Burkett: One reason we insist upon handling all the materials on the job is that we don't have confidence in the builder to supply them when we need them. In the mechanical trades we sign a lump-sum contract per house. Some of our electrician costs are \$8 or \$9 per man hour. We can't depend upon the builder to have the materials on the job at a particular homesite when our men need it. And we can't have our man chasing around for the material, not finding it, having to come back again and again to complete the house.

6

Distribution systems fail in their purpose when the sales effort at the end of the line misses the right man

Builders complain, "you never bring me your new products", and manufacturers retort, "we can't get in to see you". The problem is indentifying the decision makers in a builder's organization and directing the selling to them.

Deane: If you really knew the workings of the larger building companies, you wouldn't try to see the president. You would see the design department, the creative end, the marketing end.

Eberle: I disagree with that 100%. I have spent hours in design departments. Invariably they say the top executive is going to make the decision, and until he decides nothing is done.



Dawkins: These are good argu-

ments for the local dealer, because he is in a much better position to know a building firm than an outsider. This is one reason for our complex distribution system: the lumber dealer is better equipped to sell more of the manufacturer's product than has heretofore been emphasized.

Weinberg: It is a matter of really knowing the individual companies. Nobody has called on me for the past ten years, not because I don't make decisions, but we do have people whose job is to learn what to buy, what refrigerators, stoves, etc. These people have the authority to make decisions.

Smalley: It is difficult for a manufacturer to ever approach a builder directly. It is difficult to get to see the right people. The

top executives leave too many decisions to the mechanical contractors or to the architects and engineers, who spec the next job on the basis of the last one.

Pease: Trade advertising can open the door to the guy who is too busy to see you. There isn't a progressive builder who doesn't read the trade journals. The only criticism we have of manufacturers is that there is too much window dressing in exhibits and not enough information.

O'Neill: Ninety-six thousand salesmen are calling on builders in this country. The average cost of a sales call on a builder by a building products manufacturer is \$17.08 per call. This is pretty expensive, and it is my belief that no manufacturer can put all his eggs in the salesman's basket. He has to keep up a constant barrage of informative, useful communication between himself and his customer.

Smith: You have to have advertising to create interest, but you can't stop there. You need intelligent salesmen, but advertising opens the door to them.

Weinberg: Unfortunately, I don't get an opportunity to see all new products. But on a monthly basis I personally go through every page of *HOUSE & HOME*. I take home two issues of the magazine myself, and cut out those things that our people should see. To me, this is an important contact with new products.

Richey: One of the greatest tools we have working for us is the weekend real-estate section motivating people to go out and buy a new home. There are many ways we can create national advertising without advertising nationally. Advertising agencies are key sales and communication elements in the distribution system, but how attuned are they to our business? Do they know who the customer is for the advertiser's products?

Goodman: If you want to develop a better market for housing, you have to recognize a manufacturer when you see one, and not confuse him with a parts maker. The manufacturers in housing are builders. The rest of you are industrial parts makers. General Motors isn't going to sell cars by telling the spark plug manufacturers or the tire manufacturers they have to know GM's business from top to bottom, including how it uses the material, what it uses it for, what it does to the salability of his product, and to operating its situation.

O'Neill: No manufacturer has to go through such a complex process to arrive at a consumer item as a builder. Parts manufacturers who say "Why can't we go all the way down the distribution chain and produce a cheaper product?", are always looking at an over-simplified process.

Schmitt: I consider myself a manufacturer, and I know that the problem of marketing my product is mine. I'm going to make the decisions and live or die with them. Promotional money and promotional activity by manufacturers to sell my homes couldn't interest me less.

Richey: There has been a major swing away from the builder who says, "I am using these brand name products in my house" to the builder who says, "I build a quality house, with every element of design and glamour."

Should the manufacturer attempt to establish a consumer franchise in the already overcrowded market place, or should he go into trade advertising or into local builder assistance?

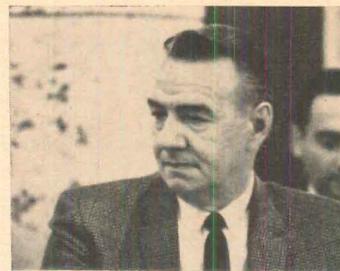


Slemp: I also feel that the brand name as such hasn't the importance that it had five years ago.

Eberle: I think more and more manufacturers are going to go to more proprietary products, and they are going to use pull-through push-through advertising programs.

Deane: There is no question that the brand has to be known and accepted in the trade. Once it achieves that stature, however, there is a question as to how much influence there is beyond that point.

Let's go back to the automobile business. People accept the automobile for itself. They don't care who builds its air conditioner; they don't care whose tires are on it. If they buy a Chevrolet they expect one thing; if they buy a Cadillac, they expect another. But the individual products are a very minor concern to the buyer, and this is true of the house.



Seidel: Builders I talk to instruct their salesmen to first sell the way of life—without mentioning any brand names. After the prospect buys the house, they point out each of the brand name products.

Goodman: A brand name has significance in two respects; 1) the advertiser hopes that the use of X brand appliance or X brand cabinet will help sell the house, and hence tie up the business for the manufacturer; and 2) builders use at least a reasonable number of acceptable brands to create an aura of quality about the house as a whole. I wouldn't however consider, for example, a brand name lavatory a specialty, because I think few people would go so far as to reject a house as long as it had one of a fairly general group of makers.

Deane: At the consumer level, products are not in competition with each other on the basis of brand names. They are in competition with other products. A dishwasher competes with another shower bath, or a bigger fireplace, or a floor covering or laundry equipment. What does the consumer want? If we pay \$150 for a particular item it is usually our choice between a number of items, rather than a brand.



Smith: Five years ago brand selling for lock manufacturers was an easy chore, because we merchandised the name of each product going into a home. Today, however, brand names will only get the appointment for us. The builder recognizes the brand, but the brand disappears because the only thing the house salesman knows is the name of the home he is selling.

Thompson: A wonderful example of the importance of a brand

name even in commodities, is the American Plywood Association label. When we buy plywood, we specify A.P.A. This is strictly a commodity, yet it is a very important one.

Cummings: I don't believe a brand name will sell a house, but it will overcome objections to selling the house, and particularly for second and third and fourth-time buyers. A good brand certainly will remove the objection of "what is this?"

Schaub: Any appliance manufacturer who believes that a consumer will insist upon his brand when buying a new house is overly optimistic.

Watt: Our organization is more concerned about service and what manufacturers do to stand behind their appliances, because it costs our office about \$7 just to come out and service an appliance. This determines our choice of the product. If a buyer wants to have an alternate major brand we still push our brand because it makes our production simple, but we are prepared to give them anything.



Reid: If you are building a tract with specified standard items and you make a change, you have created a hell of a lot of overhead, because we have to make sure that a particular house gets a particular item. The foreman has to be notified; the billing department has to be notified. We have to check the price of the item and although it may cost only \$10 more than our standard item, by the time we add on our overhead we have another ten or 15 dollars. Then we add another five for profit.

Frankly, on a small extra under ten or fifteen dollars we don't even charge for it. So if you can get your specialty items specified in the model house and use them throughout the job, they then become a standard.

Deane: With the buyer, product selection is almost a decorative task. The housewife doesn't care what kind of furnace it is so long as it functions. But you get the best toilet that you can within range because you want it both to function and look well.

7

If we solve all our distribution problems, we still must sell better housing over other consumer goods

Feedback of consumer wants and preferences all the way from the new house salesman back to the manufacturer is essential if we are to produce the housing that tomorrow's buyer will demand. We also have to make housing as easy and painless to buy as any other consumer purchase.

Deane: We all recognize that housing is not increasing in volume as are other industries. There has to be a reason for this. All surveys we have seen indicate people want a better way of life; they want the things they can afford, plus much they can't afford.

We have to relate our industry to people. We are not even scratching the surface of the opportunity to motivate people to want what we are trying to sell—a whole packaged way of living.

Cheek: Seventy-five per cent of house sales are used houses, and there is not one survey that tells why somebody bought a used house in preference to a new house.

Schmitt: We haven't created the environment in new homes that they want, nor have we created extracurricular activities in the neighborhoods where we build. The fact that so much more money is being spent on vacation and traveling proves this. People are seeking self-expression and outlets they don't find in their homes. The new home is nothing more than an old home with newer things in it that work a little better. The neighborhoods and the activities they can participate in haven't changed enough.

Broad: I question if we can work out a successful way to market housing on a broad national basis. This has been tried before and it was stillborn. I think the answer is going to be in the development of larger housing producers. The manufacturer ought to work with successful marketers in local areas throughout the nation, rather than trying to do something nationally.

Richey: I am quite concerned when I hear manufacturers mention a consumer motivation study. How many of your top management people have been on the line selling a house from the first approach right through to the close? Manufacturers who really want to know why people should go to Larry Weinberg, for example, and say, "Larry, I would like to live with your organization for

one week. I want to follow your marketing director, get on the floor with your salesmen, and see the kind of people your salesmen are selling to."

Place: We are not going to get the job done until we sit down and listen to what the buying public wants. It would be fine if manufacturers could sit down in our office and hear this buyer.

O'Neill: What working relationship can be established through the distribution system to develop systems and designs that will do a better job of garnering more of the consumer dollar from the affluent society?

Pease: Remember, there are two other functions of the distribution system, besides price and service:

1. The manufacturer should demand from his distribution system intimate knowledge of what the consumer and the builder need. This is one function an enlightened distributor can perform for the manufacturer.

2. Manufacturers and distributors must hire people who have worked in the housing industry. Very few distributors have ex-builders working for them who know builders' problems. They never built a house and don't know anything about it. If we had people who could define the problems, we would be a lot farther down the road in solving them.

Cheek: We went to the distribution trade and asked them what they wanted. What they said they didn't need and wouldn't use. Then we went to market research, and wound up with retirement homes people needed but wouldn't buy.

There has to be a degree of sophistication we haven't come up with. But we're not alone: the auto industry came up with the Edsel as a result of market research.

Place: We keep a file on our buyers, showing the number of children, where they bought, prior home ownership, income, and so on. In case after case a

man whose income was \$12,000 a year was buying a \$19,000 or \$20,000 house. You can see where we flunked the course. We hadn't sold that man. He could have handled a \$25,000 house with no sweat.

O'Neill: One of our biggest marketing mistakes is to sell the house as investment. It's the only consumer item sold that way. Every other retail item is sold to be consumed, but not housing.

I think this is in a way a sort of sea anchor in our industry. This is why people won't trade in their equity and move up.

Pease: Something must let me vindicate my taking a whipping on my old house. It is popular for an owner to make money on his old house. But to sell me a new house the builder must down-sell me on my old house.

Goodman: If I sell my four-year-old automobile for \$2,000 less than it cost I made a good deal. But if I sell my four year old house for \$1,000 less than it cost, I tell people I had a loss on my house.

"I don't want to move, because I have to take a loss." Why do I say that? Because I was sold the house as an investment, not as a consumer item. I have to join the group who argue that we ought to sell the pleasure, the amenities, the way of living, rather than the investment value.



Cummings: We have no planned obsolescence in our housing industry as the automotive people do. For the most part houses all look alike, and my old house isn't obsolete yet. Maybe we are not adventurous enough in designing new homes.

Eberle: A house is a depreciable asset that you ought to have fun in, then sell.

Deane: We can get over this business of people thinking of a house as an investment provided we motivate them properly, and remove their problems.

What are their problems? One of them is moving. "How do we move! We have all that junk." We must relieve this problem.

What about the house they have? That is one of the most difficult problems. We have to solve it. We had better solve it quickly if we are going to get into the markets we need to get into.



Thompson: Younger people should look at a house as a way of saving. They may or may not have an appreciation, but it is a way of getting an equity. I fully agree that they understand that this is a depreciable asset, but even with this they can still build equity.

At a certain price, a house is a pure luxury, and you are going to take more depreciation there than you are in the lower-priced house. Real estate taxes and interest on the mortgage are income tax deductions, but a rent receipt is nothing.

Broad: It is far too difficult for the consumer to buy a home. If he wants to buy a car, his credit is approved in perhaps ten minutes. He can drive out with the automobile in a few hours.

What happens when they want to buy a house? We start talking about credit, and maybe two or three weeks later we tell them they are approved. When can they have the house? Well maybe they can have it in a month or two months or three months.

Then, when they finally get it, it isn't a new, shiny automobile that is all polished up. It is a dirty automobile with mud on the tires and so on. They have to start buying the accessories and they go through a traumatic experience. Perhaps in this lies a good portion of why the auto industry is getting a much higher percentage of the consumer's discretionary dollar. After all, people pay as much to own and operate an automobile per month, as they do to own a home. That fact alone makes us look worse than any other comparison.

Cheek: Of course you have the difference between a four or five thousand dollar decision and a \$25,000 decision.

Cummings: But you make the four or five thousand dollar decision every three years. In either decision you are not talking about more money out of your pocket.

How do you keep growing when your local market collapses?

This became a life-or-death question for Builder Bert Smokler and all other Detroit builders in 1958, when the Detroit market went into a nosedive that didn't bottom out until 1962.

The Smokler Co. not only survived the recession, it thrived on it. While Detroit housing starts have doubled since 1962, Smokler's volume has tripled—from \$9 million to about \$28 million this year.

This remarkable comeback is the result of a two-part expansion program:

1. *Smokler Co. has pushed its operations out into new market areas.* In 1958 the company built only in and around Detroit; in 1959 it made a tentative move to Kalamazoo, and today its market extends 750 miles to include Ann Arbor, Grand Rapids, Milwaukee, Omaha, Topeka, and Kansas City.

2. *Smokler Co. is building new types of housing.* In 1958 its market was limited to single-family homes; today it offers the following: FHA 221d3 co-op townhouses (limited income), FHA 213 co-op townhouses (unlimited income), urban renewal housing, and rental housing for college students.

Statistics show the importance of this diversification. Local labor shortages will hold Smokler's single-family volume in Detroit to about 300 units—and \$8 million gross sales—this year. So about \$20 million will come from markets and housing types the company didn't have in 1962.

Broadly speaking, the problems of diversification fall into three categories: 1) how to get started in a new area ("You can't take your reputation with you to a new city," says Bert Smokler, "although it will follow you from job to job once you're in."); 2) what housing types to build; 3) how to manage the far-flung operation.

Here are the lessons President Bert Smokler has learned during the expansion:

'Our safest wedge into a new market is FHA 221d3 housing'

The reason, according to Mandell L. Berman, senior vice president: "We don't have to worry about buyer reaction, vacant apartments or unsold houses. The liberal 221d3 terms make it easy to sell, and of course it must be sold out before construction can start."

The sold-out status of the first project gives Smokler a base from which to explore other market voids, both in the immediate area and in nearby cities. While the company was building its first 221d3

in Kansas City, it found other market possibilities in nearby Topeka, and in Omaha. Now Kansas City is a full-fledged regional headquarters, and other cities accessible from there are being explored.

'No city looks good to us unless local officials are receptive'

Despite the safety factor that 221d3 provides, Smokler won't try to break into a new market without closely appraising the attitudes of local officials, planning and zoning boards, and the controlling FHA office. Smokler executives try to determine the answers to these key questions:

Are the local planning and zoning boards favorably disposed towards FHA housing?

Warns Senior Vice President Charles O'Neill: "You must be careful here, because some officials think that any kind of low-income—and most multi-family—housing is instant slums. We want to be sure that our plans will get a fair hearing, and that they will be judged in light of the housing needs of the citizens."

Does the local FHA office have a reputation for being both knowledgeable and cooperative?

"The new FHA programs," says O'Neill, "take a lot of learning, and the difference in processing time can be considerable. Nothing can help more than a savvy office, and nothing can hold you back worse than one that doesn't know what it is doing. Since we hope to be building under many different FHA programs, we want the office to know its beans."

To this end, Smokler solicits the opinions of mortgage lenders and local builders as the best judges of the efficiency of the FHA office. One danger sign: any significant number of FHA project failures. Says O'Neill: "If there are just one or two, it might have been the builders. But if there is a definite pattern, the skills of the local office should be suspect."

Misgivings about local FHA offices have led Smokler to walk away from at least two cities where it had optioned land.

'We always check for dependable local sources of labor and materials'

The sales limitations which the shortage of building labor caused in Detroit have taught Smokler to watch out for similar shortages in new areas. The company talks with local builders, subs, and unions (Smokler subs out all operations, and builds union or non-union depending on local conditions and customs) to see if it can spot potential trouble spots.



TRIUMVIRATE of Smokler officials includes (from left) Senior Vice President Charles O'Neill, President Bert Smokler, and Senior Vice President Mandell L. Berman.

One must for a new Smokler operation is a local lumberyard with efficient manufacturing facilities. Wall and floor panels and roof trusses for all Smokler housing are prefabricated off-site, and the company must be assured of an economical, reliable source. Says O'Neill: "Our cost control simply will not permit us to build these sections ourselves. We held off going into Omaha for a year until a local lumberyard developed a prefabbing operation."

'We never enter a new market unless it promises long-term growth'

The reason: start-up costs for the first project in a new city make it almost certain there will be little if any profit.

Says Berman: "We're bound to make mistakes in a new area, and costs sometimes get away from us. The first project is our 'ante' into the game; our profits lie in succeeding developments—either more 221d3's or other housing types."

'We don't inventory land except where we really know the growth pattern'

Says Berman: "We consider inventorying to be speculation, and our business is building. We only buy land for which we can create an immediate specific building use. The one exception is the Detroit area, where we feel that our 30 years of experience and our knowledge of land values and growth patterns justify such action."

Since most of the land Smokler buys is on the outskirts of cities, it is always bought subject to rezoning and with as long an option as can be obtained. "The reason" says Berman, "is that zoning applications tend to drag on far beyond predictions, and it's expensive to have an option run out."

Smokler gets its land in the same way as other multi-city builders: people come in with land propositions when it becomes known that the company is interested in new projects and new markets. Smokler has built up an intelligence network of real estate brokers, lenders, and materials suppliers who provide a constant flow of leads on buildable land. Running down these leads takes 60% of the time of a Smokler vice president, who spends much of the time miles away from Detroit.

Berman adds this note of caution: "We do not like to deal with brokers who are selling land in which they have an interest."

'We avoid some zoning problems by not saying too much at hearings'

The Smokler approach to zoning and planning boards could be summed up thus: "the truth and nothing but the truth, but only the truth that's necessary."

Says Berman: "We disagree with the philosophy that the best policy is to give every detail of a program whether or not

WHERE AND WHAT SMOKLER BUILDS

MULTI-FAMILY HOUSING

City	Units	Program	Sales status	Construction status
Detroit area				
Riverview	320	221d3	Sold out	Underway
Pontiac	200	221d3	Selling	Underway
Taylor Twp.	200	221d3	Selling	Underway
Elmwood renewal area				
	125	213	Selling	Start, 8/66
Farmington Twp.	250	213	Selling	Start, 6/66
Clinton Twp.	300	213	Start, 7/66	Start, 9/66
Trenton	280	213	Start, 7/66	Start, 9/66
Northville	475	213	Start, 10/66	Start, 1/67
Ann Arbor	430	221d3	Sold out	Underway
Ann Arbor	80	207	Renting	Underway
Kalamazoo	120	221d3	Sold out	Underway
Lansing	300	221d3	Start, 6/66	Start, 9/66
Kansas City, Mo.	250	221d3	Sold out	Complete, 1966
Topeka	200	221d3	Selling	Underway
Omaha	200	221d3	Selling	Underway

SINGLE-FAMILY HOUSING

City	Units	Program	Sales status	Construction status
Detroit area				
W. Bloomfield Twp.	270	Conv.	Sold out	Complete, 8/66
Riverview	300	Conv.	Selling	Underway
Ann Arbor	780	Conv.	Selling	Underway
Kalamazoo	300	Conv. & FHA	Selling	Underway

it has been asked for." Smokler representatives are instructed to give honest answers to every question, but not to volunteer information that might create areas of doubt where none existed before.

"This is especially important when you are building FHA housing developments," says Berman. "There are sometimes unfair and uninformed feelings about FHA-insured housing. We want our proposals to be accepted because they meet the housing needs of the community, all legal requirements, and the best modern thinking in land planning, and we try not to introduce irrelevant issues that might divert judgement from these facts."

Smokler hires local attorneys, engineers, architects and land planners to make presentations to zoning or planning boards, and tries to use the same men over and over as "our face in the city."

'We don't judge local subcontractors by our out-of-town standards'

The job of picking subs in a new area is done by a team sent out from Smokler

headquarters in Detroit. And although there is constant comparison with costs in other cities, Smokler does not try to force standard methods on new subcontractors.

"Sometimes there are good local reasons for what looks like an uneconomic practice, and we tread lightly here," says Charles O'Neill. "It is very hard to introduce changes in materials or methods in the mechanical trades when you are an outsider. But if we have a sub in one city doing an outstanding job, we might bring in his opposite numbers from other cities to see how he does it, hoping that they will take his ideas home with them."

Smokler has found that because acceptable subcontractor practices vary greatly from city to city, the company must be satisfied with "the best quality by local standards." For example, the company found that multi-pigment paint that wouldn't sell in Detroit was acceptable in Kansas City—but it hid a drywall taping job that would never pass in Detroit.

But while Smokler accepts local trade practices, it insists that its subs meet three

basic business requirements:

1. *Good credit.* The reason: Smokler prefers that subcontractors do their own buying (although where standard items are used in large volume for many projects, Smokler will negotiate volume discounts on the total purchases).

"Subs always work less wastefully with their own material," says Berman. "Furthermore, subs with bad credit ratings rarely can be relied upon for performance."

2. *Expansion potential.* Since Smokler intends a series of projects in each new market, the company wants subs to have the manpower and the management ability to handle increased volume.

3. *Organization.* Smokler demands from every sub detailed, continuing progress reports on each project, plus constant inventory control. So the sub must have a capable staff to handle the paperwork.

'Costs and performance can best be controlled by centralized management'

All major decisions are made in Smokler's Detroit headquarters. The only responsibilities left to out-of-town job superintendents are scheduling, getting subs on and off the job, and getting the housing built. Contracts are negotiated and bills paid by the headquarters staff. And on-the-job engineering, FHA liaison, and sales

personnel all report directly to the vice-presidents in charge of those functions.

A nine-man cost department keeps a close watch on each project, and quarterly staff meetings, chaired by President Smokler, are held to review the performance of each development and compare it with predicted costs. The purpose, says Berman, is "not to blame anyone for wrong predictions, but to see what we can learn from our mistakes." Typical attendees: heads of engineering, purchasing, design, construction, and sales departments, and the company comptroller.

Final authority in the Detroit office rests with President Smokler and Senior Vice Presidents Berman and O'Neill, whose responsibilities are divided as follows:

Smokler: out-of-state operations, property management, engineering, corporate finance and land acquisition, plus final responsibility for the entire company.

Berman: marketing, purchasing, and design.

O'Neill: program financing, mortgage money, construction, legal work, and FHA liaison.

'When we try out a new type of housing, we do it close to home'

The reason: until the top Smokler executives know that all the bugs are out of

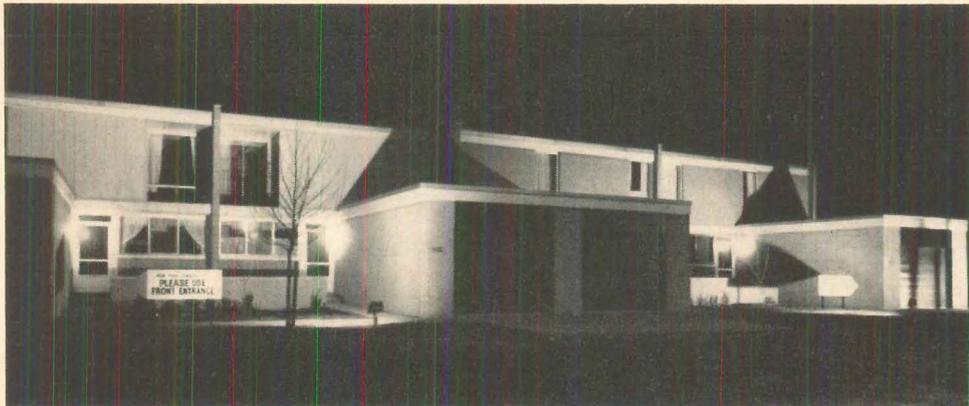
a new program, and until they know the problems of financing, construction, sales, operation, and relations with government officials and FHA, they want to be immediately available for putting out fires. Once they are confident that they can handle anything that might arise (they now feel this way about 221d3), they allow the new housing type to be built in distant markets.

Rental housing for college students is the newest Smokler venture, and the first four projects (totaling 1,600 units) will all be in the Michigan area where they can be easily supervised from Detroit. And the company's first incursion into the urban renewal field was made in the Elmwood renewal area in downtown Detroit.

Smokler has established another safety factor: multi-family projects are always scheduled in sections, averaging 50-75 units. Says Berman: "In times of rapidly rising costs, you mustn't get frozen into a price structure for hundreds of units that can't possibly be completed for several years. With single-family houses, you can always adjust a sales price up or down to reflect current costs, but you can't do this in 221d3s or 213s. The smaller sections let us keep our prices in line with costs. This flexibility is especially important in strange cities."

Typical Smokler houses are widely different in design

Photos: Benyas-Kaufman



URBAN RENEWAL TOWNHOUSES were designed by Architects Green & Savin for a 126-unit Detroit area. They range from \$20,000 to \$26,000.



TYPICAL 221d3, near Detroit city limits, sells for \$13,500-\$15,000 on a co-op basis.



BEST SELLER of single-family models is this two-story model priced at \$27,690.



NEWEST PROJECT is FHA 213 co-op. Down payments average \$1,300, monthly charges, \$165.



Mosaic comes up with exciting Byzantile II.
It'll give the people in the conversation pit something to talk about.

The nice part is, Byzantile II will never talk back.

It's a very quiet tile. Mosaic's subdued colors see to that.

No matter what shape Mosaic tile is in, it's got to shape up color-wise. And our exciting new 6-inch elongated hexagon is no exception.

Notice above the beautiful restraint shown by the Byzantile II wall of Light Golden Olive, and the fireplace of Parchment. (The floor of Carlyle Quarry tile Colonial Buff knows how to behave itself, too.)

Byzantile II also comes in seven other harmonious

colors of textured, wear-resistant glaze. And more pattern possibilities than a kaleidoscope.

Byzantile II. It puts on a great show, but it never tries to be the whole show.

For samples, colors, prices and availability, contact any Mosaic Regional Manager, Branch Manager or Tile Contractor.

See the Yellow Pages "Tile-Ceramic-Mfrs. & Distrs." or "Tile-Ceramic-Contractors". Or write directly to The Mosaic Tile Company, 55 Public Square, Cleveland, Ohio 44113.

MOSAIC®

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

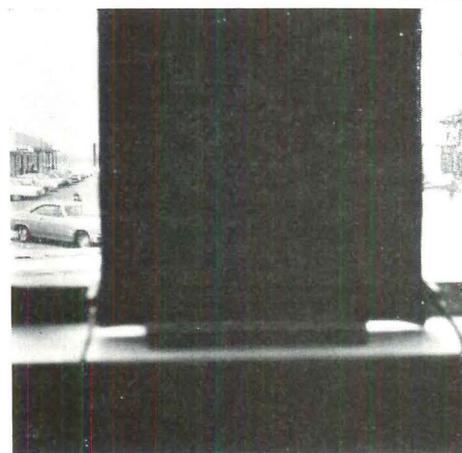
Photos: H&H staff



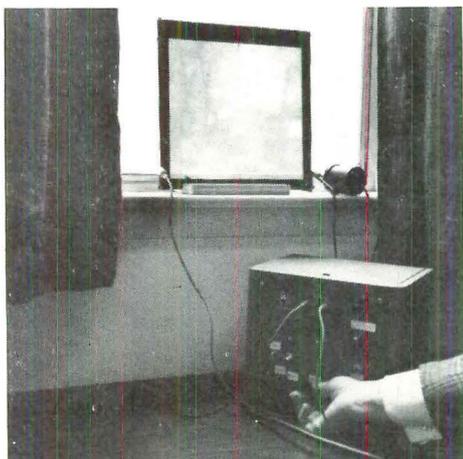
FULL CURRENT makes Varad glass transparent.



HALF CURRENT gives glass a tinted effect.



NO CURRENT in Varad glass makes it opaque.



CONTROLS for glass are rheostat or photocell.

Electronic window glass—last word in sun control

But how many home builders will be able to afford it remains to be seen. Marks Polarized Corp. of New York, maker of the electronic glass, says it will be on the market within five years for \$5 to \$10 per sq. ft.

The glass (trade name: Varad) could eliminate the need for window blinds, shades, or any other kind of mechanical sun control. Controlled by a central transformer, it can be darkened to any degree—from transparent to opaque (*photos*)—by turning rheostat dials. And if connected to photocells, it darkens automatically as

the intensity of sunlight increases.

Electronic glass resembles thermal glazing—two layers of glass with a sealed air space between them. But the air space contains a black fluid, and the insides of the glass layers are coated with a transparent electrically conductive film. Electric current is passed through the fluid by means of terminals attached to the film. When the current is turned on full, the fluid becomes clear. As the current is reduced, the fluid becomes progressively darker. When the current is turned off, the fluid reverts to black.

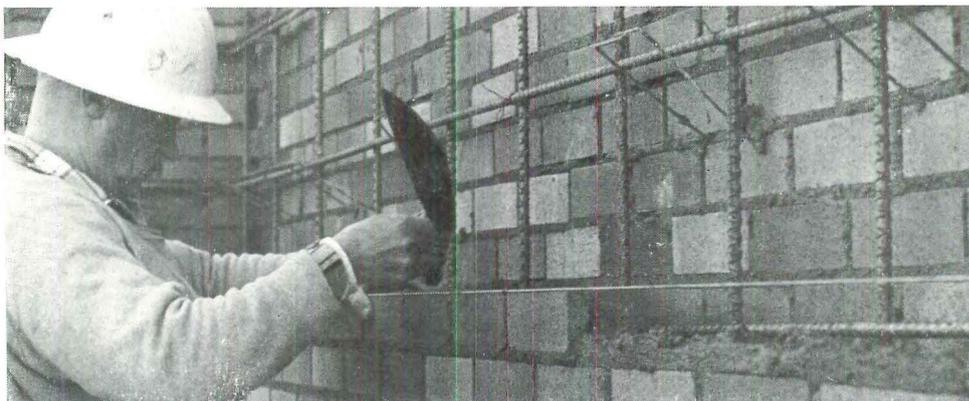
Plywood standard may alter framing recommendations

Specifically, the new commercial standard could lead to an increase in recommended design loads for structural plywood diaphragms. Just how much of an increase is being determined right now in an American Plywood Assn. research laboratory.

Though the standard is not yet official, the plywood industry has approved it and expects it to be adopted and published late this summer. When adopted, it would consolidate the three separate standards now used for Douglas fir (CS45), western softwoods (CS122) and southern pine (CS259).

To pave the way, APA started a series of plywood-diaphragm tests to convince the building industry that the proposed plywood standard satisfies building codes. APA made up test diaphragms out of veneers representing most of the wood species included in the consolidated standard and put them under horizontal loads.

But instead of establishing that plywood diaphragms under the new standard are just as good, APA found that they may be better. Some of its test diaphragms, containing minimum-grade mixed veneers, exceeded five times their design load. Result: APA says it may be issuing new diaphragm guides later this year.



Brick cavity wall gives finish on two sides at costs of concrete

The double wall of brick filled with reinforcing bars and grout (*photos*) is within the price range of reinforced concrete for two reasons, says Seattle Builder Ted Teufel: 1) unlike concrete bearing walls, it needs no formwork and 2) unlike conventional brick veneer, it requires no exterior scaffolding because both walls of brick are laid up from the inside.

Teufel's latest cavity-wall job was a five-story office building for the University of Washington. Total building costs came out to \$19 a sq. ft.

New products start on p. 128

American-Standard brings you Fiesta* Sinks -the likes of which you have never seen

Fiesta kitchen sink centers are revolutionary in styling and convenience. Their smooth-flowing lines are available only in lifetime cast iron.



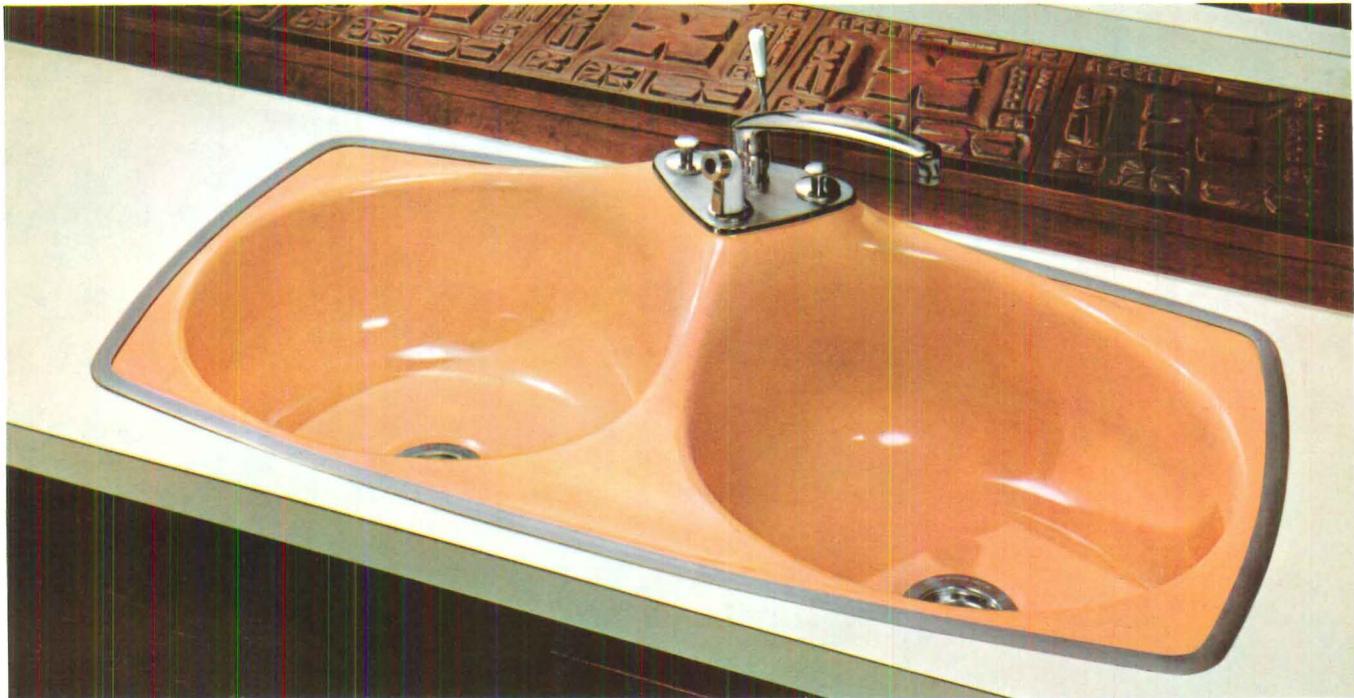
Everything new but the size! This dual-level Fiesta kitchen sink center measures 32 by 21 inches, the size that accounts for over 50% of today's sink sales. Yet the 8-inch-deep bowl at the left—for soaking utensils too big for the dishwasher—is actually as large as the bowls in current 42-inch sinks. The shallower bowl at the right is at a convenient height for food preparation (and quick installation of a dis-

poser to standard roughing). All controls are gathered above the splash line, within easy reach. With the optional, remote-control pop-up drain and other accessories, a woman's hands need never touch greasy water. Shown is *Manchu Yellow**. But Fiesta sink centers come in all the other American-Standard fast-selling kitchen colors. Cost? Only slightly more than a conventional double-bowl sink!

*TRADEMARK AR&SS CORP.

**When you catch your breath,
turn the page for more surprises!**

All the controls ride high, wide and handy atop these new American-Standard Fiesta kitchen sink centers in lifetime color fused to lifetime cast iron.



It's in the round! This sculptured round-bowl Fiesta kitchen sink center picks up one of today's most exciting shapes in lavatories. Logically, too, because most things that go into a sink are round.

And a round bowl is easiest to clean. Again, all controls are mounted above the splash line. The new shape has great consumer appeal. Size: 42 by 21 inches. Shown is *Gourmet Melon**.



Meet the flexible triple-bowl. This handsome triple-bowl Fiesta kitchen sink center has two large, specially shaped bowls for maximum capacity. It allows washing in one side, rinsing in the other without tying up the center food-preparation bowl (or the disposer that can go beneath it). All controls are mounted above splash line. Size: 42 by 21 inches. Color shown is *Surf Green**.



Sink center features at a price. This single-bowl model provides the styling and convenience advantages of the Fiesta kitchen sink center concept in 24 by 21 inches of space . . . the bowl has a large capacity; all controls are above the splash line and within easy reach. It is listed at only a trifle higher than a conventional sink of the same standard size. The color shown is *Coppertone*.

Before your eyes, over the past few years, the kitchen has become a more pleasant, more convenient room to work in. However the sink, even with color, has remained basically just something to hold water.

With *Fiesta sink centers in your homes*, you'll no longer give the sink just a quick mention in passing. Your salesman can *demonstrate* the new

*TRADEMARK AR&S CORP.

convenience a kitchen sink center brings to food preparation and clean-up. Better yet, let the lady sell herself by operating the centrally grouped fittings you can install at your option. (All models are punched to accommodate such aids as a Single Lever faucet, hose and spray, lotion or detergent dispenser, remote control for pop-up drain, etc.) We're pre-selling

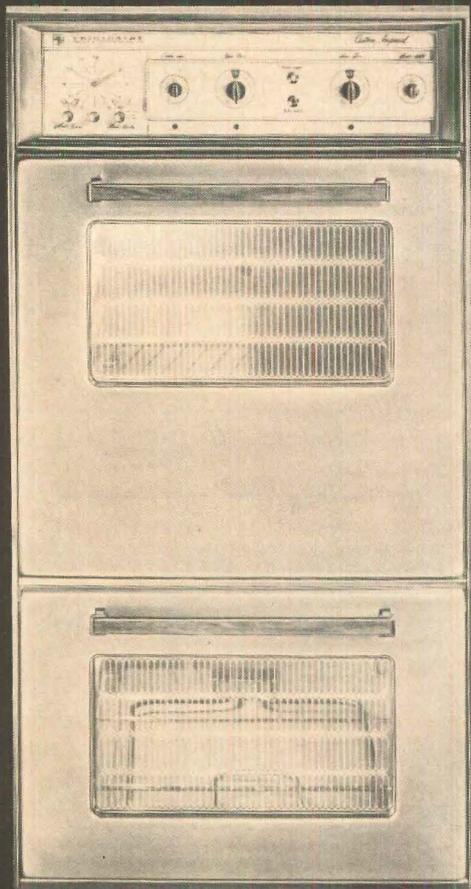
home buyers on the kitchen sink center idea for you. Watch for our full-color pages in *American Home, Better Homes and Gardens, House & Garden*. Be ready to tell *your* buyers you offer the newest in kitchen sink centers. See your American-Standard contractor. Or write American-Standard, Plumbing and Heating Division, 40 W. 40th St., New York, N.Y. 10018.

AMERICAN-STANDARD

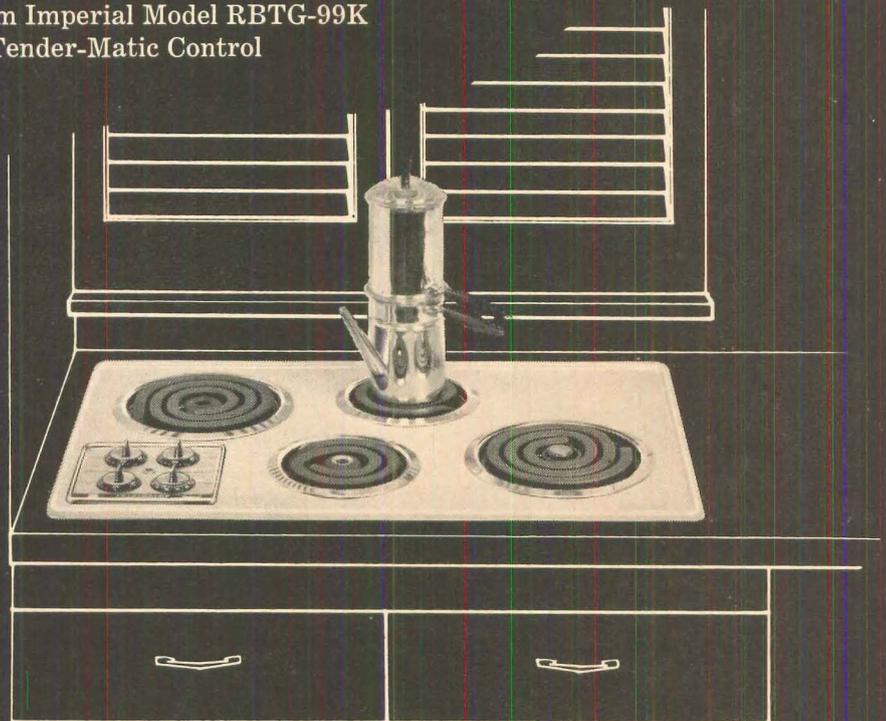


TODAY'S AFFLUENT HOME BUYERS WON'T SETTLE FOR JUST ANY APPLIANCE

THEY WANT THE FINEST MADE



Frigidaire Built-In Wall Oven,
Custom Imperial Model RBTG-99K
with Tender-Matic Control



Frigidaire Cooking Top,
Imperial Model RBB-101.

FRIGIDAIRE BUILT-INS ARE!

The people who buy homes today don't have to be concerned with price alone. Their bank accounts are bigger. So when they enter a kitchen, they look for symbols of quality. The mere presence of built-in appliances won't impress them as it once did.

But built-ins with the Frigidaire name will. It stands for the finest, and people know it. And you've got still another edge in the extra convenience Frigidaire built-ins provide. Here are just two of many examples:

A Frigidaire Wall Oven with drop-leaf door and smooth,

rounded oven corners is easy to clean. Saves time. And if the lady of the house is a bit late getting home from an afternoon of shopping, the special Speed Heat Unit on a Frigidaire Cooking Top gets a meal going extra-fast. *This* is added value with a meaning.

Before you settle for just any appliances, look into appliances by the people who know and build for *today's* kitchen buyers. Frigidaire.

P.S. We know builders, too. Frigidaire built-ins are designed for fast, easy installation.

Want to tune in on the thoughts of today's buyers? Get the complete story of "The Home Buying Affluentials." Wire, phone, or write your Frigidaire District Office today.

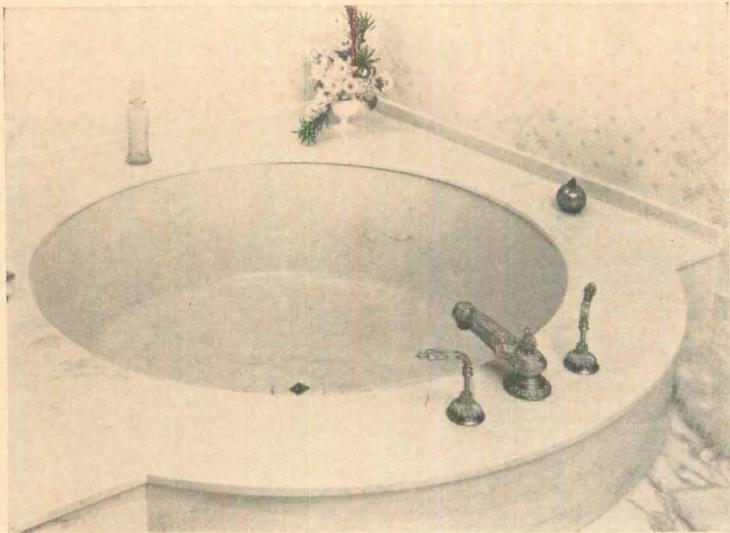
Cater to the taste of the "Affluentials"
with the plus of



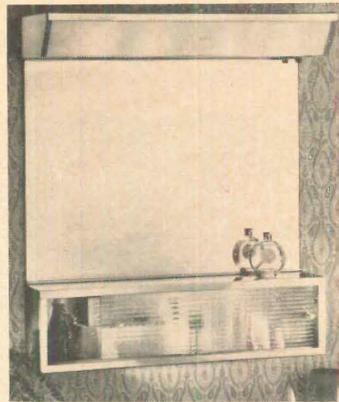
FRIGIDAIRE
APPLIANCES

PRODUCT OF GENERAL MOTORS

Baths



Circular tub of man-made marble can be adapted to sunken, semi-sunken or surface installation. Dimensions: outside diameter, 56½"; height, 16¼"; inside bottom diameter, 47". Choice of 13 colors. Venetian Marble, Dallas. *Circle 286 on Reader Service card*



Mirror-cabinet with incandescent light hangs on wall face. Dimensions: 33½" high in widths 24¾", 30¾", 36¾" and 48¾". Choice of mirror: 1) electroplated plate glass with copper backing; 2) 3/16" heavy sheet. Miami Carey, Cincinnati. *Circle 214 on Reader Service card*



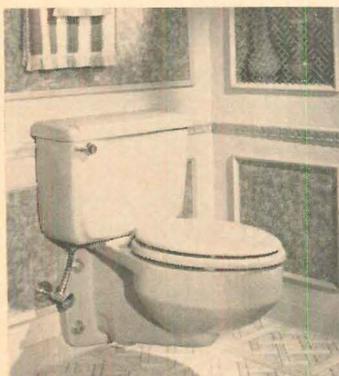
Shower-tub enclosure with frame of chrome-plated brass is available for the first time in stock sizes. It contains a rolling door, and can be adjusted ½". Manufacturer says the new stock sizes will eliminate shipping delays. Ketcham, Glendale, N.Y. *Circle 215 on Reader Service card*



Mural panel of plastic-finished hardboard can be installed with wallboard adhesive over any solid backing. The 5'-wide gold-on-white panel, heat and moisture resistant, is suggested for tub-shower recesses. Eight designs. Marlite, Dover, Ohio. *Circle 216 on Reader Service card*



French Provincial vanity features white-and-gold engraved panels, and comes in a variety of base and drawer unit sizes. Other designs: colonial in maple finish and contemporary in honeywood. United Cabinet, Jasper, Ind. *Circle 217 on Reader Service card*



Off-the-floor toilet has an elongated bowl. The object: to provide greater water area for a more sanitary fixture. The unit is available both with and without toilet ventilator. In choice of colors. American Standard, New York City. *Circle 218 on Reader Service card*



Vitreous china lavatory conceals two soap receptacles below the front rim (visible in mirror image above). The countertop-mounted unit is 20"x18" overall; bowl size is 16½"x11¼". Colors include suntan, shell pink and pale jade. Crane, Chicago. *Circle 219 on Reader Service card*



Colored shower floor molded in one piece comes in seven sizes for recessed, or flange-to-floor installation. Square, rectangular and corner models available. Drain is factory attached. Colors include gray, green, beige, yellow. Fiat Products, Plainview, L.I. *Circle 220 on Reader Service card*



Stirrup-shaped towel ring has a chrome-plated metal base and a clear lucite ring. The unit may be installed on wall or door with concealed mounting screws or with adhesive. Available in same finish: a double robe hook. Hall-Mack, Los Angeles. *Circle 221 on Reader Service card*

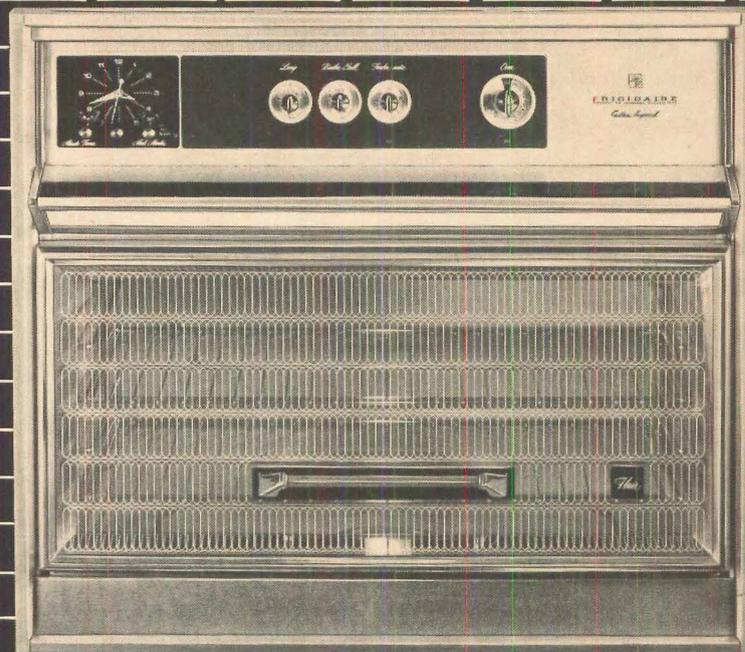
New products continued on p. 130

TODAY'S AFFLUENT HOME BUYERS WON'T SETTLE FOR JUST ANY APPLIANCE

THEY WANT GOURMET PERFORMANCE



Tender-matic Control
tenderizes, flavorizes *every*
roast, regardless of price.



Frigidaire Flair Wall Oven, Custom Imperial Model RBG-335K, also features Meal Minder Control, plus GM Styling for smartest kitchen decor.

ONLY FRIGIDAIRE HAS TENDER-MATIC!

Times have changed. So have home buyers. Today's buyers want a kitchen to look quietly elegant. They want even ordinary meals cooked there to taste like they were prepared with a chef's touch.

A Frigidaire Flair Wall Oven lets you satisfy these wants with incomparable GM Styling and incomparable performance provided by Tender-matic and Meal Minder Controls.

Tender-matic Control offers low, slow heat to deliver prime rib tenderness even if a homemaker buys a low-cost chuck roast. The Meal Minder Control does gourmet cooking for her all day, even if she's not home.

The look of a Frigidaire Flair Wall Oven is keyed to the tastes of today's buyers, too. GM Stylists design the fastest-selling automobiles in history. They know what a woman likes and wants in appliance decor: a look as up-to-the-minute as her wardrobe. Frigidaire appliances have it. *This* is added value with a meaning.

Before you settle for just any appliances, look into appliances by the people who know and build for *today's* kitchen buyers, Frigidaire.

P.S. We know builders, too. Frigidaire Flair Wall Ovens are fast and easy to install.

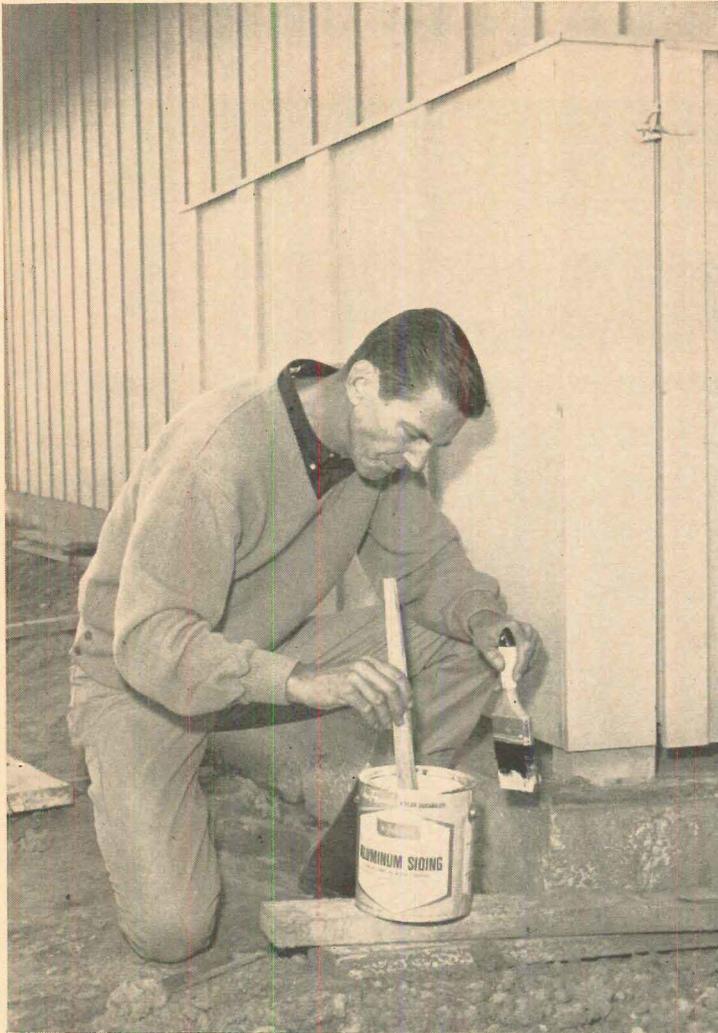
Want to tune in on the thoughts of today's buyers? Get the complete story of "The Home Buying Affluentials." Wire, phone, or write your Frigidaire District Office today.

Cater to the taste of the "Affluentials"
with the plus of

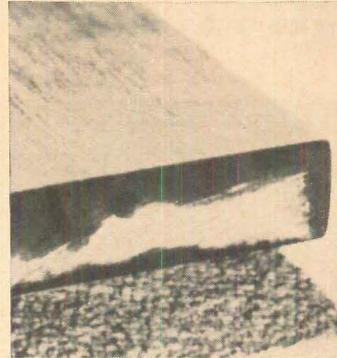


FRIGIDAIRE
APPLIANCES

Paints



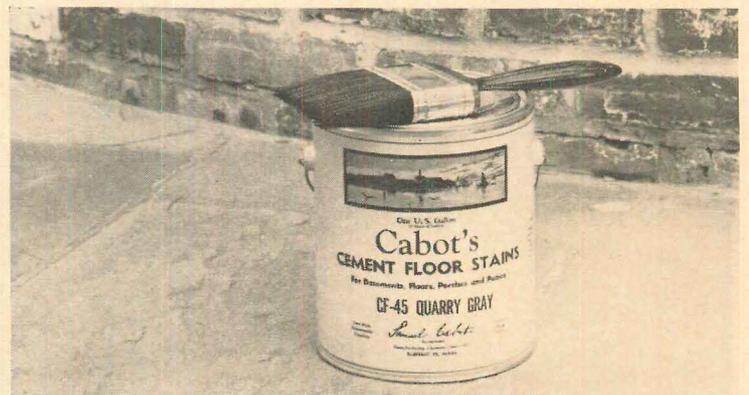
Silicone-alkyd finish, available in seven colors, is formulated especially for unpainted aluminum but can also be used on steel, iron and galvanized metal. The manufacturer says it will last nine years. Dow Corning, Greensboro, N.C. *Circle 206 on Reader Service card*



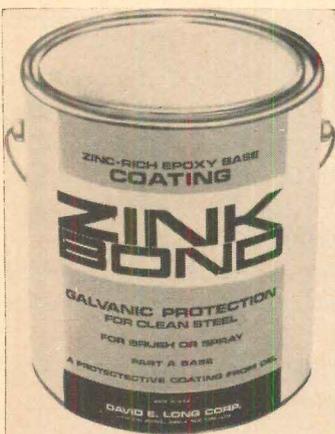
Oil seal penetrates solid wood up to 1/2" and veneers down to the glue line. The manufacturer claims that by hardening from the inside out, the finish makes wood 25% harder. Two wood tones: Danish and teak. Watco-Dennis, Santa Monica, Calif. *Circle 208 on Reader Service card*



Rustic stain is available in more than 1,400 semi-transparent and solid colors. Paint suppliers are able to stock the entire range because they can machine-mix it from only six bases. It is for exterior or interior wood. Pabco, San Francisco. *Circle 209 on Reader Service card*



Cement-floor finish is a penetrating oil-base stain designed to withstand the moisture-absorbing properties of porous concrete and cement surfaces. It comes in a choice of eight colors plus black or white. Samuel Cabot, Boston. *Circle 207 on Reader Service card*



Epoxy coating permits on-site galvanizing with brush or spray. Applied to clean steel, it produces a finished dry film of 93% zinc which can be safely used in contact with potable water. In two parts: base plus catalyst. David Long, Jamaica, N.Y. *Circle 210 on Reader Service card*



Complete line of interior and exterior paints for professional applicators includes latex, alkyd and oil bases. The new line is sold under a progressive marketing program that offers discounts to volume buyers. Luminall, North Bergen, N.J. *Circle 212 on Reader Service card*



Plastisol primer is available in an aerosol can for the first time. It provides a thin film for improved adhesion of finished coatings to metals and offers the benefits of extensive heat life and high moisture resistance. Quelcor, Media, Pa. *Circle 211 on Reader Service card*

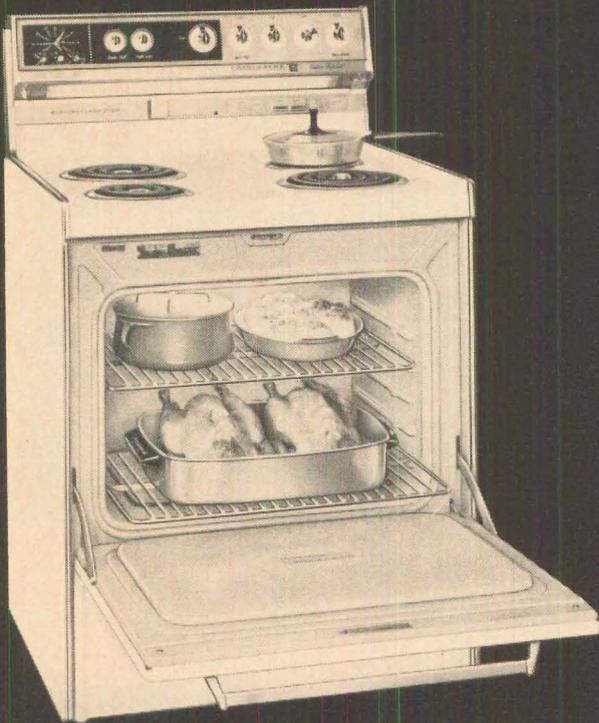


Semi-transparent stain allows the natural grain and texture of wood to show through subtle color tones. It comes in eight colors—natural, white, two greys, brown, charcoal, burgundy and green—for rough or smooth wood. Shakertown, Cleveland. *Circle 213 on Reader Service card*

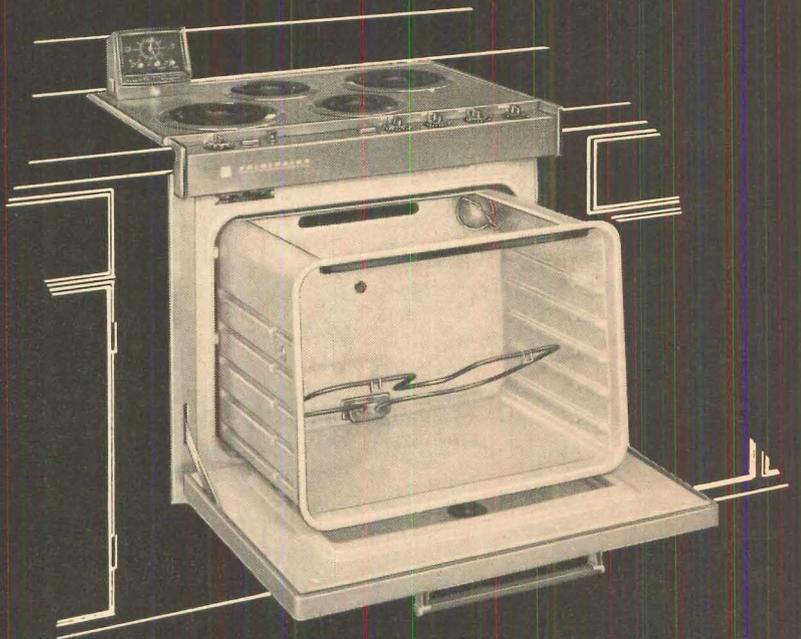
New products continued on p. 132

TODAY'S AFFLUENT HOME BUYERS WON'T SETTLE FOR JUST ANY APPLIANCE

THEY WANT EASIER CLEANING



Frigidaire Electric Range, Custom Imperial Model RCIE-39K, with Electri-clean Oven.



Frigidaire Compact 30 Electric Range, Model RBJ-G535, with Pull 'N Clean Oven.

COMPARE FRIGIDAIRE CLEANABILITY

Don't spend a penny for anything in your homes unless you're tuned to the new tastes and wants of the new, more affluent breed of buyer. When they buy, they use their money to vote for or veto *your* ideas about luxury and convenience.

So it's smart to pack the most saleable room in the house, the kitchen, with added values and benefits which meet the needs of today's buyers. One thing they don't want to do is waste time cleaning up. Frigidaire has *two* answers for them. Two of the easiest-to-clean ovens ever conceived.

A Frigidaire Electri-clean Oven will clean itself electrically — *automatically* — while a homemaker entertains friends for coffee, perhaps. A Frigidaire Pull 'N Clean Oven slides right out like a drawer. The lady of the house can clean it standing up. And she'll be fresh and ready for bridge or a golf lesson. *This* is added value with a meaning.

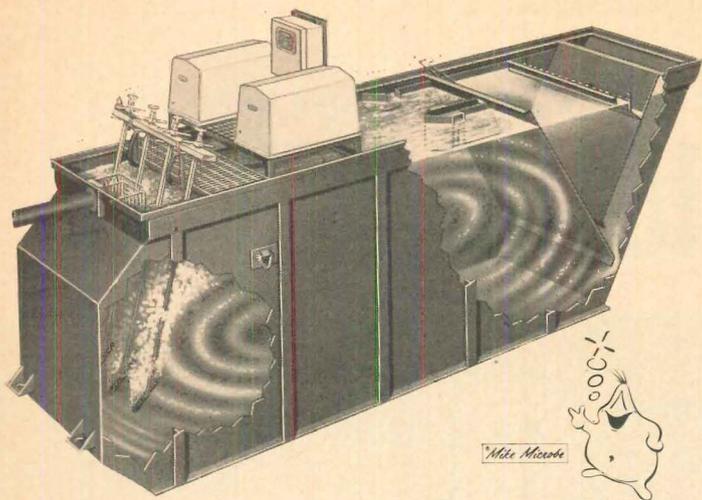
Before you settle for just any appliances, look into appliances by the people who know and build for *today's* kitchen buyers. Frigidaire.

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*Cater to the taste of the "Affluentials"
with the plus of*



FRIGIDAIRE
APPLIANCES



Smith & Loveless[®]

FACTORY-BUILT "OXIGEST"[®]

Dependable, Low Maintenance Sewage Treatment

Smith & Loveless factory-built "Oxigest" sewage treatment plants provide dependable, efficient treatment of domestic sewage for outlying commercial and residential developments.

Patented non-mechanical automatic surface skimmer and positive non-mechanical sludge return system keep maintenance to a minimum...represent an important advance in the trouble-free operation of long-period aeration, activated-sludge, aerobic digestion systems.

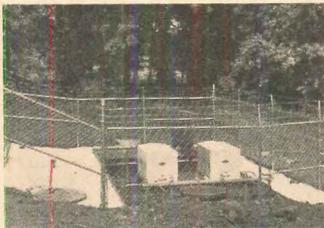
Compact design reduces land requirements while odor-free operation permits location close to occupied buildings. "Oxigest" plants are completely factory-built and delivered to the jobsite with all equipment in ready operating condition for faster, more economical installation.

Capacities for the factory-built "Oxigest" range from 20 to 350 persons per day...parallel installations for keeping pace with growing needs. For capacities up to 50,000 persons per day, ask about our factory-fabricated, field-erected sewage treatment plants.

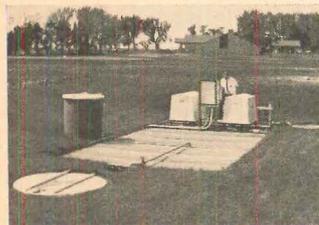
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MUNICIPAL AREA



50-HOME SUBDIVISION



GOLF, COUNTRY CLUB



See color-sound "Oxigest" movies on this unique projector or, better still, why not visit our plant in person as our guest. Simply contact our representative in your area for complete details.



ONE OF THE UNION TANK CAR COMPANIES



Smith & Loveless[®]

MAIN PLANT: LENEXA, KANSAS 66215 • DEPT. 70
(Near Kansas City, Missouri)

Manufactured by Smith & Loveless and its licensees at Oakville, Ontario
• Osaka, Japan • Denbighshire, England • Brussels, Belgium • Helsinki, Finland

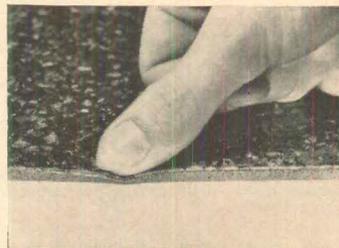
NEW PRODUCTS

start on p. 128

Floors



Ceramic tile with hard glazed surface measures 6" square and is intended for entrance foyer, dining area or enclosed patio. In five mottled colors including gold. Can also be used for accent walls. Cambridge Tile, Cincinnati. Circle 222 on Reader Service card



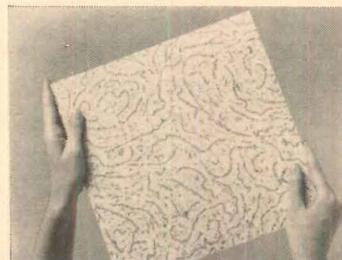
Resilient vinyl sheet combines a foamed cushion backing with nubby surface of inlaid vinyl chips. Inner layer is reinforced with glass fiber. The flooring is manufactured in 6' widths and in seven colors plus white. Armstrong, Lancaster, Pa.

Circle 223 on Reader Service card



Translucent vinyl tile in 1/16" residential gauge comes in 9" and 12" squares. Dimensional decoration extends throughout entire thickness. Tile comes in a variety of stone, pebble and travertine patterns. Congoleum-Nairn, Kearney, N.J.

Circle 224 on Reader Service card



Embossed tile of vinyl asbestos features a sculptured surface that simulates wind-swept sand. Choice of four multi-toned backgrounds. Available in 12" squares 3/32" and 1/16" thick. May be installed below grade. Johns-Manville, New York City.

Circle 225 on Reader Service card



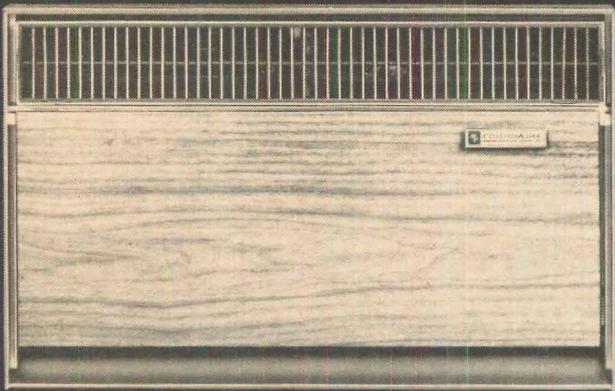
Vinyl asbestos tile has a random stone pattern embossed on fine marble chips in translucent vinyl. Pattern helps conceal sub-floor irregularities. Can be installed below grade. Tile comes in 1/16" gauge, 12" square, in four colors. Azrock, San Antonio.

Circle 226 on Reader Service card

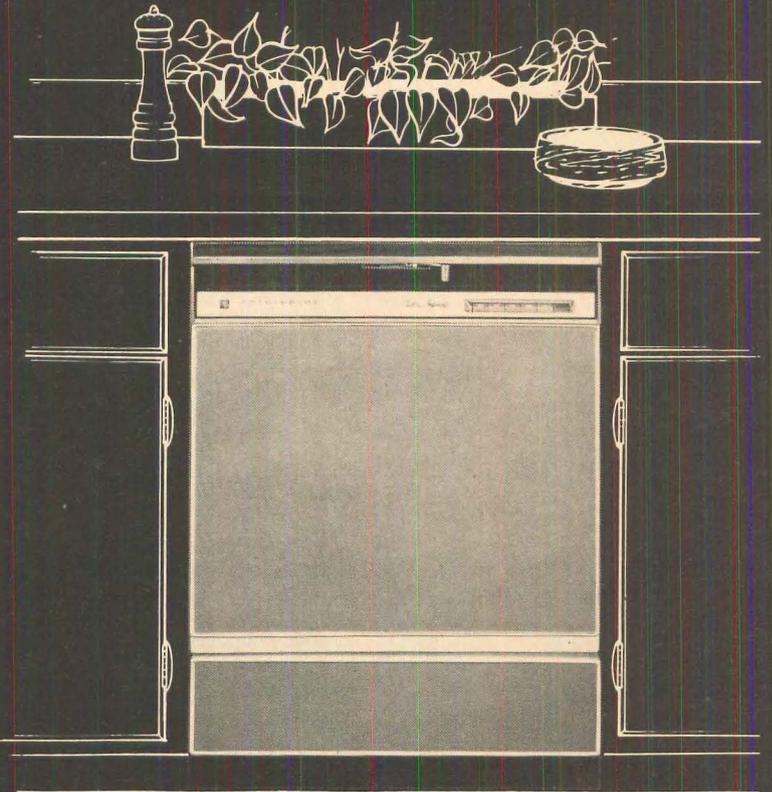
New products continued on p. 134

TODAY'S AFFLUENT HOME BUYERS WON'T SETTLE FOR JUST ANY APPLIANCE

THEY WANT QUIETER HOMES



Through-the-wall Frigidaire Prestige Room Air Conditioner, Model AWP-12K.



Frigidaire Undercounter Dishwasher, Custom Imperial Model DW-CIUK.

FRIGIDAIRE MEETS THE CHALLENGE

Today's home buyers are on the lookout for sound-conditioned homes. *Quiet* homes. Frigidaire recognized this trend in modern living by creating undercounter dishwashers and room air conditioners specifically engineered to keep sound way down.

The Frigidaire Custom Imperial Undercounter Dishwasher, for instance, operates with amazing quietness because of its special sound-deadening features. A homemaker can arrange a club meeting on the kitchen phone while her

Frigidaire Undercounter Dishwasher is running full force.

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Circle 87 on Reader Service Card



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STAINLESS STEEL Consists of a reinforced frame and a special hanger with built-in spring locks . . . no exposed fasteners. 5 stock sizes, special sizes up to 12 feet. Finishes are satin or polished. Tamper-proof steel shelving and accessories available.

EXTRUDED ALUMINUM Heavy duty extruded frames are doubly reinforced with extruded corner keys. Special interlocking brackets and hangers make installation easy. Secures to wall without exposed screws or bolts. Available in all sizes. Finishes are buffed, polished and brush satin in anodized natural and anodized gold. Tamper-proof shelving is available.

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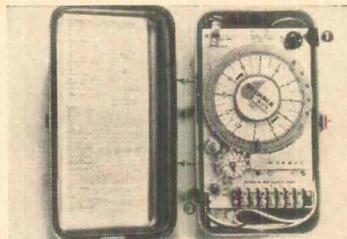
NEW PRODUCTS

start on p. 128

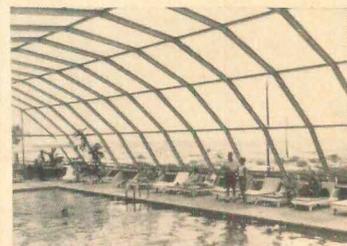
Outdoor living & gardens



Aluminum mushroom reflector (left) with fiberglass diffuser bathes paths and flower beds in 6-10' circle of light. Available in charcoal. Floodlight for suspension from tree has clamp-on shields. Prescolite, San Leandro, Calif. Circle 227 on Reader Service card



Lawn watering system with electric controls can be regulated manually or set for automatic operation. Two models permit control of either three or six watering stations. Approved by Underwriters Laboratories. Buckner Industries, San Francisco. Circle 230 on Reader Service card



Waterproof pool pods consist of clear plastic panels supported by a framework of extruded aluminum. Pods can be engineered from standard component units to enclose any pool area. Can be demounted. Therma Vista, Myrtle Beach, S.C. Circle 228 on Reader Service card

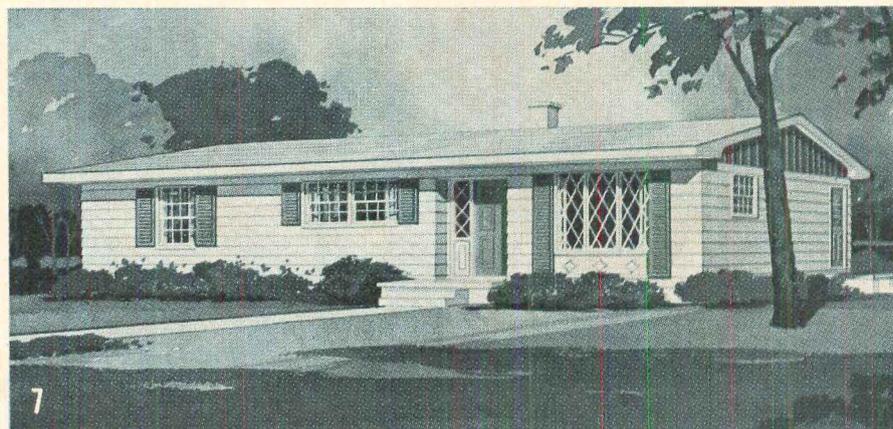
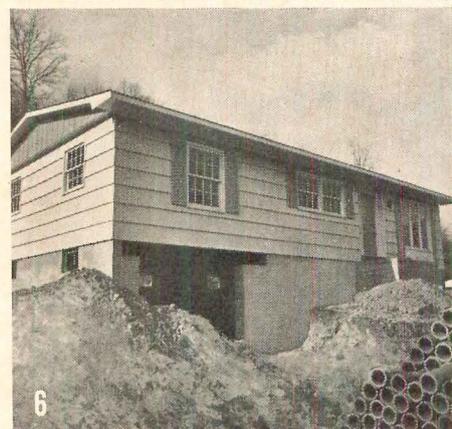
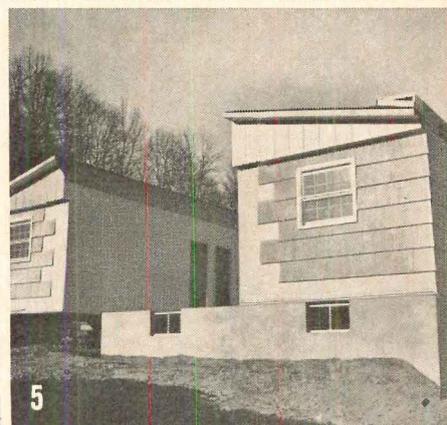
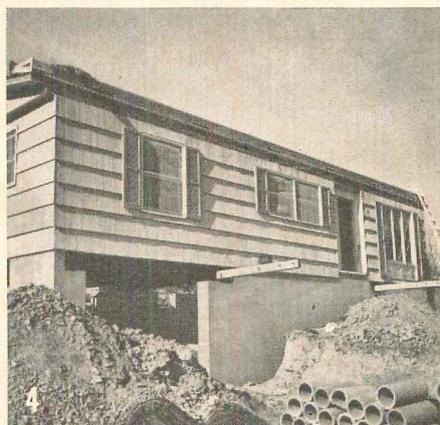


Resilient grass-like carpet of polyethylene is available in 6" squares to cover any indoor or outdoor subsurface. Stain resistant blades are 1" high. Base of each square is perforated for drainage. Pegasus International, New York City. Circle 231 on Reader Service card



Patio canopy of vinyl plastic has prefabricated steel frame and 2" posts. Line includes free standing and attached units in single or twin sizes up to 36" long. Available in white or green. Thoss Products, North Manchester, Ind. Circle 229 on Reader Service card

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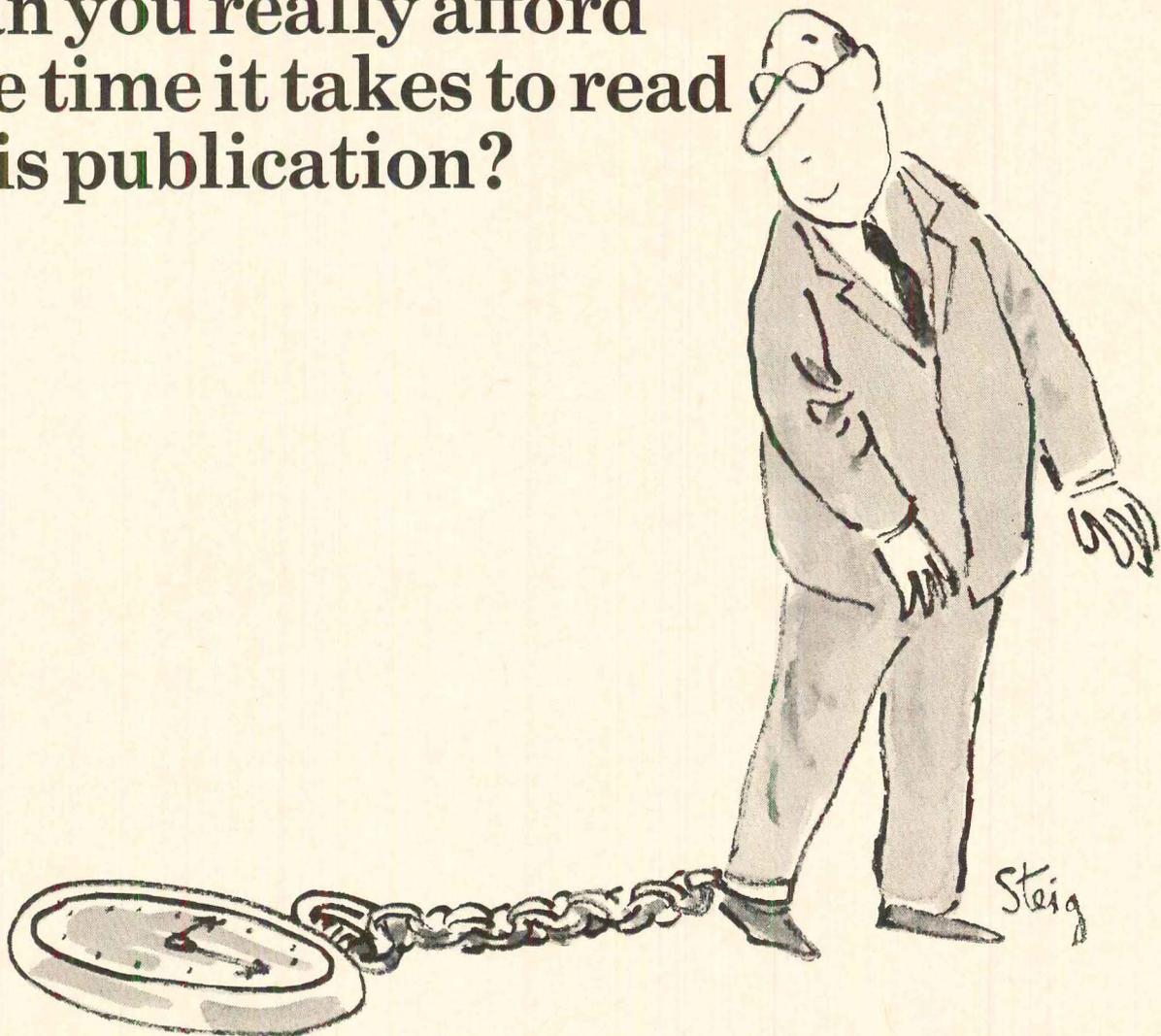
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House & Home

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NEW PRODUCTS

start on p. 128

Lighting

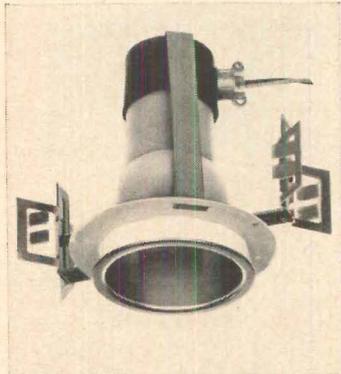


Porcelainized gas light of cast aluminum incorporates oval tempered glass panes in a clamshell design. The light, available in white and black, can be post- or bracket-mounted. Operates on natural or LP gas. Arkla, Little Rock, Ark. Circle 272 on Reader Service card



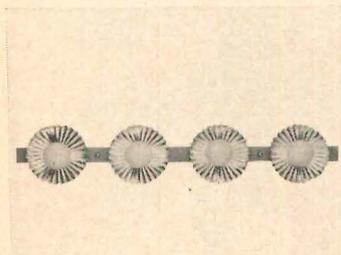
Low-level fixture with cast bronze reflector is 39" high including post. Available in three designs and two finishes: Verde green and dark brown. All may be used with incandescent or 100 watt mercury vapor lamps. Kim Lighting, El Monte, Calif.

Circle 273 on Reader Service card



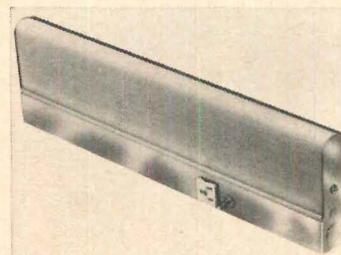
Recessed downlight uses 30 watt or 50 watt R-20 bulb. Spacing of units in ceiling varies light distribution from general illumination to functional high-lighting. Finishes: clear, black or gold, with flanged or flangeless trim. Smithcraft, Chelsea, Mass.

Circle 274 on Reader Service card



Complexion light is intended for use with bathroom medicine cabinets and dressing-table mirrors. Finished in polished and spray brass, the fixture can be adapted to both horizontal and vertical mounting. Virden Lighting, Cleveland.

Circle 271 on Reader Service card

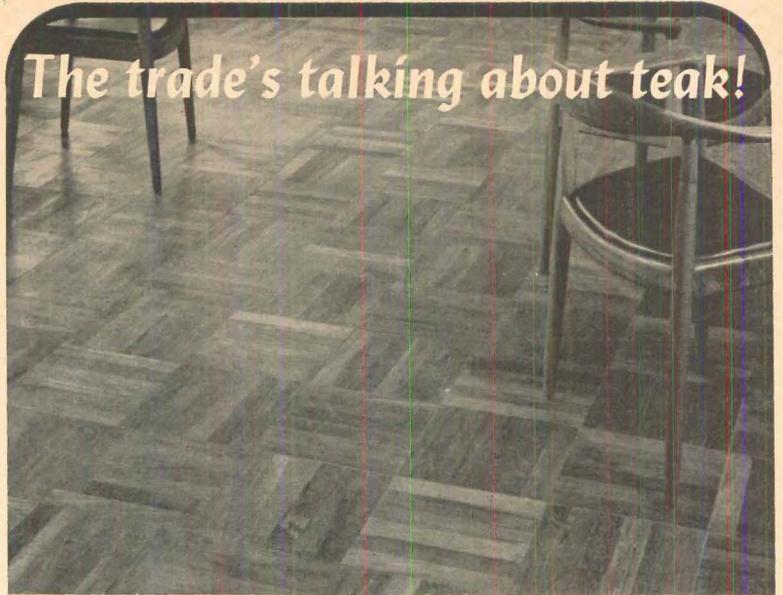


Cabinet light provides additional counter surface illumination when installed under kitchen cabinets. Unit comes in three lengths with ribbed, translucent plastic diffusers. Includes appliance outlet. Rangaire, Itasca, Tex.

Circle 270 on Reader Service card

New products continued on p. 144

The trade's talking about teak!



"Strailine Floor Pattern", Member's Room at the Art Institute of Chicago. Architect: Brenner of Danforth & Rockwell.

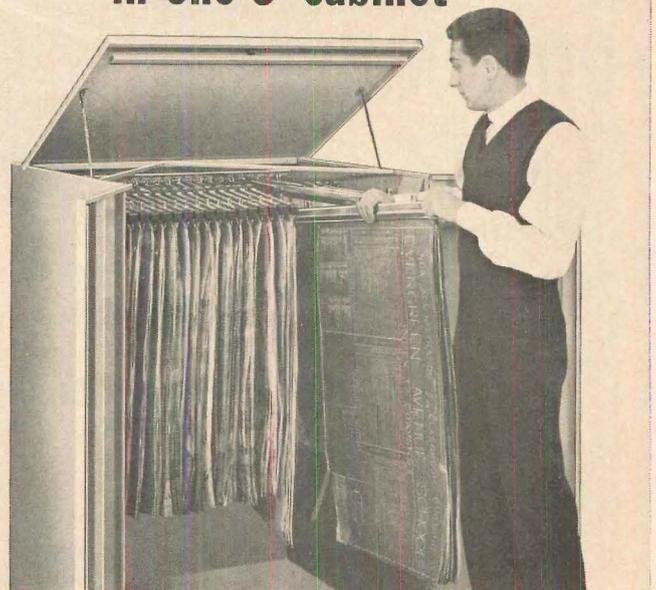
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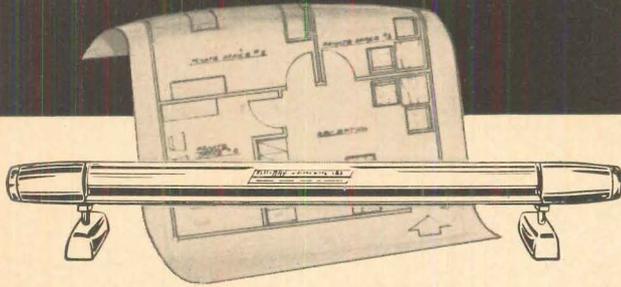
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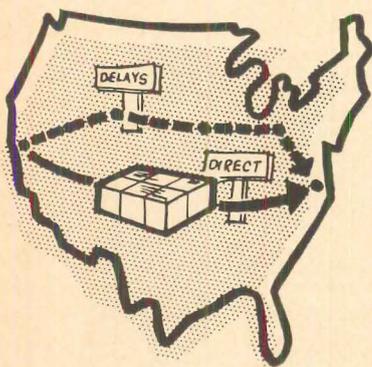
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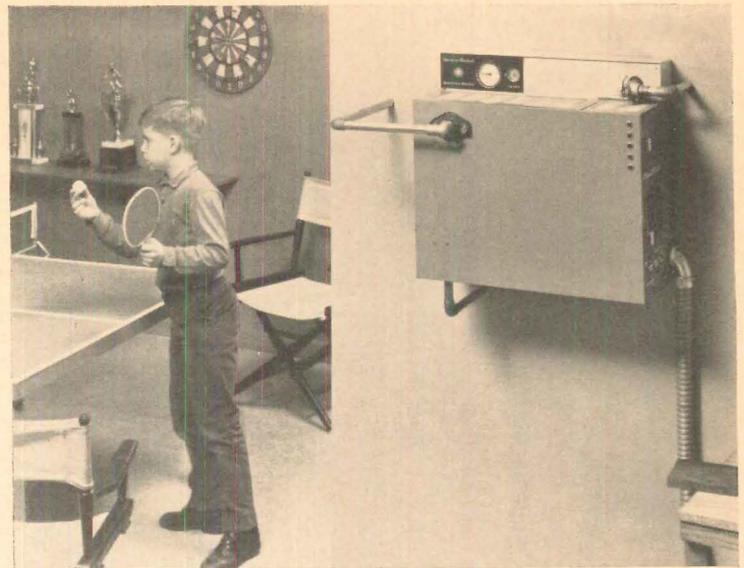


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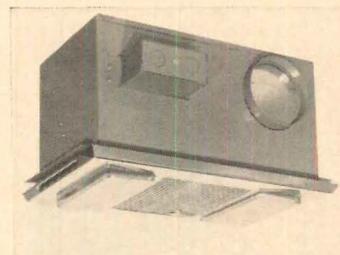
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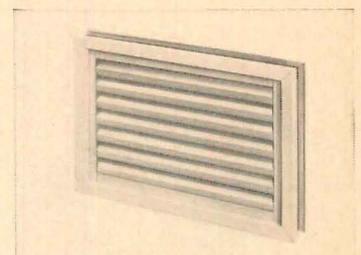
Heating & cooling



Electric boiler for hydronic heating can be wall-hung because it weighs less than 90 pounds. It is completely packaged, requires only two wiring connections plus piping. Four sizes: 34,000 to 82,000 btuh. American-Standard, New York. *Circle 201 on Reader Service card*



Bathroom ventilator for ceiling mounting contains two lights behind drop lenses and a low-wattage night light. Removable junction box simplifies installation. Ventilating speed is controlled by a four-way rocker switch. Fasco, Rochester, N.Y. *Circle 202 on Reader Service card*



Ventilating louvers for interior doors have adjustable frames to permit installation in metal or wood doors of any thickness. They are made of steel finished with baked enamel, in standard and special sizes. Leslie Welding, Franklin Park, Ill. *Circle 203 on Reader Service card*



Indoor condensing unit is air-cooled and comes in five sizes—three to 15 tons. It was developed for installations in which outdoor equipment is impractical. Blowers run at low speeds and are rubber-mounted to minimize noise. Hupp, New York. *Circle 204 on Reader Service card*



Fuel meter is designed for measuring individual fuel-oil consumption in housing developments and shopping centers served by central fuel-oil systems. An automatic valve shuts off oil flow if a line break occurs. Service Recorder, Cleveland. *Circle 205 on Reader Service card*

New literature starts on p. 146



From the inside you can't see them at all!

Those compact Carrier condensing units install in the wall, up out of the way. Each powers a central ducted heating and cooling system. A system ideal for apartments, and homes, too.

Why? It gives the tenant or owner quiet movement of filtered, conditioned air to each room all year long. Plus heating or cooling whenever he wants it. As much as he wants.

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Note the condensing unit. It slides into a wall sleeve from inside. A wallboard panel completely hides it from view. Or, if you or your architect prefer, it can install flush on the outside, and project a few inches into a closet or utility room. Other parts of this easy-to-install Carrier system?

Refrigerant tubing with quick-couples at both ends for a fast, clean connection to fan-coil or furnace.

An all-electric fan-coil that can power air through long duct runs—does it quietly from any spare space—above a closet, in a furred-down ceiling, a crawl space or attic.

And it measures only 13 $\frac{1}{8}$ inches high. Heats with electric strip heaters or a hot water or steam coil—or a compact gas furnace with matching cooling coil.

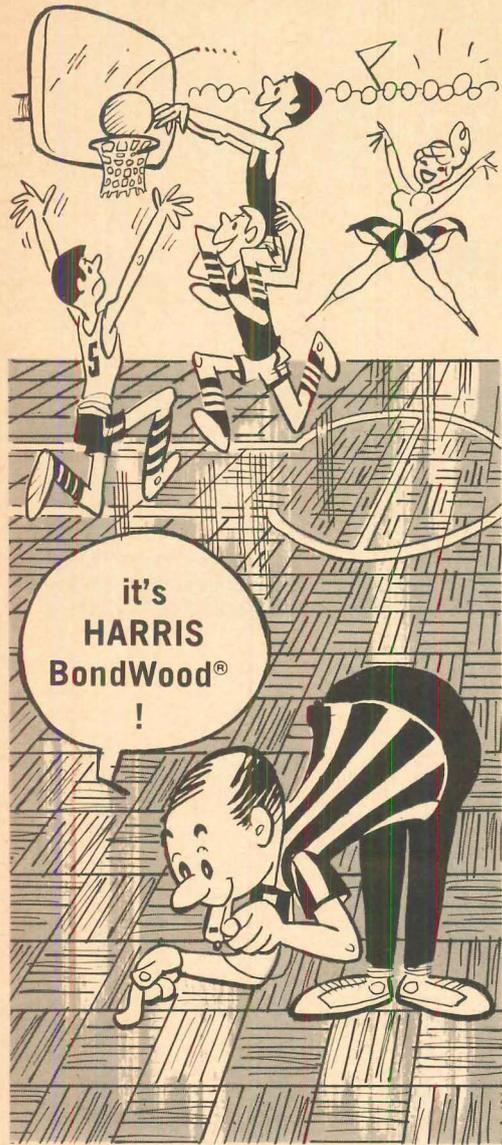
Details? Your Carrier dealer will give them to you. And handle everything to do with heating and cooling: duct design, equipment location, wiring, controls—right through start-up. And back it up with expert service.

You'll find Carrier dealers in the Yellow Pages. Carrier Air Conditioning Company, Syracuse, New York 13201. Represented in Canada by Carrier Air Conditioning (Canada) Ltd.

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NEW LITERATURE

For copies of free literature, circle the indicated number on the Reader Service card, page 137.

BATHROOM CABINETS. Catalog illustrates manufacturer's new line of decorator cabinets, including side-wall units. In color. Grote Mfg, Madison, Ind. *Circle 375 on Reader Service card*

GUTTERS AND DOWNSPOUTS. Illustrated booklet shows manufacturer's rainpipe line, with one section devoted to hidden hanger installation method. Also included: descriptions of guttering accessories. U.S. Aluminum Corp., Franklin, Ill. *Circle 314 on Reader Service card*

HARDWOOD PANELING. Color brochure illustrates manufacturer's complete line of wood panels. Weyerhaeuser Co., Tacoma, Wash. *Circle 315 on Reader Service card*

POWER TOOLS. Eighty-two page brochure covers manufacturer's entire industrial line of electric, air and battery powered tools. More than 130 power tools included. Twelve are introduced. Skil Corp., Chicago. *Circle 316 on Reader Service card*

ACRYLIC SHEET. Brochure describes process for continuous casting of acrylic sheet in unlimited lengths and defines its significance for acrylic users. Includes application illustrations. Swedlow Inc., Garden Grove, Calif. *Circle 317 on Reader Service card*

WALL PANELS. Color brochure illustrates manufacturer's full line, including eight prefinished wood-grain blends. Four pages. Boise Cascade Building Products, Minneapolis, Minn. *Circle 318 on Reader Service card*

RESIDENTIAL LIGHTING. Twenty-page catalog includes detailed analyses of lighting needs for every room. Manufacturer's entire line included. General Electric, Cleveland. *Circle 319 on Reader Service card*

ROOFING AND SIDING. Brochure includes uses, available sizes and specification data on manufacturer's line of corrugated asbestos-cement roofing and siding. Philip Carey Mfg., Cincinnati. *Circle 320 on Reader Service card*

POLYCARBONATE RESIN. Bulletin describes properties, suggested applications and molding procedures for glass-reinforced resin. 12 pages. General Electric, Pittsfield, Mass. *Circle 310 on Reader Service card*

ALUMINUM WELDING. Soft-cover text outlines the selection of materials and methods, and offers techniques and specifications for gas, electron-beam, and stud welding. Aluminum bonding, brazing, and soldering are also discussed. 134 pages. For copy: send \$2.50 (plus sales tax in New York City and state) to The Aluminum Assn., 420 Lexington Ave., New York City.

FANS AND HEATERS. Catalog contains photos and information on manufacturer's full line. Several products are introduced. 16 pages. Emerson Electric, St. Louis, Mo. *Circle 350 on Reader Service card*

BUILDING PRODUCTS. Color brochure lists manufacturer's line of commercial building products. Includes product and specification data, design information and color swatches. 24 pages. Reynolds Metal Co., Park Ridge, Ill. *Circle 351 on Reader Service card*

STEEL ACCESS DOORS. Four-page brochure describes and lists specifications of doors in manufacturer's line. Miami-Carey, Cincinnati, Ohio. *Circle 352 on Reader Service card*

COPPER FOIL. Booklet includes specifications on shielding properties of electro-sheet foil in comparison with other metals. Use of material as building foil for weatherproofing, waterproofing, flashing and sealing is covered. Anaconda American Brass Co., Waterbury, Conn. *Circle 353 on Reader Service card*

UMBRELLA SHED. Design sheet offers construction details for both single and double sheds. Assembly methods described include procedure for erecting trusses on poles. Timber Engineering Co., Washington, D.C. *Circle 254 on Reader Service card*

INDUSTRIAL SPRINKLERS. Catalog introduces 16 new products in manufacturer's line. Information included on how to design and install irrigation systems. Also covered: performance data specifications. Buckner Industries, Fresno, Calif. *Circle 301 on Reader Service card*

LOCKSETS. Sixteen-page booklet covers manufacturer's deluxe and standard cylindrical locksets and interiors. Usage recommendations included. Arrow Lock Corp. Brooklyn, N.Y. *Circle 302 on Reader Service card*

KITCHEN SINKS. Brochure illustrates manufacturer's color and coppertone sinks. Units pictured are self-rimming models which seal directly to counter top and require no metal frame. 20 pages. Kohler. For copy send 10¢ to Kohler Co., Kohler, Wis.

ELECTRIC HEATING. Complete line of heating systems is covered in four-color catalog. Included is information on how to determine type, size and power of heating unit required. Hunter Division, Memphis, Tenn. *Circle 303 on Reader Service card*

DOOR CHIMES. Revised catalog shows manufacturer's chime and pushbutton line in color. Included are several new models. Emerson Electric, St. Louis, Mo. *Circle 304 on Reader Service card*

JET PUMPS. Brochure includes application information on 1/8, 1/2, 3/4 and 1 hp convertible jet pumps for domestic water systems. Deep- and shallow-well versions of pump included, as well as accessory items. Crane Co., Chicago. *Circle 305 on Reader Service card*

SHINGLES AND SHAKES. Eight-page brochure details uses for products in remodeling. Ideas on product, design, over-roof and interior remodeling are included. For copy: send 10¢ to Red Cedar Shingle & Handsplit Shake Bureau, 5510 White Building, Seattle, Wash.

LATH AND PLASTER. Catalog includes a fire and sound control systems guide chart. Complete descriptions of manufacturer's gypsum lath and plasters are included as well as data on preparation and application of products. Celotex, Tampa, Fla. *Circle 306 on Reader Service card*

CIRCUIT BREAKERS AND PANELS. Four-page brochure describes wiring methods to coordinate manufacturer's panels with new heating installations or conversion heating jobs. Federal Pacific Electric Co., Newark, N.J. *Circle 307 on Reader Service card*

KITCHEN APPLIANCES. Catalog illustrates manufacturer's complete line of built-in cooktops and wall ovens, counter built-in ranges and eye level ranges. Listing of nationwide distributor networks included. George D. Roper Sales Corp., Kankakee, Ill. *Circle 308 on Reader Service card*

RESILIENT FLOORING. Bulletin outlines advantages of some of the more common types: linoleum and vinyl, asphalt, rubber and cork tile. Includes data on maintenance. Institute of Real Estate Management, Washington, D.C. *Circle 309 on Reader Service card*

ACRYLIC PAINTS. Article defines three principal types of latex water-based paints. Surface preparation and application procedures are also discussed. Rohm and Haas Co., Philadelphia. *Circle 313 on Reader Service card*

ILLUMINATED CEILINGS. Four page study covers basics involved in broad plane ceiling lighting. Cost comparison charts included. Wilson Research Corp., Erie, Pa. *Circle 311 on Reader Service card*

New literature continued on p. 148



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NEW LITERATURE

starts on p. 146

GYPSUM WALLBOARD. Applications of various types of gypsum wallboard are described in four-page brochure. It includes nail and staple specifications. Georgia-Pacific, Portland, Ore. *Circle 338 on Reader Service card.*

SMALL TRUCK. 112-page illustrated book describes maintenance systems or help trucks. General Motors, Pontiac, Mich. *Circle 339 on Reader Service card.*

CHAIN-HUNG LIGHT. Nine chain-hung fixtures are shown in four page bulletin. Model specifications are included. Thomas Industries, Louisville, Ky. *Circle 340 on Reader Service card.*

PLASTIC LAMINATES. Eight-page booklet covers manufacturer's complete line of laminated plastics in satin and textured finishes. Product specifications and general characteristics included in chart form. General Electric, La Grange, Illinois. *Circle 322 on Reader Service card.*

LIFTING DEVICE. Bulletin describes hoist and includes a chart to show lift capacities. Cordem, Minneapolis. *Circle 342 on Reader Service card.*

STREET LIGHT STANDARD. Brochure shows three basic wood light standards. Installation information is included. Koppers, Pittsburgh. *Circle 343 on Reader Service card.*

WOOD PATIO. Seven-page booklet shows design ideas for wood patios. Includes covered patios. Western Wood Products Assn., Portland, Ore. *Circle 344 on Reader Service card.*

SNOW REMOVAL. Bulletin describes snow-melting system. Installation guide and cost figures are included. For copy: send \$1.50 to Institute of Boiler and Radiator Manufacturers, 393 Seventh Avenue, New York, N.Y.

FLOW GUN. Four-page brochure describes line of manual and automatic flow guns. Specifications for accessories, such as hose swivels and nozzles, are included. Pyles Industries Inc., Wixom, Mich. *Circle 345 on Reader Service card.*

RADIANT HEATING. Brochure describes radiant heating wall and ceiling panel. It includes application. Four pages. Litecontrol, Watertown, Mass. *Circle 346 on Reader Service card.*

ALUMINUM WINDOWS AND DOORS. 52-page manual offers specifications for 21 types of windows and sliding glass doors. Architectural Aluminum Manufacturers Assn., Chicago. *Circle 347 on Reader Service card.*

INSULATING GLASS. 8-page catalog supplement explains heating and cooling cost reductions from insulating glass installation. Details on standard sizes, specifications and glazing instructions included. Thermoproof Glass Co., Detroit. *Circle 329 on Reader Service card.*

EMERGENCY LIGHTING. 4-page product bulletin describes Sentry-Lite. Unit does not require other power sources and has no electro-mechanical devices. Hobby & Brown Electronic Corp., Rockville Centre, N.Y. *Circle 331 on Reader Service card.*

PICKUP-TRUCK COMPARTMENTS. 4 catalog sheets show side-mount compartments for all fender-side pickups in 1/2-ton, 3/4-ton and 1-ton sizes. Custom models and accessories available are also discussed. Pierce Auto Body Works, Appleton, Wis. *Circle 323 on Reader Service card.*

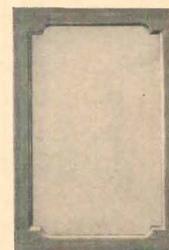
FLAT GLASS. 16-page catalog includes description, typical uses, glazing information and sizes of glass. American Saint Gobain Corp., Kingsport, Tenn. *Circle 334 on Reader Service card.*

VALVES. Comparison chart lists bronze and non-pressure rated heating specialties. Hammond Valve Corp., Hammond, Ind. *Circle 337 on Reader Service card.*

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		138E6A, E6B, M1, M2, N1, N2, S2E, S2F	Mengel Cabinet Division (U. S. Plywood Corp.)	72	Tile Council of America
		138W10	Miami Carey Division (Philip Carey Mfg. Co.)	33	Torginol of America, Inc.
29	B.F. Goodrich Chemical Co.		Mobay Chemical Co. (Monsanto Chemical Co.)	138M3, M4	United States Steel Corp.
143	Bangkok Industries, Inc.	17	Moe Light Division (Thomas Industries)	135	Weiser Company
40	Bell & Gossett—ITT	62, 63	Morrison Steel Products Co.	80, 81	Westinghouse Electric Corp.
147	Bird & Son, Inc.	138E4, N4	Mosaic Tile Company	68, 69	Whirlpool Corporation
48, 50	Broan Manufacturing	123	National Concrete Masonry Assn.	138W8A, W8B	Wood Information Bureau
56, 57	Bruce Co., Inc., E.L.		National Gypsum Co.	45	York Corporation
30, 31	Bryant Manufacturing Co.	59, 60	National Oak Flooring Mfg.		
		64, 73	Nichols Wire & Aluminum Co.		
15	Caradco, Inc.	24, 25	NuTone, Inc.		
145	Carrier Air Conditioning Co.	139-142	Olympic Stained Products Co.		
9	Cast Iron Pipe Research Association	1, 2	Overhead Door Corp.		
138M6A, M6B, N4A, N4B, S2C, S2D	Century Engineering Corp.		Pacific Clay Products (Los Angeles Brick Division)		
34, 35	Chevrolet (Div. of General Motors Corp.)	37	Pease Woodwork Company		
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85	Consoweld Corp.	138W4	Pomona Tile and Mfg. Co.		
138E4A, N2A, S2A	Continental Homes, Inc.	55	Ponderosa Pine Woodwork		
		87	Pope & Talbot, Inc.		
138E8, M6	Dacor Manufacturing Co.	143	Price Pfister Brass Mfg. Co.		
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		43, 44	Puritron Division (Scovill Mfg. Co.)		
12, 13	Edison Electric Institute	138W10A, W10B, SWA, SWB	Quality Courts Motels, Inc.		
4th Cover	Emerson Electric Company (Builder Products Div.)	4	Rain Bird Sprinkler Mfg. Corp./ Rainy Sprinkler Sales		
134	Engineered Products Co.	84	Red Cedar Shingle & Handsplit Shake Bureau		
		36	Reproduction Engineering Corp.		
51	Float-Away Door Company	134	Republic Steel Corp.		
83, 138W1	Formica Corp.	28	Reynolds Metals Co. (Building Products & Supply Div.)		
127, 129, 131, 133	Frigidaire Division (General Motors Corp.)	52	Roberts Consolidated Industries, Inc., The		
		144	Rohm & Haas Company		
138W6	Gaffers & Sattler (Div. of Republic Corp.)	65	Schumacher Co., F. E.		
82	General Electric Company	138W9	Shakertown Corp.		
138W5	General Telephone Company	41	Simpson Timber Company		
53, 54	Gerber Plumbing Fixtures Corp.	138E3, N3	Smith & Loveless		
49	Goodyear Tire & Rubber Co. (Flooring Division)	138W8	Southern California & Southern Counties Gas Co.		
32	Grote Mfg. Company	138E1			
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146	Harris Manufacturing Co.	138W3			
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40	ITT—Bell & Gossett				
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