

July 1953

house + home

Best-selling builder house

Cliff May and Chris Choate's houses are so economical to build they can be priced \$1,000 under the market (p. 93 & below)

Architect designed

Three simple solutions to the problems of the small suburban house (p. 100)

Neighborhood builder

As a builder and a builder's banker, George Goodyear boosts living standards (p. 112)

Architect-builder collaboration

AIA's Edward Fickett and Morgan Yost diagnose architects' needs for builder clients (p. 91)

Slab construction

How to make slab houses warm, dry, cope with unstable soil and provide adequate storage and recreation space (p. 142)

Family-plan house

Architect Walker Field splits his house with a kitchen core so that his children can be seen but not heard (p. 136)



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July, 1953

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Cover: House designed by Cliff May and Chris Choate, Architects; photo by Maynard Parker



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Money pinch nips homebuilding; Federal Reserve loosens credit

Testified Builder William J. Levitt before the Senate banking committee: "The basic industry of the US, construction, is suffering horribly—about to go into a coma because it can't get any money. . . . Unless the government does support the bond market, . . . there will be no mortgage money."

Even in a month of anguished yelps from homebuilders who said their fall output was threatened by lenders' unwillingness to give forward commitments now, Levitt's view was the extreme. But it pointed up a problem builders considered grave enough to deluge Congress with protests and cries for aid. Argued builders: all the indexes and statistics of booming economy (mortgage recordings, FHA & VA applications, employment, retail sales, et al.) only reflected decisions to buy or build, made before the Treasury's 3 $\frac{1}{4}$ % long-term bond and the Federal Reserve's hard money policies threw the nation's money market into continuing confusion; now, unless mortgage money could be smoked out, housing would begin nosediving about September.

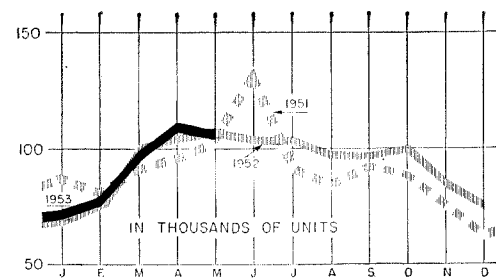
Half slave, half free. Subject of the outcry was the FHA-VA slice of private housing (40% during the first quarter of the year). With the over-all demand for loans at an all-time peak capped by the Treasury's need for \$12 billion of refinancing and new money by the end of the year, interest rates were rising so fast that even at 4 $\frac{1}{2}$ %, VA and FHA mortgages were not pulling as much money away from competing investments as builders wanted. Said FHA Commissioner Guy Hollyday: "The market's been tight for several months . . . but not as bad as a lot of people would have us believe. We're in for a tight supply of money for some time. We've got to fight pretty hard to get our share of business." Hollyday's recipe: "Let nature take its course. The only thing we can do would be the worst thing in the world . . . to intimate we are going to raise rates. . . . We do not have the slightest intention whatever of raising rates."

Some lending men asserted that a big contributor to the FHA-VA drought outside New York and New England was a maneuver whereby builders outsmarted themselves. For a year, VA had forbidden banks which handle construction financing to take final loans. So many a builder set up his own nonapproved lending agency to unload loans on eastern investors, with a warehousing backstop arrangement at,

say, 95. When the VA rate jumped to 4 $\frac{1}{2}$ %, said lenders, builders rushed to cancel their backstop commitments at 95 on the old 4% loans and offered substitute 4 $\frac{1}{2}$ % loans at 97 $\frac{1}{2}$ or 98. It looked like a smart deal but it actually broke the market for 4 $\frac{1}{2}$ % loans, lenders said. Institutional investors who had been willing to buy at par or 99 $\frac{1}{2}$ could not justify doing it when builders were willing to sell for a lot less.

Policy reversal. The building industry was not crying alone. Credit scarcity was deepening the distress of cattlemen hard hit by low prices and drought. It was beginning to slow down the used auto market. At month's end, the Federal Reserve reached for its bluntest instrument of money management, reversed its hard money policy as decisively as it was launched. By cutting reserve requirements for member banks, freeing about \$1.1 billions in reserves, the Fed created about \$5 $\frac{1}{2}$ billions of new lending authority.

The move was calculated to provide more money to meet the normal summer bulge in demand for private credit, to meet needs of normal economic growth and to help the government borrow \$6 billion in new money without paying intolerable interest rates on the drum-tight money market. Hopefully, the move was also calculated *not* to touch



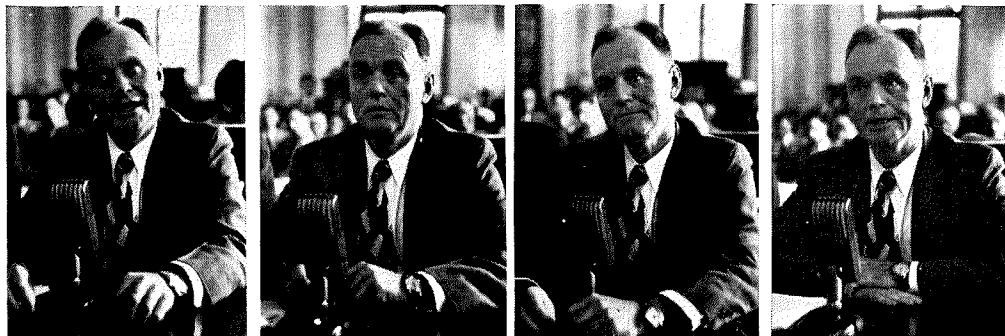
Source: Bureau of Labor Statistics

HOUSING STARTS in May fell 2.7% to 107,000. It was the first time since 1942 that May starts lagged behind April's. The May total was equal to a seasonally adjusted annual rate of 1,067,000—the lowest rate for any month this year. The five-month total of 465,300 was still slightly above the '52 level although public starts (24,000) were more than a third below a year ago.

off more inflation. It clearly demonstrated that Republican hard money men put prosperity above economic beliefs, would not hesitate to switch policies 180 degrees to avert a recession.

Sources close to the Federal Reserve predicted lowering reserve requirements was only the first of several moves the Fed may make before year's end to pump perhaps another \$3 billion into the US economy. Objective: to keep interest rates from zooming any further. Even so, the mortgage market appeared likely to remain relatively tight. If the 3 $\frac{1}{2}$ % Treasury bond re-establishes itself at par or better, experts think 4 $\frac{1}{2}$ % government-backed mortgages will become "reasonably marketable." But the spread between 3 $\frac{1}{2}$ and 4 $\frac{1}{2}$ would not compare with the spread between Government 2 $\frac{1}{2}$'s and 4% VA's that prevailed a few years ago.

TIME: Walter Bennett



T. B. KING, VA MORTGAGE CHIEF, DEFENDS DISCOUNT EDICT BEFORE SENATE COMMITTEE

Congress joins builders in attacking VA ban on discounts, warehousing; early repeal due

VA's May 18 ban on discounting and warehousing (H&H, June '53, News) compounded the nation's mortgage troubles. Because it was an administrative edict that could be erased as fast as it was imposed, it became the target last month of one of the most violent torrents of abuse building has heaped on government in recent years. Some builders even called it a spite move

by VAmens ired at having 4 $\frac{1}{2}$ % interest forced on them. Echoed Rep. William H. Ayres (R, Ohio): "It seems to me it was issued possibly in a spirit of revenge." VA denied it.

With verbal shots flying from all parts of the country, mild-mannered T. (for Thomas) B. (for Bertram) King, VA's loan guaranty chief, felt impelled to defend his

edict before two Congressional committees. At the Senate banking committee, he had hardly opened his mouth when white-thatched Sen. Paul Douglas (D, Ill.) forced King's foot into it.

Douglas: Is the discount ultimately passed on to the veteran who buys the home?

King: VA has maintained that through its appraisals it screens the great part of such discounts away from the veteran purchaser.

Capehart: Who are you trying to protect?

King: . . . The veteran.

Douglas: In the belief that these discounts would in large part be passed on to the veteran?

King: . . . We think it [the ban] is consonant with the intent of Congress.

Capehart: Do you think it's going to do the job?

King: [A larger discount] would provide immediate forced draft, which might be hard to work out of. There is a glut. How long it will take to [overcome it] no one can say.

Douglas: Permitting the discount would be equivalent to a further increase in interest?

King: Under our contentions it would not.

Douglas: If the discount does not hurt the veteran, why do you interfere with the discount, because presumably you are there to protect the veteran. . . . You seem to cut the ground out from underneath your own feet.

Recipe: simple language. During House banking committee discussion, Chairman Jesse Wolcott contended King issued the

ban "because a couple of members of the veterans' committee claimed mortgage men were conducting rackets under it. According to my interpretation, the only way it can be corrected is to convince these two gentlemen it is not a racket or write this [sec.] 504 in such simple language that Mr. King will feel obligated to do what we intended to do."

Before the House veterans' subcommittee, King denied that Wolcott's two gentlemen (Chairman Ayres and Rep. Olin Teague, D, Tex.) had triggered the order. The committee heard a chorus of experts shout that VA was choking its own program. Vice President John Scully testified Chase National Bank would return to the VA market if and when the discount ban ends. It was Scully who pointed out that King forbade warehousing under Sec. 504 of the 1950 Housing Act, while under the same law FHA still permits it. Vice President Milford Veiser of Mutual Benefit Life Insurance Co. agreed the mortgage outlook "could be improved" by permitting discounts; VA appraisals would help keep discounts from growing too big. NAHB's Manny Spiegel proposed a rule forcing brokers to tell VA the discount on each

loan and who bought it. Counsel Horace Russel of the US Savings & Loan League warned that multiplying VA rules and restrictions were combining to "run the little builder and little lender out of the program."

Gray market. One of the few to defend the May 18 ban was James W. Rouse, Baltimore mortgage broker and chairman of FHA's industry advisory committee. The order, he said, was not the real villain; it only spotlighted a "gray market" in mortgages that had arisen as VA "piled one exception on top of another" to maintain volume while pretending its interest rate was adequate. MBA President Brown Whatley (who did not testify) told HOUSE & HOME he agreed that Bert King's order was right. Reason: the new 4½% rate loosed such a flood of paper it "might take another three months to re-establish an orderly market."

As his hearing closed, Ayres made it plain he would seek Congressional action to force VA to reverse itself. Before he acted, Wolcott rewrote Sec. 504 to forbid VA from banning discounts and put it into the 1953 Housing Bill (p. 122). One way or another, it looked at month's end as though VA's edict would be short-lived.

HOW MUCH DOES IT HURT? Builders in 19 cities across the nation

tell how 1953's mortgage crisis affects their own operations

Did the 1953 squeeze on mortgage money, compounded by VA's ban on discounting and warehousing, portend a real slump in housing production? Or, as a Phoenix banker suggested, were builders "worried about something that hasn't happened yet . . . crying before they are hurt very much"?

HOUSE & HOME correspondents talked to 67 builders—big and little—in 19 US cities. They compared the answers with the views of lenders and mortgage brokers. Considering the chaos in the money markets, it was no surprise to find more pessimism than optimism. Just over half the builders said they now planned to build fewer homes this year than last. But a quarter still expected to build more. And another quarter planned to build about as many as in 1952. Moreover, of those expecting to build less, only 63% blamed financing trouble. Not all of them said the trouble was lack of FHA or VA money. A significant 29% reported fewer buyers or dipping demand. Another 14% put the onus on too-high down payments, which may be another way of saying the same thing.

As usual, the scarcity of VA and FHA money grew the farther south and west you went from the money oasis along the northeastern seaboard. One thing seemed clear: the clamor was even louder than last year's outcry against Reg. X. City by city reports:

Chicago—Difficulty in obtaining "good terms" on financing large-scale projects will cut production by American Community Builders, mostly at Park Forest, from "more than 1,500" units in 1951 and 1952 to "less than 1,000" this year, reported President Nathan Manilow. But five other big Chicago builders reported their programs were remaining at new highs and for the first five months of 1953 starts in the metropolitan area were 16,437, or 2,173 ahead of Jan.-May, '52.

Memphis—Without stating figures, Wallace Johnson said his 1953 production would be the lowest since 1940 because of difficulty ob-

taining permanent financing. He corrected a report that his organization had laid off 450 men; it could hire 450 more to start a 256-unit project if financing was available. Charles Freeburg (700 homes, \$7,000-\$9,000 last year) had finished 450 so far in 1953. He said it didn't worry him that money was unavailable, because the profit on more production only went back to the government in taxes, anyway. Significantly, Freeburg said he planned to cut prices on his remaining output.

Indianapolis—Without identifying any individual builders, the *Times* forecast a cutback from 4,000 to 2,800 units in the city by the

end of the year for lack of FHA and VA funds, although there was plenty of money for conventional loans at 5 to 6%. HOUSE & HOME's correspondent, however, found four builders out of ten who expected to match their 1952 production. Another, Delbert B. Meyer, who erected 75 last year (\$10,750 to \$19,000, mostly FHA, and a few VA's) expected to build "about a third more" this year.

Texas—R. G. Hughes of Pampa, first vice president of NAHB, predicted that Texas homebuilding would be off 50% by August, 70 to 75% by September if the bottleneck on VA fees and discounts was not snapped. He had some 400 men working on projects in Wichita Falls, Borger and other Texas towns, had financing only through September. "I know of a dozen small builders in Texas who have laid off men," he added.

Dallas—Wilson H. Brown stopped a 45-unit project with the foundations laid last month. "They'll just lie out there and weather until something happens," he said. Earlier this year he started 72 units, but had 175 underway this time last year. Said ex-Mortgage Banker President Aubrey M. Costa: "You can't touch [government-insured mortgages] in this market without breaking the rules. And it's that way all over the Southwest, South and West Coast. . . . It means a lot of construction men will be out of work and business will slack off." Centex Construction Co., called Texas' biggest, planned 4,000 units this year. It has started 1,504 units so far, compared

with 956 a year ago. "We're not hurt yet, and I don't think we will be," said Controller Robert Rowe.

Phoenix—Except for prior commitments, homebuilding had come almost to a standstill; June starts were about 200 compared with 1,000 in April. Low-cost Phoenix, with 2,200 homebuilders for 106,000 population, formerly marketed most of its \$8,000 to \$10,000 houses for only 5 or 10% cash, now has mostly only 10% or higher cash requirements. Hugh Evans, who erected 200 houses last year, planned 400 \$8,000 dwellings this year, has been "mooching along mostly on conventional money" since the mid-April FHA-VA drought. His expected 1953 output: about 125.

Long Island—Said Otto Hartwig, executive vice president of the LI Home Builders Institute: "Our reports are startling in their excellence." Forecast: a 10% increase over 1952.

Just north of New York City, Executive Secretary James E. Cook of **Westchester County** homebuilders was almost as optimistic: "We've got no complaints. Money is adequate, we're getting 4½-5% conventional loans." Only worry: a series of rainy week ends that might mar sales. No cutbacks in housing plans have resulted yet from the money market in **New Jersey**, said NJHBA Executive Vice President John S. Wright.

Detroit also seemed a relatively healthy spot. Said Irving Rose, president of Edward Rose & Sons, which erected 995 units last year and expects to pass 1,000 this year: "Everybody is working, there's lots of money around to buy houses and cars. But how long will it last if we take the brakes off and let inflation get out of hand? For one thing, we would have every Tom, Dick and Harry overnight jumping into the business and soon crying for a bigger Fanny May to bail them out."

Los Angeles homebuilders, who have been enjoying a population growth of 190,000 a year (equal to a Tulsa-sized city) follow a crazy-quilt pattern all their own. They experienced just the slightest "sag in the upward curve" in May building permits, mortgage filings.

San Francisco—Custom Builder Willis Foster, who erected about 12 houses last year was cutting his output in half this year: "Financing is just too hard." But Standard Building Co., which has been averaging 600 a year, expected to equal the figure this year.

Denver—There was lots of conventional mortgage money available at 5 to 5½%, but builders of VA and FHA housing were adopting a "wait and see" attitude. Ralph S. Craner, president of the Denver homebuilder chapter, built 15 homes last year, had put up only one so far in 1953. Burns Construction Co.'s output will be down from 900 to 750 this year, but only because they ran out of big enough sites. F & S Construction Co. shelved plans for a whole new town, Thornton, blaming financing.

Atlanta—Builder B. A. Martin was planning 35 homes this year, compared to 43 last. Ben Smith was half through upping his output from 80 to 125 a year.

News stories on slums jolt Chicago; building commissioner seen as likely scapegoat

Among the US cities where building men are battling slums, Chicago is almost the only one where significant support has been forthcoming from local newspapers. The *Tribune* has faithfully recorded the more flagrant cases of illegal conversions and dwellings in need of rehabilitation or condemnation. But no Chicago paper had undertaken the formidable job of exposing the slum picture in its entirety—the misery, the greedy property owners who profit from it, the indifferent or dishonest city officials who let them get away with it. Six months ago, the *Daily News* considered the story. Explained Managing Editor Everett Norlander: "We hadn't gone to work on it because a job like this ties up too damn much of the staff and doesn't usually produce the flashy sensation you can get out of a crime exposé with less manpower."

Rat-bite decision. On March 27, Lottie Crenshaw, nine months old, was chewed to death by rats as she lay in her slum crib. "The rat-bite case did it," said Norlander. Former Nieman fellow Roy M. Fisher and seven other reporters began eight weeks of painstaking research. They pored over building department and court records. They traced down titles to hundreds of slum properties, compiled lists of building violation reports and then tramped through the misery of the city's 23 sq. mi. of slums to see where such violations still remained uncorrected. Last month, the results went into a ten-day series (see cuts) that shocked Chicago and had Mayor Martin Kennelly and his stooges scrambling for excuses. The *News* pulled no punches:

▶ "Here are the names of 20 of Chicago's slum makers," wrote Fisher in his second story. "They are the men who, more than any others, can be blamed for the wretched conditions that threaten to destroy Chicago as a decent place to live."

(Among the 20: Oschatz, Ratiner & Wittert, whose Alfred Wittert is treasurer of the Chicago real estate board.) Reporters found evidence of rats on every visit to slum properties owned by the 20. Three out of five times the owners were called into court, they got off free. Other times, the average fine was \$20.23. "They ought to call this the license court," Fisher quoted a veteran building inspector. "All the judge does is license them to keep violating."

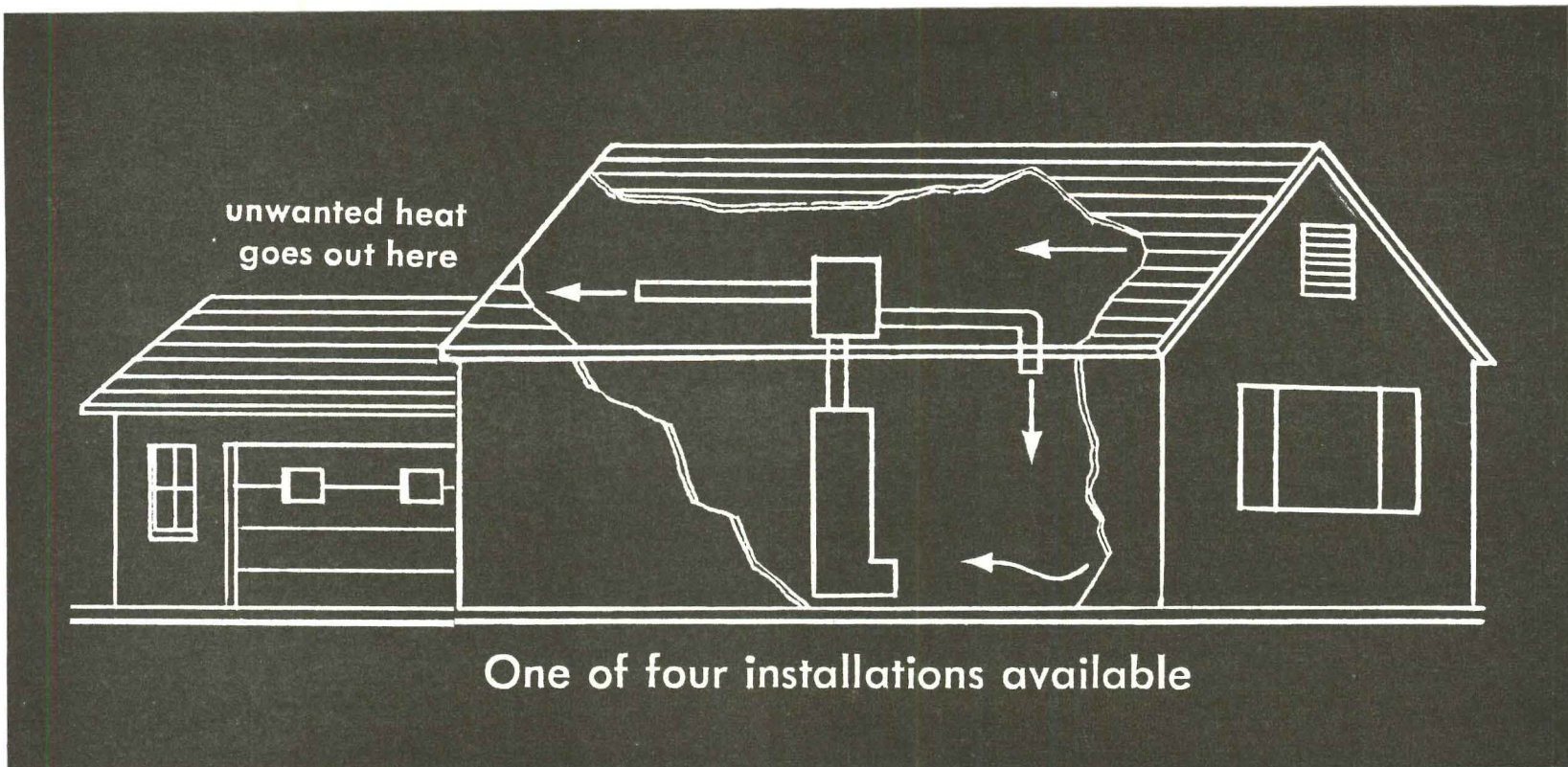
▶ One dilapidated four-story tenement built in 1890 to accommodate about 200 persons was now broken into 135 apartments occupied by about 1,000. Six times, the owner had been told by the fire department to clean up, three times he had been warned by the building department; three times found guilty in court and fined \$225 for persistent failure to repair broken plumbing, get rid of rats and cockroaches, replace fallen plaster or provide garbage cans. Court records showed only \$35 had been paid, the rest forgiven on promise to repair. Could he afford repairs? Fisher reported one former seven-room unit in the building, renting for \$45 in 1942, now produced \$218.83 a month after conversion into three apartments. "Slums," wrote Fisher, "don't just happen. They are created—deliberately and for profit."

▶ On file with the building department were 10,000 violations turned up in its own neighborhood conservation surveys (H&H, Feb. '53, News) that "the city is doing nothing about." Building Commissioner Roy T. Christiansen, an architect, admitted eight supervisors in his neighborhood survey were dumped on him by the Democratic machine. "We don't hire 'em," he confessed, "they send 'em to us. If I don't get some help here I'll have to leave. . . ."

▶ Out of the building department's files, *News* men dug photostatic evidence of reports falsely certified as "complied with." First hand checking proved the falsifications. Said one inspector: "If we think a violation notice has been kicking around long enough we just mark it 'complied' to get rid of it." Commented Christiansen: "Well, I'm surprised."

Action—of sorts. The well-documented series jostled Democratic Mayor Kennelly into the usual action: he called a meeting of housing experts to "consider" the problem. At mid-month, he had not yet called in city judges or building inspectors to lay down the law. He did give the customary





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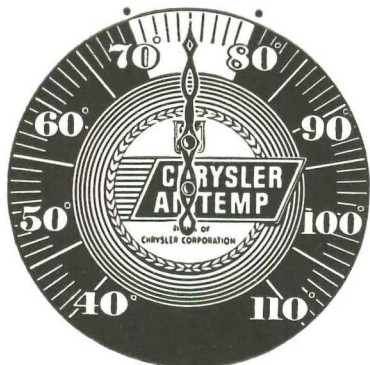
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first hint that Christiansen might be replaced: he observed that the commissioner had been "sick" for a year. Alderman Robert Merriam called on the city council to investigate possible corruption in the building department, but it seemed unlikely that his machine-bound colleagues would grant him subpoena powers. One solid result: the state legislature now seemed sure to pass a law setting up a more effective code enforcement and conservation agency for Chicago. Commented realist Roy Fisher: "We've shown that bad living conditions are where people are most sensitive—and where they're up against something so vast and so complex they don't know who to blame. I think we've demonstrated that enforcing building laws would be one of the most politically sound actions any city government could undertake. For every unhappy landlord, there'd be 100 happy tenants."

Supreme Court bars damage suits over racial covenants

In 1948, the US Supreme Court ruled that racial real estate covenants are legal on a voluntary basis, but cannot be enforced in courts. Last month, the court went a step further, decided a house owner may not be sued for damages for violating a covenant.

The decision was no surprise. Moreover, since 1948, realty men had devised at least two ways of barring Negroes from new white neighborhoods without resorting to covenants. Under one plan, used in Washington and elsewhere, developers require home buyers to guarantee them exclusive listing of the house if it is ever offered for resale. Another dodge is a neighborhood club. By limiting sales in a tract to club members, the members can exclude anyone they choose.

Both systems work most effectively in new developments. The nation's chief battle over segregation was being fought out in older neighborhoods. And there, though segregation was dying hard, bit by little bit the evidence grew that it was dying. Item:

In Western Springs (pop. 7,000), an upper-middle-class community southwest of Chicago, Dr. Arthur G. Falls, a Negro chest surgeon, won a court fight to prevent a park district from taking his \$7,500 lot by eminent domain for a new park and playground. Dr. Falls, whose plans to build a \$50,000 brick house have been stymied since July 1952 by the litigation, will become the first Negro home owner in the town. Ruled Cook County Circuit Judge Jacob Berkowitz: "If this land were condemned and taken by the park district it would be a monument in that particular area to hate and intolerance."

Illinois court calls plumbing license law unconstitutional

Legal experts generally agree that unduly restrictive building codes and licensing laws, based as they must be on the police and public health powers of states, will seldom stand a court test of constitutionality. But the price of a fight is so stiff that few cases are ever filed. Most builders figure it is cheaper to pay the extra costs imposed than to buck the system.

Last month, the Illinois supreme court dealt feudal building restrictions a blow that could well inspire efforts to win similar freedom in other states. In ruling Illinois' 1951 plumbers' licensing law unconstitutional, the court held: "There is no suggestion that the protection of public health is enhanced by the requirement that the work of a licensed journeyman must be supervised by a master." The opinion by Chief Justice Walter V. Schaefer said the state law created a "rigid hierarchy" in which master plumbers were "in full and absolute control" and permitted to exercise power "that the state cannot legally exercise."

The decision left much of Illinois with no regulation of plumbing, but did not affect local licensing laws in Chicago and some down-state cities. The test suit was brought by Eugene Mittelberg of the Illinois Retail Plumbers Assn., which favors a state code specifying how plumbing should be done instead of restricting the practice of the trade.

Pro-public housing mayor is defeated in Los Angeles vote

As returns in the primary foreshadowed (H&H, May '53, News), Mayor Fletcher Bowron of Los Angeles was finally beaten for re-election after a record 15 years in office. His successor: Oregon-born GOP Rep. Norris Poulson, a 57-year-old accountant who entered California politics in 1938 as a state legislator and is now serving his fourth term in Congress. The chief campaign issue: public housing, which Bowron continued to support after Los Angeles voters repudiated a proposed 10,000 unit project by a sizable margin (59%) last year.

Bowron had no doubts why he lost. Said he: "It was all over public housing. . . . My previous supporters turned against me because I took a positive stand—having entered into this [public housing] contract with our eyes open we had to fulfill it. . . . Los Angeles was selected as a battleground. They thought if they could cause a switch here it would start a trend across the country [against public housing]. They thought their chances here were best."

The vote: Poulson 287,619; Bowron 252.

721. Winner Poulson promptly announced he will ask the five members of the city housing commission to resign when he takes office this month. (The commissioners name the housing authority director.) Then Poulson flew to Washington, conferred with HHFA Administrator Cole to seek a way to halt Los Angeles' less-than-half-finished \$110 million program. Cole revealed that the federal government had cut off funds for all phases of the project not actually underway on April 26.

'Fed up' with defense housing, says official; vacancies grow

Ever since the Truman Administration stretched out the defense program, defense housing had been a nightmare to the men responsible for planning it. While defense houses rose in many a defense town, the anticipated influx of workers was delayed. The Air Force, with the biggest expansion program of the three military services, fell victim to stop-and-go mobilization, proved unable to tell HHFA in advance which bases it might delay or close. The result: vacancies so embarrassing it was doubtful that any significant amount of private money would now flow into defense mortgages, federally insured or not. Items:

▶ In Tucson, builders had been told to prepare for 10,000 defense workers. By last month, 2,000 had arrived. Result: 1,700 vacant homes.

▶ In San Diego, with the nation's largest (9,000 unit) defense housing program, builders were completing 1,400 homes a month but the population was growing at about 700 a month. Vacancies, said City Manager O. W. Campbell, had reached 4½%. One private realty analyst predicted a year of housing glut—starting about October.

▶ At Ozark, Ala. complained Sen. John Sparkman, deactivation of Camp Rucker will leave saddled with a bond issue for utilities expansion and a glut of 1,000 defense houses. At Oscoda, Mich. sudden closing of an air base left two builders with 78 useless foundations poured.

▶ As defense plans shrank, HHFA jettisoned defense housing where it could (between February and June, 24% was lopped off programs in 21 areas, a reduction of 3,076 units). Generally, military secrecy obscured the reason (e.g. six months ago, the Army told HHFA it would de-activate Camp Roberts—a move then secret; HHFA sliced programmed defense housing there from 1,150 to 473, but was unable to tell questioners why until last month).

As HHFA Administrator Al Cole urged Congress to let the defense housing program die quietly when it expires on June 30, a top housing official explained: "We're fed up." He added: "Considering the inability of the military crowd to call its shots accurately, the surprising thing is there were as few cutbacks as there were."

The June 12 defense housing box score:
 Programmed 100,223
 Applications 388,663
 Started 57,190
 Completed 42,208

Architect:
Richard J. Neutra,
F. A. I. A.



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Mayor Charles E. Slusser of Akron, head of realty firm, named public housing chief

The same day (April 7) that Guy Hollday's nomination as FHA commissioner went to the Senate, HHH Administrator Albert M. Cole had an hour-long chat with Mayor Charles E. (for Edward) Slusser of Akron, Ohio. When Cole refused to let photographers snap them together, it did not take alert Washingtonians long to suspect that Slusser was in line for the other big housing appointment.

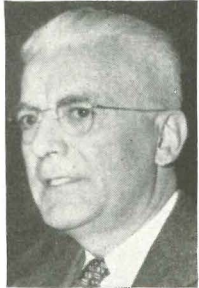
Last month, President Eisenhower nominated Republican Slusser to succeed Democrat John Taylor Egan as public housing commissioner. Although Slusser's insur-

H & H staff photo



SLUSSER

Eli Aron



EGAN

ance and real estate firm (Charles E. Slusser Agency, Inc.) is a member of the Akron real estate board which has battled against public housing, the Senate banking committee asked the nominee no questions and recommended confirmation after a perfunctory, five-minute hearing. Next day (June 16), the Senate likewise voted confirmation unanimously.

Hot spot, open mind. Thus public housing's sixth boss will take office this month with little more on record of his attitudes than that he supports the principle of public housing. Says he: "Private industry cannot at today's prices build rental homes for low-income families. The government must subsidize this type of construction so these men, women and children can have decent homes. My new job is considered a hot spot. I am going into it with my mind open. First I want to get a complete inventory of public housing. I want a complete appraisal of all the employees of the department. I want to study the budgetary items. Then I will consult with my superiors and make the necessary recommendations to Congress."

Slusser acknowledges his studies will be a "big job." Many observers figure it will be perhaps the toughest part of the Eisenhower administration's announced determination to make a complete restudy of federal housing policies in time for the 1954 Congress. All Slusser will say at the moment is "I have no cure-all program for pub-

lic housing; we'll have to work it out as we go along. I feel definitely there is a place for public housing."

From swamps to politics. Being an unknown quantity is nothing new to Slusser. When he first campaigned for mayor (he has been in office 9½ years), one Akron paper began a story: "Who is Charley Slusser?"

Charley Slusser (his close friends call him Bob), now 55, is a portly, ruddy six-footer who was born at Mishler Station, Ohio into a family of poor farmers. He started work in the celery swamps when he was seven. By the time he was ten, he was making \$1 a day (big money for a youngster then) carrying drinking water to workers at the Camp Bros. tile yard in Suffield. After graduating from high school, Slusser joined the Army, fought as a sergeant in the Meuse-Argonne and St. Mihiel battles. After the war, he joined Firestone Tire & Rubber Co. in Akron, studied engineering on the side and wound up head of the company's construction department. He shifted to insurance in 1930.

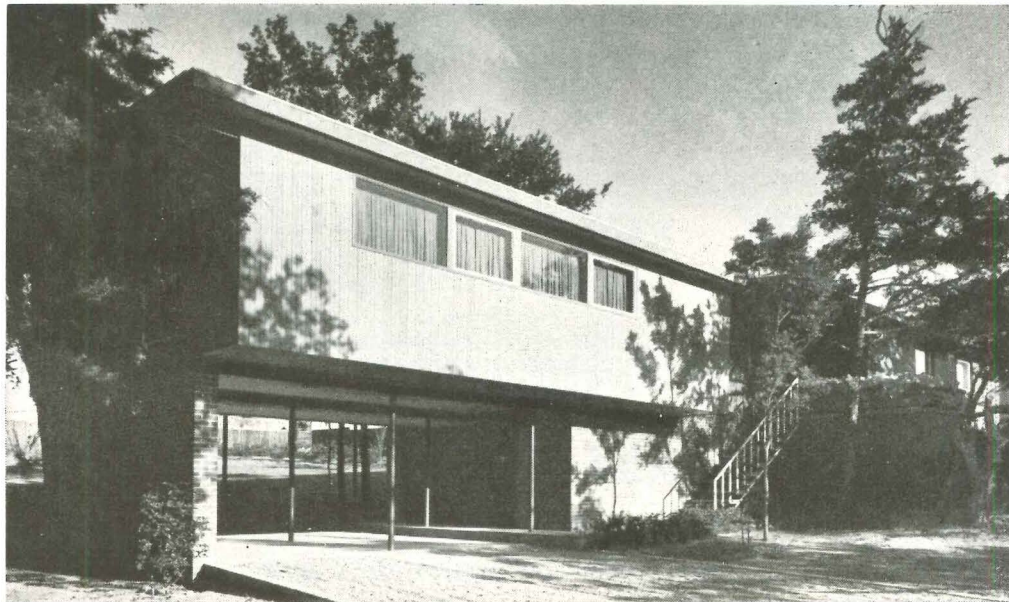
In politics, Slusser began quietly. He was elected a city councilman in 1935. Instead of seeking re-election, he ran for the

board of education in 1938, served six years. In 1943, he upset the Democratic incumbent by a surprising 10,000 votes, becoming at 46 the youngest mayor of Akron in 25 years. As he had promised in the campaign, Slusser went after gambling and prostitution. The city has been far cleaner ever since. But Slusser is prouder of another achievement: "expanding and modernizing our city facilities while at the same time reducing the city's tax rate."

Support by all ranks. Despite a long friendship with Sen. Robert Taft, Bob Slusser has had quiet support from the CIO. Despite his belief in public housing, Slusser will come to Washington with the backing of the man who led Akron's fight against it, Realtor Clinton R. Miller. Said Miller last month: "We in the building business wholeheartedly endorse Charles E. Slusser to head PHA. He is a businessman who understands our problems. He is a man of ability and integrity who will do an outstanding job."

As PHA chief, Slusser still plans to keep one foot in Akron where he and Mrs. Slusser have lived for years on middle-class Kenmore Hill. "I'll get an apartment in Washington and come every Friday night for the week end," he said. He hopes to spend "a lot of time" this summer on Lake Erie in his 38½' cabin cruiser, which has supplanted golf as his hobby.

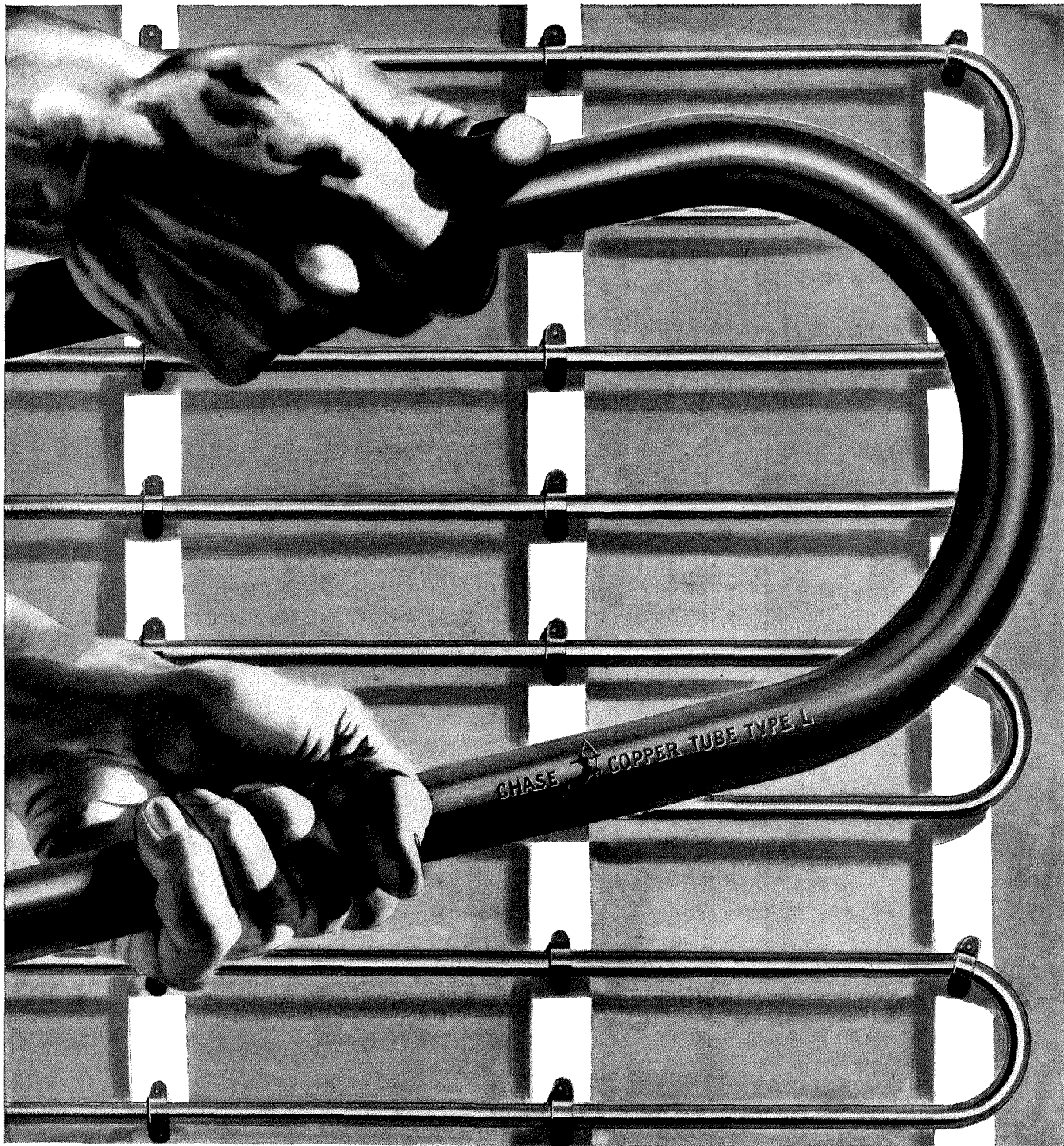
Hence Griffith Photo



Dallas AIA chapter builds a real house on its television show

It all began last year when the Dallas AIA chapter decided to run a series of 13 television programs, "So You Want to Build," dramatizing the work of an architect. The programs were planned at first to take a fictional couple through the throes of planning a fictional house, with Architect Ralph Bryan playing a fictional architect. Just before the series started, American Home Realty Co. offered to build the house evolved on the shows. The result was the first collaborative planning project ever undertaken by the chapter and the handsome "vacation

home" pictured above, which opened late in May. Eleven members coordinated by Architect Enslie Oglesby participated in the designing and ran into such complications as the mid-series discovery of a 20' drop from one side of the lot to the other. By turning these obstacles into object lessons for a prospective client (i.e. don't try to rush your architect), the chapter was well enough satisfied with the results to offer the general format of the series to others (fee: \$25). Mrs. Arch Swank Jr., executive secretary, 3119 Raleigh St., Dallas, can supply full details.



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James Follin named HHFA urban redevelopment director

Restaffing of federal housing jobs with appointees of the new administration picked up speed last month. Besides Akron's Mayor Charles E. Slusser, named public housing commissioner (p. 41), HHFA and FHA chose no less than 12 new men for important advisory or staff posts.

For the \$15,000-a-year director of HHFA's division of slum clearance and urban redevelopment, Administrator Cole named a veteran of housing and construction both in and out of government: lanky, florid James W. Follin, director of the offices of contract settlement at the General Services Administration.

Follin, 61, was chief of the home building services of the Home Loan Bank Board



FOLLIN



KEITH

and HOLC from 1935-39, drafting improvements in home construction standards. From 1940-46 he was managing director of the Producers' Council. Since then he has been with GSA, but was loaned to NPA to organize its construction controls division, to DPA as chairman of its subcommittee on building construction. He succeeds Nathaniel S. Keith, newspaper business and financial writer before he became a federal housing official in 1940. Keith has headed urban redevelopment since the division was created in 1949.

To help the FHA develop a better program for Title I home repair and rehabilitation financing FHA Commissioner Guy T. O. Hollyday named the first seven of an advisory group of private experts:

J. O. Elmer, vice president, American Trust Co., San Francisco; E. F. Longinotti, vice president, Union Planters National Bank, Memphis; Richard D. Mange, vice president, National Bank of Detroit; J. Andrew Painter, vice president, National City Bank of New York; G. M. Robbins, president of First Bancredit Corp., St. Paul; Richard H. Stout, executive vice president, Bank of Louisville, Ky.; Kenneth R. Wells vice president, American National Bank & Trust Co., Chicago. Arthur J. Frentz, FHA asst. commissioner for Title I operations, will serve as chairman.

Four more FHA field office executives were appointed last month. Homebuilder Wendell O. Edwards, of Ann Arbor, a director of NAHB, was named director of the Detroit office, ranking third in dollar volume of business. He succeeds George

Zinky, retired. Realtor Jesse F. Macfarlane, associate director of the Pittsburgh Home Builders Association and former Pittsburgh MBA president, succeeded Oakley W. Heschelbarth as Pittsburgh office director. Mayor Sterling Roberts of Kingston, Tenn., was named Tennessee state director succeeding

C. O. Stuart, acting director for the last two years. Attorney Berne K. Jensen, Idaho Falls area rent director, was named Idaho state director succeeding Walter T. Lockwood, retired. Appointed as field organization consultant for HHFA: former Rep. Gerald W. Landis (R. Ind.).

SIDELIGHTS: will BLS end housing starts if Congress slices budget; births show big rise; builder salutes rival

Washington inside: Top administration officials are studying a scheme to reduce the national debt by letting holders of big federal bonds exchange them for Fanny May mortgages. The swap would give the Treasury more elbow room for borrowing without having to ask Congress to raise the \$275 billion statutory limit debt. It was still unclear what the terms would be, or whether an OK from Congress would be needed. . . . Look for some private building groups to sharpen knives for T. B. King, VA's holdover loan guaranty chief, as soon as a new VAdministrator is appointed (see p. 55). His May 18 edict against discounting and warehousing (p. 35) has left even some of his staunchest long-time supporters wondering if Bert King is really a friend of private building. . . . The wave of tornadoes may exhaust Fanny May's disaster housing funds. Residential subdivisions were hard hit, especially in Flint and Cleveland. Experts agree it is not economically practicable to build a house (or any other structure) strong enough to withstand tornadoes. . . . His friends say BLS Commissioner Ewan Clague will consider abandoning BLS housing starts if the Senate does not restore some or all of the \$295,000 the House chopped out of his budget request for the next fiscal year. Among other things, the cuts would compel BLS to keep housing starts based on the 1940 census, which BLS men consider so outdated that even they cannot tell how good or bad the figures are. Many building statisticians think they are bad indeed.

Uncle Sam, the landlord. A House subcommittee, digging into government enterprises which compete with private business, was handed a report by the General Accounting Office listing housing as the No. 1 item among the "multifarious and widely scattered services which the government furnishes many of its own employees." GAO said 49 federal agencies provide 122,000 housing units for civilians at rents below those for comparable private housing. It estimated the government would save \$3 to \$4 million a month if it brought its employees' rents in line with local rates.

Boon in births. The US birth rate is soaring above even the most optimistic predictions. Federal statisticians put births in the first quarter of the year at 971,000, or 29,000 more than in the first quarter of 1952. Al-

lowing for seasonal patterns, this would mean a 1953 total of 4,009,000 births—an all-time high and some 5% more than the most optimistic Census Bureau guess of a year ago. (Census makes a "low," "medium," and "high" projection of births, but tries to be conservative.) The significance: more demand for larger homes (and for more of them) in the next few years than anybody had foreseen.

The hard life. HHFA Administrator Cole was finding out a bureaucrat's life is not so lush as critics contend. In New York, he took a taxi to a meeting. The fare: 50¢ plus tip. Cole itemized it on his expense account. But auditors for the General Accounting Office wrote back to demand he prove it was more feasible for him to go by taxi than take a bus or subway. And President Eisenhower, reported Cole, recently told him jokingly: HHFA is so small compared to regular federal departments—he should be satisfied with a bicycle instead of an official auto.

NAREB plans. Realtors have earmarked \$7,500 to make another effort to organize a nation-wide real property owners federation. Chief aims: to fight public housing and other "socialistic encroachments" on property rights.

Hurray for competition. When Builders Burke & Wyatt opened a tract of contemporary design homes at Palo Alto, Calif. (by Architect Burton A. Schutt), rival Builder Joseph Eichler took space alongside their ads in San Francisco papers to congratulate them. Said Eichler: "Although progressive builders in many parts of the country have followed our example in building architect-designed houses, you are the first to do this here. We welcome such competition. We believe the home-buying public deserves more architect-designed houses built for today's way of living."

Back to two stories? The next significant trend in homebuilding, forecast President David O'D. Kennedy of Kentile, Inc., will be a return to two-story homes. His reason: to provide adequate living space, a ranch house must cover more ground than the average home buyer can afford—especially in suburbs where land is expensive.

AIA CONVENTION

Growing interest of US architects in designing builder houses was reflected at AIA's 85th annual convention in Seattle last month. For the first time, with NAHB aid, the AIA exhibited development homes as a separate item, listened to proposals for extending architectural participation in this tremendous field. A panel discussion heard this testimonial from Builder Joseph Eichler of Palo Alto, Calif., one-time butter-and-egg merchant whose architect-designed tract homes have attracted national attention: "We are building houses at the same cost today as in 1950 and yet our houses are much superior. We give the buyer more and that is due to the skill of the architects. Some builders think architects are additional expense but that simply isn't true—just because architect-designed houses look different and better."

The sessions, held during a week of mostly brilliantly cool weather, attracted 1,500 architects and their wives. On other building problems, the architects undertook these actions, registered these opinions:

Research: they adopted the Chicago chapter's proposal for a pilot inquiry with a manufacturer or association to set up: 1) standard criteria of material performance; 2) standard tests supplemented by architects' field experience reports; 3) terse methods of reporting results to improve product literature, catalogues, information. The precedent, Britain's Building Research Station. Here, private enterprise



New Board of Directors

Seated, left to right:
Norman Schlossman
Maurice Sullivan
Clair Ditchy
George Cummings
Howard Eichenbaum

Standing, left to right:
Philip Creer
Charles Matcham
C. Storrs Barrows
W. Gordon Jamieson
Clyde Pearson

*Marcellus Wright Jr.
Raymond Kastendieck
Waldo Christenson
G. Thomas Harmon
Edgar Berners
Edward Wilson
Leonard Bailey*



Retiring President Glenn Stanton of Portland, Ore. awarded certificates to 30 new AIA fellows at annual banquet—with assistance of ex-President Ralph Walker of New York (background).

New President Clair W. Ditchy is a 62-year-old resident of Detroit where he has specialized in school, hospital and housing design for the past 32 years. A graduate of the University of Michigan (B. Arch., 1915), Ditchy first worked for Industrial Architect Albert Kahn, later was an instructor at his Alma Mater and a special writer on architecture and building for the Detroit Free Press. He has been AIA's national secretary since 1947, has held almost every office in the Detroit chapter and was once a director of the Michigan Engineering Society. He is married and has three daughters.



Photos: Howard Staples & Associates

studies expanding architect work on builder homes, urges improved

product literature and better cost data, elects Clair Ditchy president

—to spread to more industries if it meets initial success. **Costs:** they noted their board's resolution that more complete cost data be assembled and disseminated so architects could give clients closer approximations (the board credited the joint forum conducted by AIA's public relations committee and FORUM for instigating the idea, and offered a resolution of thanks to the participants).

Washington's mall: they urged quick measures to remove the World War I and II eyesores. **Government control:** they voted opposition to Congressional proposals for a National Arts Commission, feared it might end in control and censorship.

Building was reported above 1952. Regional directors reported activity in Texas from 20 to 30% higher, from 1 to 47% higher in Northwest states, and higher in many sections of the Sierra Nevada. Slightly lower levels were reported in Central states, Middle Atlantic states, and some parts of New England, and some concern was expressed over possible effects of Eisenhower policies of deflation and hard money.

Honors. To men who had promoted the cause of architecture the architects gave honor. The Institute Gold Medal, recently conferred on veteran modern leaders Wright and Perret, went this year to distinguished traditionalist and Beaux-Artist William Adams Delano (born 1874). Two others, not architects, received recognition:



NAHB staff architect Leonard Haeger (with pipe) and his predecessor, Carl Lans (left) discuss a resolution (proposing a study of AIA organization) with C. E. Silling of Charleston, W. Va. and Lawrence Whitten.

Builder Architects (left to right) Frederick Emmons, Quincy Jones and Ed Fickett of Los Angeles discuss builder-architect collaboration. Both Jones & Emmons have designed houses for Builder Eichler.



Convention hosts include these delegates from the State of Washington: (left to right) Paul Thiry, John Ridley, Fred Bassetti, Victor Steinbrueck, Charles Pearson, John Morse and George Bolotin.



West Virginia delegates line up at registration desk: (left to right) Mr. & Mrs. Robert Greife, L. D. Schmidt, Mr. & Mrs. Howard Bowers and Mr. & Mrs. Walter Martens.



Builder Joseph Eichler represented merchant builders on program—the first time AIA has recognized the house-builders to this extent.



Architect L. Morgan Yost of Kenilworth, Ill., chairman of AIA committee on housebuilding industry, moderated the panel discussion.

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AIA CONVENTION

stained-glass Artist Emil Frei of St. Louis got the craftsmanship award, Sculptor Donal Hord of San Diego the fine arts medal. To Architect Gerrit J. DeGelleke of Milwaukee went the Kemper award for distinguished service to the Institute.

Awards. No top honor award was given this year to houses, and there was some muttering against this jury decision since this was the first convention making a special category of development houses. Remarked Chairman L. Morgan Yost of AIA's committee on the homebuilding industry: "Perhaps architectural juries are not yet sufficiently acquainted with the special problems of this field to have recognized the exceptional progress represented here." Five awards of merit—ranking below top honor awards—were given to the delight of four young West Coast architects who won places in their first showings. These were George Vernon Russell of Los Angeles (for his Republic Supply Co. office and plant at San Leandro, Calif.), George T. Rockrise (for a house near San Francisco), Fred Bassetti and John Morse (for a Seattle house—though both were graduated from Harvard). Another housing winner: Anshen & Allen for their Gavello & Perego development house at Santa Clara. All buildings were modern; all were FORUM or HOUSE & HOME selections recently published or scheduled for publication; all the residential work was from the West Coast.

Election. The promised contest for president was killed by the withdrawal of Candidate Kenneth Wischmeyer of St. Louis because of illness. Long-laboring, devoted, genial and progressive Clair Ditchy of Detroit was elected at the head of a slate generally known as progressive. The only contest, and a close one, was for second vice president. Howard Eichenbaum of Arkansas, the popular and devoted director of the Gulf States region, nosed out George B. Allison of the Los Angeles firm of Allison & Rible. Norman Schlossman advanced from second to first vice president. The new secretary is George Bain Cummings of New York State. Maurice J. Sullivan of Houston was re-elected treasurer.

Convention-goers spent spare hours viewing 53 exhibitions embracing "materials in action." The architects gave certificates of exceptional merit to Steel Joist Institute of Washington and Overly Mfg. Co. of Greensburg, Pa., for product literature, adding 11 certificates of merit and 24 honorable mentions to others.



At dinner dance Dean Pietro Belluschi of MIT sits one out with Mrs. L. Morgan Yost. Belluschi gave convention's closing address.



The finger of Earl T. Heitschmidt of California is put on Edmund Purves, AIA's executive director.

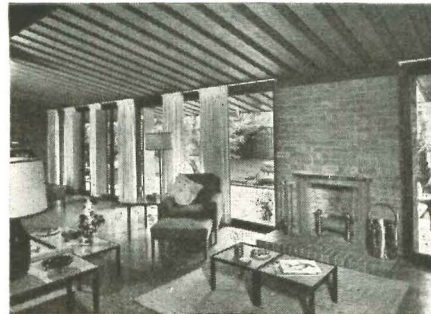


Corridor conferees Turpin Bannister, head of U. of Ill.'s Dept. of Architecture (with pipe) and George Simmons of Oakland, Calif. study wall chart of AIA organization.

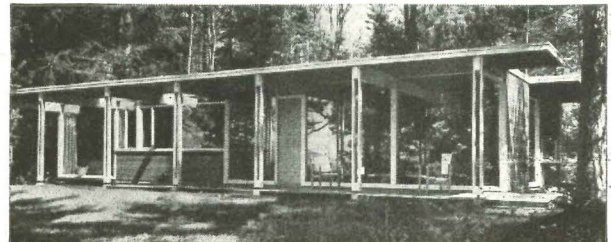


Alabama delegates Lawrence Whitten of Birmingham and Dean Frank Orr of Alabama Polytechnic Institute in Auburn discuss problems of architectural education.

Architects Fred Bassetti (l) and John M. Morse inspect display of prize winning house.



Prize houses: above—house in Santa Clara, Calif. by Anshen & Allen for Builders Gavello & Perego and house in Kent Woodlands, Calif. by George Rockrise. Below—house in Bellingham, Wash. by Architects Bassetti & Morse. All three have been or will be published in H&H.

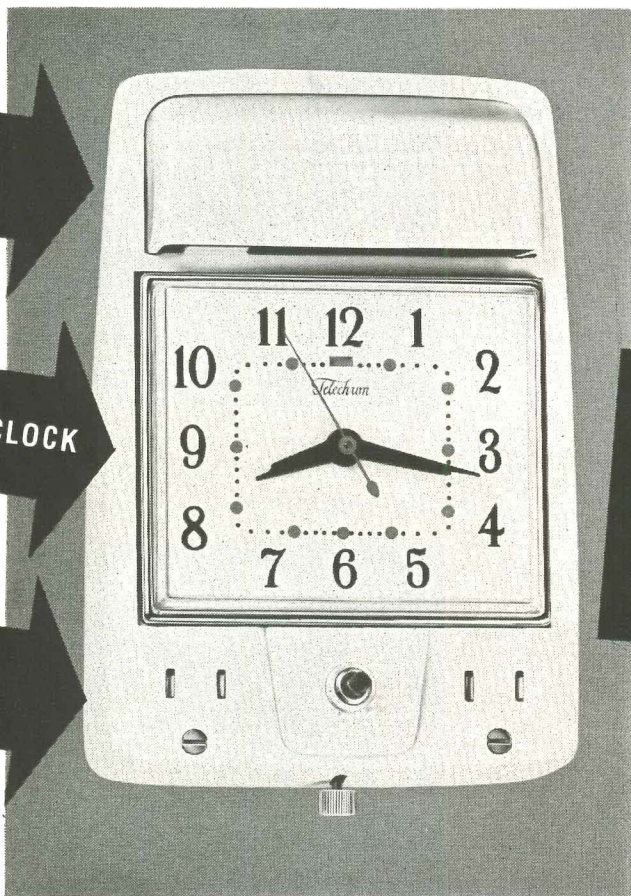


new "SELL" for new homes

NIGHT LAMP

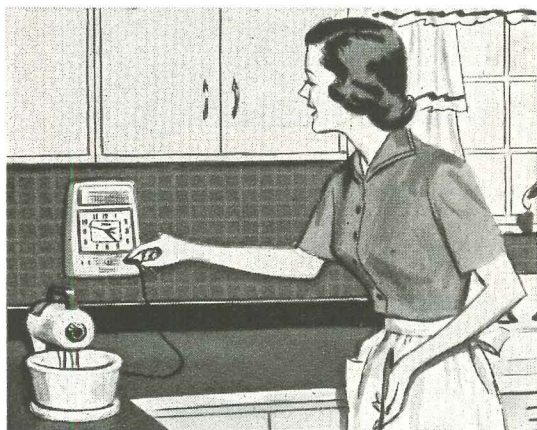
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Low-cost, 3-way feature that helps sell homes. Goes right in wall. No cord shows.



KITCHENS. Built-in wall unit with electric outlets for kitchen appliances. Housewives will love it.

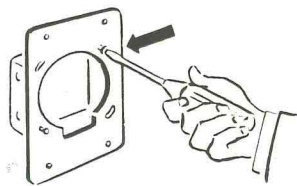


BATHROOMS. Solves bathroom clock problem. Night lamp a real feature. Other locations include game rooms, bedrooms, utility rooms.

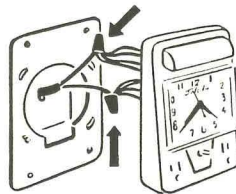
Here's a brand-new, low-cost plus feature to help ease new home sales. Easy to install. Gives modern, uncluttered look. Plan for Tel-in-Wall locations when you lay out wiring for lighting fixtures. No extra sawing or drilling required. Also a

profitable item for remodeling jobs, motels, apartments, resort cottages. Order through your electrical supply or hardware house. Telechron Department, General Electric Company, 47 Union St., Ashland, Mass.

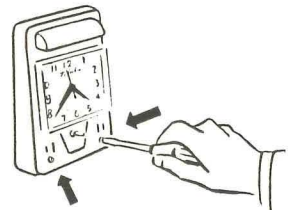
Installs easy as A-B-C



A Attach adapter plate to outlet box. Fits standard 4" box GE model SP52151 or equivalent.

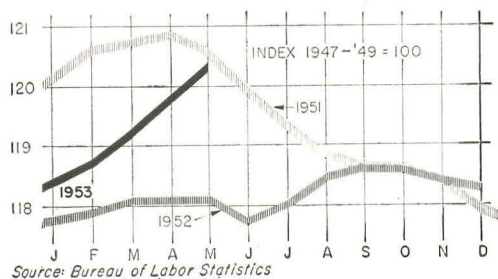


B Connect wires. Operates on 110 v., 60 cy. house current. Outlets rated at 15A.



C Mount clock. Only four screws to fasten. Movement recesses into wall.





MATERIALS PRICES moved closer to their post-Korea peak in May, edging up to 120.3 of the 1947-49 average, and 1.8% above May, '52. While rising labor costs presaged further boosts in several materials (e.g. cement, gypsum, clay products), the recent \$4 average steel increase would up building costs under 1%.

Lumber makers vote \$1 million for research to spur sales

"Let's face it," said a frank-talking pamphlet handed directors of the National Lumber Manufacturers' Assn. at their spring meeting in Asheville, N. C. "Lumber is losing ground to competitive materials on all sides. . . . During the past 45 years, this nation's population increased 46%. Lumber use should have gone up at least 20% or more. Actually . . . today's larger population is using 17% less lumber."

In construction, the pamphlet pointed out, lumber use jumped 23% from 1946 to 1950. But among its competitors, steel gained 77%, portland cement 43%, brick 35%, gypsum board 43%, and plastics a whopping 2,414%. Lack of research is one of the big reasons for lumber's plunging share of the market, NLMA men were told by their pamphlet-writing product and research committee headed by D. B. Frampton of Columbus, O. In 1951, lumber invested \$819,000 in research, only 0.03% of its gross product value. Chemicals put 2.5% into research, fabricated metals 0.9% and stone, clay and glass 1.3%.

Confronted with those statistics, NLMA's directors took only a few minutes to approve a \$1.1 million, ten-year research program in the hope of recapturing some of their lost market. The research, to be carried out by NLMA's subsidiary, Timber Engineering Co. (TECO), will focus initially on improving techniques of lamination. In this, lumbermen will be shooting for a way of manufacturing items like studding, exterior wall and roof sheathing, subflooring and nonbearing interior partitions from presently unsalable pieces of wood (either because they are too small or of too low grade). The big problem is how to make lamination faster and cheaper. So Carl Rishell, NLMA research director, expects the studies to seek a water-proof glue that sets or cures at room temperature (avoiding the cost of heat or electronic presses), and processes that allow gluing while lumber is still wet.

Legislatures kill public housing referenda bills in 12 states; most ignore rent control

In the 44 states where legislatures met this year, most sessions were either over or about to end this month. All were confronted with measures affecting construction. HOUSE & HOME correspondents surveyed the results, found lawmakers had:

▶ Rejected proposals in 12 states to require a local referendum on each new public housing project; adopted referenda in two. Additionally, a referendum bill headed for adoption in Illinois would set up rules so stringent that the *Chicago Tribune*, in favor of it, conceded it "would kill public housing in Chicago."

▶ Taken so little action toward substituting state rent control for federal controls expiring July 31 that it appeared 43 states would be rid of controls at the end of next month (except for critical defense areas).

▶ Adopted laws in six states covering licensing fees or other rules affecting architects, engineers, builders or real estate brokers.

Public housing votes. **Montana** and **Oregon** legislatures adopted laws compelling referenda on public housing projects. Gov. Paul Patterson vetoed the Oregon bill because it also required a local vote to approve redevelopment projects. Oregon and **Minnesota** passed laws permitting local authorities to vote to dissolve. A referenda bill was still pending in **New Jersey** (with little prospect of passage) while **Michigan** adopted a law requiring a local referendum before any project taken over from the federal government could pay less than full taxes, but killed a proposal to make referenda mandatory before any other new public housing projects could obtain tax exemption or reductions.

California, which already has a constitutional amendment requiring referenda, enacted three bills the governor was expected to sign: 1) authorizing grand juries to examine housing authority books and records; 2) requiring housing authorities to open hearings and records to the public, subject new appointees to confirmation by city councils; 3) requiring public hearings and local governing board approval before authorities enter into federal agreements.

Deleted from the bills were two provisions sought by Los Angeles opponents of public housing. These would have authorized abandonment of projects on which construction had not begun and allowed a local governing board to fire housing commissioners before their terms end.

In **Illinois**, the referenda bill passed the Senate May 13, was expected to clear the

House after a bitter fight. The bill, similar to one vetoed two years ago by former Gov. Adlai Stevenson, would require approval by voters living within a mile of each proposed site. It also would require an annual report of budget plans by local housing authorities, forbid them from spending money until the local governing body approves the report.

The 11 other states where referenda bills failed: Arizona, Arkansas, Indiana, Maryland, Massachusetts, Missouri, New York, North Carolina, Ohio, Pennsylvania, Washington. The **Connecticut** House killed a bill that would have allowed municipal governing bodies to stop housing authorities from proceeding with new projects within 60 days after each was proposed.

Rent control action. Despite the imminent death of federal rent ceilings, most legislatures (where cow county representatives usually dominate) did not even consider the subject. **Illinois** and **Missouri** rejected state control. Illinois, at the behest of Chicago judges fearing mass evictions, amended its eviction law to authorize nine-month stays (with a 10% rent increase meanwhile). **New York** extended state rent control to June 30, 1955 after exempting one- and two-family units vacant after April 1, but upped the allowable net return to landlords from 4 to 6%.

Connecticut continued a standby rent law two years. **Massachusetts** adopted a local option law, with the state paying 40% of administrative costs. In **New Jersey**, a local option law was headed for passage, but it had a huge loophole: a "fair return" to landlords was defined as 25% after taxes and depreciation for under five units and 20% for over five. **Maryland** adopted a law permitting Baltimore, Hagerstown and Allegany County to set up local controls, but its constitutionality was doubtful because the Senate version did not include Baltimore County.

Montana rejected one, but **Connecticut** became the 40th state to adopt a real estate brokers' licensing law.

Builders' laws. Adopted in **Michigan**, effective on Oct. 2, was a new builders' license law to replace one declared unconstitutional in March because it exempted banks, trusts, and savings and loan organizations, which might want to be their own contractors when repairing or rehabilitating foreclosed properties. The new law omitted this exemption and shifted the license fees to the state instead of to local

continued on p. 53



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"Azrock Makes Fine Floors"

governments. Approval was due in **New Jersey** on state planning act revisions to strengthen local planning agencies, allow municipalities to prohibit the filing of plans by developers unless first approved by planning boards. A landscape architect licensing act was passed by **California**, effective next June 20. Landscape architects outside the state will have to pay a \$25 temporary certificate fee and satisfy a five-man state board they are competent.

Michigan repealed a .0003 to .0005%

tax on out of state lenders that had deterred eastern mortgage money from investing in Michigan homes. **Oregon** adopted a measure effective July 2 to exempt out-of-state mutual savings banks from its 8% excess profits tax. This quickly resulted in advance commitments from the east to buy seasoned Oregon FHA and VA mortgages, which would help ease new FHA-VA lending there later. A revised state building code, given its first major overhauling since 1911, bogged down in the **Ohio** legislature.

► A **Detroit** dispute that began May 1 when carpenter locals began picketing individual contractors who refused to grant them 17¢ more an hour. Painters seeking 32½¢ an hour more joined the movement, and when other crafts refused to pass picket lines a creeping paralysis began to grip Detroit construction. AGC, the Carpenter Contractors and Metropolitan Builders Assns. countered by ordering a layoff for all carpenters on May 11, which was soon followed by union charges to NLRB that employers were using "threats of force and violence" to make 400 contractors stop their jobs. After most other Detroit crafts had agreed to increases from 12 to 17½¢, carpenters settled for 12¢ too and by mid-June only cement finishers, truck drivers, steel workers and engineers were striking.

Pay increase pattern from 8 to 15c an hour emerges from spring strikes, wage pacts

Spring contract negotiations by labor and the construction industry were producing a moderate crop of strikes and pay increases generally averaging from 8½ to 15¢ an hour (see table).

But there was a new note of stability. In **Newark**, N. J. five Essex County bricklayer, plasterer and mason locals withdrew requests for a 35¢ an hour increase and a 4% pension fund. For the first time since World War II, they renewed contracts at existing rates (\$3.55 an hour and 3% welfare payments). Explained a joint announcement: "Realizing the danger of inflation, the . . . unions in conjunction with the contractors have reached the first tangible effort toward the leveling off of the cost of construction." Other unions renewing without increases: **Washington, D. C.** carpenters and bricklayers. **Des Moines** laborers, masons and carpenters.

In some spots, labor pay increases were putting the principal pressure on the ever-rising cost of housing. In some, builders facing a toughening sales market were beginning to put up really stiff resistance.

Without resorting to strikes, virtually all **Chicago** construction trades negotiated 15¢ an hour increases (except common labor, 10¢). Highest on the ladder were the plasterers, now drawing \$3.30 an hour pay plus 22½¢ for welfare, a total of \$3.52½. The *Chicago Tribune* estimated spring wage boosts would add about \$375 to the cost of a \$15,000 house.

In **Cleveland**, which FHA called the nation's most costly home construction city (see p. 62), builders lost a battle to hold down labor costs. In early industrywide negotiating by the Cleveland Building Trades Employees Assn, homebuilders' representatives agreed to a 7½¢ increase across the board for welfare. But later, they claimed, big commercial contractors made a behind-the-scenes deal for another 5¢ boost in wages, or a total increase of 12½¢. Homebuilders protested, but were outvoted. They said they would pay the

12½¢ this year without signing contracts, but homebuilders quit BTEA, planned to negotiate alone in 1954.

Homebuilders in **San Diego** succeeded in negotiating their first contracts after filing a complaint with NLRB charging AFL carpenters with refusing to bargain. The background: for years, AGC chapters and the California Building Contractors' Assn, negotiated basic 12-county construction trades contracts in southern California. Feeling it had "special problems and situations," San Diego homebuilders quit the state BCA two years ago, affiliated with NAHB, and pending development of their own contracts abided voluntarily by wage scales BCA and AGC units negotiated.

As usual, there were some big strikes. But this year at least they were free of violence. Still causing trouble were:

► A **Philadelphia-Camden** area tie-up led by carpenters and ironworkers that idled 30,000 workers starting May 1. Contractors first refused any wage increases. Later, they settled with some trades for 7½¢. After seven weeks, they granted carpenters 25¢ instead of the 80¢ package they demanded. By the end of June much homebuilding and small construction was getting back to normal. Other work was still tied up by striking steel workers, steamfitters.

► A mid-May strike by building materials teamsters in St. Louis that stopped deliveries, brought practically all homebuilding and heavy construction to a halt. Three employer groups settled by paying 12½¢ an hour—against the drivers' original demands for 20¢. But while lumberyard and mixed-concrete plant operators refused to sign, and 700 ironworkers went on strike, about 27,000 workers continued idle.

► A **Kansas City** jurisdictional row that blocked work on several defense plants as well as virtually all commercial and homebuilding. The tie-up started May 11 when Orville L. Ring, building labor and teamster boss, took materials drivers away from ready-mix concrete companies and a Sunflower Ordnance Works construction job. Two days later, after the Builders Assn. charged the stoppage was a jurisdictional dispute between Ring and the pipe fitters, Ring ordered a boycott of all BA jobs by common laborers and hoisting engineers, for whom he also is bargaining agent. Heavy constructors have joined forces with the Builders Assn. in a struggle to curb Ring's power and tie unions to a workable plan for arbitrating intercraft disputes.

Chicago painters at long last agreed to use spray guns and roller applicators for oil painting rough concrete, cinder block and other masonry unsuitable for brushes. Their price: 7½¢ an hour more for welfare programs and a 25¢ an hour pay

HOURLY WAGE INCREASES (in cents)

City	Common labor	Carpenters	Bricklayers	Masons	Electricians	Plumbers	Plasterers	Contracts being negotiated	
								Most contracts not expiring yet	
Boston									
New York									
Utica, N. Y.						34			
Newark, N. J.			R	R					R
Philadelphia	7.5	25	10	7.5	N	7.5	7.5		
Pittsburgh	12.5*	12.5*		12.5*		10			
Baltimore		N	R	N	N	N	N		
Washington, D. C.	6.25	R	R		25		12		
Cleveland	12.5	12.5	12.5	12.5	12.5	12.5	12.5		
Youngstown, Ohio	12.5	12.5	12.5		8	12.5			
Akron, Ohio	13	N	N	N	15	N	N		
Detroit	12	12	12	12	10	17.5	12		
Chicago	10	15	15	N	15	15P	12.5		
St. Louis	12.5	12.5							
Minneapolis	6	15	7.5	N	15	17.5			
Omaha	20	17.5	12.5	15			20		
Des Moines	R	R		R	5	N			
AEC:									
Oak Ridge	8	8	7	10					
Savannah River	15	17.5		17.5	12.5	11			
Puducal	25			15		10			
Knoxville	8	8	7	10					
Chattanooga	5	5							
Little Rock	N	N	N	N	25	N	R		
Mobile	15	15	15	15	N	N	15		
Dallas	8.5	N	N	N	N	N	N		
Los Angeles	11	13	N	13	10	N			
AVERAGE in all new or renewed contracts									
	10.75	12.25	8.5	10.5	14.5	15	10		

R—Renewed at old rate * Plus 7½¢ welfare payment
N—Still in negotiation
P—Chicago plumbers increase entirely for pensions

boost to \$3. **Detroit** plasterers, hiked from \$3 to \$3.14 an hour, will pay 2¢ an hour to match employer funds to advertise against the spread of dry-wall construction. **Little Rock** plasterers withdrew a request for an increase from \$2.75 to \$3 when employer and union officials agreed some architects were designing "around" plaster.

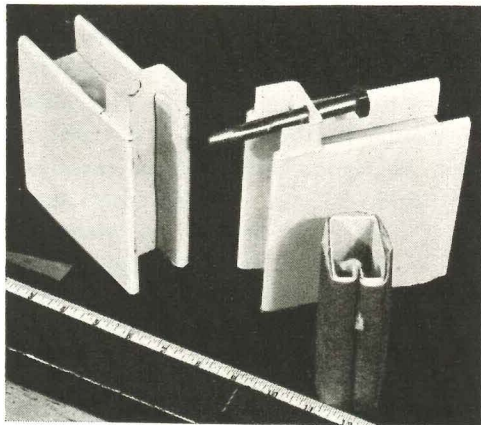
Prefab firm to produce steel panels for homes and schools

Gunnison Homes, US Steel's prefab subsidiary, was about ready to make its long-anticipated plunge into steel buildings. At Shiremanstown, Pa., four miles outside Harrisburg, workmen last month were completing a \$6 million, 324,000 sq. ft. plant equipped to turn out a 4' x 9' steel and glass-fiber sandwich panel adaptable for everything from homes to one-story schools, hospitals or warehouses.

Test runs, said Gunnison officials, would begin in late July. Full operations were due to start about Oct. 1. Although first production would "probably be units for demonstration hospitals, schools or barracks," it seemed probable to most observers that Gunnison would shortly be marketing steel-paneled homes on the biggest scale since the ill-fated Lustron venture. The panel was amply flexible for such a wide range of uses. And housing could provide a new market for steel production at about the time when steelmen expect surplus steel-making capacity to emerge as the peak of defense needs tapers off.

Cost savings. The big sales point of Gunnison's steel structures will be cost, it appeared. Gen. John J. O'Brien, Gunnison president, estimated that his steel buildings would save 40% compared to conventional construction for the same cubage on hospitals, schools and similar structures. The panels (see cut) will be formed of 20 ga. copper-bearing steel bonded to a 2½" glass-fiber insulating filler. Each panel—no heavier per square foot than wood panels

Gene A. Baton



CUTOUT sections of wall panels show patented pin-and-wedge connector and (front right) metal spline which forms an airtight joint. The wedge goes through slot in the pin, is hammered tight.

for today's Gunnison houses, will be "light enough to be readily handled by two average workmen." Along the perimeter of a slab, two small anchor bolts are embedded in concrete where each panel division joint will rest. A cold-formed steel anchor is fastened to the bolt, and each wall panel is fastened to the anchor by steel pins. Between panels goes a metal spline wrapped in glass fiber and covered with vinyl plastic (not shown in cut). After a workman with a hammer taps a wedge home, the panels are so tight that Gunnison men say no caulking is needed. Corners call for a closer of insulated steel with a diamond-shaped spline. Standard 14" box beams go across the top of the wall panels, fastened by wedge pins to the top of the spline

joints. "Nowhere in the building," say Gunnison officials, "does steel touch steel."

Dealer interest. The pin and wedge technique—the key to the structure—has been tested for several years on structures built by Gunnison and other US Steel companies. Wiring will run through wall panels, each of which will come equipped with fish wires to permit easy installation. Each panel is completely grounded, so TV and radios have operated in test houses with no ill effects. The panels will be distributed through Gunnison's existing dealer organization, say officials. As word seeped through the industry of the venture in steel, Gunnison was being deluged with inquiries that indicated would-be dealers foresaw a big future.

PEOPLE: Master in chancery rules for Mies van der Rohe in glass house suit; Miami homebuilders patch up rift

After two years, the end was in sight for the legal row over the celebrated glass house **Ludwig Mies van der Rohe** designed for **Dr. Edith B. Farnsworth** on the banks of the Fox River near Plano, Ill. (AF, Oct. '51, News).

After the controversial \$74,045 flat top was finished, Mies filed a mechanics' lien foreclosure suit in July 1951 for \$3,673 for out-of-pocket expenses on construction, \$15,000 architect fees and \$9,500 for supervisory services. Though client and architect were formerly fast friends, Dr. Farnsworth filed an angry answer, accused Mies of "fraud and deceit," demanded a return or accounting of about \$34,000 over the \$40,000 she alleged she had set as her top limit to erect the structure (AF, Nov. '51 et seq.).

Last month, Master in Chancery **Jerome Nelson**, who spent weeks hearing testimony last winter, filed his report in circuit court at Kendall, Ill. His findings: Mies was entitled to \$14,467 for designing and supervising construction; there was no evidence of fraud or deceit by the architect; in lieu of a written contract, numerous conferences and verbal authorizations of Dr. Farnsworth constituted a contract "partly express and partly implied." The report's observations on costs: one estimate given in August, 1949, was \$61,300; the building permit issued in October 1949, estimated they would be \$60,000; Mies did not agree to build the house for \$40,000; there was no agreement, express or implied, limiting the cost. The master's report was expected to come up for approval in circuit court this fall.

Miami area homebuilders who split into two organizations last summer (H&H, Sept. '52 et seq.) worked out a reconciliation

last month. The dissidents had complained that too many general contractors, subcontractors and other *nonbuilders* were members of the NAHR-chartered Builders Assn. of South Florida. Led by **Scott Braznell Jr.**, **William M. Porter**, **Emil Gould**, ex-NAHB President **Thomas P. Coogan** and others, they organized an "exclusively builder" Home Builders of Greater Miami. Reunion terms announced by BSAF President **Perry E. Willits** and HBGM President Porter: reabsorption of HBGM into BSAF with the nine officers and directors of the rump group becoming BSAF directors; maintenance of *two* offices, one in Miami in charge of Executive Director **S. A. (Sonny) Dansyear**, who had managed HBGM affairs, the other in Coral Gables under BSAF Executive Secretary **George H. (Cap) Miller**, whose duties will be reduced, now will concentrate on the BSAF's highly profitable annual home show.

Sole command of the giant Transamerica Corp. banking empire was transferred to **Frank N. Belgrano Jr.** On May 25 he was elected board chairman on recommendation of **James F. Cavagnaro**, who was drafted from retirement to serve temporarily as chairman after the death of A. P. Giannini in 1949. On June 5, Belgrano also was elected president succeeding **Sam H. Husbands**, who resigned in a huff after criticizing "some" directors for arranging Belgrano's election as chairman without Husbands' knowledge. Belgrano, 58, who was national commander of the American Legion in 1934-35, has

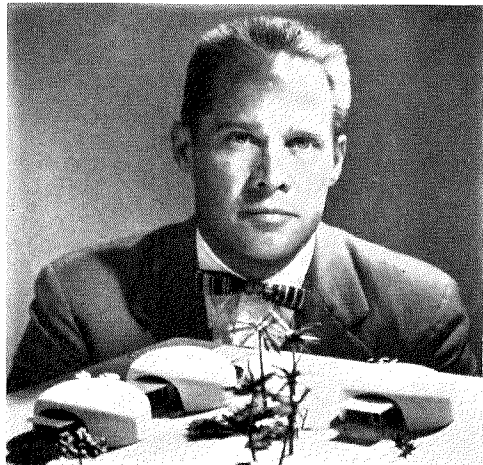


BELGRANO

been president of the Transamerica-controlled First National Bank of Portland, Ore., for the last six years. Until the yield on other loans took its recent commanding lead, Belgrano's bank followed a liberal home loan policy, did the lion's share of GI financing by Oregon's commercial banks. His successor in Portland: amiable but just-slightly-more-conservative Lawyer **C. B. (Bill) Stephenson**, 58, a director of Oregon-Portland Cement Co.

Thirty days after the White House approved the VA interest rate boost to 4½% that he had opposed, VA Administrator **Carl R. Gray Jr.** quietly resigned. A Democratic holdover who had supervised federal veterans' programs since Dec. 31, 1947, Gray was World War I buddy of former President Truman and a major general of engineers in World War II. Officially, Gray resigned because of poor health (he is 64). Dopesters figured these men were in the running to succeed him: **Harvey V. (Doc) Higley** of Marinette, Wis., president of the Ansul Chemical Co., former Wisconsin American Legion commander and state

Martha Holmes



Architect Eliot Noyes redesigns a cheap, concrete bubble house

Since 1942, building men have experimented with one of the most promising approaches to low-cost housing: pouring concrete over wire mesh held in shape by a balloon, then deflating the balloon and installing partitions. Most of the results have been cheap enough, but the design has failed to sell itself to many prospects.

To Architect Eliot Noyes, one reason was the houses were not handsome enough. Some rectangular bubble houses looked like a short loaf of bread with windows. Recently, he persuaded Manhattan's Airform International Construction Corp., which holds rights to the process, to let him redesign their bubble. Last month, Noyes revealed the result (above): a graceful circular form with a slightly flattened dome, sliced by 16' openings serving as both doors and windows. As a possible solution to Puerto Rico housing shortages, Noyes was betting on a 30' bubble providing 600 sq. ft. of inside space. He figured the cost at \$4,700 with minimum finishing. His shape, said Noyes, was "best for good looks."

GOP chairman; **Lt. Gen. Lewis A. Pick** (ret.), former chief of Army Engineers; **Gen. James A. Van Fleet** (ret.), former 8th Army commander in Korea. Recommended to the White House by Labor Secretary Durkin for nomination as Labor Department solicitor: Minnesota Housing Director **Stuart Rothman**.

From 1945 through 1951, **Leonard D. Long**, politically potent South Carolina contractor, obtained \$52 million worth of FHA commitments for 12,000 low-cost poured-concrete houses in Puerto Rico (AF, Sept. '48 & Dec. '51). Late in 1951, however, the FBI began investigating. Last month a San Juan federal grand jury indicted Long and former FHA Territorial Director **Frederick D. Carpenter**. The jury charged: Carpenter "knowingly allowed Long's construction companies to build substandard, defective and structurally unsound projects to be insured by FHA", both defendants conspired to defraud the government, "impede and defeat the honest administration of FHA," discourage anyone else from competing with Long. Both pleaded innocent. They were freed on \$5,000 bail each.

In December, 1951, Sen. **Richard Nixon** (now vice president) asked FHA Commissioner **Franklin D. Richards** whether FHA ever had occasion to investigate "purported corporation associations" between Long and South Carolina FHA Director **Herman E. Bailey**. FHA told Nixon it had no evidence of any. Two months later, FHA accepted Bailey's resignation (H&H, March '52).

CONGRATULATIONS: To **John R. Downs**, executive secretary of the Cook County Mason Contractors Assn., who became executive vice president of the Chicago Metropolitan Builders Assn. last month succeeding the late Martin C. Huggett; **Robert Moses**, New York City's Construction Coordinator, for winning the \$25,000 first prize in the General Motors better highways essay contest; Brooklyn Realtor **Mrs. Nathan C. Goldstein**, the first woman elected to the American Institute of Real Estate Appraisers since 1940 (and the fourth since the institute was founded in 1932); **James W. Morgan**, Birmingham, Ala. public works commissioner and a founder of the Southern Building Code Congress, for his election as mayor of Birmingham.

Among the half-dozen candidates for national commander of the American Legion at its annual convention in St. Louis Aug. 31-Sept. 3: NAHB Director **Seaborn P. Collins** of Las Cruces, N. M.; Chicago Attorney **Lawrence J. Fenlon**, who was chairman of the economic matters com-

mittee, wrote the 1952 Legion convention resolutions on housing and mortgage problems. Homebuilder **Collins** (age: 40; height: 6'4") was chairman of the Legion's national housing committee in 1948-49, is also a realtor and planning commission chairman in Las Cruces (pop. 12,325). He has completed almost 200 houses there since 1948, has plans for another 450.

RETIRED: **George L. Harrison**, New York Life Insurance Co. chairman since 1941, to be succeeded by President **Devereaux C. Josephs**, with Executive Vice President **Clarence J. Myers** advancing to the presidency; **Dean Vincent Sr.**, president and founder (1905) of the large Portland, Ore. mortgage and realty firm bearing his name, to be succeeded by his son, **Dean Jr.**; **O. K. LaRoque**, president of the regional Federal Home Loan Bank in Greensboro, N. C. and former Federal Home Loan Bank Board member in Washington (1948-51).

DIED: **Robert David Kohn**, 83, fellow and former president of the AIA (1930-32), director of housing for PWA (1933-34),



KOHN

city planning and low-cost housing specialist as well as designer of public and commercial buildings, at Ossining, N. Y. June 16, 12 days after the death in New York of **Dr. Charles Butler**, 82, his partner in Kohn & Butler and former president of the New York City AIA chapter and the New York state board of architect examiners; **William T. Richardson**, 59, chairman of NAREB's land developers and homebuilders division in 1939, former Los Angeles realty board president and NAREB regional vice president, June 5 in Van Nuys, Calif.; Realtor **Joseph M. Darst**, 64, eastern Missouri FHA director (1947-48) and, as mayor of St. Louis from 1949 to last April, an aggressive leader for comprehensive slum clearance, public housing and urban redevelopment programs, June 8 in St. Louis; **Dana Somes**, **DARST**



DARST

68, architect and chairman of the Boston zoning board, May 23 in Boston; **William T. Sawyer**, 90, former Akron, Ohio mayor, homebuilder and realty leader who developed Sawyerwood (a suburb) and boasted he had never foreclosed a mortgage, May 26 in Akron.

continued on p. 58

SAVE TIME, SAVE PAINT, SAVE MONEY
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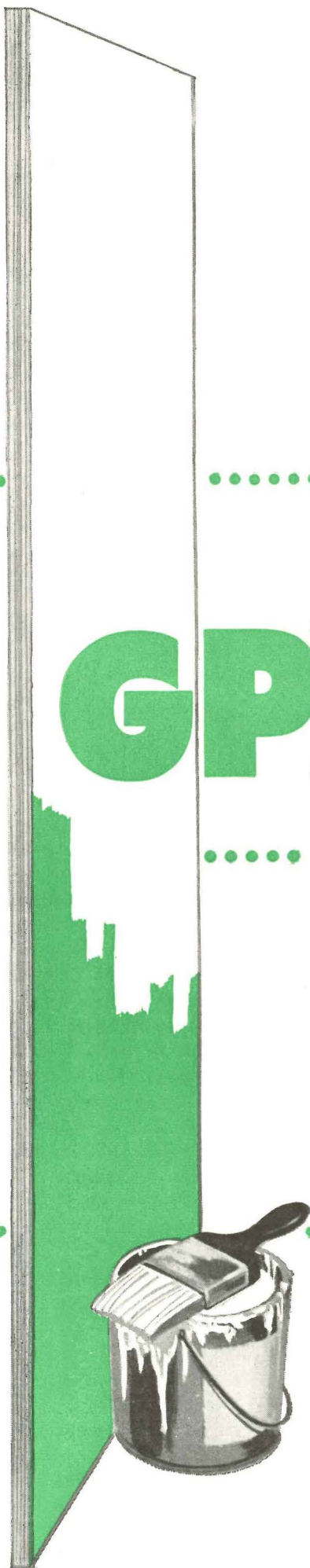
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GPX GREEN

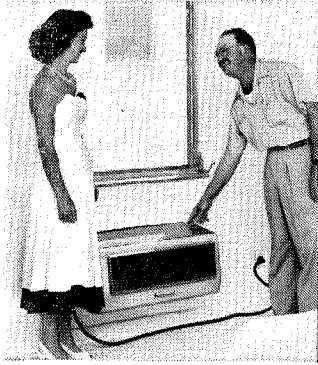
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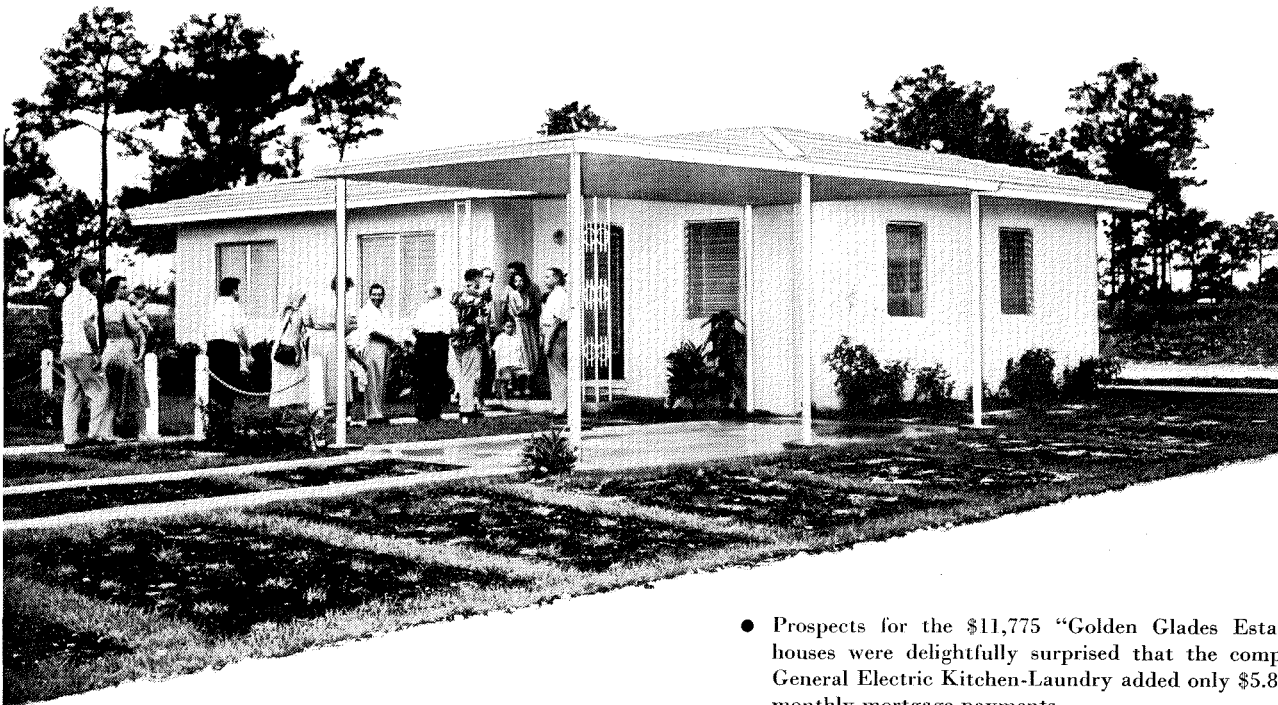


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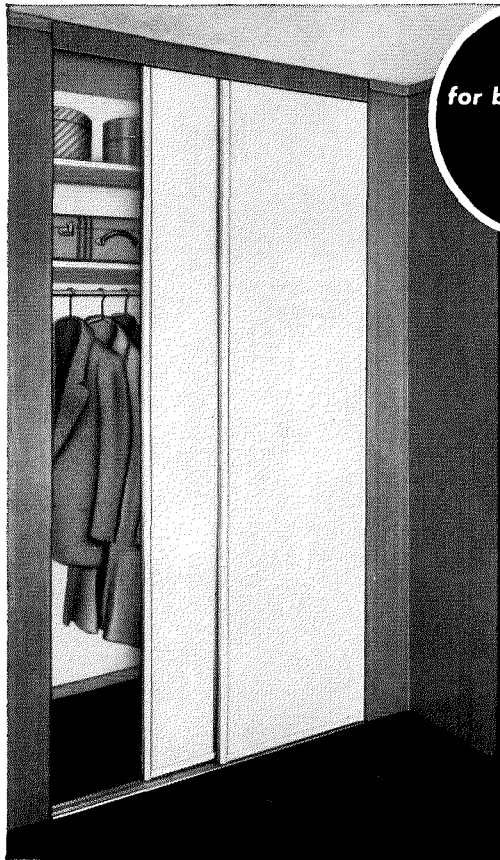
you, and place before you all the builder sales experience of the General Electric Home Bureau.

He has complete promotion plans for the opening of your model house—plans that have helped other builders merchandise their homes so successfully. Take advantage of this merchandising program to sell your houses faster in *today's* competitive market.

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A Top track is easily mounted on ceiling with screws.

Aluminum thresh- **B** old is screwed to floor.

C Doors are simply placed in upper track, then engaged in threshold . . . as easily removed to allow storage of large articles.

NEWS

Lumber and Allied Products Handbook on Selection, Use and Inspection should be ready for printing. Originally this was drafted with Forest Products Laboratory assistance as a guide for more efficient Army requisitioning, handling, storage and use of lumber. The Munitions Board, however, ordered it revised and enlarged to be useful at Navy and Air Force installations too.

Cost range of standard house? \$6,127 to \$9,117

How much should a standard house cost in various US localities? Early last year, FHA's underwriting division began gathering data to demonstrate the wide differences imposed by such items as labor costs, insurance, taxes, materials costs, and building codes. The results, it figured, would give FHA men a better yardstick for gauging appraisals of projects under consideration.

In April Assistant Commissioner Curt C. Mack announced the latest figures*: among 70 cities where FHA does business, the construction cost of the identical basementless, two-bedroom, 897 sq. ft. house this Jan. 1 would have ranged from \$6,127 (in Long Beach, Calif.) to \$9,117 (Cleveland).

Albany, N. Y.	\$7,928	Los Angeles, Calif.	\$6,152
Albuquerque, N. Mex.	7,175	Louisville, Ky.	7,844
Atlanta, Ga.	6,857	Manchester, N. H.	6,434
Baltimore, Md.	7,550	Memphis, Tenn.	6,399
Billings, Mont.	7,409	Miami, Fla.	6,644
Birmingham, Ala.	6,560	Milwaukee, Wis.	8,573
Boise, Idaho	7,050	Minneapolis, Minn.	7,479
Boston, Mass.	7,464	Nassau County, N. Y.	6,863
Buffalo, N. Y.	8,553	Newark, N. J.	7,092
Burlington, Vt.	6,746	New Orleans, La.	7,356
Camden, N. J.	7,476	Oklahoma City, Okla.	6,506
Charleston, W. Va.	7,484	Omaha, Nebr.	8,141
Charlotte, N. C.	6,453	Philadelphia, Pa.	7,254
Cheyenne, Wyo.	7,068	Phoenix, Ariz.	6,608
Chicago, Ill.	8,333	Pittsburgh, Pa.	8,064
Cincinnati, Ohio	7,950	Portland, Maine	6,632
Cleveland, Ohio	9,117	Portland, Ore.	7,461
Columbia, S. C.	6,567	Providence, R. I.	7,521
Columbus, Ohio	7,950	Reno, Nev.	8,162
Dallas, Tex.	6,463	Richmond, Va.	7,032
Denver, Colo.	6,942	Sacramento, Calif.	7,614
Des Moines, Iowa	8,102	St. Louis, Mo.	7,877
Detroit, Mich.	7,471	Salt Lake City, Utah ...	7,626
District of Columbia ...	7,383	San Antonio, Tex.	7,362
Fargo, N. Dak.	8,242	San Diego, Calif.	8,136
Fort Worth, Tex.	6,821	San Francisco, Calif. ...	7,546
Grand Rapids, Mich. ...	7,122	Seattle, Wash.	7,744
Hartford, Conn.	7,776	Shreveport, La.	7,641
Houston, Tex.	6,942	Sioux Falls, S. Dak. ...	8,317
Indianapolis, Ind.	7,579	Spokane, Wash.	7,239
Jackson, Miss.	6,693	Springfield, Ill.	8,636
Jacksonville, Fla.	7,399	Tampa, Fla.	7,402
Kansas City, Mo.	7,728	Topeka, Kans.	7,670
Little Rock, Ark.	6,934	Tulsa, Okla.	6,941
Long Beach, Calif.	6,127	Wilmington, Del.	7,643

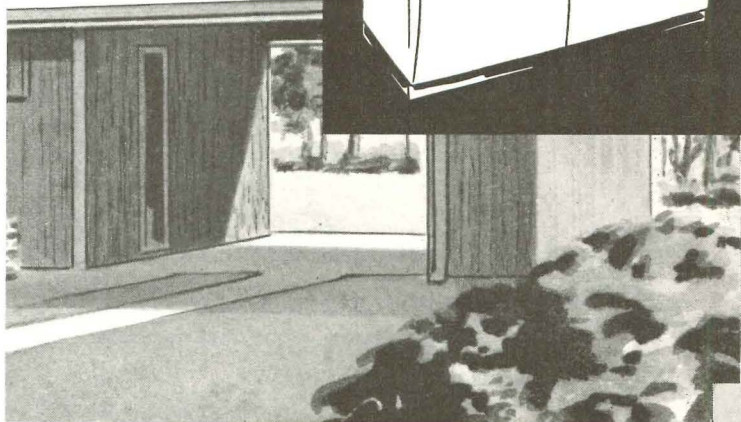
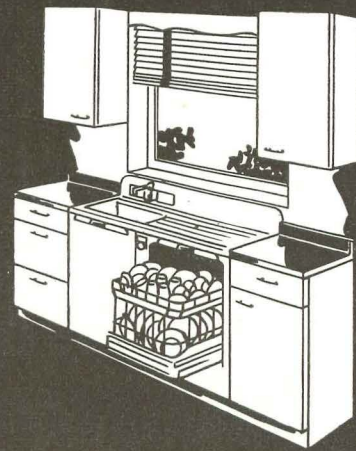
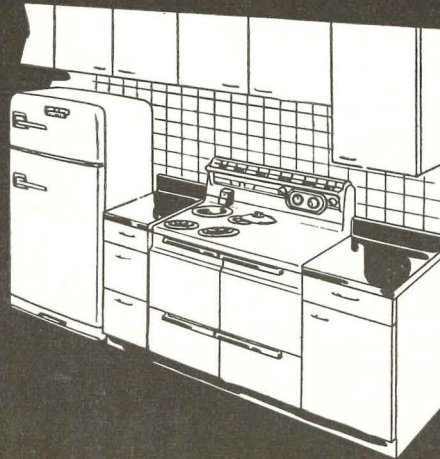
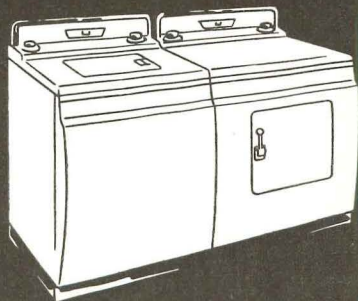
Excluded from FHA's cost computations were architectural services, land, development, carrying charges during construction, financing costs, fire and hazard insurance, landscaping, sidewalks, driveways and street improvements. The cost of connections to sewer, water, gas and electric lines were included only to a point 5' beyond the foundation walls. Heating was excluded, said Mack, because it varied too much because of climate and fuel availability.

* In "Insured Mortgage Portfolio," spring, 1953. Single copies for sale by Superintendent of Documents, Washington 25, D. C., for 15¢.

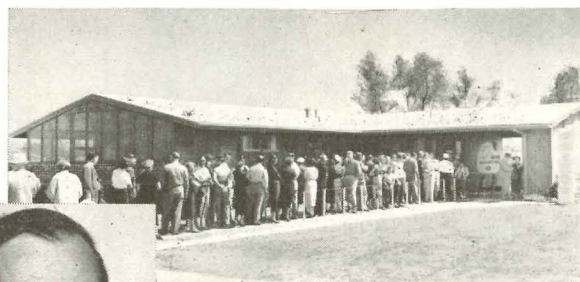
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ing door. The living and dining rooms have full outside view with an entire wall of glass. The large bath features colored textures and twin lavatories. Tiled powder room is entered from the hall. The double carport, screened porches, and patio are all given special and unusual treatment.

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Sash easily and quickly removed for washing.

EVENTS

São Paulo Exhibition—International Exhibition of Architecture at São Paulo Museum of Modern Art. Entries must arrive not later than Aug. 15; entry forms must be sent by July 15, addressed to: Secretariat, II Bienal do Museu de Arte Moderna de São Paulo, Rua 7 de Abril 230, São Paulo, Brazil.

National Home Furnishings Show, Grand Central Palace, New York, N. Y., Sept. 17-27.

Pennsylvania Society of Architects' annual convention, Sept. 18-19 at Lancaster, Pa., as guests of the Central Pennsylvania Chapter, AIA. Theme: "Research—and Things to Come"; expected participants: Armstrong Cork Co.; Walter Taylor, AIA; Leonard Haeger, NAHB; William Scheick, BRAB.

National Home Week—the week of Sept. 20-27 has been set by NAHB. Among features will be the Trade Secrets house (H&H, Jan. '53) developed by a committee of architects and leading NAHB builders, and an unprecedented number of air-conditioned houses.

American Bankers Association's 79th annual convention, Sept. 20-23, in Washington, D. C.

Third International Congress of Architects at Lisbon, Portugal, Sept. 20-28. All architects are invited. For information and program address: Secretario do Congresso, Rua do S. Bernardo 14, Lisboa, Portugal.

San Francisco Home Show will feature display and sales of products and services Sept. 26-Oct. 4. For information address: San Francisco Home Show, 31 Geary St., Suite 200, San Francisco.

National Electric Industries Show at the 69th Regiment Armory, New York, Sept. 29-Oct. 2.

Porcelain Enamel Institute's 22nd annual meeting at The Greenbrier, White Sulphur Springs, W. Va., Sept. 30-Oct. 2.

New York State Association of Architects' convention, Oct. 8-10, Lake Placid Club, Lake Placid, N. Y.

California Council of Architects' convention, Oct. 14-17, Coronado Hotel, Coronado, San Diego.

Prefabricated Homes Manufacturers Institute's fall meeting, Oct. 25-27, at the Hotel Shamrock, Houston, Tex.

American Gas Association's annual convention Oct. 26-29 at Kiel Auditorium, St. Louis.

National Savings & Loan League's fall conference, Nov. 8-11, Casablanca Hotel, Miami Beach.

National Association of Real Estate Boards' annual convention, Nov. 8-14, Statler and Biltmore Hotels, Los Angeles.

Mortgage Bankers Association of America's annual convention, Nov. 13-19 at Miami Beach. In conjunction, a home show conducted by companies offering services or manufactured products related to building.

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*The color is permanently sealed in by an exclusive
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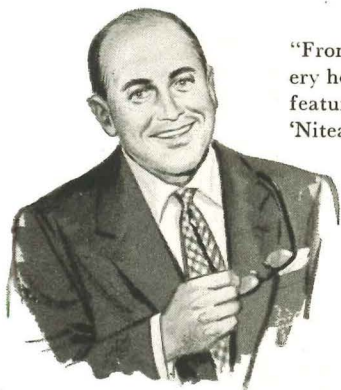
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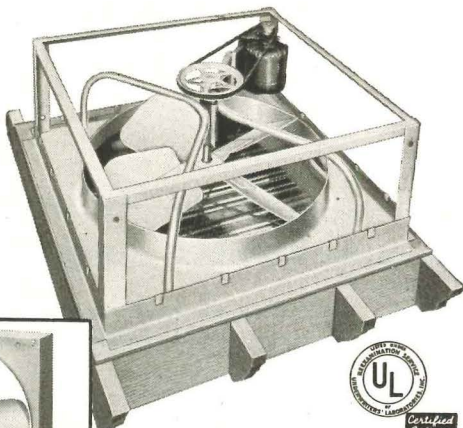
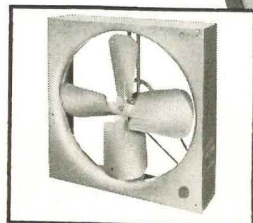
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LETTERS

NONWHITE HOUSING

Sirs:

Congratulations on "Nonwhite housing" (H&H, Apr. '53, News). We are happy to see your magazine take up the problem.

In the City of Philadelphia, during the last census decade, nonwhite households increased by more than 50% and the ratio from 12 to 18%. But, in every one of the seven counties surrounding Philadelphia (which together with Philadelphia County constitute the Philadelphia Standard Metropolitan Area) the ratio of nonwhite families has decreased. The slight numerical increase in nonwhite families in the outlying areas is concentrated in the urban sections but many suburban municipalities actually lost nonwhite households.

Increased incomes and greater job stability have enabled Negro families to buy homes in large numbers. Actually, in Philadelphia the number of nonwhite home owners has more than quadrupled during the last census decade (though the ratio of nonwhite home owners is still only half that of whites). Negroes bought 21,000 "used" houses during the decade, a number equivalent to 55% of the new private houses erected in the same period. Negroes did not buy the new homes for the simple reason that less than 500 new dwelling units were available to them, and less than 100 were houses for sale.

The worst aspect of the failure to make new housing available to nonwhite buyers is the financial burden it puts on the Negro who wants to buy a house. Forced to buy second-hand houses, the nonwhite buyer must make a larger down payment, and settle for a shorter amortization period. There can be little doubt that many Negro families must forego home purchases because of these added costs.

DOROTHY S. MONTGOMERY
Managing director
Philadelphia Housing Assn.
Philadelphia

Sirs:

I have had 20 years of experience dealing professionally with Negroes as an insurance investigator, and in the small loan finance business. I believe that we could aid the building business and solve the Negroes' present housing shortage problem by:

1. Providing FHA loans up to 75% of the selling price of homes in mixed neighborhoods. This would assist many white families to buy new homes as most homes in the older neighborhoods are not mortgaged. The Negroes would secure larger homes to take care of their larger families, closer to transportation and shopping districts. Real estate taxes are lower on these homes.

2. Secure group life insurance coverage to cover the mortgages, the limit to be possibly \$6,000. The average Negro has less than \$1,000 of ordinary insurance, and is consistently underinsured. This would help prevent

continued on p. 72

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vinyl plastic-asbestos floor tile
"keeps its first-day newness a lifetime."



Terraflex is totally unaffected by grease, oil, food acids and strong cleansers. In residential and commercial kitchens, and in restaurants, it gives outstanding service . . . combines floor beauty with easy maintenance and quiet underfoot.

J-M Terraflex* combines minimum care with maximum wear to provide greatest flooring economy!

MADE OF vinyl plastic and asbestos, Terraflex is exceptionally tough and resistant to traffic . . . yet resilient and quiet underfoot.

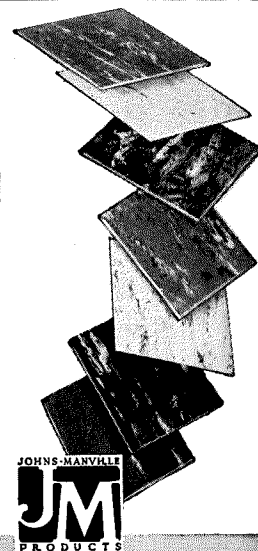
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Available in a wide choice of clear, harmonious colors, Terraflex is the ideal floor for homes, offices, schools, hospitals, stores . . . any place where reliable floor service,

long-time economy and beauty of appearance are important.

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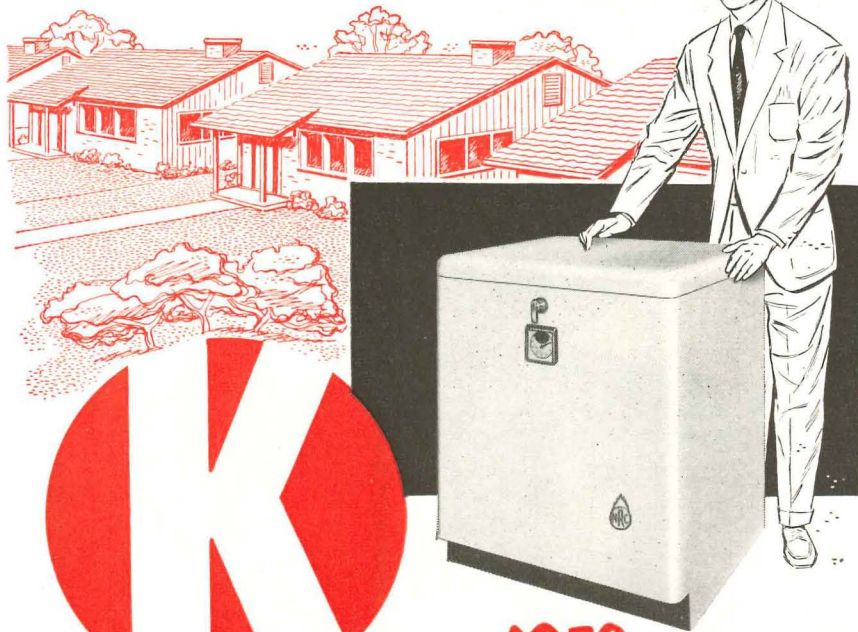
*Reg. U.S. Pat. Off.



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The new Model "K" National Packet is a complete automatic hot water heating unit, including boiler, burner, controls and accessories... ready for fast inexpensive installation. Use it in one-bathroom homes, apartment units, motels, service stations, stores or cottages. It heats efficiently and economically with baseboard, radiant panels, convectors, radiators or unit heaters.

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- "Synchronized-action" of quality components assures engineered efficiency

It will pay you to investigate the possibilities of the Model K National Packet as a profitable home sales builder.

Write today for catalog No. 626 HH for full information.



THE NATIONAL RADIATOR COMPANY
JOHNSTOWN, PENNSYLVANIA

LETTERS *continued*

slums with the aid of proper city planning and civic interest. It would not discriminate since white people also live in the neighborhoods.

I know of many white home owners who would be in a position to buy \$12,000 to \$14,000 homes if they could sell their older homes and secure their down payment for the new homes. Most banks will loan less than 50% on a low appraisal on homes in mixed neighborhoods. A top loan is \$5,000 for the finest brick homes in this type of neighborhood.

VERNON K. MEHLO
Youngstown, Ohio

Sirs:

I have read with great interest your article on nonwhite housing. In my present position, I am concerned with the relocation of hundreds of Negro families required to move from the Gratiot Redevelopment, a 125-acre site which is being cleared by the Detroit Housing Commission under Title I of Housing Act 1949. It is most important that families facing displacement have access to information about housing, both public and private, which is available to minority groups. I hope that you will publish additional information about housing for minorities.

BETTE JENKINS, *manager*
Detroit Housing Commission
Temporary Douglass Homes
and Gratiot Redevelopment
Detroit

Sirs:

Not only is this article a fair and clear-cut appraisal of an important and controversial issue, but articles like this serve to educate and, hopefully, to encourage more liberal attitudes in the general public.

RITA S. MILLER, *exec. secretary*
American Association of Social Workers
New York

TOMORROW'S HOUSE

Sirs:

In my opinion the May HOUSE & HOME represents your finest issue to date, an excellent job of pointing up the problems facing the building industry with some very satisfactory solutions.

I was particularly interested in the "before and after" pictures on pp. 168 and 169 featuring the fine effect of better lighting.

Certainly your May issue can be classified as a tremendous service and clear-cut program for the building industry in general—and I am sure that building contractors who follow your "Better wiring and better lighting" suggestions will benefit from accelerated sales.

R. W. MINETT JR.
Moe Light Inc.
Fort Atkinson, Wis.

Sirs:

Our members' reaction to the forecast for tomorrow's best-selling house was entirely favorable. HOUSE & HOME is the favorite trade magazine of many of our builder members.

continued on p. 76



MENDEL *Mahogany* FLUSH DOORS

MAKE "MILLION-DOLLAR" EFFECTS

yet cost less than many domestic woods!

Genuine African Mahogany has long been acknowledged the Aristocrat of Woods . . . has long been synonymous with "Quality" to architect, contractor and home-owner alike.

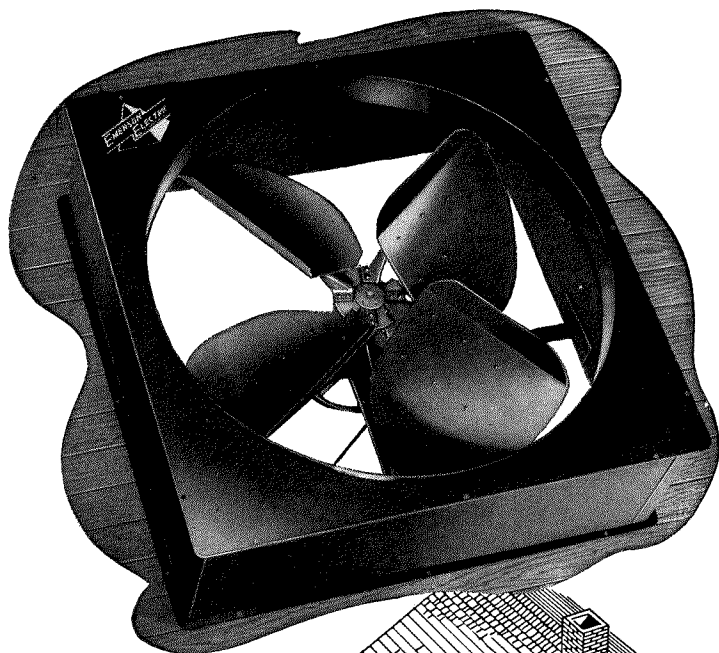
Now Mengel offers you the unsurpassed beauty and sophistication of genuine African Mahogany, in all your doors, *for less money than you'd pay for comparable doors, faced with many domestic woods!*

Why? Because The Mengel Company operates its own logging concession in Africa's best Mahogany section, imports top-quality logs in tremendous volume, and passes the savings on to you.

Mengel Mahogany Flush Doors and Standardor Mahogany Flush Doors are designed, engineered and built to be *better* doors in their respective classes. Compare specifications and be convinced.



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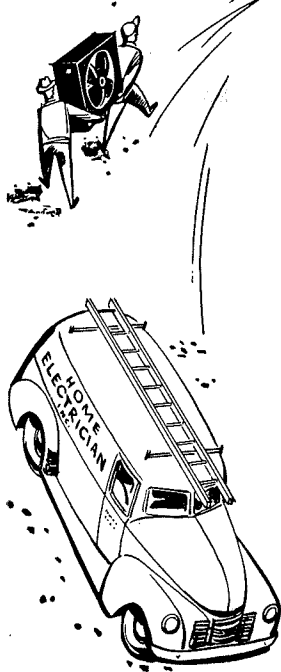
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Architects and builders are adding Emerson-Electric Attic Fans to their plans and specifications to provide summer comfort . . . a necessary feature if the home is to be made livable the year 'round.

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Write for complete installation data at once. Ask for Bulletin No. 602.

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Name _____

Address _____

City _____ State _____

LETTERS *continued*

It is possible that at one of our meetings in the near future we will discuss this subject using the outline in this Round Table.

ROBERT H. WOOD
*Master Home Builders Assn. of Worcester
 Worcester, Mass.*

Sirs:

I want to compliment you on the May issue. I think it is one of the finest issues that has been put out by HOUSE & HOME. I have supplied each and every one of my personnel with copies of it and have requested that they read every page very carefully.

MILTON J. BROCK
*M. J. Brock & Sons, Inc.
 Los Angeles*

Sirs:

Congratulations on your May HOUSE & HOME . . . one of the most constructive and forward-looking issues of any magazine in the building field.

It has more downright good information of a helpful and informative nature than any other one issue of any publication in the housing field.

L. F. BRODERSON, *manager*
Retail Finance Dept.
The Long-Bell Lumber Co.
Oklahoma City

TRADE SECRETS

Sirs:

HOUSE & HOME is exactly what the name suggests. Mr. Spiegel's letter, as president of the NAHB, expresses our sentiments nicely. In fact, it is very difficult to keep our copy of HOUSE & HOME, as our customers are continuously borrowing it.

L. E. EDWARDS
Bennett & Edwards, Inc.
Kingsport, Tenn.

ALL CLEAR

Sirs:

In well-water air conditioning (H&H, Apr. '53) I feel that you have devised a clear story concerning a difficult problem.

M. L. BRASHEARS
Leggette & Brashears
New York

TREES

Sirs:

"The Economics of Trees" (H&H, Apr. '53) seems exceptionally well done and of very definite practical value. I intend to reread it and save it for future reference. . . . An excellent publication.

D. H. FOWLER, *adv. mgr.*
The Davey Tree Expert Co.
Kent, Ohio

HOW THEY SELL

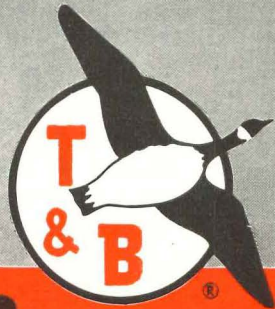
Sirs:

We use very extensive newspaper advertising, both display and classified, to bring prospects out to see our homes. We always

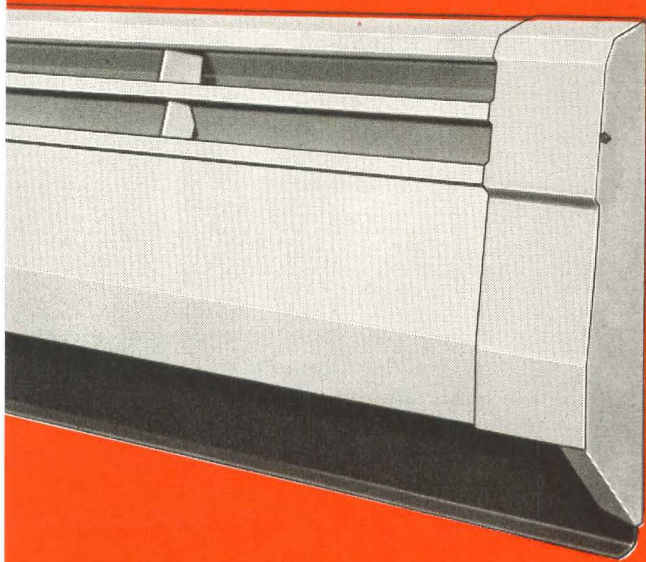
continued on p. 80

Modern Heating

FOR
MODERN LIVING



Baseboard Heating Panels



Truly the modern way to heat the modern home, T&B Baseboard Heating Panels combine the three most-wanted features in heat distribution equipment. Comfort. Efficiency. Functional beauty.

Ideally suited to the perimeter method of heating, T&B Baseboard Heating Panels blanket cold outside walls and glass areas—the source of greatest heat loss—with a layer of warmth. Constant, gentle circulation of air through the panels means even distribution of heat throughout the room, low temperature differential between floor and ceiling, no cold spots, no stratification, no drafts.

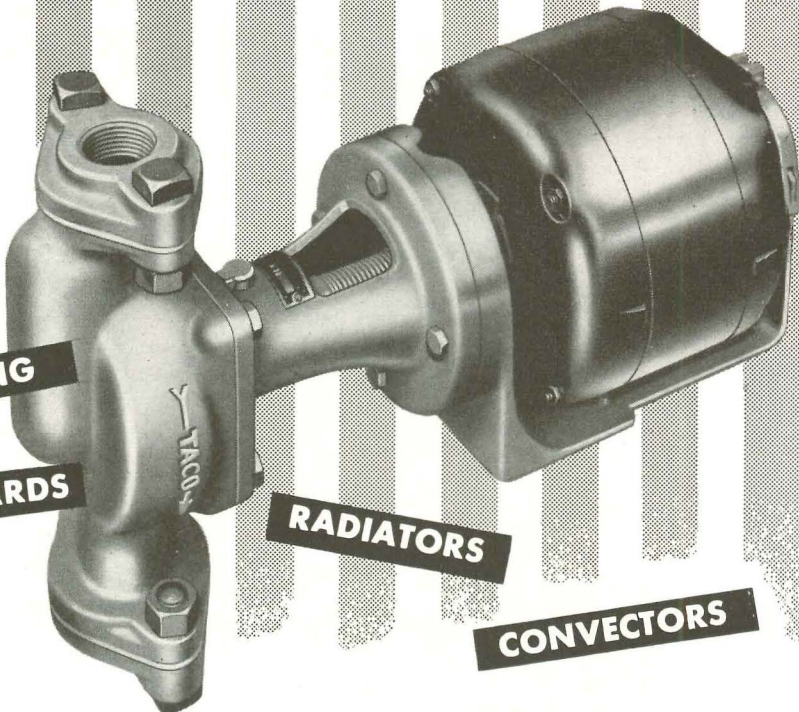
Distinctly styled by Walter Dorwin Teague, T&B Baseboard Heating Panels have the modern, smooth lines that blend with the functional design and modern decor of today's home. Compact, the Panels save valuable floor space for more living in every room, do not interfere with furniture, carpeting, or floor-length drapes.

For the efficiency and comfort homeowners expect from heat distribution equipment, for the smart styling they demand... specify baseboard heating by Tuttle & Bailey.

TUTTLE & BAILEY inc
NEW BRITAIN,  CONNECTICUT

For detailed information, write for Catalog No. 301.

get FAST, RESPONSIVE HOT WATER HEAT for



PANEL HEATING

BASEBOARDS

RADIATORS

CONVECTORS

with this popular TACO CIRCULATOR

EVEN LOW BUDGET HOMES CAN NOW HAVE THESE LUXURY ADVANTAGES

RADIANT WARMTH • DRAFTLESS WARMTH • CONTROLLED WARMTH



MORE HOT WATER FOR KITCHEN, BATH AND LAUNDRY

Yes, forced hot water heat with a TACO circulator gives all this *plus* economical warmth. No need for a separately fired water heater. TACO TANKLESS, hooked up to a heating boiler, supplies year 'round low cost hot water.



The TACO circulator delivers heat where it will give the greatest comfort . . . whether you use radiant panels, convectors, radiators or baseboards.



**ARCHITECTS—ENGINEERS
WRITE FOR . . . SIMPLIFIED
SELECTION CHART FOR SIZ-
ING TACO WATER HEATERS
UNDER ANY CONDITIONS.**

Three other famous TACO PRODUCTS for houses

TACO-VENT



eliminates air from hot water radiation automatically

TANKLESS TACO



gives an abundant supply of hot water instantly. No need for storage tank.

TACO TEMPERING VALVE



thermostatically mixes hot water with cold so there's no danger of its being too hot.

**Better Heating-
Better with Taco**



TACO HEATERS, INCORPORATED • 137 SOUTH STREET • PROVIDENCE 3, R. I.

LETTERS *continued*

have salesmen at the job site and the house

When we anticipate large crowds, we have people from our office staff assist the salesmen so that everyone who comes to our Highland Hills Subdivision will be able to talk personally with one of our representatives

We stress that our homes are not high priced compared to other essential commodities and stress the importance of home ownership.

E. J. BURKE JR.
San Antonio

Sirs:

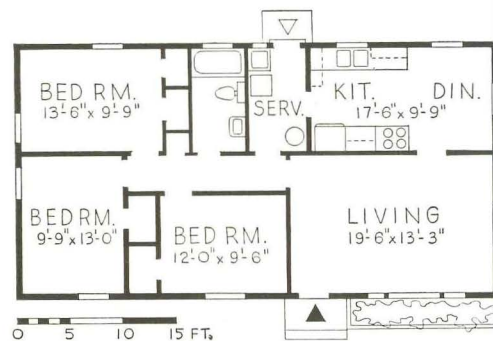
Among the features I stress is the application of electronic controls to the radiant heating system. I believe our housing is the first low-cost development to utilize such electronic controls.

ARTHUR L. PERRON
Worcester, Mass.

THE PLAN'S THE THING

Sirs:

"The Plan's the Thing" (H&H, Mar. '53) interested me so much that here is *my* minimum three-bedroomer. The contractors like



Contractors and mothers like it

because it is easy to build to a price—stock sizes, etc.; the clients because it is livable. We change the garage and entrance around, sometimes add an entry with coat closet—as money and site permit. In your "cons" you omit what nine out of ten women say to me: "I want it so the children can go to the bedrooms and bath without trailing through the whole house." Also a frequent comment: "I don't like to do the laundry in the kitchen." Therefore I put in a service area.

I do like HOUSE & HOME: it gives me so many ideas we can adapt.

LOUISE D. MELTON, *manager*
Home Design Service
Auburn Lumber Co.
Auburn, N. Y.

FASTEST SELLERS

Sirs:

. . . In our opinion, a down payment within reach of low-income families, and three bedrooms, give a house greatest sales appeal. . .

R. L. PELT, *president*
Crown Construction Co.
Dallas

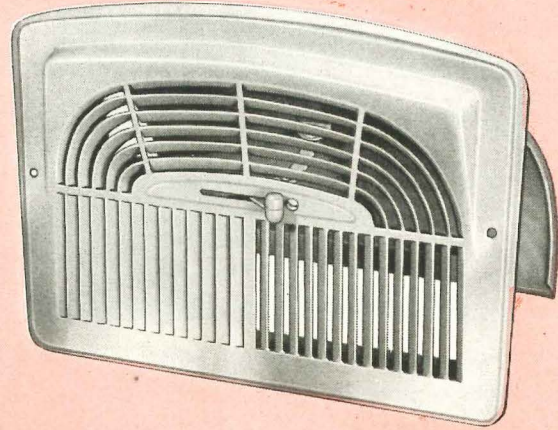
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#15 SIDEWALL PERIMETER DIFFUSER FOR RESIDENTIAL HEATING-COOLING SYSTEMS

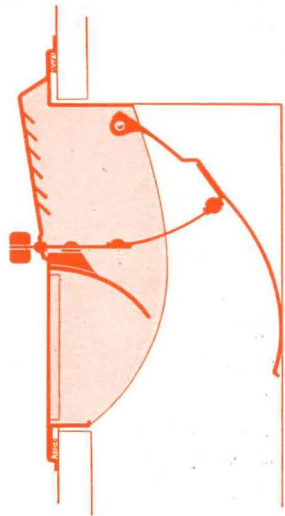
RIGHT* FOR SUMMER COOLING.

RIGHT* FOR WINTER HEATING.

* Conforms to latest data from National Association Research Project.



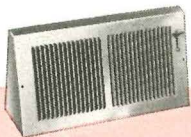
STYLED TO PLEASE THE EYE • ENGINEERED FOR UTMOST EFFICIENCY



- 1** **LOWEST RESISTANCE** — The curved damper valve, curved center vane and the exclusive Air Control face design combine to give the lowest possible resistance factor. The No. 15 Sidewall Perimeter Diffuser is the perfect compliment to the well designed heating-cooling plant for all types of homes.
- 2** **EASY, POSITIVE BALANCING** — Only Air Control gives you the Adjusto-Stop to allow for accurate, positive balancing of the system at the diffuser face. In just minutes, you can set the system for summer or winter air delivery . . . a must in combination systems which require a change in air volume twice each year.
- 3** **SPRING-TYPE OPERATOR** — The flat spring linkage from the control to the curved damper valve will not rattle . . . will not creep. It is your assurance that the system will stay balanced as you want it and peak air velocities will not create noise.
- 4** **GREATER EFFICIENCY . . . GREATER COVERAGE** — No other diffuser gives as much coverage-per-opening as the No. 15 by Air Control. This one diffuser will blanket the average wall . . . up to 8' x 14' . . . from one opening. Think of the savings in time, material and labor that this will mean on each and every job!

'E' Frame available to adapt No. 15 Perimeter Diffuser for base-board installations.

PLUS A COMPLETE LINE OF REGISTERS, GRILLES AND DIFFUSERS



No. 165 PERIMETER BASE-BOARD REGISTERS.

Ideal for out-of-the-wall installations with block or poured concrete construction where cutting is impractical. A truly economical unit with Adjusto-Stop damper. Cuts costs, allows easy balancing.



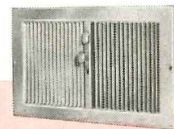
No. 42 PERIMETER DIFFUSER.

Here is the Diffuser for any perimeter floor installation. It is long and narrow with heavy vanes to give the desired spread and rise over exposed walls and picture windows. Vanes are adjustable to allow complete control of pattern. Set-screw damper adjustment for volume control.



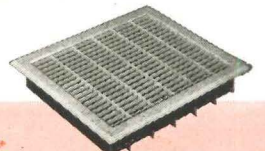
CEILING DIFFUSERS.

Flush mounted or step-down models for smooth good looks and utmost efficiency. Air flow rings present minimum resistance, allow rapid air diffusion. Dampers, installation rings and drop rings also available.



No. 10 SERIES.

For sidewall and baseboard air conditioning systems. Four styles combining adjustable vertical and horizontal fins for complete control. Satin beige finish can be painted to match the wall. Metal-essent finish also available.



No. 40 SERIES.

Floor registers and return air faces. Patented Rigid-Lock construction is strong and solid, makes a firm level walking surface for home or commercial installations. Foot-operated dial controls air flow.

SEE YOUR LOCAL JOBBER OR WRITE FOR THE AIR CONTROL CATALOG TODAY



Also manufacturers of the Leigh Line . . . convenience features for inside and outside the home. Catalog available on request.

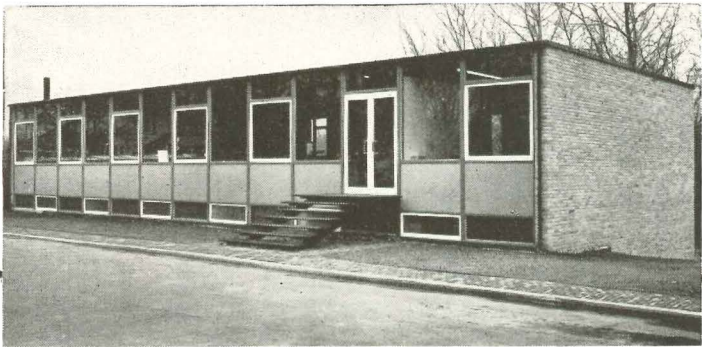
BE SURE OF BETTER FINISHED INSTALLATIONS. BE SURE OF QUALITY AND LOW COST. STANDARDIZE ON AIR CONTROL FOR EVERY JOB.

AIR CONTROL PRODUCTS, INC.

DEPT. H COOPERSVILLE, MICHIGAN

SOSS HINGES

Used in New Office Building of EERO SAARINEN and ASSOCIATES



Mr. Saarinen found, as have so many other famous architects, that there's a place in every building for Soss Invisible Hinges. Why don't you try them, too? They'll add beauty and distinction to every building you design.

COMPLETELY INVISIBLE

Soss Hinges are completely hidden from view when doors or panels are closed. They're the only hinge that lets you meet the demands of contemporary architecture for streamlined surfaces.

EASY TO INSTALL

A full size mortising template is included with every pair of Soss Hinges. This template enables any good carpenter to install Soss Hinges quickly and efficiently.

PLEASING TO CLIENTS

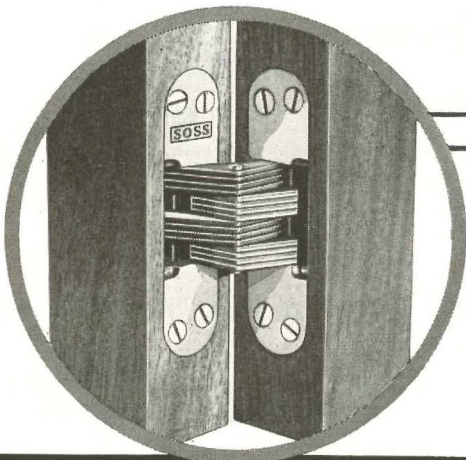
Clients like the distinctive, beauty that only Soss Hinges provide. Also, Soss Hinges give to doors a solid, luxurious "feel" that cannot be achieved in any other way!

A SIZE FOR EVERY USE

There's a Soss Hinge for every type of installation—AND—Invisible Soss Hinges have proven to endure any type of climatic condition . . . making them ideal for bathroom and kitchen doors.

SOSS
INVISIBLE
HINGES

Write for FREE Blueprint Catalogue that gives complete information on "The Hinge That Hides Itself" to:-



SOSS MANUFACTURING COMPANY
21779 HOOVER ROAD • DETROIT 13, MICHIGAN

LETTERS *continued*

BIBLE FOR BUILDERS

Sirs:

HOUSE & HOME is a veritable Bible for builders. I never dreamed a magazine could pack in so much information of value to all of us. Your whole issue on "How to Sell a House," your story of "10 Ways to cut costs 10%," your "39 Ways to build a bathroom cheaper," were all wonderful. The builders have needed a magazine like yours, and the people will get a lot better house for their money if all the builders read it.

ANDY PLACE
Place & Co.
South Bend, Ind.

PREPOSTEROUS PLUMBING

Sirs:

Detroiters may "love" and H&H may consider worth citing the three half and one full bathrooms in the house on p. 108, April issue, but has anyone taken a tally?

Four toilets, five sinks and one bathtub: a preposterous apportionment of plumbing.

CAROL HUTTER, *creative director*
Wm. D. Murdock
Washington, D. C.

NAIL ON THE HEAD

Sirs:

In your May issue, p. 94, Mr. Lendrum, director, University of Illinois Small Homes Council, stated that as far as he knew no standards were available relative to nail spacing.

By coincidence today a government announcement came of "Technique of House Nailing," claiming to be an authoritative manual on specifications for nailing.

It occurred that this might be of interest to some of your readers. It is catalogue HH2.2: N14, 53 pp., illus., 15¢ from Superintendent of Documents, Washington 25, D. C.

N. S. RAITT
Loudell N. Raitt, *real estate*
Norfolk

CORRECTION

Sirs:

In your May, 1953 issue of HOUSE & HOME, pp. 150 to 151, many of our designs and creations have been reproduced.

May we advise that all these designs were created by Industrial Displays, Inc.?

JACK PAUL, *sec. treasurer*
Industrial Displays, Inc.
New York

• HOUSE & HOME regrets that Industrial Displays, Inc. was not credited.—Ed.

Sirs:

Just for the record, the American Legion (H&H, May '53, News) did not endorse a continuation of the direct loan program at the 4% rate but at the same rate that is current for VA loans.

THOMAS W. MOSES
Paul, Lawrence & Rock
Pittsburgh

ANNOUNCING:

Armstrong's *Excelon* Tile

Armstrong's Excelon Tile is a new plastic-asbestos flooring material of outstanding beauty and durability. Its vinyl content gives this floor excellent resistance to grease, oil, and normal household reagents. Tough, flexible, and fully alkali resistant, it's suitable for installation over all types of subfloors, below grade, on grade, or above grade. The exclusive non-directional swirl marbleization of Armstrong's Excelon Tile with its muted tone-on-tone shades permits allover flooring effects of exceptional beauty. Its coordinated colorings also offer outstanding possibilities for multi-color custom floor designs. Available in the 10 colors shown, 1/8" gauge only.



Brittany Blue No. 758



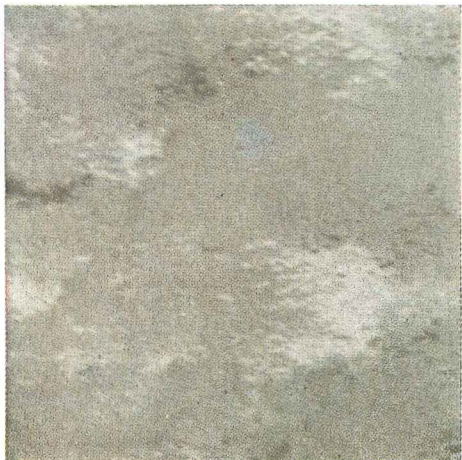
Manila Tan No. 756



Gretna Green No. 754



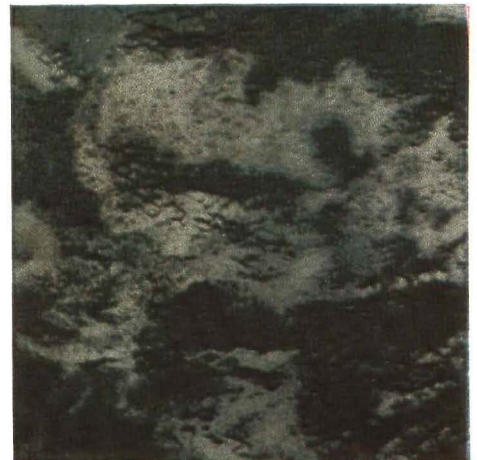
Formosa Coral No. 755



Slate Gray No. 751



Sirocco Taupe No. 757



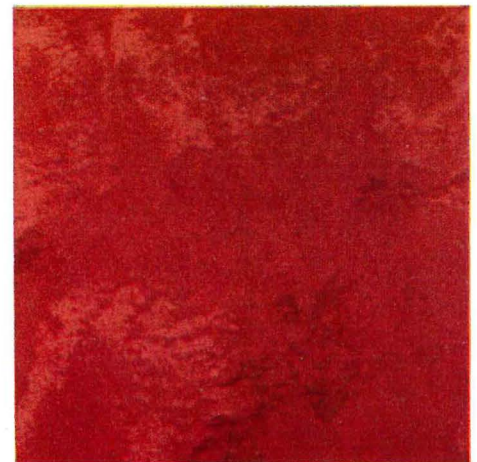
Charcoal Black No. 752



Chalk White No. 750



Ming Yellow No. 759



Gypsy Red No. 753

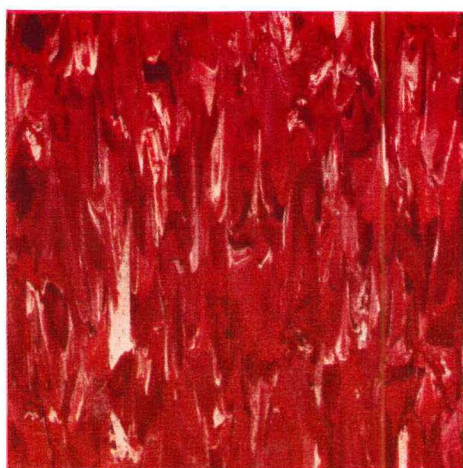
ARMSTRONG'S *Custom Corlon* TILE

Armstrong's Custom Corlon® Tile is a luxury vinyl plastic flooring offering an entirely new style of graining. Its distinctive directional burl marbleization and rich colorings create unusually handsome floor effects. An exceptionally smooth, glossy surface and unexcelled resilience and durability make Armstrong's Custom Corlon Tile particularly suited to fine

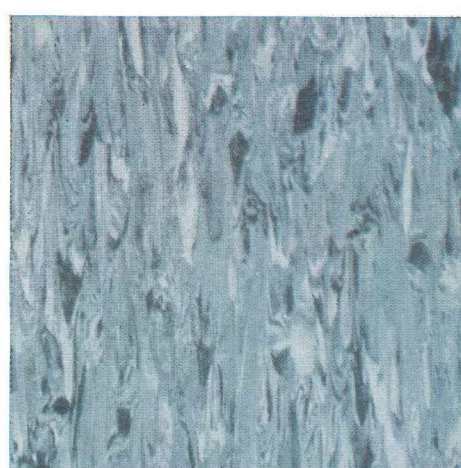
homes and commercial interiors where an atmosphere of quality and refinement is desired. This floor may be installed over grade-level concrete slabs with Armstrong's No. S-104 Chemical-Set Waterproof Cement, as well as on all types of suspended subfloors. Available now in the nine harmonizing colors shown on this page, it is made in $\frac{3}{32}$ " gauge only.



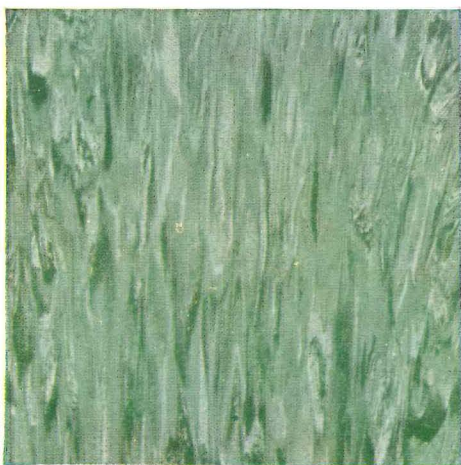
Imperial Black No. 462



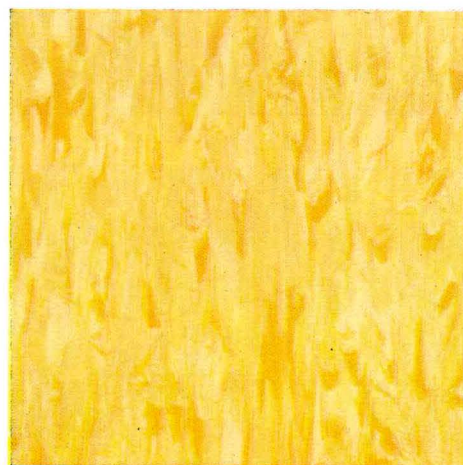
Picardy Red No. 463



Beryl Blue No. 466



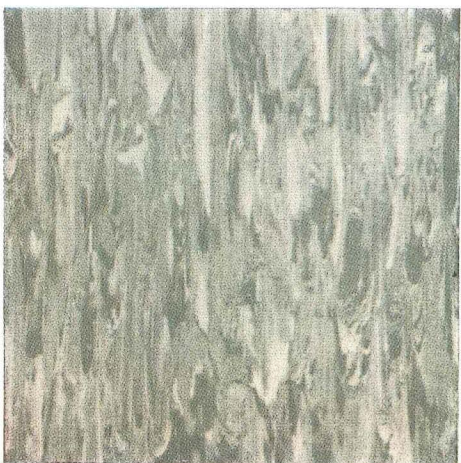
Opaline Green No. 464



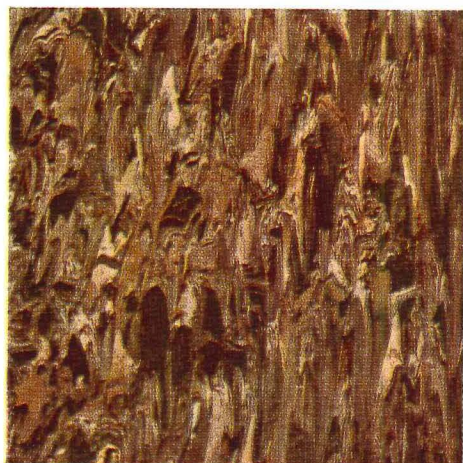
Pinard Yellow No. 465



Copra Taupe No. 467



Trieste Gray No. 461



Circassian Walnut No. 468



Carrara White No. 460

ARMSTRONG CORK COMPANY

FLOOR DIVISION  LANCASTER, PA.

MODERN MORTGAGES

A monthly report on important developments in the modernization of mortgage credit, with particular emphasis on the expanding potential of the package mortgage, the open-end mortgage and the expandable mortgage

Can FHA insure open-end mortgages?

The majority of savings and loan associations, many big insurance companies and more and more savings banks now use the open-end or additional-advance mortgage. VA insures mortgages with open-end provisions, but FHA is still a holdout. The National Association of Home Builders, the Mortgage Bankers Association and the National Retail Lumber Dealers Association have endorsed the open end and urge FHA to insure this type of mortgage. In the previous political administration FHA cited several legal objections (left). They are answered by two top legal advisers:

FHA OBJECTIONS

- 1. Can FHA transfer to the lender the responsibility for increasing the principal amount it has insured in the first place? The National Housing Act requires FHA-insured mortgages to contain amortization provisions requiring the mortgagor to make periodic payments within his means to extinguish the debt at maturity.**
- 2. FHA is required to collect from mortgagees annual insurance premiums on the outstanding contractual balance without taking into account prepayments or delinquent payments. Purpose is to permit FHA to bill by machine methods on the original schedule without regard to the outstanding balance. The purpose would be defeated if the original amortization schedule were subject to change without new findings and a new contract of insurance.**
- 3. Additional accounting complications would be presented to FHA upon foreclosures. Mortgagees are entitled to debentures in return for properties conveyed to FHA. This is set by statute as the "original principal obligations of the mortgage" unpaid at the date of commencement of foreclosure.**
- 4. If a lender advances money on an open-end mortgage with no actual knowledge of an intervening lien, is the optional advance superior to the intervening lien? The principal difficulty that arises, even with conventional, uninsured loans, is the wide variations in state laws governing priority.**

HERBERT S. COLTON, former assistant general counsel for FHA and now general counsel for NAHB, says:

Legal questions are not primary. The real point: is the open end so necessary or desirable as to require change in legal thinking, amendment of applicable statutes?

Acceptance of new concepts in the rigid field of real property law is a slow process. Statutes, judicial interpretations and legal opinion all change from time to time to conform to public opinion. A prime example is how public opinion demanded new mortgage financing after the real estate collapse in the great depression. When FHA pioneered this, even FHA's constitutionality was questioned. But legal thinking quickly conformed to public thinking.

The current intense interest in conservation and rehabilitation of residential property now points up the lack of a satisfactory legal instrument for facilitating that kind of work. The open end, properly used, offers a flexible legal form well adapted to this purpose.

Acceptance of the open end would undoubtedly be accelerated if it were possible for FHA to recognize open-end provisions in mortgages insured by it.

Neither of FHA's objections on collection of insurance premiums or on the matter of handling debentures is insurmountable. Except in degree, FHA's accounting problem would not seem to differ from that of National Life Insurance Co. of Vermont or the Dime Savings Bank of Brooklyn, two big lenders consistently in the forefront of progress in the last 20 years. The statutory language on debentures could by simple amendment be revised to include in the debentures issued after default the amount

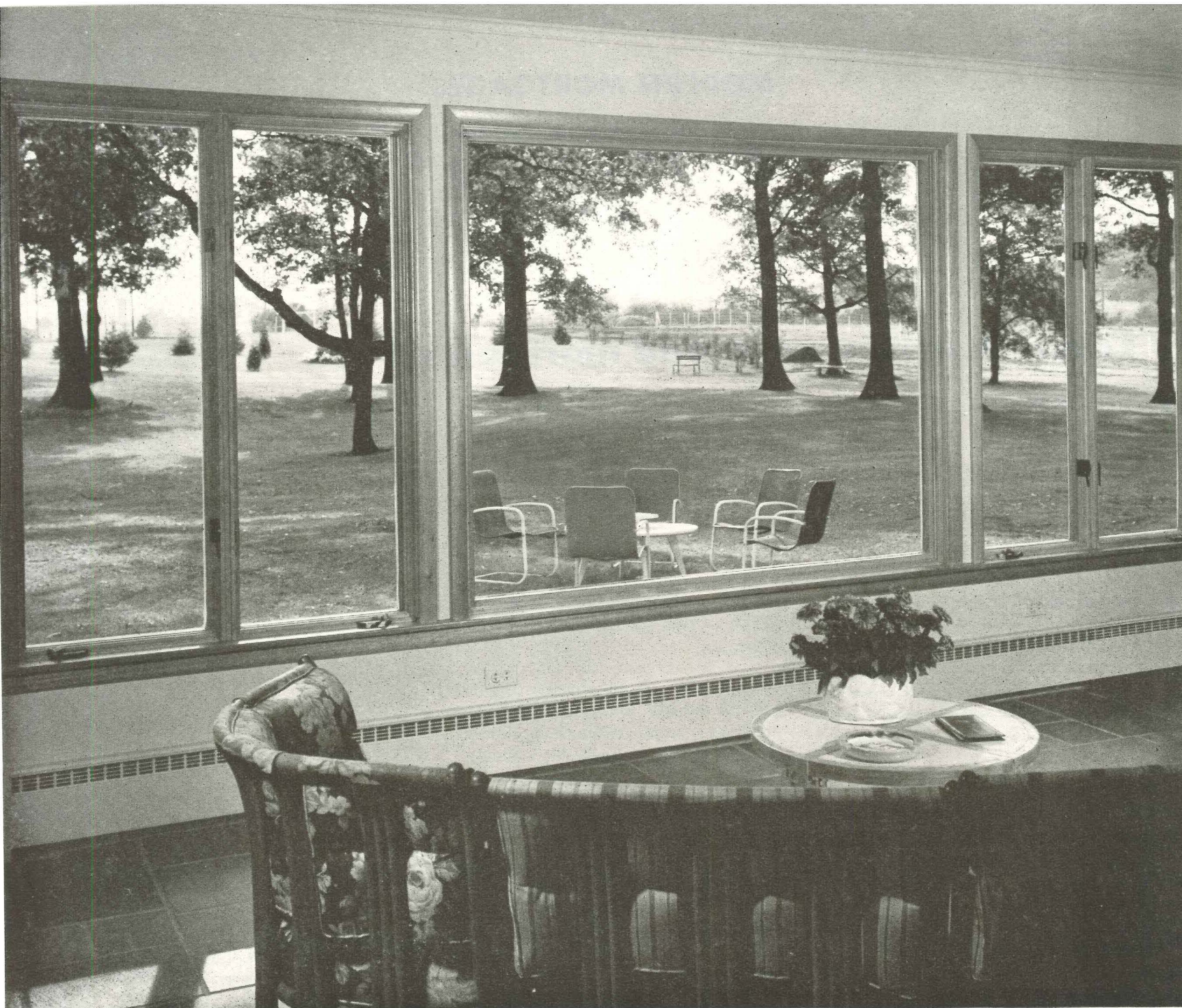
of any substantial optional advance made pursuant to a provision in the mortgage. Congress appears interested in rehabilitation, so such an amendment should not be difficult to obtain.

Whether statutory revision should be sought or whether FHA would be justified in undertaking the administrative burden involved depends upon its evaluation of the results to be obtained. This is not a legal but a policy matter.

HORACE RUSSELL, former general counsel for the Home Owners' Loan Corporation and now general counsel for the United States Savings & Loan League, was asked for an opinion by NRLDA. His answer to FHA's objections, in order:

FHA can authorize open-end mortgages by amendments to its regulations and mortgage forms. The agency may authorize advances without prior approval up to the contractual amount. If the advance under the open end increases the mortgage beyond this amount, FHA should approve of it and get an additional premium.

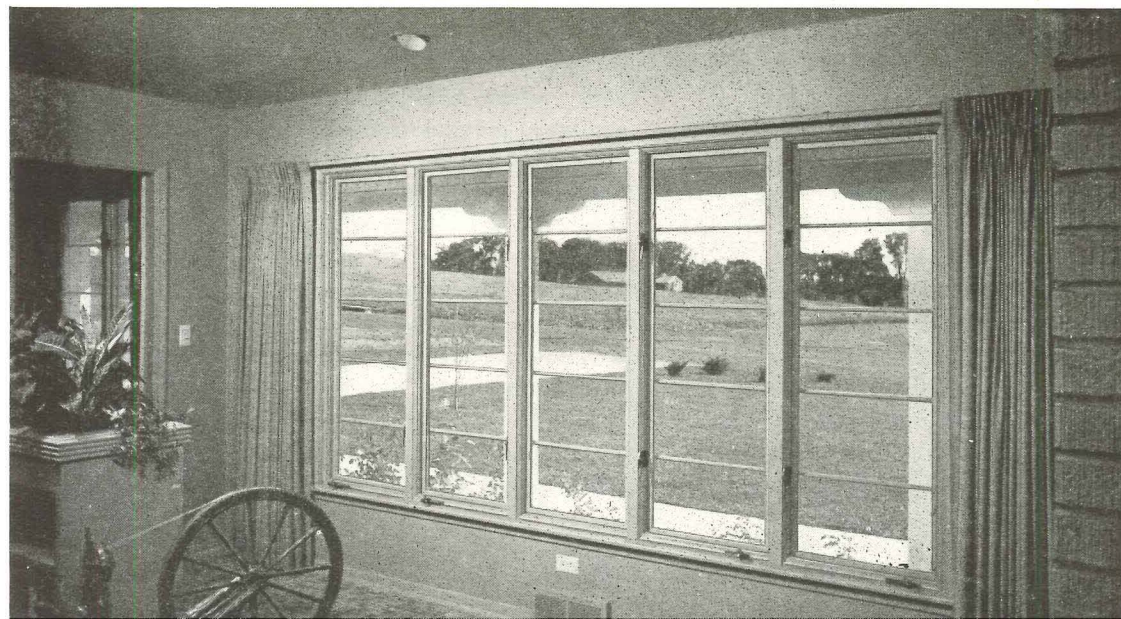
Since FHA charges insurance premiums on the contractual balance and without regard to prepayments, it ought not charge an additional premium for advances up to the contractual amount. Therefore its problem would be even smaller than that of the Dime Savings Bank which must make changes every time it makes an additional advance. The additional advance can be treated the same as the original advance; therefore, there should be no necessity for an amendment to the National Housing Act. FHA should not be concerned with lien status because that rests entirely with the mortgagee.



Wide Andersen Casements with picture sash

Now! New wider sizes, wider

Two glazing styles in wide casement sash...horizontal or one-light—Norman Johnson, architect



25 STOCK SIZES ADDED BY NEW SERIES OF UNITS

Just look at the pleasing effects possible with the new wide Andersen Casement Window Units! With 4½" added to the sash opening, the new series gives larger glass areas, makes the distinctively narrow Andersen Casement mullions look even narrower. Particularly in the 5' height, sash proportions are more pleasing.

There's greatly increased selection of sizes, too. The wide casements add 25 stock units to the 34 formerly shown by

The architects' new frontier— the volume-built house

A report to the American Institute at Seattle

by L. Morgan Yost, AIA, Edward I. Fickett, AIA, Joseph Eichler, builder

Architect L. Morgan Yost: *Our committee on the homebuilding industry agrees that its paramount duty is to acquaint the profession with the opportunities and responsibility of engaging in development building practice. We encourage it to do so and place the experience of those who have done this type of work at the command of those who wish to do it.*

It is recognized that few architects are equipped by experience, though doubtless many are equipped with natural ability, to enter this field. Therefore "each one teach one" seems a good theme to follow in expanding this field of architectural practice.

Architect Edward Fickett: We have a new client—his name is Mr. Merchant Builder—I am one of the few architects fortunate enough to have worked with our new client for the past five years. I know this man as a friend and businessman.

Our new client is a composite:

1. **An investor** who in many cases heads a corporation or large group of investors who rely on his judgment.
2. **A realtor** who knows land values, and the complex problems of subdivision and land planning.
3. **A financier** who knows banking and lending procedure.
4. **A businessman** who envisions, conceives, builds, and merchandises his product to the great American public. For this he expects a normal profit.

Why should we be interested in this new client?

Because he opens a frontier for the architect, a chance to broaden the scope of the architect's service

For the last five years only 10% of the merchant builders' product has been designed by architects. Why—when the opportunities for the architect are greater in this field than in any other?

We architects cannot ignore the greatest challenge ever made to our profession. We must collaborate with the builder to help in the design of our new communities to make a more livable America.

continued on p. 92

Those of you who have followed the progress of the few architects now in this field know the great strides we have made in—

Progressive designs in our houses, better site planning and better architect-builder relationship. All testify for us—but there is still vast room for improvement.

Any thought that the architect is a mere draftsman—working under the builder's thumb—should be dispensed with. This is a collaborative effort with architect and builder jointly responsible for the final creative effort. If the product designed by the architect is superior, faster sales will soon testify to his worth.

The public is fast realizing the more livable features found in architect-designed projects. Let's look in on the builders' architect:

We find a new line of thinking—

1. The business of merchandising a product to the public enters the architect's office for the first time.

2. Cost and product analysis become a new problem.

3. Site planning gives the architect an opportunity to explore new ideas and learn the complex problems of city planning.

4. Product design means keeping pace with the public's *lending procedure*—the problems of finance and acceptability of your product by the various governmental agencies become of vast importance.

This is a complex problem—certainly there is room for new thinking. The criticism the Committee on the Homebuilding Industry hears most regards fees.

The fees now being paid most architects working in this specialized field are as high if not higher in proportion to the services rendered than in any other field.

As in any other specialized work there are still those architects who see fit to give a lesser service for a low fee.

The merchant builder is willing to pay fees commensurate with the professional services rendered. He is a businessman—you must prove your worth.

Today we are creating communities of which we can all be justly proud. The percentage of new developments of the best type is, however, very low. Certainly here is a challenge that we can meet. I say let's accept the challenge, let's prove our worth as professionals in this new and ever expanding field.

Builder Joseph Eichler: We build homes by the hundreds and we consult with our architects every step of the way.

Furthermore, we're building houses today at the same cost we built them in 1950, and yet our houses are much superior. We give the buyer more, and that is due to the skill of the architects.

Some builders hesitate to retain architects because they regard them as an additional expense and seem to feel that because architect-designed houses look different they must cost more money.

That simply isn't true. We merely want our homes to be more livable, more comfortable, and better looking, and the architects are helping to provide the answers.

California's new best seller

1953 houses at \$7,500 to \$11,900 have good looks,

unique panel construction and an expanding future

This is the new California best seller. It is selling so fast that builders from San Diego County in the south to Chico in the north are scrambling to pay Designer Cliff May and his architect partner, Chris Choate, from \$225 to \$300 per house royalty to cash in on its proved sales appeal. Others want to borrow its good ideas without paying for them.

Two big reasons explain its popularity.

1. It is designed for such easy and economical construction that it can be priced at least \$1,000 under the market.
2. This is almost the first low-cost house to offer the kind of California living everybody back East imagines all Californians enjoy. Generally this kind of house has been limited to architect-designed houses at \$20,000 and up.

Now the sales success of these houses proves once and for all that people who can afford \$7,500 for a house welcome the same chance for California living that buyers of \$75,000 houses have long insisted on.

The design and construction of these houses will take on greatly expanded significance if and when Eastern builders begin to erect them, which Cliff May says can be done for about \$1,000 more than in California.

Carport, foreground, forms one side of U enclosing patio

Photos: Maynard Parker



The 1953 houses are different. At first glance the 1953 best seller looks very much like May & Choate's last year's model built at Cupertino, which *HOUSE & HOME* (Oct. '52) described as "minimum construction for maximum living comfort." Actually the resemblance is only superficial; the partners have made many changes.

Most important change is simplified construction. All exterior and interior walls can be knocked together from the five standard panels (last year there were 26), all made on the same jig. These are illustrated on the next two pages. From these five new panels, a dozen or more different houses can be built which vary in size from 612 to 1,572 sq. ft. Houses go together so fast that builders are cutting their construction time by two-thirds.

Another basic change is that all construction of both walls and ceilings has been concealed behind dry wall, partly to meet the criticism stirred against last year's models by the exposed rough construction, partly because the rough construction actually proved too expensive.

Prefabricated package. This year May & Choate have formed a prefabrication firm which sells a package of the factory-made panels, all the precut lumber, sash, doors, cabinetwork, insulation, finish hardware, light fixtures, bath accessories, and heating. Most builders are now buying this package, along with the plans (see p. 97 for prices). The meteoric rise in popularity of these prefabricated houses and the flexibility of the panels may possibly change the attitude of West Coast builders, who have been strongly opposed to prefabrication.

While the exteriors are still rough 12" redwood boards with 4" batts, windows have heavier muntins and, with a 6" wider (now 30") overhang all around, give a more solid appearance to the house. There is more window area in the new house as additional windows have been added to bedrooms for cross-ventilation. No picture windows face the street, as some did last year. Roof pitch is slightly higher: now 2½-in-12, which the designers feel looks better than the previous 2-in-12.

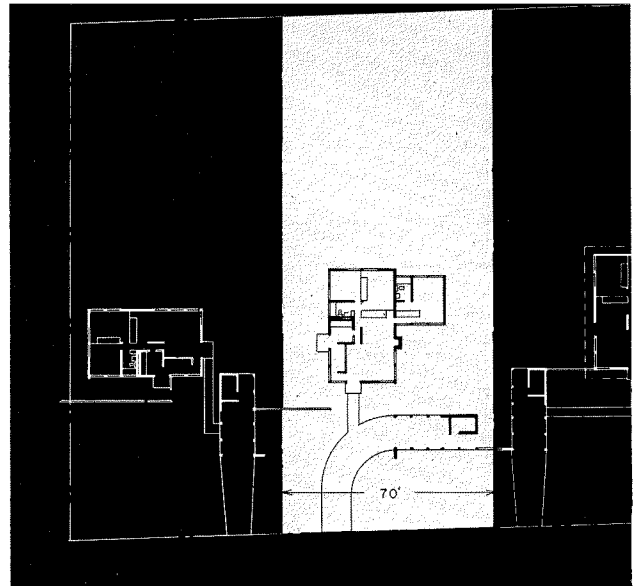
Interior partitions covered with plasterboard have replaced both the curving masonry wall between living room and kitchen (which visiting builders liked last year) and the thin (1") partition between living room and one bedroom (which almost no one liked). Storage space has been almost doubled.

The old house had space heaters, no insulation. Most of the new houses will have central forced-air systems (builders may still use space heaters if they wish to) and all have reflective insulation. Mechanical central cooling can be installed as a \$650 to \$750 extra but no builder has yet begun installing it.

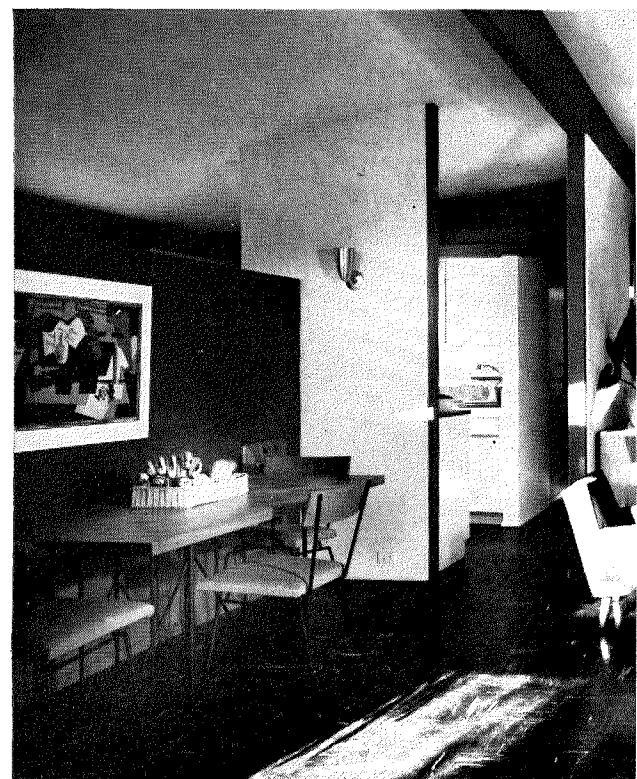
A new floor plan improves circulation. In working over their new plans May & Choate improved circulation by making the living room less of a hallway to kitchen and bathroom. They completely redesigned the kitchen, making it larger, easier to work in, and adding a ceiling exhaust fan. There was no room to eat in the old kitchen. The laundry has been moved to a utility area opening up room for eating in the kitchen of the 1953 house.

All exterior doors are now in pairs. Carports and garages have been redesigned with sloping roofs which harmonize better with the houses. A number of ingenious arrangements make carports serve as porches or children's play areas. These give builders a great deal of variation from the standard pattern.

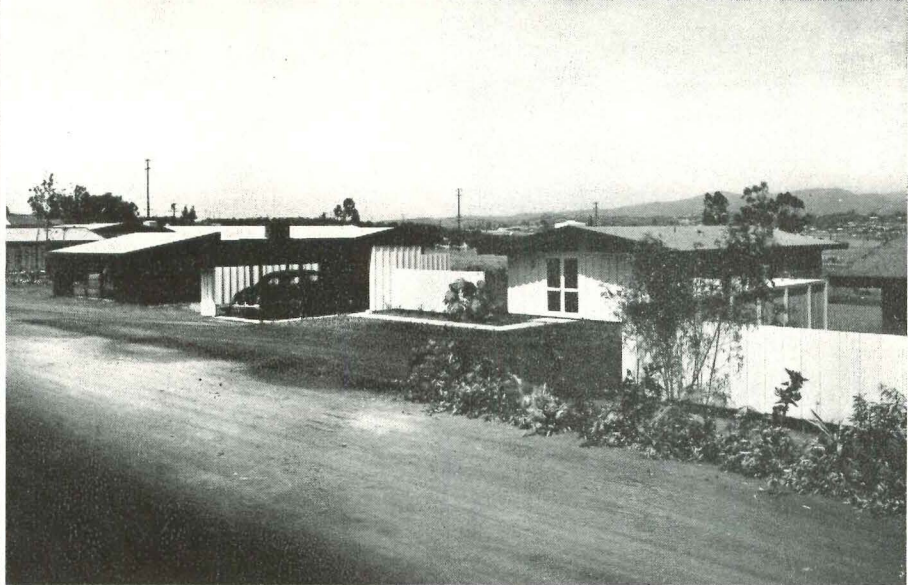
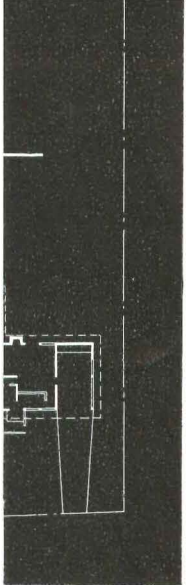
The two-bedroom house, now obsolete in many areas, is popular with May & Choate builders. The reason: buyers can see from the model houses that the three-bedroom house is like the small one, and the extra bedroom can easily be built on later. A special panel, added to one wall, can later be knocked out and used as a door to the additional bedroom.



Carports were completely redesigned in new houses and were given sloping roofs to harmonize better with houses. This is the house at Vista in which all the color and interior photos were made. Curved drive is popular.

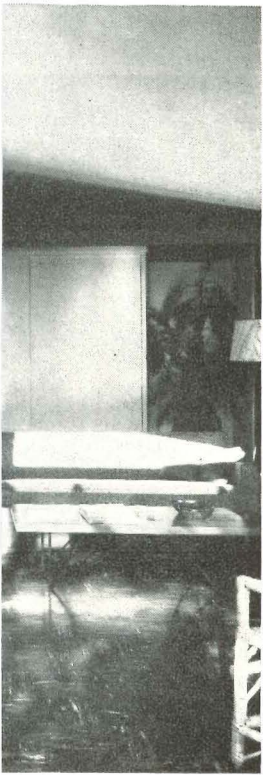


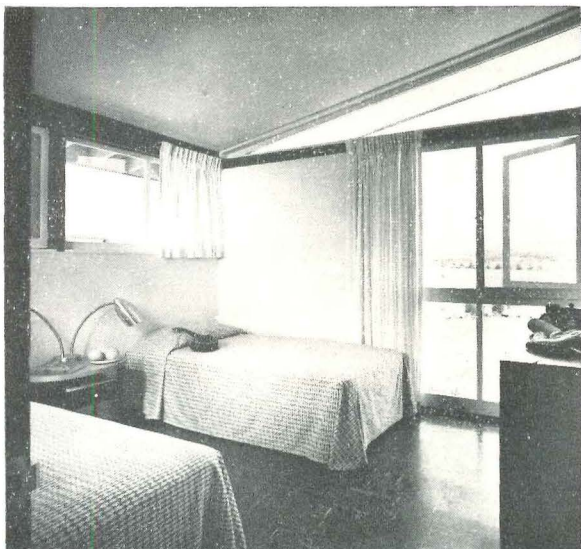
Living-dining area of model house at Vista seen from front door. Same room from opposite angle is in color at right, with floor plan on next page. Kitchen is behind 5'-6" wall at left. This three-bedroom, two bath house is \$10,500.



Variations in four model houses at Vista show how well the designers turn houses on lots, use fences, carports for exterior interest. Photo and plot plan are for same group of houses.

Contrasting colors, below, give decorative impact by emphasizing structure. Three typical panels are in far wall: solid panel with plasterboard interior, pair of double doors, window wall. Glass gable is installed at each end.

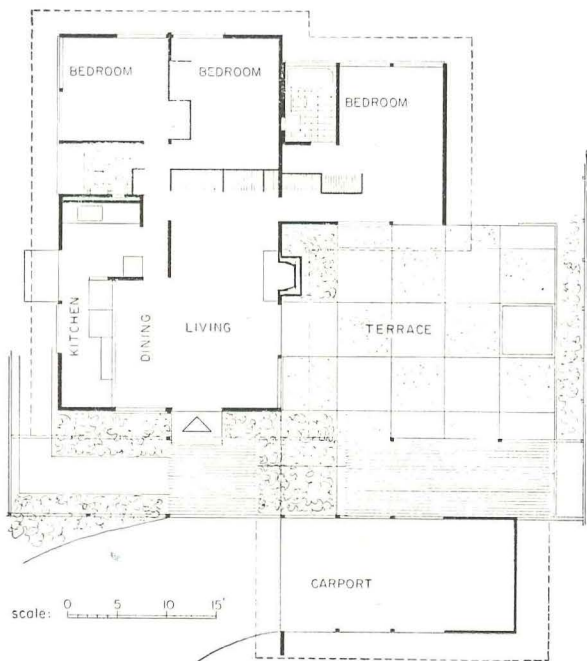




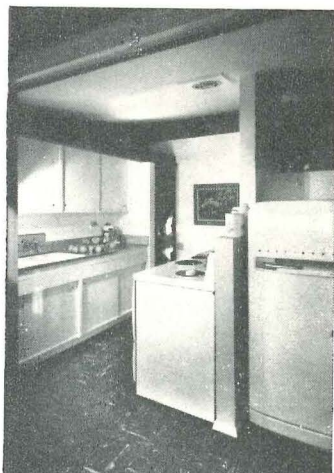
Cross ventilation in two of the three bedrooms, is new feature this year. High windows, 5'-4" x 2'-8", are 52" from floor. Open window at upper right shows how out-swinging sash may be put in any window-wall section.



Frosted glass partition in top photo is optional item which not all builders use. Side walls are only 7' high, yet rooms appear normal height because of higher gable and sloping ceilings. Smooth-finished ceiling of plasterboard is in contrast with rough exposed beams used last year.



Fence-enlosed patio for outdoor living gives houses a luxurious appearance new to low-cost designs, has been an important sales factor. Front fences are supplied by builder but side and rear fences are usually an extra. This model has space heater, most have central heating.



Kitchen has been redesigned to include an eating area, more cabinet space, overhead exhaust fan. Laundry area was moved to adjoining corridor. The partition between living room and kitchen does not go to ceiling, helps to open up plan, make both rooms appear larger.

Construction with panels

is like building a house of Tinkertoy parts

Secret of the entire construction system and explanation of both the low cost and the erection speed is the panel system. The standard panels, all of which can be made on the same jig, are illustrated below at the right.

At the top is the most common panel, used for interior partitions and, with 30 lb. asphalt-impregnated felt and siding added, forms exterior walls. The frame is 5'-3⁷/₈" wide x 6'-8" high. The redwood siding projects 2" above and below. Side members are 2 x 4s, with 1 x 4s horizontal girts and a 1 x 12 center girt. Two 2 x 3s are braced diagonally from the four corners. For additional stiffening, three 2 x 3s are braced behind top, bottom and center girts. The girts provide nailing strips for the dry wall. Thus the exterior wall, including plasterboard, is 5¹/₂" thick. No sheathing is used.

The second panel, which is like the top panel except that it has a vertical 2 x 4 in the center, no diagonals and no 2 x 3 horizontal stiffeners behind the girts, is used for interior partitions where extra bracing is not needed. A few half-width panels are used, which are made on the same jig.

The third panel is the same size as the top one, but is made for outside walls where a window will fill the upper portion.

The fourth panel is a standard four-pane floor-to-ceiling window. It accommodates fixed or movable panes in any of the four areas.

At the bottom is a pair of doors, like the ones used for all exterior openings. These are the same height and width as the floor-to-ceiling windows.

During construction, panels are nailed together, which gives the effect of a 4 x 4 post at each joint. The bottom is nailed 6" o.c. to a 2 x 3 flat plate which is bolted to the redwood sill with two 1/2" bolts per panel. Bolts are 3 1/2' apart. The top plate is nailed to the panels in the conventional way. The plumbing wall is 1 1/2" interior partition panels set 4" apart.

How strong are the panels? Visiting builders have inquired if the exterior panels are as strong as a conventional 2 x 4 stud wall. The FHA office in Washington, and both the city and county of Los Angeles have approved the panels for one-story houses. In its approval the City of Los Angeles reported that a test panel was given a total load of 4,390 lbs. without excessive deflections, with a safety factor of three. "This would give an allowable shear of 155 lbs. per lin. ft. of wall," the report stated. The Building and Safety Dept. of the county of Los Angeles reported "approval of the panel for a horizontal load parallel to the panel of 700 lbs." May says the new panel is three times as strong as the one used last year.

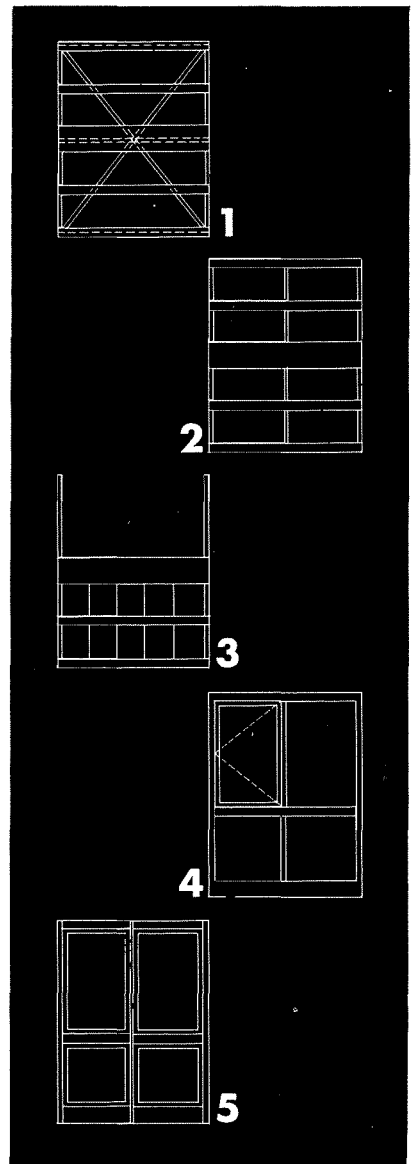
All lumber is precut to needed dimensions. A center-ridge beam and roof rafters go up rapidly, as the photographs on the next page illustrate. Roof sheathing is 3/8" plywood and the roof is 3-ply, built-up gravel.

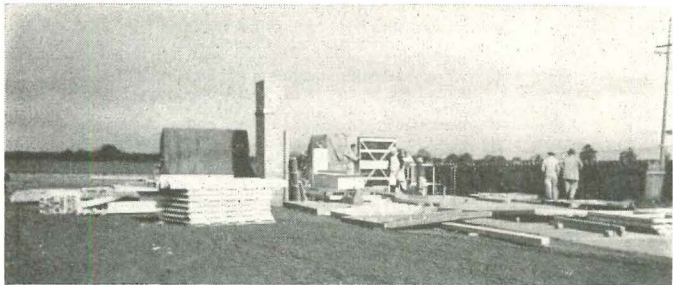
May & Choate buy their lumber from the E. K. Wood Lumber Co. where it is cut to size, packaged and dipped in a preservative which takes the place of one coat of paint. Because the exterior siding is rough and since the 4" battens cover the siding joints, the work can be and is done faster and rougher than by most prefabricators. Nor is it necessary to handle the panels with as much care en route. The entire house construction has been designed with a built-in tolerance which permits speedy work.

Secret of low cost and fast construction are basic panels, right, described above in text. They can be knocked together fast, have a built-in tolerance because of 4" battens that cover cracks in exterior siding. Several dozen variations in floor plans can be made from them. Design of panels is protected by patent pending.

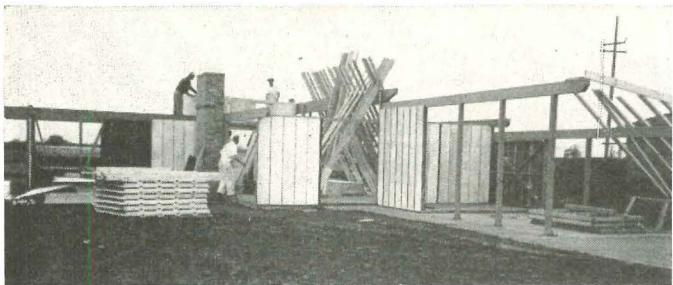
1. Ranch house kit — F.O.B. Los Angeles plus 3% tax. Complete framing, including medium thick reflective ceiling insulation; interior partitions; sash, doors, trim, kitchen cabinets and wardrobes; sink top and splash; gas forced air furnace, thermostat and ducts complete; finish hardware, including medicine cabinet and bath accessories; light fixtures; erection drawings and instructions. Includes carport and storage room	\$3,264
2. Concrete slab 4", layout, lot grading, excavating footings, 6" gravel fill, waterproofing, reinforcing, building forms, furnish form material and strip. Furnish and set foundation bolts. House 1,099 sq. ft. plus storage slab 80 sq. ft. and piers	600
3. Rough hardware	15
4. Rough carpentry labor	107
5. Finish carpentry labor	130
6. Plumbing complete—2 baths—20' setback	785
7. Electrical wiring, kitchen fan, hanging fixtures, install furnace low voltage wiring, 26 outlets, 10 switches, (one 3-way)	170
8. Plasterboard — approximately 180 sq. yds.	175
9. Ceiling installed	130
10. Roofing — 19 squares, 3-ply, built-up and gravel	180
11. Sheet metal and set furnace (18 rafter straps, 250' gravel stop 1 x 2, 4 downspouts, 1 roof jack)	65
12. Painting — structural members and siding mill-dipped	425
13. Bath walls — Tile 4'-0" high x 10'-0" — 2 baths	60
14. Asphalt tile floor "B" — 1,010 sq. ft.	140
15. Cleanup, wash windows and plumbing fixtures	40
16. Driveway and walks — A.C. approx. 550 sq. ft.	100
17. Fence allowance	50
18. Insurance	30
19. Unloading at job site	15
20. Contingency	40
TOTAL	\$6,521
Building permits, etc.	45
Architectural fee @ \$10,000	300
Sales	50
Advertising	25
Loan fee (1 1/2% of \$8,500)	128
Escrow, closing costs	35
Title fee	60
Interest (2 mo. 6% of \$8,500)	85
FHA fees	45
TOTAL	\$7,294

* Firm bids L. A. area for quantity production

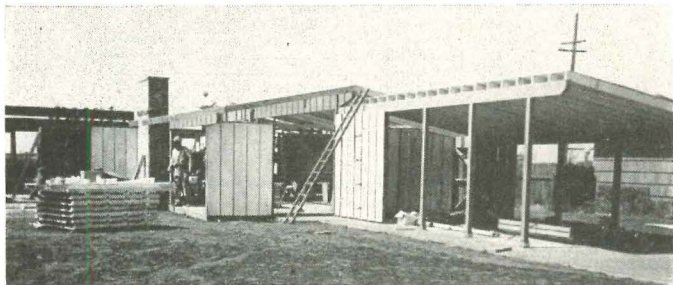




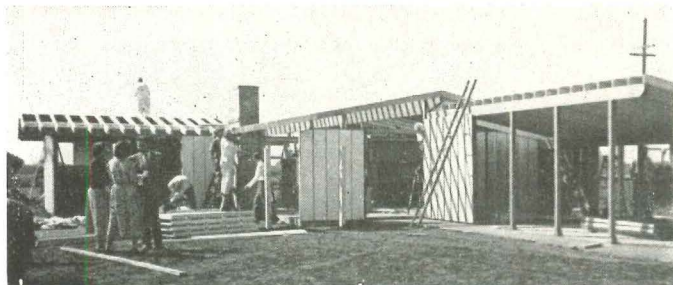
8 A.M. Norlie house prefab, precut parts in piles



10 A.M. Ridge beam, many panels and carport framing up



12 M. Some roof rafters, sheathing, more panels in place



2 P.M. Only a few panels still left on ground



4 P.M. Roof finished, fences up, shell completed

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The details of construction as shown in the accompanying drawings are protected by pending patent.

Builders like new designs, fast construction. Of the dozen or more builders who have houses in production, HOUSE & HOME reporters interviewed several of the first to get started. In Chico, 85 miles north of Sacramento, O. E. Norlie opened six furnished models in May, has been selling at the rate of 1½ houses a day since then. He plans 100 houses there, 175 in other towns. Photos of his construction are at the left.

He builds a two-bedroom house at \$8,250; a three-bedroom at \$9,700; and a three-bedroom, two-bath house at \$10,750. Lots are 65' x 125'. Over half his sales are for the small house, but the two-bath house is selling twice as fast as the three-bedroom with one bath.

Sales Agent, Ray Sims, says: "The public has accepted these houses like no other houses shown before. But either people go all out for them or they don't like them at all. Women usually like them. It's surprising how many older persons get the 'new home' gleam in their eyes."

Norlie discovered that while most people liked the cheerful atmosphere, some thought the windows hard to clean or a hazard for children.

"There is no question that we are underselling our competition," says Norlie. "Our three-bedroom, one-bath house is \$1,050 lower than conventional. Our two-bedroom house is \$1,750 lower. No other two-bath houses are being built here."

He buys only design from May & Choate because he got started before their package deal had begun. He estimates his small house takes 50 man-hours to build; his next size, 80 hours; his two-bath house, 90 hours. He builds in less than one-third the time he used to.

800 houses this year. In their Vista project, 45 miles northeast of San Diego, Builders J. B. Koch, Harold Simon and A. L. Terranova will build 800 May & Choate houses this year. They opened a model in April to try out public reaction, were swamped with phone calls, sold 103 houses before they had begun their tract.

Most popular feature was the large windows, least popular were asphalt flooring and their cabinetwork, which they expect to improve. They believe they will sell 70% in their three-bedroom, two-bath size (1,100 sq. ft.) at \$10,500. Their 836 sq. ft. two-bedroom house is \$8,500, and the three-bedroom, one-bath, 955 sq. ft. house is \$9,500.

They used to take 90 days to build a house, now promise houses in four weeks but can deliver in three. The small house takes 90 man-hours, the large 110. Construction time is already down 43% and they expect to do even better, plan to build two houses a day.

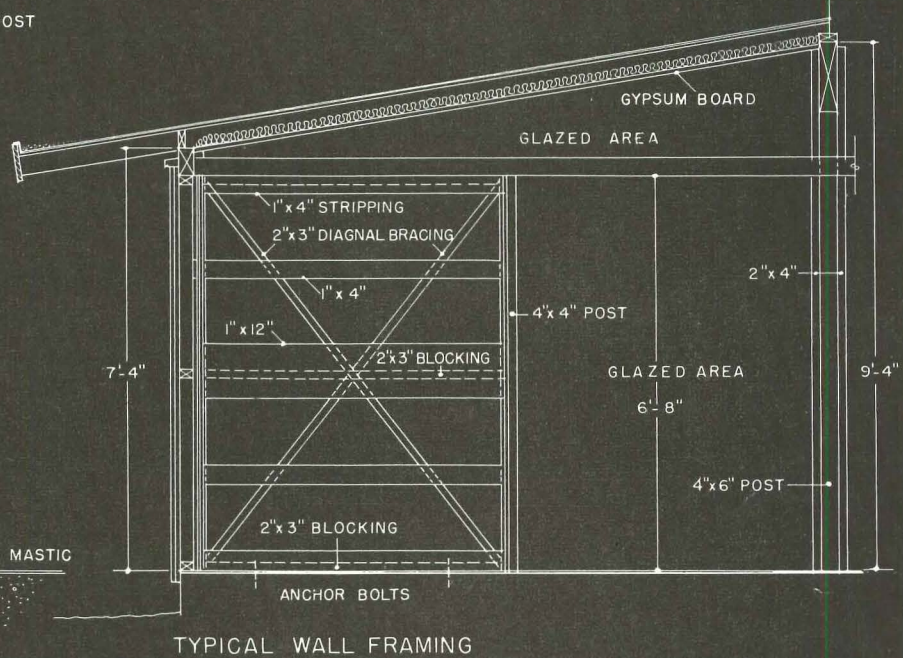
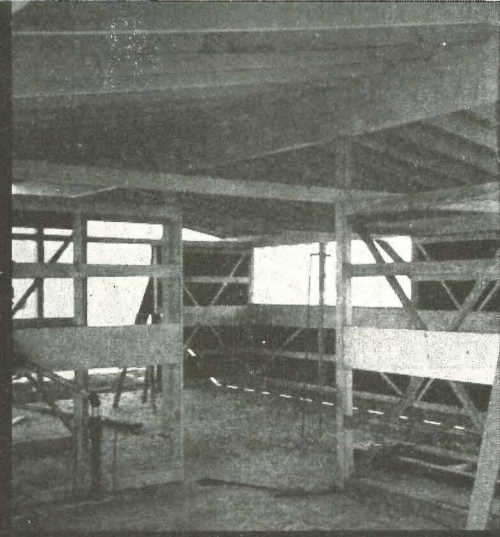
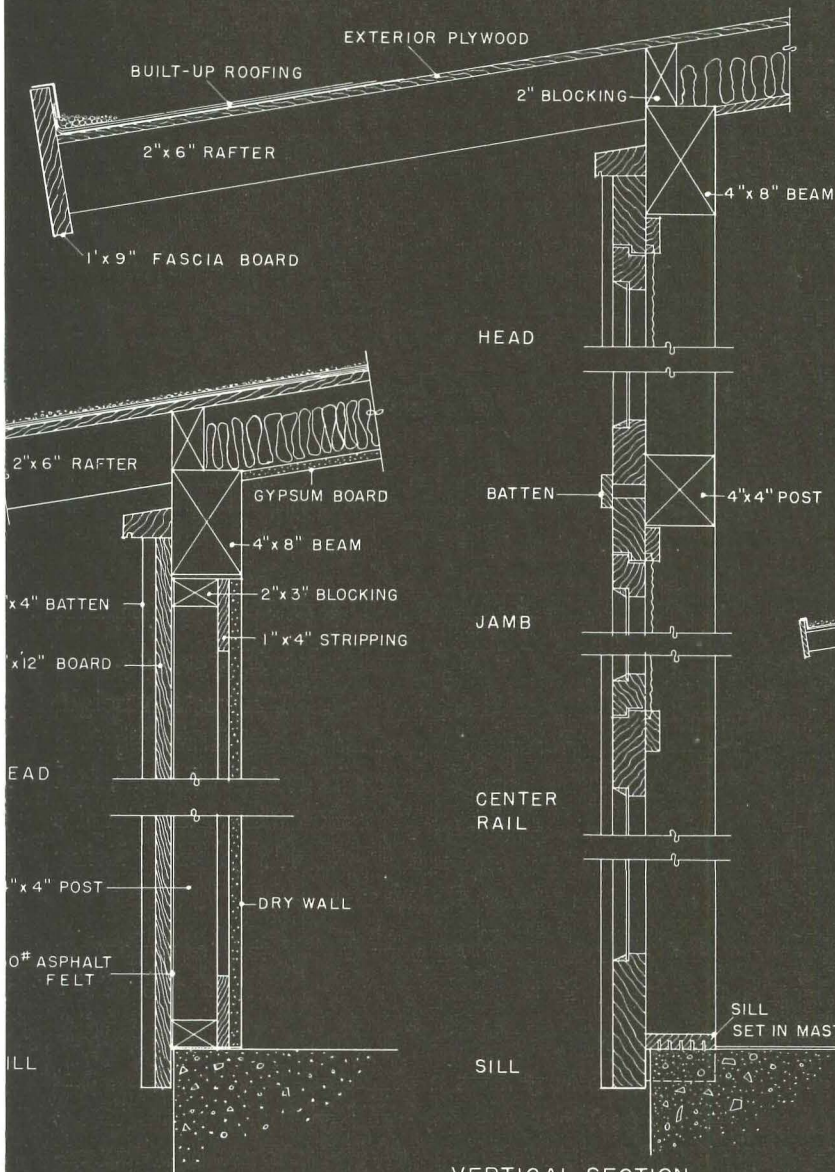
Competition at Lakewood. The Lakewood area near Long Beach is tough territory for a builder because one of the country's three largest building firms has its low-cost operation there. Yet when Builder Ross Cortese first saw the Cliff May houses he junked plans he had completed for 800 houses, bought the May & Choate designs and, with no advertising but his model house, made sales history. Nearly 150 families that had made down payments on other houses asked for refunds to buy his.

Says Dewitt R. Lee of Walker & Lee, who are major sales agents there: "The house is commanding terrific interest and Lakewood builders are worried about it. We predict that Cortese's entire tract of 800 will be sold out before the last foundation is laid."

Cortese builds only the three-bedroom, two-bath house with a de luxe kitchen and sells it at \$11,200. With a production rate of ten a day, his demand for materials was greater than May & Choate could supply with their package deal. Cortese builds conventional walls, uses plank-and-beam ceiling. Publicity from a May & Choate house built on the roof of W. & J. Sloane's Beverly Hills store will help all builders of these houses.

At Bakersfield 45% want two baths. In Bakersfield the MVM Construction Co. will build approximately 1,000 houses in the next year if financing can be arranged. They expect to sell out the first tract of 32 houses in a month or less.

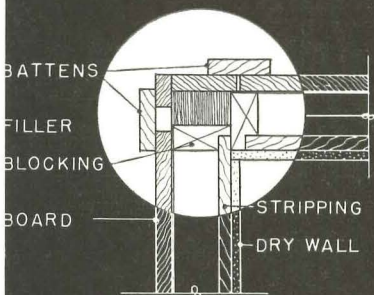
They report that demands are 45% for the two-bath house, 45% for the three-bedroom with one bath, and only 10% for the small, two-bedroom model, a different sales picture from that of other builders. MVM's two-bath house is \$11,950, the middle size \$10,950 and the two-bedroom \$9,950. They estimate their prices are about \$500 under the competition.



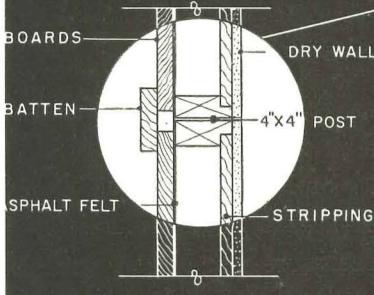
VERTICAL SECTION THROUGH SOLID WALL PANEL

VERTICAL SECTION THROUGH FULL SASH PANEL

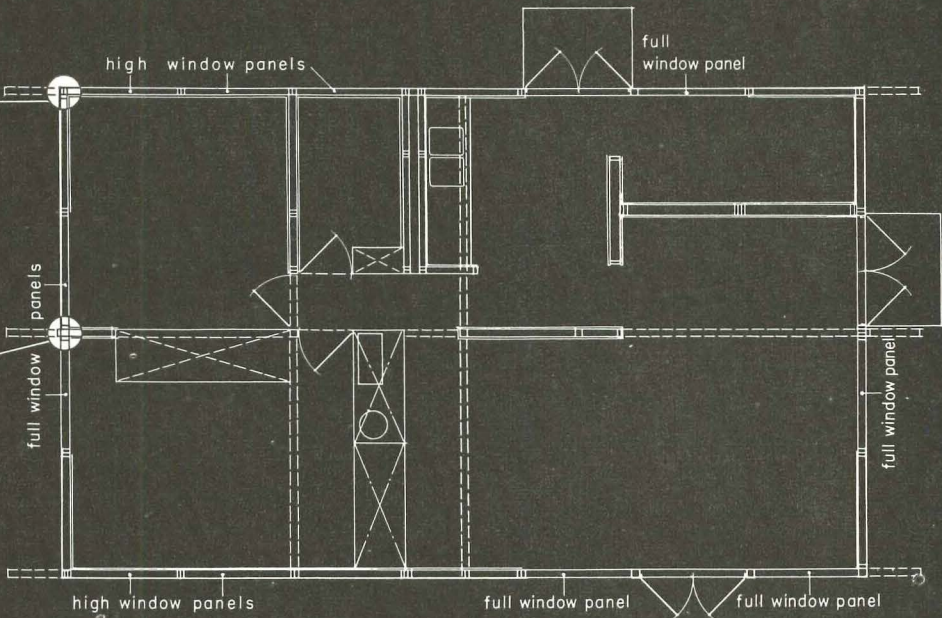
TYPICAL WALL FRAMING

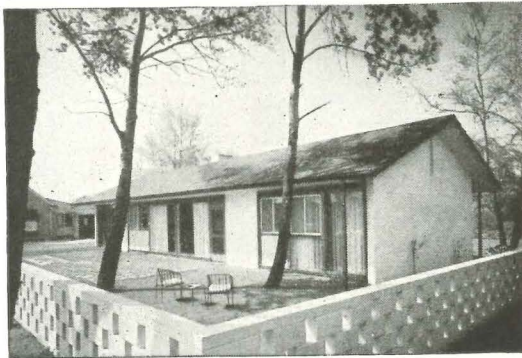
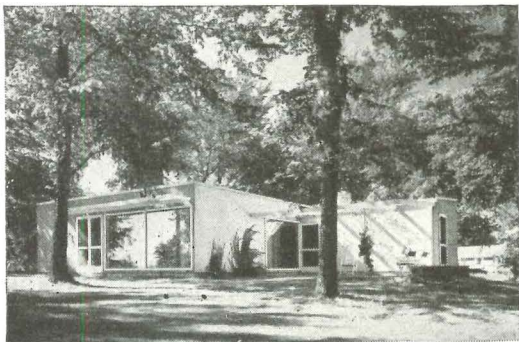
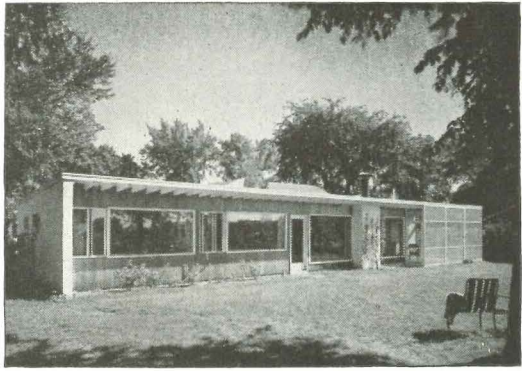


PLAN SECTION AT CORNER



PLAN SECTION AT JOINT OF TWO PANELS





Good and simple

Here are three small houses that make sense in any suburb

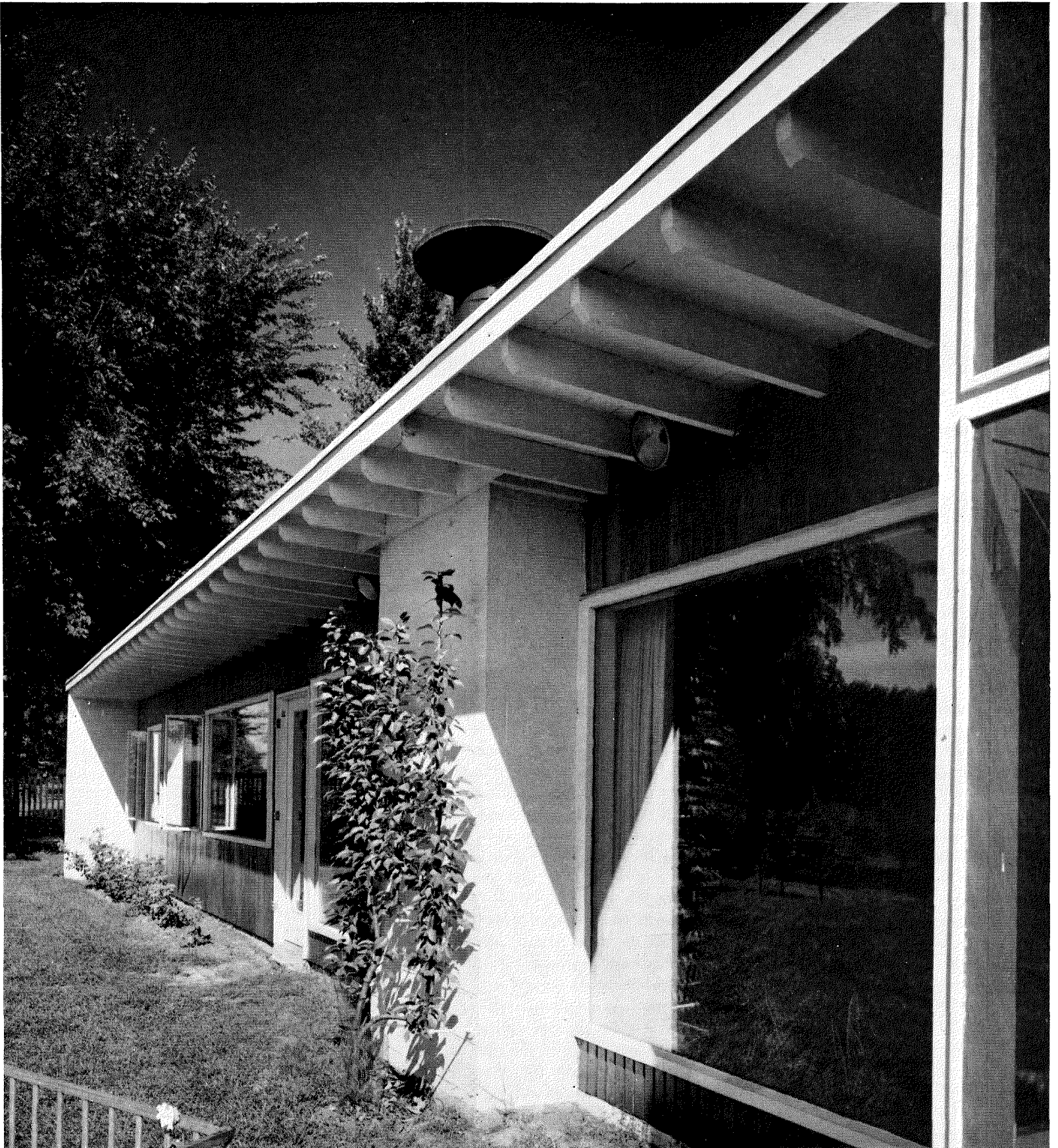
These three frankly modern houses caused a lot of raised eyebrows on Elm Street, USA. But they have opened a lot of eyes, too.

All three were built on small lots, in typical Midwestern neighborhoods, among typical suburban homes. Each one, however, is a better buy than the more traditional houses on its left and right, and the neighbors are finding out why. These houses work better. Despite their thrifty, almost plain appearance, they provide generous living amenities that many of the others don't have:

- ▶ Living rooms that open directly on rear living terraces, porches and gardens, all shielded from the busy street by the shape of the house itself.
- ▶ Kitchens up front where they have a controlling view of the front walk and street, easy access to garage, laundry, utility room. These kitchens are partially open to dining and living areas for convenience and sociability, but can be closed off by folding partitions or roll-down blinds when formality is desired.
- ▶ Large utility rooms, bulk storage spaces and hall closets so necessary to replace the basement space lost in a slab house.
- ▶ Proper location of doors and windows: no side windows (or, at most, small ones) to insure neighbor privacy; carefully studied front windows to provide light and ventilation in the places where it is needed without letting passers-by see in; doors and windows in the *corners* of rooms to give as much uninterrupted wall space as possible for placing furniture out of circulation paths.
- ▶ "Squared-off" plans *and* elevations that give the houses both economies of construction and an orderly, well-knit appearance.
- ▶ Highly practical wall and roof framing systems that allow greater freedom in laying out both floor plans and elevations, eliminate excess materials and labor and allow logical, good-looking exteriors.

Designed from the inside out, these houses are much easier to live in than if the same rooms had been forced into an outdated strait-jacket labeled "Colonial" or "Cape Cod" or "Spanish Ranch." Their "style" is mainly an expression of their sites, their planning, their structural systems—and of sensitive designers who have given a fine personal quality to the designs.

Isn't this a more sensible way to build a house?



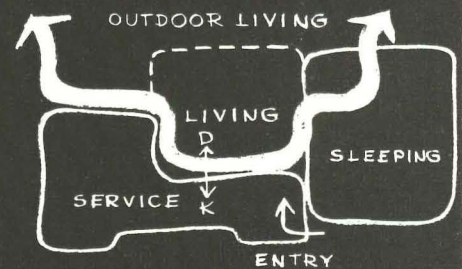
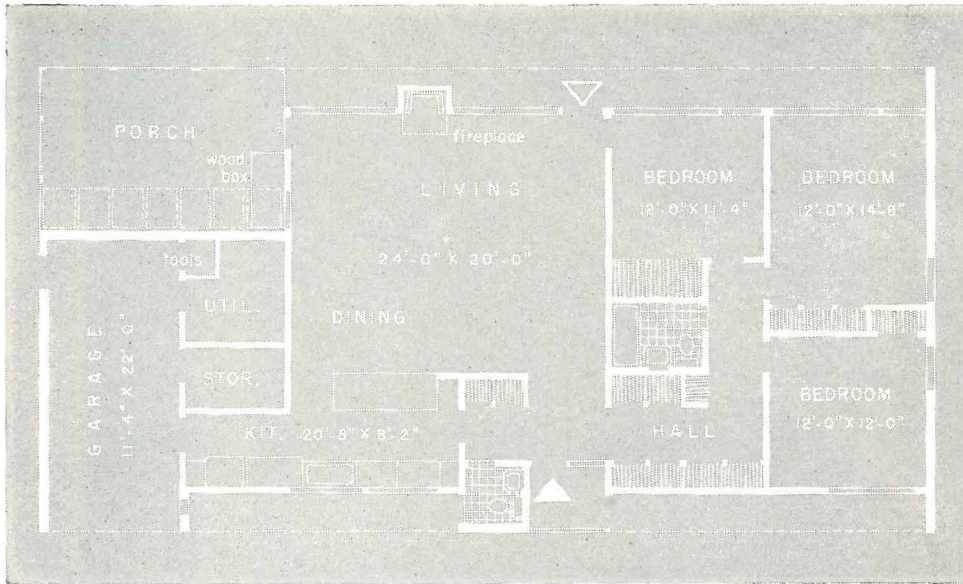
Photos: © Ezra Stoller

"Recessed facade" principle, above, places the living and bedroom walls 3' back from line of roof, end wall and screened porch (right). This makes a visual frame for the main elevations and a roof overhang to control sun and rain. End wall in background acts as a blinder toward the neighbors.

1. A three-bedroom house in Champaign, Ill. by Architect Harry Weese

FRED BUNN, contractor
TOTAL AREA: 2,260 sq. ft.
COST: \$24,000

GOOD AND SIMPLE



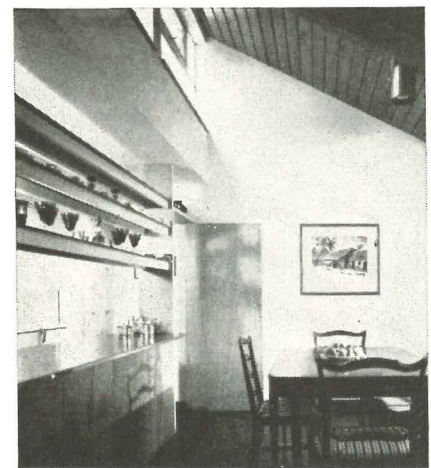
The project was a common kind: to design a house for an 85' lot on the south side of the street, keep it private from houses on adjacent and facing lots, provide facilities for outdoor living on the south, and protect the house from cold north winds in winter. The clients—a university professor, his wife and college-age son—had an aversion to anything rustic or overgrown with planting.

The house reflects the client's New England background and love of orderliness, plus a good many principles that can be applied profitably in planning any small- or medium-sized suburban house, whether it has a flat roof and unorthodox windows or not. (The flat roof looks fine under these big trees.)

The plan (above) is a 35' x 67' rectangle, long sides paralleling the street and recessed from the outer perimeter to give the big windows a protective roof overhang. The plan diagram shows how the three major zones of the house are properly separated and arranged in relation to each other. **Service zone:** the kitchen is in front with a view of the street and main approach, immediate access to dining room, front door, garage and back door. (Its in-line layout, however, might be criticized on the grounds that it makes a traffic corridor of the kitchen.) A hall lavatory, desirable in this size house, is located where it is equally convenient for guests and for the housewife working in the kitchen. Areas which do not need windows are placed to good advantage: the garage toward neighbors on the east, the utility, tool and storage spaces (totaling about 100 sq. ft.) on the interior of the plan, yet near the back door. In this deep plan the garage is kept up front, providing sheltered space behind for porch living and dining off the main living room. **Living zone:** the living room, screened porch and study-bedroom are all oriented south and opened up to the garden view, winter sunshine and summer breeze. **Sleeping zone:** two of the three bedrooms have the living room's advantages of orientation to the south; the two that share the end wall of the house have small slit windows toward the neighbors. Note in the plan how these windows are located in the corners directly opposite the doors instead of in the middle of the rooms so that they 1) leave more continuous wall space for furniture, 2) cannot create a chilly downdraft over a bed, and 3) can be opened and closed without reaching over furniture. This end wall of concrete block with its small windows also offers good protection against hot afternoon sun from the west, and its spur extension 3' beyond the front and back walls of the house yields still more privacy, helps unify the appearance of the elevations.

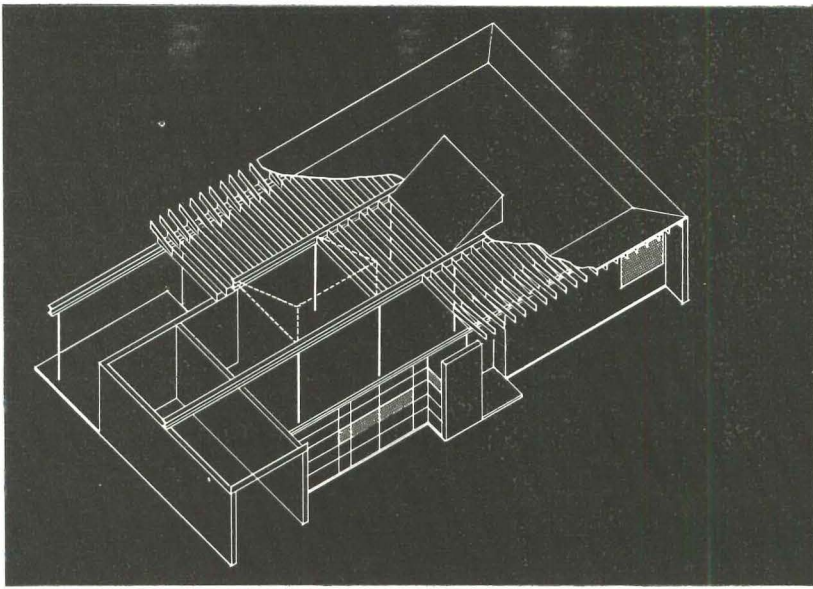
Special features include a fan in the hall ceiling, housed in a small penthouse on top of the atticless roof, which creates a forced draft through the whole bedroom wing on hot summer nights. The hall closets on the front outside wall are raised 6" off the floor so that a course of glass block under them can cast just enough floor-level light to illuminate the windowless hall. A two-way package receiver (a manufacturer's stock item) is set into the garage wall for deliveries.

Good room placement: living areas, bedrooms are away from street, facing south; garage, kitchen, hall on street side; bath, storage and utility on interior. Note storm-door vestibule toward north wind.

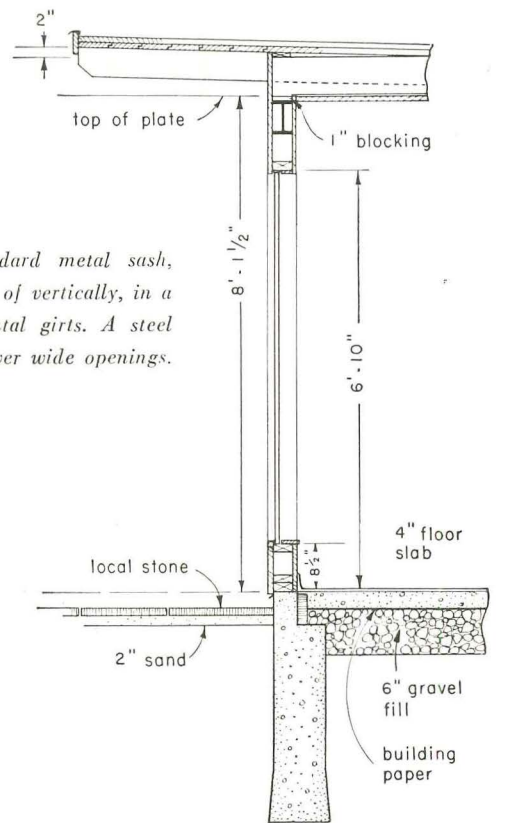


Clerestory skylight helps light and vent dining area, which is deep in middle of plan, and kitchen (left), which has only slit windows facing north toward street.

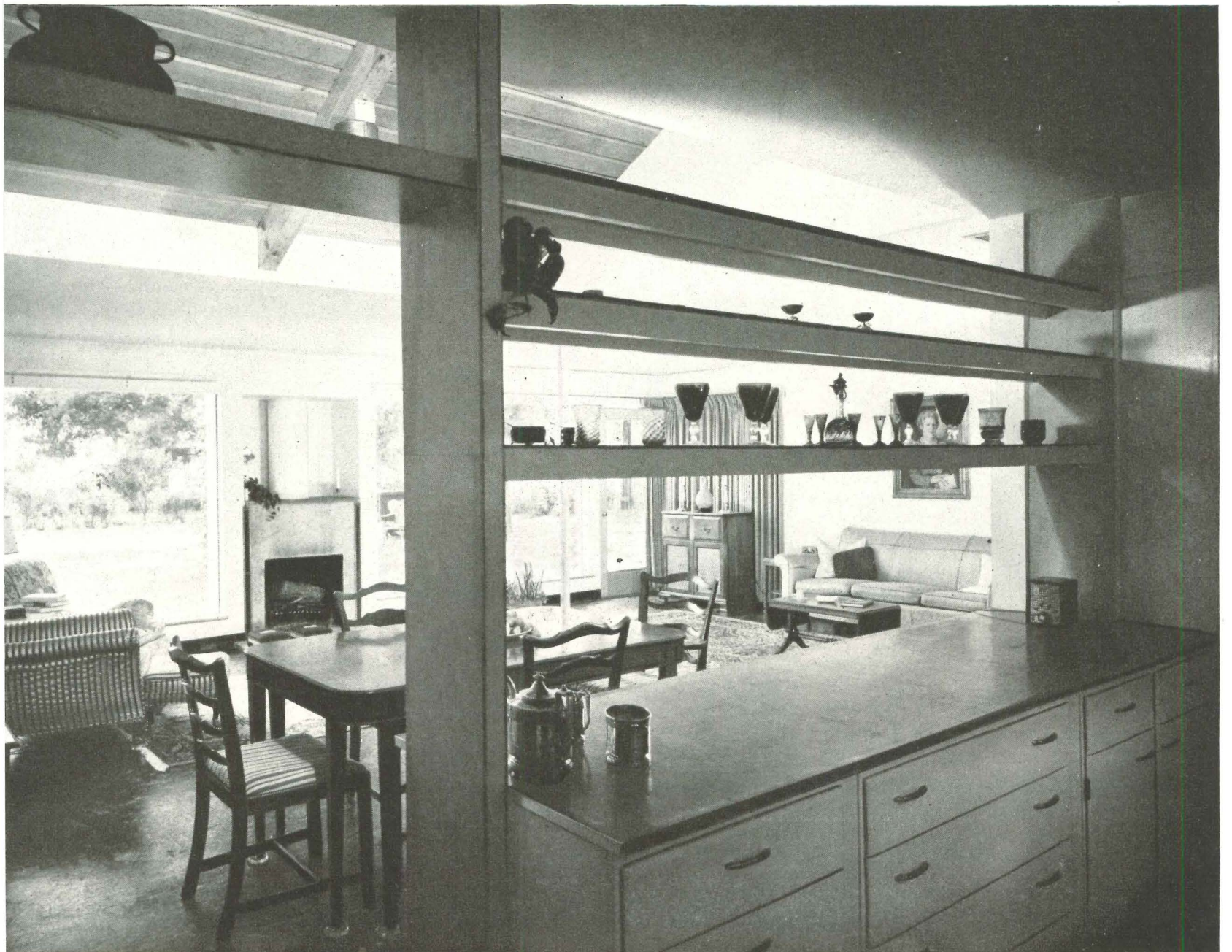
Open shelves, housing tableware, separate kitchen from living, dining areas (photo opposite). Fireplace, recessed in wall niche which projects outside, has bluestone facing, exposed flue of cement asbestos.



"Tray roof" has outriggers pitched up 2", drainage toward the center and down a single leader at garage end of house. Overhangs require no gutters, are drip and icicle-proof. Roof is framed with 2 x 8 joists hung on two longitudinal I-beams, which are supported on 4 x 4 posts 12' o.c.



Wide windows are standard metal sash, laid on their sides instead of vertically, in a grid of studs and horizontal girts. A steel I-beam carries roof load over wide openings.

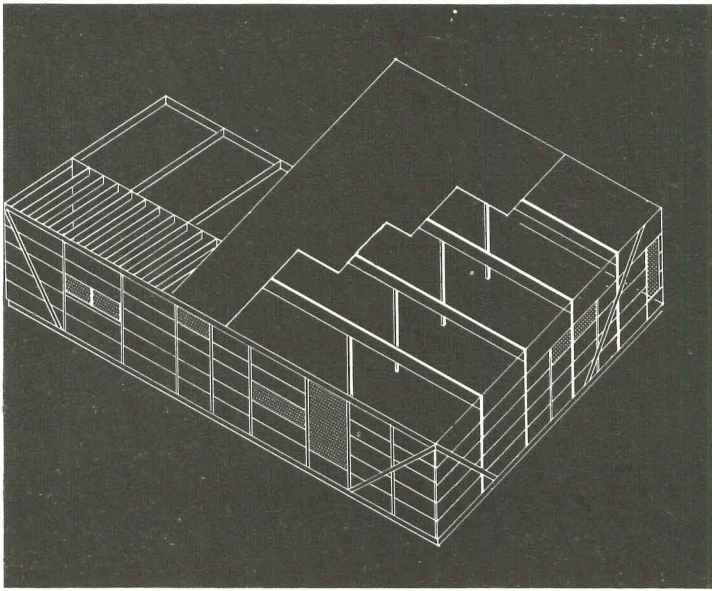




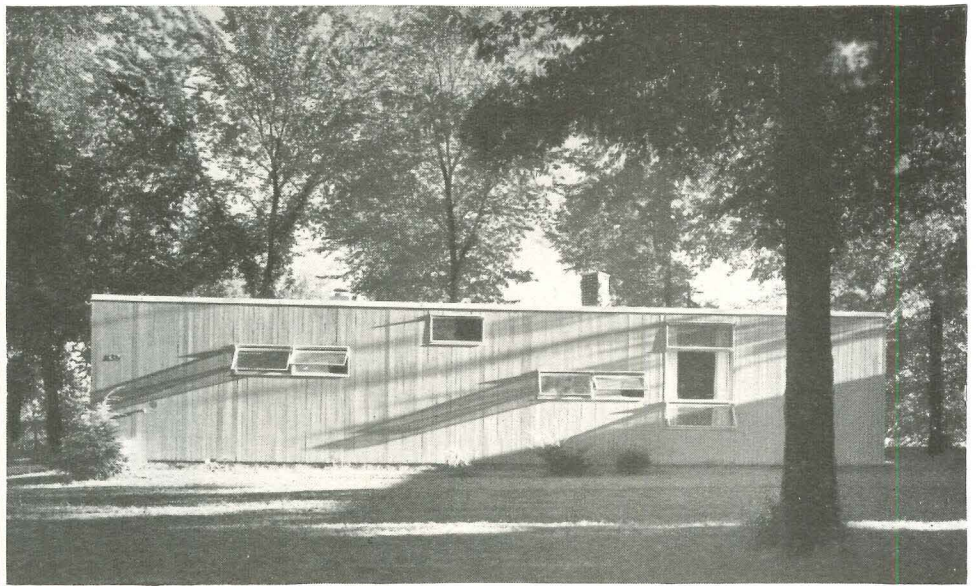
Slatted sunshade over big windows on the south side projects 3'-6" from outside wall to keep sun's direct rays out of living room in summer, admit them in winter. Rain can get through slats to water lawn directly underneath. Shade is made of 1 x 6's bored at 45° angle, slid onto 7/8" diameter rods.

2. A second small house in Champaign by Architect Weese

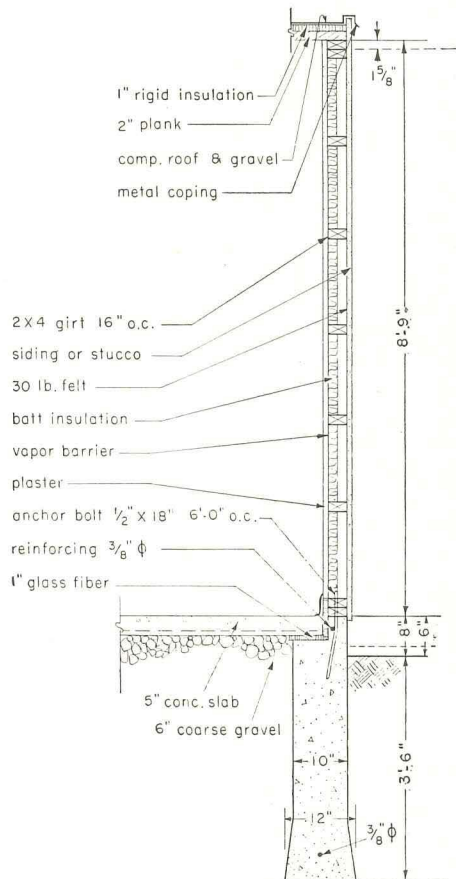
EMORY KNIPE contractor
TOTAL AREA: 1,012 sq. ft.
COST: \$12,500 excluding land, fees



Post-and-beam system: 4 x 12 wood beams, resting on 4 x 4 posts, span 14'. Brick partition is nonbearing. Siding or stucco lath is applied directly to 2 x 4 horizontal girts, which permit easy placement of slit windows (see photo right).



Street facade shows how well a flat roof can look when set off by vertical lines and spreading foliage of tall trees.



Typical outside wall is a grid of irregularly spaced studs and regularly spaced horizontal girts to which siding or stucco is applied without sheathing. Back of siding is covered with felt to assure a weather-tight wall, and 1 x 6's are let into the studs diagonally for wind bracing.

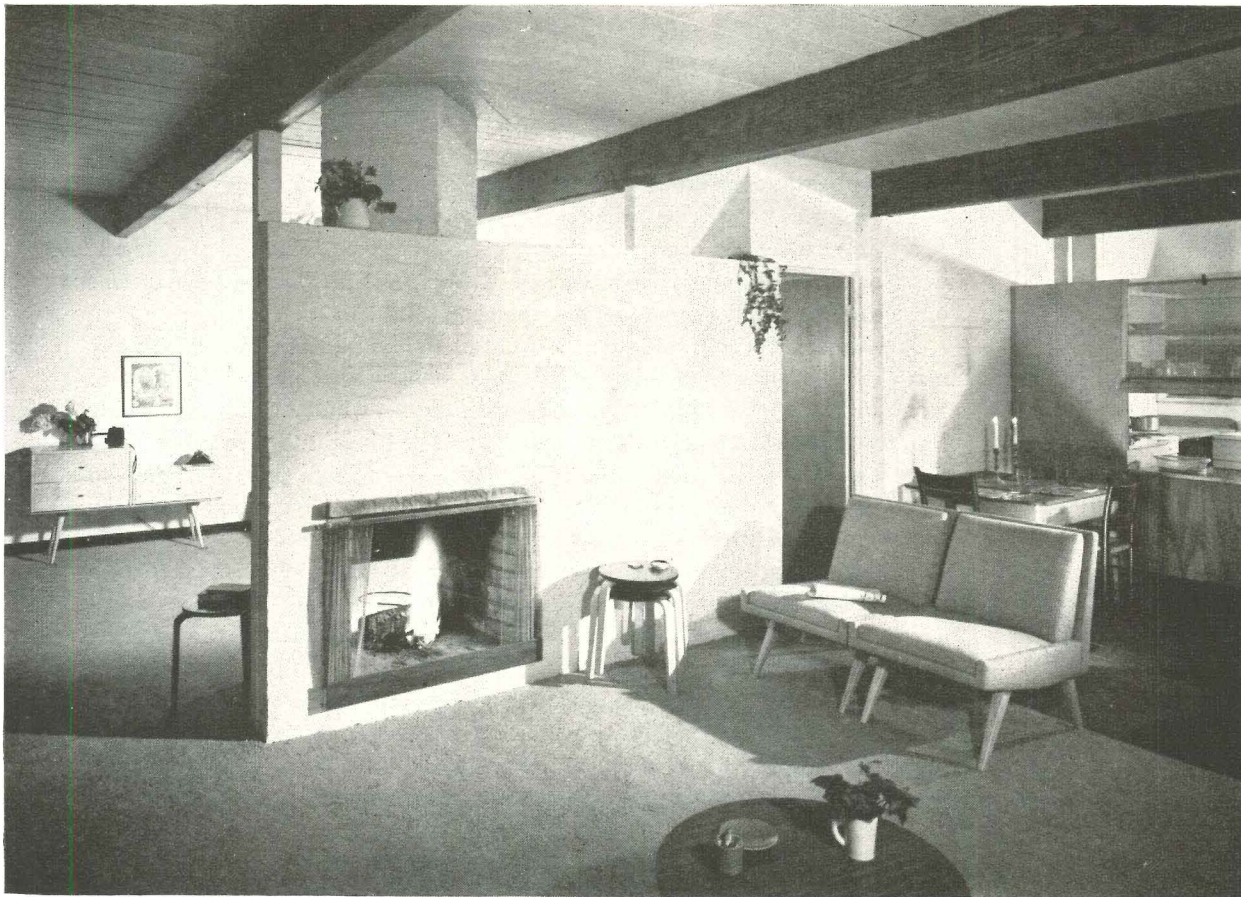
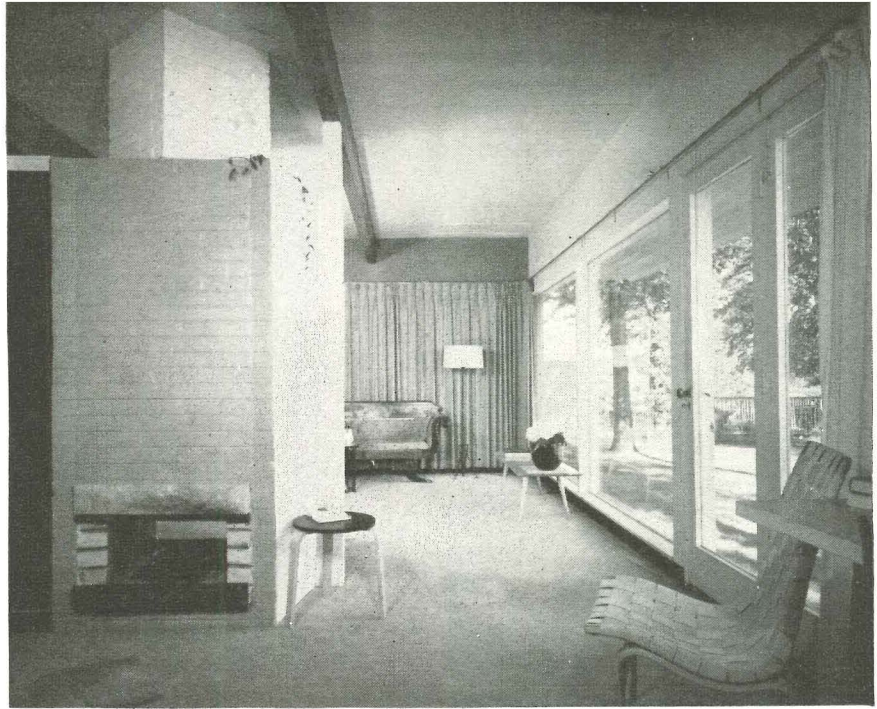
From the street side (photo above), this house shows exactly what it is doing: turning its back on traffic to enjoy something much more pleasant and private. What it looks at is its own back yard (photos opposite and next page), a secluded and sun-dappled place with a little pool, a lawn and a flagstone terrace crooked in the arm of its floor plan.

No, those aren't gun ports on the front of the house. The owner isn't any more misanthropic than other people who want a little peace and quiet to relax, or study, or entertain. Actually, the little slit windows with the awning sash are placed in the right spots and at the right height to give just enough light, view and ventilation to the particular spaces behind them: from left to right, the utility room, the entrance hall (one window above some wardrobe closets), the kitchen sink, and a big window for the bedroom. The "picture windows" are generous, floor-to-ceiling sheets of glass on the back of the house where they have something worth-while to look at—in this case tall trees and neighboring farm land. With the posts and horizontal girts of the framing system (diagram above), slit windows were easy to put anywhere they were needed, without complicated cutting and framing around them. The placement of the windows may seem to run counter to the good planning principle of lining up your window heights. But here the heights are varied decisively enough to create a unique pattern in themselves.

The structural system is similar to the house pictured on the preceding pages: post-and-beam on the interior, outer walls of studs and horizontal 2 x 4 girts. The roof is framed with big 4 x 12 fir beams, 6' apart and resting on 4 x 4 posts which follow the line of the brick partition down the middle of the house between living and bedroom areas. The roof is sheathed by 2 x 6 decking, vapor barrier, 1" rigid insulation, topped with built-up roofing and crushed limestone. The use of horizontal girts in the outside walls speeds up erection time, according to the architect, by allowing the siding to be nailed directly to the frame. Instead of sheathing, 1 x 6 diagonal wind braces are let into the studs and the walls lined with 30 lb. saturated felt, lapped 12" and stapled to the back of the vertical siding for a tight windseal. Further insulation is provided by wool batts with an integral vapor barrier (see section).

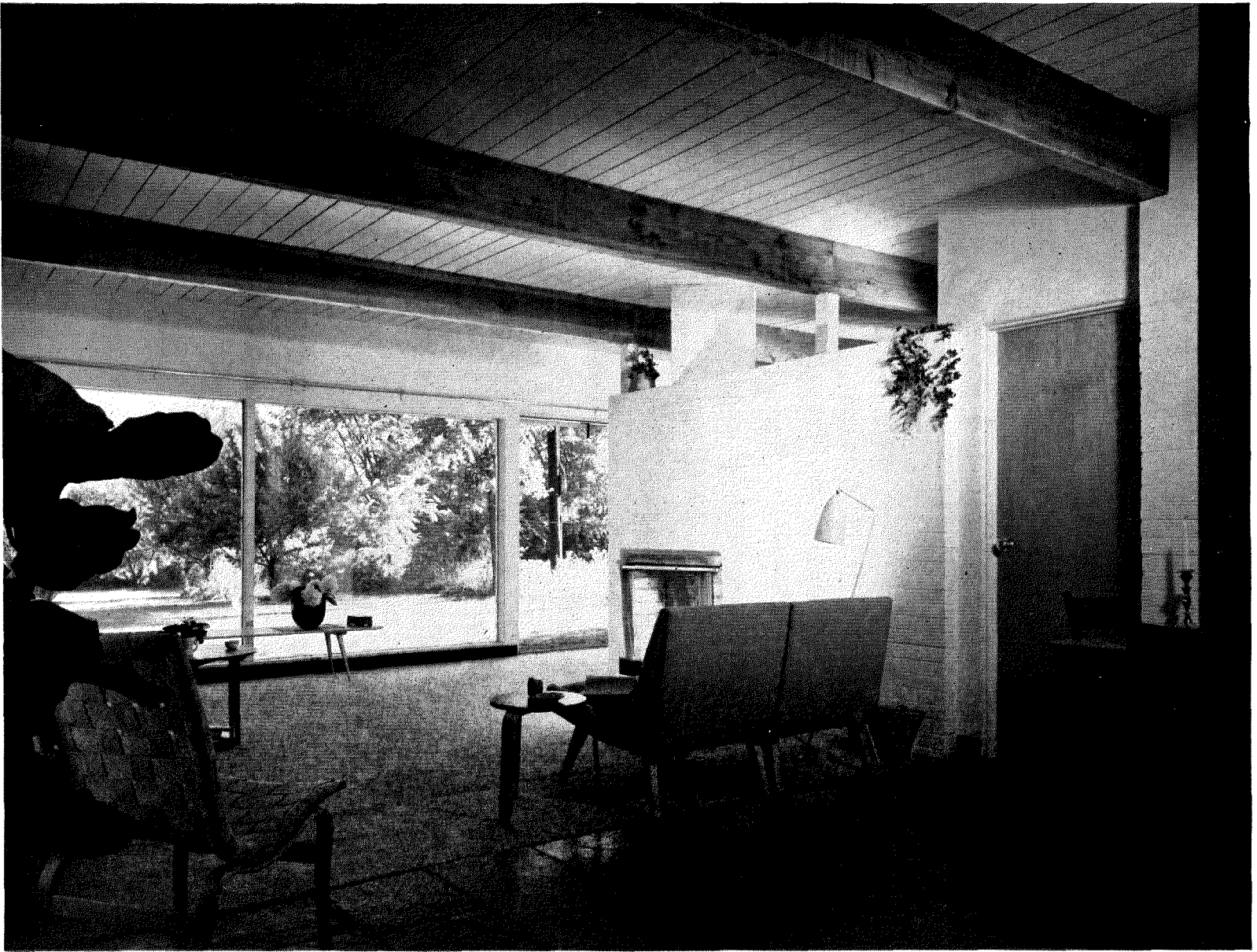
The floor plan (p. 107) shows how a storage-utility wing added to a simple square plan created an entrance and living patio on the sheltered side of the house facing south. For complete seclusion, the front door is around back, behind this wing.

Study-bedroom is open to living room, background, and to rear garden at right. Due to makeup of family (mother and ten-year-old girl), this room does not have a folding partition to shut it off. Fireplace has small opening here.

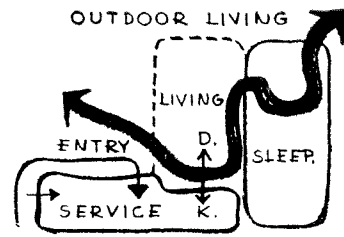
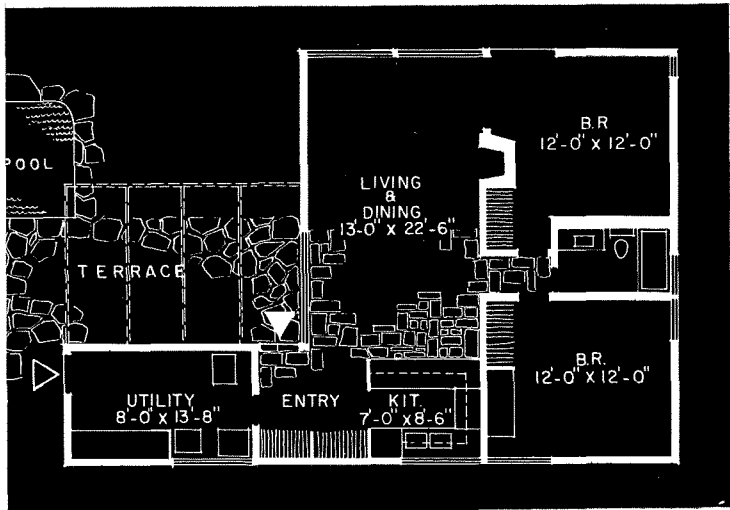


Large opening of fireplace faces main living area. Door at center leads to small bedroom hall. Open kitchen at right has partition that stops short of ceiling for more light and feeling of space; a bamboo blind closes it off.





From the entry, view across dining and living room frames the woods and farmland to the south. Heavy beams carrying through into adjoining room accent both the structure and the openness of the plan. Floor of entry hall and dining corner, where heaviest traffic occurs, is of flagstone.



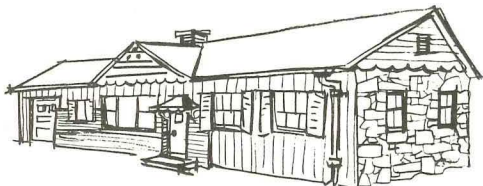
Square plan is economical; utility wing shields terrace and pool from street (photo opposite). Windows are in corners of rooms, leaving maximum wall space for furniture. Kitchen has control of street approach, front door, dining area.



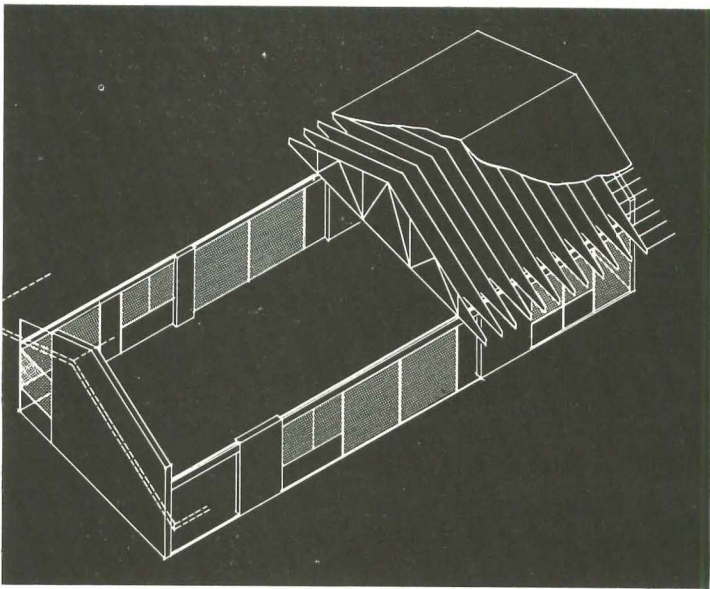
Privacy is assured by placing house 85' back from street behind 4' wall which encloses south-facing terrace. This wall, of standard cinder block laid 6" apart for pattern effect, lets breezes through, has the same effect as a window sill—outside the house—for the “open” floor-to-ceiling glass.

3. House in Grosse Pointe Woods, Mich. by Architects Leinweber, Yamasaki & Hellmuth

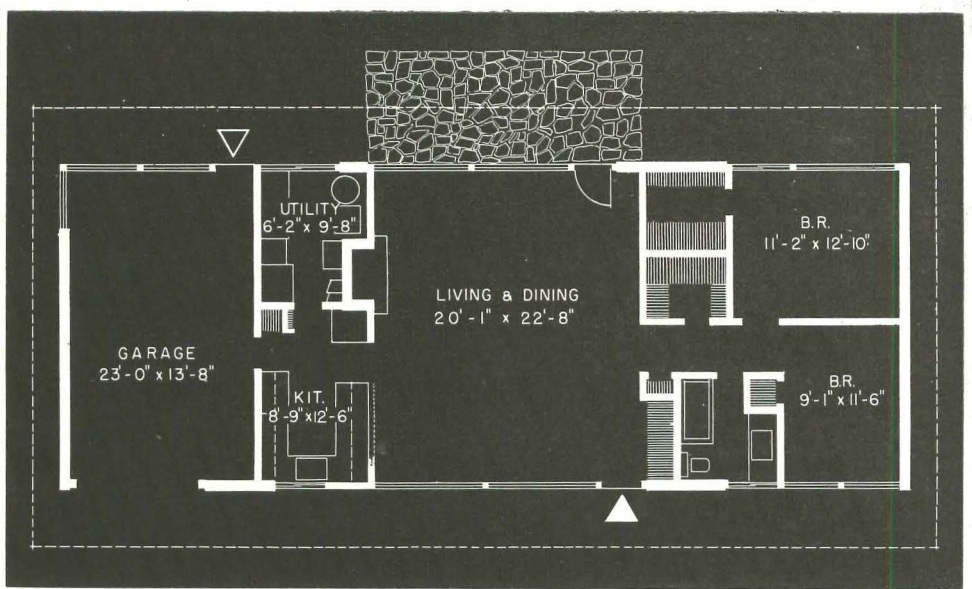
MAURICE V. ROGERS CO., contractors.
 TOTAL AREA: 1,536 sq. ft.
 COST: \$22,000.



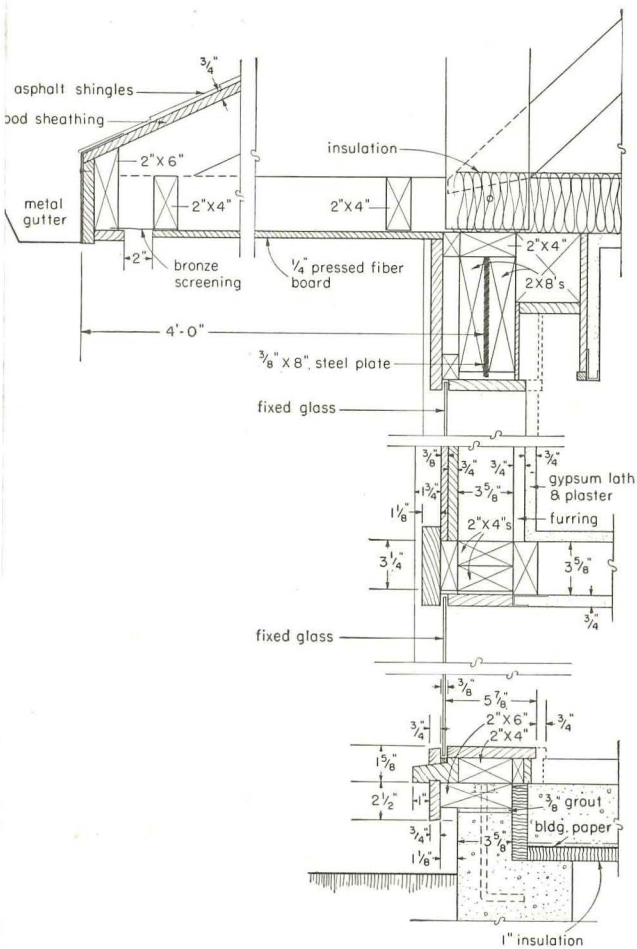
For contrast, here is what might have happened with the same house plan: windows at different heights with frame and siding cut to fit around them, fake shutters, false gable with different siding, a token amount of brick or stone veneer laboriously fitted around front door. On end wall: cheaper siding, plain windows facing neighbors, practically no roof overhang, leader bent back and bracketed to wall. Result: added cost and confusion.



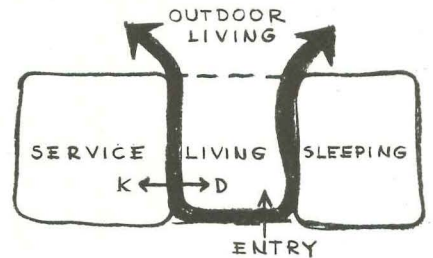
Stable structure is a nonmodular post-and-beam frame, braced by end walls and side-wall piers of cinder block, supporting a modular series of 32' roof trusses 2' o.c. on a heavy top plate. Trusses have 4 x 4 chords, 2 x 4 and 1 x 6 ties. Hot-air supply ducts are in attic, returns in floor slab.



Main room of plan has front and back exposures, circulation out of furniture areas and kitchen work area. Storage facilities on slab are adequate for owner, who lives alone. Needed: an entry "hall."



Section through frame wall: doubled 2 x 4 posts support doubled 2 x 8's under top plate. Over 8' wide openings on front and back of garage and living room, this becomes a sandwich beam with steel flitch plate added. Jamb section shows plywood panel on one side of post, fixed glass on other.



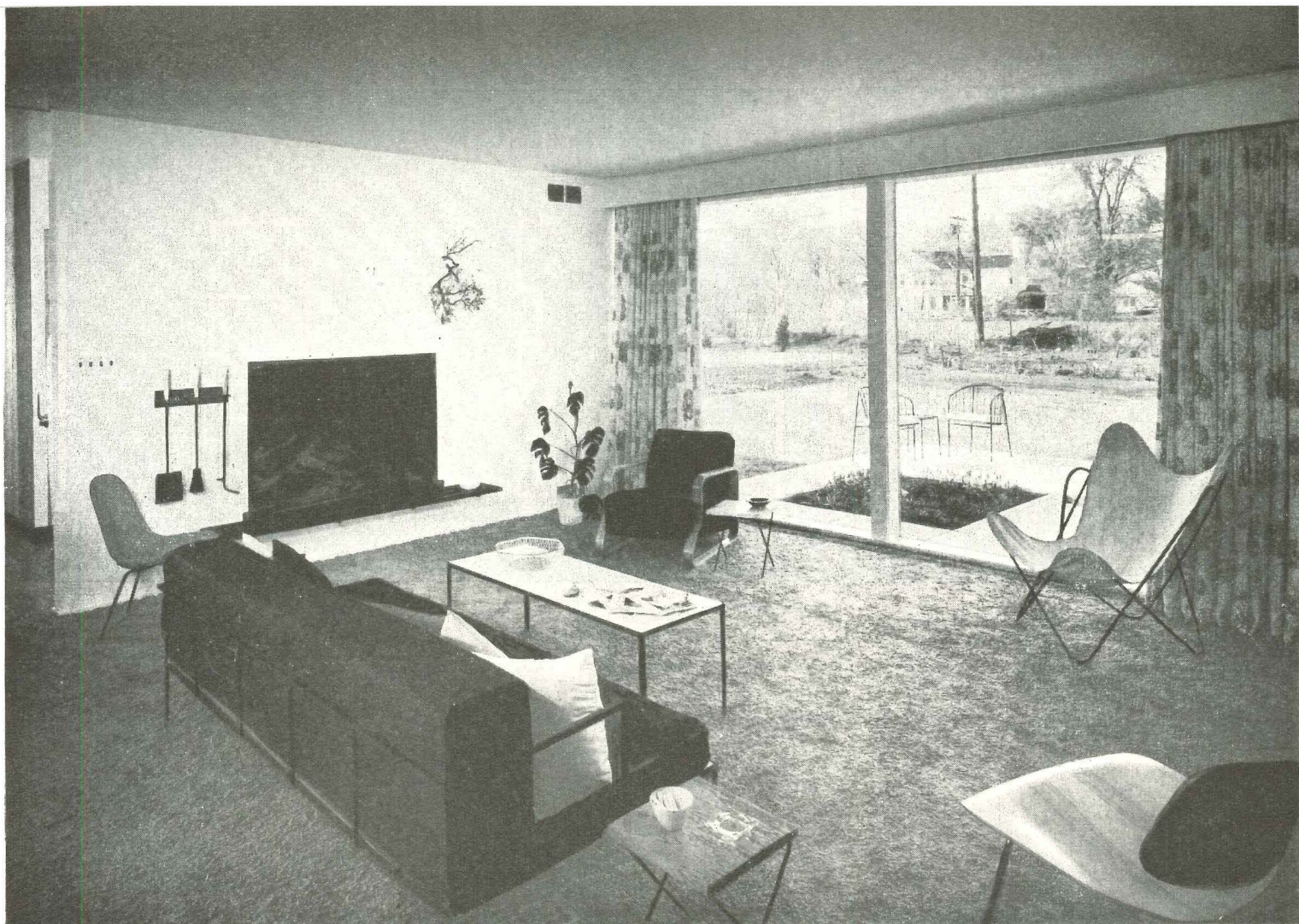
This house is nothing but a collection of big, simple and well-integrated rectangles. The floor plan, above, is a 24' x 64' rectangle zoned into three large squares for service, living and sleeping areas, which are in turn broken down into their component rooms. The walls (see photo opposite) are subdivided into floor-to-ceiling rectangles: post-and-beam frame units alternating with solid walls of cinder block.

Why rectangles? Because, in plan they economize by standardizing dimensions and speeding up labor; in elevation they do this and more—they give the house an over-all look of coherence and sturdiness, a visual unity that keeps its various elements from seeming to fly apart.

Around the perimeter of the slab stand six vertical panels of masonry without any windows in them. Two are the end walls of the house toward the neighbors; the four narrower panels were also placed where windows are not desirable; part of the garage, bathroom and entry closet on the front wall; the bedroom closet and the furnace on the back. With these heavy walls spaced so as to give lateral stability to the house structure, the rest of the exterior was enclosed with lighter frame panels that extend from top to bottom plate. These frames are in turn broken down into smaller rectangles where necessary: doors where access is required, fixed glass where light and view are wanted, standard aluminum casements for ventilation, opaque plywood panels where furniture, kitchen or bathroom equipment come up against the outside wall.

Result of this design system is a complete and orderly separation of materials into adjacent rectangles. At any given point around the exterior the wall is either *all block* or *all frame* from foundation to roof line, never a mixture of both. Contrast this principle of vertical "panelization," used in varying forms by many architects, with the more complicated and costly "mixed" facades that some builders still use in the name of visual interest (sketch, opposite page).

The posts of this wall system are not spaced on any regular module, so the architects used an extra-heavy top plate to carry the regular 2' o.c. roof trusses whether they occurred directly over a post or not. These trusses, which satisfy a local requirement for a minimum roof pitch of 5-in-12, give a clear span of 24' from wall to wall, project 4' front and back to form a protective overhang against sun and rain. On the ends, outriggers carry the roof 2' beyond the windowless walls. This relieves the plainness of the walls by casting a deep shadow line, and accents the length of the house and the sheltering quality of the roof.

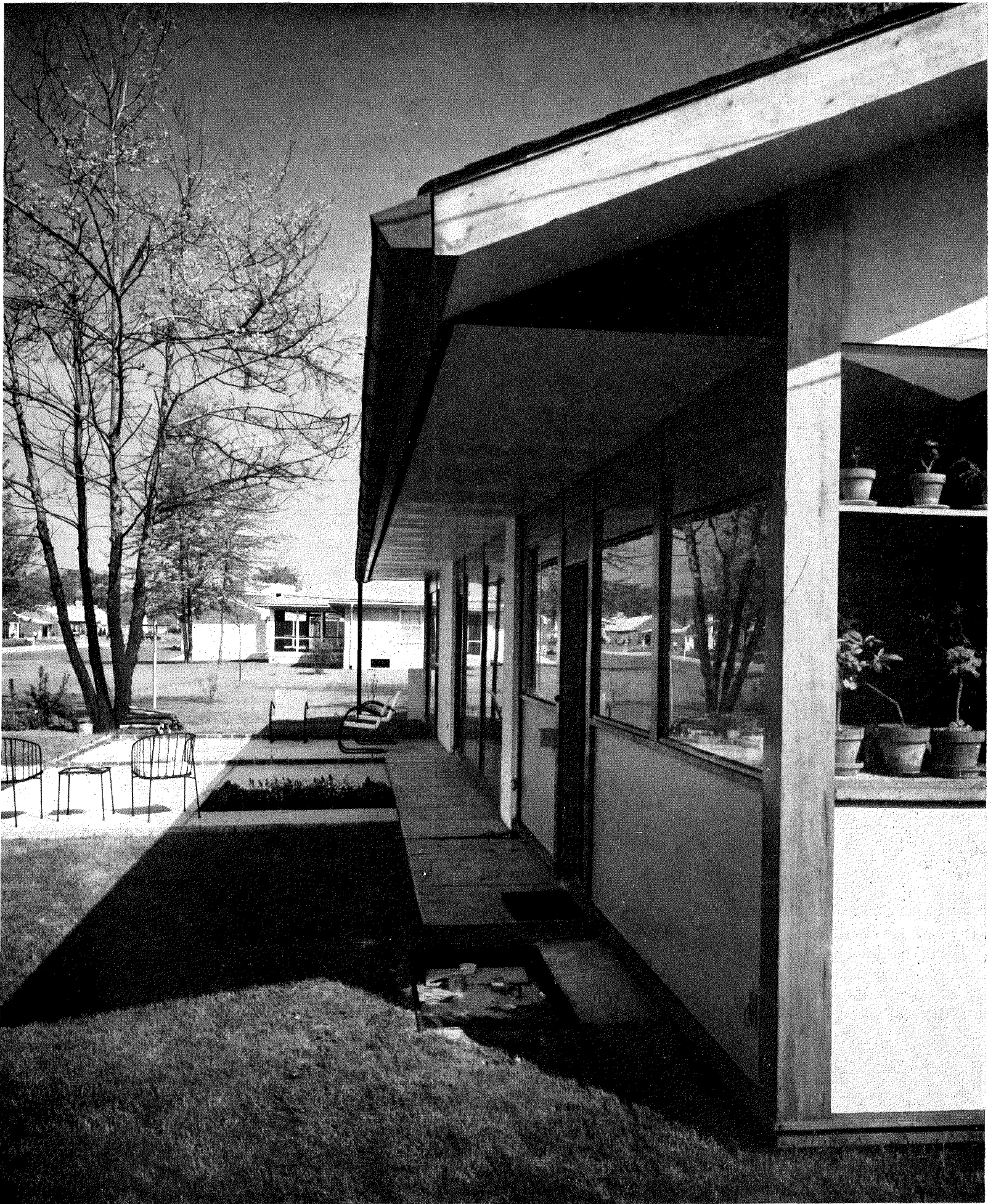


Glass wall and door (at right) open the 21' square living area to its outdoor living space in back of house. Raised fireplace set in plaster wall 15" above floor extends its hearth 1' into room with a shelf of flattened expanded metal. In kitchen (left) and entry (behind camera), floor slab was thickened $\frac{3}{4}$ " so that rug in living-dining room is flush with uncarpeted areas. Note high wall register near window.



Open kitchen has efficient U-plan, plenty of continuous counter space, big windows up to top plate with view of front terrace and approach. Cabinet above pass-through has sliding hard board doors on both sides, hangs on black angle-iron posts. Stock folding partition, left, closes kitchen off.





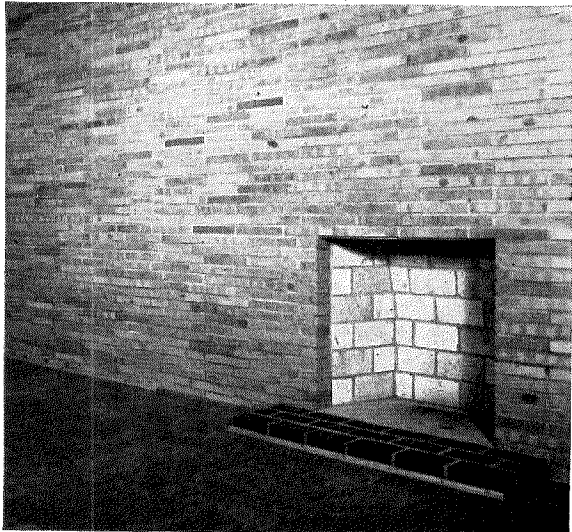
Windowed work space in rear of garage is used for odd jobs, potting, garden tool storage, has its own door to terrace and garden in back of house. Living room opens on concrete area designed for future screened porch. Note wide 4' roof overhang, underwindow panels of gaily painted plywood.

Land developer—builder—mortgage banker

**starts with raw land, builds 150 houses a year,
handles mortgages for himself and associated builders**

LOCATION: Charlotte, N. C.
GEORGE GOODYEAR, builder
EMORY HOLROYD, architect
1,000 sq. ft. house: \$10,100
1,130 sq. ft. house with 1½ baths: \$11,500

Photos: (below & top p. 113) A. K. Summirville



Smart merchandising program of George Goodyear usually includes a sales feature such as this massive brick fireplace wall between living room and kitchen, which no other builder in town is using. See also photographs opposite.

When 32-year-old George Goodyear moved from Pittsburgh to Charlotte, N. C. in 1945 he was full of bounce, had loose change jingling in his pockets from defense housing and other building business and had, for a young man, a surprisingly wide background of 13 years in real estate and building including two years as president of the builders association.

After a year of building prefabricated houses in Charlotte he was convinced that: 1) he wanted to build his own houses; 2) he would have to become a land developer to create the good lots he wanted; and 3) he could get many benefits from operating his own mortgage business.

This took time. He got his mortgage business started in a small way in 1947 and later began buying the raw land he hoped would some day become his neighborhoods.

"I went into the mortgage business the same way other builders go into the building supply business," he says. His building operations soon benefited from advantageous financing, more efficient building methods, and there was profit from being a financial wholesaler to other builders. Goodyear now handles about \$10 million in mortgages for some 30 other builders in the South plus the financial paper on his own 100 to 150 houses a year. He has reaped many by-products.

As a mortgage man dealing with builders throughout the Carolinas, Goodyear learned to study builders' houses and assay their future worth. He learned which factors create permanent value and which are as fleeting as a poor paint job. From contacts with insurance companies and banks he discovered what they look for—what kind of builders and what kind of houses. He learned to wrap up a project in a neat, attractive bundle and present it in visual form so that VA, FHA and the bankers could see its possibilities. In short, he learned the mortgage business as he grew up in the building business.

Last summer at a Trade Secrets meeting he said: "We've got lenders standing in line for our VA mortgages." His VA money ran out, as it did elsewhere, but for quite a while Goodyear had the only VA money in town.

Good land is your best salesman. As a land developer Goodyear made a point of assembling good land in good parts of town two or three years ahead of operations. "Your house sales really start the day you buy your land," he believes. "Good land is your best salesman. I'm the only builder here with a \$10,000 house on the good side of town." His land costs have been as little as \$400, as much as \$1,500 per acre.

Selwyn Park, of 400 acres, is Goodyear's present building site. He has built 300 of its 450 houses, has sold lots to other builders for the balance. He has another 500 lots which he figures will be enough for another two or three years.

When it was recently suggested that he might make more money by sticking to the mortgage business and giving up building he said: "But there's no beauty in the mortgage business, and I really love building. I like the smell of new houses and wet cement—I like to watch neighborhoods grow and color schemes develop."

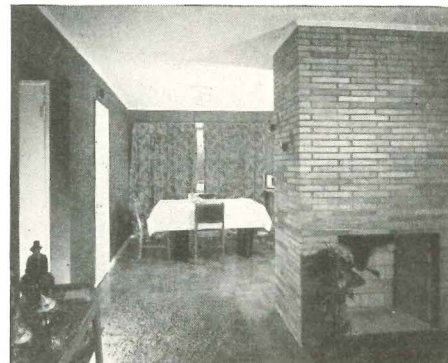
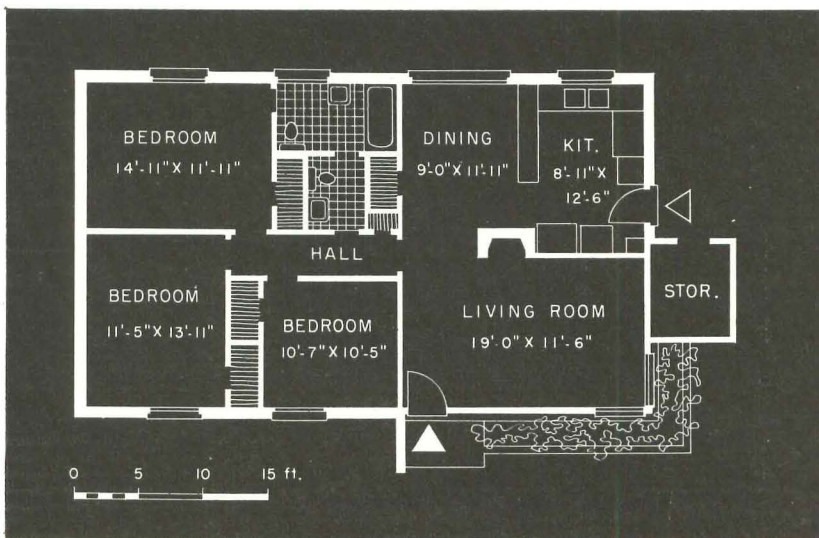
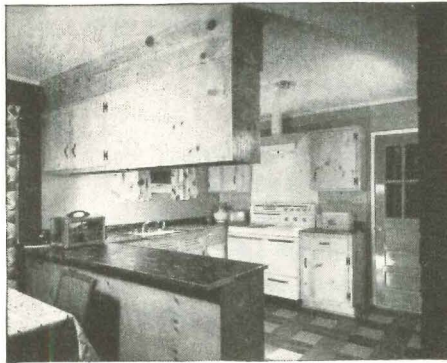
An architect is basic. Because he is constantly encouraging others to build better houses, Goodyear is in the position of a man who must set an example. Partly because of this hidden pressure, but primarily because he wants to do a good job, Goodyear has steadily improved his houses.

Since moving to Charlotte he has always used an architect. He pays 1% of FHA evaluation as a design fee on each house, believes every dollar of it reduces his sales cost by more than that. For that fee Architect Emory Holroyd walks over the land with him, they locate each house for driveway, setback and best orientation, then the architect recommends the particular variation



Variations in appearance come from skillful use of exterior storage areas (inexpensive and given almost full credit by FHA), sometimes at front as here, or at either side. Houses are also rotated on the lot, and use different materials. All houses fit well into their surroundings.

Large kitchen-dining room, right, 18' x 11', is a sales feature in new 1½-bath houses. Rear of fireplace forms attractive old brick wall for kitchen. Dining area is open to living room but kitchen is concealed. Floor plan is not same house as photo above.



Photos: J. W. Molitor

Front living room, shown in plan, is preferred by 75% of families, but trend to rear living rooms with big window opening to garden is growing. This same plan can be turned to put large kitchen-dining area in front. Unusual arrangement has two adjoining bathrooms with connecting door. Goodyear avoids bedroom windows facing side neighbors, relies on attic fan to substitute for cross-ventilation.

to go on each site, chooses outside color schemes, watches the construction of prototype houses. He also sets interior colors from which buyers can choose.

"We try to build a house with so much in it," says Goodyear, "that a family wants to buy." In his latest house, pictured here, he has enlarged his kitchen and made it more attractive, added an extra half-bath, provided more storage, bigger windows with improved ventilation, wider overhangs and worked out new and better variations. He is the first builder in his price class in Charlotte to offer all these features.

For eye appeal and better FHA evaluation his houses are brick veneer, which costs only \$165 more than wood siding. The roof pitch of 4-in-12 is higher than he would like, was set by FHA. He uses a 3' overhang without gutters, usually puts no bedroom windows in the ends of his houses, depending on an attic fan to substitute for cross-ventilation.

Rear living rooms. Goodyear believes in rear living rooms, but only one out of four families wants them. However, with back yards and views that are good to look at, the rear living room is becoming more popular. Six young architects who bought his houses wanted rear living rooms and as they build handsome patios off them it will undoubtedly influence others.

Variations are achieved by shifting house positions on lots, using wing walls, changing materials (brick, boards and battens, corrugated asbestos sheets, vertical 24" panels) and pastel roof colors, using different window sizes and placements or shifting storage areas. The rolling land and trees also give variation, as do the different setbacks.

Most popular of Goodyear's new design features is the massive fireplace wall of used brick between living room and living kitchen. To get the large kitchen the architect had to borrow space from the living room, but people like the result.

As a man who deeply appreciates the value of good building sites, Goodyear is convinced that every possible tree should be saved. When he and Holroyd lay out the houses they mark trees to be cut. Saving trees costs from \$100 to \$150 a lot because of extra grading. But experience proves that buyers want trees. He also plants a dozen shrubs, seeds front and side yards and 20' back of each house.

Sales come easy. Without furnishing a model house and depending only on a 2" daily ad in the classified column, Goodyear's relaxed, low-pressure sales program lets him keep a dozen or more sales ahead of construction. From his study of customer reaction he has learned to put his real sales effort into good land, good houses and good neighborhoods.

So apparent are these built-in values that last year's customers sell many of this year's houses. In one tract the first 16 families were so delighted they persuaded their friends to buy out the balance. One airline man purchased, brought in four other airline families. One man from a big store came, soon there were five. Six men from a large printing firm moved in after one had discovered the houses. One woman convinced six of her friends to buy Goodyear homes. That kind of advertising is a wonderful asset.

As part of his merchandising plan, Goodyear has houses of different prices in one project. In Selwyn Park houses range from \$6,500 to \$14,000. If lower-priced houses look well, he has learned, families in higher-priced houses do not mind passing slightly smaller houses on the way home.

Construction by small subcontractors. Goodyear subcontracts all he can. He used to make his own trusses at \$8.50 each, now pays a mill 35 miles away \$10 per truss to make and deliver them right to the house site. "I sometimes pay extra to get rid of an operation," he says. He subcontracts unloading freight cars and other odd jobs, makes a practice of not owning equipment.

Goodyear does not use well-established contractors, preferring smaller firms, a few of which he has helped get started. Some he helps to finance, pays all of them weekly so they can meet their payrolls, may do some buying for them.

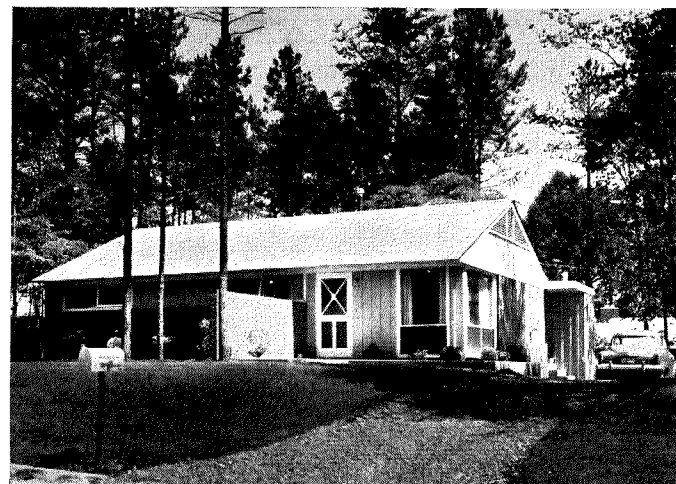
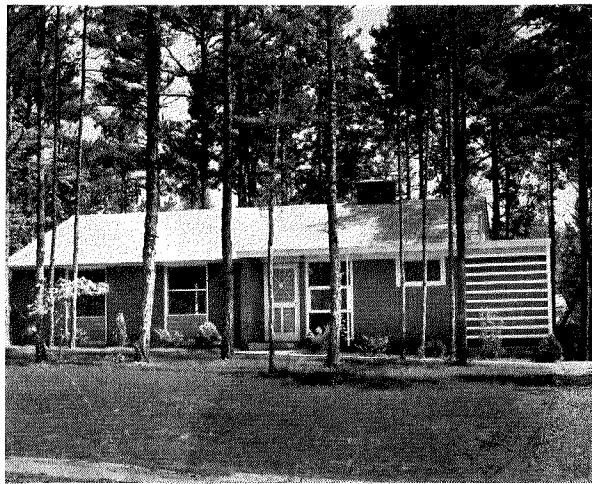
To get a satisfactory job however he does some work that most builders subcontract, such as painting, carpentry, grading, landscaping, and has his own common labor. There are about 125 men on his own payroll. Wage scales in Charlotte are lower than in northern cities: carpenters get from \$1.85 to \$2 an hour, plumbers \$2.50, bricklayers \$2.60, common labor \$1.



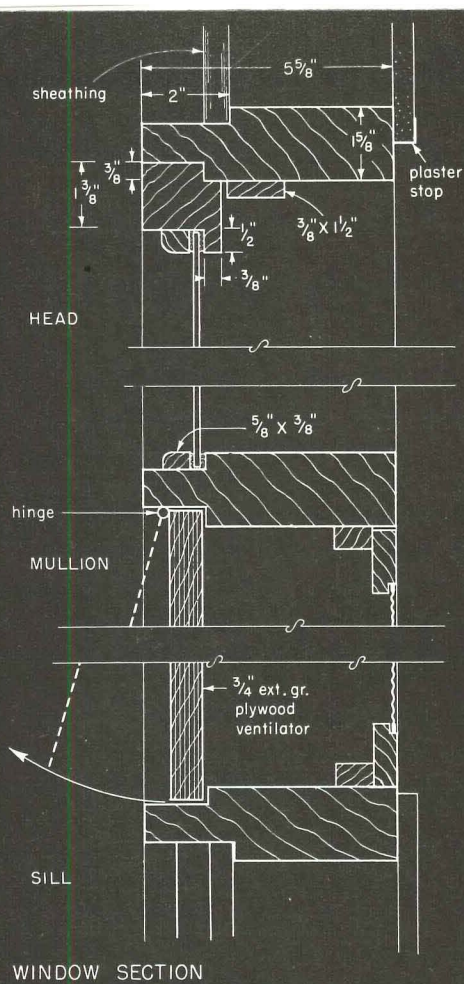


"Save the trees" is one of Goodyear's slogans and this photograph shows how well his streets and neighborhoods look as a result. He tries to buy raw land that is wooded, then gives strict orders to save every possible tree. Builder and architect work hard to avoid monotonous rows of houses that look alike. Setbacks vary from 40' to 60'.

Photos: A. K. Summirville



Stone driveways are installed, but no garage or carport, as Charlotte builders do not include garages in houses at less than \$12,000. Rolled curbs and gutters are used, but no sidewalks. Lots formerly were 60' but the new, larger houses are on 70' lots. While brick veneer is standard, wood and corrugated asbestos are introduced as accents.



Ventilation of large fixed-glass windows is assured by top-hinged windows below that open into room. Some windows, such as these, also have top-hinged wood panels that swing out and cut heat loss in winter. Most standard windows are carried up to plate although this is not done here. Trend is to make windows larger. Standard window detail is at left.

HOUSE IN CHARLOTTE, N. C.

Tilt-up wall construction, with building paper and sheathing installed, is standard practice with Goodyear. Interior partitions (2 x 4's, 24" o.c.) are built on a jig for five houses, then the jig is moved. Most houses have crawl space, following local practice. He built his first slab last winter and is now building more. Basement houses are \$1,000 extra. For several years he was the only builder to use dry wall. Metal interior doors and frames cost more but eliminate any call backs. Under his brick veneer are insulating board sheathing and 15 lb. paper; roof insulation is 4" of mineral wool. Roofs are 3/8" plywood sheathing, roofing felt and composition shingles.

Wall and roof framing are conventional with lumber saved wherever possible, by elimination of headers, cripples and other members. Tops of windows go against the plate; window framing is simple (see detail drawing and photo).

A dishwasher, a 36" attic fan, a kitchen exhaust fan, plus a hood over the stove are included. Goodyear was first to include central heat. These houses have driveways but no garages, as no Charlotte builder includes them in houses priced under \$12,000.

A larger house for the money. Trying to give a slightly larger house for the money than his competitors, Goodyear delivers finished houses for about \$10 a sq. ft. including a 60' or 70' lot. The 1,000 sq. ft. house is \$10,100 while the 1,130 sq. ft. house with the big fireplace and extra half-bath is \$11,500. Some houses at \$7,000 and \$8,500 will be on the edge of Selwyn Park adjoining industrial land.

Goodyear has been active in helping to get the Charlotte rehousing plan into operation and, as president this year of the local builders' association, has taken a vigorous role in rehabilitation. He helped to get NAHB started in Charlotte seven years ago, has been a regional vice president of the association for five years, on the executive committee for three, and chairman of the Mortgage Finance Committee.

First prefab designed around air conditioning

New series by American Houses

at \$15,000-\$20,000

now being built

in two dozen locations

When designers at American Houses started planning their new air-conditioned models they began in a different way than they ever had before.

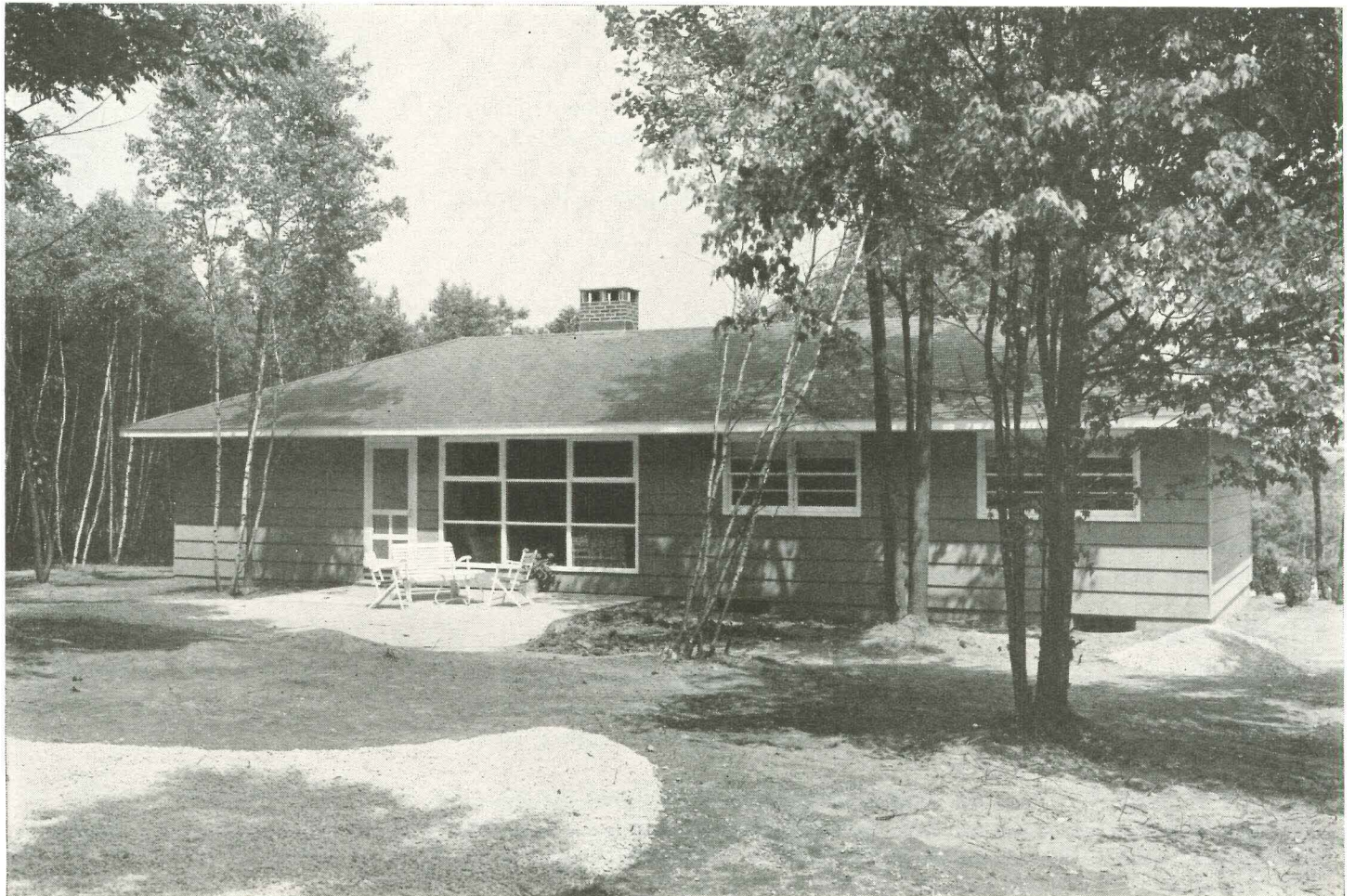
They started with a figure: 21,300, which dominated their entire design. Their goal was to plan a house which had a summer heat gain of less than 21,300 Btu's per hour. This was no figure picked out of a hat but is the cooling capacity of Carrier's new two-ton, air-cooled unit. Carrier engineers had recommended this size as economical for widely distributed prefabs, had urged its air-cooled condenser to eliminate water and plumbing problems and keep operating costs as low as \$65 a summer.

Rear living rooms are sure to become more popular in northern New Jersey because of Dave Zamore's house (below) at Mahwah. This full-basement house with air conditioning sells at \$20,900. His basic price for this house on a slab is \$17,900 with carport. He charges \$500 extra for fireplace and \$500 for a garage. His 115' x 175' lots cost him \$3,500. Zamore, a conventional builder in the past, is enthusiastic about this house and a smaller American model he will also build.

To achieve their 21,300 Btu goal, American's designers had no easy job. The average builder's house of slightly over 1,100 sq. ft., a size they hoped to use, has a heat gain of from 30,000 to over 36,000 Btu's. To cut this heat gain the designers worked with Carrier engineers and:

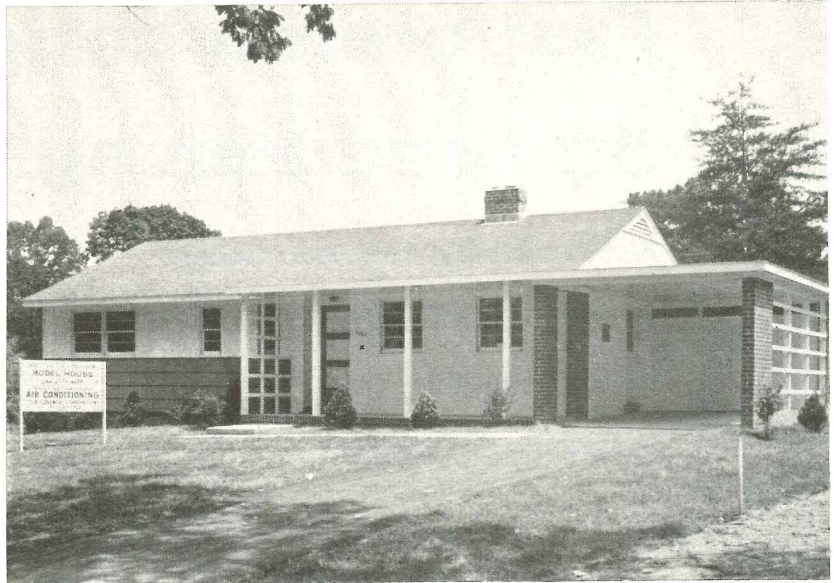
- ▶ Designed a rectangular house to reduce outside wall dimensions.
- ▶ Kept total window area to 199 sq. ft. by using a solid wall at each end and reducing sizes of some windows.
- ▶ Used fixed sash where feasible, combined sealed with movable sash in rooms with two or more windows.
- ▶ Put a 2' overhang on front and back.
- ▶ Used a garage, carport or shading devices on the west.

E. A. Schill





In New Jersey, air conditioning surprised and delighted early visitors to this handsome house of Dave Zamore who paid \$3,500 for his large, heavily wooded lots. Garage under roof makes model seem larger than carports would.



In Maryland, the Coventry Corp. is building this house near Baltimore. Front porch and carport of model house provide covered area for children's play or outdoor entertainment. Living rooms are always at rear.

- ▶ Designed a louvered trellis as a shading device that projects 6' out from the living-room window wall if window faces southeast, southwest or west.
- ▶ Specified a 4" glass-wool blanket with a vapor barrier in the attic, 2" in the side walls plus 1/2" gypsum board, 5/16" plywood sheathing and exterior siding of wood or brick. (Heat transmission coefficient: $U = .09$.)
- ▶ Weatherstripped doors and windows.
- ▶ Added vents in overhang or gable to cut heat storage in the attic.
- ▶ Called for an insulated crawl space in such houses.

By whittling away at heat gain all through the house the architects finally got their total gain down to 21,000 Btu's per hour under summer design conditions of 95° dry bulb temperature and a 15° daily range. How well they accomplished their goal is now being determined by the public in nearly two dozen model houses throughout the East and Southeast.

Condenser is in garage

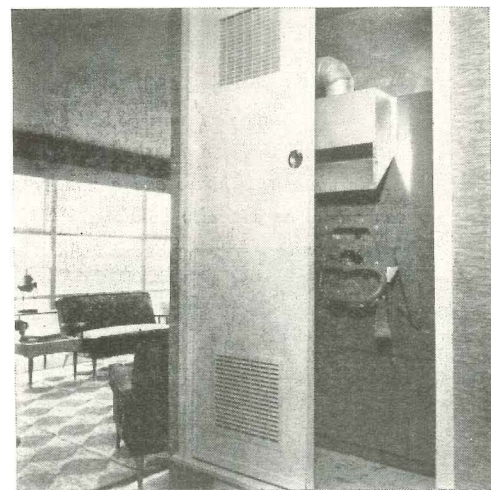
The combined heating-cooling unit is put in a central closet (see plan) of slab or crawl-space houses or in a basement. The heater, either gas or oil fired, puts out 84,000 Btu's per hour. The Freon-12 coolant is piped out to the garage where it is cooled by an 800 rpm fan powered by a 1/4 hp motor providing 800 cfm. The condenser is vented through the garage wall, at side or back.

Except for a small condensate drain from the main unit and a copper pipe to and from the garage, there is no additional plumbing beyond oil or gas lines for the heater. Locating the condenser in the garage gets rid of part of the noise. The duct layout is seen in the drawing opposite; compressor is 2 hp.

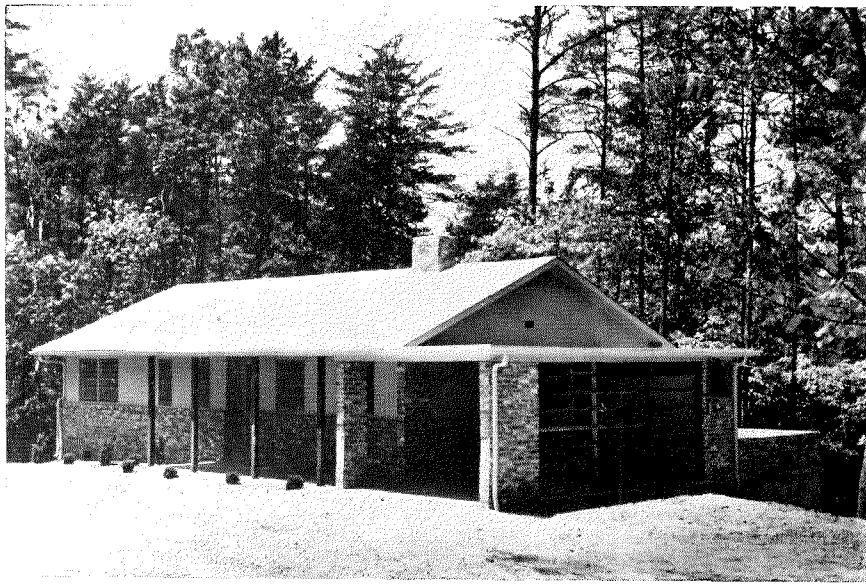
The long, low look

In addition to solving their air-conditioning problems, the designers succeeded in turning out one of the best-looking houses in American's portfolio. Accompanying photographs show the long, low look, simple and uncluttered exteriors, well-designed windows.

With its big floor-to-ceiling window, the rear living room gives the impression of being much larger than it is, especially when the view is out on a well-planned garden. The air-conditioned series is manufactured in half a dozen variations, with different garages, carports, porches and facade materials.



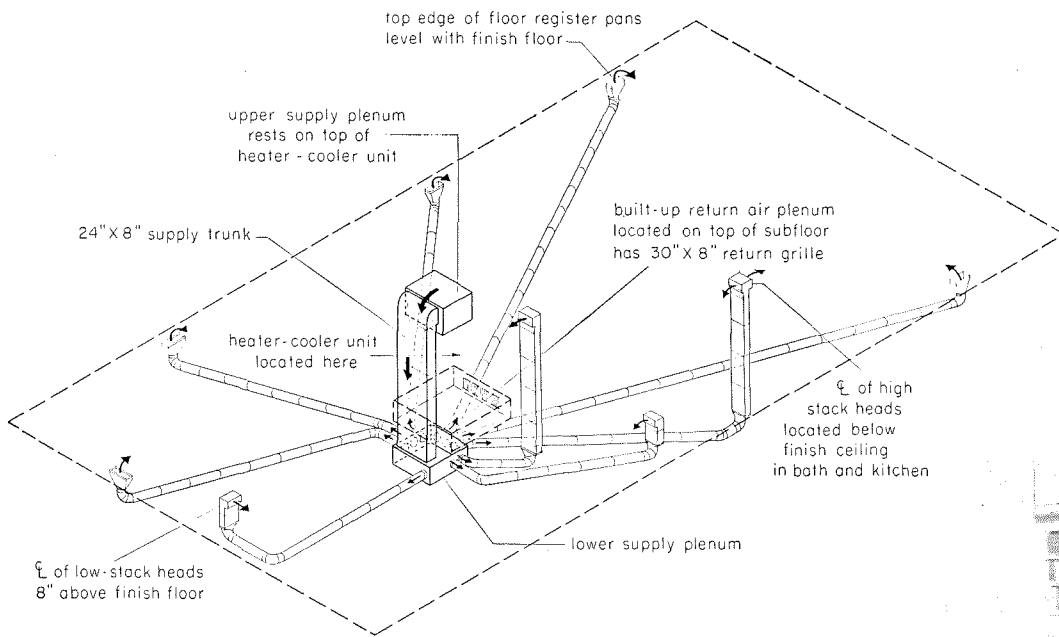
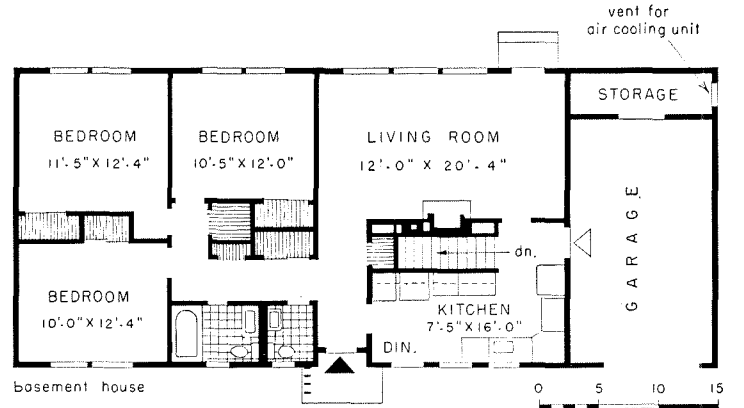
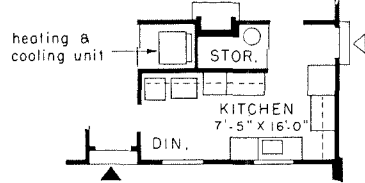
Air conditioning and heating unit in slab houses is on raised platform in entrance-hall closet at center of house. Locating the air-cooled condenser in the garage gets rid of a good share of the noise that often accompanies summer cooling.



In North Carolina, Edwards & Wilkins are building this brick-faced, carport design which has a full basement, exposed at the rear because of sloping land. Business is so good, E. & W. will start building in several other towns.

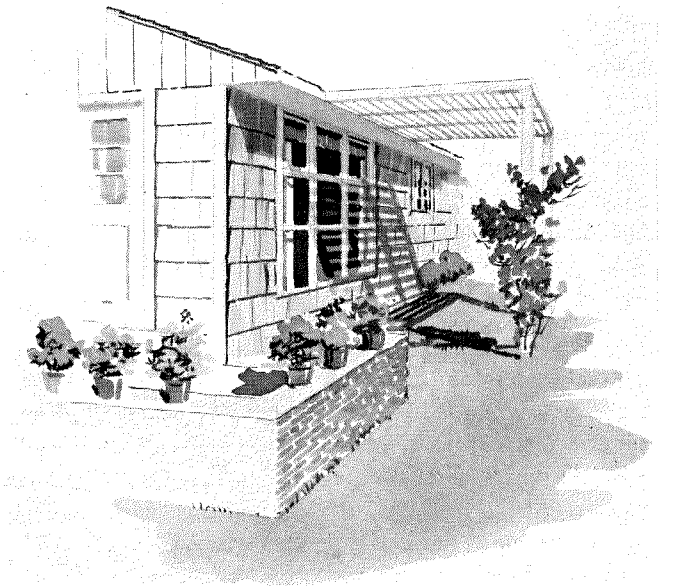
The plan, below, is standard for the model houses shown in photographs, but in practice it can be reversed with carport or garage at left end. Carports can be switched so house can have narrow end toward street. Center entrance hall solves problem of getting to rear living room. Big rear window immediately creates good impression on guests at front door, helps make house light and cheerful. The extra half-bath, conveniently located for use as powder room, is a big sales feature. Builders have wide choice of roof colors.

heater room in slab and crawl space houses



Duct layout for crawl-space houses is shown above with supply ducts under the floor. In a basement house, heater-cooler is placed approximately in center of floor, and an extended plenum is run to each end of basement, with round, 8" supply ducts carrying air to floor registers at outside walls of rooms. Both systems provide for a central return. Plan detail shows heater room in slab or crawl-space house.

Trellis for rear living-room window is vitally important design feature. It becomes part of house package if window faces southeast or into afternoon sun. It is needed to shade window and cut the heat load to meet cooling capacity.





Success in six weeks

How a shopping center for an upper-income market

attracts unexpected business

Today, the sales volume of most shopping centers can be predicted in advance through economic analysis of surrounding residential areas, traffic counts, competition, etc., but . . . when a small (eight stores, one bank) neighborhood project reaches a volume in six weeks that was not expected for eight months, it is worth looking at. What made the difference?

1. *Clean design*, better-organized shopping, plus ample parking, entice customers from outside the immediate area, past former buying centers.
2. *Location*, in heart of high-income (\$10,000 up) zone, opens a market for luxury items that increase volume. Supermarket has highest unit sale of 200-store chain, and drugstore stocks expensive cosmetics.
3. *Careful selection of tenants* for their trade practices and personalities contribute to the reputation of the center and will help it grow.
4. *Construction by stages* permitted the development of a primary market by service station and supermarket before small volume stores were added.

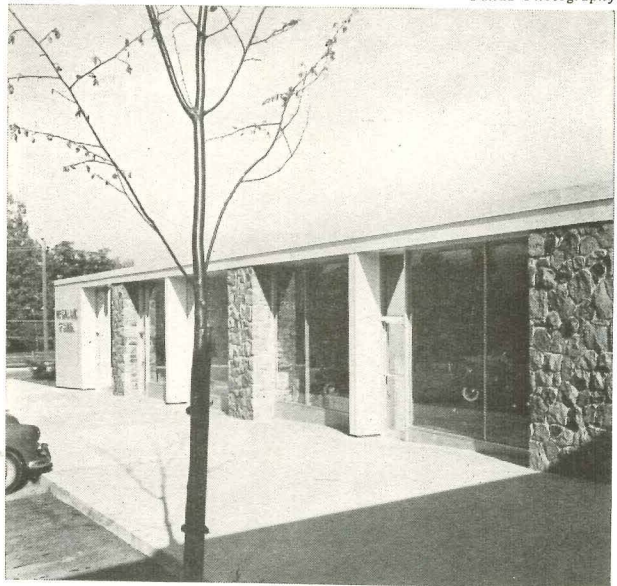
Estimating the potential market, Planner Harris counted only the families within normal driving distance—20 to 30 minutes—but “one stop” shopping, easy parking, and better-than-average merchandise are bringing a substantial number of shoppers from beyond this point, recent surveys show, though they pass other facilities. Savings in delivery and wrapping costs (“Don’t bother to wrap it, I have the car outside,”) come from drive-in trade, which makes up 95% of all customers.

Grass and trees from sewage. Architect Layng had two main problems:

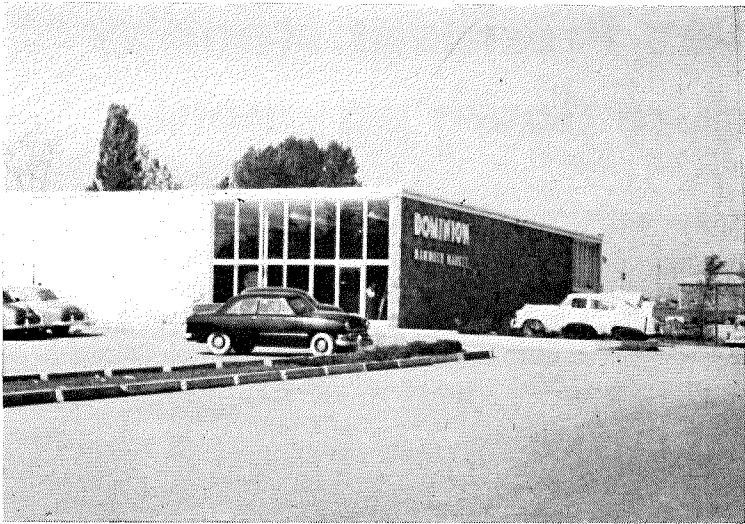
1. *Lack of municipal sewers.* Built outside Toronto’s corporate limits, the stores were more than a mile from the nearest sewer. The necessary septic-tank installation was turned into an advantage, for the large grassed-and-shrubbed areas around the stores are really field tile beds. In addition to their esthetic appeal, these areas serve to break up heat-reflecting concrete parking space. Though septic tanks added \$4,000 to costs, Layng still maintained a low (\$16 sq. ft.) over-all figure.
2. *A sharply sloping site.* The 6’ drop in elevation would have required expensive grading and filling to provide a level site for the second section. Instead Layng followed the grade, kept a constant roof line, and let the interior height of each store increase. At the east end, the 13’-6” height was perfect for the branch bank, for it added to the dignity and impressiveness of the interior. At the west end, service shops needed no more than the 9’-11” ceiling. The sloping site also gives rapid and thorough drainage of storm water from the shopping center out to the main road.

LOCATION: Toronto, Ontario
 JOHN LAYNG, architect
 JAMES F. HARRIS, economic planner
 WRENTHAM ESTATES, LTD., owner

Panda Photography

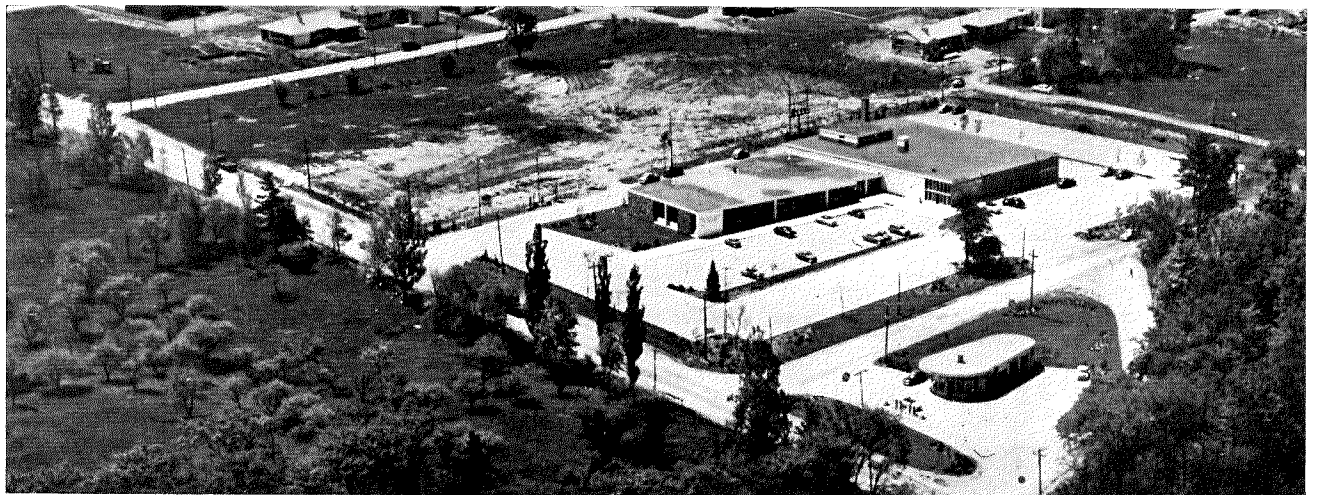
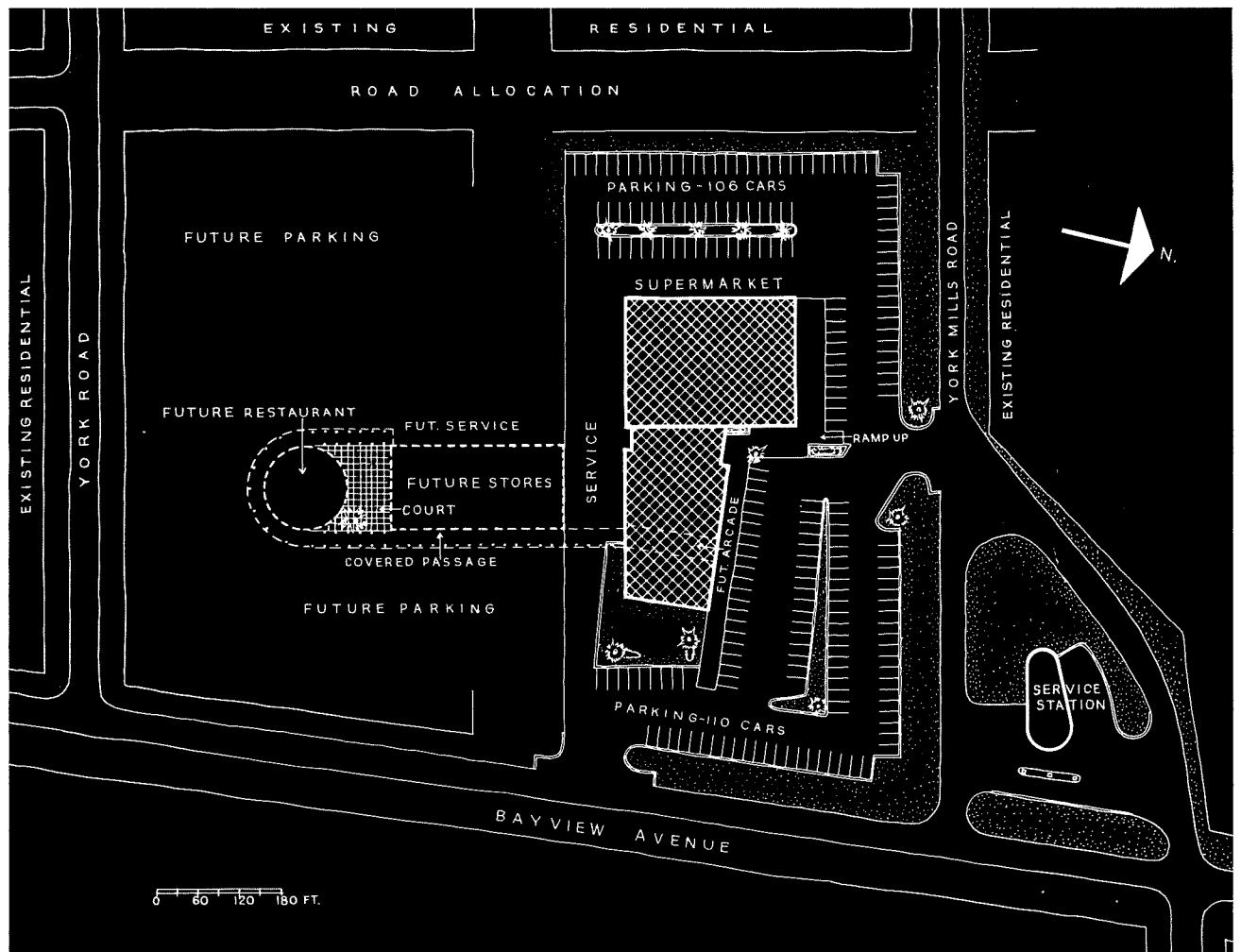


Split granite field stone is bearing wall, not just veneer. Store entrances are recessed 1’-8” as protection from weather. North windows will have high heat loss, but Toronto has comparatively mild climate, with mean annual temperature comparable to that of New York-New Jersey area. Walls are not insulated, but roof has 2” fiber-board insulation over 2” T & G decking, supported by steel girders. All heating in stores is by low-pressure steam unit heaters.



Sloping site permits high-ceilinged (13'-6") quarters for bank, while beauty parlor at opposite end of unit has only 9'-11" height. Parking area (foreground) has 4.7 to 1 ratio to store space, but will reach 6 to 1 when development is complete. Retailers gain space from parking allowance for bank, used only during slowest part of selling day. All signs and displays are under strict control of management. Grass areas mark septic-tank field tile bed locations.

Service traffic, kept separate from customer parking, is not heavy enough to warrant underground entrances, will eventually be screened. Aerial view (below) shows relation of stores to surrounding residential area. Penthouse-like projection above supermarket contains mezzanine office and sunny employee lunch and rest rooms, separated from store traffic. Lightness of large glass areas at north and east entrances offers sharp contrast to heavy granite wall.



Congress gives President standby power to reduce down payments

IN THIS MONTH'S NEWS

(see pp. 35 through 62)

Drought of mortgage money for VA and FHA loans brings cries of alarm from builders

Congressmen and builders gang up against VA's unpopular ban on discounting and warehousing

How much does the money pinch really hurt? A House & Home survey across the country

Charles E. Slusser, realtor-mayor of Akron, is named public housing commissioner

Spring strikes and wage pacts bring building labor from 8 to 15¢ more in hourly pay

What homebuilders could not get from the Administration, they got from Congress last month in the 1953 Housing Act: standby power for the President to lower VA and FHA down payments, higher mortgage limits for Title I, Sec. 8, low-cost housing, a Fanny May one-for-one plan, and orders to the VA to stop regulating discounts.

And capping their legislative success, builders were able to dissuade Congress from including a warranty clause in the measure, although the House had provided for a one-year guarantee that VA and FHA homes were built in "substantial conformity" with plans and specifications to be given to each customer).

Quick passage. The new housing law, passed by Congress and signed by Eisenhower on June 30, took shape with a speed born of the threat of expiring programs. In the initial stages, Administration hard money men kept a firm foot on the brakes. Homebuilders had no trouble convincing HHH Administrator Albert M. Cole that down payments should be cut. When the schedules were written, an FHA \$6,000 house required 5% down. It still does. But prices had zoomed so that the \$6,000 house of 1940 now sold for \$12,000, requiring a 20% down payment. Cole could not sell the idea to the Budget Bureau, which reviews all administration legislation before it goes to Congress. Reason: the Federal Reserve squawked that any easing of credit would be inflationary. Cole offered to compromise by giving the administration standby power to cut down payments if housing

dove into a slump. The Fed gave grudging assent. But when Cole tested this scheme on Capitol Hill, he met a cold shoulder. Cole retreated to the White House for a pow-wow. The administration decided to back down. On June 10, Rep. Jesse Wolcott (R, Mich.), powerful chairman of the House banking committee, and Sen. Homer Capehart (R, Ind.), chairman of the Senate banking committee, introduced twin bills providing for only minimum federal support for the nation's housing industry.

At hearings, Cole loyally defended a policy he had not urged. Easing down payments, said he, was a "matter of timing—and the time is not yet ripe."

Sales talk. This set the stage for the homebuilders' pitch. Before the Senate committee, they did a remarkable job. With the smooth grace of the attorney he is, NAHB President Manny Spiegel conceded lack of mortgage money (p. 35) is the "overruling" problem of homebuilding now. But he argued: "Once we start to slide down it's going to be difficult to stop it." The drop in housing starts from April to May (p. 35) was a "warning signal we must consider"; by the time Congress could consider easing down payments next year, it might be too late to prevent "grave repercussions."

Spiegel also asked that FHA's Title I, Sec. 8 mortgage ceilings be hiked from \$4,750 to \$5,700, that Fanny May's one-for-one plan be given at least a \$500 million kitty, and, as the discussion veered back inevitably to the mortgage crisis, that VA

Photos: Walter Bennett



GOVERNMENT WITNESSES opened testimony on the 1953 Housing Bill before the Senate banking committee. Before the horseshoe committee table (l to r, backs to camera) FHA Commissioner Hollyday, FHA Statistician Allan F. Thornton, HHH Administrator Cole, Deputy Administrator B. T. Fitzpatrick. Presiding (facing Hollyday) was Chairman Capehart.



LISTENING to testimony at housing bill hearing were Builders R. G. Hughes, Nate Manilow, Manny Spiegel. Spiegel cited NAHB survey showing three out of five would-be nonvet buyers could not meet FHA down payments.

be asked to stop banning discounts.

Against Manny Spiegel's measured calm, Big Builder Bill Levitt, a nonmember of NAHB who followed him to the witness table, provided flamboyant contrast. Cried Levitt: "The building business is on the skids right this minute"; lower down payments were needed "two or three months ago." Although his sales at Levittown, Pa. were between 300 and 350 homes (\$8,990) a week, Levitt testified 92% were bought by veterans with no down payment. Non-vets were buying only 8% because "they don't have the down payment," although there is a potential market for 1.2 to 1.5 million homes a year. As a result, Levitt said he planned to cut production from 6,000 this year ("we have the financing; we are fortunate and unique perhaps") to 3,000 next year. Said the nation's self-styled biggest builder: "We don't see the veteran market holding up, and the 8% market is too picayune to gamble on."

Success plus. The one-two punch proved effective beyond many a builder's hopes. The Senate amended in standby relaxation of down payments, persuaded the House to go along. In the House, realistic Congressmen stuck in an amendment permitting FHA to bail out builders caught in mid-construction of defense housing by sudden changes in defense plans—without the rigmarole of foreclosure. The government would reimburse builders for their expenses, abandon construction.

Most welcome of all, the House rewrote Sec. 504 of the 1950 Housing Act to make it clear even to VA that Congress does not intend it shall regulate discounts. While conferees suggested that VA might adopt "reasonable measures" to prevent discounts from being passed on to veterans, they also made it plain that VA's certificates of reasonable value (which set the ceiling price on each house) are the mechanism to do this. Jesse Wolcott announced he would keep "a careful eye" on VA's Bert King, author of the discount ban. Thus builders could consider solved the only immediately solvable part of their mortgage troubles.

THE HOUSING ACT OF 1953

Principal provisions	Administration version	As enacted into law
Down payments	No mention.	Gives President power to raise or lower down payments on single-family, owner-occupied VA and FHA units up to \$12,000, but requires at least 5% down, sets maximum 30-year amortization.
Federal National Mortgage Assn.	Permits one-for-one plan urged by NAHB—giving Fanny May power to grant prior commitments to purchase mortgages equal to amounts sold, with waiver of normal 50% restriction. Sets \$200-million-a-year ceiling on one-for-one rollover. Extends advance commitment power for Wherry, defense and disaster housing to July 1, 1954.	Same as administration, but ups one-for-one ceiling to \$500 million as asked by NAHB. Additionally, lets FNMA use leftovers from \$900 million defense and disaster housing set-aside for over-the-counter purchases. (Probable sum available: \$200 million.)
Defense housing	Lets authority to program expire June 30; housing programmed by then could be mortgage-insured until June 30, 1954.	Authorizes across-the-board continuation to June 30, 1954; permits reimbursement of builders for money spent on defense housing in areas where cutbacks make completion of construction foolish.
Defense area community facilities	Lets authority for federal grants and loans expire June 30, except for applications before June 1.	Continues authority to June 30, 1954 and broadens definition to include specifically New Ellenton, S. C., which was moved for AEC plant. (Without an appropriation this means little, however.)
Public defense housing	Lets authority to build expire June 30, except one-year extension for temporary AEC housing.	Extends authority to build for one year in all types of defense areas, but only for temporary units. (Without a new appropriation, this means little.)
FHA authorization	Adds \$1½ billions to FHA insurance ceiling to be divided by President (but not for improvement loans).	Same.
Treasury repayment	Permits FHA to repay \$57 million contribution from Treasury, plus interest. (Probable total: \$85 million.)	Same.
Wherry Act	Extends to June 30, 1954.	Same, but bars mortgaging out by requiring all mortgage loan in excess of cost be ploughed back in principle payments.
Low-cost housing	No mention.	Raises mortgage ceiling on FHA Title I, Sec. 8 from \$4,750 to \$5,700, permitting 95% loan on \$6,000 house.
VA discounts	No mention.	Forbids FHA and VA from regulating discounts; permits regulation only of fees and charges, but lets VA take "reasonable measures" to keep builders from passing cost of discounts to veteran, through CRVs.
Slum clearance and college housing interest rates	No mention.	Shifts basis of required interest (pegged on gov't bonds) from face interest to current yield as determined semiannually by Treasury.
Interest rate adjustments	No mention.	Gives FHA power to raise interest on Secs. 908, 213 and Title VIII to 5% for single-family units, to 4½% for project mortgages. (Actual hike expected will be less.)
Cooperatives	No mention.	Permits advance FNMA commitments on 213 loans to Sept. 1; leaves \$17½ million earmarked for them.

The fastest-selling houses in the USA

This is the fourth installment in a grass-roots' survey made each month by HOUSE & HOME to show you the fastest-selling houses in the country and tell you why they set records

Site planning pays big sales dividends near Chester, Pa.

Bridgewater Construction Co. finds how important it is to use an architect from the ground up, is half sold out on a 317-house project

Photos: Clark Photo Service

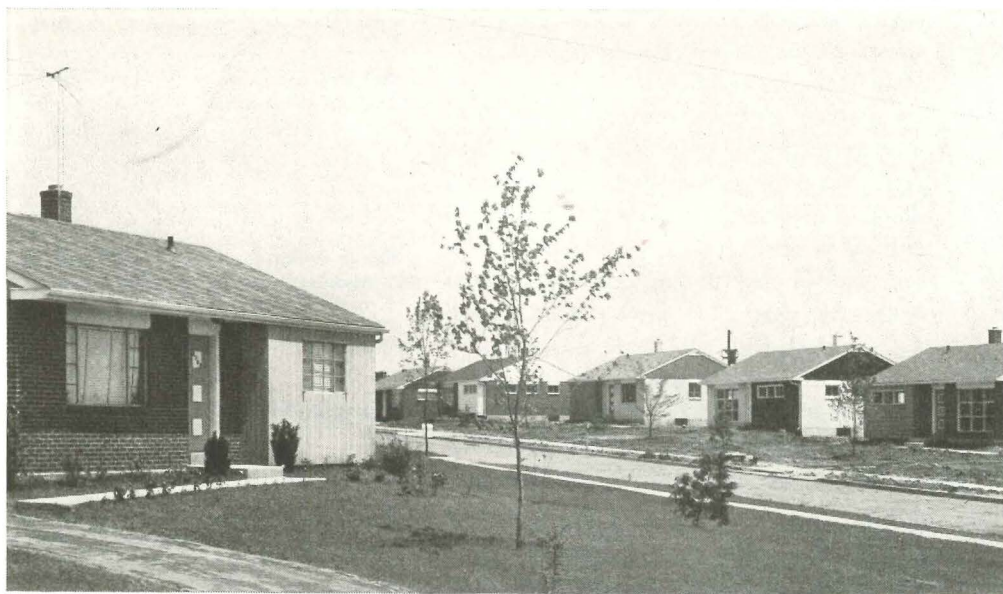
The remarkable sales record of these houses (52 sold on one week end, 100 in three weeks) was stimulated by the land planning and design of Architect George Hay, Media, Pa. Site plan of the development was prominently used in selling many of the first prospects who were as interested in buying into a nice neighborhood as in buying a good-looking house.

How it all began. Two of the principals in the building company, Fielding and Pomeroy, are Pennsylvania realtors previously associated with Wallace E. (Bud) Arters on another highly successful project where Hay planned the site and designed the houses (H&H, June '52). They decided it was smart business to use Hay again on this Bridgewater land, set up a building company and worked with two aggressive and really young contractors, Jim (25) and Ted (24) Bentley. The architect-builder-realtor trio formed a highly successful team. Sales of the 965 sq. ft., three-bedroom, \$11,500 brick veneer houses are now going at a steady three-a-week pace.

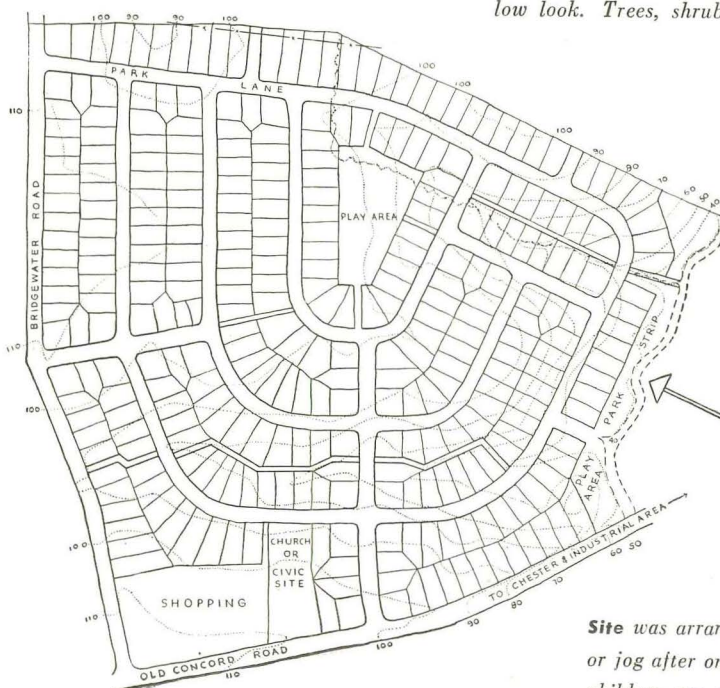
A year ago Fielding and Pomeroy thought of architects as parasites in the industry. Now they say, "We'd hate to tackle any building job without one." They even call Hay before buying any new land.

First section of the Bridgewater tract is on treeless meadowland; a second section in woodland will be built last—with trees as an added sales feature.

Safety factor of curved streets, few direct entrances to the subdivision, was particularly attractive to buyers. Minimum lot size, 65' x 130', is larger than town requires.



Staggered setbacks add variety. Earth leveled high against front foundation gives house long, low look. Trees, shrubs cost \$100 per house



Site was arranged so roads dead-end or jog after one block. Playfields for children are an added safety factor.

But land planning is only part of the sales success story. Other important factors:

Design: "This was the first good-looking, low-priced ranch-style house in the area," say the realtors. "It outsold all the conventional houses around, largely because of its design." FHA at first insisted on four or five different front elevations and roof breaks to avoid monotony, but Architect Hay, now an old hand at designing for the merchant builder (he has 15 builder accounts), shied away from the banana-split approach to variety, relied on color and placement of windows to make houses look different. He says, "False gables, shutless shutters and roof breaks are a costly and foolish way of getting variety."

Price: The house was sold for its FHA valuation, an unusual achievement in this area—where valuations frequently are 15% below selling prices—and a tribute to the efficiency of the young contractors.

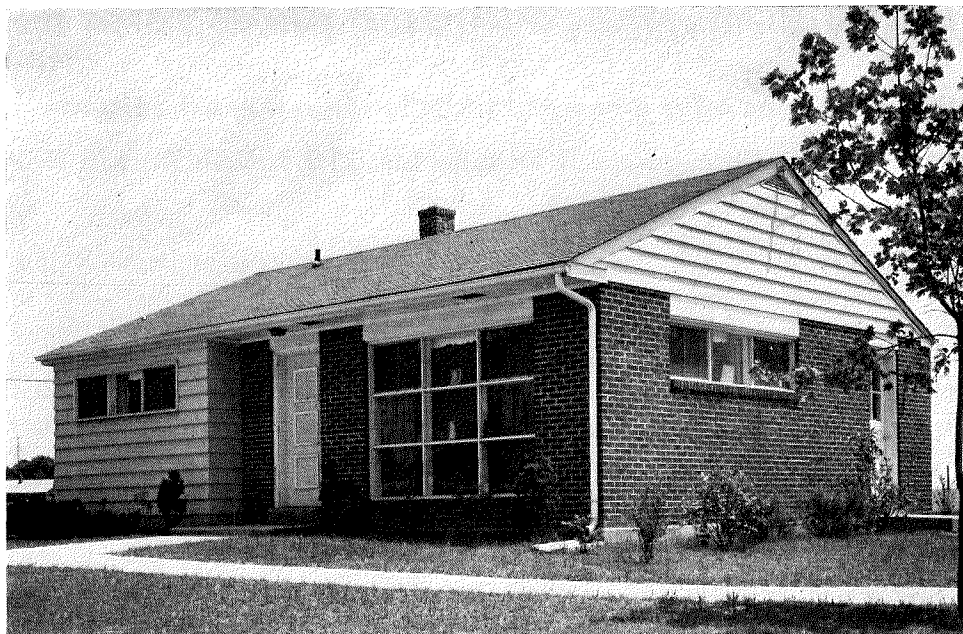
Fielding and Pomeroy believed space was more important than what they term "luxury construction." Although solid masonry construction is usual for the area, they built a brick-veneer house because they could frame it cheaper with lumber pre-cut in a special sawing area set up on site.

They used dry wall instead of wet plaster although they knew that dry wall was usually acceptable only in \$10,000 houses. The economies of dry wall more than offset any customer resistance.

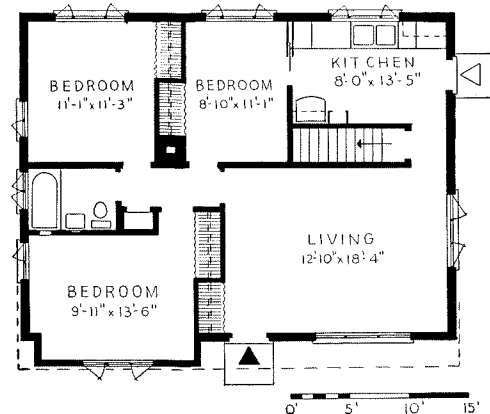
Several competitors who watched the houses go up, couldn't believe they could be sold at a profit with \$11,500 price tags.

Although Fielding and Pomeroy originally planned to put all houses on slab, the inflexible township code forbids it. They made the most of the enforced basement by capitalizing on its features: it was poured concrete instead of cement or cinder block, "easier to finish off when decorating it for a recreation area and surer to meet the VA requirement of a basement guaranteed dry for one year." An uncluttered 15' x 20' area in the basement looked attractive to hobbyist husbands, space-conscious wives.

Low down payment: Although mortgage lenders in the Philadelphia area usually require 10% down payments on VA loans, Fielding and Pomeroy were able to market their houses for only \$850 down. Central Mortgage of Philadelphia, which handled financing, saw a lot of house for the money and a freshness of design which gave Bridgewater Farms a high acceptability of risk. FHA down payments are \$2,050.



Break in floor plan was accomplished economically by cantilever of lighter materials over simple rectangular foundation perimeter. Living-room plan permits good furnishing space.



Kitchen: Equipped with a washing machine, 48" sink and tray combination, an expensive push-button range ("seldom seen even in \$15,000 houses"), 35 lin. ft. of storage space, stainless work surfaces, asphalt tile floors, the kitchen cost the builders \$800, money well spent. Says Realtor Fielding, "A sparkling modern kitchen does wonders in selling a house."

Merchandising: The builders used a furnished model. "Seeing is believing," say the salesmen. "Give a woman a complete picture of the house, and she's more likely to buy."

The local Chester newspaper carried display advertising. A 13-week radio program on the local station supplemented this advertising. Buyers came from as far south as industrial Wilmington, Del. Sales have been going so well that the metropolitan Philadelphia papers have not been used.

Builder lessons: The young Bentley brothers have learned so much in association with Builder-Realtors Fielding and Pomeroy and Architect Hay, they will soon develop a project on their own. The techniques and outlook they have acquired would do many an old-timer proud. Says young Ted, "This is an age of specialization. Building takes all our time. We can't keep in touch with all the new things. That's where the architect comes in. He is the concentration point of the latest literature, all kinds of salesmen, up-to-date cost-cutting techniques, the most economical building materials. He keeps in touch with changes in public demand and changes in taste."

Nor do they pooh-poo the place of the realtor. "He knows local demand better than anyone else. We look at merchant building this way: it's the architect's job to design, the builder's job to build, the realtor's job to sell."

Package-mortgage kitchen paces sales near Kansas City

Praver & Sons offer a complete kitchen in a three-bedroom, attached-garage house that sells for \$10,300 in Ruskin Heights

This house has been hanging up sales records around Kansas City because the Pravers literally offer more house for the money. Packed in this 936 sq. ft. house is a kitchen equipped with range, refrigerator, washing machine, electric clock and steel cabinets. Plumbing is backed on the bathroom which has a built-in clothes hamper, colored fixtures, 4' sliding-front mirrored medicine cabinet. Attached garage with storage in rear measures 10'-2" x 24'.

"We worked closely with a big electrical appliance manufacturer," says President Stanley Praver, "to achieve the most in storage and work areas in the kitchen." Other electrical features: compact gas-fired forced-air system controlled electrically, low-voltage electrical system. The basement-less house received a special AIA award "for the most efficient plan in a small house."

Spur to sales. Low price and equipped kitchen were not the only features that helped sell the house fast: down payment for vets was only \$600. Local lenders were willing to permit it because they knew the house was \$1,000 or more under the Kansas City market. FHA down payment is \$2,150. Architecture, though not new to the Kansas City area, "put the three-bedroom, one-floor 'ranch-style' house in the lower price bracket for the first time," says Praver. Basic plan was designed by the builders. Architect Louis Geis, who made front elevation variations, interpreted FHA MPRs and collaborated on site planning with the engineers, says simply, "I helped." But the Pravers give much of the credit for design to Geis, say they would never attempt to build a house without an architect. "We learn from each other. Every square foot of space is utilized and the house takes on a spacious appearance because of the number of windows and openness of plan."

Strangers in town. The Pravers, who had built multiple-unit Clearview Gardens on Long Island, moved to Kansas City for the first time last fall. They expect to have 1,200 houses completed this year, to complete a 1,758 single-family dwelling and a 600-family multiple-dwelling project by the fall of '54. The operation rivals the work of Big Builder Miller Nichols. The Pravers' major problem was how to sell

in a community in which they were virtual unknowns. First, they hired Stanley Cowherd, a local realtor to handle sales. "That way we got local salesmen who could 'speak the language' of the buyers." Then they required only a \$100 advance when contracts were signed, the balance when construction began. "Folks who hesitated to put down \$600 when we had only a few houses built, did not hesitate to put down the smaller sum to reserve a location."

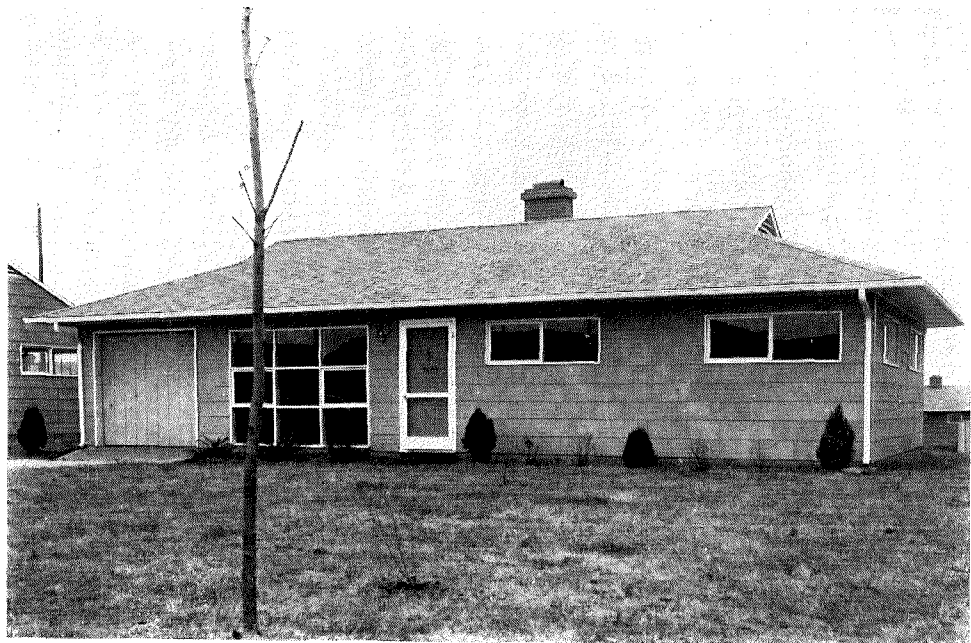
Big building, big merchandising. The Pravers started to sell last August, had 700 houses under contract by year's end, 250 sold even before the official opening. "Customers were practically buying from plans the first couple of months." Almost 200 houses have been sold since January.

Designing their merchandising campaign

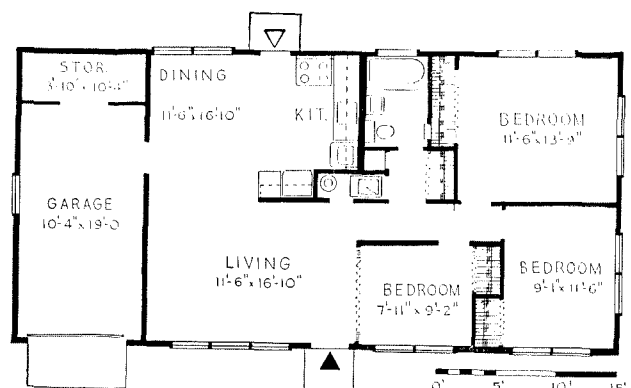
to fit the size of their operation, the builders provided a huge parking area near five models (two completely furnished), exhibited construction and materials in a house of glass à la Levitt.

When completed, Ruskin Heights will have three parks, sites for several churches, a 29-acre shopping center. Present parking facility will eventually be the site of the multiple-unit dwellings.

Cutting costs. Carpentry is subbed to a contractor with his own mill. All studs are bought to specifications. Gable ends are packaged, headers marked, almost all material pre-cut or preassembled before arrival at the site. "You hardly ever see a saw." Material for each house is dropped off at each slab, poured at the rate of six per day. Praver soon expects to increase



Folding partitions between dining and living areas, third bedroom (or television room) and living area, make it easy to open three rooms into one. Note wide overhangs, line-up of windows on all sides. Variety is achieved in roof treatments rather than the use of many different materials.



his six-house-a-day rate to ten—an all-time production record for Kansas City. All assembling is done on the slab: walls are tilted into place; one crew does the laying out, another does only nailing and tilting up. Such work specialization plus power equipment (troweling machines are used on slabs) will account for the 200-house-per-month rate the Pravers expect to achieve when operation is going full tilt.

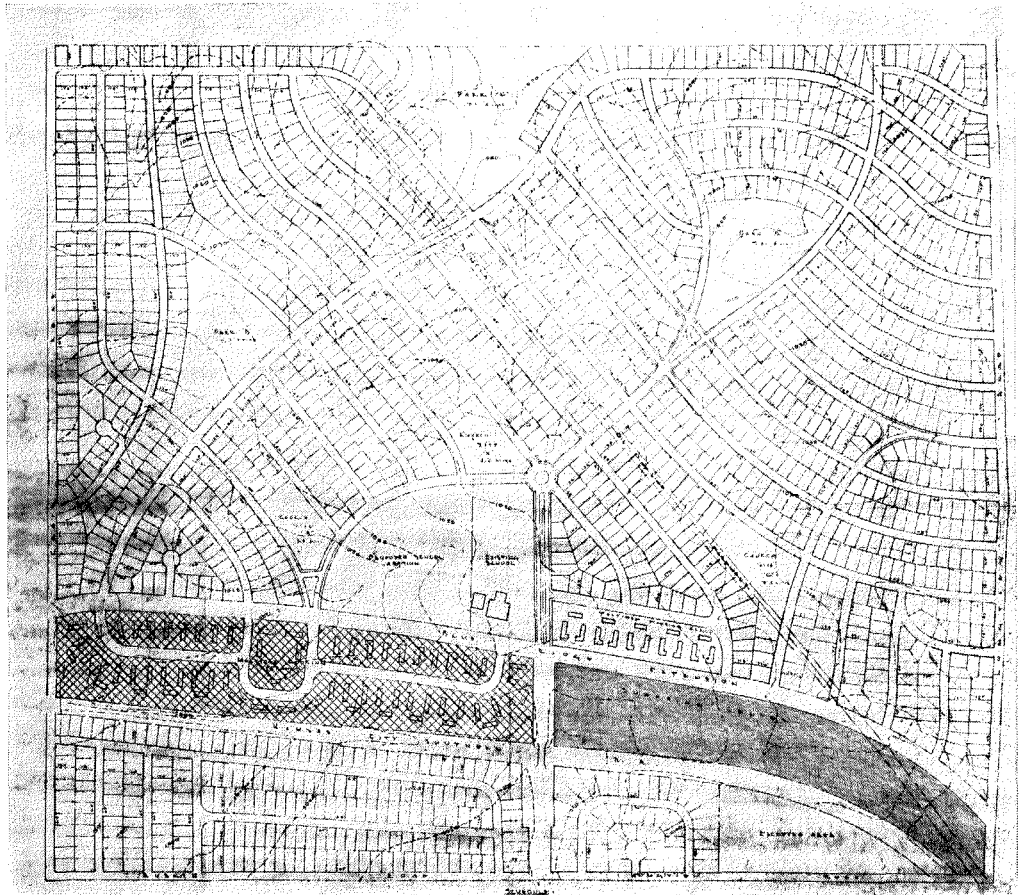
They had used roof trusses but switched to conventional roof framing when they found they had to overengineer trusses to meet FHA requirements. "Fabricating and moving around as much lumber as we had to was much too costly," says Praver. "We found we could build the conventional roof cheaper because it took less material and we could train crews to the job quickly."

Biggest money saver of all, says Praver, is volume buying.

Market trend. The three-bedroom model has accounted for 95% of present sales. Praver says, "It is fundamentally a three-bedroom market the builder must deal with today, and there's a tendency toward an even bigger house." Only 100 houses will be two-bedroom dwellings and will be scattered around to take advantage of narrower lots, since they are 5' shorter than the three-bedroom model.

Raw land costs the builders \$1,000 per acre. They estimate lot improvements at \$1,150, which includes sanitary and storm sewers, streets and curbs, finish grading and landscaping. Average lots are 65' x 120'. Minimum lot is 7,500 sq. ft.

Setbacks are varied as much as 5' to avoid monotony.



Cul-de-sacs, gently curving streets, were laid out to minimize direct entries from highway to subdivision. Multiple rental housing (hachures), shopping center (shaded) buttress biggest part of subdivision from railroad. Site has three parks; land is set aside for churches.

Huge parking lot was wisely provided near House of Glass exhibit hall and display models. Exhibit gave prospects opportunity to check soundness of construction, quality of materials used by new builder in town. Over 12,000 visitors appeared first Sunday models were opened.



Cleaner design, bigger house create a Jackson, Miss. best seller

Realtor-Builder Floyd Kimbrough maintains his No. 1 position in town with a better-looking house, 1,200 sq. ft. of space

Here's a builder who got a liberal education by traveling the country over looking for better house ideas. When he got back from his 35,000-mile trek, Kimbrough decided to do something about the houses he was building. Nowhere had he found an ideal house, but he brought back the best ideas from all over the nation, passed them along to Architect John L. Turner, who set to work giving Kimbrough-built houses a new look. House at left, below, is one Kimbrough built several years ago without an architect. House at right is one of several Turner-designed models in Del Rosa, latest of 11 projects Kimbrough has built in the last ten years.

Big decision. One of the chief ideas Kimbrough picked up was to make his house bigger and look bigger still. Like Builder Andy Place of South Bend he finds a bigger house pays off in faster sales. At one time he was 30 sales ahead of starts. He is the only builder to offer 1,200 sq. ft. houses in the \$11,000 price class. They are 200 sq. ft. bigger than past houses, cost him only \$1,000 more for the added space. Buyers were not the only ones who liked the appearance of the low-pitched marble-chip roofs. Says Kimbrough: "Now other builders try to copy us."

Style, space, etc. Kimbrough offers five basic plans with five variations each in three-bedroom, \$11,250 houses in Del Rosa. The project boasts better orientation than previous subdivisions. Houses are sited to avoid hot western sun ("buyers want the

bedroom area shaded in Mississippi"). He has seven closets now vs. three in previous houses. Color is more varied. Kimbrough used to have most houses painted white, now allows customers a choice of exterior materials and color. They also get more color inside the houses—on kitchen and bathroom floors, on worktops.

Particularly attractive sales feature is natural-wood-finished third bedroom that can double as a recreation room. Bathrooms are bigger, have more tile, a space heater, dressing table. Many houses have 2' of brick on front elevation; asbestos or bevel siding is protected by a termite shield.

Integrated operation. Kimbrough maintains his slightly less than \$10 per sq. ft. price (including lot) through volume buying, his own millshop where four men can pre-cut lumber and make cabinets for three houses per week. Driveways are poured at the same time slab is laid to facilitate materials handling if ground is wet. Marble-chip roofs on 80% of the houses cost \$4 per sq. ft., as cheap as asphalt, permit him to build a 2:12 pitch

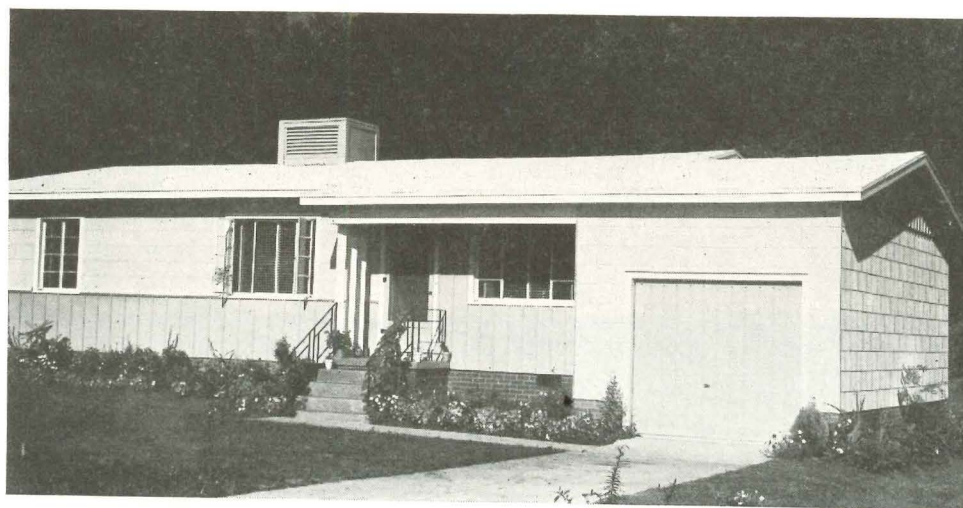
which itself is more economical than a higher pitched roof. Labor is employed the year around, adds economy and efficiency because crews become familiar with repetitive operations.

Merchandising. Kimbrough's advertising budget is 1 1/2% of sales price. He believes he gets best results from joint advertising-promotion with local papers, also uses NAHB's recorded radio program, "Housing Headlines," drive-in and downtown movie advertising. Before each major campaign, he has a "kick-off" dinner for suppliers and subcontractors. Part of the advertising budget goes for booster activities; 1,500 copies of a plan booklet published in cooperation with subcontractors and suppliers were particularly effective.

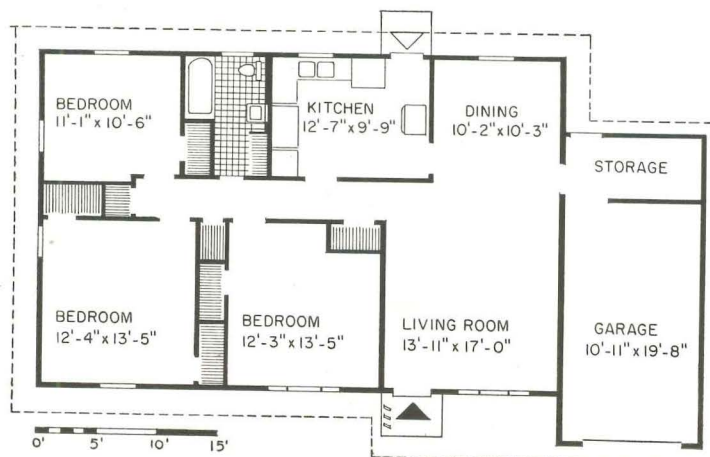
Sales meetings are held monthly with a staff Kimbrough considers "a powerhouse." He keeps close tabs on buyer likes and dislikes. An alert sales force can point to specifics: big garage, two furnaces, finished recreation room are popular features; acceptance is low for smaller kitchens, one closet in master bedroom.



Earlier house, says builder, had "style" built onto instead of into its design.



New house, right, without costly roof breaks of earlier model, above, is better unified with garage, looks much bigger. Sensibly, kitchen door in rear can be reached from garage under cover of wide overhangs. Note deeper shadow on living-room window from widest overhang.



Contract for deed makes Chicago house fastest seller

To reach that segment of the market that has the earning power, but cannot afford a big down payment, American Community Builders sells on contract

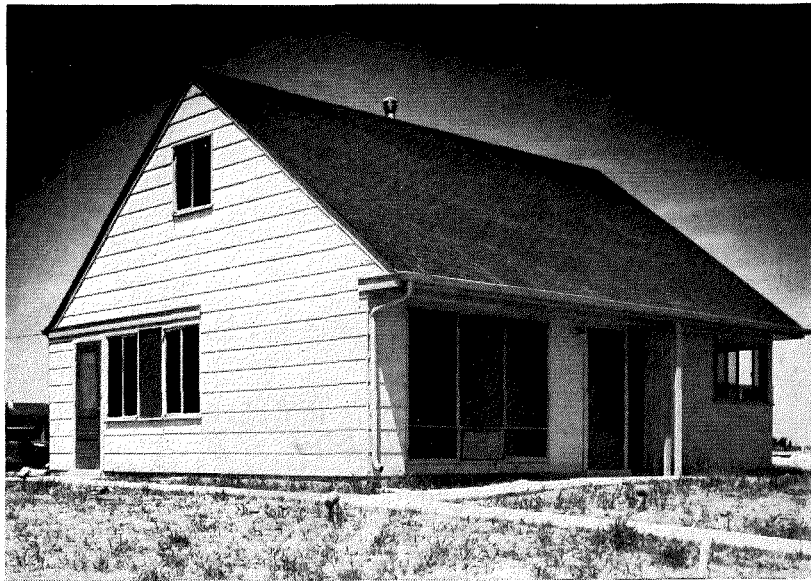
This \$10,995 best seller, the lowest-priced house yet sold in famous Park Forest, Ill., demonstrates how to sell houses faster to civilian buyers not eligible for VA loans or incapable of making the big down payment required on an FHA-insured mortgage.

Because lenders were unwilling to buy VA paper before interest rates went up, American Community Builders (Nate Manilow, Phil Klutznick) decided to market their houses to vets on a contract-for-deed basis.* Their 202 "growing" house project (two bedrooms, an expansion attic big enough for two more rooms) was a complete sellout from the model even before the first roof was raised. Now that VA money is available again, the builders do not expect to reach eligible veterans with contract-for-deed sales, do intend to reach prospects who cannot afford an FHA down payment or cannot meet monthly payments on a 20-year mortgage.

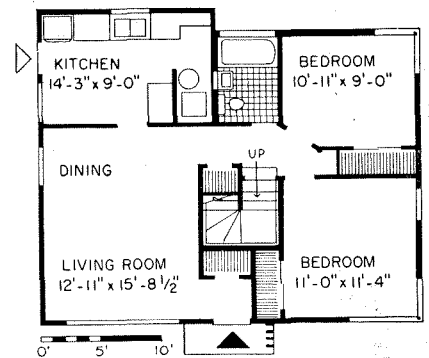
"The capacity to sell." "Just a raise in the VA interest rate is not going to keep housing volume up," says Nate Manilow, president of ACB. "Unless the houses you build can be sold at terms within reach of nearly all people, you cannot continue at a high rate of production. We use the contract for deed to fill the void that is left by big FHA down payments and a 20-year term."

How it works. ACB gets Home Federal Savings & Loan Assn. of Chicago to write an 80% mortgage on the \$10,995 house (\$995 down to most buyers, less down if the prospect is a good credit risk), makes up the difference as its own investment. The buyer does not get the deed until he is in a position to pay ACB off. The builders figure they have an average of about \$1,800 invested in each house sold; the lender finds the risk small since both builder and buyer have an investment in the house. Any time a buyer can pay the difference between the 80% mortgage and the sum owed the builder (amortized over the same 20-year term as the mortgage), he can get the deed which is held in escrow by the savings and loan association.

* Contract-for-deed sales were first used in volume in Chicago by Builder Irvin A. Blietz, who used the method to sell higher-priced houses to young executives with high income and small savings.



Asphalt-tiled first floor measures 800 sq. ft.; second floor, 320 sq. ft. Kitchen space for clothes drier is provided next to automatic washer which is included in sales price. Use of dining space in living-room area would preclude good furniture arrangement, make living room crossroad of traffic.

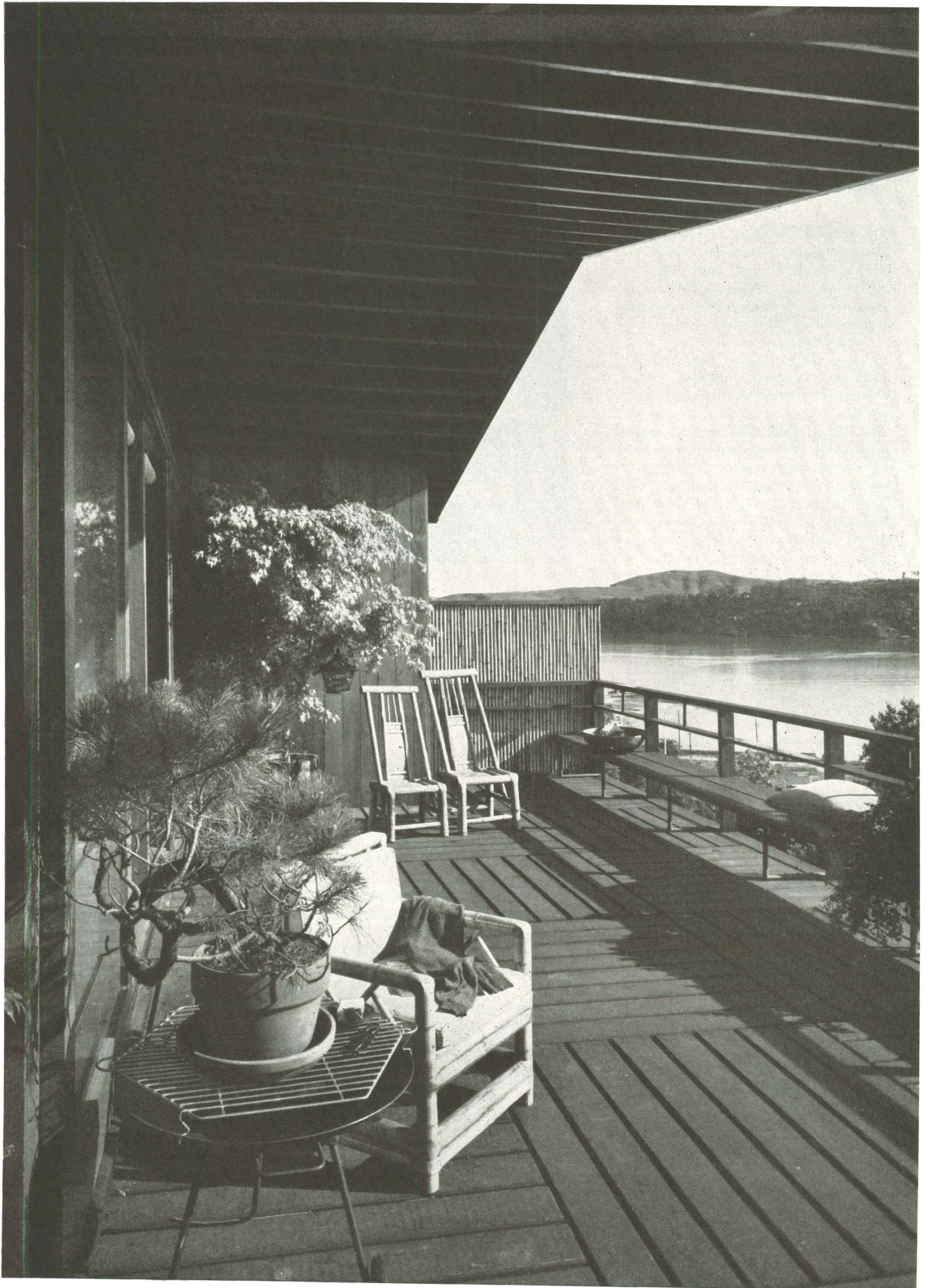


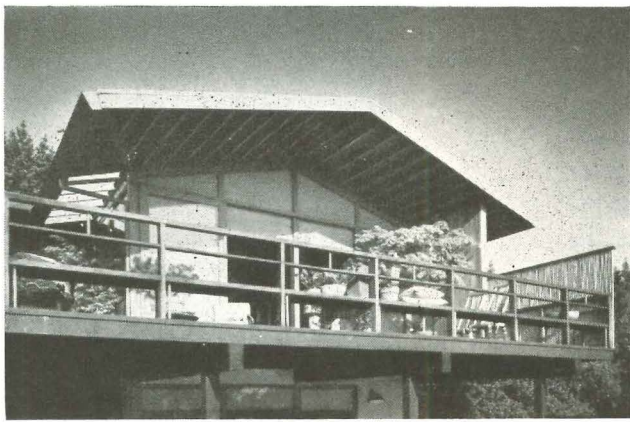
Sales galore. The houses sold well because of their low price—from \$1,000 to \$1,500 under the average Chicago price for this much house—and the expansion attic feature. At \$10,950, they will broaden the economic range of residents in Park Forest. Last year the builders erected a \$12,000 two-bedroom house, a \$13,500 three-bedroom house and a \$16,500 three-bedroom, bath-and-a-half house. Later this year they will build houses ranging in price from \$17,000 to \$22,000.

Much of the appeal of Park Forest lies in community planning: a shopping center of 40 stores, medical centers, churches, schools. A building since 1948, the project with over 3,000 2-, 4-, 6- and 8-unit rental dwellings and 2,500 single-family dwellings is now past its midpoint in development. Approximately 4,000 houses are yet to be built. Last year alone 1,050 were built and sold.

Cost cutting. Many of ACB's cost-cutting techniques went into this low-priced house: integral curb and sidewalk to increase front lawn area, yet minimize materials to bring in utilities and sewage lines; service brought to every other house on the lot line with pipes branching off diagonally to each pair of houses to reduce materials needed; building in big batches—as many as 50 slabs are poured at a time.

In the purchase price. House includes automatic washer, steel kitchen cabinets, double-bowl sink, 30-gallon automatic hot-water heater, screens, combination front and rear doors. Heat is gas-fired warm air. A staggered building line gives added variety to six different front elevations. Lots average 50' in width, 130' in depth, are worth an average of \$2,500. Surface grading is supplied and each lot gets an off-street parking drive.





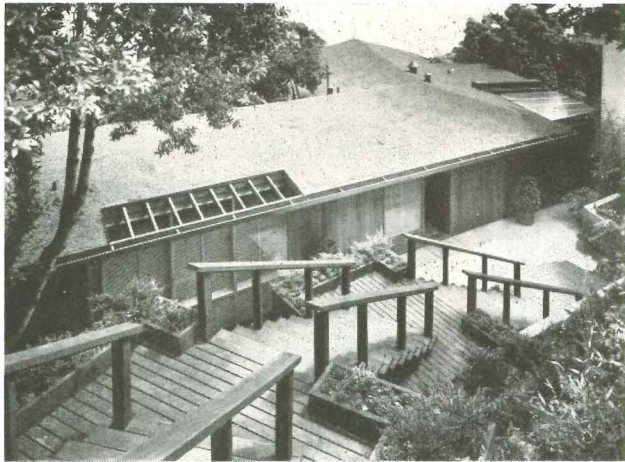
Up in air, living deck scans a wide water view (photo opposite)



Patterns make warmth

A study in bad site and good taste

Photos: Morley Baer



Below main road, planted staircases descend to the front door

LOCATION: Sausalito, near San Francisco
 WORLEY K. WONG, architect, and JOHN C. CAMPBELL

Without shutters or shingles the designers of this house have created a "soft" warm architecture, using patterns and textures—some of them Oriental, all easy (see especially p. 135).

The site itself, a gullied lot, was irregular and steep, a full 25' below the road and pitching sharply toward an arm of San Francisco Bay. Other complications:

- ▶ Neighbors close by, above and on both sides, with a clear view of the site; an existing garage practically on top of the property.
- ▶ Special client requirements: a couple who wanted a perfect setting for their large and fine collection of ancient Oriental objects and a level space for outdoor living and gardening; a 14-year-old son who stated at the beginning he was much more interested in basketball than in "living in a museum of antiques."
- ▶ On the plus side: magnificent views in three directions of hills, water, islands; the pleasantly mild weather of Sausalito's "Banana Belt," a part of the Bay Area relatively free of fog and high winds.

HILLSIDE HOUSES

Here is how Campbell & Wong fitted the puzzle together:

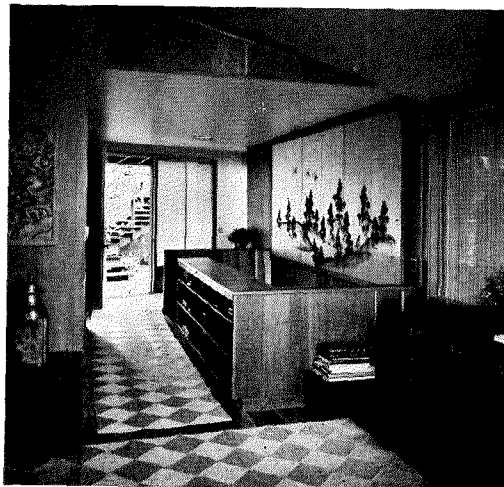
- ▶ They placed the house at the top of the lot for the best view and access to the road, nestled it in the angle of the upper property lines and bent the plan into an open "L" shape with its apex, the main entrance, anchored on high ground. Then they sent the living and sleeping wings soaring off in either direction on tall foundations and wooden piers. For a level terrace they extended the living-room wing onto a wide plank deck rimmed by benches and a potted garden.
- ▶ To get the views and privacy, major rooms (bedrooms, living room) were placed on the downhill side and opened up with glass; less important ones (bathroom, halls, kitchen) were arranged along the street side with a minimum of openings. The living wing points a glass gable end east and slightly south for the main Bay view. The dining room, added after completion of the main house, has its only windows toward this same view, with a skylight replacing windows toward the street and kitchen porch.
- ▶ The space under the main level was enclosed to accommodate utility and storage, son's and guest bedrooms with separate entrance and a basketball deck under the living deck. When the son is away at school and there are no guests, the upper story functions as a complete one-floor house.

Into the puzzle the designers managed to fit many of the best features of ancient Oriental and modern Occidental design, whose principles are often one and the same.

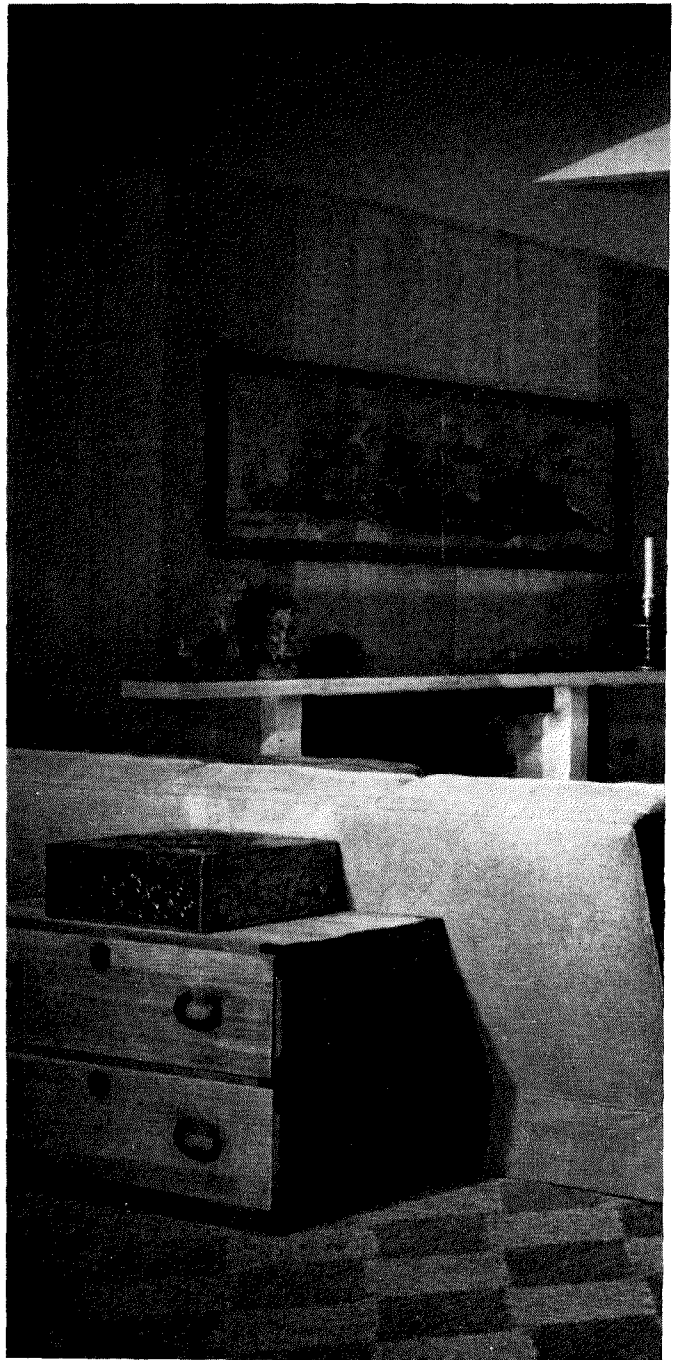
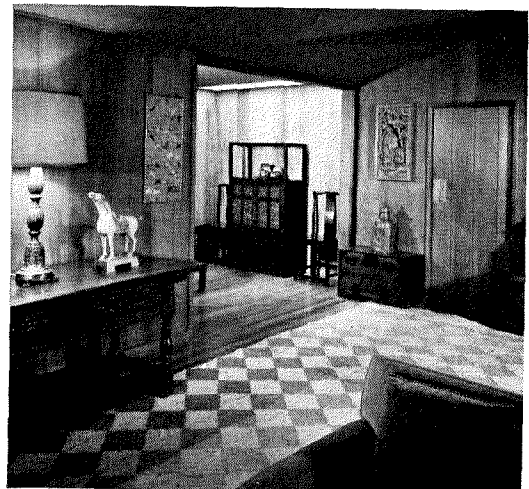


1. Obscure glass shields entry and hall from street

2. Stair rail doubles as front hall bookcase



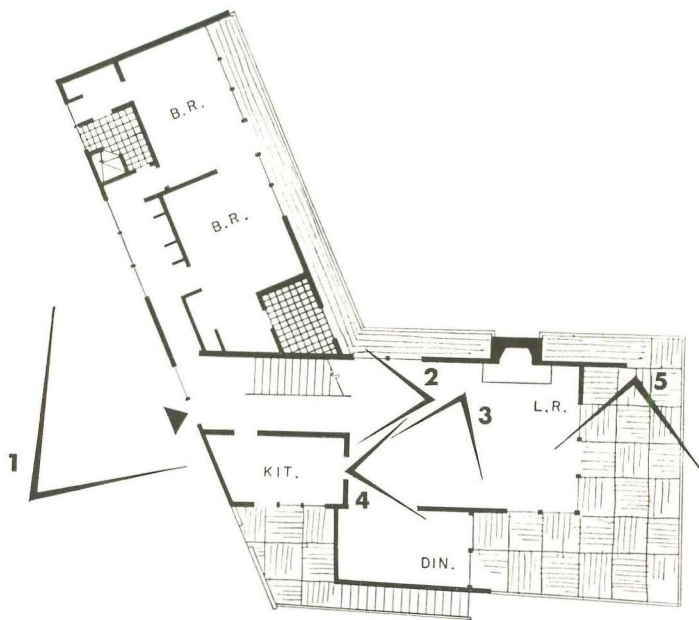
3. Skylight supplements dining-room windows



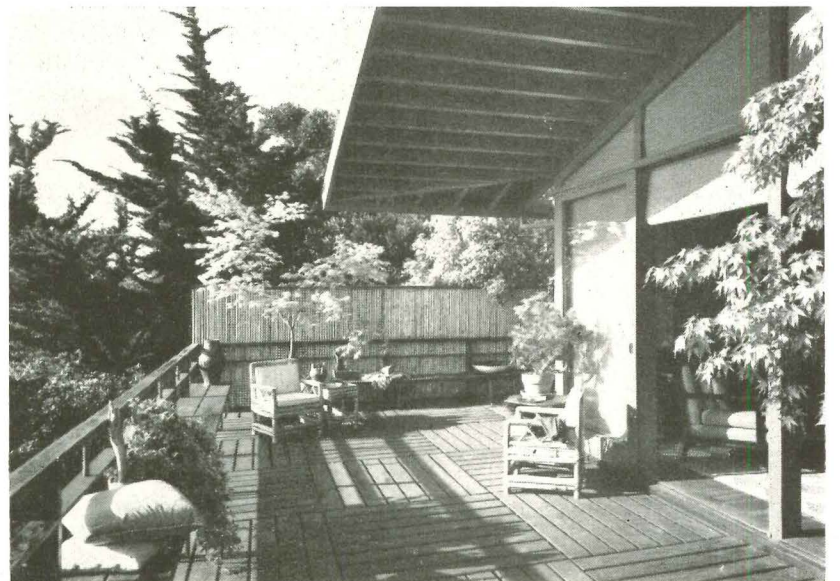
4. Glass gable end slides open to living deck, framing a view of



San Francisco Bay and its islands. Roll curtains are of matchstick bamboo



5. Potted garden of dwarf pine, maple and ginseng is on deck with rattan furniture where owners can enjoy it. Under deck, built of redwood 2 x 6's spaced 1/4" apart, are sports deck, son's and guest quarters.



HILLSIDE HOUSES

Structure. This house, like Japanese houses (and many contemporary American and European houses), uses a simple and logical structural system. Then it leaves some of its skeleton exposed, and most of its wood in the natural color. This attempt to make the most of the basic materials themselves instead of covering them up is common to both Eastern and Western architects who love the various woods they work with and delight in displaying the way the pieces are put together.

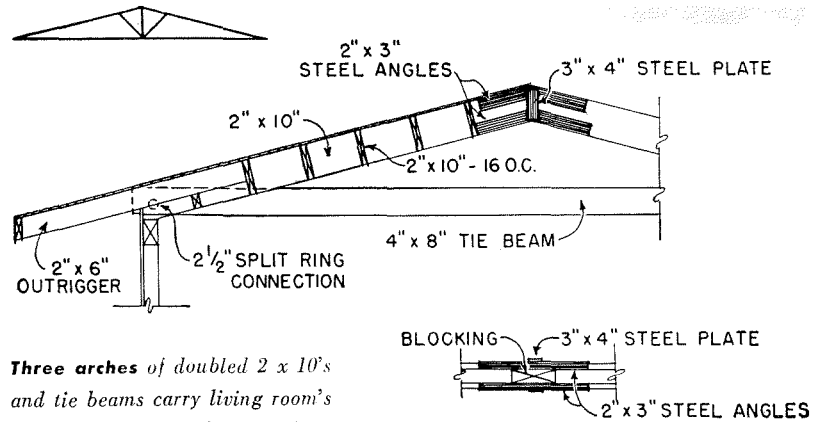
This is an architecture of sticks and straight lines, yet it is a soft and warm domestic sort of architecture, with steel and paint and plaster left out. Its colors are keyed to brown, black and straw—quiet and restrained hues that make a good background for many types of good furnishings, in this case the owners' collection of Oriental antiques.

Patterns. Like a Japanese or a Chinese house, this one is itself a collection of rich patterns and many small compositions for the eye to enjoy. Its basic charm does not depend on appliqué, such as striped wallpaper or flowered chintz, but comes from the many patterns that are built into the walls and floors and ceilings: the ladder-pattern of outriggers on the roof; the rhythm of exposed wall posts and deck railing; the checkerboard of plank decking and woven hemp rugs; the filigree of pierced wood screens (see opposite page). The units of all these patterns are simple: just a straight line, a square, a diamond. But they become rich and handsome decoration simply by being skillfully repeated many times within a defined area.

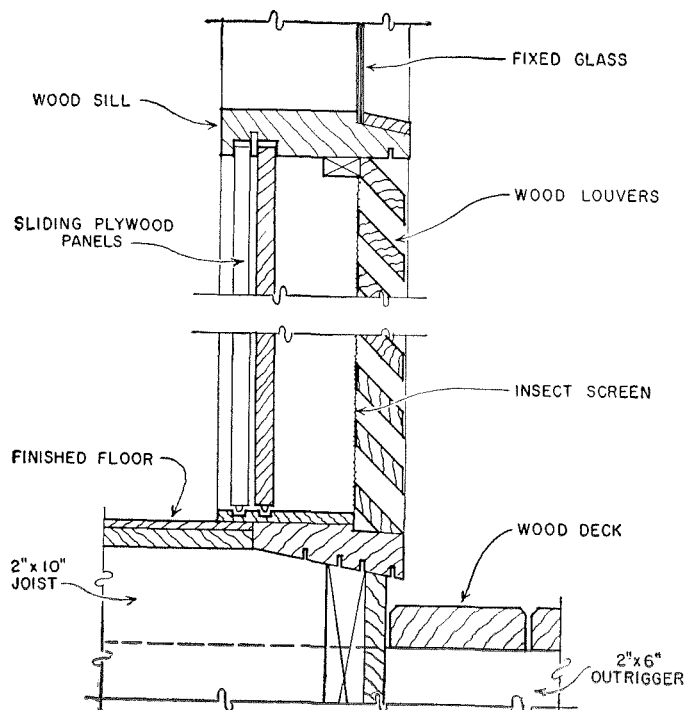
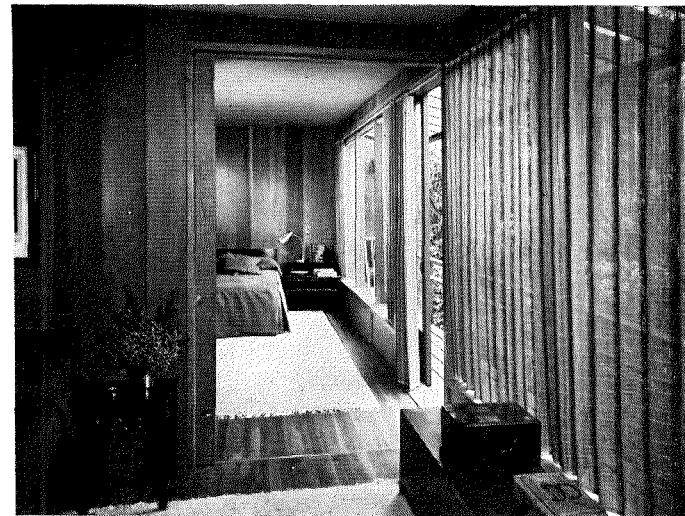
Pictures. Combined with planting and furnishings, these structure patterns produce here and there charming miniature compositions: twisting branches framed against the straight, sharp lines of a window frame; feathery leaves or faraway hills seen through the soft pattern of a bamboo curtain or a figured grille.

. . . and privacy. The Oriental love of pattern also serves the Oriental love of domestic privacy. Where Westerners use curtains, roller shades and swing-back shutters, Eastern builders place sliding screens of decorative openwork toward undesirable views of street and neighbors, sometimes backed with a sheet of white translucent material for complete seclusion. The result is a beautifully patterned silhouette in the wall opening and a soft, diffuse light casting figured shadows on floors and walls inside. In this house the effect is produced by imported hinoki grilles, made of hundreds of delicately carved pieces of cypress, fixed to the inside of obscure glass panels (photos opposite.)

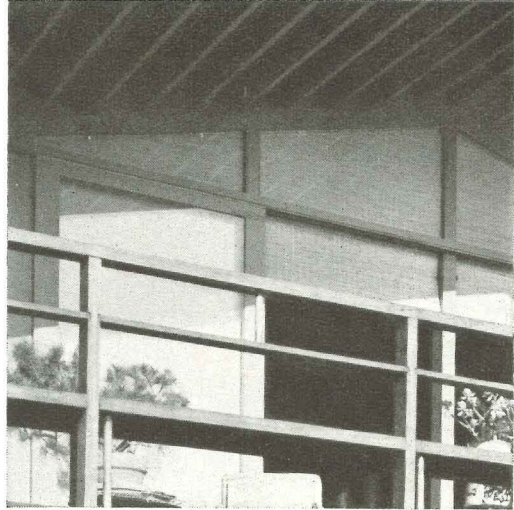
The screens and the owners' objects of art may be direct imports, but not the house itself. The house is a Westernized version of traditional wooden architecture of the Orient, whose qualities have not changed in centuries: the graceful shelter of gabled roof and the freedom of partly open side walls; the warmth of wood surfaces; the quiet, orderly composure of structure and patterns. It is formal without being formalistic, polite but never stuffy.



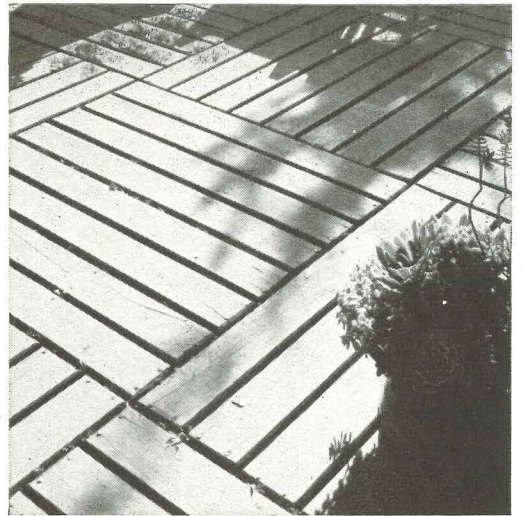
Three arches of doubled 2 x 10's and tie beams carry living room's open ceiling. Trussed 2 x 6 rafters (above) roof bedroom wing.



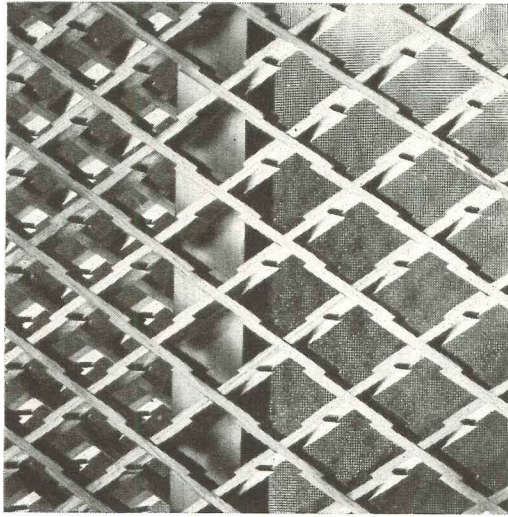
Louvered vents in master bedrooms (photo above) admit breezes under fixed glass of window walls, are rain and insect proof. Plywood panels of sliding, rather than swing-down, design are out of the way when open. Sliding doors throw bedrooms open to each other and to deck outside.



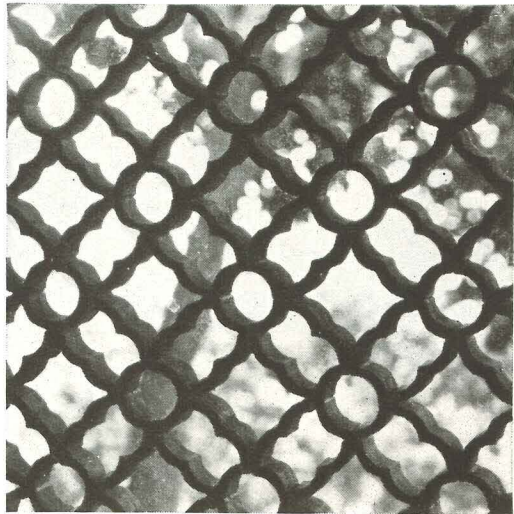
Structural patterns: rail, wall frame, roof



Floor pattern: a checkerboard of deck planks



Screen pattern: diamonds against glass

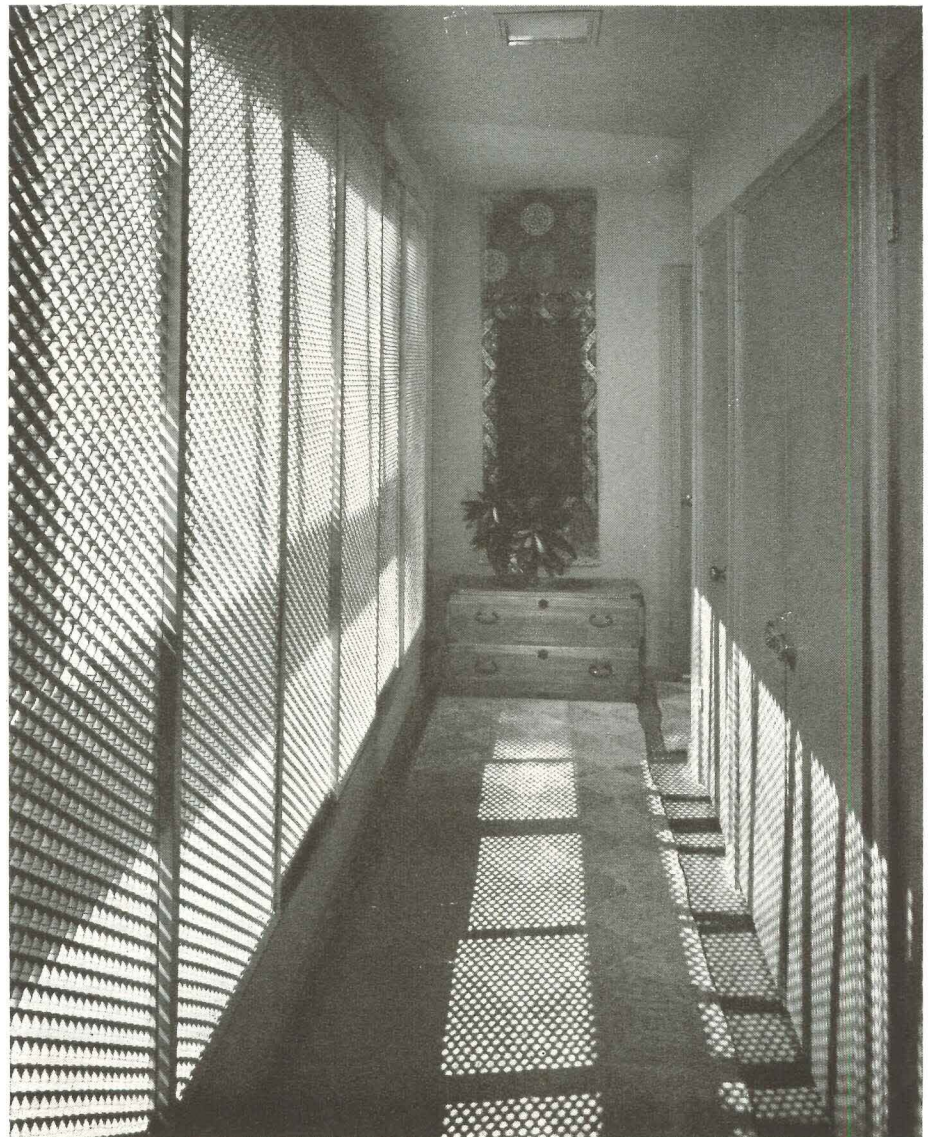


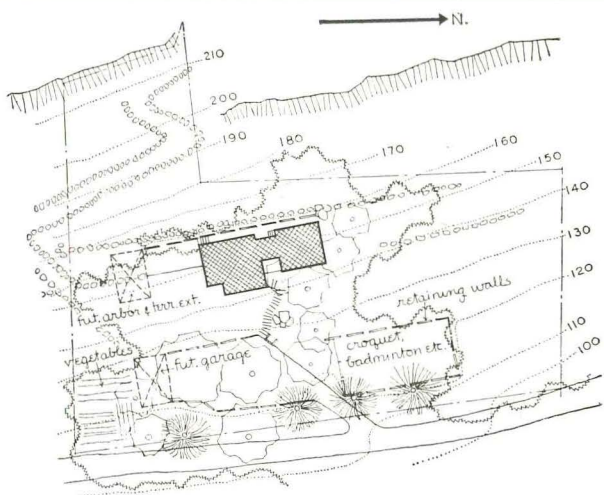
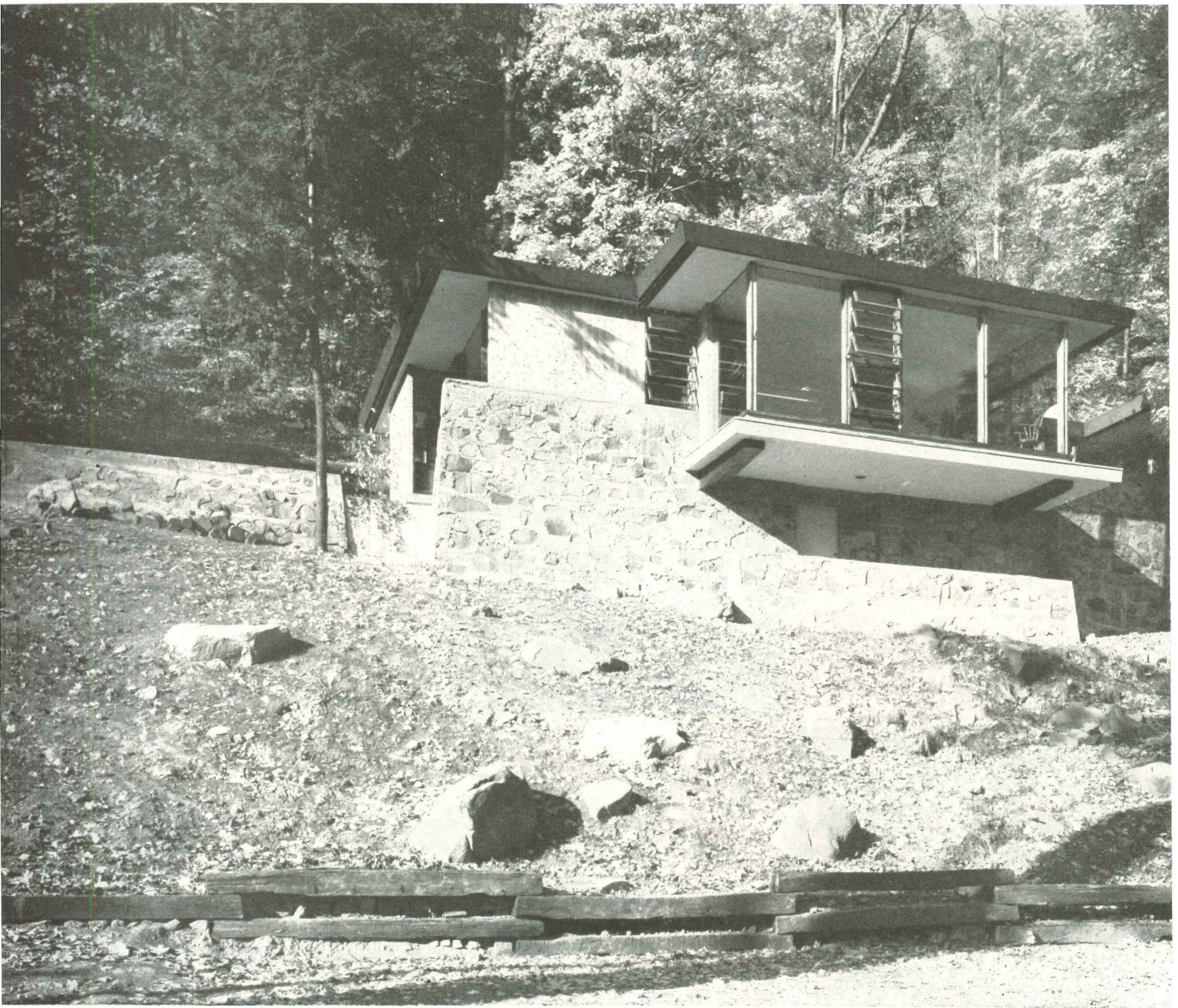
Window pattern: a grille in the bathroom

Fence pattern: bamboo staves on living deck

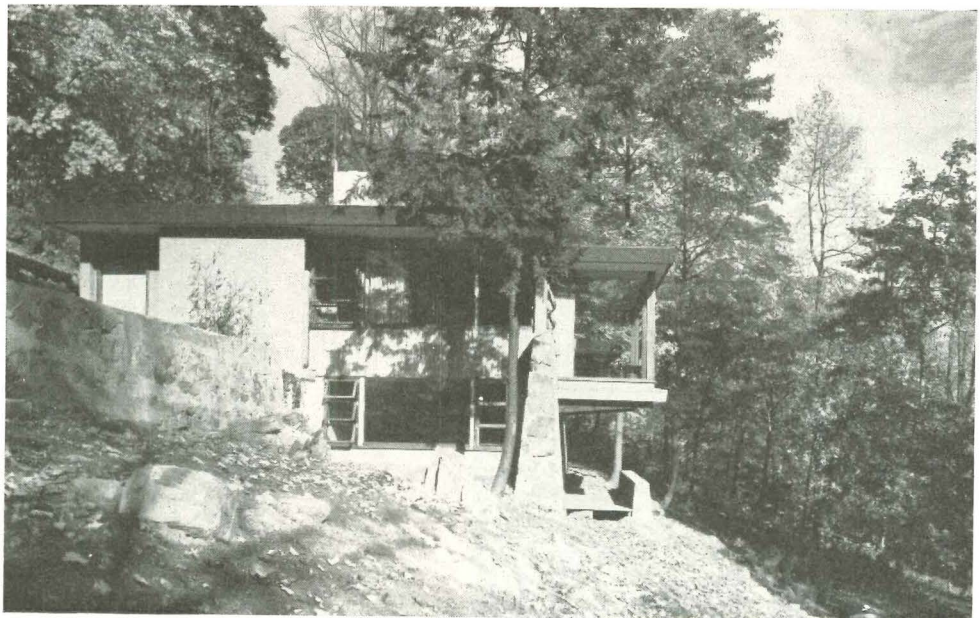


Shadow pattern: through the open roof overhang, obscure glass and figured grilles, the sun comes to brighten the bedroom hall. (Detail, above left.)





Steep riverside slope is 380' high at top, house is about at middle; below is private road and parking space, 100 yd. wide shelf, then drop to Hudson River. Large tulip, locust and conifers, smaller hardwoods cling to thin soil on hillside slope. Hillside, at one time a vineyard, is laced also with retaining walls.



Open-plan house with privacy

**An architect builds himself a big strong shelf
on the Hudson's steep shore.**

At one end of the shelf—the children.

At the other—the parents.

In the middle—the kitchen

Bold and rugged in construction, in finish, in plan—in all its character—this house clings to the up-river end of the rock cliff of the Hudson River Palisades near Manhattan like a river fortress. It is an appropriate design. The stones in the battered parapets on which its forward edge sits were picked up from the area under the living room, where a glacier conveniently had deposited them a few thousand years before. They were not laid up as masonry, but poured into forms with concrete, like aggregate. The trees rooted desperately to the cliff were respected and retained, defining the limits of the plan; the rock slope itself was chipped down only slightly to hold the rear end of the shelflike living space.

INSIDE the house is designed single-mindedly for a particular family to grow up in, not to be careful of. It is designed also for intrafamily harmony while this is happening, with private space for the parents at one end of the building, and for the children at the other. "The thin wire of an intercom system is holding the family together for the first ten years," says the owner, Architect Walker Field.

This is a special house, with no concessions to the generalities of possible resale—the kitchen (see overpage) is the core of the plan, and all major rooms are also traffic ways. There are no playful prettinesses in decoration—you can hit most parts of it with a bat without tragedy. There are no tricks about space—instead there's *space*, 3,740 sq. ft. of it.

It is a strong chord, this house, not a tinkling melody, and it has the strength that can result from an uninhibited approach to the problem of building a very personal house, untrammelled by strong limitations of economy or stylishness.

But what does it mean, except to the people who live there? This: the last 20 years have demonstrated that today's unconventional solutions by top architects to their own houses are not just building arrogance. They are perceptive in their special tastes; it's their business to be. And they form tomorrow's patterns for mass building. Turn the page for details, from a bureau-refrigerator (p. 141) to a slab structural floor of wood (p. 138).

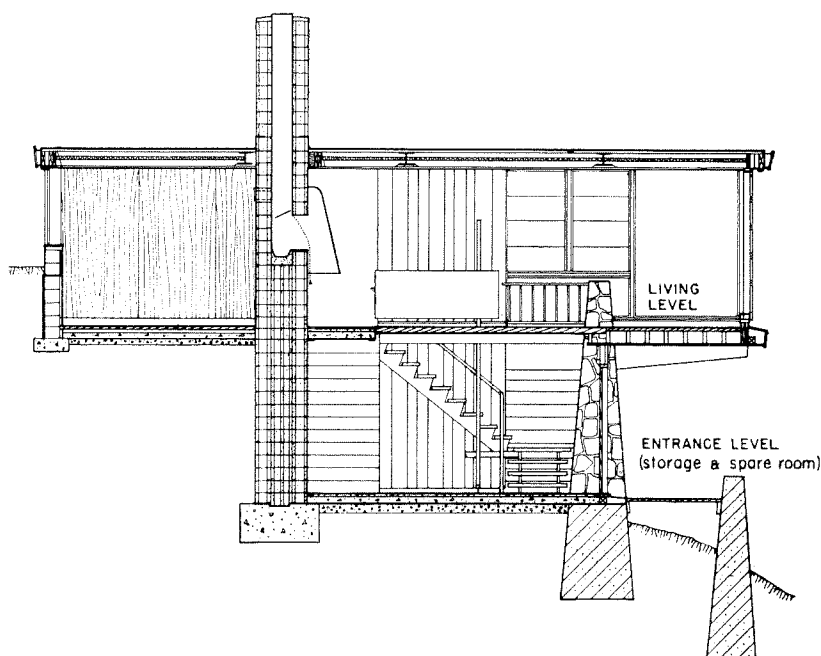
CHARLES H. WARNER JR. AND WALKER FIELD, architects

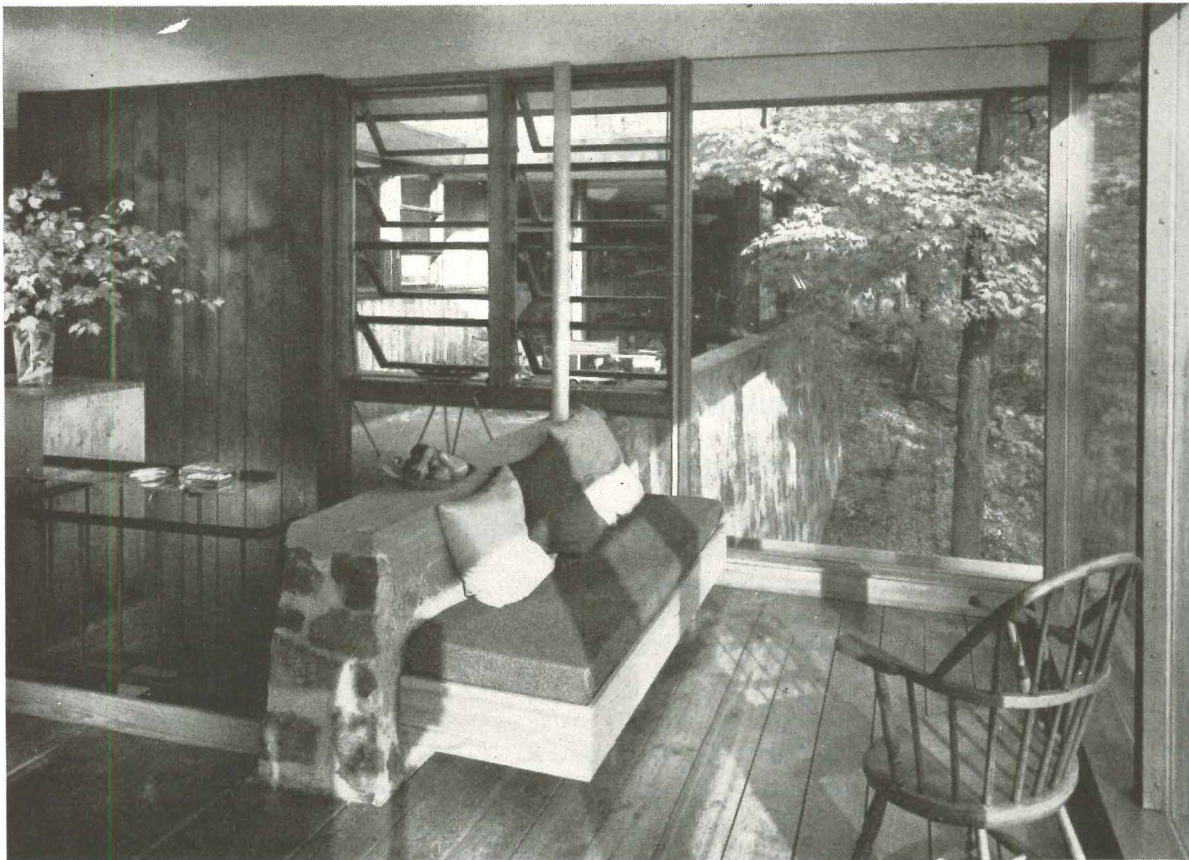
FRED L. HOLT, general contractor

GUYON L. C. EARLE, refrigerator design

LEVY & O'KEEFE, mechanical engineers

SCHAAL & O'DOWD, plumbing & heating contractors





From the living room, across the terrace which hangs in front of the kitchen, parents can watch children at play through glass wall of their wing, but need not hear them at full volume.

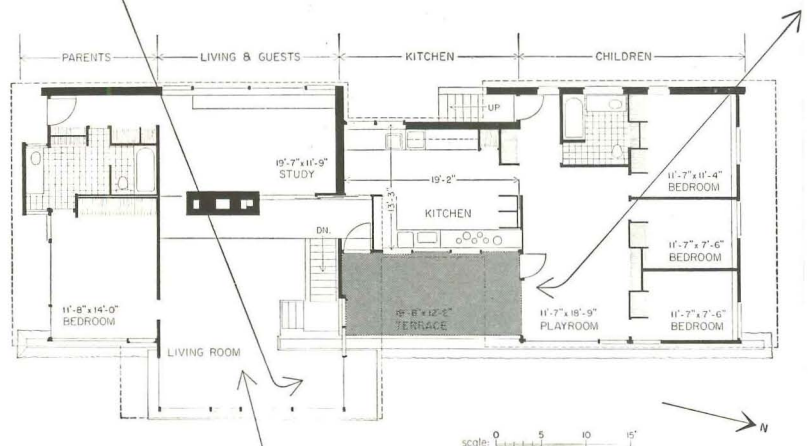
The house is divided by the kitchen into a children's orbit and a parents' and guests' orbit. To one side of this logical communal area are three children's rooms, their bath, and a private, concrete-floored entrance for tramping muddily in from play. Also a large indoor play space. To the south of the wide kitchen is the parents' preserve: living room, study, bedroom and bath; downstairs on this side, a spare room and bath.

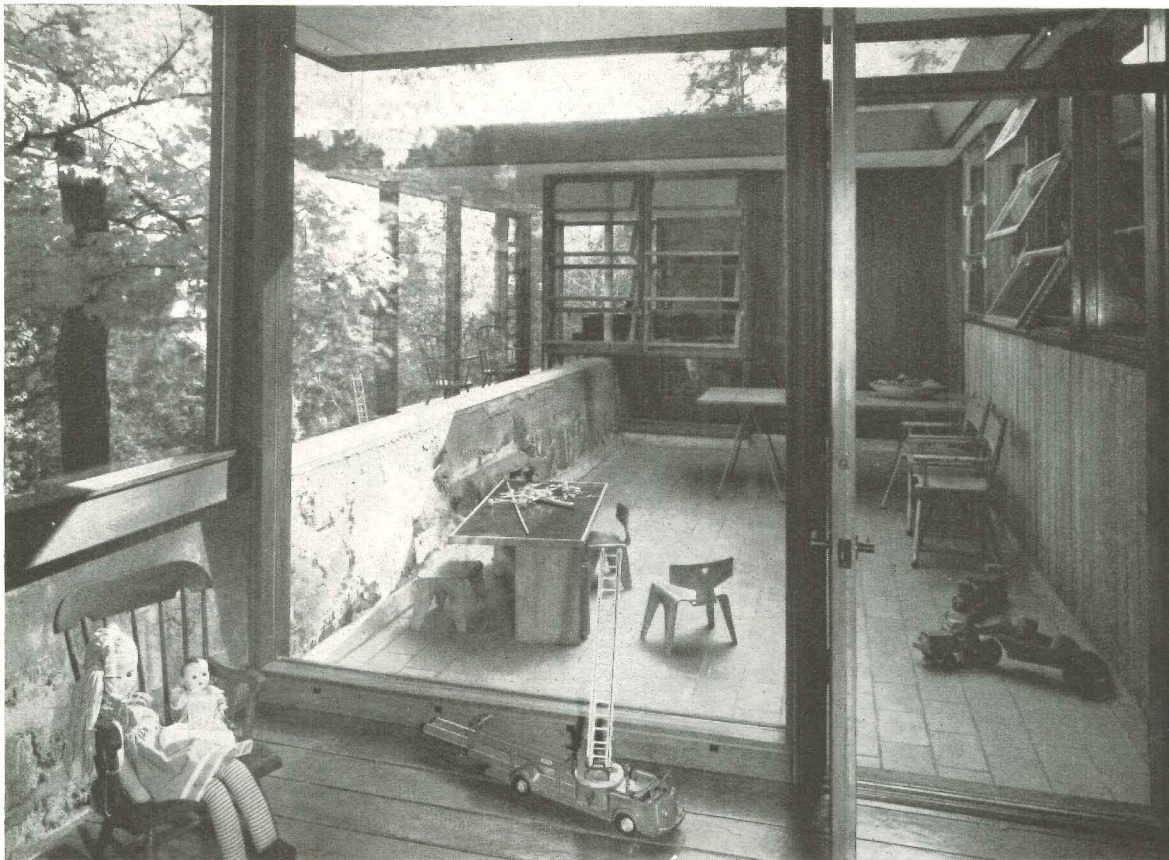
There is no sternly defined dining room, but five dining areas:

1. The big kitchen, where children eat most of their meals and parents some of theirs.
2. The area in the living room beside the stairwell, where a table sits, and parents eat most meals (children some).
3. The study, where larger dinners are seated and served. After dinner a sliding wall (see plan) can slice this area off from the living room, exiling an uncleared table, if necessary.
4. The big play space, for more isolated eating for children.
5. The terrace hanging outside the kitchen over the slope, for breakfasts, other outdoor family meals.
6. The south terrace for more formal outdoor dining.

The ends of the house are linked not only by the bedroom-intercom system, through which the parents can check the three children's breathing long distance, but also visually. Parents can sit in the living room and look through the glass wall of that room across the balcony terrace and into the playroom through its matching glass wall (see pictures and plan). Children thus are visible at play, but their shouts have to wind through the kitchen.

Slab wood floor. Except for small overhangs and area on grade, the suspended living floor is built of 4" x 3" fir planking, without joists between beams. A handsome finish from above and below, this is no more expensive than conventional joist plus underflooring plus finish floor, says the architect. "It uses no more lumber, actually, and goes in faster." Where house is notched into slope at rear, this floor sits on an insulating concrete slab on sleepers, and here planks are 2" thick. A raft of poured concrete, integrally dyed black, meets stairway and stretches to the hearth.

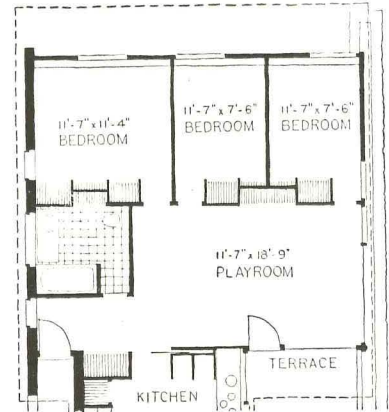




Reverse view, from playroom across terrace toward living room. This outdoor space is used also for dining at times; view is east, over Hudson River. All full-length glass is double-paned.

Living room, viewed from the hearth. At left is entrance stairwell. in front of you the atmosphere over the Hudson River



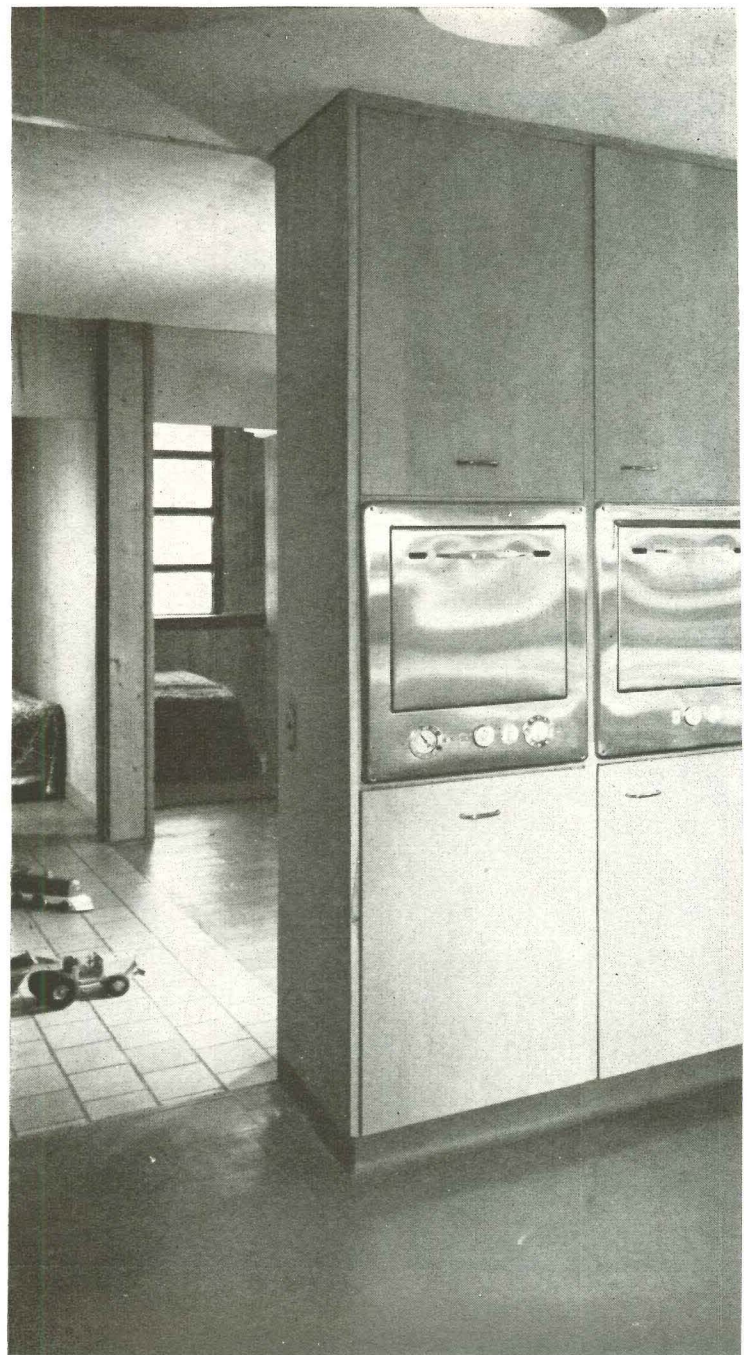


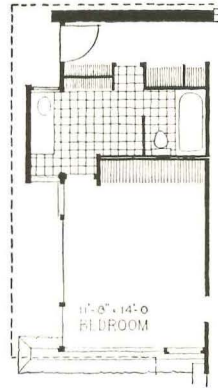
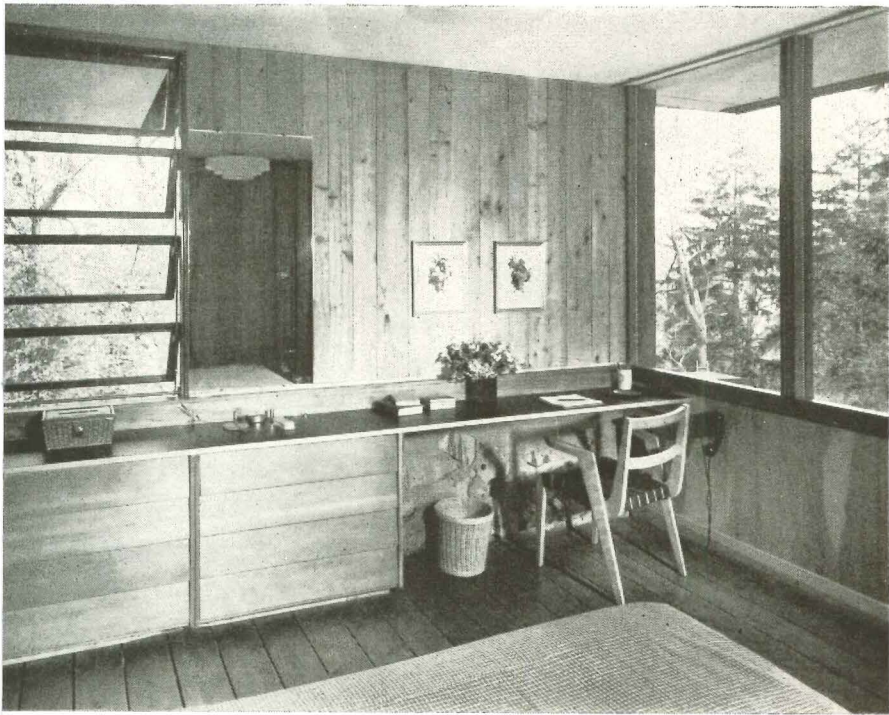
Children's suite. Three bedrooms open off spacious playroom which opens onto railed balcony. Note separate entrance and (in kitchen photo below) how playroom is almost an extension of this big work space detachable by sliding door.

THE THREE

Kitchen. A real country kitchen, the core of the house is large, but as carefully studied as any closet kitchen. Some of the specialties of architectural chef Field:

1. Burners are in counter top, but were bought separately and set expensively into stainless steel for three reasons: designers thought available counter-top burner units too closely spaced together for convenience in cooking; they wanted a staggered arrangement with larger burners at rear; they wanted to put the controls up on the wall out of reach of small children.
2. All counter space is 38" high, 2" loftier than today's accepted standard. Both tall and short cooks have applauded this height as more comfortable.
3. Ovens also are set high, on flat wall *near* counter top burners.
4. Over ovens are storage bins for crackers, cereals, etc.. for oven heat to keep crisp.
5. Under the counter are pull-out racks for storage of pots and pans, near the fire (see photo).
6. Refrigerator is a custom design, with drawers which pull out instead of a door. Drawers are various depths—the maximum, milk bottle size. Ice compartment is in cupboard over counter. Advantages of this design: cold air doesn't fall out of this refrigerator when it is opened, as it does with conventional models; all crannies are easily accessible, and nothing stored can hide anything else; although total enclosure is 9 cu. ft., owners have found it is equivalent in use to usual 11 cu. ft. box. "It's like the Gladstone traveling bag. It's never been full."
7. Faucet control in all sinks is unconventional too. Lever on left controls temperature, from very hot to very cold. Lever on right controls rate of flow, so after flow has been set, cook can mix temperature one handed.
8. Kitchen is a "farmer's wife" type, frankly a hallway. But the addition of the hallway space to the center of the kitchen makes it a room of noble size, with two exposures.
9. All utensil space is organized in separate (custom-built, plywood) cabinets. Glasses are near sink; large casseroles, vases, etc. are separate from dishes, etc.





NEIGHBORHOODS

Parents' suite. Bedroom and compartmented bath are at far end of house, both warmly wood finished.



Labels in the kitchen floor plan include: sink & garbage unit, china & glassware over, range, pots & pans under, dishwasher, sliding doors, dry packages over, baking dishes below, ovens, refrigerator drawers, sliding door, brooms & cleaning supplies, canned goods over, washer, and laundry tray.



How to build a better slab house

See the pages which follow for answers to these common questions:

Should a slab house really cost less? (p. 148)

What is the "basement equivalent"? (p. 149)

How can you build a dry slab? (p. 143)

How can you build a warm slab? (p. 145)

Are below-frost foundations necessary? (p. 146)

Will the "floating" slab work? (p. 147)



Mobile mixer pours two slabs, is then driven to next pair of foundations

The slab-on-ground house today is playing to what show business calls "mixed notices." It is growing popular in South Bend, where slab-man Andy Place found that 72% of his customers would not return to basements (H&H, May '53). Many other Middle West projects will be on slabs for the first time. In the West and Southwest, slabs are firmly established.

Yet on Long Island, with almost perfect physical conditions for concrete slab construction, few builders will touch them today. In Hempstead, L. I. only 2% of 1952's 7,031 building permits were for concrete slab houses. Matern & York, who design almost 2,000 houses a year for L. I. builders, have not had a single slab design on their boards for over 18 months. Leading sales brokers are pessimistic about a comeback. Yet this revolt is in the heart of a region that gave the slab its greatest single boost by buying 19,400 Levitt houses in five years.

What has caused this erratic popularity? Why is the slab "on trial" in so many places? Builders often feel, like the Ancient Mariner, that there is "water, water, everywhere." Earl Smith opened his shop talk at the 1953 NAHB convention by asking the crowded room what they did to cure moisture problems in slabs. An hour later, everything had been suggested as a vapor/moisture barrier except Wrigley's chewing gum, and every application method but spot welding.

It was plain that dampness and mildewed clothing, unstuck floor tiles and high heat losses were all important problems, caused by the same enemy responsible for nail popping, paint failures and poor concrete—water (H&H, Aug. '52). Not one form of water, but three. Not three problems, but one.

The problem: How to isolate the structure from soil-based moisture

1. Grade away from slab

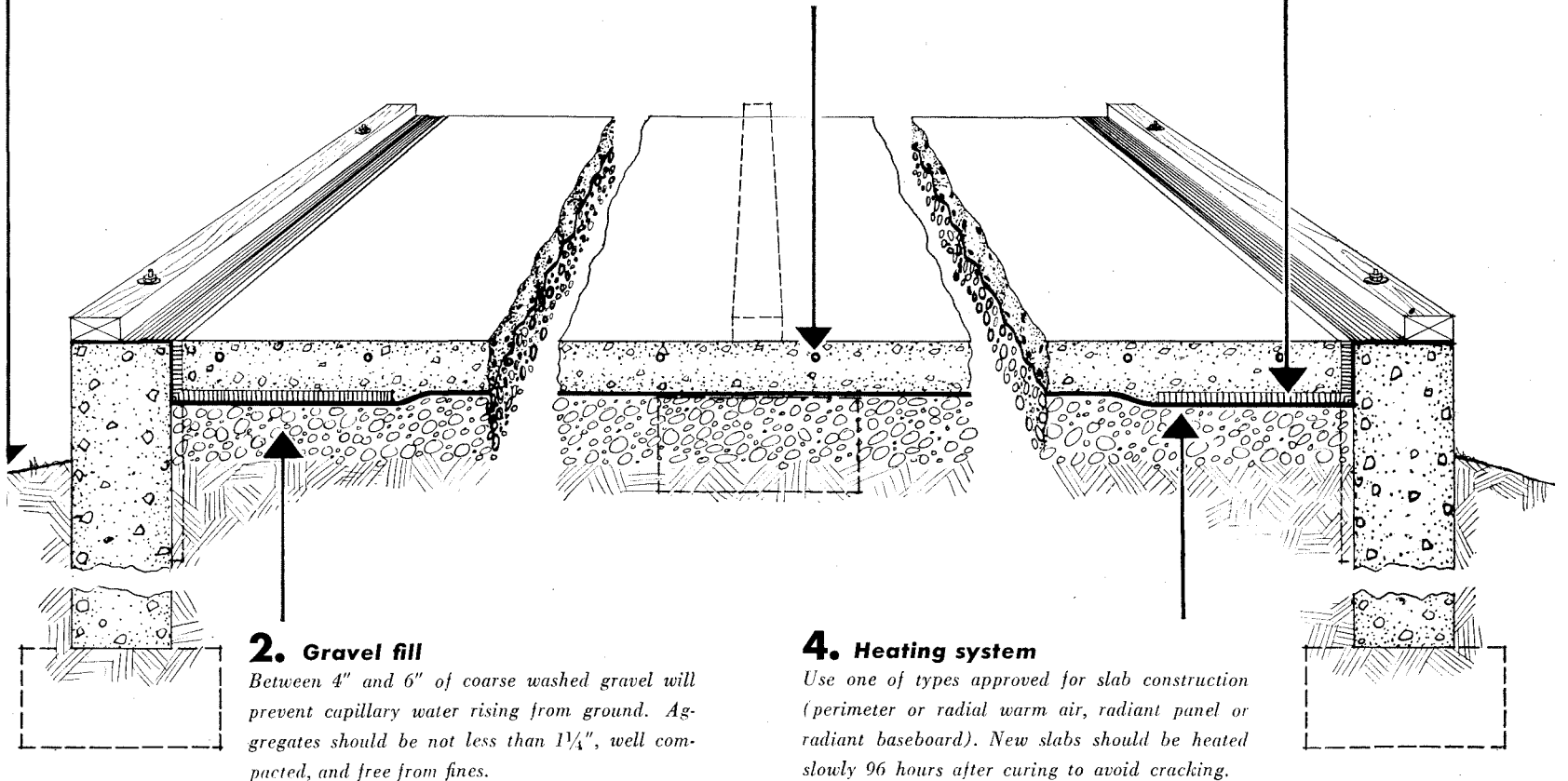
Outside grade should fall sharply away from foundation. If possible, top of outside grade should be below bottom of gravel so that standing water cannot flood the slab base.

3. Moisture/vapor barrier

Inviolable membrane of low permeability, is not subject to decomposition. All joints should be well lapped and cemented. Punctures must be repaired before concrete slab is poured.

5. Edge insulation

Waterproofed insulation, not subject to decomposition or insect damage, should extend at least 12" below outside grade, or horizontally 18" under slab at perimeter.



2. Gravel fill

Between 4" and 6" of coarse washed gravel will prevent capillary water rising from ground. Aggregates should be not less than 1/4", well compacted, and free from fines.

4. Heating system

Use one of types approved for slab construction (perimeter or radial warm air, radiant panel or radiant baseboard). New slabs should be heated slowly 96 hours after curing to avoid cracking.

With the exception of surface condensation, all slab moisture is caused by three factors:

- 1. Hydrostatic water.** If the land is so low that there will be a constant hydrostatic pressure, best advice would be: "Don't build houses." The flow of water seeking its own level is an almost irresistible force, and one that can be overcome only with great trouble and expense. But if the condition is one of standing ground water, on slow-to-drain soil, the slab should be elevated enough above grade to provide against flash floods and to permit natural drainage of the gravel base. The ground should slope away from the house steeply enough to put the outside grade below the bottom of the slab base. In extreme cases, perimeter drain tiles can be used. Gutters and downspouts should carry water as far from the house as possible.
- 2. Capillary water.** The slab stands ready, like a 1,000 sq. ft. wick, to draw up water from the moist soil. Water rises through soil in various volumes, in proportion to the fine articles in the soil. Slabs in contact with high capillarity soil will suck up moisture through tiny capillary tubes formed in the concrete during curing. Best and cheapest way of breaking capillarity is the familiar layer of washed gravel beneath the slab, for tests have shown that water will not support a capillary rise through as little as 2" of clean gravel. A 4" layer is generally specified, though

FHA gave Bill Levitt permission to use 6" of bank run instead.

An unbroken moisture barrier is critical, for concrete fines will drop through any punctures, fill the voids in the gravel below, and act as so many wicks into the damp soil. Another trouble spot is a rot-vulnerable wood plate bolted directly to the foundation wall. A moisture barrier between wood and concrete will keep the plate dry.

- 3. Water vapor.** The role of water vapor in moisture migration is controversial. One recent theory holds that the problem has been stated backward, that vapor pressures in a heated house will often be higher than in the ground below and tend to migrate outward. In this case, an impermeable barrier would tend to hold water in the slab above it, and a vapor-porous material (felt or impregnated paper) would be best.

However, recent tests at Forest Products Laboratory indicate that the amount of water transmitted upward through a slab in vapor form may in some cases exceed the amount transmitted when capillary soil is in contact with the bottom of the slab. These same experiments showed that an unprotected slab would move up to 2 1/2 gals. of water per 1,000 sq. ft. per day, while a membrane of 45 lb. roll roofing would reduce this by 90%.

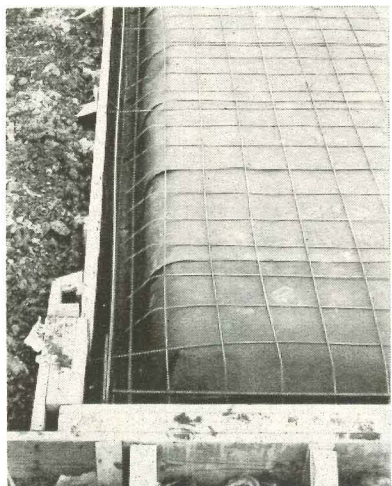
SLAB HOUSE



Natural Homes

Resin-coated paper with asphalt sandwich has good water resistance, but high vapor permeability. Cost: 1½¢ per sq. ft., in place.

Roll roofing, 45-55 lb. asphalt content, is gaining favor and manufacturers are bringing out materials which are specifically designed for slabs. Installed cost: approximately 3¼¢-3¾¢ per sq. ft.



Laughead photo



Mercury Pictures

Plastic film, 4 mm. thick, is being tried by Andy Place. Flexibility makes it easy to form around duct trenches. Cost: about 1¾¢ per sq. ft.

Hot mopped 15 lb. felt requires hand labor, usually consists of two layers of felt, flood mopped. Easily punctured. Cost: 6¢-7½¢ per sq. ft.



Only lifesavers need holes. Like any dike against water, the vapor barrier is only effective if impermeable. Holes kicked by careless workmen (or concrete crews wanting a fast set), damage caused by rough handling, openings around soil stack and water lines—all must be sealed before the concrete is poured. Some good rules for vapor barriers:

1. Always use walkboards for workmen who cross membranes.
2. Don't drive any wooden stakes through the membrane to hold concrete forms or radiant heat tubing.
3. Seal lapped edges. Vapor will penetrate the smallest openings.

What's the best vapor/moisture barrier? Most of the building industry accepts the contention that vapor pressures built up in the trapped air beneath the slab will cause a damp slab, even though no capillary water can rise through the gravel. The problem then is: what material is least permeable by water vapor?

Asphalt sandwich papers and 15 lb. roofing felt. These materials are water resistant and will keep moisture in the slab during curing, but they are vapor porous, and will not serve as a vapor seal. Accelerated aging tests conducted by the Department of Agriculture indicate that fiber materials in contact with fungi and ground moisture rapidly deteriorate, but these tests have been challenged on the ground that in a well-built slab there is *no* contact with the moist earth, as there is in a crawl-space. Hot-mopped felt costs 6¢-7½¢, laminated paper under 2¢ per sq. ft.

Architect Henry C. Burge fabricates his California slabs in two pours, with an asphaltic membrane sandwich. Burge claims two thin pours cure faster than usual 4" slab, and bottom course provides a protective base for membrane, often damaged by sharp gravel. For radiant heat (p. 145), the two-pour system keeps tubing at the desired depth in the slab.

Roll roofing. High resistance to deterioration, impermeability to vapor (over 90%), and ease of installation have made roll roofing popular. Joints are cold sealed with asphaltic cement, and need no hot mopping. Costs in place will be between 3¢-4¢. Manufacturers are now bringing out membranes that use asbestos or glass fibers as a carrying agent for the asphalt rather than the felt used in roll roofing. Some of these materials have a high degree of masticity and immunity to rot.

Plastic film. Andy Place, in South Bend, is experimenting with a new polyethelene film, 4 mm. thick, which comes in rolled sheets up to 16' in width. Flexibility gives the film a high resistance to puncturing, and breaks that do occur may be repaired with a plastic tape. Because it is an inert material, claims are made that neither soil nor cement have any effect on it. Place estimates his cost at 1¾¢ per sq. ft., as against 1½¢ for sandwich paper.

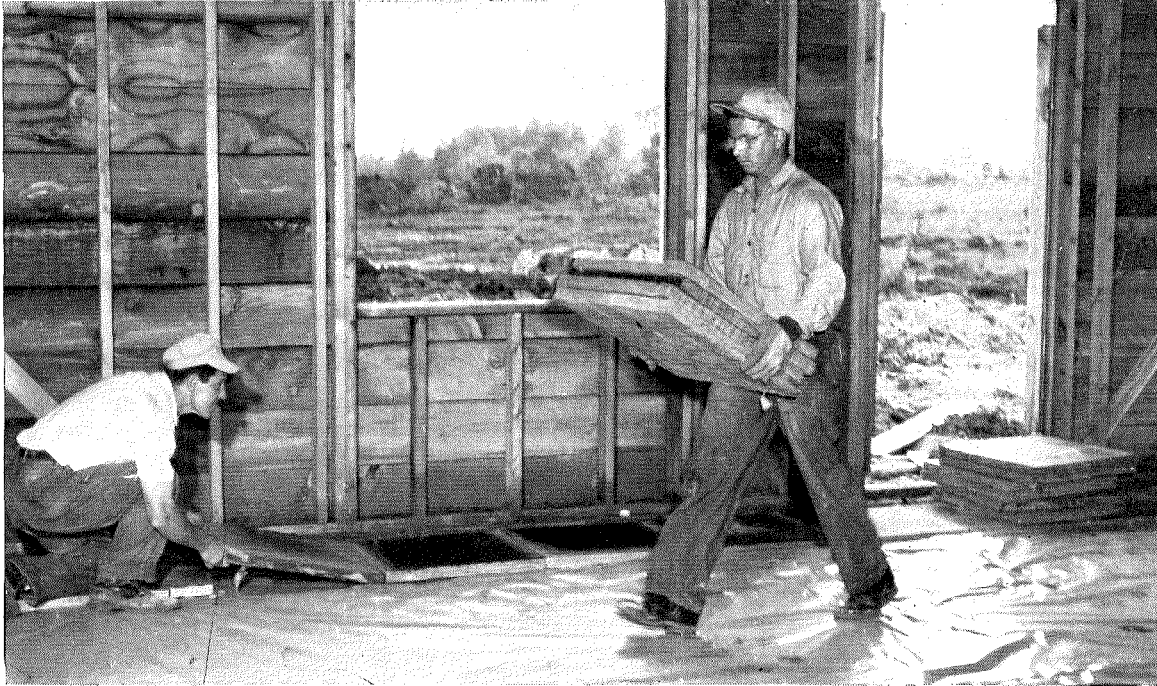
Rigid asphalt board. Heaviest of the nonmetallic vapor barriers, this board is often specified beneath gymnasium floors, where moisture could buckle hardwood flooring. Compacted asphalt 1/8" thick is covered with building paper, and furnished in 4' x 8' sheets. It can be bent or formed after heating, costs approximately 10¢ per sq. ft., exceeded only by copper-coated papers (12¢ per sq. ft.), which are completely impervious.

Surface condensation. This is readily visible, damaging to clothes and furniture, and difficult to cure. Condensation of warm, humid air on colder surfaces cannot be completely eliminated on muggy days, but three precautions will help:

1. Rigid insulation may be used under the slab to reduce heat loss if cost is not paramount (1½" cork costs 16¢-17¢ per sq. ft.).
2. Rugs and carpets act as an insulating layer between warm air and cold slab, but will not work if temperature spread is very high.
3. Hardwood flooring and cork tile, less dense than asphalt tile, may be used if water and vapor penetration is eliminated.

How to build a warm slab

Mercury Pictures



Edge insulation being placed on vapor barrier before slab is poured. Workmen should use walkboards to avoid puncturing membrane.

High heat losses mean cold floors. In a noninsulated slab, the temperature gradient between the center of a room and the edge may be 20° or more. A band of insulation 1" at the slab edge will reduce this gradient to less than 5°. Such insulation must extend at least 12" below outside grade, or 18" under the slab, if laid horizontally. Moisture barrier should enclose insulation.

The perimeter, just above grade, is the source of the worst heat loss, for here the concrete is exposed to low air temperatures. Losses through the center of the slab are negligible.

Keep it dry and you keep it warm. All the rules for the dry slab are worth repeating for the warm floor. Studies at the University of Minnesota indicate that damp capillary soil transmits heat four times as fast as washed gravel, which points up the value of the capillary break.

The heating system. No slab can be kept warm until after it has been made warm. Heating systems for slabs have improved immeasurably, with both wet and dry heat systems offering equipment made especially for slab houses. Compact and efficient, they take a minimum of floor space.

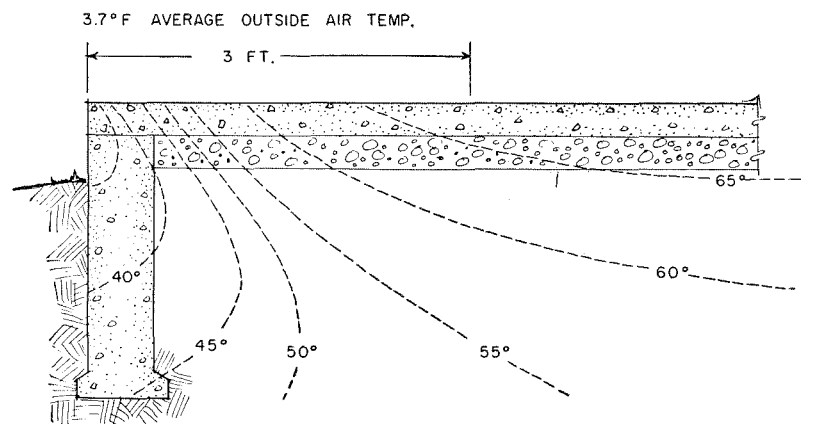
Warm air. Tests of warm-air systems in slabs (H&H, Feb. '53), prove that the perimeter loop system gives the lowest spread in floor temperatures (only 10% was less than 70°).

Some good rules for warm-air heat in slabs:

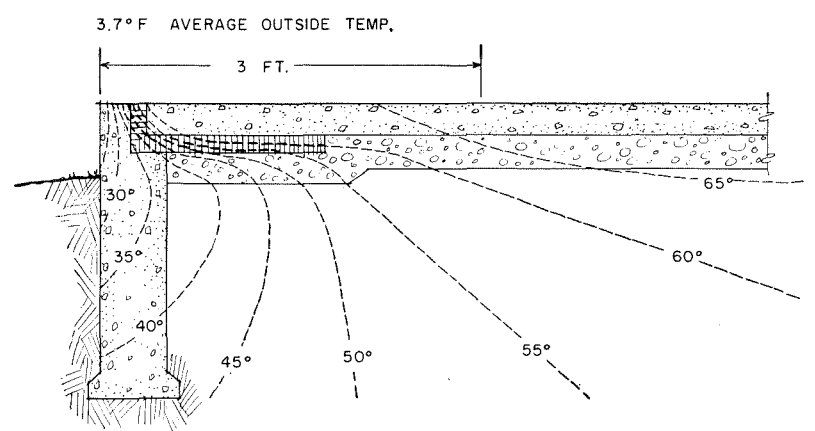
1. Replace any damaged duct before the slab is poured.
2. Use steel mesh over the top of the duct for extra strength.
3. Pour concrete completely around lightweight ducts.
4. Slope feeders 5" from outside loop to central plenum.
5. Support clay pipe by the barrel, not the bell.

Hot-water, radiant-panel heat will be improved if you:

1. Keep tubing approximately 2" below the slab surface, and not less than 12" o.c.
2. Demand tubing of not less than 1/2" nominal diameter.
3. Use an officially rated boiler, sized for the job.
4. Keep supply lines at exterior walls, return loops nearer boiler.
5. Provide balancing cocks for varying room temperatures.



Uninsulated slab shows high heat loss at perimeter of house. Temperature gradients drop more than 20° in less than 24", would make rooms extremely uncomfortable, except in centers.

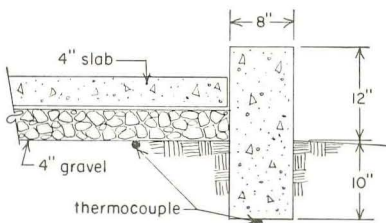
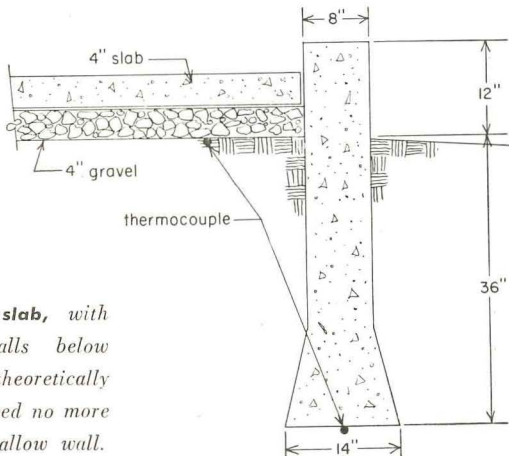


Insulated slab shows only 5° drop in floor temperature at perimeter. Low under-insulation temperatures prove that expensive heat is not used to warm up cold ground adjoining foundation.

The shallow-grade-beam slab

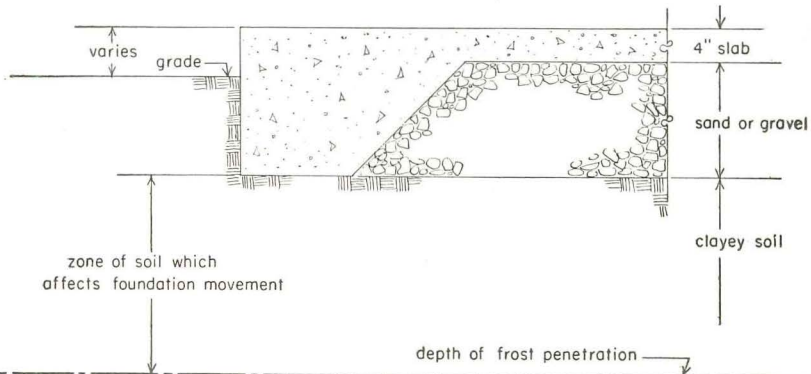
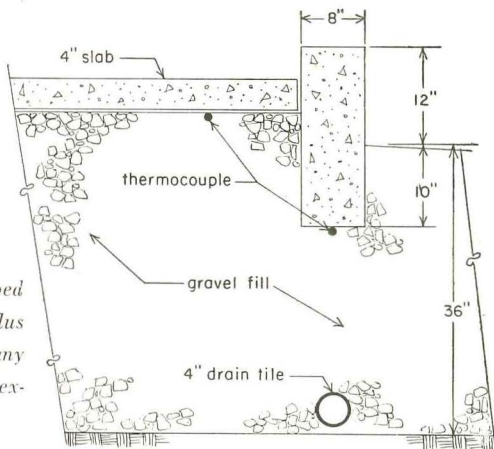
Are below-frost foundations necessary, or merely wasteful?

Conventional slab, with foundation walls below frost, would theoretically not heave, proved no more stable than shallow wall.



Shallow grade beam is strong enough to support house, will resist frost heaving in all but high capillarity soil areas.

Test slab had gravel bed to below frost line, plus drain tile to remove any seepage, was far too expensive for normal use.



Slab recommended for stable clay soil had gravel beneath slab to depth of thickened edge. While structurally sound, SHC's slab ignores unsolved problem of insulating edge economically in cold North.

A two-year study of frost action on concrete floor slabs and foundations by the University of Illinois Small Homes Council has cast serious doubt on the necessity for deep foundations for small houses where the soil is made up of clean sands or gravels, since frost causes practically no movement in such materials.

The same study recommended that the shallow foundation *not* be used in silty soils, and that in mixed-grain soil the grade beam is acceptable if there is sufficient clay to make the soil act as a closed system (i.e., not attract additional capillary water from below as the moisture in the frost area freezes).

Where the shallow foundation and slab on ground is used, SHC makes the following recommendations:

1. Floor and foundation should be monolithic to eliminate any difference in vertical movement.
2. All footings must be placed on undisturbed soil.
3. Fills of clean sands or gravel should be used beneath the slab to the bottom of the footing.
4. In mixed-grain soil, there should be sufficient clay to make the soil act as a closed system over prolonged freezing periods.

Practice says "Yes," codes say "No." Shallow foundations and thickened edge slabs are not unknown in US cold zones. In 1938, the Ft. Wayne, Ind. Housing Authority built 50 three-room units on thickened edge slabs, and followed with 500 more, and there have been no failures in the 15 years since. Many cities permit an attached garage to be built without foundation walls below frost, while demanding them for the adjoining house. Canadian houses have performed satisfactorily since 1947 in the extreme temperatures of Ft. William, Ontario. Yet building codes in few northern US areas will permit the grade-beam slab, though a Long Island builder estimates that it would save him over \$400 on a 1,000 sq. ft. house, a saving that would buy up to 60 sq. ft. of additional above-grade house.

Frost heave. Vertical movement of structures cannot be eliminated entirely unless they are founded on solid rock. Therefore, some movement must be expected and accepted. Larger structures are designed for settlements of 1", and a differential settlement of $\frac{3}{4}$ " is permitted. Requirements for small houses should not be any more rigid.

If the water in the voids of saturated clean sand or gravel should freeze, the volume of the voids would increase 9%, but the structure of the soil would remain unchanged. In a fine-grained soil, freezing involves the formation of ice layers roughly parallel to the surface which may grow to several inches thick. The soil then becomes a stratified material consisting of alternate layers of clear ice and soil. It is this expansion that causes frost heave.

The formation of ice layers requires that grains smaller than .02 mm. constitute at least 3% of the total soil volume. In soils with less than 1% of such grains, ice layers are not formed under any field conditions. And even high capillary soils are not hopeless, for a layer of capillarity-breaking clean gravel between the highest water table and the frost line will keep frost heave within tolerable limits.

Tough conditions. The Illinois tests, conducted under a grant from the Levitt organization, subjected their experimental slabs

to more rigorous conditions than a house slab would normally meet. Full wall loadings were applied to the perimeters, but heat was not furnished, nor were slabs protected by walls and roofs. Even under such abnormal conditions, the grade-beam slab movement was less than 1", 3.2% of the frost penetration.

A heated structure is under observation now, consisting of a monolithic slab resting on a grade-beam perlite foundation, using perimeter-loop, warm-air heat. Cellular glass insulation, 2" thick, is held at the slab perimeter, and protected from damage by a 1/8" asbestos cement board. Results of the first winter's operation have not yet been announced.

The floating slab for unstable soil

The bentonite soils of the Southwest present the problem of horizontal movement of soil, rather than the vertical movement caused by frost action. These colloidal soils suffer violent and extensive changes of volume when wet, and often crack the heaviest reinforced foundations.

FHA's present requirements are for a waffle-shaped heavy grade-beam slab, with extensive reinforcing. Recent experiments by the Southwest Research Institute into design criteria for floating slabs indicate that more unorthodox designs might be more satisfactory.

Model slabs. Because of the expense of full-size slabs, and the difficulties of deflection observations in the field, SRI used 1/12th scale-model slabs which could be tested under controlled laboratory conditions. Reinforcing and aggregate were also 1/12th scale.

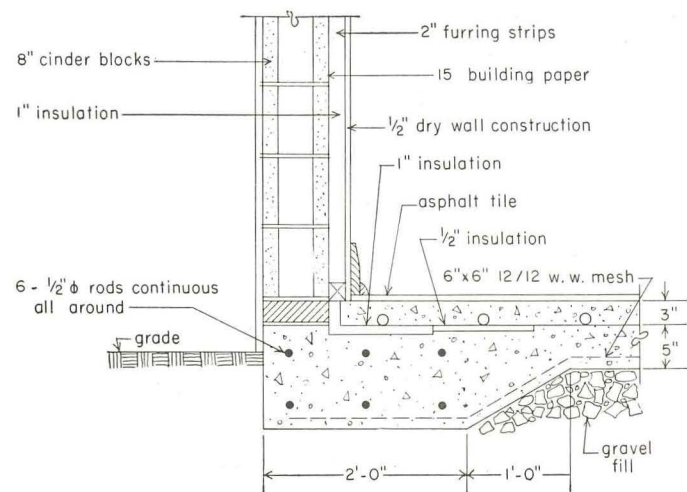
After testing slabs of many designs, it was found that a slab of inverted pyramid design gave the greatest strength and greatest stiffness for the same estimated cost as the FHA design. The inverted pyramid is the same shape as a hip roof and any section through the slab shows a truss shape. Drawbacks are the difficulty of placing steel in the bottom section of the slab and the prejudice that the radical thin perimeter edge is likely to arouse.

Concrete mattress. The perfectly flat slab proved almost as good. This slab has no beams and has steel reinforcing placed at a 45° angle to the sides of the slab, top and bottom. Its four advantages:

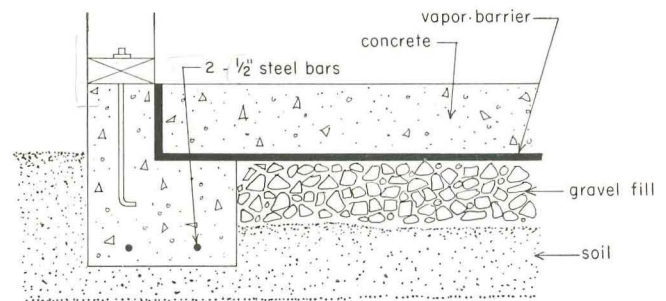
1. Site preparation becomes a simple machine operation.
2. Moisture barrier is easier to install.
3. Reinforcing is uniform in size and placement, resists bending in either direction.
4. Depth is sufficient for heating or cooling ducts and plumbing.

Limited approval. FHA is now accepting the flat slab design (over 20 have been built in the San Antonio area) subject to the following limitations on its general adoption:

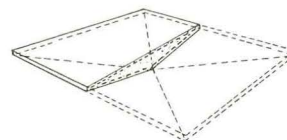
1. Designs must be submitted to, and approved by, Washington.
2. Slabs which differ substantially from the 24' x 36' rectangle tested are not approved.
3. A 6" deep "toe" should extend 12" to 18" under the slab to prevent erosion.



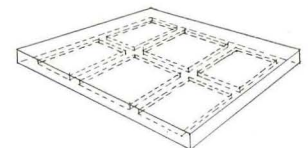
Canadian floating slab with reinforcing in thick bearing edge has performed well in northern Ontario since 1947. Slab is on 2' of shale or gravel on undisturbed soil. Others are being tested.



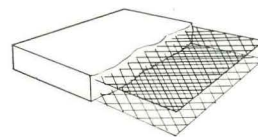
Shallow foundation in Earl Smith's houses is typical of West Coast, where neither frost nor unstable soil is a problem. Similar slab, with edge insulation, worked satisfactorily in cold Las Vegas.



1. Pyramidal thin edge slab

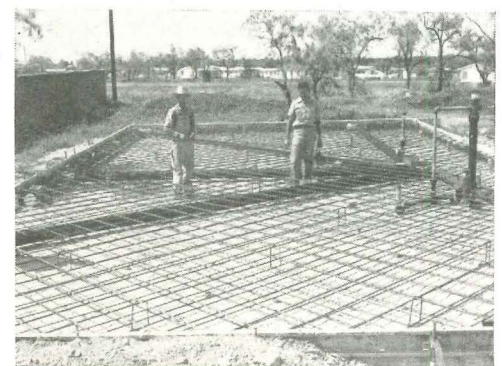


2. FHA-approved "waffle" slab

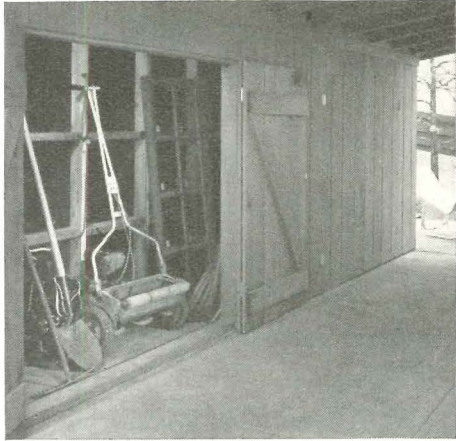


3. Reinforced mat slab

Unorthodox slabs (1 & 3) were found most resistant to unstable soil movement in Southwest Research tests. Reinforcing top and bottom puts steel into tension whether stress comes from weight of house or lifting soil.



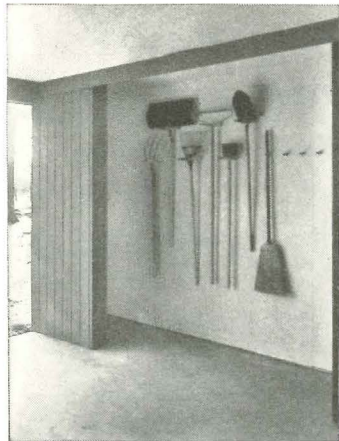
Hedrich-Blessing



Outdoor storage is economically provided in garage or carport. Shelves and compartments will materially increase space usable for dead storage.

The basement equivalent

Crooks Studio



Hutchinson Photos

Compact use of utility space in Burt Duenke's St. Louis project puts heater overhead, laundry equipment below. Door to outside from utility room makes it doubly useful as either laundry or children's recreation space.

Cortland V. Hubbard



All-purpose room in Stonorov house furnishes ground-floor recreation space for children or adults. Open kitchen (l) permits mother to oversee playing. Room is convenient to bath, bedrooms and outdoors.

Builders and architects at H&H's April Round Table on "Tomorrow's best-selling houses" agreed unanimously that the too-small slab house is the greatest drawback to public acceptance of the design. But opinions differed on adequate substitute space for the basement. In several Eastern cities, mortgage men will not touch any slab house that they feel is too small to meet all the needs of the average family. From the varying and conflicting estimates of what space was needed, and from research into the use of space by American families, the following rules stand out:

Slab houses should not be minimum houses

Most common complaint against slab construction is the lack of a "basement equivalent," above-grade provision for all basement activities and functions. Unfortunately, in many areas the slab first went into volume production during the 1948-50 "economy house" boom, and many a house that was minimum to begin with had its basement designed out from under it, with no substitute space provided. In some cities, "slab house" meant "cheap house" in the worst sense of the word.

Harried families, in these 24' x 30's, with diapers hanging in the kitchen, lawn mowers in the attic and bicycles in the driveway, developed a reflex snarl at the word "slab," and today demand a basement. Many of them are now in the market for bigger houses and even a good one-story house doesn't interest some; they have a rigid mental block against one-floor living.

Slab houses are not just "houses without basements"

Basements represent 8% to 10% of the cost of a completed house, and have always been an inviting target for builders, hard-pressed by rising costs, in their battle to keep prices within the ability-to-pay of the greatest number of families. But use of a slab means acceptance of the principles of one-level living, without sacrifice of essentials. Since all families need storage space, in the slab house it must be provided above grade; moving out of the cellar does not cut down on laundry requirements; heating equipment must still be housed; children will continue to play indoors on rainy days; the lawn must be mowed.

Slab savings are not clear profit

The slab does cost less. Builders' estimates of saving range from 75¢ to \$1.25 per sq. ft., depending on site conditions, production, region, etc., and a N. J. project offers a 1,135 sq. ft. house at \$2,000 less if a slab is used. On level ground, an average 900 sq. ft. house can be built on a slab for approximately \$1 per sq. ft. less than with a basement. But before this amount can be passed on to the customer or put in the builder's pocket, it should be whittled down by provision for five functions:

- 1. Heating and hot-water plant.** Since modern compact heating plants fit snugly into the area normally taken up by basement stairs, this space will involve no extra cost.
- 2. Dead storage.** Trunks, boxes, seasonal supplies all require cubage. This need not be readily accessible, but may be provided in a low attic reached by disappearing stairs, or in the upper portion of storage walls. Dead storage items should not occupy ground space needed for articles in more constant use.
- 3. Wheeled toys, outdoor tools and equipment.** These odd shapes take up much room, are most often found strewn around

yard and driveway. Carport or garage storage walls furnish the best solution to this problem, for they have two important virtues: they can be compartmented and they can be reached from outdoors. Outdoor storage may cost as little as \$2-\$3 per sq. ft.

4. Laundry facilities. Washers and dryers are increasingly standard equipment with the growth of the package mortgage, but space must be provided for sorting clothing, laundry carts and supplies and some indoor drying. In larger houses, a tub for dyeing, soaking, starching, etc. might be desired.

5. Recreation space. As one Round Table member put it: "In my house, the Cub Scouts meet in the basement. Where do I put them if I give it up?" Strongest selling appeal of the split-level house has been the below-grade recreation room, a perfect indoor play area. In moderate climates, an unheated garage can serve as a recreation room. The Trade Secrets house (H&H, Jan. & Mar.) provided an activities room adjoining the kitchen, and Architect Oscar Stonorov planned an all-purpose room in his house for the 1953 Philadelphia Home Show, with an open kitchen separating it from the main living area.

Slab houses can provide the basement equivalent at no additional cost

HHFA's cost analysis of the basement vs. the slab house found that the basementless house could be built for 9½% less than the basement house, and still provide above-grade space equal to 14% of the basement cubage. At no extra cost, the slab could provide a utility L with 28% of basement volume. Again for no more money, if the house rectangle dimensions were enlarged, the extra space distributed throughout the ground floor would be 31% of what the basement originally provided.

In dollars, this means that the \$900 savings will buy 120-150 sq. ft., assuming a price of \$6-\$8 per sq. ft. for space added to your basic house. If this space is unheated and does not require finished walls, the slab savings will provide even more space. Added to even a minimum house, this will provide an adequate "basement equivalent."

Slab houses give people space where they want it

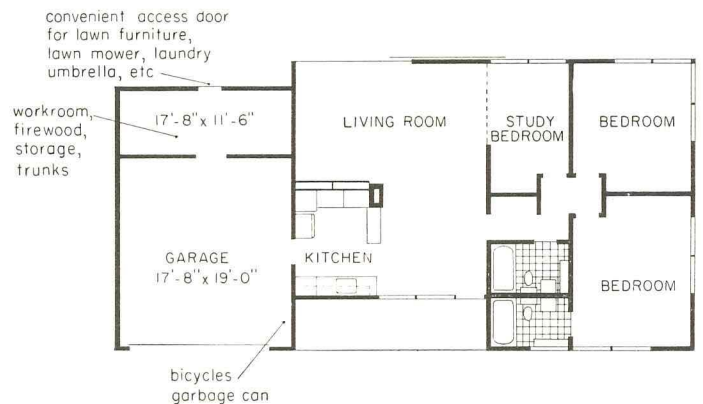
Surveys conducted by magazines and manufacturers invariably show a preference for a basement, often an overwhelming one. Yet, when the same families are asked where they would like space for specific uses normally found in basements, a majority say they prefer above-grade space. Women who say they must have a basement grant that laundering would be easier above ground because of better working light, convenient relation to outdoor drying area, and the elimination of tiring stair climbs. They also agree with the National Safety Council's recommendation that bicycles, baby carriages, and yard and garden tools are more easily and safely stored at ground level. Most want the children to play where they can be watched.

Slab houses must be better designed and engineered to win in present basement-only areas

In some areas, buyer resistance to the slab results in lower mortgage valuations, and consequently more difficult terms. In others, codes and ordinances make such rigorous demands for footings and foundations that slabs cost almost as much as basements. These local appraisal habits and design traditions will be modified only as builders offer warm, dry, on-grade floors, with construction savings plowed back into adequate, pleasant space above ground for all present basement uses.



Levitt Landia house uses large attached garage as multipurpose space. Supplemental heat in winter would permit workshop, play use.



Obstacle course of toys and games (below) can be avoided through use of storage wall. Deep wall cabinets can overhang car hood.



Wiring for sales appeal

Second in a series of three articles on adequate wiring

Here's how \$32 extra gave a complete electrical face lifting to the \$24,000 houses of a leading Cincinnati builder

LOCATION: Cincinnati, Ohio
 SHARP & ISFORT, builders
 WILBUR FIRTH, architect
 CINCINNATI GAS & ELEC. CO., wiring consultants

Many builders and architects are learning that adequate wiring is an excellent way to improve both the livability and salability of houses at minimum cost. Builders Sharp & Isfort were not grasping at straws when they adopted the adequate-wiring program in August, 1952—business was good. They had already built and sold 90 houses in their \$20,000 and up subdivision in suburban Silverton, but felt that a more thorough job of wiring and lighting would be a strong sales weapon in an increasingly competitive market. But what would it cost?

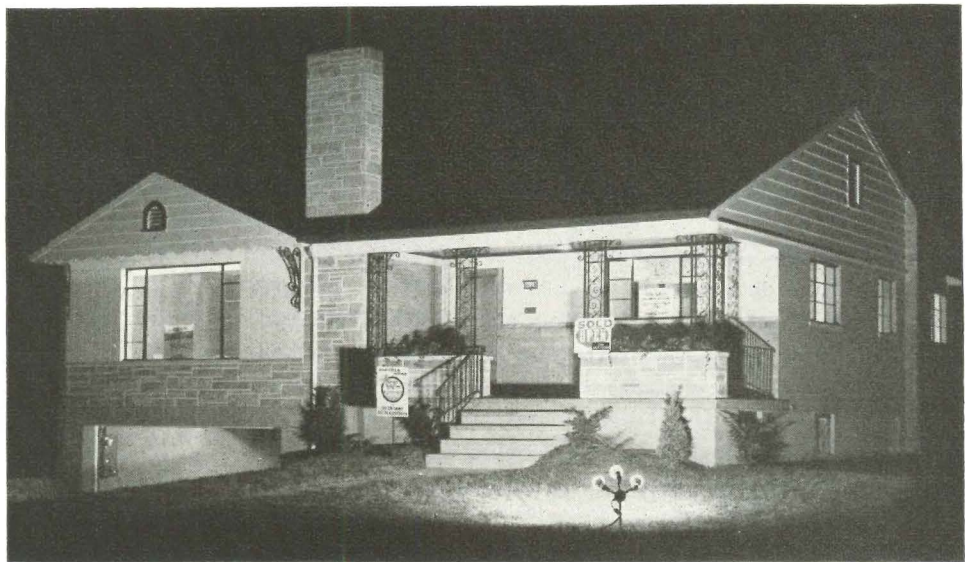
Not a minimum house

The Silverton houses were not horrible examples of underwiring. The electrical subcontract was for \$358.40, almost exactly 1½% of the \$24,000 price, and the popularity of the houses proved that there were no major customer complaints. The Adequate Wiring program, sponsored by the electrical industry, fosters a knowledge of today's electrical uses and needs, and encourages builders to provide the required wiring capacity. Sharp & Isfort's request for AW certification brought them a tailor-made wiring layout for their houses, designed to add the most value at the least cost, rather than just a list of desirable improvements.

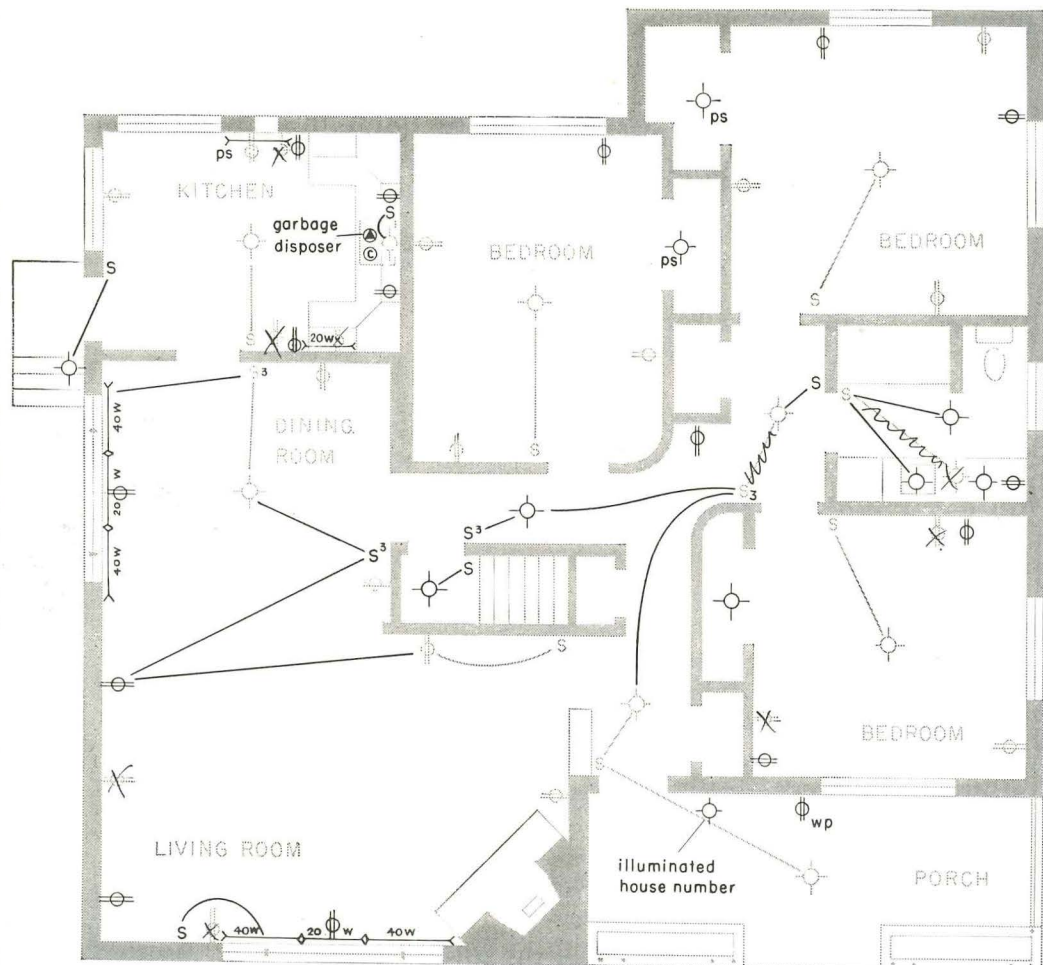
Proper planning

The subdivision development department of the local utility put their staff on the problem of the best way to wire the houses, and made a scientific analysis of the proper location for each outlet. Scale model furniture was arranged in every possible way on the floor plan to ensure outlets being convenient and available however the furniture was placed. In the kitchen, appliance circuit outlets were determined by the planners' knowledge of how, and where, various electrical kitchen appliances are normally used.

continued on p. 160



Dramatic night floodlighting calls attention to model house, points up exceptional wiring and lighting standards throughout. Local utility acted as wiring consultants, prepared improved wiring diagram.



Added wiring, switches and outlets are shown on plan as solid black lines, while former facilities are in gray. Xs mark poorly located outlets in original plan that were dropped when wiring diagram was revised. Basement, not shown, also had lighting and outlets added.

Prominent New Jersey Builder Headlines G-E Summer Cooling

LOU BARBA'S ADS DRAW CROWDS BY FEATURING EXTRA VALUE OF G-E AIR CONDITIONING—STANDARD EQUIPMENT IN \$19,800 QUALITY HOMES!

THE BARBA COMPANY, developers of attractive South Gate at Summit, N. J., have not only made G-E Air-Wall Heating and Cooling standard equipment in their \$19,800 split-level homes—they're starring it in their newspaper advertising!

DOES IT SELL HOMES? "One of the best sales tools we have," says Lou Barba, partner. "G-E Summer Cooling brings the folks out to look—and helps us close sales. People are beginning to demand year-round comfort, and they buy faster when the brand is one they respect."

WHAT ABOUT COST? Says Barba, "I've been especially pleased that I can have the drawing power of the G-E name—and all its extra sales features—at such reasonable cost. We're way ahead when you consider how G-E's flexible, compact units save floor space and fit every home without modifying design." If you're looking for a way to spark home sales, why not check with your G-E Home Heating and Cooling dealer today—or mail the coupon below.



For Your Comfort G. E. Summer Air Conditioned

These are not honest-used advertising phrases; for here in the home illustrated above is one of the finest summer air conditioning systems to cool the whole house! But listen some more—the house illustrated has 3 well-ventilated bedrooms, a big living room, dining room and a bright cheerful kitchen, plus 3 complete bathrooms, one with a stall shower and both baths are tiled. Now for your added comfort, we've added a complete G. E. SUMMER cooling AIR CONDITIONING system to make the temperatures really comfortable; we've finished the recreation room in mahogany paneling; fiberlike has been used to insulate the walls and ceilings; the garage has been made warmer and longer for extra storage—and these are NOT EXTRAS—they are all included in the one price of \$19,800. And all this is placed on a well developed lot of big dimensions—10th100—approx. sq. ft. So don't

miss the facts! There are 'no extras—in the house shown above.

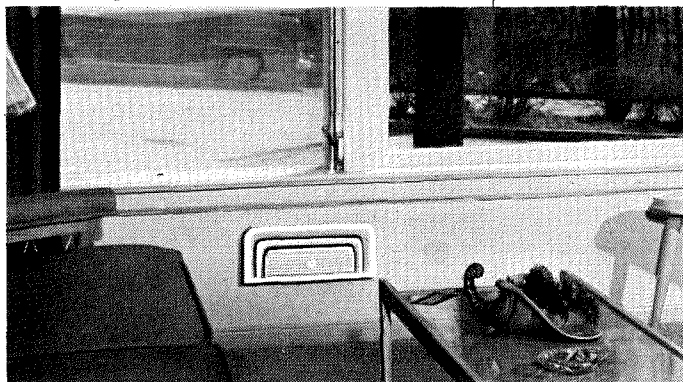
YOUR LOCATION: And this is very important—is in the top rated community of Summit—where schools happen to be the best; commuting is via the D. L. & W. and buses pass by the property; express to Newark, South Gate itself adjoins the beautiful Canoe Brook Country Club.

Your home in South Gate is WORTH MORE because it is in Summit—a fine community to live in and remember location is important.

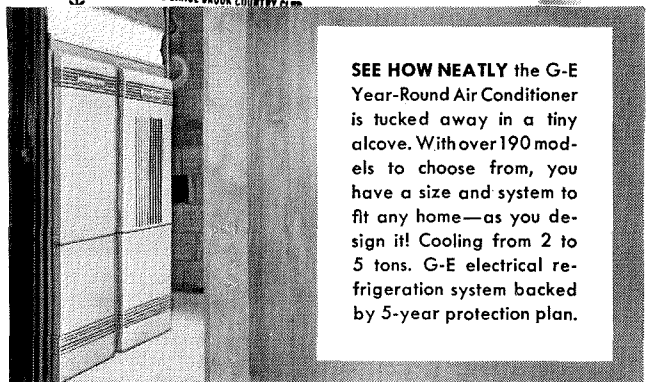
So, if you don't want to be disappointed, come out as soon as you can—today if possible. There are 3 split-level models to select from. The model shown is open seven days a week from 10 A. M. to 9 P. M.

DIRECTIONS: From Millburn or Union Center take Morris & Essex Turnpike (Route 24) to one block beyond the Canoe Brook Country Club. Model Home is located on corner of Essex Park and Morris and Essex Turnpike. Model Home Furnished by Rockford Furniture Co., Route 29, Mountainside.

South Gate
ADJOINING THE CANOE BROOK COUNTRY CLUB



G-E AIR-WALL* SYSTEM gives extra benefits! Same register delivers both heating and cooling, eliminating high-wall outlets. Homebuyers want features like these: room-wide comfort even in front of picture-windows . . . no hot blasts or cold drafts for air spreads upward, not straight out . . . freedom of furniture and drapery arrangement . . . no carpet-cutting.



SEE HOW NEATLY the G-E Year-Round Air Conditioner is tucked away in a tiny alcove. With over 190 models to choose from, you have a size and system to fit any home—as you design it! Cooling from 2 to 5 tons. G-E electrical refrigeration system backed by 5-year protection plan.



HOME HEATING AND COOLING
WITH AIR-WALL* SYSTEM

*Reg. trademark of General Electric Co.

GENERAL ELECTRIC

General Electric Co., Home Heating and Cooling Department, Air Conditioning Division, Sec. HH-25, Bloomfield, N.J.

Please send me the facts on G-E Home Heating and Cooling. I am a builder . . . architect . . . homeowner . . . Other occupation . . .

NAME _____

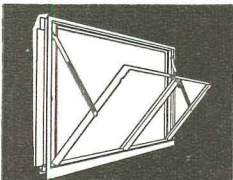
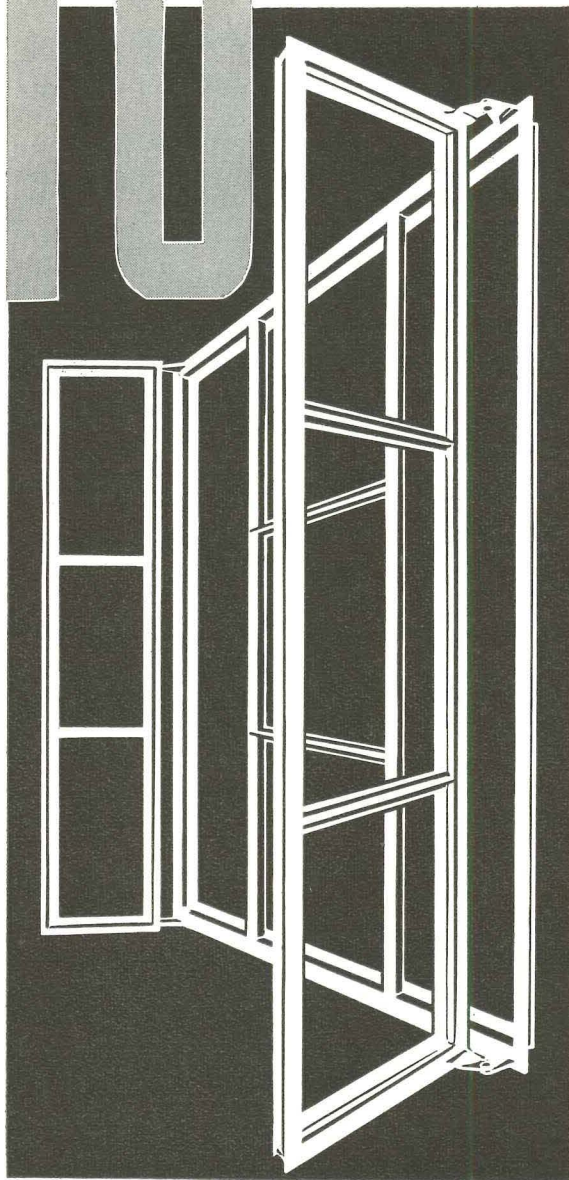
ADDRESS _____

CITY _____ COUNTY _____ STATE _____

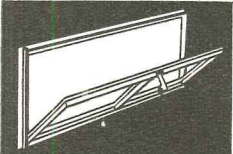
VENTO

the BONDERIZED STEEL WINDOWS OF *EXTRA VALUE*

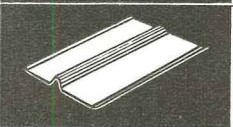
The extra value in Vento Bonderized Residence Casement Windows includes: all casements drilled and tapped to receive storm sash and screens, operator arm guide channels attached with screws for easy removal and replacement, if necessary; ventilator frames constructed from the same heavy sections as the outside frame. This provides greater rigidity and stronger ventilators.



NEW IMPROVED VENTO BONDERIZED "CHAMPION" BASEMENT WINDOWS give extra value because of their 14-gauge electrically welded frame, fins welded to jamb for quick installation and double contact with leak-proof watershed sill. A plus value incorporates a redesigned latch which assures positive operation under all conditions.



VENTO "THRIFTY" BONDERIZED BASEMENT WINDOWS give extra value because they are a real economy window especially designed for lower cost housing. Two position ventilation and easy sash removal. Fin flanges at jambs for quick installation. Three sizes, putty type only.



VENTO FORMED STEEL LINTELS give extra value because they permit the use of standard 8" blocks over door and window openings. Of 10-gauge steel, with stiffening crimp in center. Also formed steel lintels for brick constructions.

ALSO Vento "Champion" Barred Basement Windows; Vento "Champion" Utility and Barn Windows; Vento "Thrifty" Utility and Special Type Windows.

Write us for full information and name of nearest distributor.

Some desirable territories are open for representatives and distributors. Write for particulars.

VENTO

STEEL PRODUCTS CO., INC.
236 Colorado Ave., Buffalo 15, N. Y.

WIRING FOR SALES APPEAL

continued from p. 150

Much more for a little more

When plans and wiring diagrams were completed, they showed the following additions:

1. Lighting outlets up from 15 to 30;
2. Switches increased from 14 to 24;
3. Convenience outlets up from 21 to 34;
4. Two convenience outlet circuits in place of the former single circuit;
5. Special circuits for furnace control, garbage disposer and dishwasher.

All of this increased electrical capacity and convenience raised Sharp & Isfort's average bill from \$358.40 to \$390.50, an increase of \$32.10. (This figure includes hanging fixtures as well as wiring.)

Optional improvements

Provision for electric ranges and water heaters was made only if the customer requested it, and an additional wiring cost of \$75.30 was then passed on to the buyer, broken down as follows:

Range wiring \$34.50
Water heater wiring 22.50
Increase of service entrance to No. 2
wires and 100 amp. switch..... 18.30

Requests for complete electrification have been almost unanimous and the builders are considering making it standard in all their houses. Biggest gain will be the practically unlimited capacity for future needs furnished by the 100 amp. board.

Path of light

The 1,450 sq. ft. house has the recommended "path of light" switches, so that persons going from one room to another will always have lighting ahead of them. Other important provisions include a weatherproof outlet near the front door, handy for outdoor Christmas-tree lights, electric grass mower, or hedge clipper, and valance lighting of large windows.

Valuable program

Builder Sharp, past president of the local homebuilders' association, and an NAHB director, credits the improved wiring for the following gains:

1. AW promotion aids attract more people to the houses;
2. AW signs and seals eliminate all doubt about wiring, and promote confidence in all aspects of construction;
3. Leading electrical contractors now bid on the houses;
4. Customer requests for post-construction supplemental wiring have ceased.

Most satisfactory result: the 16 houses completed since AW was adopted met enthusiastic public approval, are all sold.

American-Standard announces new-design plumbing fixtures new matched styling . . . new utility . . . for the homes you build

NEW-DESIGN American-Standard plumbing fixtures are more beautiful, more convenient than ever. You can choose from a variety of genuine vitreous china lavatories and toilets styled to match the trim, horizontal lines of famous American-Standard cast iron bathtubs. These fixtures are also unusually convenient to use and easy to keep clean.

All embody the same top quality that makes home buyers prefer American-Standard.

New-design American-Standard plumbing fixtures are being announced to prospective home buyers in the August 17 issue of Life magazine. Be the first in your area to feature them. These beautiful, harmonizing fixtures will add to the sales appeal of any home you build.

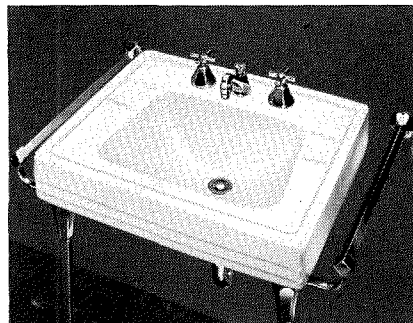
See this new line at your American-Standard retailer's. Or write for literature, Form No. 382.



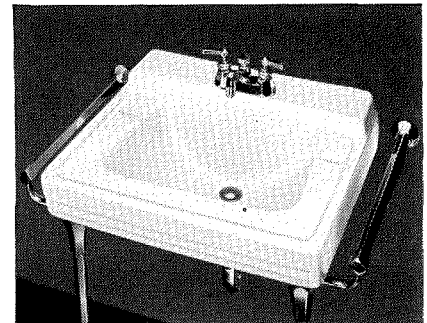
THE NEW CADET toilet harmonizes perfectly with other American-Standard fixtures, is ideal for budget bathrooms. Its smooth, graceful lines and new base design make it easy to keep glistening clean. Made of genuine vitreous china.



BEAUTIFUL AMERICAN-STANDARD FIXTURES add glamour to this practical bathroom. Notice the trim lines of the matching fixtures. This harmonizing group includes twin New Companion lavatories, a New Compact toilet and a Master Pembroke bath. American-Standard plumbing fixtures are available in white and a variety of colors.



SMARTLY-STYLED lavatory with convenient design is the New Roxbury. As in all the new-design lavatories, the bowl is wider at the front where space is needed most, then tapers to provide large soap dishes. It's made of vitreous china and features a front overflow and anti-splash rim.



THIS IS THE NEW COMRADE LAVATORY. It features a useful shelf back, integral soap dishes and smooth-working fittings finished in easy-to-keep-clean Chromard. Made of genuine vitreous china for long life, the New Comrade has a front overflow to preserve smoothness of design.



American Radiator & Standard Sanitary Corporation,
Dept. HH-73, Pittsburgh 30, Pa.

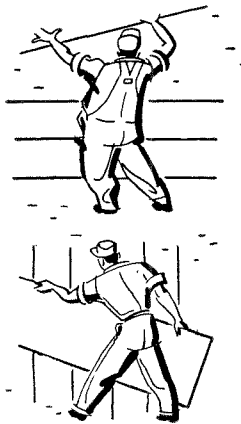
Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS

INSULATE AS YOU BUILD ...WITH FIR-TEX SHEATHING



**CONSIDER THESE ADVANTAGES
as compared with outmoded
wood sheathing and
building paper**

- ① Seals home against heat, cold, wind and dust.
- ② Shuts out rain. It is asphalt impregnated.
- ③ Goes up easily — reduces labor costs.
- ④ Strengthens bracing strength of the structure.



Fir-Tex Asphalt Impregnated Insulating Sheathing is available at most lumber supply dealers. Ask your architect to specify and your builder to use Fir-Tex Sheathing. Get a building board *plus* insulation at the cost of insulation alone.

**All Fir-Tex Insulating
Board products are
termite proof.**

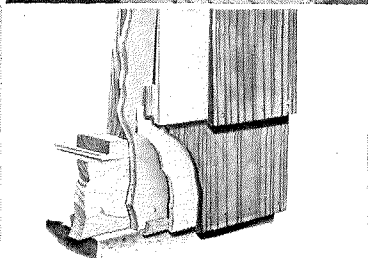
FIR-TEX

**Exclusive Sales Distributors
DANT & RUSSELL, INC.
Portland, Oregon**



INTERIOR FINISH

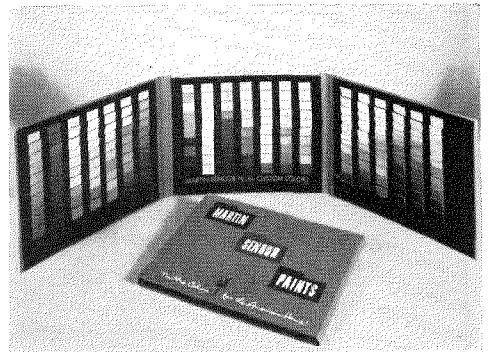
For adding that extra room within the home, for finishing the attic or basement, for all remodeling jobs — recommend Fir-Tex Color Panels and Tile. It insulates as it builds; is easy to use. Fits in ideally with the spectacular present-day "do it yourself" trend.



BACKER BOARD

Fir-Tex Backer Board eliminates the slow, time consuming job of under course shingling and building paper application. It adds insulation, cuts building costs, gives a smoother, neater appearance. It adds beauty with uniform, deep shadow lines... and is asphalt impregnated.

TECHNICAL PUBLICATIONS



PAINTS. Martin-Senour Color Portfolio. Martin-Senour Paint Co., 2520 S. Quarry St., Chicago, Ill. 3 pp. 10½" x 14". \$5

A decorating aid designed for briefcase totality, this handsome portfolio holds five sample color tabs of each of 200 *Nu-Hue* paint tones developed by the manufacturer for interior use. It is sturdily bound and the samples are replaced by Martin-Senour without charge. The portfolio is available to interior designers, architects and contractors.

WIRING. Guide for Planning Electrical Living Homes, Booklet B-5470. Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa. 20 pp. 8½" x 11"

Builders who wish to integrate electrical appliances into their house plans can get a helpful hand from this planning booklet. It explains how to select, combine, and fit equipment for the modern kitchen and laundry and illustrates some possible installations with photos and diagrams. It notes several important considerations on wiring in general as well as tips on lighting and electrical heating.

MASONRY CONSTRUCTION. Specifications Recommended to Secure Dry Brick Walls. Louisville Cement Co., Dept. HM, Louisville, Ky. 18 pp. 8½" x 11"

Winner of an honorable mention in the 1953 Building Products Literature Competition (sponsored by the AIA and Producers' Council), this well-illustrated guidebook capsules 20 years of research in the proper use of brick and mortar. It explains in readable text the necessary precautions that must be taken to prevent water from passing through brick walls.

HEATING CONTROLS. Sarcotherm Weather Compensating Control System, Catalogue ST 500-1. Sarcotherm Controls, Inc., Empire State Bldg., New York 1, N. Y. 16 pp. 8½" x 11"

The publication catalogues a complete line of outdoor control devices for hot-water, radiant, and warm-air heating systems. It presents technical data and schematic diagrams on the weather-compensated controls and provides a typical specification form.

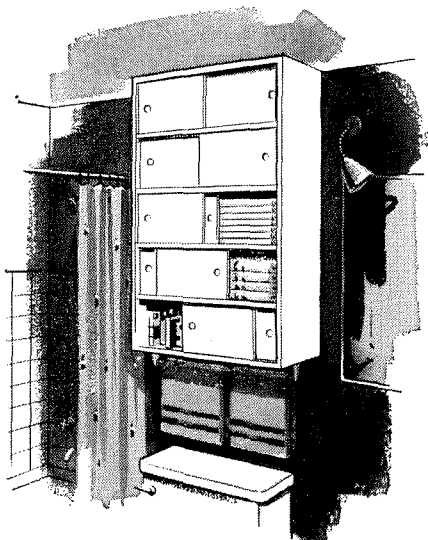


Shelf-Door Wardrobe (Plan 3) combines features of roomy closet, dresser and chest of drawers. Use it to help sell your house faster. Can be used in any room. Build it with fir plywood for only.....**\$55***

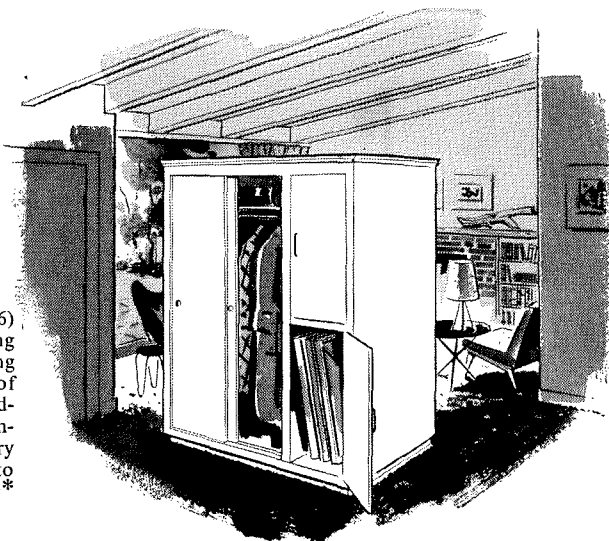


Sectional Storage Units (Plan 4) can be combined to form shoulder-high storage wall for living room or den. Sections can be pre-built, installed on job. Fir plywood to build it costs.....**\$90***

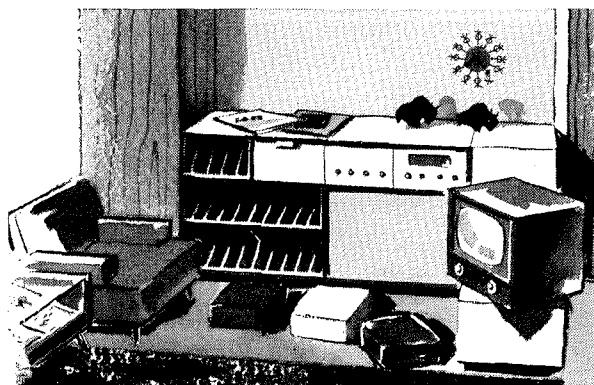
sales-appeal in your homes fir plywood built-ins



Odds and Ends Cabinet (Plan 7) appeals to women customers. Use it to reclaim waste space above water closet or hang in kitchen or utility room for extra storage. Get fir plywood to build it for only.....**\$8***



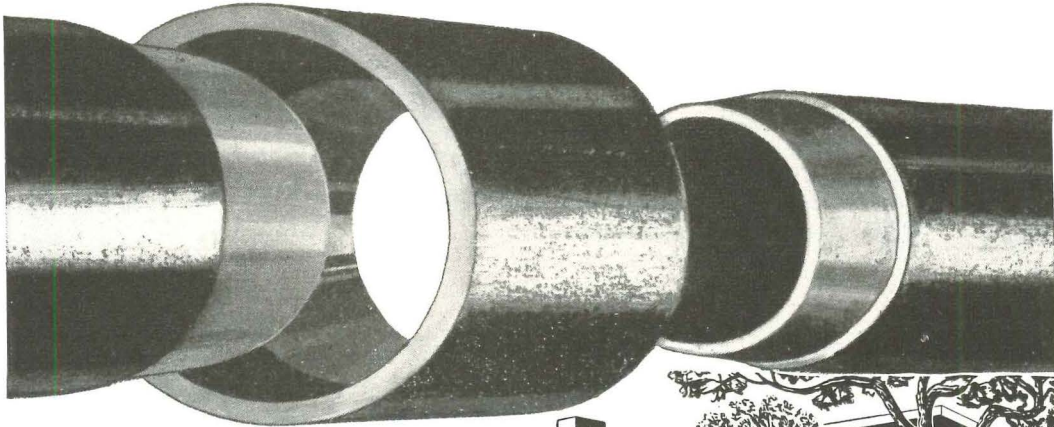
Island Entry Wall (Plan 6) defines entry and living areas without confining either. Adds feeling of spaciousness. Saves building costs by replacing conventional wall and entry closet. Fir plywood to build it costs...**\$100***



Music and TV Center (Plan 14) offers a real sales feature for music lovers. TV on turntable can be turned for convenient viewing. Main unit holds radio, record player and record storage. Fir plywood to build it costs about.....**\$60***

*Based on latest available Chicago retail sales for fir plywood compiled by leading trade magazine; prices may vary throughout nation depending upon location and source of supply

Joints Stay Tight! **ORANGEBURG®** **ROOT-PROOF PIPE**



Builders, engineers and architects rely more and more on Orangeburg Root-Proof Pipe and Fittings for trouble-free pipelines.



Time has established the quality of Orangeburg Pipe. Installations of 50 years or more prove that Orangeburg Pipe—installed with Taperweld® Joints—remains root-proof and trouble-free indefinitely underground. More than a million installations prove its dependability. Use Orangeburg Pipe and Fittings for House-to-Sewer (or Septic Tank) Connections, Down-Spout and Storm Drain Lines—other non-pressure outside uses.

Reasons for Orangeburg's Time-Defying Quality

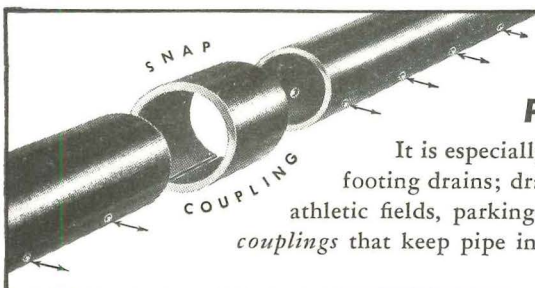
The Plumbing Industry has sponsored Orangeburg for years because of its many modern features and advantages. It is *non-metallic*—strong, tough, resilient. It resists the acids, alkalis, salts and oils found in soils and sewage waste. It withstands traffic tremors without cracking or breaking. The Taperweld® Joints are self-sealing. No cement or compound required. Joints stay tight, sanitary. Very low friction losses.

Orangeburg—The Leader

Orangeburg has pioneered this modern type of pipe. Specify it for trouble-free pipelines *always*. Look for the name—Orangeburg—on the pipe and fittings. The Orangeburg trademark is *your* guarantee that they are *genuine* Orangeburg products.

Send to Dept. HH73 for catalog 306

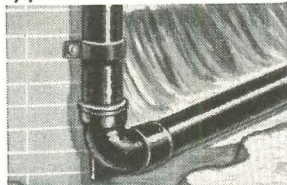
ORANGEBURG MANUFACTURING CO., INC., ORANGEBURG, N. Y.



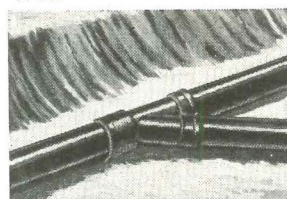
Use the Perforated Pipe for These Installations

It is especially designed for septic tank beds; foundation footing drains; draining wet spots in lawns, drive-in theatres, athletic fields, parking lots, airports. Joints are made with *snap couplings* that keep pipe in line and prevent silting.

1/4 Bend



WYE



1/8 Bend



Less Work—Less Trouble

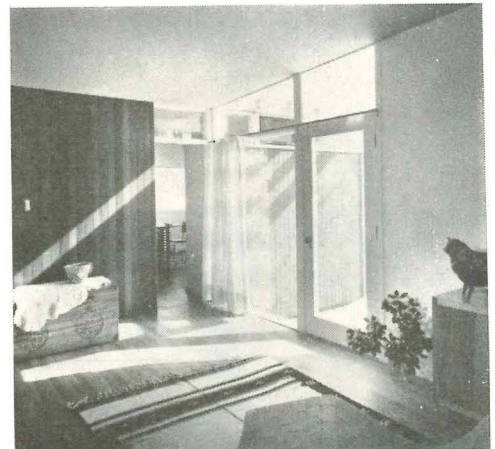
Eight-foot lengths—fewer to handle—fewer joints and other advantages speed the installation. So do Orangeburg Fittings.

REVIEWS

PRACTICAL HOUSES FOR CONTEMPORARY LIVING. By Jean and Don Graf. F. W. Dodge Corp., 119 W. 40th St., New York, N. Y., 187 pp., 9" x 11 1/2". \$6.95

The genial author of that drafting-room standby *Don Graf's Data Sheets*, here joins forces with his wife (herself a writer with wide experience in the home field) to produce a really practical book of contemporary houses. "This book," say the authors, "is a collection of stories about contented owners." It is also a collection of 40 houses and plans.

The Architects Collaborative: Lionel Freedman



Simple detail: good design

with a well-organized minimum of informative text. As each house is a practical and successful solution of the owner's problems, the authors' emphasis on people is happily justified.

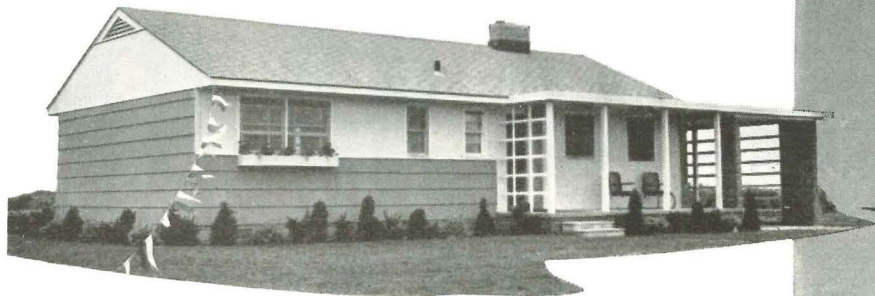
By concentrating on the central problem—whether it involves a restricted budget, a difficult site, a large family, or whatever—the genuinely important elements of house design are consistently kept in sharp focus; discussion of such possibly academic questions as "style" is ruled out.

Nevertheless—or perhaps because of this approach—the resulting crop of houses, as they appear in the book, makes a powerful case for the practicality of contemporary design. A few of the houses venture into the more advanced and dramatic kind of modern; still fewer go in the other direction and verge on the reactionary. The great majority turn out to be substantial, middle-of-the-road contemporary. All should be of interest and value to progressive builders as well as to architects who may occasionally find themselves stumped for ingenious solutions to the problem of giving the client more usable space for his money.

In price, the houses range from \$7,500 up, with about half of them falling into the average-to-small category; the remainder, even when large, continue the practical tradition and contain ideas adaptable to more compact establishments.

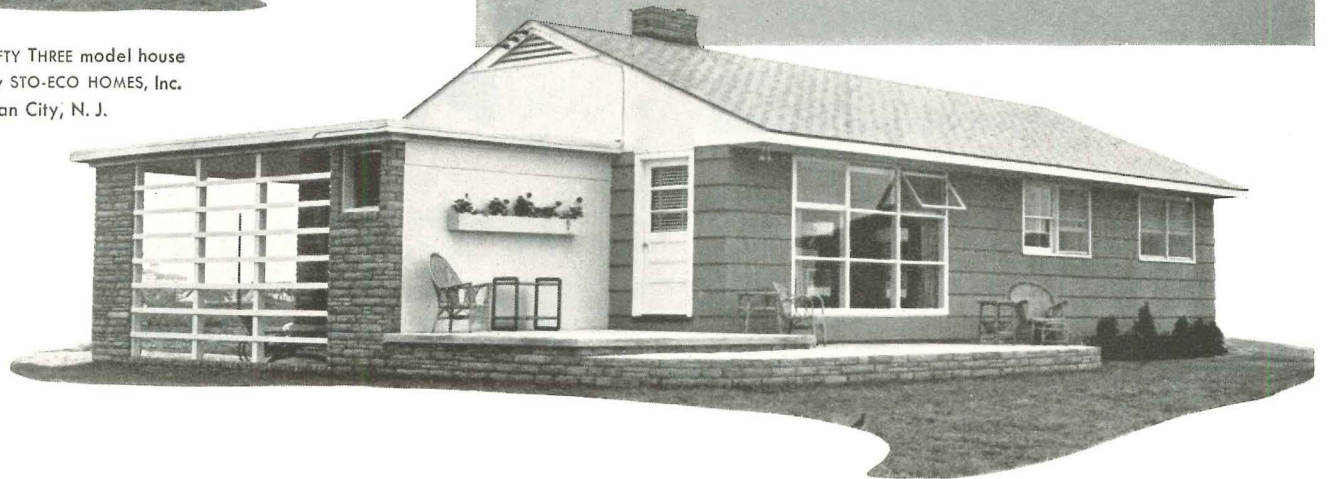
Plans are clearly drawn and reproduced at a uniform scale of 1/16" to the foot; pictures are keyed to arrows on the plans.

continued on p. 172



ONE FIFTY THREE model house
built by STO-ECO HOMES, Inc.
at Ocean City, N. J.

THE
ONE FIFTY THREE



TODAY'S BIG NEWS

is AMERICAN'S *NEW* AIR CONDITIONED* HOUSE

Builders find customer enthusiasm high!

Two months ago we first announced the *ONE FIFTY THREE* to the building industry. Today, models of this outstanding, new 3-bedroom house designed by American Houses, Inc., and featuring year-round air conditioning, are attracting thousands of home buying prospects in many areas. Additional model houses are being opened every week by other builders.

Never in the building industry has any new house caught the fancy of both builders and buyers alike, as this new *ONE FIFTY THREE* by American.

And no wonder, for the *ONE FIFTY THREE* is a real leader in every respect—in styling, in features, in comfort and in value. Because it was designed and engineered by American Houses, Inc., to include year-round air conditioning as a basic and integral part of the house, it offers maximum efficiency in operation and comfort.

In addition to air conditioning, the *ONE FIFTY THREE* offers all the quality features and "plus" values which the buying public has learned to expect in "Houses by American."

For complete information on the *ONE FIFTY THREE* and the location of model houses, write or wire today to Dept. HH-7.



The *ONE FIFTY THREE* Variation No. 2R



The *ONE FIFTY THREE* Variation No. 3R



The *ONE FIFTY THREE* Variation No. 7R

*YEAR ROUND AIR CONDITIONING UNIT
(HEATING IN WINTER • COOLING IN SUMMER)

by
Carrier

AMERICAN HOUSES, INC.

165 West 46th Street, New York 36, N. Y.

PLANTS AT: ALLENTOWN, PA. • LUMBERTON, N. C. • COOKEVILLE, TENN.



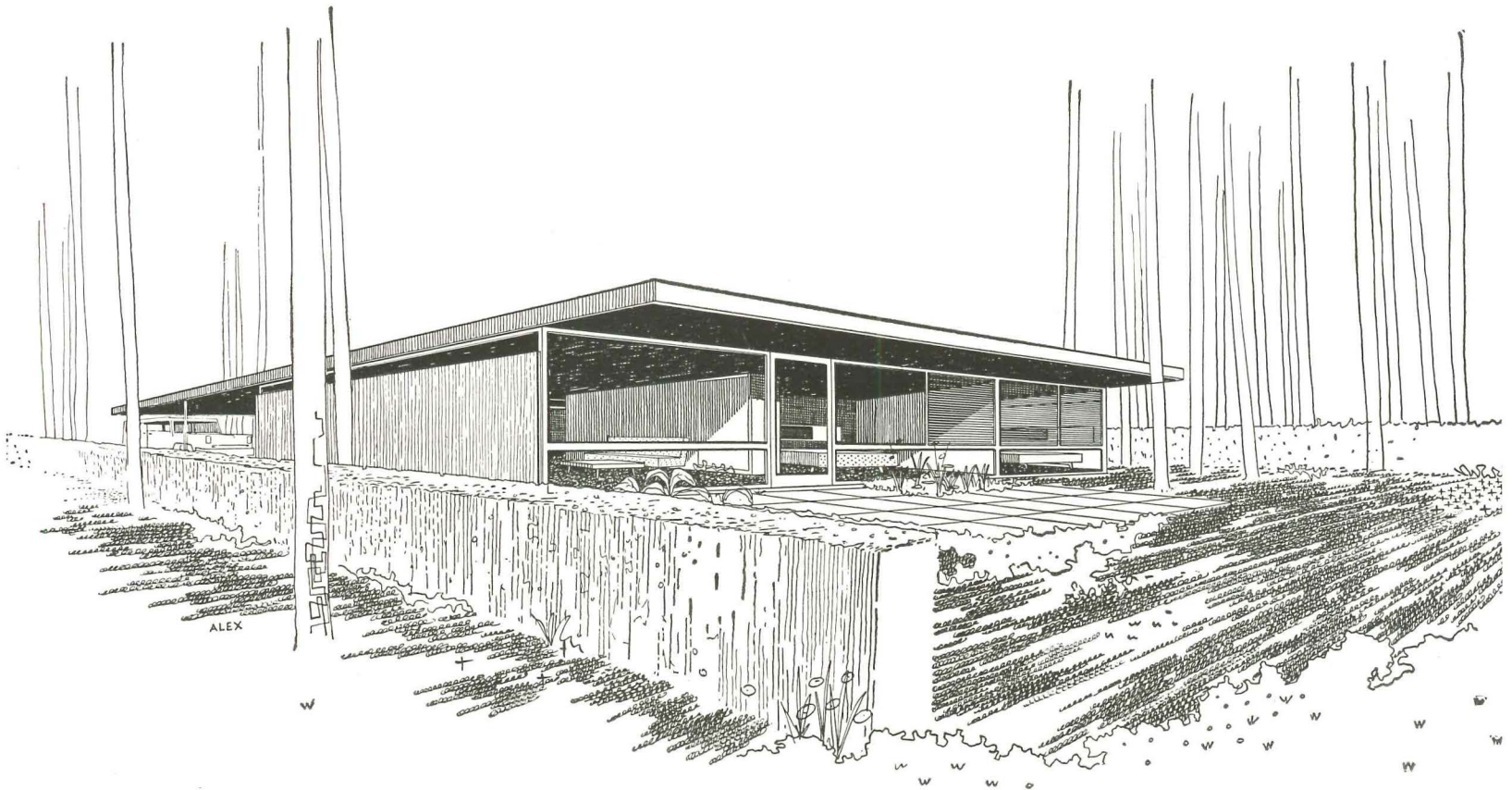
THE WINNERS

Architects Eduardo Fernando Catalano (35) and Horacio Caminos (39) have much in common. Both graduated in architecture at the University of Buenos Aires. Both taught at the Architectural Association in London. And today both are Visiting Professors at North Carolina State College, Raleigh, N. C.

\$5,000

National Grand Prize Winner

in \$27,800 Carrier Weathermaker Home Competition for homes designed around air conditioning



- It couldn't be built—without air conditioning! Yet air conditioning has made it a remarkably economical house to construct.
- A compact service core groups Weathermaker Air Conditioner with water heater, kitchen and bathroom. Minimum wiring, piping, ducts.
- Solid east and west walls provide privacy, space for furniture—and reduce cost of cooling, heating and construction.
- Large areas of fixed glass, north and south, produce a feeling of space and integration with the outdoors.
- Overhang shades windows in summer, allows for supplementary solar heating in winter and thus reduces both heating and cooling costs.
- Other savings include cost of: attic fan, louvers or movable sash, porch, window screens. Other benefits include: more usable space, ease of orientation, greater comfort.

Above, architect's sketch of winning design. Right, floor plan.

These Architects were Regional Prize Winners

\$2,000 Regional Grand Prize Winners

Class 1

(East & N.E.)
RICHARD J. DIMIT, Cambridge, Mass.
 (South & S.W.)
LARRY MALLARD & JAMES L. BENNETT
 Greensboro, N. C.
 (Central & N.W.)
JOSEPH BURNETT, Chicago, Ill.

Class 2

(East & N.E.)
ABRAHAM W. GELLER & WILLIAM COX
 New York City
 (South & S.W.)
A. L. AYDELOTT, Memphis, Tenn.
 (Central & N.W.)
TOM BEAR, St. Louis, Mo.

\$750 Regional First Prize Winners

Class 1, Pitched Roof

(East & N.E.)
ROBERT GEDDES & GEORGE W. QUALLS
 Philadelphia, Pa.
 (South & S.W.)
GEORGE C. SCHREITER & ROBERT B. MARQUIS
 San Francisco & Sausalito, Calif.
 (Central & N.W.)
ROYAL A. McCLURE, Spokane, Wash.

Class 1, Flat Roof

(East & N.E.)
RONALD GOURLEY, Cambridge, Mass.
 (South & S.W.)
WILLIAM PAYNTER, Bakersfield, Calif.
 (Central & N.W.)
JOHN D. SHAWN, S/Sgt., AFI8269331, Offutt Air Force Base, Omaha, Neb.

Class 2, Pitched Roof

(East & N.E.)
WILLIAM COX & A. W. GELLER, New York City
 (South & S.W.)
ROBERT C. WILKANOWSKI, Raleigh, N. C.

(Central & N.W.)
R. J. RAFFERTY & G. E. RAFFERTY
 St. Paul, Minn.

Class 2, Flat Roof

(East & N.E.)
SMITH, KEYES, SATTERLEE & LETHBRIDGE
 Washington, D. C.
 (South & S.W.)
FRED DINGER & FRANK GOLDBERG
 Los Angeles, Calif.
 (Central & N.W.)
ASTRA ZARINA & DOUGLAS HANER
 Seattle, Wash.

\$150 Regional Second Prize Winners

Class 1, Pitched Roof

(East & N.E.)
CARLETON R. RICHMOND, Jr., & F. FREDERICK BRUCK, Cambridge, Mass.
 (South & S.W.)
JOHN G. RAUMA, Berkeley, Calif.
 (Central & N.W.)
ROURKE J. HAAS, Jr., Roseville, Mich.

Class 1, Flat Roof

(East & N.E.)
JOHN MICHAEL GODUSCIK, State College, Pa.
 (South & S.W.)
MACON S. SMITH, Raleigh, N. C.
 (Central & N.W.)
DONALD R. ERICSON, Yakima, Wash.

Class 2, Pitched Roof

(East & N.E.)
JOHN MURPHY, North Bergen, N. J.
 (South & S.W.)
HARVEY GENE STRONG, Atlanta, Georgia
 (Central & N.W.)
DONALD H. PANUSHKA, Birmingham, Mich.

Class 2, Flat Roof

(East & N.E.)
ARTHUR DESALVO, Jr., Rowayton, Conn.
 (South & S.W.)
ROBERT N. WALSH & MARK P. LOWREY
 New Orleans, La.
 (Central & N.W.)
ROBERT L. BLISS & ANNA C. BLISS
 Minneapolis, Minn.



BLUE RIBBON JURY WHICH REVIEWED 861 ENTRIES

Left to right: Architect Pietro Belluschi — Dean of MIT's School of Architecture and Planning; Architect Richard J. Neutra — Vienna born, internationally known Californian; Housewife Lillian M. Gilbreth — mother of twelve, heroine of best-seller, "Cheaper by the Dozen"; Builder Representative Leonard G. Haeger — Director of Research, NAHB; Architect Edgar I. Williams — dean of New York architects.

Carrier comments

The results of this competition clearly indicate that the concept of a home designed around Carrier Weathermaker air conditioning has given thousands of architects a challenging new field for their imagination.

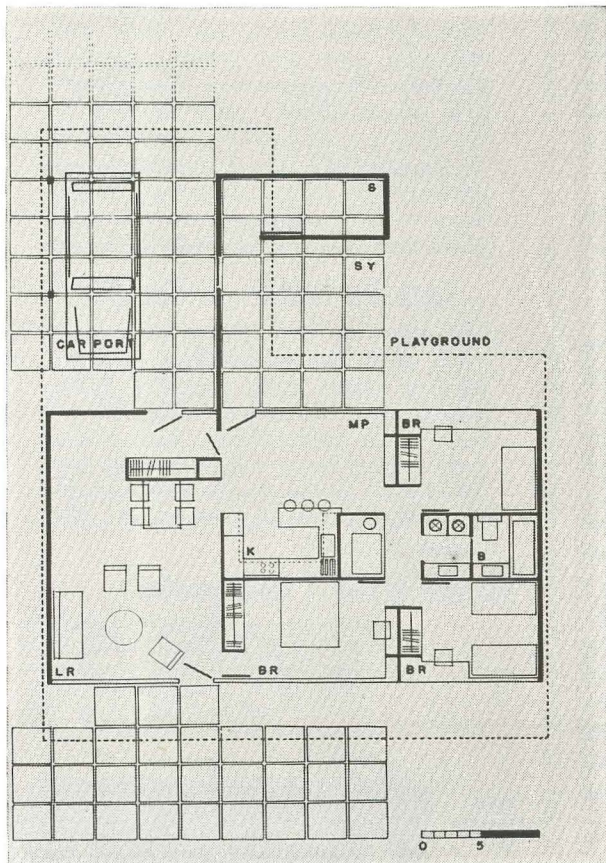
Since the subject is so new, the designs submitted should in all fairness be considered more in the light of "approaches to the problem" — rather than as answers to the air conditioned home of the future.

Carrier congratulates the award-winning architects and extends its thanks and appreciation to every entrant, as well as to the distinguished members of the jury whose identities are revealed here for the first time.

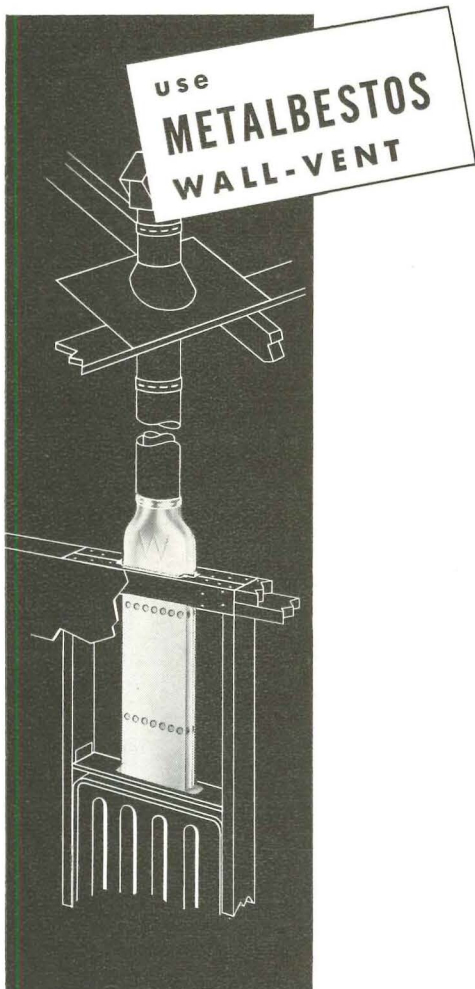
A portfolio of winning designs will be published shortly. Copies sent on request. Carrier Corporation, Syracuse, New York.



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REVIEWS *continued*

NEUZEITLICHE LEUCHTEN (Contemporary lighting fixtures). By Alexander Koch. Published by Verlagsanstalt Alexander Koch, GmbH., Stuttgart, Germany. 104 pp. 8½" by 12". Illus.

Equestrian Joans of Arc used to brandish pearl-studded lampshades, and you could buy small Statues of Liberty equipped with a Mazda bulb. We know, of course, that these dreadful gadgets are things of the past, but what sort of lamps do we have today to take their place?

A very good way of finding out is to look at this new German book on lamps which has just been published by the indefatigable Alexander Koch. What we have in place of Joan of Arc brandishing a source of illumination is Alexander Calder-type mobiles brandishing a coolie hat. It's an improvement, all right, but is it Art?

This is not asked facetiously, for the fact seems to be that certain types of household equipment, such as lamps, ash trays, even chairs, have recently become substitutes for sculpture in many a modern home. This seems to make just as little sense as Joan of Arc—and the present book is a nice demonstration of just exactly why it makes no sense.

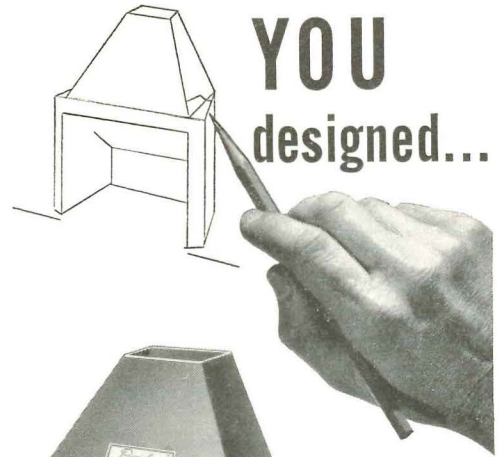
Everybody knows Noguchi's sculpture. Everybody also knows Noguchi's lamp. Now, if a run-of-the-mill lamp designer had got hold of Noguchi's *sculpture* and applied its forms to lamp design, we would be blessed with glowing amoebas and free-form bulbs. And, as a matter of fact, many a department store's lamp department is just so blessed. But when Noguchi himself designed a lamp he produced a very handsome, workmanlike object that is indeed a lamp. (There is a story making the rounds in the lamp business to the effect that one manufacturer turned down some new Noguchi-designed lamps because, he said, they didn't look like "Noguchi-type" fixtures. . . .)

So now we have Calder-type, Arp-type, Moore-type, Giacometti-type and Rivera-type lamps. They are not always poor, but they are not often good, either.

We do, however, have some very fine, simple, unpretentious lamps and Herr Koch has illustrated several of them. Apart from Noguchi's own little masterpiece (and a few not-quite-so-masterly imitations) there are outstanding examples by Robsjohn-Gibbings, Brodovitch, McCobb, et al. There are still too many ugly fluorescent fixtures; there are a few rather contrived candlesticks; and there are some examples of good, over-all lighting, impossible to photograph and hence difficult to document. But, by and large, the illuminated windmill type, the chromium-plated scarecrow and double-jointed space-frame types still predominate. Herr Koch has handsomely documented the story, and we can now look forward to better things.

continued on p. 176

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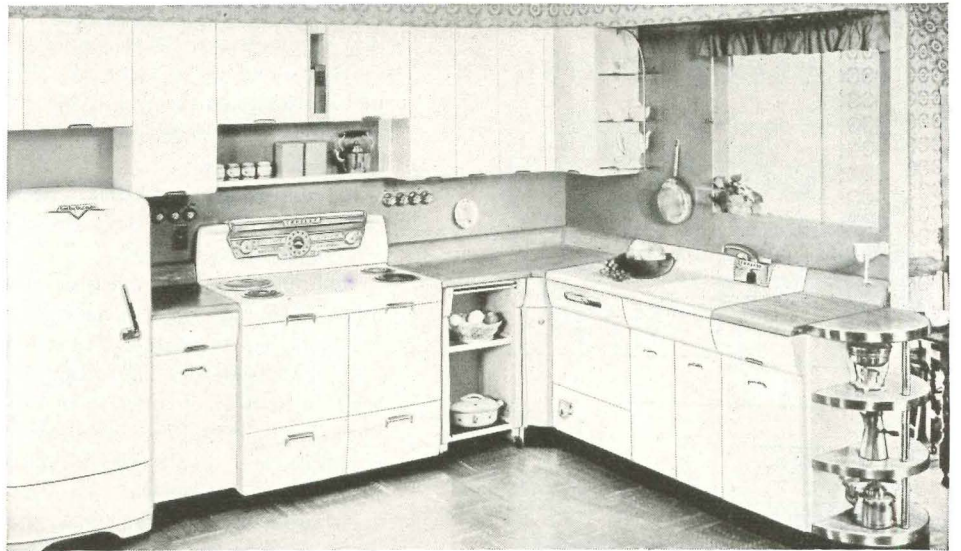
Stanley Praver of Praver and Sons. They line up to buy his Crosley-equipped homes in Kansas City. Selling for only \$10,000, these houses feature "luxury" Crosley Kitchens.



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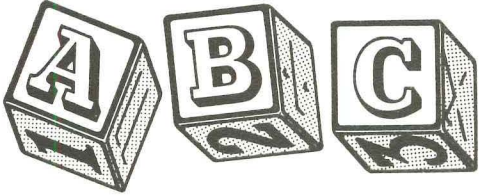
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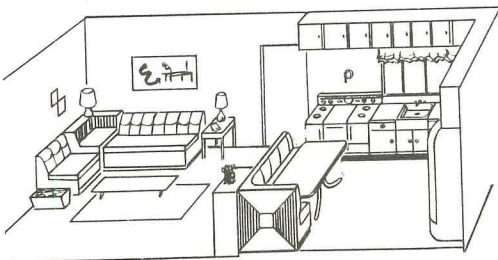
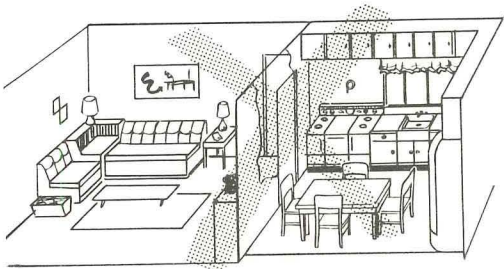


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REVIEWS *continued*

CHAIRS. Edited by George Nelson. Published by Whitney Publications, Inc., 18 E. 50th St., New York 22, N. Y. 174 pp. 9" by 12". \$10

The chief reason so many pioneer architects have, at one time or another, designed a chair is very interesting: in the design of a single chair you can find the basic reasoning process that goes into the design of *any* object—from spoon to skyscraper. And you can follow this reasoning process all the way through to the construction of the finished product.

Here is how it works: a chair requires, first, an analysis of function—and the function is simple and obvious.

It requires, next, a selection of materials that will best serve that simple and obvious function—and these materials are generally limited to two or three, and you can find out easily how these materials can be put together and made to work.

It requires, also, an esthetic decision, a decision involving basic forms—and these forms are almost always simple.

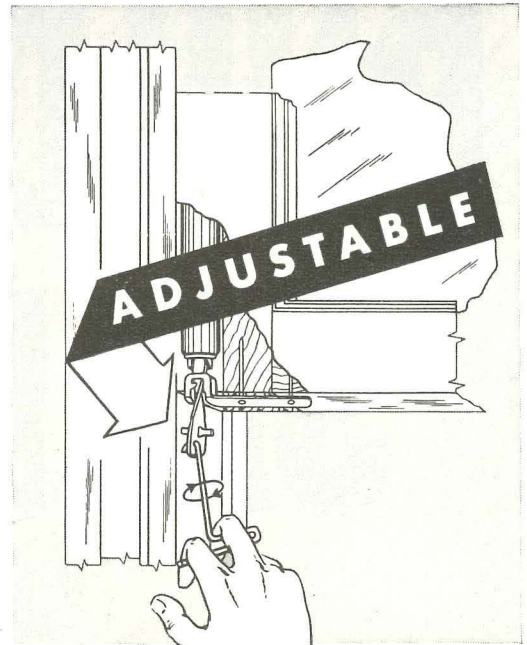
And, finally, a chair needs to be built—and this construction process, in a chair, is easy to watch, easy to analyze, and easy to correct.

So the design and fabrication of a chair is really a wonderful exercise in design. It is, moreover, an exercise whose success or failure is subject to a simple test: all you have to do is sit down—and see what happens.

No wonder, therefore, that such famous architects as Le Corbusier, Mies van der Rohe, Alvar Aalto, Marcel Breuer, Eero Saarinen and many others have again and again gone back to the problem of chair design to test their own ideas and to exercise their own design faculties. And no wonder that another architect George Nelson, no mean designer of chairs himself—has thought this was a fine subject on which to do a very handsome book.

His book, however, is not only an exceedingly beautiful presentation of a series of fascinating designs. It is, as we have suggested above, a very fine primer on design per se—a series not only of designers' "hand-writings"—but a series of object lessons in what it is that makes a man design one way or another. Obviously, there is a close affinity between Aalto's wavy plywood chairs and his wavy dormitories for M.I.T. There is a similar relationship between Mies' serene Barcelona chair and the pavilion from which it took its name. Saarinen's plastic shells and his latest shell-concrete domes, Le Corbusier's sculptural chair forms ("sculptural" in the sense of a slinky French road-racer) and his Marseilles roof.

Sole criticism of this book will come from some of the brave manufacturers who put up the money to produce many of these fabulous designs. They will say—perhaps rightly so—that it is a mistake to show chairs in mass-production next to chairs produced just once. Chair forms are greatly affected by production problems, and *anybody* can design a beautiful chair to be reproduced one at a time.



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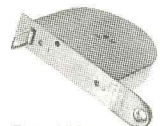
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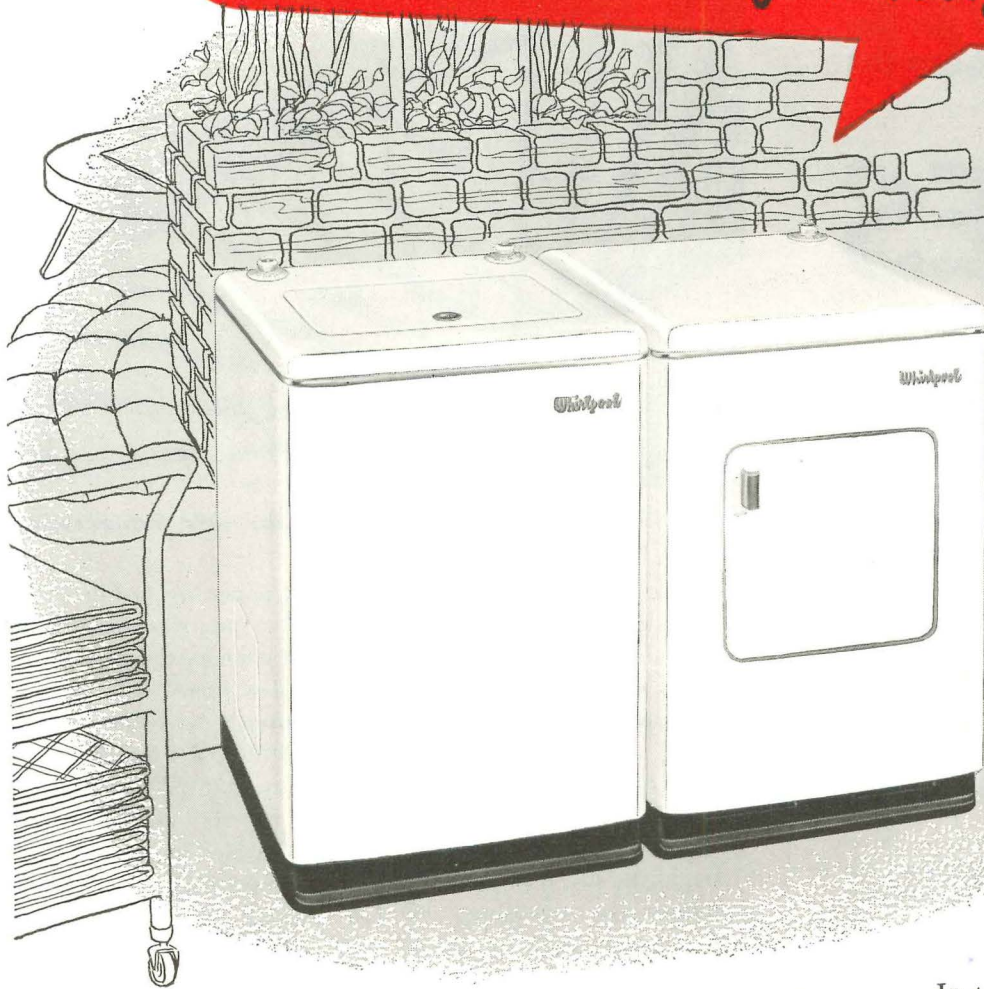
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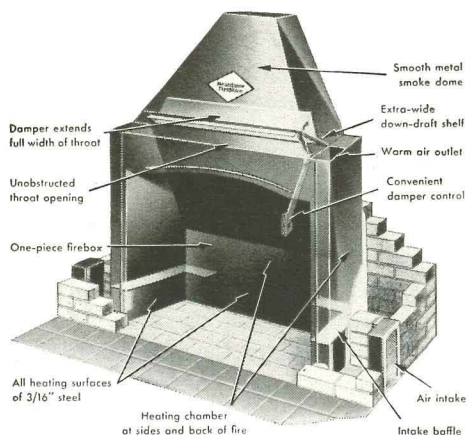


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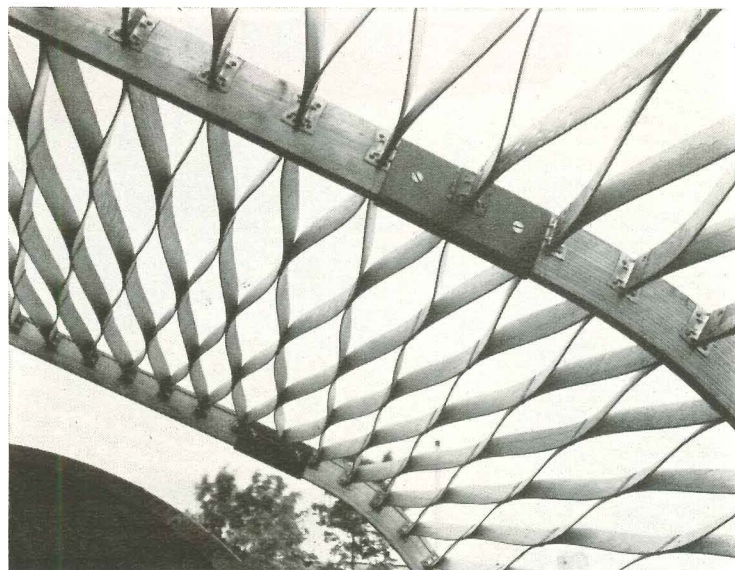
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A *Gambella* close-up

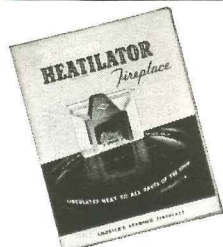
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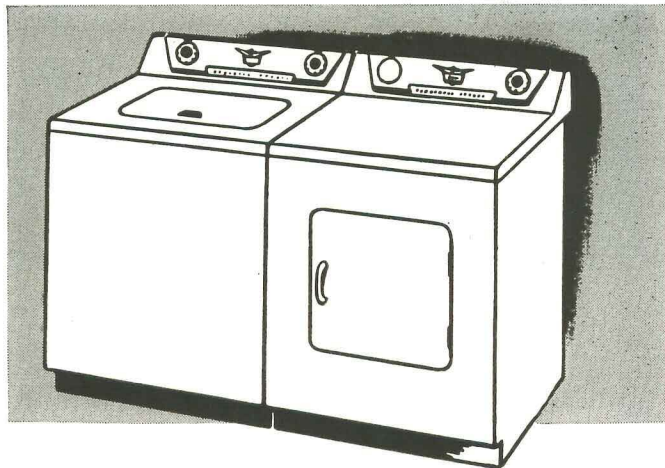
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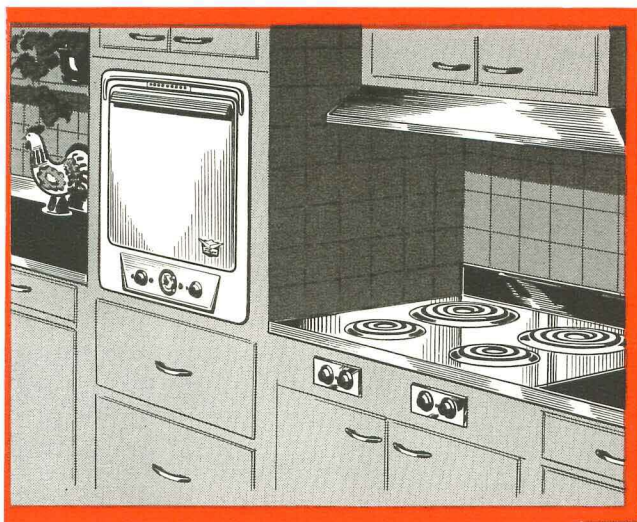
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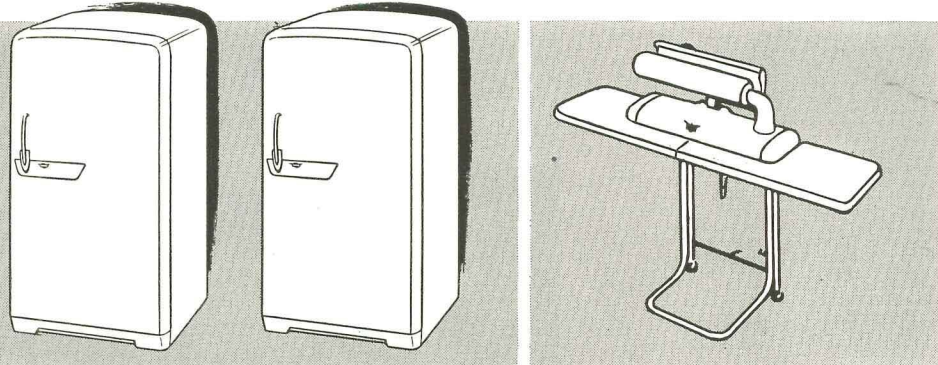
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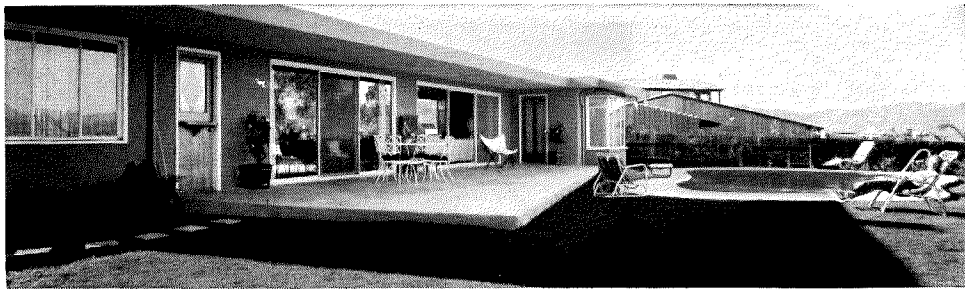
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In the Roitblat home two separate thermostat systems were installed to solve occupancy and exposure problems. One controls comfort in Zone 1 — the living-dining area. The other provides healthful, even temperatures in Zone 2 — the bedroom and bath area.

Architects, engineers and builders in the milder U. S. areas are fast learning the value of Zone Control. Word is spreading in professional circles. And families like the Roitblats (who came from Wisconsin) are taking the idea with them when they move.

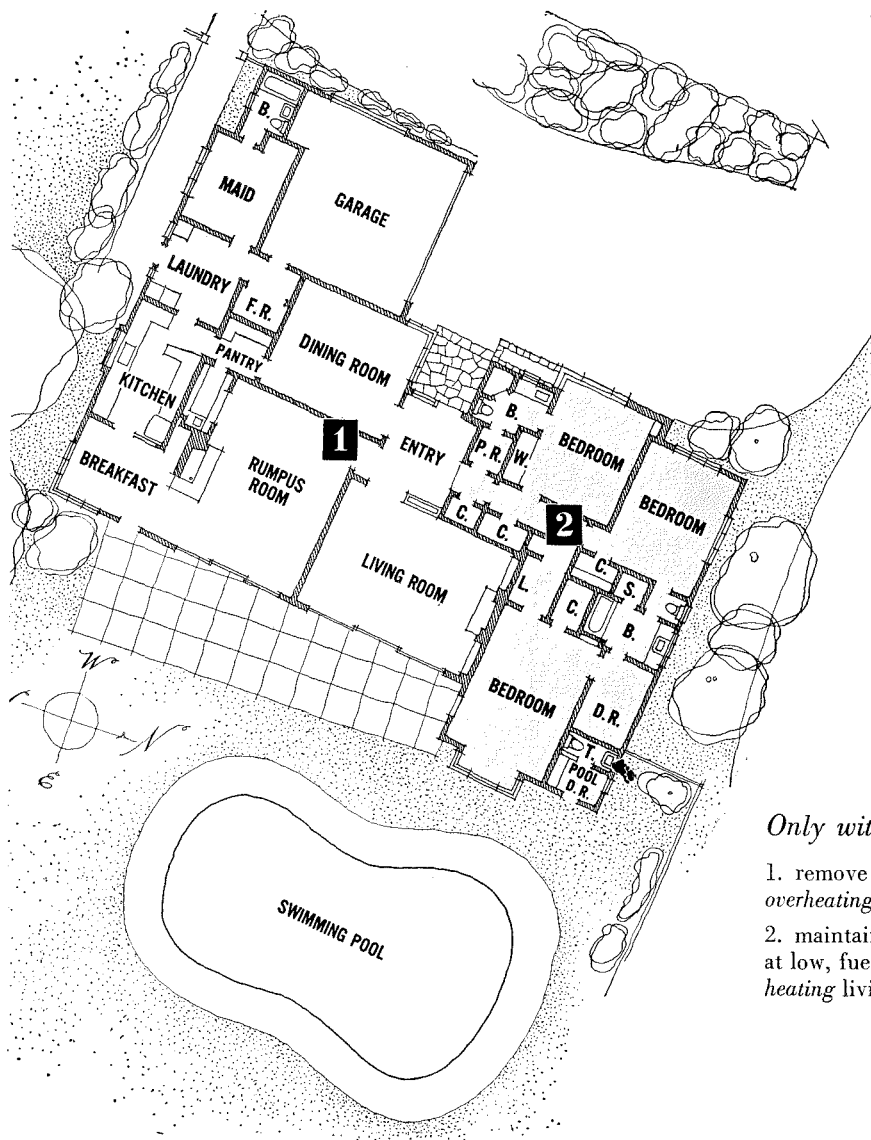
Find out more about Honeywell Zone Control. Call one of Honeywell's 104 offices — located coast to coast. Or mail the coupon.

ZONE 1

The separate thermostat system for the living area which faces east, easily meets heat demands on a chilly evening in the cool season — without making the bedroom area too warm for sleeping. Honeywell Zone Control compensates, too, for heat from morning sunshine and for extra heat from the fireplace.

The Roitblat home was designed by Beverly Hills architect Dave Freedman.

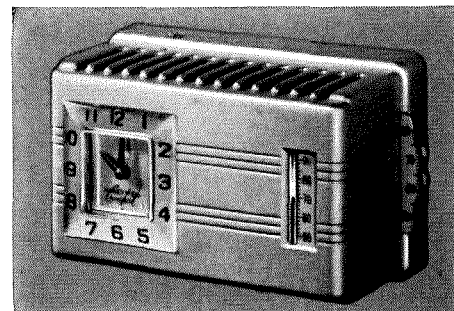




ZONE 2. *The individual thermostat in the sleeping area compensates for chill north winds. And yet it never allows bedroom temperatures to rise too high for comfortable, healthful sleeping. Nor does it affect the comfort level in the rest of the house.*

Only with Zone Control can you

1. remove wintertime chill from rooms with large glass areas—*without overheating* the rest of the house.
2. maintain special areas of the home (bedrooms are a good example) at low, fuel-saving temperatures when they're not in use—*without underheating* living areas.



HONEYWELL
CLOCK
THERMOSTAT

Owners say the Honeywell electric or electronic clock thermostat is wonderful because it turns down the heat—automatically—when they go to bed, and gives them a nice cool room to sleep in; turns *up* the heat—automatically—while they're still asleep, and their home is warm when they get up. Saves fuel, besides!

MINNEAPOLIS
Honeywell



First in Controls

MINNEAPOLIS-HONEYWELL REGULATOR CO.
Dept. HH-7-157
Minneapolis 8, Minnesota

Gentlemen:
Please send me more information regarding Honeywell Zone Control.

Name.....

Firm name.....

Address.....

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

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work for you!



Richkraft

Only Richkraft brings you a complete line of building papers which permits the use of the right paper for every job. There's Skuf-pruf heavy duty, fully reinforced, plasticized and waterproof; Medium Duplex forced, plain Kraft. Duplex 30, a low-cost Duplex. And last but not least, Richkraft Black Sheathing papers. There is a Richkraft paper to meet every job requirement and economy. Ask for details.

Richflex

Richflex Reflective Insulation makes insulation an easy matter in keeping with job economy.

With Richflex you do a 4 way job—keep winter heat in, summer heat out, create a moisture barrier, and a cold air barrier. Richflex turns back more than 75% of the heat rays striking it.

Use Richflex in side walls and in floors. Richflex in ceilings will cut temperature by 150 by preventing thick insulation from storing sun heat during summer months. Ask for details.

Richbead

Richbead brings the protection of metal to both exterior and interior corners for new and existing homes. It eliminates banged up corners at doorways, arches, reveals and soffits and it covers cracks caused by settling in interior corners.

Richbead consists of a metal angle glued to joint tape and it can be installed by anyone. Richbead allows great savings by the elimination of windows around doors and it means a real saving in time because it does away with factory corners and permits the use of any piece of wall board. Ask for details.

ANOTHER
Richkraft

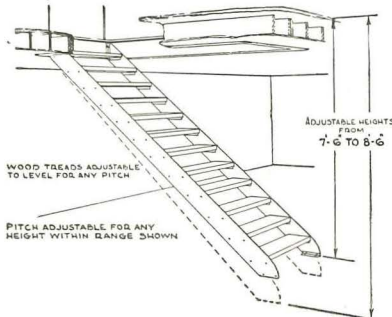
PRODUCT

THE RICHKRAFT COMPANY
510 N. Dearborn St., Chicago 10, Ill.

Gentlemen:
Please send me complete details on:
Richkraft Reinforced and Breather Papers
Richflex Reflective Insulation
Richbead for dry wall corner protection

NAME _____
ADDRESS _____
TOWN _____ ZONE _____ STATE _____

NEW PRODUCTS

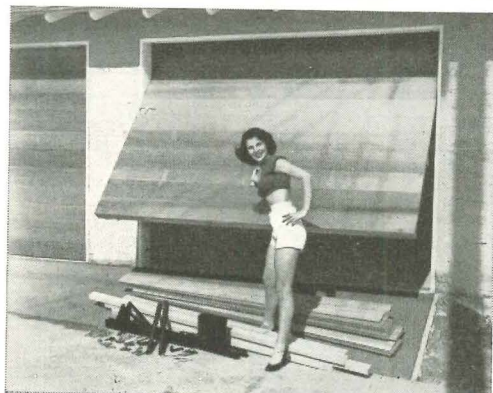


being marketed as a basement stair. It can be set up as soon as the stairwell is framed—before the subfloor is laid—to substitute for the usual climb-gently ladder. More than just a safe access for workmen and material during construction, the unit stays on in the finished house as a permanent stair. The stringers are designed to take wood treads cut $9\frac{1}{2}$ " wide and any length up to 4'. Price for the pair of stringers and hardware, F.O.B. factory, is \$50.

According to its manufacturer, *Adjust-O-Stair* meets most local building requirements. Construction people probably will put pressure on the firm to take one more step and fabricate a dressed-up version of *Adjust-O-Stair* for wedding first floor to expansion attic. *Manufacturer: Adjustable Stair & Mfg. Co., Box 936, Rockford, Ill.*

KNOCKDOWN GARAGE DOOR shipped in kit with nuts, bolts, track and nails

Seasoned redwood $\frac{1}{2}$ " sheathing—factory cut and drilled, pine framing, overhead track, nuts, bolts, truss and tape assemblies, even nails and an instruction sheet—are included in this package for a jamb-type garage door. Designed for an opening 7' high x 10' wide,



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A distinctively modern 3 bedroom design that is spacious and comfortable

Write today for full details of
the Richmond Plan.



430 Northwest "K" Street
Richmond, Indiana

continued on p. 192

NO MORE RE-ROUGHING



U. S. PATENT 1869401, 1970789

Case now presents the

CAMEL WATER-SAVER

in 10" . . . 12" . . . 14" roughs

- Eliminates need for re-roughing when you modernize—a favorite for new installations too.
- Installation is simplified by exclusive patented bolt connection between tank and bowl.
- Water-Saver feature means permanent economy wherever meters are in use.
- Special reverse trap bowl, 14" high, with jet, free-standing china tank with high-grade fittings and shelf cover.
- See and compare! Catalog # 1325. In white and 32 colors.

CHINA . . . on a cost basis



The new Case **WESLEY**

. . . vitreous china quality

at a market-wise price

- Where every dollar counts, this fixture makes them count for more!
- Roomy Case quality vitreous china basin in 19" x 17" overall size. White and 32 colors.
- Concealed front overflow, self draining soap depression, recessed shelf type back.
- Chrome plated fittings with pop-up waste valve.
- Costs no more than acid-resistant enameled iron. Catalog # 970.

With fixtures like these, Case enables you to provide the finest material known—vitreous china—plus high grade mechanical construction—at a cost in keeping with today's insistence on economy. See your Classified Telephone Directory— or write W. A. Case & Son Mfg. Co., 33 Main Street, Buffalo 3, New York.

100th ANNIVERSARY
1853-1953

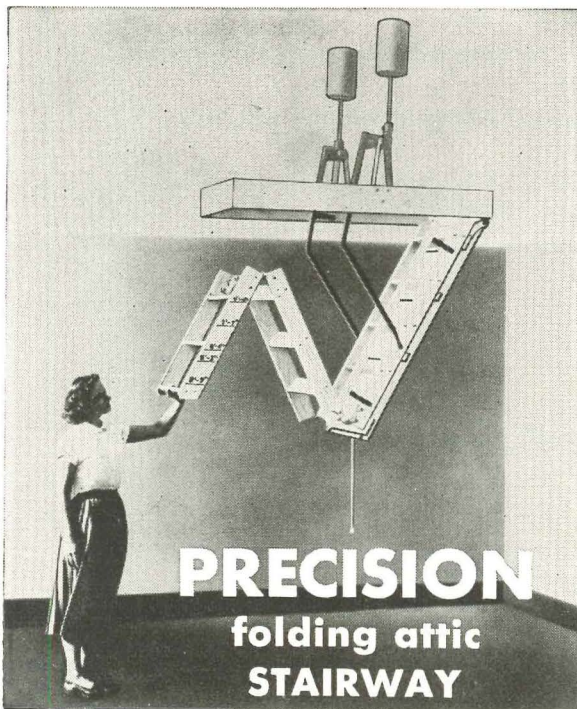


Fine Vitreous China

FIVE-YEAR WRITTEN GUARANTEE

furnished with each unit

No other
STAIRWAY
offers so much



5 exclusive features

1. Actuated by counterweights.
2. Operates on roller bearing which makes raising and lowering practically effortless.
3. Insulated door panel to prevent loss of heat to attic.
4. Full width safety treads.
5. Finest grade lumber and aluminum alloy construction. All parts secured by bolts and screws.

Easy to handle -- Easy to install. Shipped in 1 package assembled. Requires no attic space. No adjustments, no springs. Fits all ceilings from 7 feet to 9 feet 9 inches. (Runners graduated, all you do is measure from finished floor to finished ceiling and saw off runners at desired height.) Accepted by F.H.A. Listed in Sweets. Specified by leading architects. Sold by more than 12,000 dealers in U. S. A. and Canada.

Contact Precision Jobber for attractive prices.

PRECISION PARTS CORPORATION
400 North 1st St. Nashville 7, Tennessee

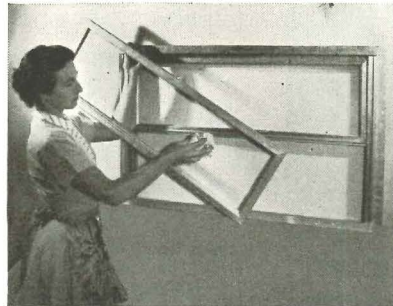
NEW PRODUCTS *cont'd.*

the complete kit sells for \$58.91 F.O.B. Los Angeles. Units for double doors up to 16' wide are also available.

Manufacturer: Cossart Enterprises, 3723 Wilshire Blvd., Los Angeles 5, Calif.

DOUBLE-HUNG WINDOW: sash snap out for washing

Wisco's new aluminum window is one double-hung unit that makes good design sense. Slim-framed, wide, and handsome, it is suited to the contemporary house—big or small, built of sticks or stones. And, bonus to the home owner, the sash can be lifted out for washing. (The glass is secured in neoprene-lined alumi-



num casings; there are no nails, points or putty to come loose.) A good feature for the builder is the set of metal fins, extruded as part of the window frame. For installation, the window is set in place, plumbed, and nailed through the fins to sheathing or studs. It is made in a wide range of standard sizes as well as in combinations with large fixed sash. Glazed and cartoned, a 1'-8⁵/₈" wide x 1'-6" high model lists at \$21; a 4'-0⁵/₈" x 2'-2" is \$33.

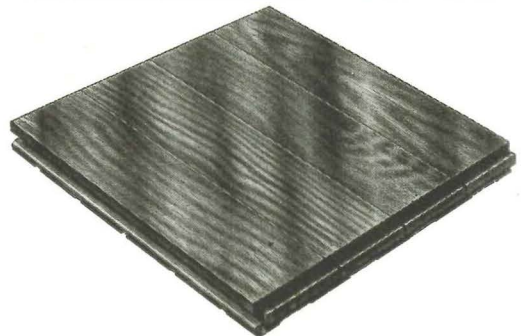
Manufacturer: Wisco Aluminum Corp., 3945 A St., Detroit 16, Mich.

ONE-TON AIR CONDITIONER nests inside outside wall

Measuring only 3⁵/₈" deep and 30" wide, the *Frigid-Wall* air conditioner can be built into a standard frame wall. Presenting no visible bulk inside the house (just two small grilles are exposed), the new cooler operates in much the same manner as the lumpier window-type units. Room air is drawn through a neat intake grille near the baseboard, mixed with outside air, passed over the cooling coil and directed back into the room through an outlet near the ceiling. (Moisture from humid air condenses on the coils, drips to a pan, and is drained outdoors.) Shipped fully assembled, ready for installation in an outside wall,

continued on p. 198

YOUR BEST BUY IN BLOCK FLOORS



DELFAIR Oakblok

DELFAIR Oakblok offers to builders a truly distinctive floor, one that is equally suitable for small or large homes, commercial structures, housing projects, schools and institutions. It is especially adaptable to economical installation over concrete.

DELFAIR Oakblok is available in all standard strip flooring grades and also in the following special grades: Prime, Standard and Better, Standard, Tavern and Better and Tavern.

DELFAIR Oakblok is made of either Red Oak or White Oak, and is available either unfinished or prefinished.

DELFAIR Oakblok comes in the following sizes: 25/32" x 6³/₄" x 6³/₄", 25/32" x 7¹/₂" x 7¹/₂", 25/32" x 9" x 9", 1/2" x 8" x 8" and 1/2" x 10" x 10". All blocks are steel spline joined.

DELFAIR Oakblok's milling characteristics: tongue and groove end-matched — slight vee-edge on prefinished blocks — cross-wise grooves spaced to insure better mastic adhesion.

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WRITE TODAY FOR COMPLETE INFORMATION

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RATE COMMAND-AIRE TWINS

YEARS MOST POWERFUL

SALES FEATURE!

The way Bryant's "Command-Aire" Twins are helping to sell homes for many of the nation's leading builders offers an opportunity for you. Specifically, it's year 'round conditioning that's . . .

20 to 35 per cent lower in cost!—to let you offer this one-time luxury feature in moderately priced homes—to mass market buyers. Moreover, you can offer . . .

Cooling initially, or later!—The "Twins" are independent heating and cooling units of matched design. Homeowners can install the furnace first (gas or oil) and add the twin cooling unit at their convenience. And you needn't worry about space because the "Twins" offer . . .

Unusually compact design! Using as little as $7\frac{1}{2}$ square feet of floor space, you can tuck them away in a closet, alcove, utility room or basement.

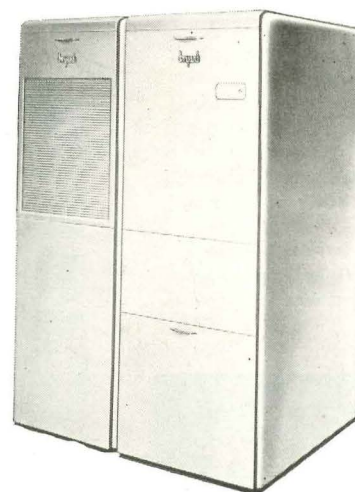
Some of the many prominent builders already enjoying faster, more profitable sales with "Command-Aire" equipped homes are listed on the opposite page. Why not investigate "Command-Aire" advantages yourself. And ask about Bryant's supporting program to help you sell your homes. Contact your Bryant Distributor, or write: Bryant Heater Division, 17825 St. Clair Avenue, Cleveland 10, Ohio.

There's no place like home
with a . . .



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HEATING • AIR CONDITIONING WATER HEATING

Bryant's "Command-Aire" Twins include either a gas or oil furnace in any one of a complete range of sizes matched with a 2, 3 or 5-ton cooling unit.



How Many Uses Has a Basement?

IF YOU COULD LOOK into the American family album, you'd see the home-life of millions of Americans. You'd see, among other things, the important part that the modern basement plays in offering extra pleasure and utility for the entire family.

You as a BUILDER should recognize this overwhelming preference for homes with basements. Also, that basements make homes more appealing and easier to sell.

GROWN-UPS

... need basements for work room, laundry room, storage space and recreation.



TEEN-AGERS

... can dance, play table-tennis, have parties, all within the confines of the basement.



KIDDIES

... are able to play without restraint particularly in rainy and cold weather.



SYMONS FORMS

Help Keep Basement Costs Low

Symons Forming System—a rapid, cost saving means of constructing strong, waterproof concrete walls for the modern basement. The savings in time and labor pay for the original form cost in a short period of time.

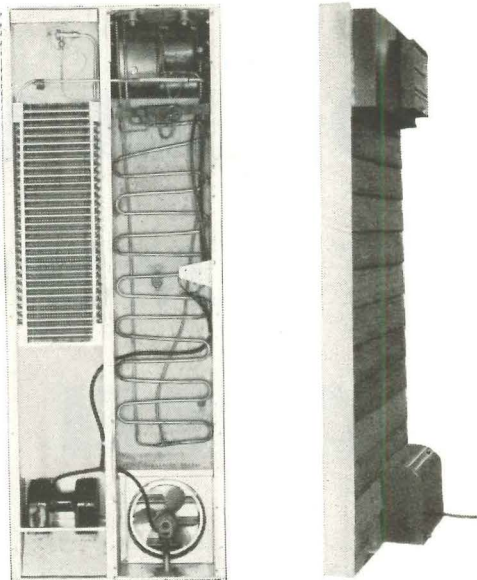
The best modern basements are poured concrete and the best concrete walls are poured in SYMONS FORMS.

Write for full information on costs—rental and purchase price of forms and ties. Also prices of hardware and instructions for building your own forms.



SYMONS CLAMP AND MANUFACTURING CO.
4277 Diversey Avenue, Dept. G-3, Chicago 39, Illinois

NEW PRODUCTS *cont'd.*



the *Frigid-Wall* 1-ton unit costs \$400; the $\frac{3}{4}$ ton, \$350. One can cool one or two rooms; two or three units, an average home.

Manufacturer: The Meyer Furnace Co., Peoria 1, Ill.

COPPER-CLAD RANGE mellow but rugged

A gracious complement to almost any kitchen is Chamber's new copper-plated gas range. Looking impressively like the cooking vessel it is, the luxury appliance is especially suited for use with the natural wood and colored cabinets currently favored for open-plan kitchens. The range's copper finish is oxidized, burnished, and topped with a protective clear coating that can be washed with warm water and detergent and never needs scouring or polishing. In abrasion tests conducted by the manufacturer, the treated copper finish proved to be ten times as scratch resistant as conventional refrigerator enamel. Panels also were subjected to salt spray, humidity, and intense heat, and showed no adverse effects. Obtainable with either a chromium-plated or black-enameled cooking surface, the range retails for \$499.50, installed. Two built-in models—an oven and a four-burner cooking top with a broiler-griddle—will soon be available with the "antiqued" copper finish.

Manufacturer: Chamber's, Shelbyville, Ind.



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