

March 1954

house + home

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Frank Lloyd Wright

A dramatic lesson in tight planning: how big can a tiny house be? (below and p. 98)

Air-conditioning progress

24 pages of exclusive field reports (p. 106)

1. How to make air conditioning sell houses
2. Why air-conditioning costs are cheaper than you think
3. How to get more cooling for less money
4. How to design cooler houses

Round Table report

Why do FHA and VA valuations discriminate against better quality and better design? What changes should be made in these appraisal policies and practices? (p. 140)

Panel construction

Every lumber dealer can be a prefabber; builders and architects can use parts instead of pieces (p. 152)



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The new housing bill

- ▶ **Congress gets legislation giving the President sweeping control over VA and FHA mortgage terms and interest**
- ▶ **Higher FHA loan limits promise boost in apartment building. Fanny May changes and public housing may stir fight**

The administration housing bill, introduced in Congress Feb. 12, would accomplish just about what President Eisenhower had asked in his housing message: put more responsibility on local communities for solving slum problems but give the President greatly expanded powers over FHA and VA interest rates, maturities, down payments, fees, charges and other terms.

The 107-page measure, sponsored by the chairmen of the Senate and House banking committees—Sen. Homer E. Capehart (R, Ind.) and Rep. Jesse P. Wolcott (R, Mich.)—constituted the biggest overhaul in 20 years for federal aids to housing. As NAHB promptly noted, such revisions were “long overdue.”

Most of the changes (see table, p. 35) looked sound to the industry and to politicians of both parties alike. There would be a fight over public housing (Wolcott balked at putting it in his measure). There might well be rumblings over details of the major shake-up for Federal National Mortgage Assn. But it was still anybody's guess whether a storm would develop over what seemed to some experts a really questionable feature of the legislation: in giving the President such sweeping powers over FHA and VA loans, with the laudable aim of helping to even off housing's boom-and-bust tendencies, the bill would plunge nearly half of the nation's new housing under a one-man-controlled economy. Should a President, in peacetime, have such clearly defined power over a \$12 billion industry?

6% interest ceiling. Briefly, the housing bill would let the President set interest on FHAs and VAs at any level, subject to a top ceiling of 6% and a limit of not more than 2½% above the going rate on long-term government bonds. He could increase or decrease maturities, subject to a maximum of 30 years (40 years for a new FHA Sec. 221 for low-cost housing to reduce the need for public housing). He could raise and lower down payments as he thought the state of the economy made wise and regulate all FHA and VA fees and charges.

Whose thinking lay behind this control philosophy remained a puzzle. Both the Treasury and Federal Reserve championed the idea, but each called the other the ring-leader. The idea recalled the views of Truman's economic council under Leon Keyserling, a staunch believer in vesting wide economic powers in federal hands. Keyserling contended that unless an agency like FHA had some reserve stimulative power it would not be able to help the housing market if and when help was needed.

Economist Walter Hoadley Jr. of Armstrong Cork Co. touched on the point while testifying last month before the joint Congressional committee on the economic report. Said he: “It must be recognized that efforts of the federal government to help stabilize

Miami Herald



WOLCOTT

UP



CAPEHART

the national economy by periodic and fairly abrupt policy changes to curtail or stimulate homebuilding have had highly disrupting influences upon the industry. To the fullest extent possible, policy decisions should be to encourage longer-range market needs and potentialities of new and fix-up homebuilding rather than to weaken forward planning by frequent pronounced shifts affecting the environment within which the industry endeavors to operate.”

Easier terms hinted. Although the bill would not automatically give homebuilders the easier mortgage terms they have championed so long and loud, NAHB spokesmen were unfazed. Reason: administration spokesmen let out word that if the bill passed, Eisenhower would act at once to ease FHA

down payments. However, it was fairly clear that the President at first would not cut them as much as he could.

On interest rates, administration men passed word around that no immediate changes were contemplated despite the flexibility written into the bill.

Roadblock for public housing. Long and sometimes heated arguments among administration leaders preceded introduction of the 1954 housing bill. The climax was a White House breakfast where the President talked to Rep. Wolcott and Rep. John Phillips (R, Calif.), chairman of the House appropriations subcommittee that must act on public housing. Wolcott had balked at including in his bill Eisenhower's proposal for 35,000 public housing units a year for four years. His position: he had argued often that public housing was the “hallmark of Socialism;” he could not in good conscience sponsor a bill containing public housing and argue that it was any sweeter because it was growing on a Republican vine. Moreover, Wolcott pointed out that there was ample authority in the law already to build the 35,000 units Eisenhower wanted “until alternative programs prove more effective.” The real decision rested, as it always has, with appropriations.

After breakfast, Wolcott announced that the President “was agreed” to his approach. He added: “What we have decided in no way prejudices the Eisenhower public housing recommendations.” Would Wolcott vote for 35,000 public housing units? He called himself “noncommittal.” Phillips refused to predict what his subcommittee would do. Last year, it recommended no public housing starts at all.

Democratic jibes. Prompt Democratic sniping indicated there would be political tears over omission of public housing from the housing bill. Snorted Sen. Russell B. Long (D, La.): “The legislation has made it clear that the administration does not approve of public housing accomplishments to date and wants to end the program soon. It is just an indication that they are preparing to discontinue it.”

Whatever the eventual fate of public housing, its omission from the bill could well delay its passage. For one thing, there were hints that the Senate banking committee might restore provision for 35,000 public housing units in reporting the bill out for floor action if it thought the House appropriations committee was dragging its heels on the subject. Such a course would lead to a long wrangle when the House and Senate conference committee meets to harmonize provisions of the House and Senate housing bills. Wolcott himself remarked that the bill would probably not become law soon enough to be much help this year.

Blended Fanny May. In proposing to reshuffle the Federal National Mortgage Assn. (Fanny May) into a tripronged opera-

Cities would need rehabilitation programs to qualify for federal redevelopment aid

tion (see p. 35 for details), the housing bill apparently aimed at compromise over bitter industry factionalism that flared in the President's housing policy committee. The committee had suggested putting Fanny May under an expanded Home Loan Bank Board and requiring people who sold mortgages to it to hold stock amounting to 4% of their mortgage balances. This, charged homebuilders, was a savings and loan device to make the secondary market so costly it would not work. Savings and loan leaders were just as mad over the committee's idea of putting the Home Loan Bank Board under more HHFA control, promised a floor fight in Congress to stop it if necessary.

The housing bill steered around both objections. The Home Loan Bank system apparently would be left independent. The stock-holding requirement for the part of Fanny May intended to serve the normal secondary market was cut to 3% (NAHB insisted this was still too much). A special-aid Fanny May program would be set up to pump Treasury money into new FHA mortgage programs (notably the 40 year, \$200-down loans which were the Republican white hope for ending public housing). But this coinage of mortgages would not be free and unlimited. It would be confined to programs where the President found the building industry and national welfare required it, and further limited to a total liability of \$700 million.

Proposed authority to let Fanny May support the entire mortgage market to stave off economic collapse was largely meaningless. Fanny May would not have enough money. Actually, it would have to come back to Congress for more borrowing authority if the mortgage market slipped into a real tailspin.

How much would Fanny May cost? But conditions proposed for the new FNMA's "normal secondary market" operations suggested the facility still would be costly for builders to use. This was intentional. Republican leaders did not want FNMA to continue as a dumping ground for unwanted mortgage paper.

A builder who wants to sell a mortgage to the "normal" FNMA would have to begin by contributing 3% of the mortgage to FNMA capital. Then FNMA could charge him a discount of, say, 1% and a fee of 1/2% for the privilege of doing business with it. The housing bill put no limit on fees and charges FNMA can collect to cover operating costs.

When could a builder get the money back? Some banking committee technicians who helped write the legislation believed that with the best breaks, he might start collecting after seven years.

The new "normal" FNMA would begin with a capitalization derived from capital and surplus in the old FNMA—roughly \$70

million. It could expand this ten times by selling debentures—to \$770 million. It could invest the entire sum in mortgages, exacting a 3% contribution. The process would bring its working funds as high as \$1 billion.

Would Fanny May have trouble selling its nonguaranteed debentures on the open market? No one really knew. But from 1938 to 1943, FNMA had successfully floated \$426 million of nonguaranteed and taxable debentures. The supposition was the same thing could be done again. Anyway, the housing bill would let the Treasury buy up to \$500 million of the debentures immediately, plus another \$500 million out of funds paid back to the Treasury from liquidation of Fanny May's present portfolio.

That is where builders and lenders who avail themselves of the new FNMA "normal" market would come in. After the government capital has been retired, their nonrefundable convertible certificates could be exchanged for FNMA capital stock. But the housing bill stipulated that FNMA cannot repay the government \$70 million stock until it has accumulated \$100 million. That would take a long, long time.

Open-end mortgages. Other noteworthy phases of the legislation:

►FHA would get authority to write open-end mortgages (VA already has). Inclusion of this provision in the bill climaxed a behind-the-scenes struggle to overcome technical objections thrown up by a coterie of old-guard FHA officials. Open-ending should give a big boost to the home fix-up market on which many a housing expert is relying to compensate for the probable drop in new housing. Higher limits and longer maturities for FHA Title I repair loans will give modernization a parallel shot in the arm. In effect, the new five-year, 32-day amortization on one- to four-family homes will cut the interest rate from 9.58 to 9.05%.

►FHA's four-year-old Title I, Sec. 8 program for low-cost (under \$6,000) homes could be killed—ironically enough just as it was beginning to develop a good head of steam (p. 43). FHA says it will retain the lower construction standards of Sec. 8 for Title II mortgages of \$6,000 or less.

►Federal aid for redevelopment would be broadened to embrace the entire concept of urban renewal, specifically including rehabilitation and other housing code enforcement work. Indeed, this was the most basic change of direction in the legislation. But the idea had been so well sold to public and private housers alike that opposition was dwindling rapidly. Significantly, the bill would make urban renewal grants (but not preliminary planning advances) contingent on HHFA approval of "workable" plans by local communities both to attack existing

slums and to prevent new slums.

To harness private building to the slum job, the bill would create a new FHA Sec. 220 rehabilitation loan available only in FHA-approved conservation or rehabilitation areas. Allowable limits: 90% of value after improvements, and generally with same maturities, interest and mortgage per room limits as other Title II loans (see p. 35).

►In-city construction of high-rise apartments would get a tremendous boost if the President exercises the power the bill would give him to raise Sec. 207 multifamily rental housing mortgages from \$2,000 to \$2,400 per room for elevator structures, and power to raise mortgages on Sec. 213 co-ops on a similar scale. Already, the prospect of a new boom in apartment construction had prompted renewed land speculation in Manhattan.

►Administration leaders, in proposing the eye-catching 40-year, \$200-down FHA low-cost housing program (Sec. 221), took pains to see that there would be mortgage money to make it work. The program would be eligible for special FNMA aid with Treasury funds in case private lenders shun it as many a mortgage expert thinks probable. In an effort to make the loans more palatable to private lenders, the housing bill adopted a suggestion of FHA Commissioner Guy Hollyday by providing that Sec. 221 mortgages can be turned in after 20 years for ten-year FHA debentures, at the lender's option. The two-year trial basis for Sec. 221, suggested by the President's housing policy committee, was dropped. The program would run until Congress repeals it.

Direct VA loans dropped. Conspicuously omitted from the administration's housing plans was any provision to continue direct VA loans. VA's authority to make them expires June 30. A rash of bills extending the program had been introduced in Congress, but whether GOP leaders would keep them bottled up in committee remained to be seen. Latest bill was one by Sen. John J. Sparkman (D, Ala.) which would double VA's present \$25-million-per-quarter lending authority.

Missing from the housing bill, too, was any provision for farm housing aid. At mid-month, this drew tart comment from Vice President B. E. Grantham of the National Institute of Farm Brokers (a NAREB affiliate). Said he: "The slums of rural America are in just as much need of improvement as those in the city."

Those plugging for prompt passage of the Housing Bill of 1954 thanked their stars for one break. The reorganization of HHFA recommended by the presidential committee would go to Congress later as a presidential reorganization plan. This would prevent further delaying disputes over how much power should be concentrated in HHFA hands. At the moment, since Congress cannot amend a reorganization plan, the housing industry was waging a behind-the-scenes battle over details of the reshuffling.

Housing bill details

as introduced in Congress Feb. 12 by Senator Capehart and Representative Wolcott

Subject	Provision
FHA Title I repair loans	For 1-family dwellings—raises loan ceiling from \$2,500 to \$3,000, boosts pay-off term from 3 years, 32 days to 5 years, 32 days. For multifamily dwellings—changes maximum loan from \$10,000 to \$1,500 per unit or \$10,000, whichever is greater, boosts pay-off term from 7 years, 32 days to 10 years, 32 days.
FHA Title II	Gives President power to boost mortgage ceiling on 1- and 2-family homes from \$16,000 to \$20,000, to boost mortgage ceiling of 3-family homes from \$20,500 to \$27,500, and to boost ceiling for 4-family homes from \$25,000 to \$35,000. Gives President permissive power to relax down payments as far as 5% down on first \$8,000 of value and 25% of excess for all sections, compared with varying but stiffer current requirements (see table, next page).
Old houses	Make existing 1- to 4-family houses eligible for same mortgage terms as new housing.
Amortization	Gives President power to raise pay-off term on all Title II loans to 30 years, instead of present 20 to 30 years.
High-rise apartments	Removes \$10,000 mortgage limit per family unit for Sec. 207 apartments with 4 or more rooms and gives President power to raise mortgage ceiling for elevator-structures from \$2,000 to \$2,400 per room and from \$7,200 to \$7,500 for family units of less than 4 rooms.
FHA co-ops	Permits President to raise maximum mortgage from \$1,800 to \$2,375 per room if 65% of cooperators are veterans (\$2,250 if less than 65% are veterans), with additional boost to \$2,850 per room for elevator-structures (\$2,700 for elevator-structures with less than 65% veteran cooperators). Raises maximum loan for cooperatives from \$5 million to \$25 million if mortgagor is regulated or supervised under law on rents, charges and methods of operation.
Rehabilitation loans (Sec. 220)	Authorizes a new FHA Sec. 220 to insure mortgages on either old or new dwellings in designated urban renewal areas where HHFA has approved local plans for slum prevention and redevelopment. Mortgage amortization limits on 1- to 4-family units would be same as for Sec. 203 and 207 (for sales and rental housing, respectively) unless President authorizes higher ceilings under permissive Title II authority. For dwellings of more than 4-family units, authorizes \$35,000 loans plus \$7,000 extra per unit on basis of 90% loans with maximum of \$2,250 per room (\$2,700 for elevator structures). Gives FHA right to regulate rents, sales, charges, capital structure, rate of return and methods of operation of mortgagors.
40-year FHA low-cost housing	Authorizes a new FHA Sec. 221 for 40-year, 100% loans up to \$7,000 to owner-occupants on new or existing homes (\$200 cash down required for closing costs). Operative builders would get 40-year 85% loans to aid sales to owner-occupants under purchase contracts or lease options. Sec. 221 would apply only in communities which ask for it and meet HHFA eligibility requirements. Slum fix-up displaces would have occupancy preference but sale to others is not flatly prohibited. Authorizes 40-year, 100% loans up to \$7,000 a unit for dwellings of more than 10-family units where mortgagor is non-profit organization, public or private, and regulated by federal or state government on rents and charges. Permits lenders to turn in defaulted mortgages after 20 years for 10-year FHA debentures at going interest rate when debentures are issued.
Open-end mortgages	Authorizes FHA to write open-end mortgages on 1 to 4-family houses. Lets FHA commissioner set up fees in lieu of insurance premiums. Exempts open-end advances from statutory ceilings on FHA insurance authority.
Military and defense housing	Extends Wherry Act housing (FHA Title VIII) to July 1, '55. Lets defense housing (FHA Title IX) die at expiration July 1, '54.
Interest rates and terms	Substitutes flexible interest on FHA and VA loans in place of rigid ceiling set by Congress (5% for FHA, 4½% for VA). Method: empowers President to set interest ceilings on FHA and VA loans at different levels for different classes of mortgages, but subject to ceiling of

2½% above average market yields on federal bonds with 15 years or more maturity.

Gives President power to set limits on FHA and VA fees and charges.

Empowers President to set maturities and raise minimum down payments on FHA and VA loans and dollar ceiling on FHA loans at any point below Congressional authorizations.

Repeals widely condemned Sec. 504 of Housing Act of 1950, which attempted to prohibit passing discounts on FHA and VA loans on to purchaser of house.

Federal National Mortgage Assn.

Reincorporates FNMA as constituent agency of HHFA, with HHFA Administrator as board chairman. Authorizes Fanny May to buy FHA and VA mortgages up to \$12,500 per family unit. Earmarks present Fanny May capital and surplus (\$70 million) to capitalize new Fanny May, which has three separate functions, with separate accountability: **1)** Someday-private secondary mortgage market with sellers required to make capital contributions equal to 3% of mortgages sold to FNMA. When initial \$70 million Treasury stock is retired with these funds, HHFA would propose legislation shifting this part of FNMA to private ownership and control. Meanwhile, FNMA could issue nonguaranteed obligations up to ten times its capital and surplus and the Treasury could buy up to \$500 million worth, plus an amount equal to reduction in FNMA present portfolio up to \$1 billion. FNMA could make one-for-one contracts, but otherwise no advance commitments. **2)** Treasury-financed aid to new mortgage programs (e.g. FHA Sec. 220 and 221) as directed by the President, or broad support for all mortgages to fight a depression. President could authorize up to \$200 million in purchases and advance commitments, plus up to another \$100 million for 20% participation in trial-plan mortgages. The 20% participation would include a FNMA commitment to buy the other 80% if a mortgage reaches foreclosure, thus putting a \$500 million liability ceiling on participations. Initially, \$300 million of FNMA's present authorization would be earmarked for special aid. **3)** Liquidation of existing FNMA portfolio by selling mortgages, and by selling nonguaranteed 5-year obligations to the public secured by the mortgage portfolio under liquidation. Interest rates would be set by FNMA with Treasury approval.

Slum clearance and urban renewal

Broadens Title I redevelopment of the Housing Act of 1949 to include not only slum clearance but slum prevention. Bars federal aid to communities until they present "workable" official plans to attack existing slums and prevent growth of new ones. Authorizes creation of urban renewal service in HHFA to aid and guide rehabilitation and slum clearance work. Authorizes \$5 million in grants to localities to develop, test and report on better methods of preventing or ending slums. Repeals requirement that blighted commercial or industrial areas be redeveloped primarily for housing, but bars federal grants for projects "which consist of open land." Permits redevelopment grants to include rehabilitation work or cost of streets, utilities, parks, playgrounds and similar improvements (which need not be in a slum clearance area) to carry out an approved urban renewal plan.

Public housing

Extends occupancy preference, now limited to families displaced by public housing and redevelopment projects, to include displaces from other public improvements including code enforcement, highways, demolitions.

Public works planning

Authorizes a \$5 million HHFA kitty for 50% grants to state, metropolitan and regional agencies for regional planning ("including land use studies, urban renewal plans, technical services . . . but excluding specific public works"). Authorizes 50% grants from same fund to state agencies to help cities under 25,000 population with urban planning.

Authorizes \$10 million to resume defunct program of interest-free planning advances to local and state bodies for public works plans, repayable when construction begins. Purpose: to encourage a depression backlog of job-making construction projects.

Home Loan Bank system

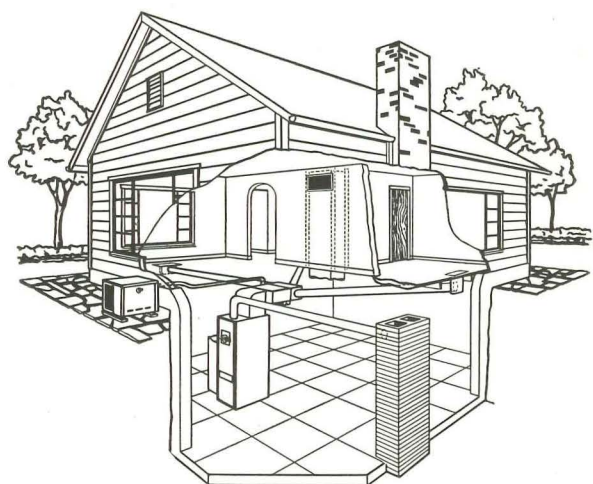
Raises maximum loan a federal savings and loan association can make from \$20,000 (set in 1933) to \$35,000.



To make home selling easier...

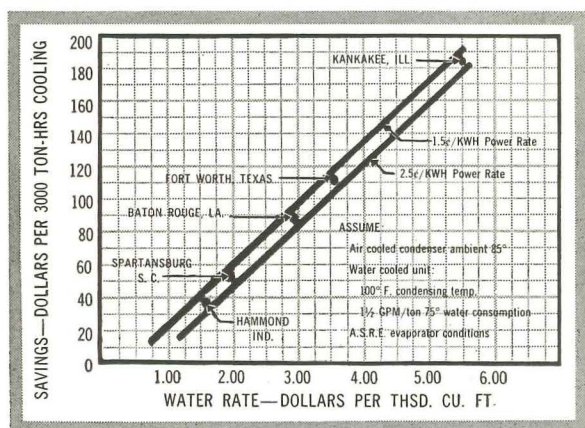
BUILD IN CHRYSLER AIRTEMP

Air-Cooled Year 'Round Air Conditioning



For air conditioning this 1600 square foot house, the Chrysler Airtemp air-cooled condensing unit is on outside. Operating cost for 1953 cooling season—\$48. In nearby house of similar area, water-cooled air conditioning cost \$72 to operate for same period. Inexpensive water rate held difference down in this case. Also, cost of maintenance of water-cooled unit was not considered!

Chart below, based on average 3000 ton-hour load (8 hours continuous operation for 125 days), shows how savings increase for operation of air-cooled air conditioning over water-cooled in proportion to local water rates.



COSTS UP TO \$185 LESS* TO OPERATE PER COOLING SEASON ...

Builders and their home buyers have welcomed it because it operates without water—requires no plumbing—costs less to install. And now you can build in Chrysler Airtemp Air-Cooled Air Conditioning to give your new homes the dramatic sales appeal of Year 'Round Air Conditioning—with assurance to the buyer that it should cost him *substantially* less to operate than conventional air conditioning utilizing city water.

*Cost of cooling for a season may run as much as \$185 less than with water-cooled equipment (see chart at lower left). Depending on local water and power rates and ton-hours of cooling used in a home, this difference may be less—or even greater. From thousands of installations in homes in every section of the country, Chrysler Airtemp has accumulated data establishing the operating economy of its Air-Cooled Air Conditioning—the system which also gives the home owner complete protection against water shortages in hot weather.

Your local Chrysler Airtemp Dealer installs both Air-Cooled and Water-Cooled types of air conditioning—you can trust his recommendations! And whichever type you choose, you can depend on the Chrysler Airtemp name to give your prospects the utmost confidence in your houses!

CHRYSLER AIRTEMP

Comfort Zone



HEATING • AIR CONDITIONING
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Airtemp Division, Chrysler Corporation, Dayton 1, Ohio

HH-3-54

Airtemp Division, Chrysler Corporation
P.O. Box 1037, Dayton 1, Ohio



I'd like to know more about Chrysler Airtemp Air Conditioning.

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City _____ Zone _____ State _____

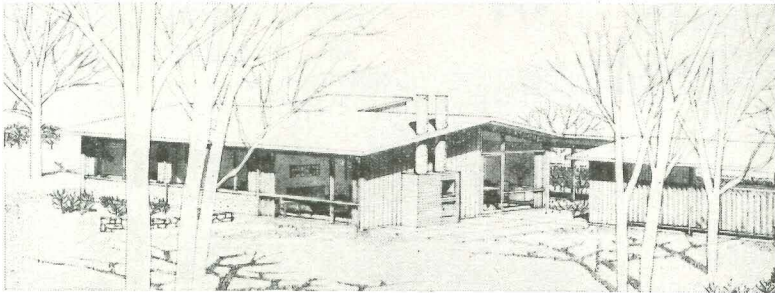
THE TRULY MODERN HOME MUST BE AIR CONDITIONED

Research village displays tomorrow's house design

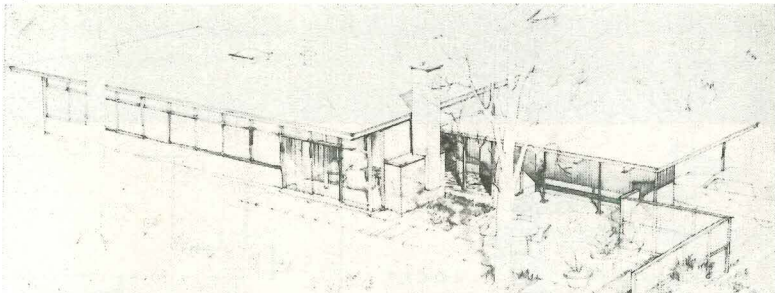
A foretaste of things to come: six low-cost dwellings of widely differing design—but possessed of a similar down-to-dinner practicality—on a plot of woodland 35 mi. from Chicago in Barrington, Ill. This latest in “research villages” was conceived by the US Gypsum Co. (with asked-for advisory aid from NAHB and AIA) and executed by six top-flight architects. Participants called the scheme not only “desirable” but “long overdue.”

The six architects present a cross-section of top thinking in the field. Their plans revealed some basic thinking for the future: 1) the most important factor in small lot design is utilization of outdoor space; 2) the most important challenge indoors is to create a second living room; 3) promising opportunities for indoor planning have been brought about by FHA's approval of the inside bath; 4) the most interesting structural innovation is support of the roof by other means than old-fashioned walls.

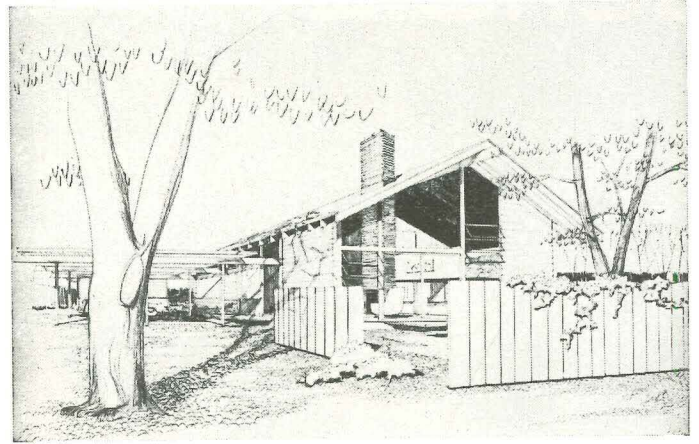
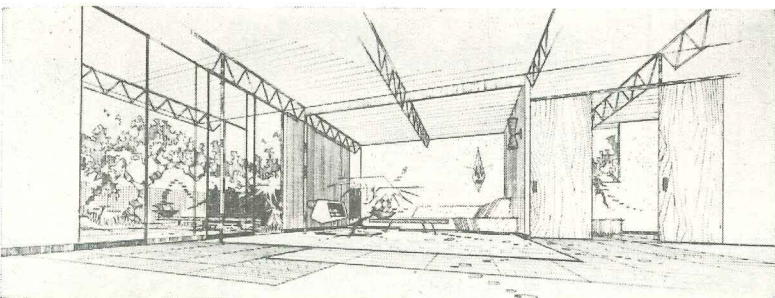
From 40 recommended architects the committee in charge picked Harris Armstrong, Kirkwood, Mo.; Gilbert H. Coddington, Columbus, Ohio; O'Neil Ford, San Antonio; A. Quincy Jones Jr., Los Angeles; Francis D. Lethbridge, Washington; Hugh Stubbins Jr., Lexington, Mass. Builder “teammates” assigned to them (to advise on the practical aspects) were, respectively, Don Drummond, Kansas City; Alex Simms, Dayton; Frank Robertson, San Antonio; Joe Eichler, Palo Alto, Calif.; Luria Brothers, Arlington, Va.; Leonard Frank, Hempstead, N.Y. The Maxon Construction Co. of Barrington is slated to begin work on the six homes early in the spring.



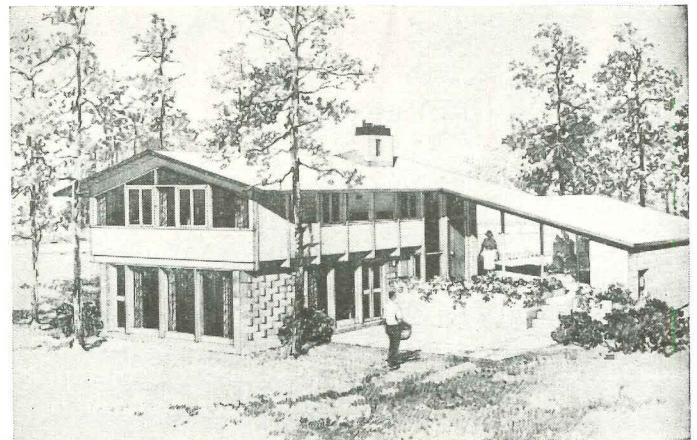
LETHBRIDGE-LURIA house uses the master bedroom as a buffer between living room and children's sleeping quarters, has interior baths. Mechanical core of the building is placed to permit convenient supervision of the home's major play areas from the kitchen.



O'NEIL FORD AND BUILDER ROBERTSON used a similar system for baths and utilities in their four-bedroom, lift-slab home (above), provided two dens, ample dining and living space in a little over 1,600 sq. ft. Interior of the **JONES-EICHLER** dwelling (below) shows open-web steel joists. Post-and-beam skeleton construction is expressed in light, graceful exterior (below right).

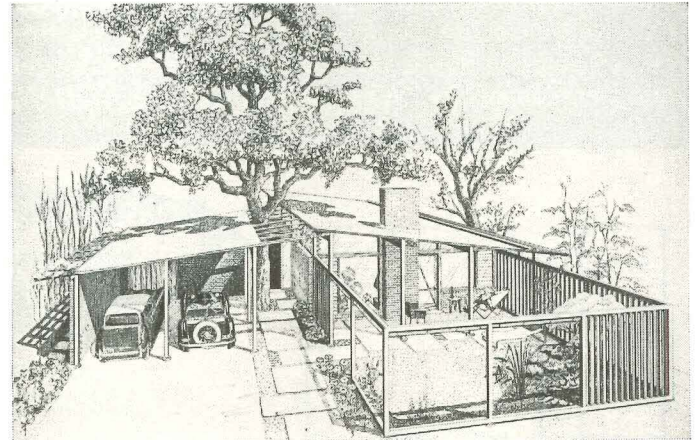


STUBBINS-FRANK house shows what split-level design can do if executed correctly. Kitchen and dining room are 3½' below main level, bedrooms and baths 3½' above. Stubbins: “Our objective was to get the greatest amount of floor area using the least volume.”

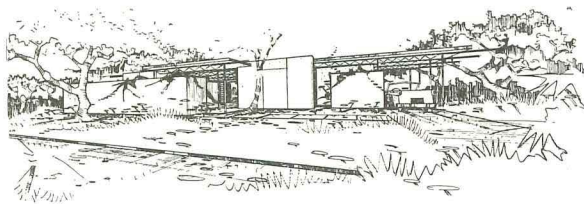


CODDINGTON AND SIMMS also did a split-level job, got an extra family room out of under-bedroom space (as did Stubbins). Simms noted privacy is one reason for future split-level popularity: “Teen-agers . . . want a place of their own in which to entertain.”

Photos: Hedrich-Blessing

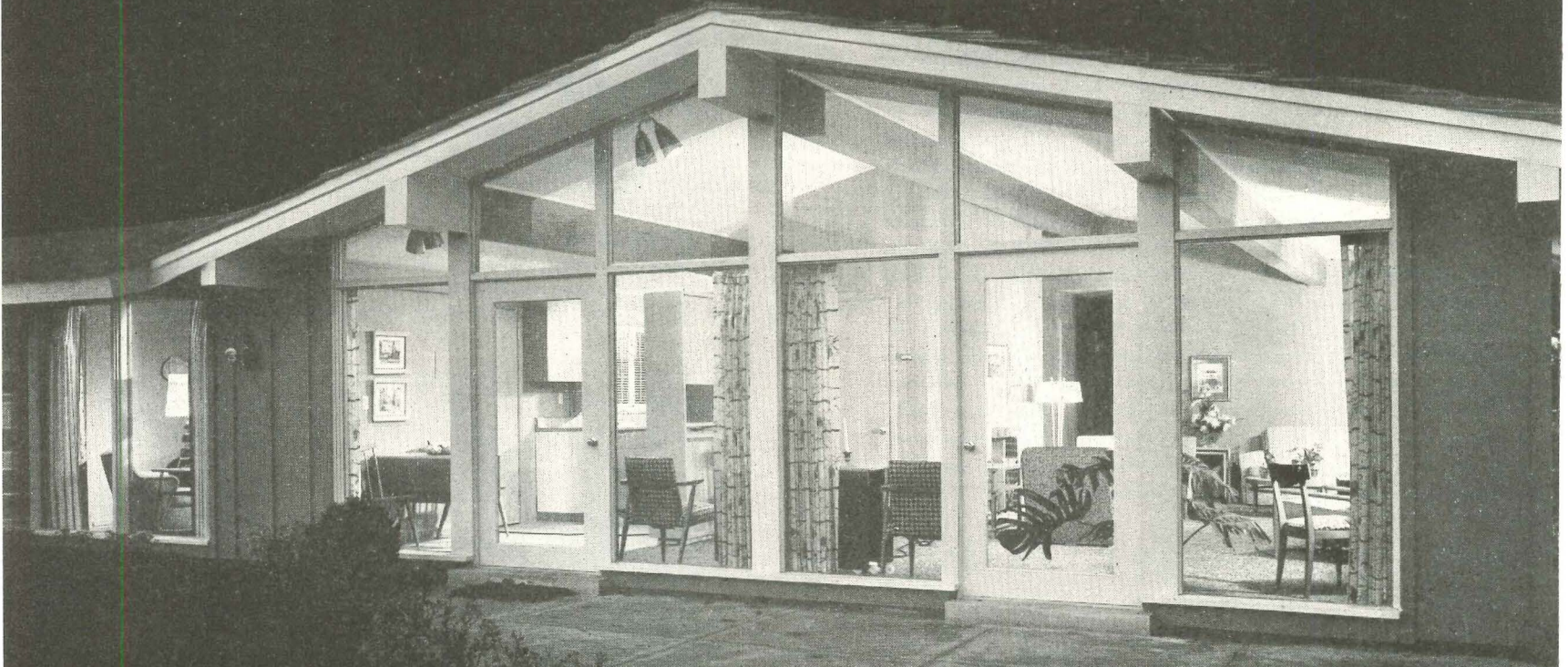


ARMSTRONG-DRUMMOND structure boasts a single hallway providing direct entrance to all rooms without trespassing through kitchen or living room. There is an abundance of extra storage space in the carport and convertible sleeping quarters. Patio is a good example of closed-off outdoor rooms used in all six houses.



**THE HOMES WHICH ARE SETTING THE NEW
DESIGN TREND FROM COAST TO COAST**

scholz *California Contemporary*
PACKAGE HOMES for 1954



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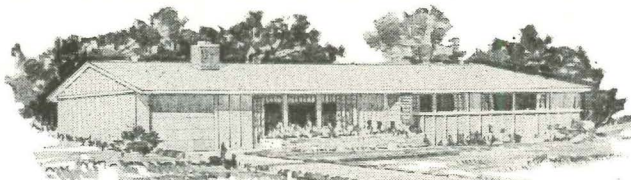
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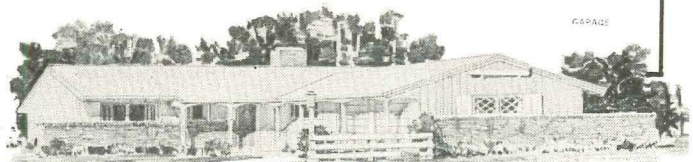
COUNTRY CLUB SERIES

1200 sq. ft. plus garage, \$16,000 range (less lot). 3 bedrooms—2 baths, separate activities room, natural mahogany kitchen.



ROCKY RIVER SERIES

1584 sq. ft. plus garage, \$20,000 range (less lot). 3 bedrooms—2 baths, large recreation room, tremendous living room with panelled fireplace wall and dramatic solar window-wall.



SCHOLZ HOMES, INC.

Canada revamps its housing laws on FHA model, but insurance will be 50% cheaper

Canada's revamped National Housing Act, emerging from Parliament this month after its most strenuous overhaul since it was passed in 1944, raised a question for US homebuilders: does FHA mortgage insurance cost too much?

The new Canadian legislation pointed to a "yes" answer. Mortgage insurance in Canada, said housing experts, will be close to 50% cheaper than in this country.

End of an era. Postwar homebuilding in Canada was strong. Because the banks were prohibited by law from mortgage lending (on a nineteenth-century theory that a young country that tied up its money in long-term mortgages was courting economic trouble), 80% of the private home financing devolved on insurance companies. The latter were able to obtain substantial funds for new investment by selling off large numbers of government bonds accumulated during the war. By the beginning of this year, however, the insurance companies had reduced these bond holdings by about \$800 million, or down from nearly 60% of their total Canadian assets in 1946 to about 20%. In the opinion of Canada's lawmakers—and of Dave Mansur, president of the Central Mortgage & Housing Corp.—it was time to tap a new source of credit lest homebuilding shrivel for lack of financing.

The answer was to get the business into the banks. Under the old system for government-aided private housing in Canada, the Central Mortgage & Housing Corp. took 25% of a mortgage and the private lender took 75%. There was no guarantee or insurance. But the private lender got 5¾% on his share while the government loaned its share at 3¾%. So the cost to the borrower was only 5¼%. But the government was using up hefty chunks of taxpayer money—some \$201 million in 1952, for example, covering 27,488 units. By switching to mortgage insurance, it hoped to cut its direct outlays for housing.

The problem, as Mansur saw it, was to devise an instrument that the banks thought suitable. "We're swinging over to a modified FHA," he commented shortly before the bill was passed. These were the modifications:

▶ The new insurance premium of 2% (on a home ownership loan) will be paid in one piece—capitalized into the loan at the outset. Thus a 20-year \$10,000 loan will cost the borrower \$10,200. It is thereby insured for its duration. The fee of \$200 insures a loan which would, under FHA's ½% premium paid on declining balances, cost about \$655—more than three times as much. (The actual saving would be close to 50% because the corporation will absorb the cost of administrative overhead, appraisal and compliance inspection.)

▶ The insurance fund is not mutual, hence will not be subject to claims by participants, as is FHA. Profits, if any, will go straight to the Treasury.

▶ Pay-offs in the event of foreclosure will be in cash, not in debentures. (Mansur knows perfectly well this could mean a run on the Canadian Treasury in a real depression. But Canadian finance officials are unworried about the threat.) The pay-off on a foreclosed property will be 98% of the outstanding principal and the first six months of arrears in interest, plus interest at the mortgage rate less 2% for amounts owing in excess of six months, but not exceeding 12 more months. Additionally, the government will reimburse lenders 100% of any borrower's charges which must be paid by the lender, such as taxes, fire insurance, etc. Finally, it will allow legal fees of \$125 in all cases (instead of the US system of up to \$75 in some cases) plus any legal expenses ordered paid by a court of law. This will, of course, have the unhappy effect of subsidizing continuance of archaic foreclosure laws, like Quebec's.

▶ Instead of Fanny May, the Central Mortgage & Housing Corp. will itself have the power to buy its own insured mortgages. Moreover, the insured mortgages will qualify for rediscount at banks and the Central Bank of Canada will control the rate, putting the insured mortgage on the same plane as government bonds for negotiability. The Bank will be able to make loans to chartered banks on the security of government-insured mortgages.

Interest ceiling. The interest rate setup will remain the same. The Canadian cabinet sets the rate (it is currently 5¼%) but with a ceiling of 2¼% higher than the going rate

CANADA'S 'MR. HOUSING'

David Ball Mansur, 46, drafted most of the parliamentary bill which set up Canada's Central Mortgage & Housing Corp. six years ago, logically stepped in as its first president. Brilliant, kinetic, he lives and breathes CHMC, habitually unnerves opponents on the Royal Ottawa Golf Course talking housing problems. One of his personally instituted programs: a rental insurance plan three years ago to encourage private builders—leery of possible rent declines—to put up apartment buildings. Some 14,768 units have been insured since, involving an outlay of about \$80 million.



MANSUR

on long-term government securities—a close parallel to the system the US will adopt if Congress enacts the administration's 1954 housing bill.

The banks' switchover to mortgage lending is expected to be effected without difficulty or undue time for seasoning. For one thing, there are only 11 banks in Canada (with 4,000 branches) and public opinion will impel them to start making such loans or risk losing depositors.

The old Canadian setup permitted loans up to 80% of value. The new act keeps an 80% loan ceiling on loans for rental housing, but provides owner-occupant loans up to 90% of the first \$8,000 and 70% above that. Thus, down payments on Canadian homes prices from \$16,000 down will drop. So will monthly payments: the act boosts amortization from 20 years to 25-30 years for home owners, but holds rental units to a 25-year pay-off. Loans converting existing houses into multiple units will have a 15-year amortization.

Last year, Canada built a record 105,000 units—almost exactly proportionate on a per capita basis to the estimated 1,104,500 starts in the US. With its liberalized housing act modeled after the US formula, Canada hopes to keep new housing from slumping.

Electricians found guilty of antitrust violations

A federal court jury in Nashville found Local 175 of the International Brotherhood of Electrical Workers and Business Agent Earl W. Burnette guilty of violating antitrust laws. The jury held that the union had conspired with the Chattanooga chapter of the National Electrical Contractors Assn. to refuse to supply men to nonassociation contractors.

Seattle bricklayers pass up pay boost for third year

For the third time in three years, the 600 AF of L bricklayers in Seattle's Local 2, covering four counties and southeast Alaska, passed up a chance at a wage increase, agreed to stand pat at the \$3.30-an-hour rate that has been in effect there since 1952.

The new look was the brainchild of Ed Gill, the local's business representative and financial secretary. Gill decided three years ago that kind words for his profession were too few and far between. So he persuaded his men to form a "unit masonry association" with contractors and materials dealers for the joint promotion of masonry construction. Among activities: advertising campaigns, an architect competition for designs using masonry products, apprentice bricklayer contests. Union members pay 40¢ a month to the promotion fund; contractors, \$2 per workman per month; materials dealers' dues are commensurate with the contractors', on a gentlemen's agreement basis.

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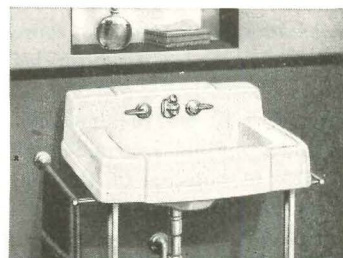
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fact that we're not just a bunch of robbers, but people trying to do a job," said Gill. Said Contractor Arnold Antonsen, president of the association: "Holding the line on wages is giving more confidence to builders to use more brick."

Mortgage men foresee VAs, FHAs over par again

As mortgage money grew more plentiful, two schools of thought developed on the future course of the mortgage market. Some brokers predicted premiums for FHA and VA 4½% loans would soon be commonplace. Others saw such loans stabilizing at a little below par. Signs of the improving market:

▶ Early last month, the New York Savings Bank was reported offering 101 for new FHA loans, provided it could get delivery within 60 days in packages of at least \$1 million each. Reason: an advertising drive for new deposits was so successful the bank suddenly found itself with more than \$10 million of new funds demanding investment at once.

▶ In Chicago, Maurice Pollack, vice president of Draper & Kramer, reported new FHA and VA loans were going at 97 to 98, about one point better than a month earlier; in Houston, President John F. Austin Jr. of T. J. Bettes Co. said prices were up ½ to one point. C. A. Bacon, vice president of the Title Guaranty Co. of Denver, noted an upward trend. Said he: "Lenders are seeking investments, and at an increased price. . . I can see signs of a par market."

It was against this background that some eastern lenders began to worry about a widespread return of premiums and the possibility FHA and VA interest rates might even be reduced. Commented one: "The money is coming in just as fast as ever, but mortgages are scarce. The lucky guys are those who made commitments for the whole year."

Stability below par. MBA President William A. Clarke of Philadelphia, a shrewd mortgage analyst, typified the school of thought that saw continued improvement ahead, but stabilization of rates still a little short of 100 for new FHA and VA 4½% mortgages. At the annual MBA-NYU mortgage conference, Clarke said he expected new housing this year would total about 1 million units, with adequate mortgage funds and some decline in interest rates.

With money growing easier, Clarke forecast that the Treasury would "lean on the long-term money market" again when it appeared possible to do so without disruptingly siphoning off capital required for new business and building activity. He would not specify or forecast, however, the price below par, or the yield above 4½%, where he expected FHA and VAs to settle.

FNMA boosts its price. Effective Feb. 1, HHF Administrator Albert M. Cole announced a two-point increase in prices for VA 4% and FHA 4¼% mortgages from Fanny May under its one-for-one repurchase contracts. The VA's

went to 98, the FHA's to 99.75, plus the usual 1% fee for repurchase certificates.

Cole said the change "reflects improvement in the mortgage market, particularly in the firming up of government bond prices." Others disagreed. They said the old rates were no bargains in themselves and purchases from Fanny May without repurchase certificates were inconsequential. They suggested the rates really were raised to slow down the one-for-one sales as they approached their \$500 million ceiling. As of Feb. 15, one-for-

SIDELIGHTS

Washington inside

The administration is considering extending mortgage insurance—FHA style—into the hospital field. Kicking around in Oveta Culp Hobby's Welfare Dept. is a plan to underwrite 99% redemption on foreclosure for 5%, 25-year hospital bonds. Officials hope to raise about \$1 billion for hospital construction financing by this route. Insurance companies regard the scheme enthusiastically. It would give them a better return than FHA housing paper, with less risk and far less servicing cost. Mortgage men fear the plan would raise some hob with the housing mortgage market, unless the government whittles down the juicy terms—which is a good possibility.

\$12,600 public housing

Cost of New York City's newest federal public housing project, Gravesend Houses, opened Feb. 8: \$12,600 per unit (\$8 million for 634 units).

Union O.K.s prefab plumbing

The AFL plumbers union passed favorably on National Homes Corp.'s factory-assembled plumbing package, already approved by FHA. The union move points the way to possible savings of several hundred dollars on the cost of a house. Reducing costs and increasing volume, said National's president, James Price, will mean twice as much work for all trades, including plumbers.

US Steel forms mortgage firm

US Steel formed a new subsidiary, the United States Steel Homes Credit Corp.—headed by William H. Lang, assistant treasurer of the parent company—"to strengthen the competitive position of US Steel Homes' dealers" by providing construction financing and assistance in mortgage marketing. Still a subject of loud silence: plans for US Steel Homes' widely grapevined steel house.

Red tape and VA

The VA tied another knot in its own procedural red tape with a reorganization plan setting the all-purpose veterans' benefits section

one plan accounts looked like this: firm contracts, \$250 million; sales agreements, \$64 million; reservations, \$315 million. Thus reservations exceeded the remaining \$184 million authority for sales agreements or contracts, but these fluctuate considerably. Some reservations were canceled when the rates were changed, but a week later \$94 million of new reservations came in. As of Feb. 15, actual Fanny May repurchases against its \$250 million in firm contracts had reached only \$29.5 million.

up as a buffer between the loan guaranty section and the regional offices. Loan Guaranty Director T. B. King now must communicate with his men in the field through this super-bureau (headed by Deputy Administrator Ralph H. Stone) and the men in the field do likewise, going in the opposite direction. Result: more time to get out new rulings; more time to get complaints into responsible hands. The scheme came hard on the heels of the recommendation of the President's Advisory Committee that VA "should seek advice of lending institutions in revising and simplifying its regulations."

The presidential advisers found, among other things, that it takes two to three times longer to get a certificate of reasonable value from a VA field office than it does to get an FHA commitment. They blamed widespread complaints about VA appraisals on the fact that VA does not have a cost section as FHA does to keep accurate and constant check on fluctuating prices. They criticized VA insistence on documents and exhibits not required by FHA, particularly for new subdivisions. Some 28% of those questioned in a nationwide survey for the White House committee said conflict and duplication between the rival agencies adds more than \$100 to the cost of a house. Another 43% said it adds between \$20 and \$99. Always, the extra cost was passed on to buyers.

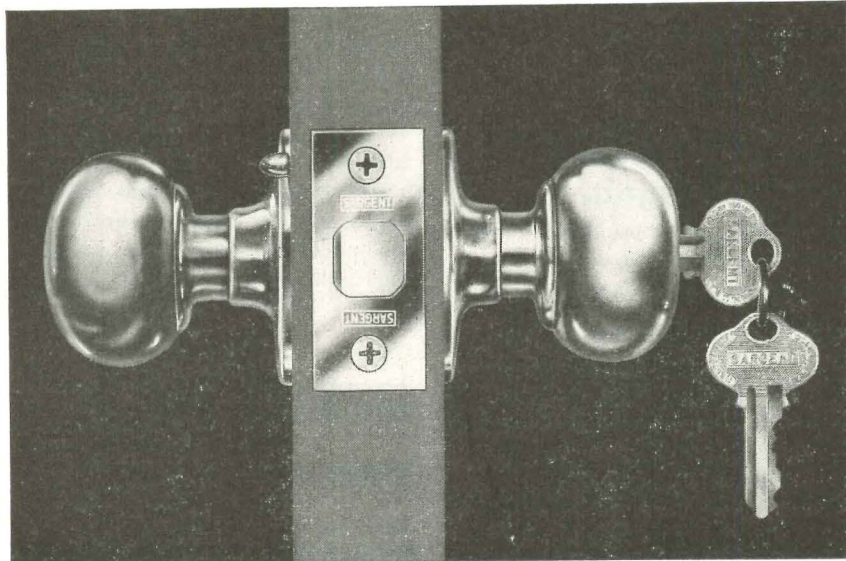
A proposal to have FHA do VA's home loan application processing (made by the advisory committee) would unsnarl things in the sense that VA would lose most of its responsibility. With builders, real estate men and the President's committee finding VA less and less to their liking, it seemed its housing role was being kept alive mostly by veterans' lobby groups—never notable for understanding housing problems.

Briggs to keep plumbing plants

Briggs Manufacturing Co. will continue to operate its plumbing ware division, notwithstanding sale of Briggs's automotive division to the Chrysler Corp. The plumbing operation includes four divisions: the Hamtramck enamelware plant; the John Douglas Co.; Abingdon Potteries, Inc. and Republic Brass Co.

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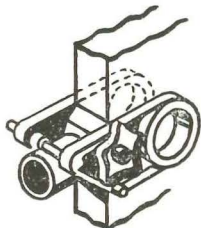
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Profits climb for building materials manufacturers

The greatest construction spending year in US history brought with it a general round of increases in the sales and net profits of major building supply companies. But the sharpest increases in earnings last year (Celotex, up 93.2%, and US Steel, up 55%) derived greatly from the fact that both companies were badly hit by strikes in 1952.

With the notable exception of Johns-Manville, whose net sales rose 3.2%, but whose profit fell 13.1%, earnings rose from .4% up to 35%. The 35% jump was by Carrier Corp., whose profits hit a new high for the fourth consecutive fiscal year. The drop in Johns-Manville's profits reflected high initial depreciation costs applied on two of its Canadian mines, as well as a reduced demand for certain asbestos fibers.

The companies, listed in order of sales volume in 1953:

COMPANY	PROFITS		% Change
	1952	1953	
US Steel Corp.	\$143,687,746	\$222,735,656	+55.0
Owens-Illinois Glass Corp.	16,200,820	16,267,386	+4
Johns-Manville Corp.	22,619,951	19,661,412	-13.1
Libbey-Owens-Ford Glass Co.	14,907,893	19,233,667	+29.1
US Gypsum Corp.	19,031,216	19,558,708	+2.8
Carrier Corp.*	4,522,512	6,107,134	+35.0
National Gypsum Co.**	7,249,480	7,700,000	+6.2
Flintkote Co.	4,896,737	5,032,116	+2.8
Carborundum Co.	4,782,503	5,721,553	+19.7
Celotex Corp.*	1,612,043	3,124,844	+93.2
Devoe & Reynolds Co.†	1,414,128	1,687,453	+19.3

* Year ending Oct. 31

† Year ending Nov. 30

** Estimated

Heat-resistant plastic pipe foretold by atom expert

In Toronto, the first international meeting of the Society of Plastics heard of an impending atomic-irradiated product more revolutionary than any of the dozens of useful building materials already being made from plastics (H&H, Feb. '53). Scheduled for early pilot project production: plastic piping that can resist up to 300° F. This could be used for domestic and almost all industrial plumbing, and because of easier installation, could make a real dent in the high cost of plumbing.

J. W. Ryan, radiation research specialist for General Electric, said the new material would be a modification of polyethylene pipe already developed for cold-water lines. Heat resistance would come from exposure to atomic or other high-energy radiation like that from retatrons or high voltage cathode ray apparatus. Extra manufacturing costs would be slight, said Ryan, because the piping could be molded or extruded first at low temperatures, and irradiated after it was formed.

FHA tests plan service as aid to small builders

In Springfield, Ill., FHA began testing a trial plan intended to help small-volume home-builders do more business with the agency. Small builders and retail lumbermen had

been complaining that FHA seemed interested only in project builders and prefabbers. To FHAmens, it seemed that small contractors were hard put to get their hands on adequate plans, and even when they did they often knew too little about how to get them processed quickly.

FHA District Director Harvey H. Nooner of Springfield devised an answer, sold it to FHA Commissioner Guy Hollyday as one of his "guinea pig" projects. The Illinois Lumber and Material Dealers Assn. will assemble a collection of stock plans from leading national plan firms. The Springfield FHA will look them over, announce which ones it will

Low-cost Title I, Sec. 8 FHA program gains momentum as Congress gets bill to end it

FHA's bargain-basement new house deal, Title I, Sec. 8, had never done much business. For most of the nearly four years since Sec. 8 was born, lenders scorned investing in pint-sized loans, which cost as much to service as bigger ones and thus netted them less per dollar.

Last month, just as Sec. 8 at last was picking up speed like a runaway train, the administration accepted the recommendation of President Eisenhower's policy committee to merge it with Title II. The 1954 housing bill, in its present form, would kill Title I, Sec. 8 (see p. 33), although FHA had plans to retain the essential features of the program for homes priced below about \$7,000.

Poor-man standards. The big difference—the thing that put a new Title I, Sec. 8 house within reach of a man who could not otherwise afford a new home—was lower construction standards. Sec. 8 subdivisions do not have to conform with FHA's strictest site improvement requirements, and can be sold without painting, final trim and landscaping, allowing low-income purchasers to save money by doing this work themselves.

Sec. 8 was inaugurated in Apr. '50 with a 95%, \$4,750 mortgage ceiling so a purchaser only needed \$250 cash for a \$5,000 house. Up to the end of 1951, however, FHA insured only 6,152 Sec. 8 homes, and in 1952 only 5,615. Last year, the figure sank to 4,625 units, but as the year ended a sharp upsurge in applications began. December insurance requests involved 1,568 units (a rate of nearly 20,000 a year). In the first five weeks of 1954 another 2,786 applications poured in (a rate of nearly 30,000 a year).

Product makes a market. The sudden spurt was chiefly attributable to zooming sales of National Homes's prefabricated Cadet houses. The Cadet, soundly designed and heavily promoted, sells for approximately \$5,600 a two-bedroom model, \$6,200 for four bedrooms (H&H, Nov. '53). But sales of conventional houses with Sec. 8 financing also were increasing. There were underlying reasons.

Twice last year, FHA sweetened Sec. 8

approve. The lumbermen will distribute approved designs to retailers and small builders. Nooner expected small towns to benefit most by the scheme. Said he: "We're aiming at the next bracket above the Sec. 8 house—houses in the \$7,000 to \$9,000 price class."

The stock plan trial was not calculated to make architects happy. Nor—stock plans being what they are—was it likely to help produce really good housing. But if it made FHA terms available where only conventional financing was on tap before, it might buoy up the housing market at a time when builders can use more customers.

mortgage terms for lenders. First, FHA authorized a 1/2% service fee to compensate lenders for the relatively higher expense of handling these small mortgages. Second, Congress authorized a \$1,000 hike in the value of houses under the program, or a \$5,700 mortgage on a \$6,000 home.

National Homes dealers taking orders on Sec. 8 terms from model Cadet homes reported impressive sales stories:

▶ The first day a model was opened in the Okaw Homes project at Tuscola, Ill., near Champaign-Urbana, 87 houses were sold; by the end of a week, 104.

▶ At noon Jan. 24, the Ames Construction Co. in East St. Louis opened a model. By 4:30 P.M. it had orders to build houses on all 47 lots it controlled. Within another two weeks, it accepted applications for 60 more sales on another site.

▶ In Valdosta, Ga., Dealer B. H. Roberts Jr. was erecting 20 Cadets in January for a company-housing project. By the first week in February he had sold 55 more to individuals though he had neither a sales program nor a model house.

Order system. Dealers do not contract to buy a fixed number of units from National Homes, although in some cases they may announce they plan projects of so many hundreds. The system: based on dealers' sales plans, National ships them one house a day, or 10 a week, or 100 a month. If a dealer finds he can sell more and can put them up at the faster pace, National ups shipments accordingly. Primarily, however, the dealer only orders houses from National on the basis of the firm orders he takes from home buyers, and National ships them to him on a schedule geared to his erection program.

Quality controls. Some critics question whether the minimal specifications for Sec. 8 subdivisions may create rural slums. For instance, Realty Editor Grady Clay wrote recently in the Louisville *Courier-Journal* that in Dealer A. L. Willie's development at Brandenburg "the streets are unpaved, the sidewalks and driveways graveled," although

the town agreed it would asphalt the subdivision streets over a five-year period. Of the model house, Clay wrote: "Floors are of pine board, with no subflooring or insulation. . . . The roof does double duty as ceiling throughout The walls transmit sound easily; there are no gutters to carry rain away from the front and back doors; the refrigerator is right beside the furnace; the exterior walls are cold. The exposed roof rafters have an array of knots, even an occasional knot hole. To all these points one must immediately ask: 'What do you expect for \$6,000 these days?'"

Although Sec. 8 allows construction in outlying and rural areas without city water, septic tanks and other strict site-improvement rules that apply to Title I financing, FHA directors seemed to be using moral suasion and unwritten controls to avoid large Sec. 8 subdivisions that could become rural slums. National Homes is meeting this problem by having Architect-Consultant Charles M. Goodman approve all project layouts before selling a dealer his houses. Moreover, the firm is offering several \$1,000 prizes for the best subdivision layouts.

Low-cost conventionals. In the non-prefabricated market, Suffolk County, Long Island, was one area experiencing a small Sec. 8 boom. Builders Milton Saper and George B. Rabinor opened a project in Central Islip in October. By the end of December, they had sold all 318 units. These were 600 sq. ft., \$5,990 slab-foundation houses with a sinktub and central heating plant included. The builders accepted the \$300 down payment in installments, \$60 at contract signing and the remainder between then and title closing.

Four other Sec. 8 projects totaling about 600 more houses were started in Suffolk County last fall, and the market at \$5,990-\$6,000 was brisk and competitive. One offered almost 700 sq. ft. of floor area with unfinished space for a den or third bedroom; another was completely painted, another supplied kitchen cabinets. At least four more projects were planned for 1954, elsewhere in the county. After Carlton Park was started Islip township adopted an 800 sq. ft. minimum—200 sq. ft. above FHA's Sec. 8 minimum.

Twelve Sec. 8 projects totaling 1,156 concrete block houses were abuilding in Florida. Others were rising in Maryland, Michigan, Oklahoma, Georgia and the Syracuse, N.Y. area.

NAREB, taxpayer groups organize realty federation

NAREB and the National Apartment Owners Association launched a national federation of existing local, state and national property owner and taxpayer organizations called the American Real Property Federation. Its headquarters, phone and boss, Herb Nelson, were all the same as NAREB's, in Washington.

PEOPLE: Joe McMurray quits Senate banking committee for NY public housing job; Hugh Askew of FHA to join NAHB

For the last five years, as staff director of the Senate banking committee, **Joseph P. McMurray** has been one of the key men behind writing the nation's housing laws. Courtied by every organization interested in housing, 41-year-old McMurray is 1) a dynamo with a keen and politically perceptive mind, and 2) a genius at writing legislation for hasty introduction following a committee wrangle.



McMURRAY

Both Democratic Committee Chairman **Burnet Maybank** in the 81st and 82d Congress and the present chairman, **Homer Capehart**, have relied heavily on his judgment, his facts and his speech-writing talent. Twice recently, Republican Capehart has sent Democrat McMurray to speak for him at building industry meetings.

Last month, Mayor **Robert F. Wagner** of New York wooed McMurray away from his \$11,700 Washington job for a \$17,500-a-year post with the New York City Housing Authority. Whether McMurray would become executive director or assistant to Chairman **Philip J. Cruise** (a reappointed holdover from Mayor Impellitteri's regime) was still unsettled. McMurray was to move to New York this month, after helping draft the new housing bill.

The resignation of Colonel **Hugh Askew** as ass't. FHA commissioner in charge of field operations struck Washington observers as the start of a big-scale personnel shake-up in FHA's top brackets. Askew, 58, with FHA for 19 years, will join NAHB's new mortgage finance department. He headed FHA's Oklahoma office before going to Washington, pioneered cooperative and low-cost housing in the Southwest; **Edgar McIntosh**, assistant to the commissioner, left last month to head up mortgage operations for Southern & Western Life Insurance Co. in Cincinnati; **Ward Cox**, former ass't. commissioner for cooperative housing, went into private consultant work in Washington. FHA corridors buzzed with talk that **Curt Mack**, long-time ass't. commissioner in charge of underwriting, would be leaving the agency shortly.

District directors (more than half of FHA's 74 offices had new men by the end of last year) continued to come and go: **F. Guy Ash** left the West Virginia post, to be replaced

by former Congressman **Hubert S. Ellis**; Realtor **Wallace E. Berg** took over in Minnesota, replacing **Harold B. Farley**; **Fred B. Ingstad** succeeded to the North Dakota office on the death of **A. E. Goldammer**; **Frank W. Corliss** was appointed director in Vermont, will keep ex-Director **Frederick C. Hinchey** on his staff.

NAHB President **Dick Hughes** named a new 18-man executive committee: the five top officers and Past President **E. M. Spiegel**; **Leonard Frank**, Long Island; **George Goodyear**, Charlotte, N.C.; **Joseph Haverstick**, Dayton; **E. J. Burke Jr.**, San Antonio; **Martin Bartling Jr.**, Knoxville; **W. Hamilton Crawford**, Baton Rouge; **Frank Collins**, Philadelphia; **Wallace Johnson**, Memphis; **Arthur Oman**, Boston; **John Worthman**, Ft. Wayne; **Andy Oddstad**, San Francisco; **Frank W. Cortright**, Berkeley, Calif.

Title I FHA repair loan operatives made criminal news again. An Oakland, Calif. improvement contractor and three of his salesmen were indicted by a federal grand jury on four counts of conspiracy to violate the Federal Housing Act, and on 11 charges of making false statements. The four—**N. H. DeShong**, **Arnold Woll**, **Ben Zukerman** and **James N. Stefan**—were accused of offering home owners who bought their improvement services fees for use of their homes as "models." The fees were never paid. The indictment came after the customers complained.

Architect **Eero Saarinen** was named, with four others, to membership in the National Institute of Arts and Letters. Membership in the society (it is affiliated with the American Academy of Arts and Letters) is for life, is limited to 250 and is based on a candidate's "notable achievements in art, music or literature." Architect **James Kellum Smith** of New York was one of two new vice presidents elected.

Architect **Richard J. Neutra** deeded his drawings, architectural studies, travel sketches, manuscripts and photographs to the University of California in Los Angeles, along with funds for proper utilization of the material. A board of three will be commissioned to study the accumulation and take care of its division into texts and dissertations. Said Neutra: "Such editing should be commenced as soon as possible and I shall be available for consultation in all its phases."

CONGRATULATIONS: to **Helena M. Carter**, 18-year-old high school senior from Atlanta, Ga., for winning NAREB's prize for the best essay on "My Responsibility under the Bill of Rights"; to Sacramento Realtor **Thomas W. Yeates**, chosen the city's "outstanding young man of 1953" by the junior chamber of commerce.



ASKEW

Washington Lawyer **John C. Williamson**, counsel for NAREB's Realtors' Washington Committee for the past three years, was appointed RWC secretary counsel. The main lobbyist post for NAREB's 50,000 members has been vacant since **Calvin Snyder** quit six months ago to become secretary of the Denver Chamber of Commerce. Tall, Gable-mustached Williamson (a Marine Corps captain in World War II) had been taking on more and more of the lobbyist duties during his time as counsel. **Henry G. Waltemade** of New York was reappointed RWC chairman. **W. L. Cooper** of Port Huron, Mich., was named vice chairman.



WILLIAMSON

OPINIONS: these intellects commented on matters of moment to housing:

▶ "The first step in effective slum prevention is for the city to use its police power, enforcing our existing laws with respect to construction standards, sanitary codes and the occupancy laws. The failure to enforce these laws in New York City is open, flagrant and notorious."—**George L. Bliss**, president of Century Federal Savings & Loan Assn. of New York.

▶ "Texas architecture is singularly lacking in inspiration. You do have some architects who will make a record for themselves, but Texas seems to have gone the plant factory way. Everything is big architecture, big business."—**Frank Lloyd Wright**, speaking at the University of Houston.

▶ "The average family buys but one home in a lifetime. Consequently, that house should be able to expand as the family expands."—**Clair W. Ditchy**, president of AIA, discussing movable walls at a Los Angeles meeting.

▶ "A small public housing program will not sustain a widespread redevelopment program."—**James G. Thimmes**, chairman of the CIO housing committee (in a letter to President Eisenhower).

▶ "Public housing is an incentive destroyer. It does more harm than good. For every family it accommodates, in effect it makes a vain, incentive-killing promise to hundreds of other families in the same income group—the promise that they all can expect huge government-financed discounts in family housing. It induces these families, for whom it does nothing, to be unwilling to pay for the best quality of housing that is within their means."—**Ronald J. Chinnock**, at his installation as 1954 president of NAREB.

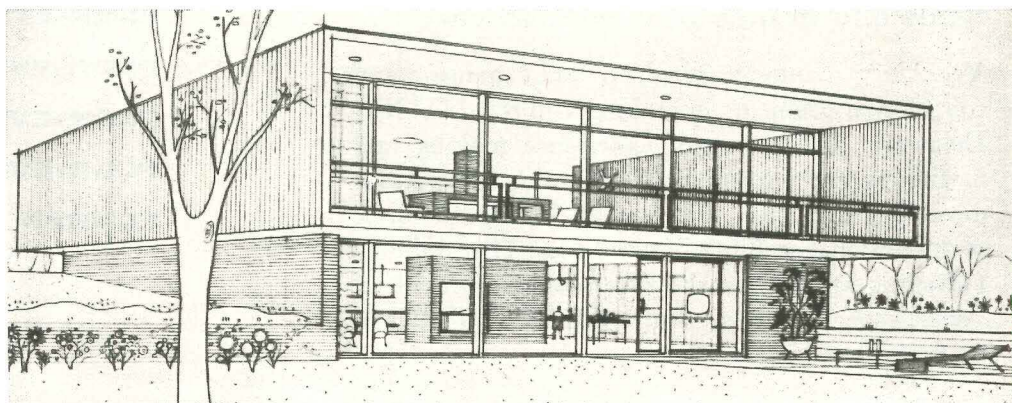
Stewart McDonald, second FHAdministrator (1935-39) retired as chairman of the board of Maryland Casualty Co. (First FHAdministrator was James A. Moffett, who died last spring.)

John Taylor Egan, 63, ex-PHA commissioner with 12 years of government service, will join the Washington office of Arthur C. Holden & Associates, New York architects. Egan was nudged out of the commissioner's job (which he had held for five years) last June to make room for administration choice **Charles E. Slusser**, former mayor of Akron, Ohio.

NAMED: Architect **Edmund R. Purves** of Philadelphia, executive director of AIA, to serve on the advisory committee on housing established by FHA last year; **Cola G. Parker** of Neenah, Wis., chairman of the board of Kimberly-Clark Corp., to be chairman of the board of the Federal Home Loan Bank of Chicago; **M. E. Rinker** of West Palm Beach, new president of the National Concrete Masonry Assn.; Architect **John G. Flowers Jr.** of Austin, as executive director of the Texas Society of Architects.

DIED: Wisconsin's "No. 1 realtor," quiet, humorous **Otto N. Ludwig** of Wauwatosa, in real estate and the mortgage loan business 62 years, Feb. 2 in Wauwatosa. He was 79. He was known as the father of the Wisconsin real estate brokers' license law; served ten years as treasurer of the Milwaukee Realtors Board and was active in introducing uniform conveyance blanks and fees in 1929. (He estimated the new system saved the people of the state an annual \$200,000 at that time.)

Other deaths: **R. Bruce Estelle**, 55, of New York, head of the real estate department of the National City Bank in his youth, recently in business for himself and real estate consultant to the Ford Foundation, Feb. 9 in New York; **Theodore L. Shaffer**, 61, of Montclair, N.J., first vice-president and a director of Congoleum-Nairn, Inc., Feb. 12 on a business trip in Chicago.



Washington architect designs House of Tomorrow

Realty Editor Paul Herron of the "Washington Star" was reading a HOUSE & HOME Round Table discussion on home design when he had an idea: why not synthesize the ideas for better home design into a single "house of tomorrow" suited to the capital's climate? To plan this dwelling "on a hypothetical site for hypothetical clients" he drafted Architect Joseph Miller.

Wrote Miller in describing the house:

"The site slopes gently to the south. This allows upper and lower levels to be fully glazed. . . . [with] a cantilevered terrace on the entrance floor [upper] and direct exit at grade at the floor

Income tax case threatens builders' 608 earnings

The Bureau of Internal Revenue decided to make a test case of tax policy on stockholder distributions by housing development corporations. For as long as anybody can remember, the policy has been to consider such increment as capital gains. Stockholders have thus paid a tax approximately one-third what they would have if their receipts had been considered ordinary income. As a test case—seeking a legal decision that stockholders are eligible for full income tax—the bureau picked George Gross, big New York builder, told him that he and his wife owed \$715,826.80 more taxes for 1948 and 1949. Involved, said a BIR attorney, was the profit the government says the Gross's netted because an FHA Sec. 608 mortgage exceeded the actual construction cost of a big Long Island project. Internal Revenue estimated that taxes due for 1948 and 1949 from the 11 stockholders who shared in the Gross and Morton family enterprises amounted to a little over \$3 million. (This was in addition to the \$1,553,000 in taxes that they did pay.)

The Gross Case, as it will undoubtedly be known hereafter, was scheduled for hearing in US Tax Court in Manhattan this month. The exchange of briefs (no charges were involved) was expected to be short. It was purely a question of law. But it was also a question which, put to the test, was of intense interest to the entire building business. The Bureau of Internal Revenue stated that a decision in its favor would mean "hundreds of millions" of dollars in additional taxes. The builders' stand: stockholder payments are capital gains because they come about through an increase in a capital asset.

below [to rear yard and garden]. . . . Because the house is air-conditioned . . . windows occur only on the south and north exposures. Clerestory windows supplement perimeter lighting in certain locations. . . . Practically all furniture is built-in-place.

"The plan provides a large living area and sleeping wing on the entrance floor. . . . The fireplace has been kept at waist height to permit full exploitation of the garden view. . . . On the floor below are kitchen, dining and recreation areas . . . space for hobbies, games . . . utility and storage rooms."

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SUPERIOR FLOOR PRODUCTS

HOUSING STATISTICS:

Revised figures show private starts last year topped '52's; home mortgages set records

Last month, BLS boosted its estimate of new housing starts of last October by 2,000 private and 100 public units. The increase made 1953—a year of loudly proclaimed mortgage crisis—a year with more private housing starts than 1952. The margin was slim—1,068,900 to 1,068,500—but it would probably grow a little after November and December revisions.

Last year's nonfarm mortgages of \$20,000 or less set an all time record, too: \$19.7 billion (table below). They also topped other records: there were 3,164,000 mortgages; they averaged \$6,241, compared with \$5,701 in 1951 and \$5,950 in 1952.

Nor did FHA and VA new home mortgages diminish last year. VA-guaranteed loans on new and proposed construction rose from 192,203 in 1952 to 202,934 last year. Loans on houses priced below \$7,000 dropped from 9,047 to 4,155; loans on houses from \$7,000 to \$9,999 fell from 68,654 to 56,631. But loans for houses costing \$10,000 or more soared from 115,182 to a record 142,148, or 70% of all new houses bought by vets.

FHA wrote insurance covering 151,777 dwelling units in new one-to-four-family homes last year, compared with 122,764 in 1952. Last year's mortgages on such units totaled \$1,259 million, compared with \$969 million in 1952. The average per unit rose 5.1%, from \$7,890 to \$8,292.

MORTGAGE LENDING ACTIVITY

(Investments in millions of dollars in nonfarm mortgages of \$20,000 or less by various types of lenders)

	S&L assns.	Ins. cos.	Comm. banks	Mutual savings banks	All others	TOTAL
1952						
October	627	134	342*	117	505	1,727
November	526	115	298	103	448	1,492
December	540	126	305	112	471	1,553
12 months	6,452	1,420	3,600	1,137	5,408	18,017
1953						
October	658	123	319	122	521	1,746
November	564	114	290	113	468	1,549
December	569	126	291	128	508	1,622
12 months	7,365*	1,480	3,680*	1,327*	5,895*	19,747*
Change:						
full year	+14.1%	+4.2%	+3.3%	+16.7%	+9.0%	+9.6%

*All-time high.

Source: Federal Home Loan Bank Board

MORTGAGE MARKET QUOTATIONS

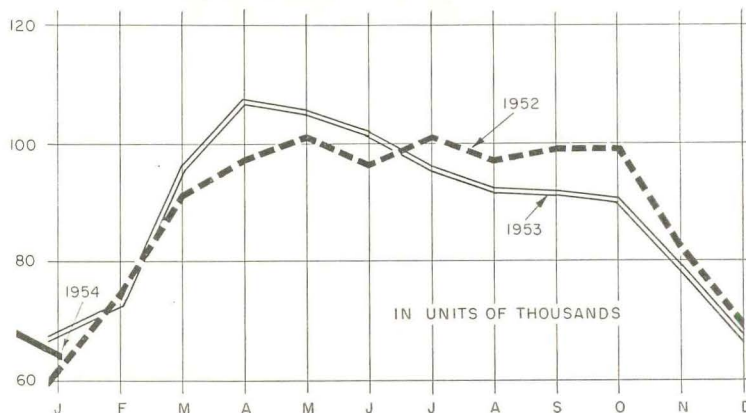
(Originations quoted at net cost, secondary market sales quoted with servicing by seller)

City	FHA 4 1/2's		VA 4 1/2's		FHA 4 1/4's Secondary	VA 4's
	Origi- nations	Secon- dary	Origi- nations	Secon- dary		
Boston: local	100-101	—	100-101	—	a	a
Out-of-state	97-98	—	97-98	—	a	a
Chicago	97-98	98-99	97-98	98-99	a	a
Denver	97 1/2-99	97 1/2-99	97 1/2-99	97 1/2-99	a	a
Detroit	96 1/2	97 1/2	97 1/2	98 1/2	a	a
Houston	97-100	97-100	95 1/2-98	95 1/2-98	a	93 1/2
Kansas City	98-99	99	98-99	99	a	a
New York	99-100	a	99-100	a	99 ^c	a
Philadelphia	98-100	98-100	97-100	97-100	a	a
Portland, Ore.*	97 1/2-99	97 1/2-99	97 1/2-99	97 1/2-99	a	a
San Francisco	b	100	b	98-100	98	96

*No market. ^bMarket too uncertain to record stable quotations. ^cAlso indicative of rest of Pacific Northwest.
^c Servicing released by originator ⁺ purchasing bank.

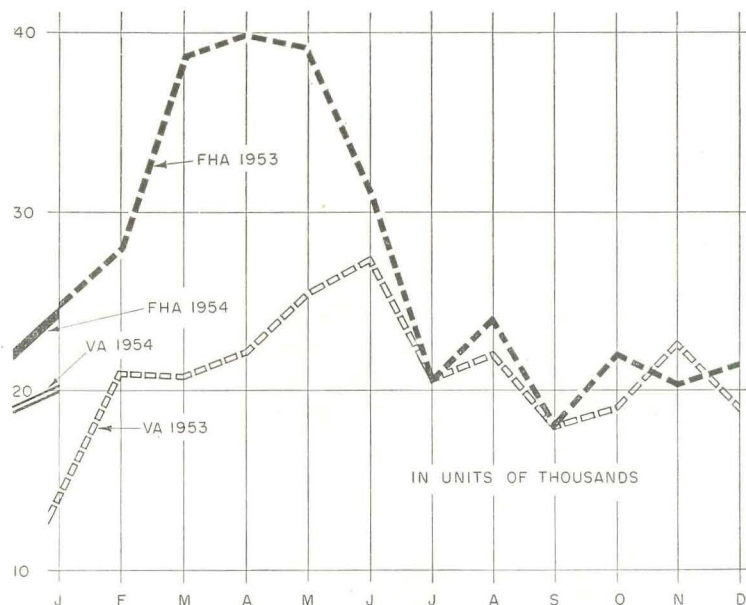
SOURCES: Boston, Robert M. Morgan, vice pres., Boston Five Cents Savings Bank; Chicago, Maurice Pollak, vice pres., Draper & Kramer, Inc.; Denver, C. A. Bacon, vice pres., The Title Guaranty Co.; Detroit, Robert H. Pease, pres., Detroit Mortgage & Realty Co.; Houston, John F. Austin Jr., pres., T. J. Bettes Co.; Kansas City, Byron T. Shutz, pres., Herbert V. Jones & Co.; New York, Albert E. Berkeley, vice pres., Berkeley-Steiner, Inc.; Philadelphia, William A. Clarke, president, W. A. Clarke Mortgage Co.; Portland, Franklin W. White, pres., Securities, Inc.; San Francisco, William Marcus, senior vice pres., American Trust Co.

PRIVATE HOUSING STARTS



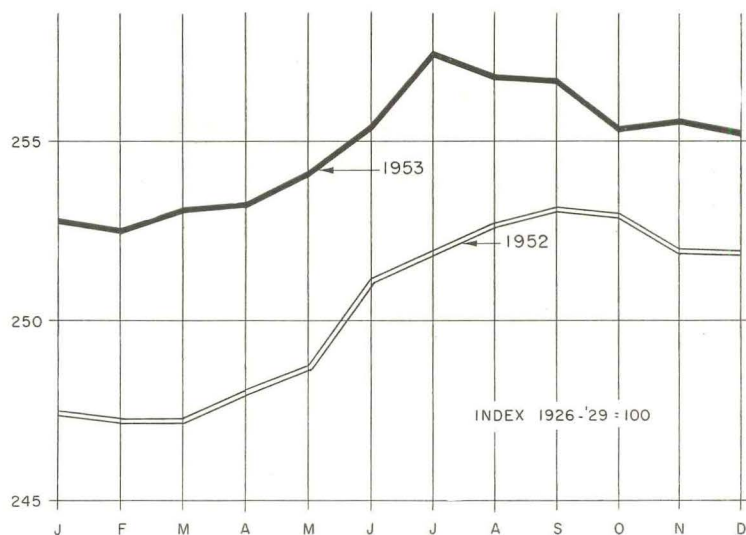
Private nonfarm dwelling units started in January totaled 64,700, almost exactly midway between 61,400 in Jan. '52 and 68,200 in Jan. '53. There were only 1,300 public housing starts, compared with 3,900 in Jan. '53, according to BLS.

FHA AND VA APPLICATIONS



FHA insurance applications in January covered 24,318 new dwelling units, only 127 below Jan., '53 (24,445). Appraisal requests to VA, however, covered 20,124 new units, an increase of 6,318, or 47% over the 13,806 units in Jan., '53, applications.

RESIDENTIAL BUILDING COSTS



E. H. Boeckh & Associates' index of residential building costs turned down again in December to 255.2, compared with 255.5 in November and 255.3 a month earlier. The peak last July was 257.4.

NEWS

BUILDERS AT WORK:

Long-distance selling

LONG ISLAND Homebuilder Bradford Stiles and Designer Joseph N. Heintz, Sarasota, Fla. joined forces, planned a group of 150 ranch houses in Sarasota priced at \$10,500 on minimum plots of 9,000 sq. ft. They decided to improve on the usual practice of selling Florida homes to northern buyers from scale models, blueprints and artists' sketches. Instead, Stiles built a model in Huntington, L.I., convenient for New York prospects. Now they can inspect an exact copy of the house they are buying in New York, but take delivery 1,100 mi. away in Sarasota.

San Francisco doldrums over

Realtors said the home sales doldrums around San Francisco were past and buyers were back in the market as eager as ever. They predicted early announcement of several large developments in Marin County, northward across the Golden Gate Bridge. These would serve not only San Francisco workers, but others from the rapidly expanding industrial area around Richmond, on the eastern shore of San

Richard Averill Smith



Long Island houses merge three living area rooms

Growth of light industry on Long Island and the large AEC research center at Brookhaven were boosting homebuilding in Suffolk County, the island's eastern end. Last month, Housing Assoc. headed by Bernard Krinsky announced plans to erect at least 4,500 homes over the next five years, starting immediately with Eastwood Village, a 1,500-home community at Centereach, almost 50 mi. from Manhattan.

Eastwood Village homes, priced from \$9,990 up, will have the same basic 21'-8" x 20'-4" open-plan kitchen-dining-living room (shown above), with only the central fireplace chimney to provide separation. Said Architect Herman H. York: "Eventually kitchen appliances will be part of the furnishings of a house . . . refrigerators will be built-ins."

Housing Associates won an NAHB award for outstanding community planning at its Forest City project in Wantagh, L. I. Affiliated with it for the Eastwood Village project: Norman K. Winston, defense housing and New York and Chicago apartment builder.

Francisco Bay, to which a new bridge from Marin County is now under construction. . . . South of San Francisco Henry Doelger started work on the 1,000 houses to be added to his Westlake development this year, and he may add 200 apartment units to the schedule. In January, Doelger invited his 87 five-year employees to a party, awarded them surprise bonuses totaling \$100,000.

Prefabs win a major convert

Chicago Builder George Nixon, describing himself as a "fanatical" convert to prefabrication, announced his firm would turn completely to prefab work. Nixon, first (1940) president of NAHB, has thus far completed about 160 prefabricated homes in the city's suburbs. He started out with larger units (to break down area resistance to prefabs), is now developing plans for a four-bedroom unit to sell for around \$6,200. He figures his homes sell for from 20% to 25% less than conventionally built houses of comparable size. (Note: a first estimate on the number of prefabricated homes shipped by the industry in 1953 was 55,000—making it the second biggest year in terms of unit production.)

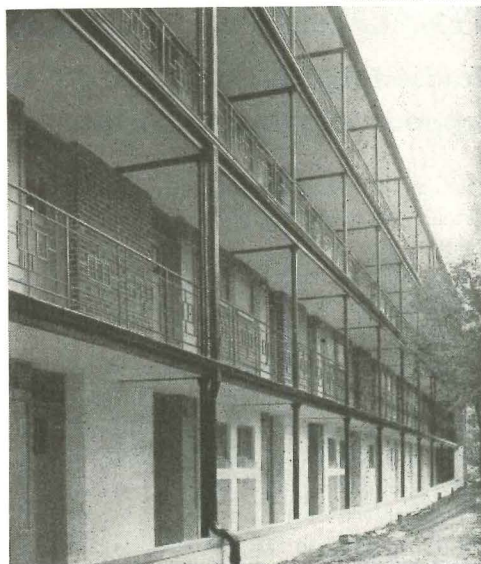
Will Miami pass New Orleans?

Prediction by Philip Moore, president of First Research Corp. of Florida: in 1958, metropolitan Miami will pass Atlanta and New Orleans to become the South's largest city. Moore said present populations are: New Orleans 736,000, Atlanta 724,000, and Miami and vicinity totaled a record \$203 million. But in four years the order will be reversed, he predicted: Miami 920,000, Atlanta 840,000 and New Orleans 820,000. Since 1940, metropolitan Miami population has increased almost 150%, Atlanta's about 60%. Last year building permits in Dade County (Miami and vicinity) totaled a record \$203 million; those in adjacent Broward County a record \$54 million. They included 15,648 one- and two-family homes, 6,353 apartments units, 3,336 hotel and motel rooms.

Quarry to produce a city

In Los Angeles, South Bay and Rolling Hills residents protested plans of Great Lakes Carbon Corp. to quarry diatomaceous earth on a 165-acre site on the Palos Verdes peninsula. They claimed fine dust from the operation would create a health hazard and impair property values. But Los Angeles County Health Officer Roy O. Gilbert, after "extensive research," testified there would not be any hazard. Outcome: county supervisors issued a permit for the quarrying, subject to 16 nuisance-reducing conditions and review of the permit after five years. Thus the way was cleared for Great Lakes Carbon to proceed with plans for a new city of 11,000 homes to be developed over a period

Milwaukee Journal



\$94-a-month unit vies for rooming house trade

Milwaukee Homebuilder A. K. Hellerman likes to do the unusual. One of his ideas: a downtown building of all-efficiency apartments for single persons and young couples who want to live near the heart of the city but often can do so only in unattractive rooming houses or sub-standard housing.

The result, completed last fall, was this four-story walkup. It has 39 1-room-units of 312 and 360 sq. ft. (plus baths). With rents \$94 to \$104 a month, furnished, the apartments were snapped up fast. Each apartment has an individual room heater and kitchenette facilities.

of ten years on the adjoining 6,800 acres it was forced to buy to acquire the quarry site (H&H, Dec. '53). Architect Victor Gruen was master planning the new community. Development details would be handled by Capitol Co., a trans-American subsidiary that bought a 21% interest in it.

550 house program launched

Cleveland's steady industrial growth spurred suburban homebuilding apace. Developer R. A. Gall started a \$12 million program to erect 550 homes in six subdivisions, with different builders working on each subdivision. At the first in Seven Hills, Charles Delia had completed 15 out of a total of 77 in the \$25 to \$33,000 price range designed by Architect Jack Allen Bialosky. Site improvements were under way for spring starts in the other five groups: 40 at \$20 to \$25,000 in Broadview Heights, 185 in Middleburgh Heights, and 120 in Strongsville, 32 in Parma, and 90 in Parma Heights at \$17,000.

Pulse of the market

Stanwood Homes of Philadelphia sold an entire development of 136 of its lightweight concrete-construction air-conditioned houses to be built in nearby Bucks County starting in April. In December and January, it took down payments averaging \$750 on 108 three-bedroom models, and averaging \$1,000 on 28 four-bedroom models.

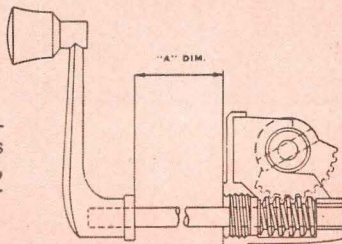
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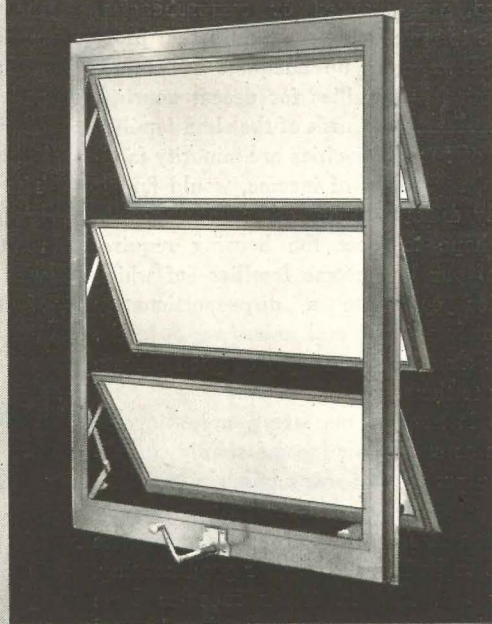
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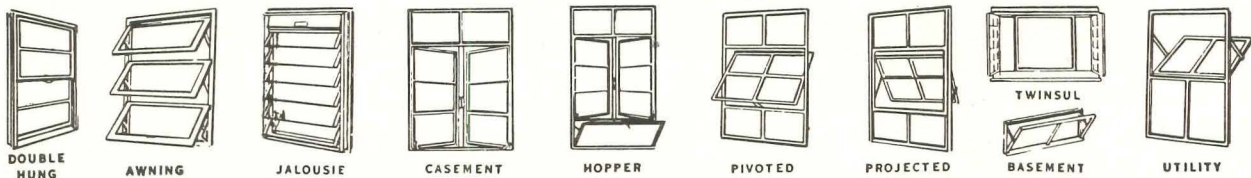


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Slum clearance depends on solving minority housing problems, says HHFA Administrator

What is probably the plainest talk yet by a high government official on the relation of slum clearance to minority housing problems came last month from HHFA Administrator Albert Cole. He was speaking to the Economic Club of Detroit—a city with a background of race riots, a still-swelling Negro population (now about 17%) housed in about a dozen different Negro districts.

In essence, Cole warned his audience of top businessmen and civic leaders that they cannot hope to wipe out the slum rot that blights their city until they overcome the race prejudice that now denies Negroes as much land to live on as their purse could buy. Either do something about minority housing, or forget about slum clearance, said Cole.

'The critical factor.' This is the way he put it: ". . . Regardless of what measures are provided or developed to clear slums and meet low-income housing needs, the critical factor in the situation which must be met is the factor of racial exclusion from the greater and better part of our housing supply. I must tell you that no program of housing or urban improvement, however well-conceived, well-financed or comprehensive, can hope to make more than indifferent progress until we open up adequate opportunities to minority families for decent housing.

". . . At least two-thirds of the slum families in many of our major cities are minority families who, regardless of income, would find it extremely difficult to get other housing. We cannot hope to meet the housing requirements of our low-income families—of which minorities constitute a disproportionately large number—until and unless we open the doors of an adequate supply of good private housing to them.

"This is not, let me stress, a low-income problem as such. Low income simply complicates the problem of many minority families, but all face it—even those with relatively high incomes. A great many of these families are able and willing to pay for good housing, if they can find it. Their incomes have greatly improved over the past decade, and they are ready to enter the market if the market will receive them. Recent studies in a number of our large cities indicate a very substantial waiting market for Negro housing ranging from \$40 to \$90 in rents and from \$6,500 to \$15,000 for sales housing, with a fair number of minority families able to enter the luxury market."

Neglected market. Al Cole called it "very poor business to ignore one-tenth of our population as a housing market." He added: "It is worse than bad business. We are simply not living up to the standards of a free economy and a democratic society."

Cole recited what real estate men and



ALBERT M. COLE

builders know, but most mortgage lenders publicly deny: 1) the best hope for Negroes to escape slums is to buy an old house in a declining neighborhood for more than it is worth; 2) "if he is able and willing to pay the price, he has difficulty getting financing on reasonable or even equal terms."

Having spoken those blunt truths, Al Cole added another blunt truth that vocal Negro champions do not like to hear. Said he: "This is not primarily a federal problem. . . . The real problem lies with the citizens—the businessmen, the builders, the lenders, the realtors and the civic leaders and officials who will have to face [it]. . . . The blockade of custom and code, of unjustified economic

New York quarrels over relocating slum displacees—tiny fraction of people who move

Does slum clearance via redevelopment and public housing breed new slums? In New York, a rent-controlled city where housing is still a big problem, the question became a front-page issue last month. Its national implications pointed at the touchiest building problem of all: race prejudice.

The ruckus began back in December when word leaked out that New York's city planning commission was bottling up a sizzling staff report on relocation of slum families because—so the allegations went—City Construction Coordinator Robert Moses and three other commission members wanted to water down some of the findings. Civic groups (among them the Citizens Housing & Planning Council) and finally the city council itself put heat on the planning commission to air the study. After seven weeks of ponder-

fears, must be breached, and the Negro family must be given access to good homes and good neighborhoods. No citizen can afford to let this minority housing pressure continue to build up to the explosion point, as it already has in some instances [see below].

"Federal help cannot do the job by itself. . . . It can only assist the communities to do the job. . . . If you don't want to clear your slums and renew your cities, forget it. But if you do, then get busy. . . ."

• • •
Growing interest in building for the Negro market may be matched by stepped-up government aid, according to Joseph Ray, assistant to the HHFA Administrator for racial relations. Ray said he hoped to expand the staff of government housers aiding minority projects from 18 to about 35. Ray told HOUSE & HOME he detected signs that sites for minority housing are becoming more readily available.

A panel on minority housing at NAHB's January convention agreed sites and financing are still the big problems of serving the Negro market. President Maurice E. Massey Jr. of Peoples Bond & Mortgage Co. of Philadelphia declared he intended to "triple our volume" of Negro housing loans in the next two years because the Negro has "earned the respect of mortgage bankers simply and quietly by paying his debts." Of the 12,000 loans he was servicing, said Massey, there was no difference between the delinquency rate for white and nonwhite borrowers. On the other hand, Mortgage Banker Donald McGregor of Houston reported Negro delinquencies among the 56,000 loans his firm serviced were "more than twice the over-all average." Said housing Director Reginald A. Johnson of the National Urban League: "Builders slowly are convincing mortgage bankers that this is a sound market."

ing, the commission did so. Facts revealed:

▶ Between Jan. 1, '46 and Mar. 31 last year, 45,810 families and 17,820 individuals (total: 170,000 persons) had to move because of slum clearance. Of them, 37% were nonwhite and Puerto Rican.

▶ About 29% wound up in public housing. But even New York officials did not know what happened to the other 71%. A sample survey among 3,284 tenants showed these movements:

To public housing . . . 32%	Unknown 42%
To other slums . . . 11%	Misc. 4%
To non-slums 11%	

▶ In the next three years, New York expects to uproot 56,120 more tenants (about 18,700 a year, compared to a 14,000-a-year pace for the last three years). About 35% of the displacees will be nonwhite and Puerto Rican



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NEWS

—the groups that have the most trouble getting into private housing.

► To help rehouse these 18,700 annual pawns of redevelopment, New York offers cash bonuses of from \$300 to \$500 to families that find themselves new homes. The real estate bureau of the Board of Estimate (top city governing body) supervises most relocation except that involving public housing, which is handled by the City Housing Authority. (In practice, as the report did not point out, the city realty bureau turns the job over to private realty firms.)

Is it well done? Was the machinery adequate for the relocation job? On that, the planning commission split 4-3. The majority agreed with Moses that it was. The minority, including Planning Commissioner Laurence Orton, demanded the city set up a central relocation bureau to insure uniform treatment of displacees. It accused the majority of distorting the staff's conclusion that New York has too little vacant land to meet its needs for new housing in the next decade. (The commission did agree the city should have a \$100 million public housing program financed by a tax of \$2 a year on every telephone.)

All in all, the report shed a disappointingly faint glimmer on one of redevelopment's darkest corners. But if facts were slim, there were still a lot of people deeply troubled over relocation of slum displacees. Said Executive Vice President Ira Robbins of Citizens Housing & Planning: "Slum displacees come from the worst areas. If they are not elderly perhaps they are poor credit risks or extra-large families with kids, or Negroes. They can't pay substantial amounts under the table (to get into vacant apartments). Putting relocation in the hands of private developers isn't good policy. As it is now, some New York relocation is fine. But in other places tenants get shuffled around. There's no uniform policy of paying moving expenses, the overlap of a month's rent, and no care about the standards of where they move. You're more likely to get a decent job if an official agency handles it."

Renewed outcry. Fighting for its beliefs, Robbins' CHPC demanded a two-month halt by the city in approving new slum-clearance projects. It charged that the city was showing "blithe disregard for the needs of displaced families," warned that such policy "will only accentuate the developing crisis, accelerate the spread of blight, and in the long run defeat the efforts to clear slums." In general, city officials steamrollered past the housers' objections, went on approving Title I projects.

The hue and cry over relocation reflected another aspect of building issues, too: it is one of the most potent arguments left for more public housing. To this, opponents of public housing like Builder-Realtor Fritz Burns of Los Angeles have this answer: so many US families move every month (40,000 in Los Angeles County alone) that the injec-

tion of a few thousand slum displacees "should be hardly noticeable in the over-all picture." Statistically, it appears unanswerable. Census figures, unfortunately, do not correlate migration with income levels.

Slums gaining. The relocation report in New York went further than most official utterances do toward identifying relocation and slum problems with minority groups. Citizens Housing & Planning went a lot further. It announced results of a survey that documented what realty men and housers alike admit: a Puerto Rican and Negro influx (chiefly Puerto Rican) is helping turn the west side of Central Park—not long ago one of the city's finest residential sectors—into a slum at dazzling speed. The symptoms were familiar: legal and illegal conversion of brownstone flats to accommodate more and more families in less and less space; a Department of Housing & Buildings with procedures so "antiquated" that researchers could not make a "thoroughgoing check" of pending violations against buildings in even the single census tract (177) under study. Yet the eight-block tract showed a 36% jump in family dwelling units since the 1950 census, with "virtually no new building." Since the 1950 census counted 1,045 Puerto Ricans in the eight blocks, their ranks have swelled to some 6,000. Thus, CHPC found, the deterioration results directly from the "great influx and crowding."

Too late the recession? Many students of the problem think the No. 1 reason for the postwar wave of Puerto Rican and Negro immigrants has been the easy availability of jobs. Indeed, the Puerto Rican department of labor's office in Manhattan this month reported the other side of the equation. It said the tide of Puerto Rican migration turned last October; in the last three months, 25,057 more Puerto Ricans returned to their island

than came to the mainland. Reason: unemployment in the US. Only three times before, since 1908, has this happened—always amid rising unemployment.

Puerto Rican officials debunk the widely held theory that easy relief in New York (there is, in effect, no residence requirement) contributed much to the migration. While some 6 to 7% of New York Puerto Ricans were on relief last year, they assert that is not bad for a recently arrived group starting up the economic ladder. It compares with 3 to 4% of the city's total population on relief.

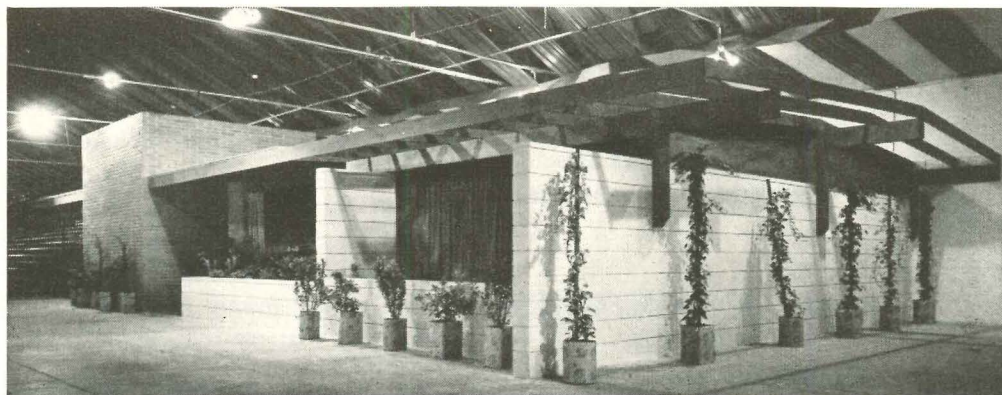
Others disagree. In Chicago this month, Welfare Commissioner Alvin E. Rose noted that transients including hundreds of Puerto Ricans were flocking into the city and seeking relief. He planned, instead of handouts, to pay fares home for unqualified transients. "We can benefit from the example of New York," he said.

Land, lots of land. Would the slump in jobs and business turn the tides of migration across the US that had intensified rot in old city neighborhoods? It was too soon to tell; but popular demand for cities to use their policing power to prevent new slums from forming was clearly on the rise when a pro-public housing group like CHPC took a firm stand in favor of conservation.

The first job was to end the present overcrowding. More and more building men are coming to agree with the formula of Chicago's James Downs Jr. who said recently the only hope is "moving families from jammed slum areas directly to outlying areas where adequate housing must be provided."

NAHB's Yates Cook, meeting with officials in city after city to stir action for slum rehabilitation, was putting it in similar vein. Said he: "If you won't make some land available for your Negroes to live on, you can't say you are doing a thing about slums."

Stuart Weiner



Subdivision to use student-designed home-show house

Architecture students at Arizona State College designed and built this \$16,000, three-bedroom house for last month's Phoenix Home Show. The result was so attractive that Miss Lucille Preston, a contractor, made a deal with the school for the students to erect another model on one of her lots, and let her use the design for a forthcoming subdivision.

In the home-show model, the composition

board roof was omitted to admit overhead light from the state fairgrounds building. The house uses no plaster at all. Ceiling lighting will be bulbs or fluorescent tubes behind glass in a recess of the exposed rafters—a system which Architect Mel C. Ensign, head of the college's architectural division, also likes to use in \$85,000 Phoenix homes, although he thinks it is one of the cheapest systems going.

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.

Eisenhower backs open-end mortgage; Congress writing it into new housing bill

President Eisenhower gave his approval to the proposal for modernizing FHA mortgages with open-end provisions. This was one of the unanimous recommendations of his Committee on Housing Policy and has wider support throughout the entire homebuilding industry than almost any major housing reform that has ever come before Congress. Said the President late in January in his annual Economic Report: "Further steps could be taken to facilitate the repair and modernization of existing structures, by making supplementary advances on outstanding loans more readily available. To this end, means to overcome the technical difficulties of insuring supplementary loans are being studied."

After this presidential nod, action was swift. Representatives of NAHB, MBA, NAREB, the National Retail Lumber Dealers Association and other industry groups conferred with FHA Deputy Commissioner Walter Greene, General Counsel B. C. Bovard and members of the Congressional committees handling this year's housing law changes. It was agreed the technical difficulties were not more than they could master in time for this session's updating of the FHA statutes. For the united front of the homebuilding industry a long-sought victory was near.

Under the legislative provisions being drafted last month FHA open-end reborrowing would be limited to loans for home repairs, improvements, modernization or additions, as the President's advisory committee recommended. Charges, premiums and other terms would be set by FHA under administrative procedures.

MBA for moderate fee. Supplementing the approvals from various homebuilding industry leaders recorded on this page last month, an MBA committee that studied the advisory committee's open-end FHA recommendation urged the MBA governors to give it full approval. Its report:

"The association approves with this comment: assuming that an 'open-end' clause is included in a mortgage, at the time such clause is used and the mortgage amount is increased, there will always be extra work required of the organization servicing the loan. It is the association's recommendation, therefore, that the legislation authorizing such clauses . . . should also authorize the payment by the mortgagor, at the time the mortgage is increased, of a servicing fee of \$25, or 1% of the increase, whichever is greater."

Vast modernization market. One particular reason the advisory committee gave for urging FHA open-ending: it would provide a method so "the average home owner could readily obtain funds to finance modernization and repair or expansion of home properties as his family grows in size or his economic status improves." At the annual MBA-New York University winter mortgage conference, Economics Professor Martin R. Gainsbrugh, who also is chief economist for the National Industrial Conference Board, cited two factors that would give tremendous stimulus to the home expansion and improvement market for many years ahead and thus create a large demand for credit (financing that in many cases might be provided most easily and effectively through open-end mortgage re-advances):

1. In the annual survey of consumer finances made for the Federal Reserve Board by the University of Michigan survey research center, people have been asked: "What major expenditure would you most like to make?" For the last two years the most frequent answers have been "home additions and repairs."

2. Probably the greatest cause of the soaring demand for home additions: the great increase in births of second, third and fourth children. Total annual births have declined only a trifle from their 3,700,000 peak in 1947, said Gainsbrugh, and last year were still 24.8 for each 1,000 persons, compared with only 21 for each 1,000 in the twenties. Since 1947, however, first births have declined from 41.6% to 31.7% of all births, while second children rose from 26.9 to 30.4% (almost matching first births). Births of third children increased from 13.7 to 17.4%.

Smaller FHA losses. One incidental but pointed reason why FHA would profit to modernize its mortgages with open-ending provisions was found in the statistical tables that buttressed the report of the President's advisory committee. (H&H, Jan. '54). On the \$6.5 billion property improvement loans FHA insured over the last 20 years it suffered losses amounting to \$70 million. On the three times greater \$20 billion home loans it insured, secured by mortgages rather than notes, losses were only \$5 million. VA has been covering open-end advances for years.



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It can make every lumber dealer a prefabber, give builders and architects parts instead of pieces with which to work.

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Cover: Carmel house by Frank Lloyd Wright; photo: Roger Sturtevant.

**“As transparent as the waves,
yet as sturdy as the rock . . .
with the long white surf lines of the sea”**

That is the kind of house I promised my client.

This “cabin on the rocks” is not a family house but a haven at the seaside for a single individual living in specific comfort of her own choosing. It is appropriately simple: a little kitchen, guest bedrooms, baths, and a chamber for the mistress of the house.

It is small yet wide open, built around a tall, strong fireplace, overlooking the great Pacific on three sides. Breaking waves often dash up over the windows, which are so constructed that they may be left open in wind and spray.

The roof, in verdigris-color enameled metal, is there to stay, adding a blue-green note to the seascape it falls within. The over-all effect is quiet, and the long white surf lines of the sea seem to join the lines of the house to make a natural melody.

Here is the same old challenge to the architect: expressing the special conditions, the special circumstances. Does not whatever art there is in architecture come from this?

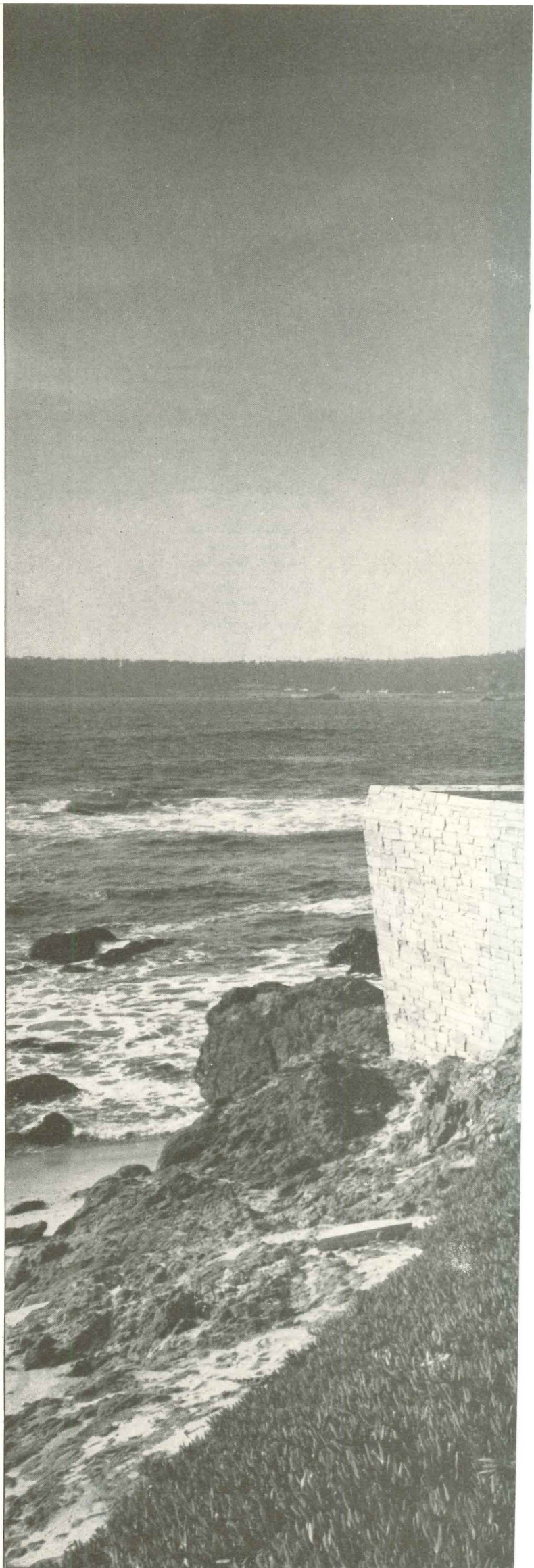
FRANK LLOYD WRIGHT
Taliesin West, February, 1954

LOCATION: Carmel, Calif.

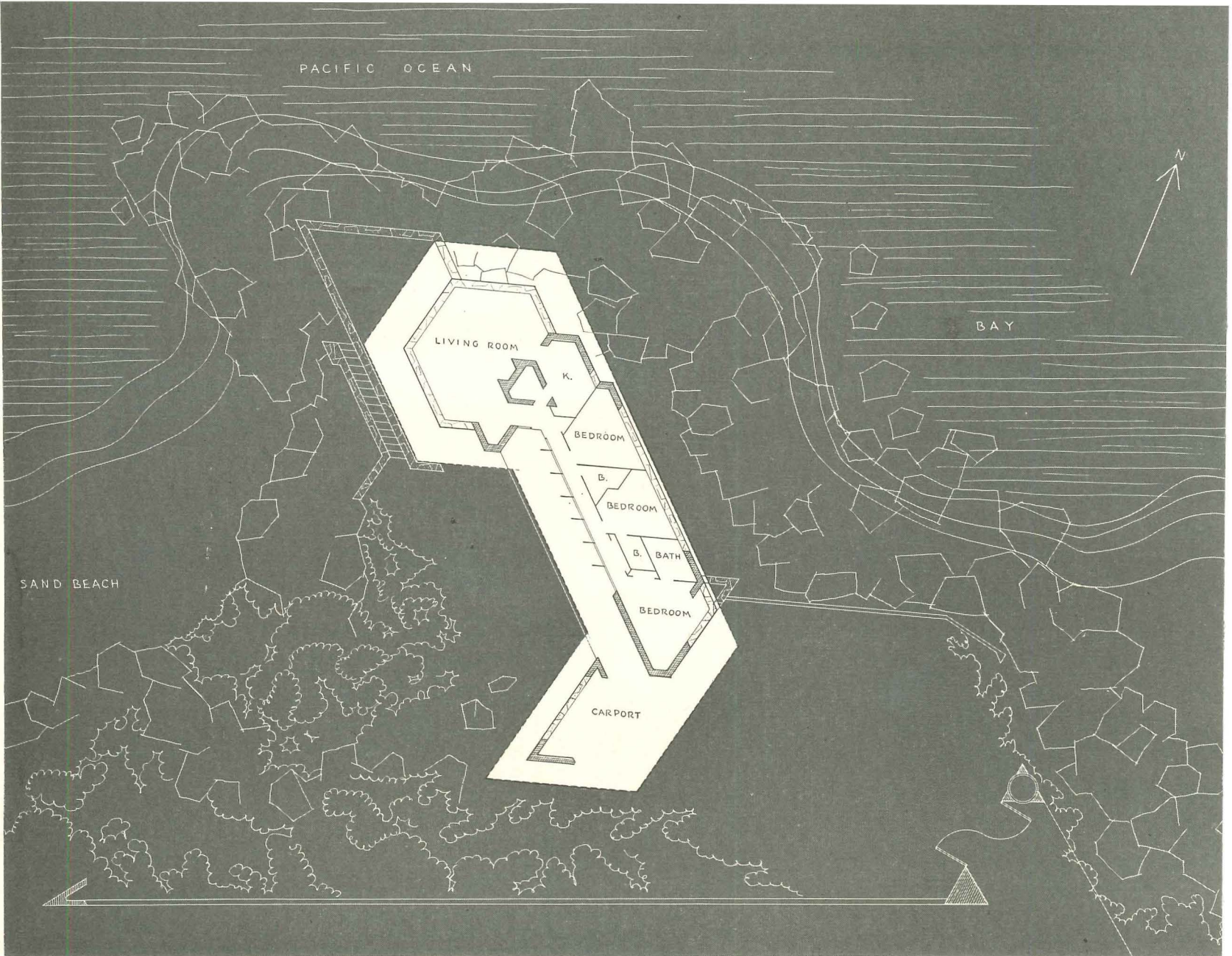
THOMAS D. CHURCH, landscape architect

MILES BAIN, contractor

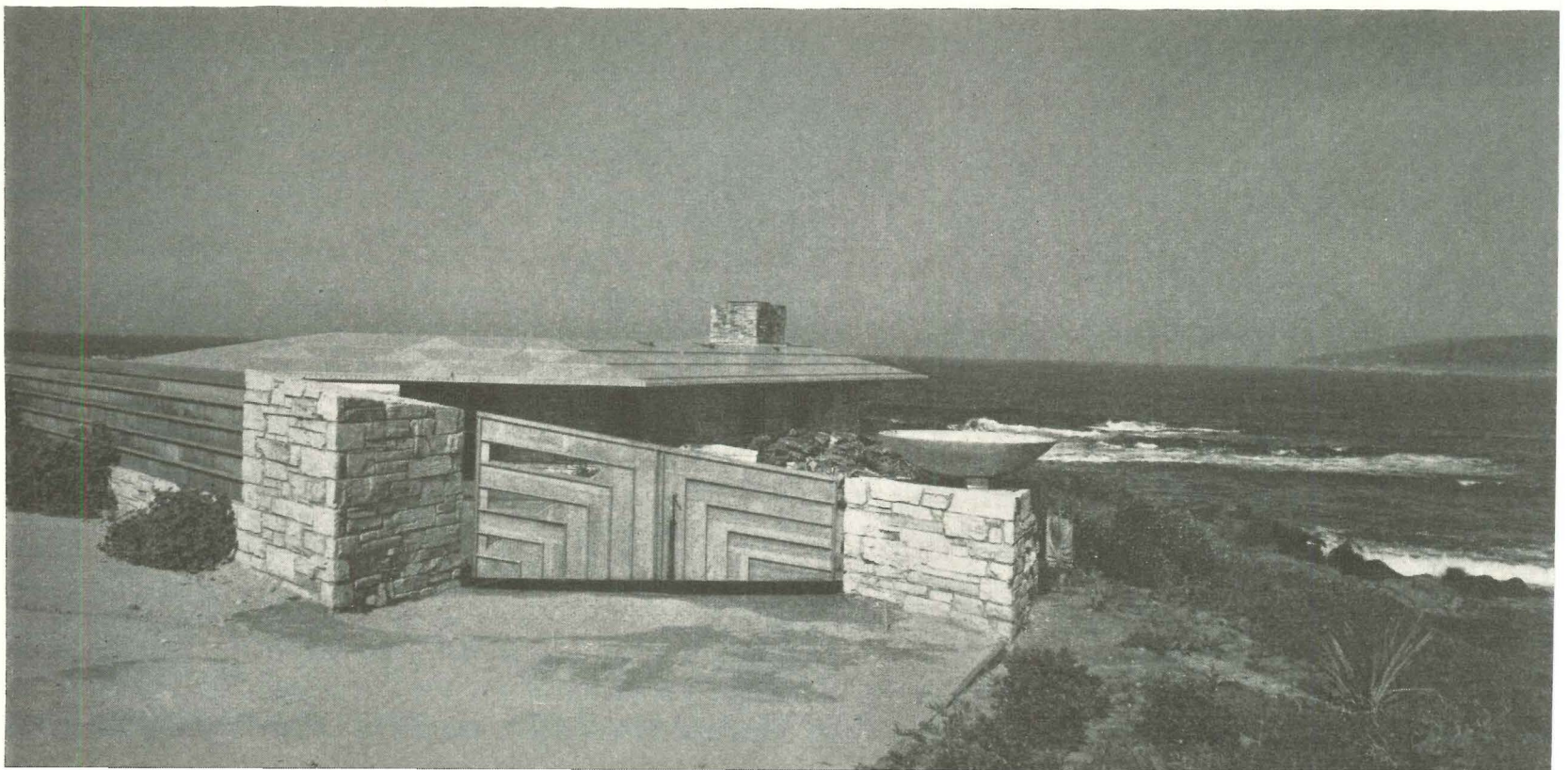
ROGER STURTEVANT, photographer







A planning lesson from **FRANK LLOYD WRIGHT...**





... how big can a tiny house be?

In this little house Frank Lloyd Wright did far more than achieve drama on a dramatic site overlooking the Pacific. He lavished the infinite pains of genius to fit all the many spaces together so that every inch would count, to make little rooms spacious where spaciousness was needed, to make all the living areas seem bigger than they really are.

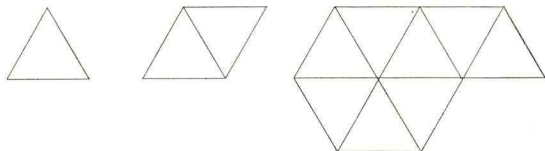
Here is an in-line house with three bedrooms, three baths, a kitchen and a 400 sq. ft. living area—all in 1,000 sq. ft.! For some of the ways Wright did so much with so little space, turn the page. . . .

Sparkling, sea-green roof of porcelain enamel tiles is a local landmark. Here it is seen from the southwest terrace (above) and the east-facing entrance (left), where the slanting gate exposes it to view.



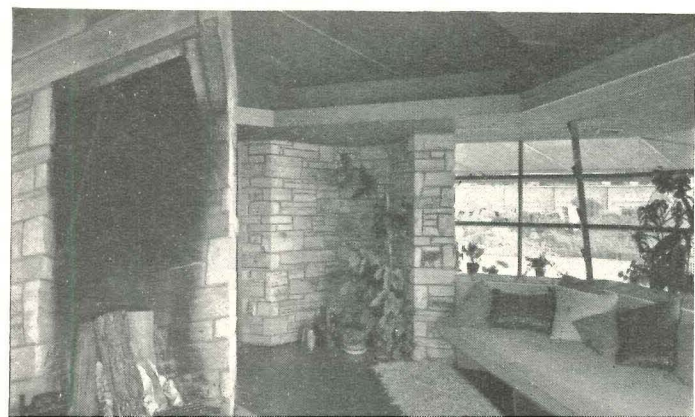
A small living room becomes as big as its view . . .

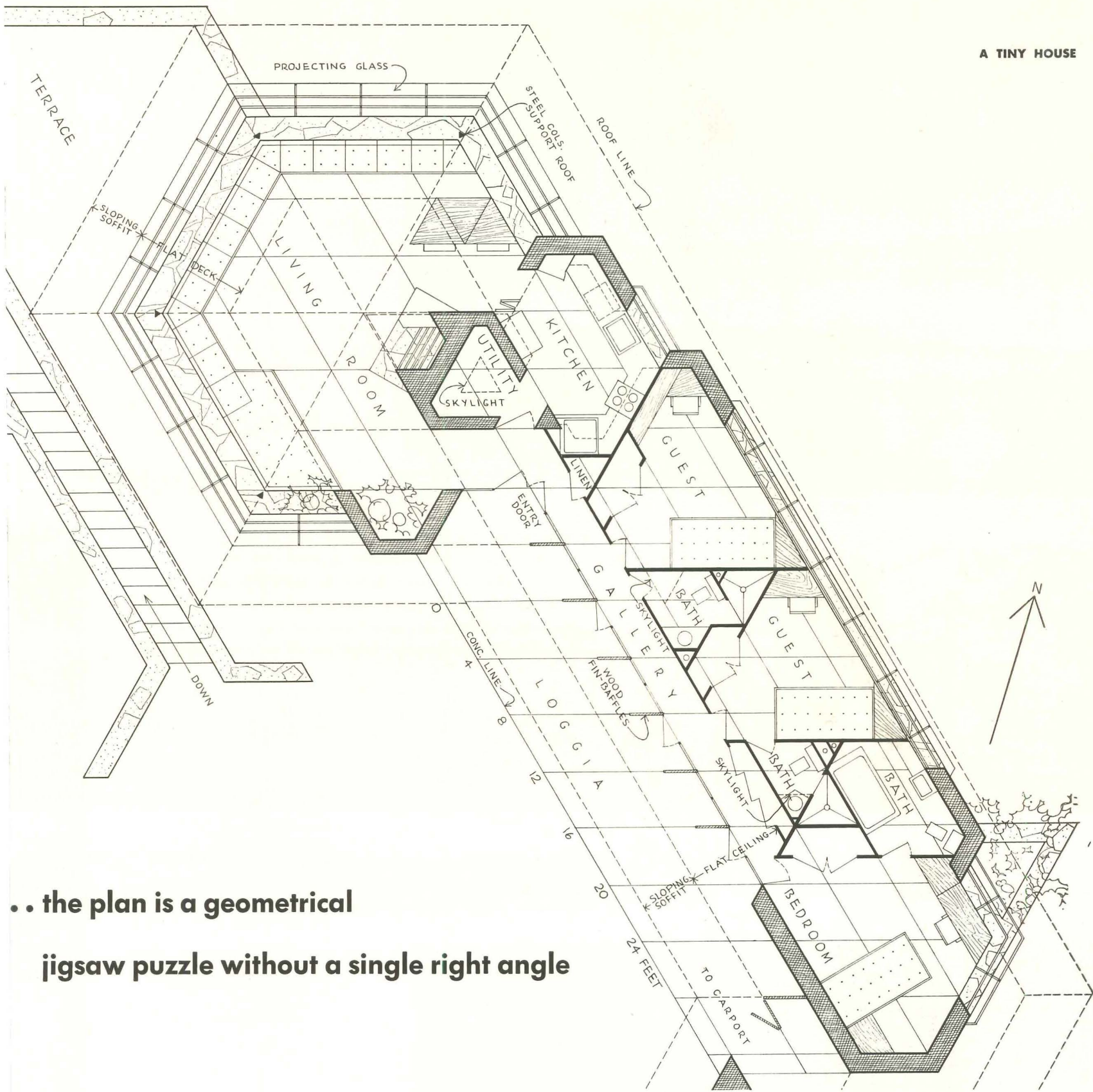
Using as a module a 4' equilateral triangle, or doubling it to make a diamond, Wright constructs strings of little polygonal spaces:



These rooms mesh neatly together in his plan, never meeting in a static right angle, never forming a conventional box shape, which would soon make you aware of how small this house really is. All the way around the outside of the plan the walls come together in wide, 120° angles that liberate the interior spaces, gently molding them into flowing curves instead of constricting them in rigid 90° corners. All the rooms are tiny indeed, but none seems tiny because none is a box. . . .

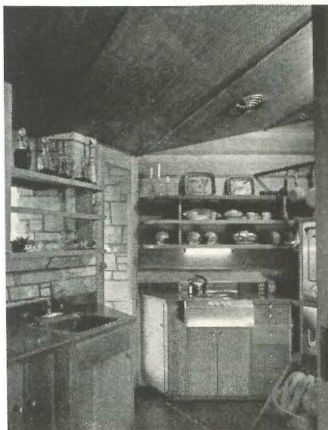
To gain spaciousness, the window walls of the living room (above) are bent into a sweeping circle of wide angles. Like the bridge of a ship, they scan 180° arc over the stone bow. Stepped-out windows make the top of the room still larger, and the ceiling pulls the eye outside through an almost invisible line where the glass slices directly into the wide overhang. Instead of chairs there is a huge window seat big enough for 15 or 20 people, leaving the limited floor space free. No matter where you sit, you face away from the overpowering view and glare, toward the warm, intimate cave of the fireplace (below).





.. the plan is a geometrical jigsaw puzzle without a single right angle

hip's galley, roughly 74 sq. ft., is tucked behind huge chimney. Everything is within easy reach.



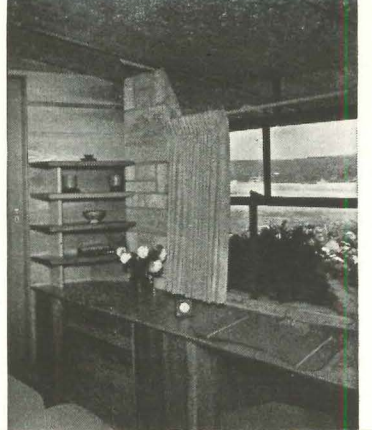
In-line plan needs long hall, but Wright saved space by paring it to 30". (Pullman corridor is 26".)

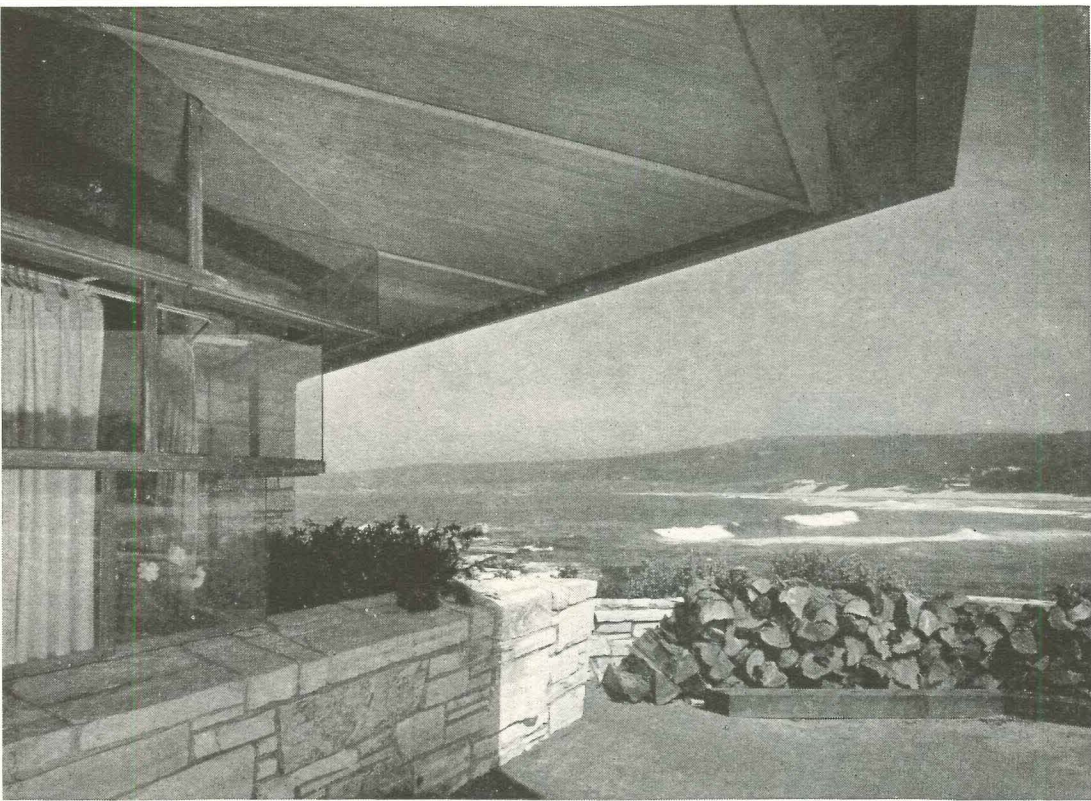


Inside baths, less than 25 sq. ft. each, yield more outside wall space to bedrooms, are skylighted.

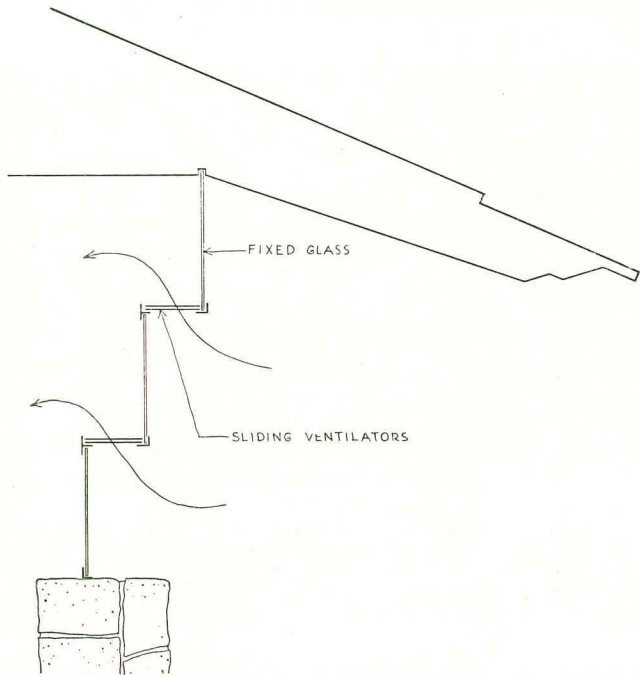


Imagine a window 12' long in an 80 sq. ft. room! Triangular bedrooms give space where it is needed.



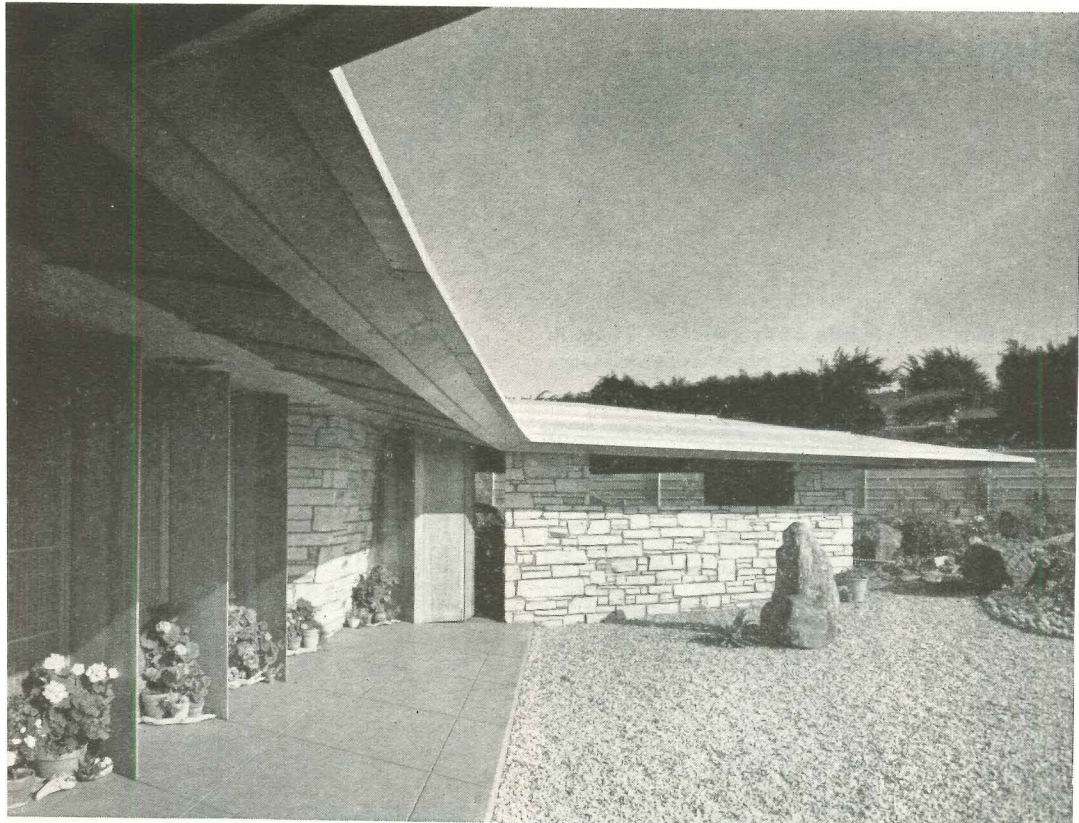


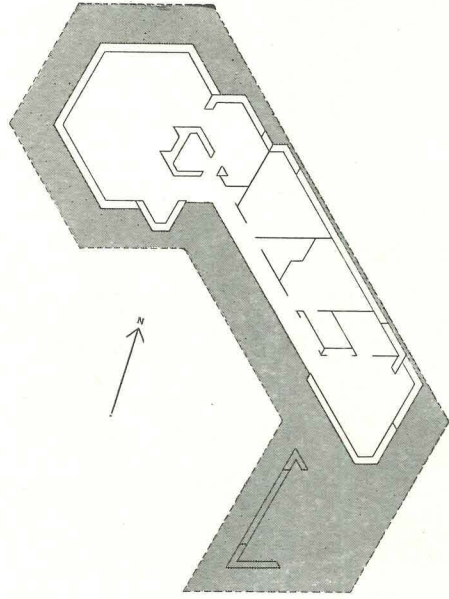
Onto his intricate plan



Broad brim, overhanging the walls by 6' in most places, is pulled down low all the way around to protect the "eyes" of the house, the windows, against intense sky glare, sea spray and driving rain. Stepped-out sash (shown above at master-bedroom corner) allows dry, closely controlled ventilation through horizontal-sliding boards between steps—even in high wind, water.

Covered walk leads from carport in background to front door, past terrace sheltered in the crook of the plan. Vertical fins of plywood at left act as baffles to keep sun off inside hall.

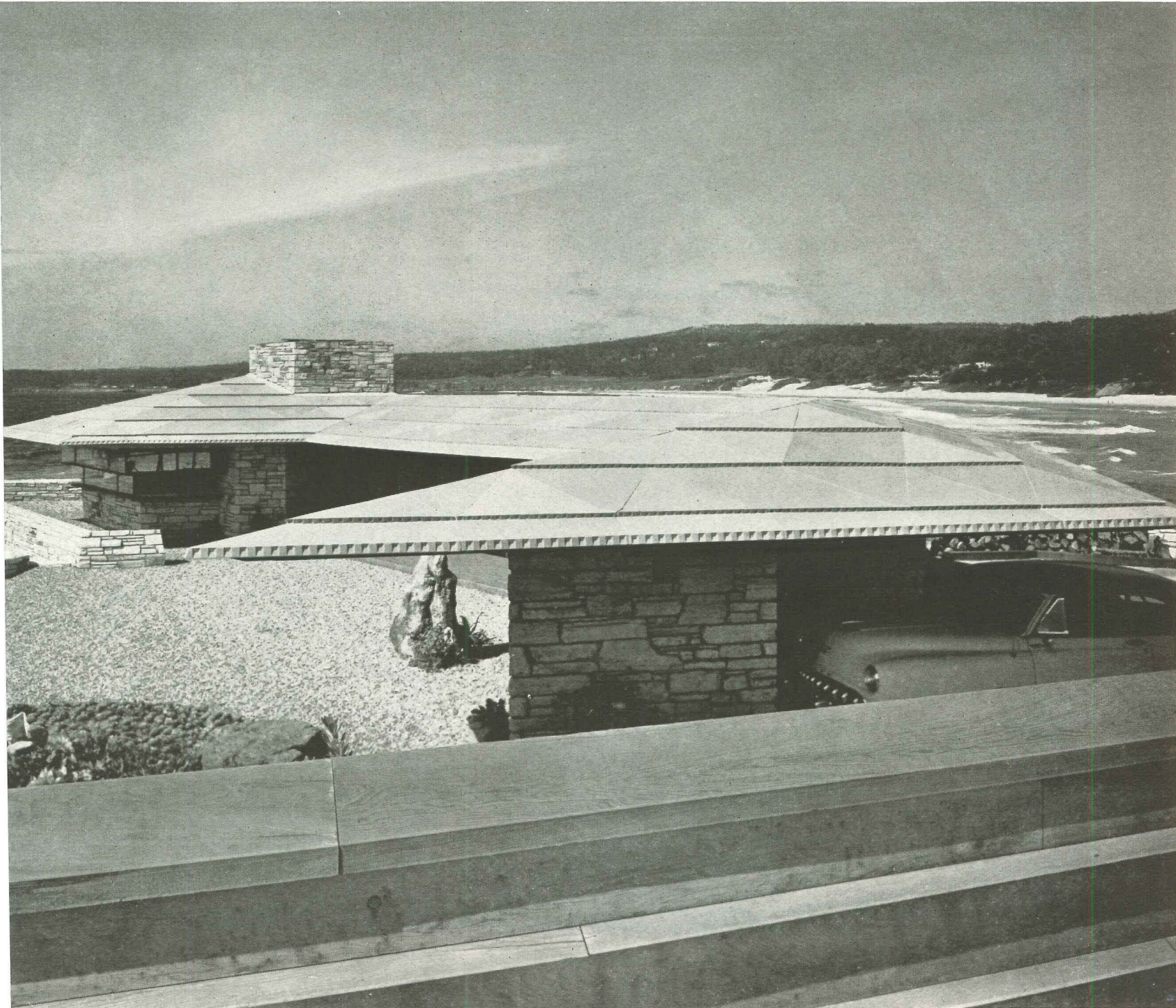




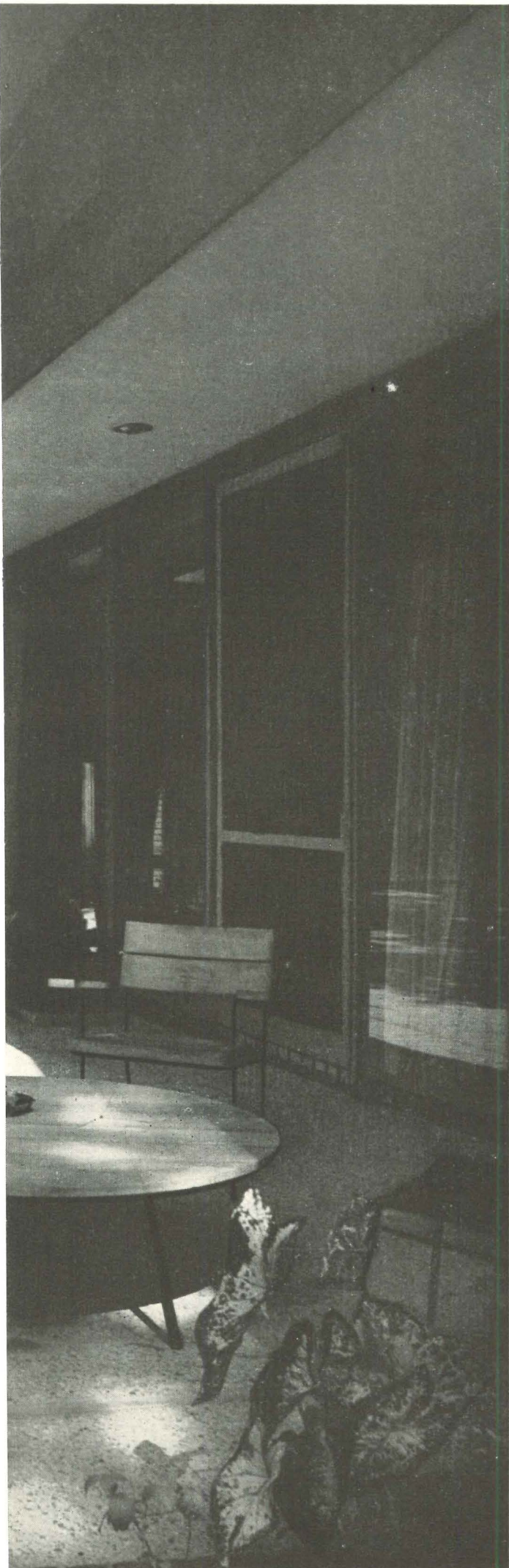
Wright lowers a big, sweeping roof

Oversize roof, with an area of 3,000 sq. ft., is two-and-a-half times the size of the 1,200 sq. ft. house and carport underneath!

Below, sweeping horizontal lines of roof pull together the many angles and jogs of house and carport. Porcelain enamel tiles are 4' triangular "pans" on same module as floor plan, with crimped-down edges fitted into channels on roof structure. Lower edges of some are stamped into patterned rows of dentils.





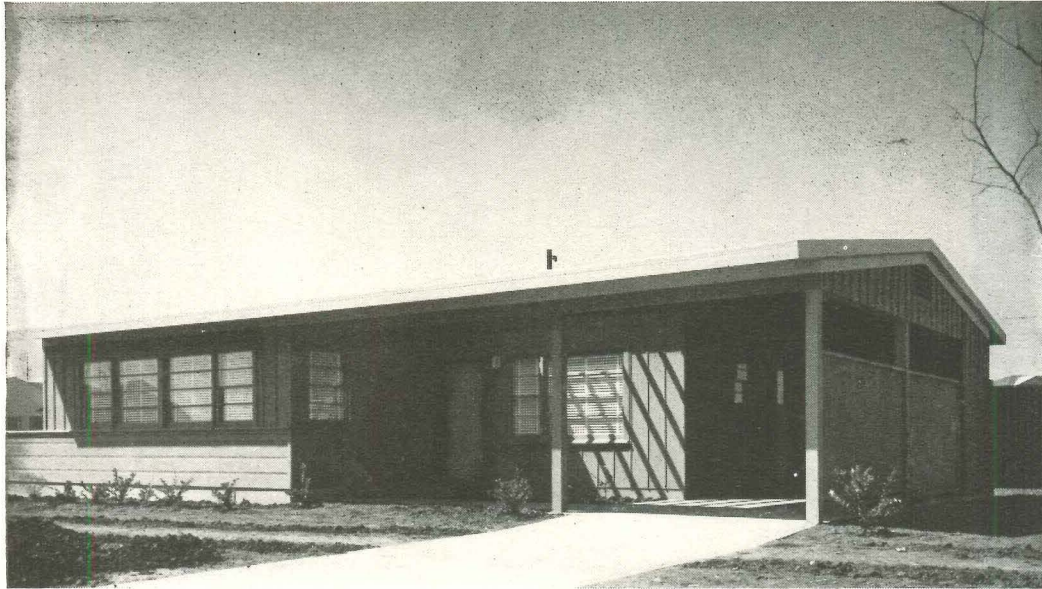


What's new in air conditioning?

On these 24 pages, the answers:

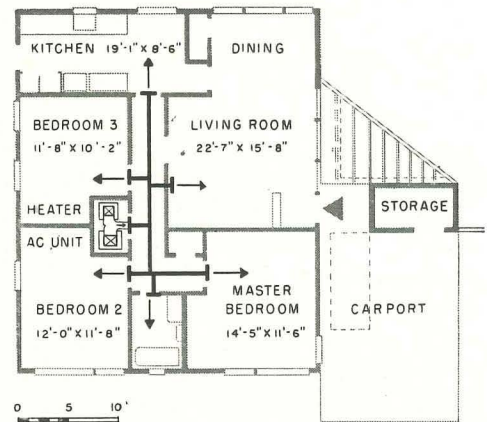
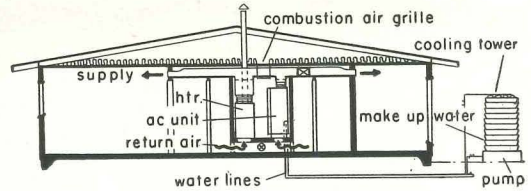
1. Costs are lower than you think (p. 108).
2. It has an enormous appeal to families (p. 120).
3. There are new ways to merchandise it (p. 120).
4. Engineers know how to produce better cooling (p. 126).
5. You can have windows without losing cooling (p. 125).
6. NAHB's Air-conditioned Village will be a scientific and psychological testing ground (p. 119).
7. Air-conditioned indoor garden can be enjoyed the year around (p. 112).
8. Cooling makes the indoors pleasanter than outdoors in hot weather (p. 116).
9. A water-to-air heat pump can make a lot of sense in certain locations (p. 118).
10. Builders report on air conditioning and sales (p. 128).

Opposite: *this handsome Houston house by Architect Hamilton Brown embodies many sound design principles for cooling. Its stepped-back double overhangs on the south shade both bedroom windows and the living-room window wall. The big trees provide extra shade when the sun is low.*



Ulric Meisel

Typical house has 1,150 sq. ft. floor area, sold for \$12,500 in 1952. Cross-section (right) shows overhead air outlets, central return air grilles.

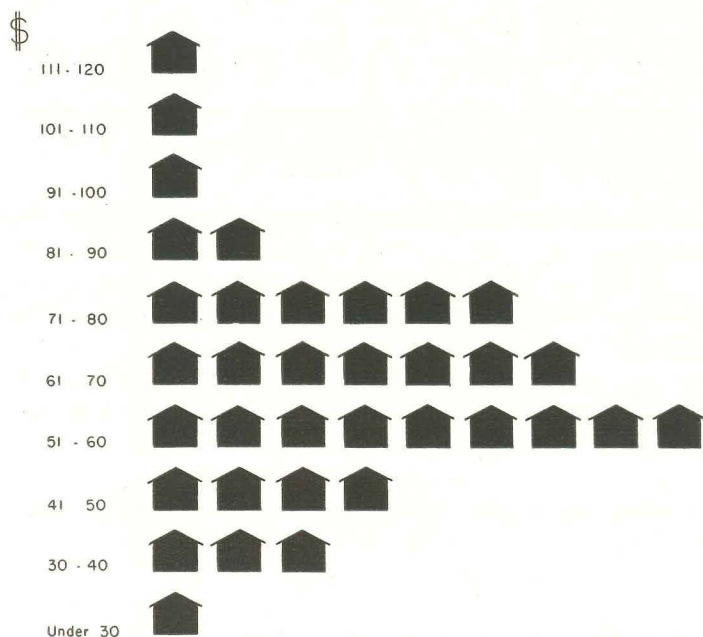


Operating costs are lower than you think . . .

. . . only \$64 per house for five months' cooling

for the second hottest summer on record in Dallas

HOW 1953 COOLING COSTS VARY FOR 35 HOUSES



Total bills for cooling electricity vary from a low \$11.91 for a family that was away two months to a \$111.57 high for a house with big windows facing east and west and a family that likes 68° all summer. More important: 26 bills (74%) ran from \$41 to \$80.

Here for the first time are documented figures on just how low the actual operating costs proved to be in the first low-cost builder houses planned for air conditioning.

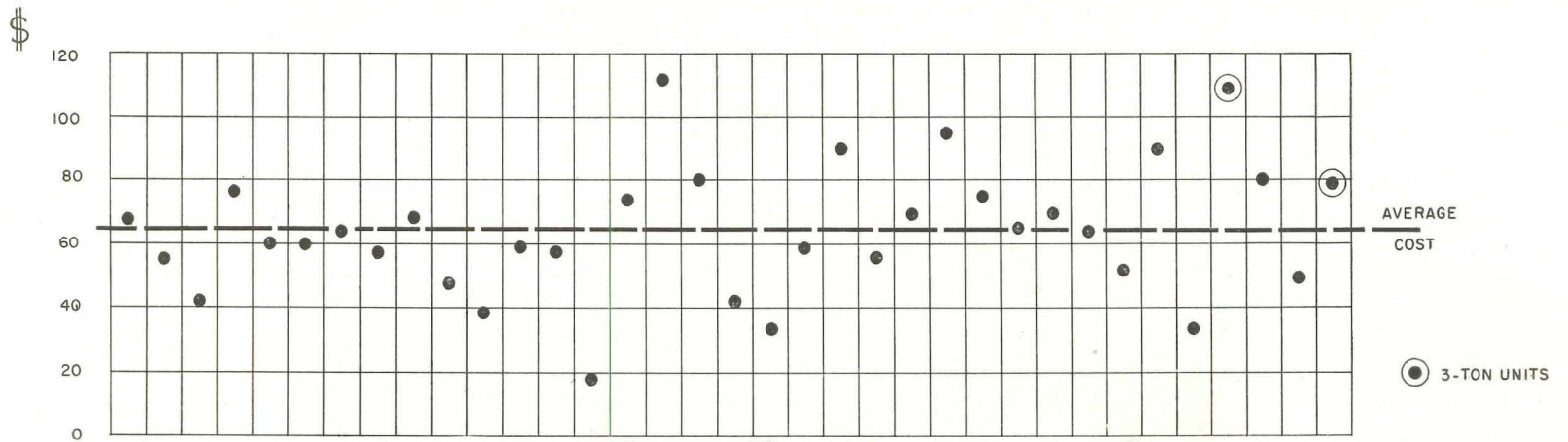
In 1953, second hottest summer in the history of the Dallas weather bureau, a group of 35 families paid average electrical bills of less than \$13 a month for cooling their 1,150 sq. ft. houses. For the whole five-month cooling season these bills averaged \$64.09 per family, according to a study just made by the local electric company. Their water bills for cooling towers were \$2 to \$3 for the entire summer.

Because these figures came from Dallas they have special significance. Dallas is much hotter and much more humid than average US cities, and last summer was a record breaker even for Dallas: the temperature hit 100° or higher on 34 different days. Operating costs for cooling in houses like these would be even lower almost anywhere else.

The \$13-a-month average is so low it should upset FHA-VA-insistence that a family have as much as \$100 a month higher income to qualify for a \$12,500 house *with* air conditioning than to qualify for a \$12,500 house *without it*. It is this FHA-VA stand that has discouraged many builders from offering air conditioning.

Of these 35 houses, 29 are like the one above and were built by Lewis & Lamberth or Laughlin & Silver (H&H, Apr. '52). The other six are much the same and were built by Crow & Benda across the street. All but two have 2-ton GE units; the other two have 3-ton units (and had high operating costs).

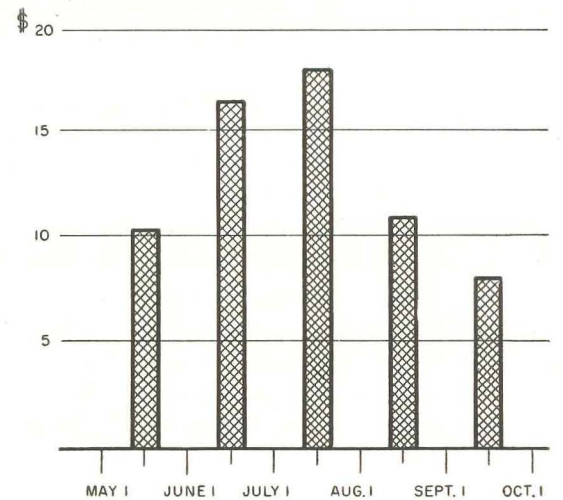
ELECTRICAL BILLS CLUSTER AROUND \$64 AVERAGE



Each dot represents actual electric bill for air conditioning one house. Highest bills were for families who kept temperatures around 70°, had unshaded windows, children running in and out. Water costs averaged \$2 to \$3 per house for cooling towers.

Typical house had cooling bills varying month to month as shown here. All bills are based on Dallas rate of 1.65¢ per kw-h.

COOLING COSTS FOR TYPICAL HOUSE



Operating costs could have been even lower

The impressive \$64 figure reflects great credit on the builders and the engineers from Texas Distributors, Inc., who laid out the system. But the fact is that operating costs could have been even lower if all the big windows had been fully shaded. In general, houses with unshaded east or west windows had highest operating costs.

The builders believed that for sales purposes they should not eliminate west windows and hoped that trees would eventually shade them. In some cases carports shade east or west windows.

All houses have 24" overhangs, 3" mineral wool insulation or the equivalent in aluminum foil in the roof and 2" insulation in the walls. And slab floors make these houses easier to cool than would crawl spaces or basements.

Maintenance costs average \$8 a family

"We've been surprised at the low servicing costs," says Engineer Jack Lowe, president of Texas Distributors. "Families cut them by doing their own work—like cleaning and replacing filters. Many service their cooling towers. We estimate that they are only paying \$8 a summer for maintenance and servicing."

Previous maintenance estimates were high because they were based on large Texas houses where older air conditioners were installed for families who called a serviceman whenever a filter needed changing.

Two tons is enough even in Dallas

Two summers ago, when families were moving into these houses, many Dallas dealers doubted that 2-ton units could cool 1,150 sq. ft. houses with considerable glass. The old rule of thumb—1 ton for every 500 sq. ft. of floor, which perhaps made sense for uninsulated houses not designed for air conditioning—was commonly accepted without question.

Builders and architects everywhere will be happy to learn that 2 tons were enough. "We keep our house at 74° practically all the time," says one owner. "A neighbor across the street only manages 78° when it's real hot. We think one difference is that our cooling tower is on the south where it gets the prevailing breeze and hers is on the north." Another reported: "We're delighted with the cooling. Some of the neighbors griped a bit when 105° weather forced inside temperatures a little over 80. But compared with the awful heat last summer, it was really cool in our houses."

And Builder Laughlin adds: "These are the happiest people we ever sold houses to. They like the design and they are delighted with the air conditioning."

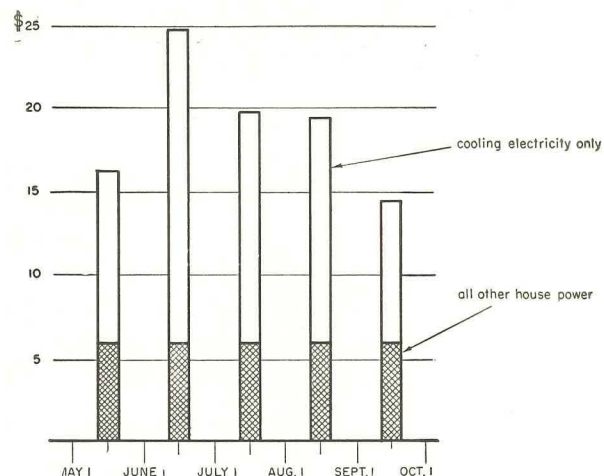
Proof of the pudding

The most significant lesson for architects and builders is that inside temperatures and total electrical bills substantiated the engineers' original estimates and H&H's findings for cutting heat loads.



Cooling costs for electricity were only \$64 for this 1,266 sq. ft. house in Wichita during five extremely hot months last summer—82 days of 90° or more including 45 days of 95° or more and 15 days of over 100°. House has a 3-hp compressor and a remote evaporative condenser for saving water. It was designed by Ned Cole for The Coleman Co., and about 50 copies of it have been built elsewhere. Except for big west windows,

it was designed for air conditioning with 4" ceiling insulation, white roof, wide overhangs. The owners do considerable entertaining. The chart (at the right) shows electrical bills of \$6 per month for household appliances, and an average of \$11.80 for summer air conditioning (at 1.5¢ per kw-h). Actual cooling bills are 26% less than the \$16 a month cautiously predicted by engineers when house was built (H&H, Oct. '52).



Air conditioning costs are low

Total power bills and old houses give false impressions. Operating costs for new houses are low not only in Dallas but also in other cities—lower than most people think because of two common misconceptions.

1. Many people confuse air-conditioning costs with total electric bills, and to make matters worse they remember the highest bill of the summer. They are likely to say their electrical bill is \$25. Word soon spreads that air conditioning costs \$25 a month, or \$150 a year. A family living in the Wichita house above had one bill for \$25, but of that, \$6 was for other household electricity and only \$19 for air conditioning. The \$19 was for the hottest month and total air-conditioning electricity for five months was \$64.

2. Many people believe that operating costs are as high in new houses as they are in old houses. Generally the first houses to be air conditioned were old and large. Word gets around that so-and-so pays \$50 a month to run his cooling system, and perhaps he does. But a sprawling house, often uninsulated and with loose-fitting windows, is quite different from a house designed and insulated specifically for air conditioning. Any house that requires a 10- or 15-ton cooling system is obviously going to have high cooling bills.

Operating costs will be high even in new houses if they are large and disregard the design principles which make for economic operation, have large unshaded windows or inadequate insulation. The following cost data, selected from half a dozen cities, emphasize how proper design can keep operating costs low.

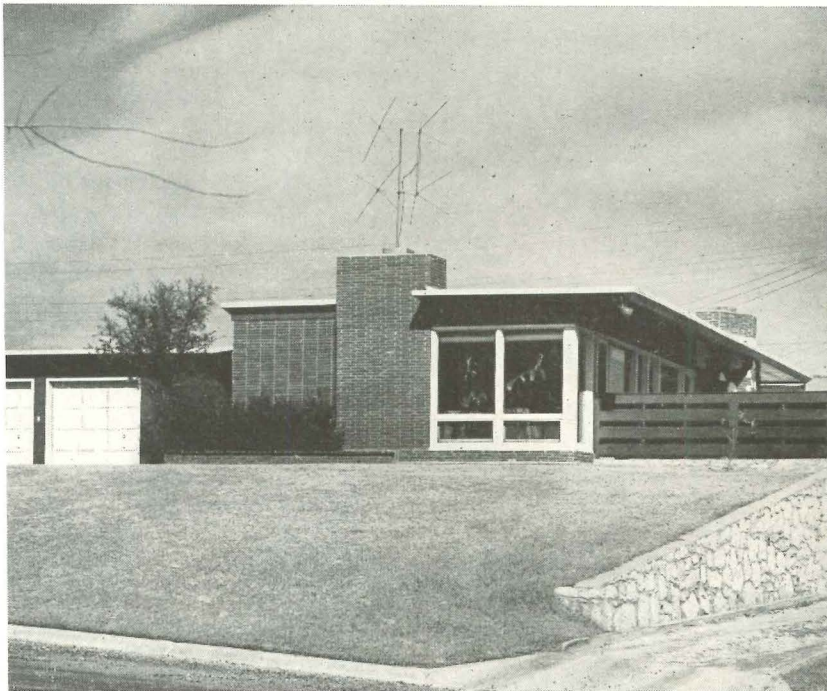
Water is a cost factor but not a large one. Only if water is cheap should it be thrown away. Otherwise a cooling tower, an evaporative or an air-cooled condenser should be used to save water.

Typical new house costs:

\$9 per month in Sterling, Ill. Electrical bills for air conditioning a 1,275 sq. ft. house last summer were less than \$9 a month. It was designed for air conditioning with a light roof, overhangs, insulation and has a 3-ton unit with an evaporative condenser.

\$11.13 in Dayton. In a story-and-one-half house of 1,256 sq. ft. the electrical bill for three months of cooling last summer was \$33.40, or about \$11 a month. The family has a 3-ton unit, did quite a lot of entertaining.

\$17.75 in Columbus. In a 1,400 sq. ft. house, a 2-ton air conditioner was operated for four months last summer for \$71—a monthly average of \$17.75.



Don Wallace

Fort Worth house holds low-cost cooling record

This trim, 1,750 sq. ft. house in Fort Worth cost its owners \$49 all told for complete summer air conditioning with a standard 3-hp unit, despite 29 days of 100° or hotter. Of this, \$47 was for electricity (see chart left), \$2 for cooling tower water.

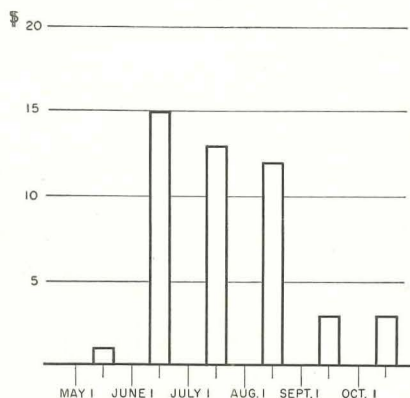
The house is an object lesson in how first-rate design for cooling pays off. And it makes the point that a flat roof and floor-to-ceiling windows—normally two immense sources of heat—can be incorporated in air-conditioned houses. The flat roof is fortified with over 7" of insulation: two 3⁵/₈" blankets layered back to back over the ceiling. Over the insulation is a 2³/₄" air space, built-up deck and white marble-chip roof. Walls have 3⁵/₈" insulation and the entire house is enveloped with a foil vapor barrier (around the insulation) which reduces the humidity load on the compressor effectively (see p. 126).

Hot sun through the big glass areas on the southeast and southwest is minimized by wide 4' overhangs. Equally important, the owner religiously keeps inside bamboo blinds fully drawn across these windows when the early morning and late afternoon sun strikes under the overhangs.

These features for cooling pay off in winter, too. Heating runs under \$40 a season so the house is fully air-conditioned the year round for less than \$100.

Credit goes to local Designer Jack Schutts and to the local York air-conditioning distributor, Engineer A. W. Stubbeman, who built this house for himself.

Big window in front faces southwest; window wall on right faces southeast. Actual monthly costs for cooling electricity (above) are based on Fort Worth's lowest block: 2¢ per kw-h—about average for the US.



throughout the country

\$18.70 per month in Tampa. In a 1,100 sq. ft. house a 2-ton cooling unit was operated for four summer months at a cost of \$18.70 per month. This house has 52 lin. ft. of glass in its west wall which boosted operating cost; and Tampa's high humidity is another cost-raising factor.

\$25.42 in San Antonio. Electrical bills for operating a 2-ton unit in a 1,100 sq. ft. house were \$77.54 from May 27 to Sept. 1, or 82¢ a day for an "unusually" hot summer. The family consists of three adults and two children.

\$14.58 in Houston. Six months of cooling a 1,100 sq. ft. house occupied by two people and a dog cost \$87.48, or \$14.58 per month. This house has a 3-hp unit.

\$21 per month for a larger Houston house. A big two-story house of 2,000 sq. ft. with a 3-ton unit and two in the family cost \$126 for six months, or \$21 per month.

\$23.40 per month in Houston. Summer bills for five months of cooling were \$117, or \$23.40 per month. There are four in the family plus a dog. A Chihuahua would not add much to the cooling load, but a pair of St. Bernards romping in and out all day can let in more heat than a big west window.

How much is gas air conditioning?

Gas air conditioning is also cheaper than you think, but just how much cheaper depends on gas rates, which fluctuate widely according to the availability of natural gas.

Air-conditioning engineers say the break-even point for using gas air conditioners is around 80¢ to 90¢ per 1,000 cu. ft. of gas. Up to that point, gas is cheaper than electricity. The natural gas rate in Houston is on a sliding scale and users of gas air conditioning pay an average of 50¢ per 1,000 cu. ft. The Houston United Gas Co. advises that, based on operating costs in many houses, an average 5-ton unit can be operated all summer for \$100, and a 3-ton unit for \$70, including electricity.

In Dallas where the gas rate is 75¢ (about the same as in many towns in the North), the Lone Star Gas Co.'s records show that a 3-ton unit operates for \$85 and a 5-ton for \$125 for the summer, including electricity. Electricity to run the fan and pump of a gas air conditioner costs about 35% of the total operating bill.

Most gas units are in large houses where costs tend to run higher per square foot than in small houses. It is probable that these operating costs would be lower if houses were more compact and were carefully detailed for air-conditioning.



You can live with a sunny indoor garden...

This may be the first house ever air conditioned around an indoor garden.

On cool days the skylight lets in sunshine to warm the house and grow the plants. On hot days blinds outside the skylight can be closed, and their reflective aluminum shutters turn back most of the sun heat before it can get through the glass.

All the rooms are sealed with fixed windows against outside wind, dust and weather, and faced in toward the cheerful, spacious patio (shown above). In summer the house is cooled by a 5-hp unit; in winter it is warmed by radiant-ceiling heat and ventilated by the cooling unit's blower. Result: complete control over climate, sunlight and view.

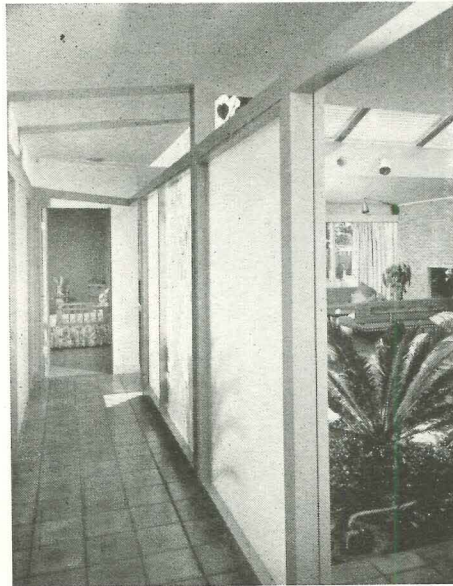
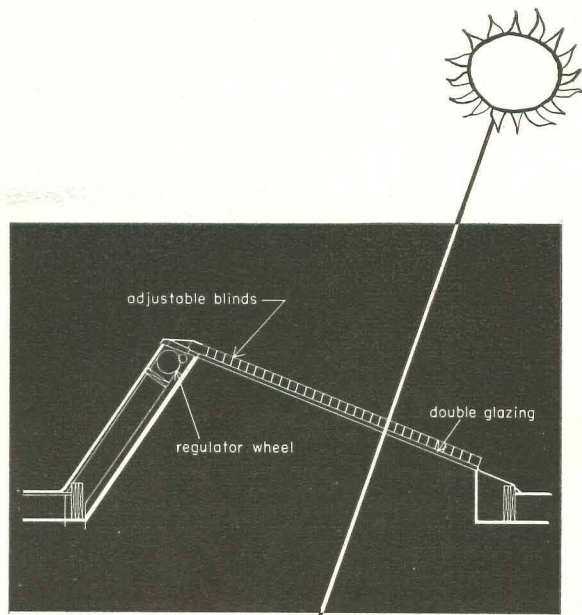
LOCATION: Dallas, Tex.
 ENSLIE O. OGLESBY JR., architect
 C. V. SUMNER, contractor
 TEXAS REFRIGERATION & ENGINEERING CO.,
 heating and air conditioning

→
Center-court plan, as old as the Greek peristyle or the Roman atrium, is compact yet unusually spacious inside. It provides excellent circulation, creates inward views.

Greenhouse garden brings planting inside where it thrives under controlled conditions, and where it can be enjoyed night and day from surrounding rooms. Dining space and traffic areas around plant bed are floored in tough, washable ceramic tile.

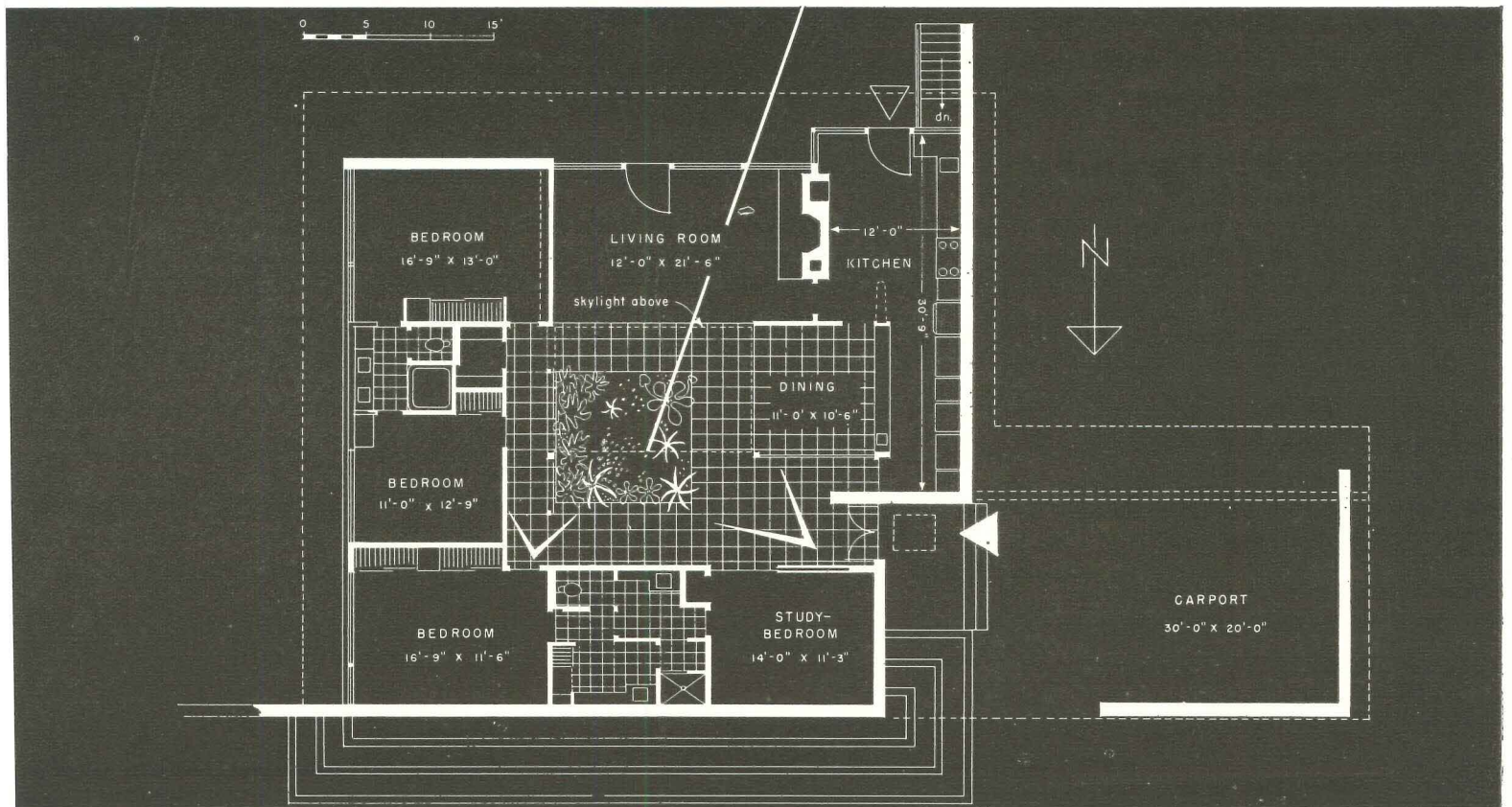
Skylight (right) faces south for winter sun; motor-adjusted aluminum blinds outside the double glazing stop hot summer rays. Ceiling lights make the garden dramatic at night.

Plastic screens (below) slide shut to form a private, well-lighted bedroom hall.



Photos: Ulric Meisel

if you control the skylight with outside blinds

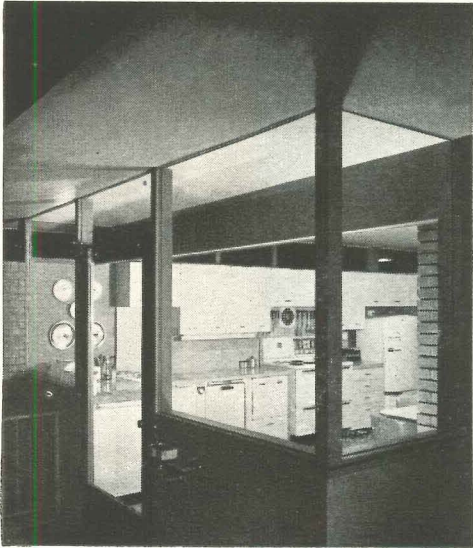


AIR CONDITIONING

1. South overhang 6' wide keeps high summer sun off living room's floor-to-ceiling glass. Where kitchen juts out (left) sun line falls on solid wall panels.

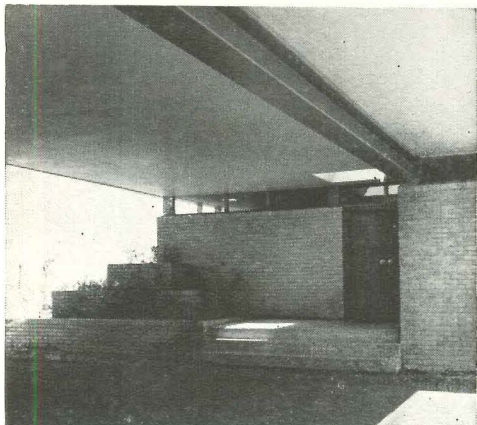
2. Shade tree also helps keep sun off dining terrace and kitchen walls.

Small photos: Ulric Meisel



3. Reflective ceiling insulation (2-ply aluminum foil with three air spaces) bounces back 95% of the long heat waves reradiated from underside of roof. Missing: an air wash through vents in overhang to dispel heat which builds up in narrow roof space. Reason: owner wanted radiant pipes installed in the ceiling for winter heating.

4. Kitchen fan directly over range, with cabinet acting as hood, quickly pulls out cooking heat and moisture at its source before it overloads cooling system. Other aids: ceiling fans in toilet compartments of both bathrooms, clothes drier vented to outside.

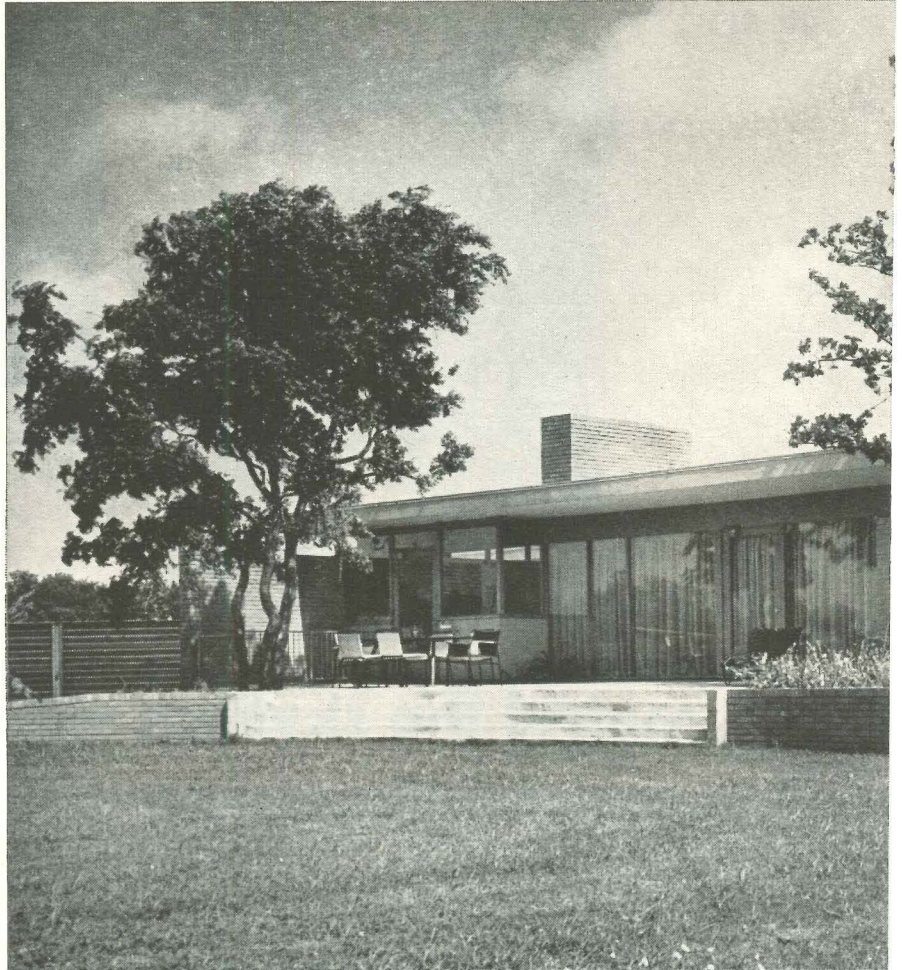


5. Carport on west shades walls and front entrance against broiling afternoon sun.

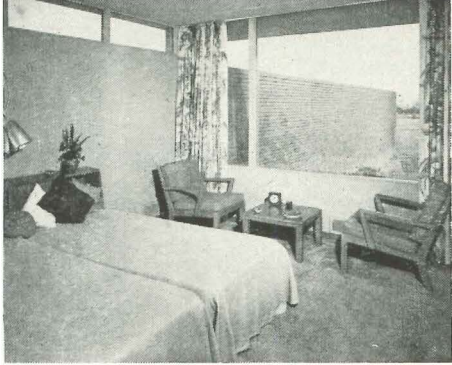
6. High strip windows are shielded by roof overhang almost until sunset.



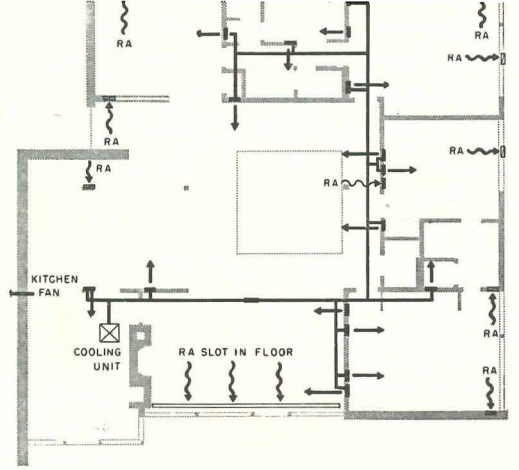
These ten design measures lighten



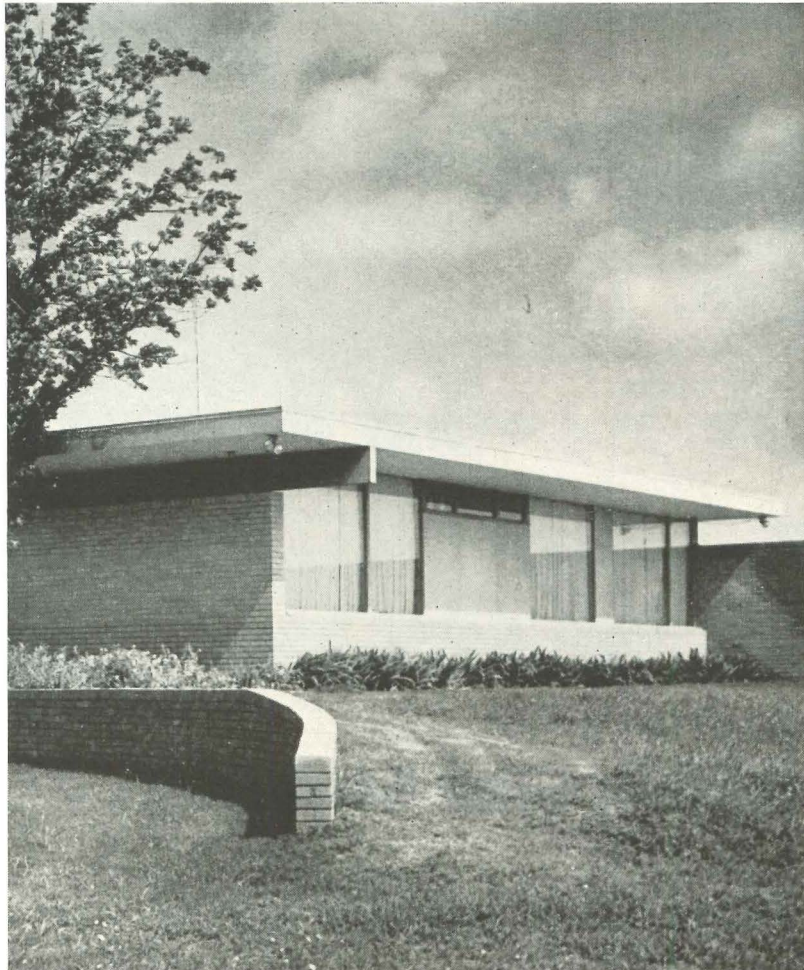
7. Fixed double glazing throughout the house seals it against constant menace of blowing dust, cuts conduction of air heat through window areas by 40%, saving on both heating and cooling bills. Only openings to outside are front door, kitchen and living-room doors on south side (above).



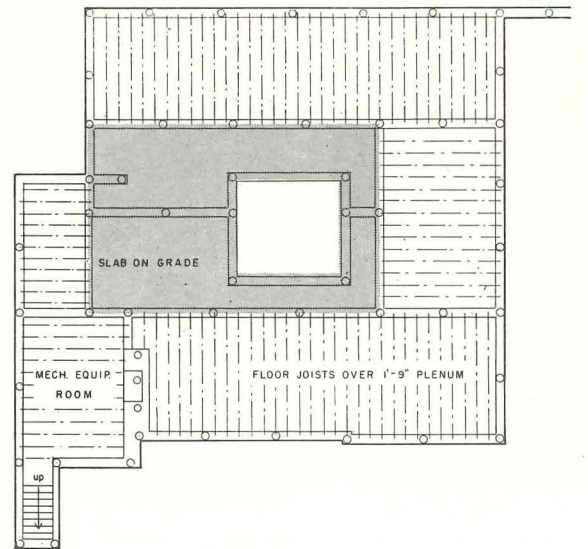
tion make good temperature barriers. Here master bedroom presents such a wall to cold north winds. Glassy east wall (also shown at right in photo below) was designed before it was known that morning sun adds as much heat to a house as afternoon sun from west. On hot mornings bedrooms heat up to 74° when west side is 70°; by afternoon reverse is true. Desirable: shading devices, a zoned cooling system.



the cooling load . . .



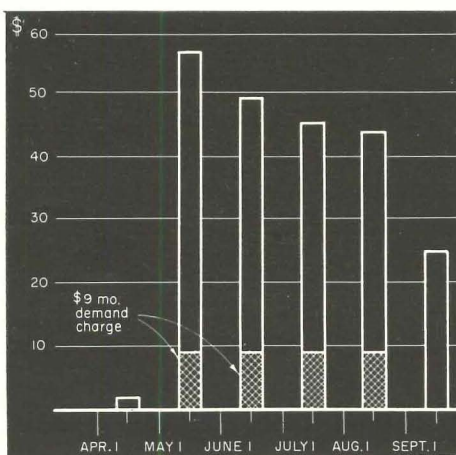
9. Insulated supply ducts under floor are protected from warm return air by a 1" wrapping of aluminum-covered glass fiber.* Ducts rise inside partitions to high wall registers (straight arrows); return air grilles (wavy arrows) are at floor level.

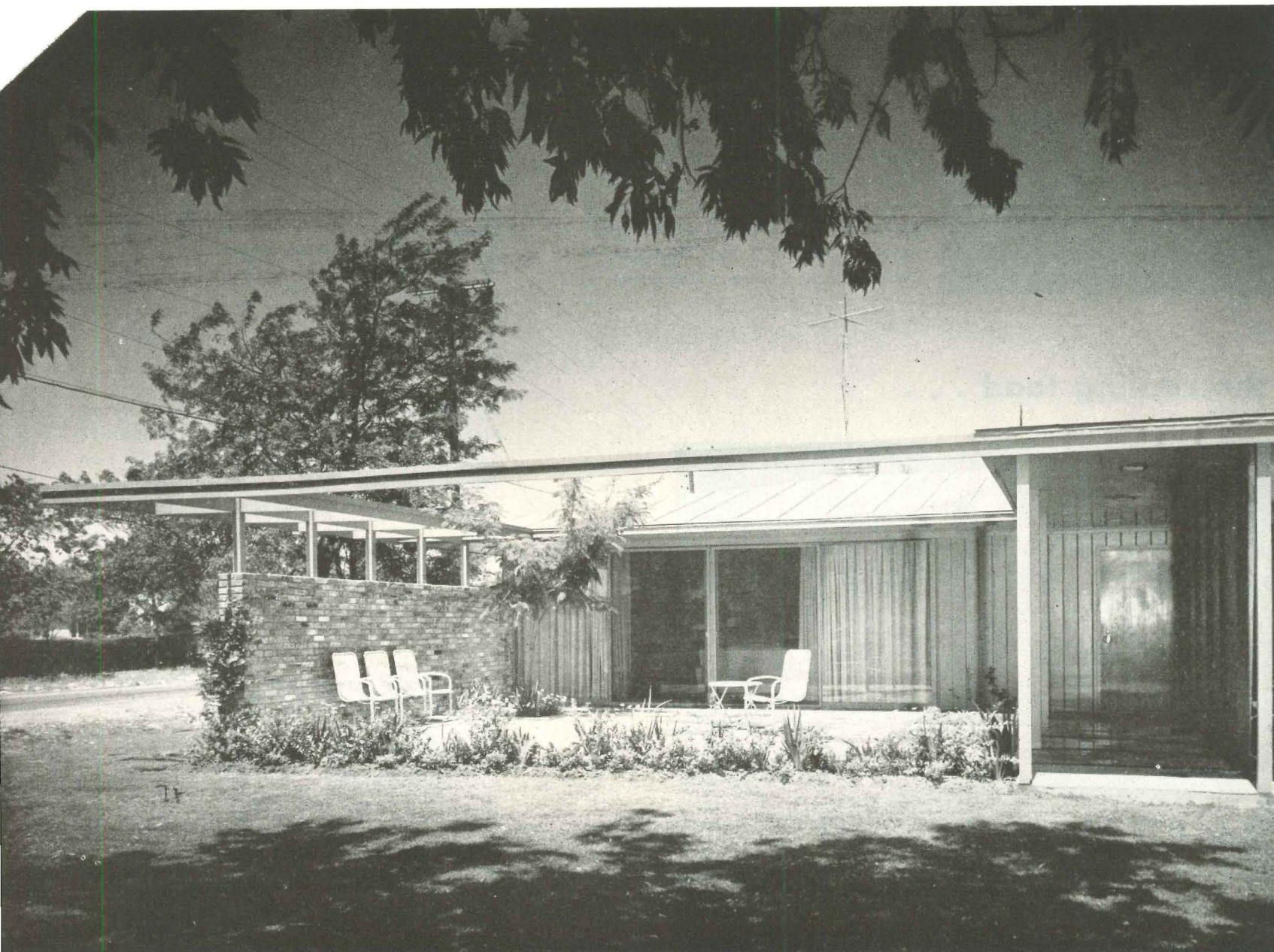


10. Vapor membranes under floor boards and center slab seal out ground moisture which would add to compressor's work. Note how crawl space around perimeter of house is used as a return air plenum. Cooling tower of induced-draft type is located in partial basement with other cooling and heating equipment. Kept from freezing in winter by being inside, it does not have to be drained in fall and filled in spring, is ready to work in winter warm spells.

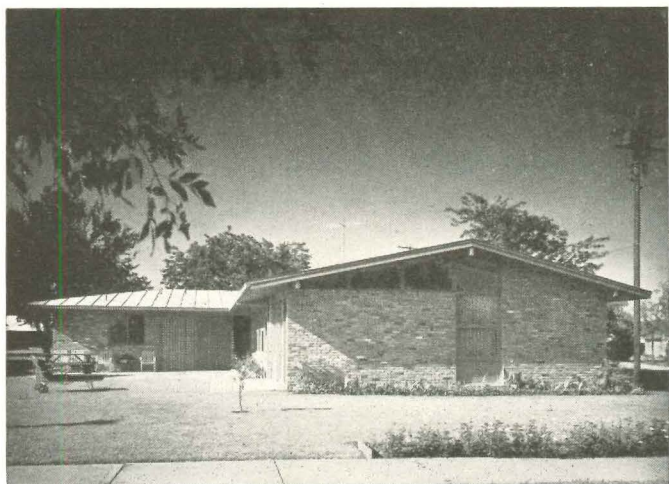
. . . yield these lower operating costs

Results of proper design: a compact, sealed house whose 2,500 sq. ft. can be cooled down from 100°-plus to 72° by a 5-ton unit, despite extensive glass areas. Cost of cooling alone is shown in chart (right). Owners report year-round comfort, fewer colds, much less dusting and cleaning required.





This terrace is seldom used because . . .

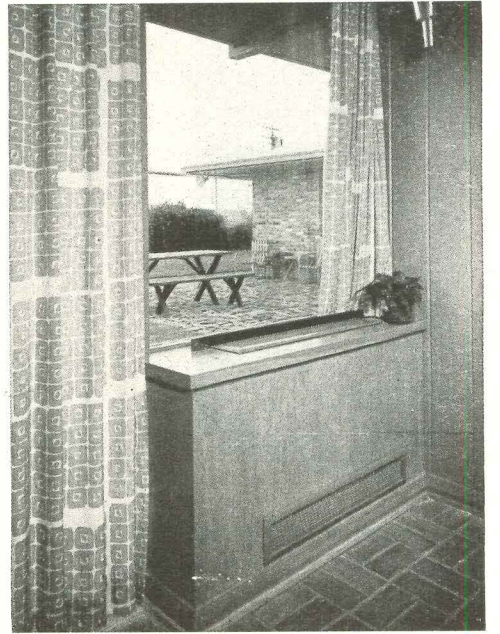


A 5-hp air conditioner cools the 2,300 sq. ft. house. Despite the fact that the Blums do a great deal of entertaining, their operating bills for six months last summer averaged \$32 a month, low because of insulation, overhangs, shading.

That air conditioning is bringing new ways of life in hot climates is demonstrated in different ways every summer. In this low, brick house by Architects Hidell & Decker in Dallas, Owner Herman Blum soon discovered that air conditioning was so pleasant that he and his wife almost never use their outdoor terrace. Not only is it cooler inside but there is also an absence of mosquitoes and bugs. This is a discovery made by many other families in Texas where winter turns into summer so fast that as soon as it is warm enough for outdoor living it is time for air conditioning.

Families also find that the chief value of a terrace is the pleasant view it gives you. When a woman stays indoors all day she enjoys looking out to a patio or garden. But paved areas not only hold heat from the sun, they also reflect it through windows or onto walls. Therefore, a grass area outside big windows is most relaxing to look at and reflects the least amount of heat. In climates where there are spring and autumn seasons when terraces or outdoor barbecues can be used, designers are learning to locate paved areas away from the house to reduce reflected heat.

LOCATION: Dallas, Tex.
 HIDEELL & DECKER, architects
 HERMAN BLUM, engineer and owner



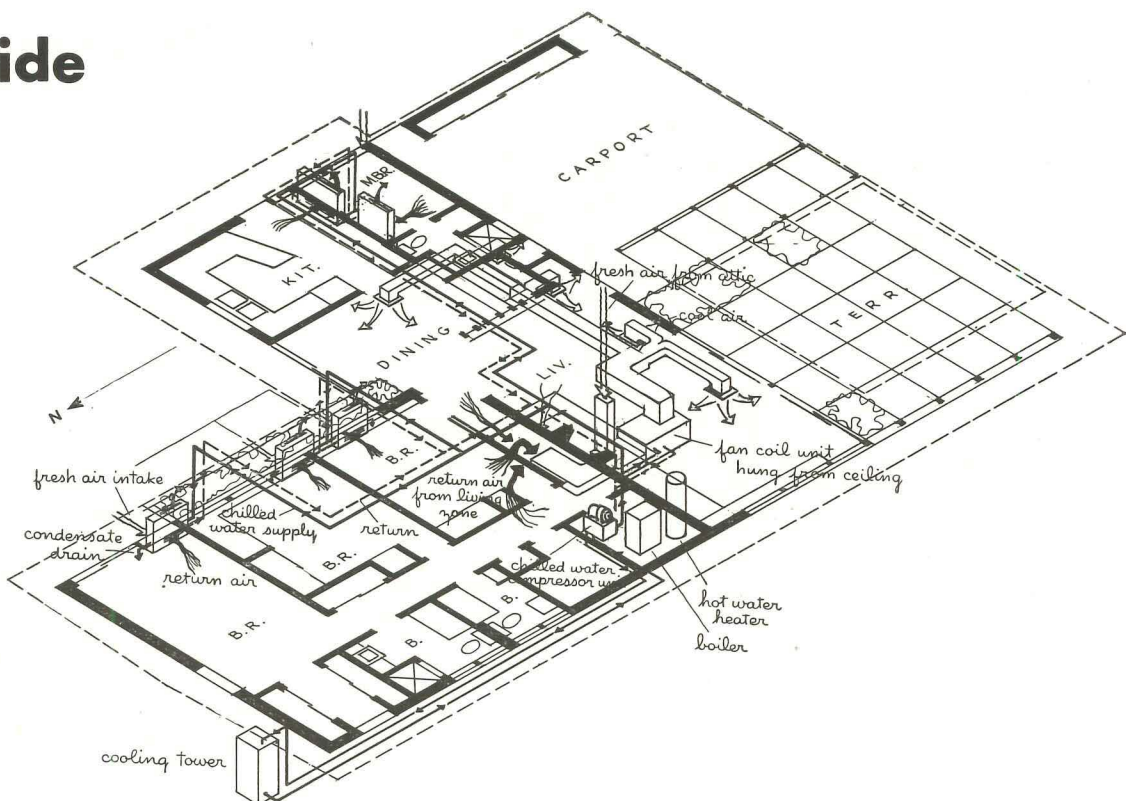
A fan inside each window unit blows filtered air (some from outside) across cooling coil. In winter warm water can be pumped through same pipes from the central boiler. This system costs about 25% more than conventional cooling.

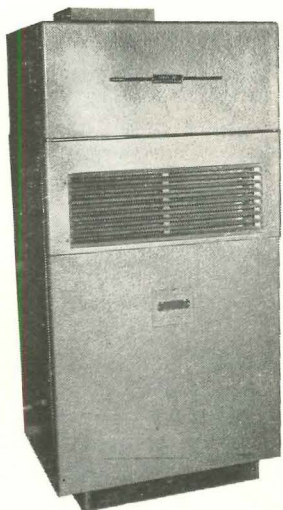


Living room is cooled from overhead grilles by air from an individual, chilled water unit which is over an adjacent utility room. Instead of blowing cool air directly into room, fans force it through ducts for a short distance. This arrangement was made because Blum did not want to put units underneath his living-room windows.

it's pleasanter inside

Chilled water is piped from central unit to window units in most rooms in the same way that many offices are cooled. Engineer Blum installed this system because he wanted to make each room its own zone. To direct more cooling to east side of house in morning, for example, he can use a hand control in east rooms to call for more chilled water. In the afternoon the east rooms can be turned down, other rooms turned up. Diagram shows pipe and duct runs and central compressor.





Compact, water-to-air heat pump is 26" x 35" x 70" high.

New heat pumps provide

year-round air conditioning in Florida houses for \$12 a month.



Florida house by St. Petersburg Builder Bruce Wiesemann, Designer Gene Graham, features long, slender design, 1,275 sq. ft. of air-conditioned space for \$17,000. Note how wide overhangs shade windows.

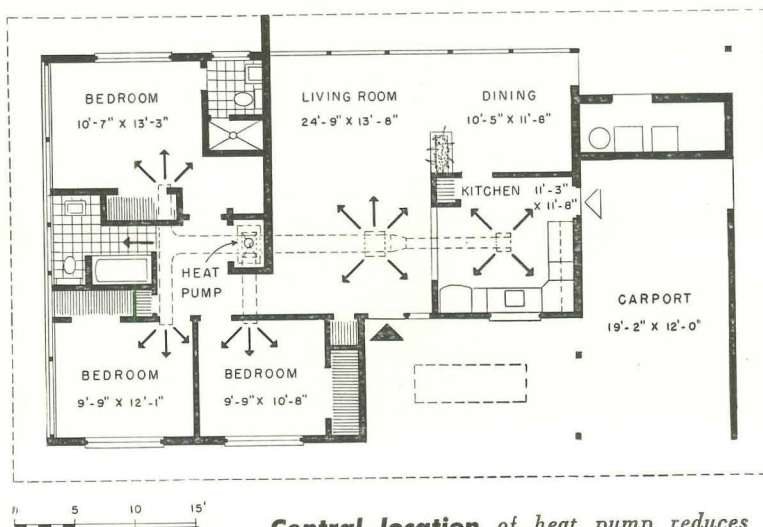
Here is how progressive St. Petersburg Builder Bruce Wiesemann is completely air conditioning the first tract in the US with water-to-air heat pumps in \$17,000 houses. Although the unit is 3-hp size and takes only 6 sq. ft. of floor area, it gives 3-ton cooling capacity in summer and up to 50,000 heating Btu's per hour in winter. Cooling and dehumidification are provided in the usual manner by means of a regular Freon compressor and conventional ducts as shown on the right.

The switch over to the heating cycle is automatic and warm air is delivered through the same ducts. During temperamental spring weather it is not unusual for these units to cool and heat alternately in response to hot days and cool nights.

Well water provides heat and cold

As this type of heat pump needs a constant supply of water Wiesemann drives a 100' well for each house. (Where the water table is high, engineers say you can use wells only 35' deep.) Florida (or St. Petersburg) water temperature is about 75° the year around. After passing through the unit, water is drained back into the ground via a second well. In effect, heat is returned to the earth for cooling and drawn from the earth for heating—just about the most efficient kind of air conditioning possible.

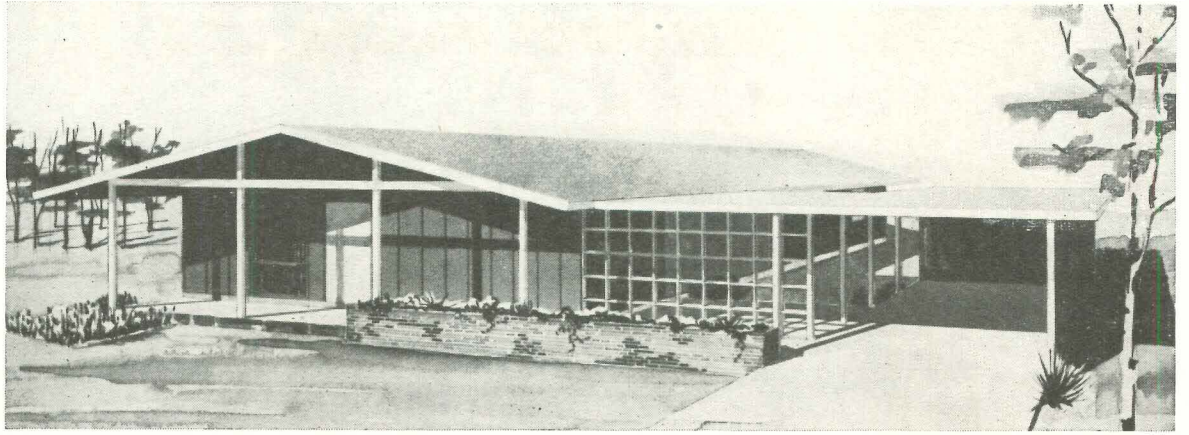
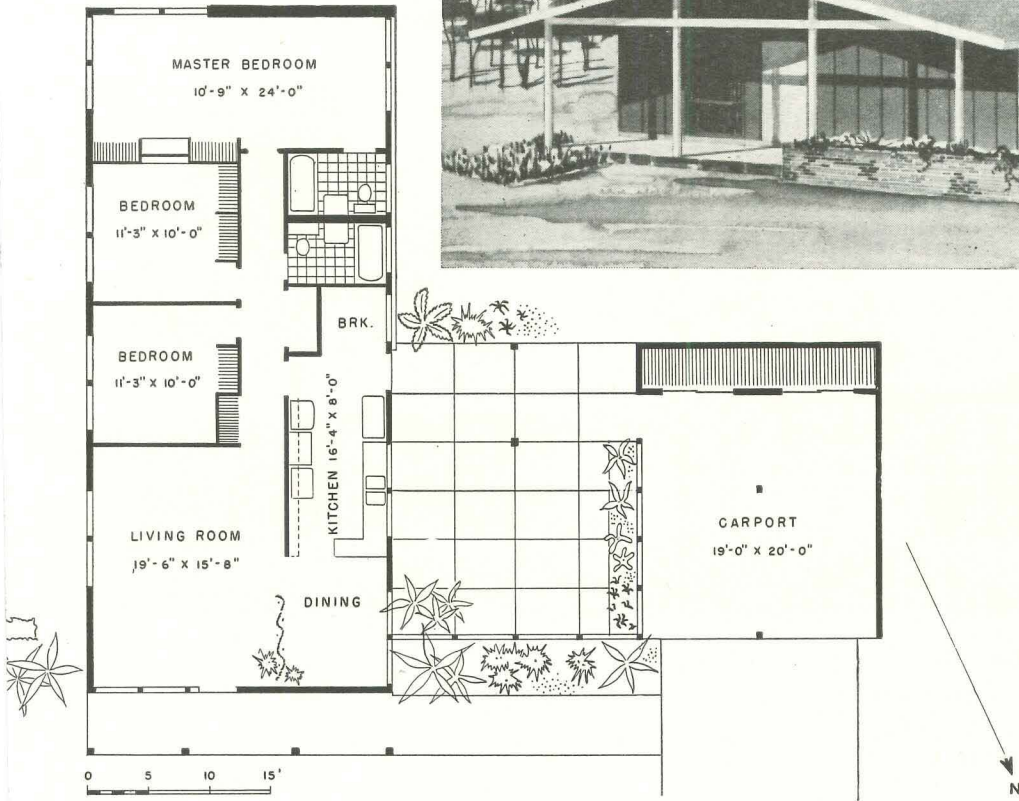
Including wells, installed cost for these 3-hp heat pumps averages \$2,100 a house—a price strongly competitive with conventional air conditioning and as much as 50% lower than air-to-air heat pumps. Operating costs are running \$110 to \$140 yearly (according to house orientation and family habits), or up to \$12 a month for year-round air conditioning. The lion's share of this bill is chalked up to cooling during Florida's seven-month summers. Heating is incidental in this climate.



Central location of heat pump reduces duct runs, cuts cost, boosts cooling efficiency. Supply ductwork runs under ceiling. Doors are undercut 2" for return air.

Air-to-air vs. water-to-air heat pumps

The new water-cooled heat pumps are half the size and \$1,000 cheaper than air-cooled pumps, cost as little as \$1,750 for a year-round, 2-ton size including well (and less the cost of a chimney which is no longer needed). But they do need a reliable water source, preferably from a well, which limits their use in certain dry areas of the US. However, cheap well water is abundant in such areas as the belt from Long Island down the Atlantic Coast to Florida and in many parts of the Midwest. Thousands of houses being built beyond city water mains where builders must provide individual wells are a natural market. Edward J. Garfield, president of Typhoon's heat-pump subsidiary, reports that water heat pumps are finding a market in such unlikely places as Southern California, where irrigation water is detoured through the units before being fed to crops. On the other hand, makers of the air-to-air systems say their units are usable wherever there is air and predict that as production increases their prices will drop.



Air-conditioned Village will have a wide variety of designs, will include some houses like this. Since each builder must sell his house, he has been made responsible for designs, but NAHB committee had final word. Most houses have wide overhangs, carefully shaded windows to cut sun load, and 4" to 6" of roof insulation.

Construction begins at NAHB's Air-conditioned Village

- ▶ Is air conditioning feasible for builder houses?
- ▶ What are operating costs?
- ▶ What kinds of design and construction are most efficient?
- ▶ What effect does air conditioning have on the health and spirits of people who live with it?

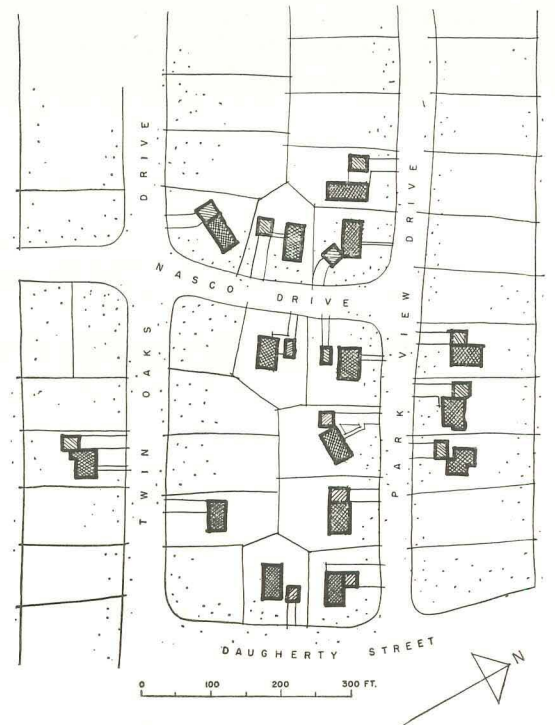
To answer these and other questions about air conditioning, NAHB is breaking ground this month for its Air-conditioned Village at Austin, Tex. Twenty-eight families have bought its 28 houses and agreed to serve as guinea pigs for a series of experiments designed to provide builders with invaluable data. University of Texas researchers will visit the home owners periodically to check on their physical and psychological states.

Houses are to be loaded with thermocouples and recording devices for a year to furnish records of air conditioning in summer, heating in winter. All major air-conditioning firms and more than 50 other manufacturers are participating in the program.

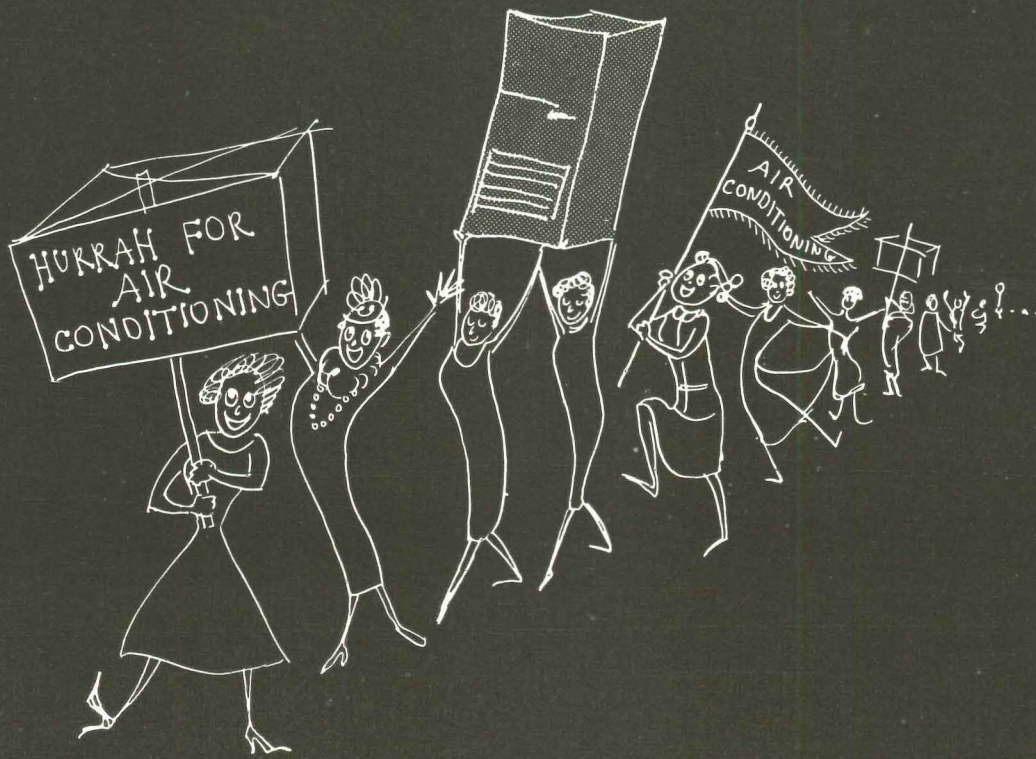
A wide range of houses is involved in the experiment. There will be various roofs and roof coverings; walls will be frame, brick veneer, solid and hollow masonry; different sorts of insulation will be installed, different sorts of windows, glass and an unusually wide variety of shading devices.

But the NAHB Research Institute has specified that all houses will have approximately 1,200 sq. ft., all will have 2-ton air-conditioning units, all will cost about \$12,000 plus land.

One year from the opening of Air-conditioned Village, NAHB will issue a complete report which should settle many points that are now in question.



Lots have frontages of 70' to 100', sell for \$25 a front foot. Since the first group of houses was plotted, others have been added which are not shown here. Adjoining Air-conditioned Village are some \$20,000 houses on one side, some \$10,000 to \$12,000 on the other.



WOMEN ARE ITS GREATEST BOOSTERS

What are the sales arguments for air conditioning . . . and how can they sell your houses?

If air conditioning doesn't sell your houses, don't blame air conditioning. Blame yourself.

Hardly a builder in the country is doing an imaginative job of merchandising this new and still almost unknown blessing which can bring comfort and better living to families in a large part of the country.

From interviewing Texas families, *HOUSE & HOME* editors collected overwhelming evidence that air conditioning makes a strong emotional appeal. When one family after another says, "It's really wonderful!" it is obvious that summer cooling could become a valuable sales feature for new houses.

A year or more ago when builders first began air conditioning their houses they expected air conditioning to work miracles. For some builders the miracle has happened (see p. 128). Others have been disappointed.

The trouble has been that air conditioning is hard to demonstrate and hard to sell to families who have had no experience with it. Many women still associate it with chilly, drafty movie theaters and restaurants. Yet women who have had it in their homes for two summers are its greatest boosters.

What people say about air conditioning . . . and ways for you to merchandise it

"We're a different family"

"Our air conditioning has changed our outlook."

"We're happier all the way around."

"It really changes your summer life."

"We have a feeling of well-being that we never had before."

"We all have better dispositions in a cool house."



... want to go through another summer like last year?

To dramatize cool air:

A builder and his salesmen must live in an air-conditioned house to talk convincingly about it.

Since women have the most prejudices against it, yet stand to benefit the most, bring in as a Saturday and Sunday saleswoman a mother of several children who has had air conditioning for two summers and believes in it. Get quotations from several women and print them in a pamphlet.

If you have a dozen hot prospects who are not quite sold on air conditioning, invite them to an open house some evening to meet families who have lived in your air-conditioned houses. If these "old families" are even half as enthusiastic as the families interviewed by H&H, they will sell your houses.

In a conspicuous place in a demonstration house post a chart showing temperature and humidity inside the air-conditioned house for 24 hours on a hot day and next to it the outside temperature and humidity for the same period. Under the inside chart print: "Portrait of an air-conditioned house. When outside temperature ranged from 87° to 98° on July 13, and humidity climbed to 90%, temperature in this house remained at 73° and humidity at 50%. You can be cool and dry all summer." Arrows should point to humidity and temperature lines.

Post a chart showing highest outside temperature for the past few weeks and highest inside temperature.

To remind visitors of last summer's heat, use a neatly lettered sign: "Want to go through another summer like last year? How did you feel on — (give ten of the hottest days with official temperature). You'll be cool and comfortable in this air-conditioned house."

"We're more comfortable"

"We're drier, and that's half the battle in summer."

"In a moist climate, having a dry house is better in so many ways. Putting on stockings, or make-up, or getting into a girdle—all are easier."

"I kept a humidity record. When it was 85° outside with 90% relative humidity it was very, very uncomfortable outdoors. Yet inside the temperature was 72° with only 50% relative humidity. It was the dryness inside that made us comfortable."



To dramatize dry air

Buy the largest sponge you can find and exhibit it with a sign: "Air conditioning is like 1,000 sponges absorbing water from the air. On a humid summer day, the air conditioner will remove more than 000 gals. (or quarts) of water. You'll stay dry and comfortable."

Fill an appropriate number of quart milk bottles (based on figures from your air-conditioning dealer) with water and use a sign: "This much water is removed from this house every 24 hours in hot, humid weather."

Run the condensate line from the air conditioner out where it can be seen and let it run into an open drain or a sink. Or add glass or plastic transparent tubing to the drain line so water can be seen. Add an appropriate sign.

Put signs in closets: "Your suits and dresses will stay pressed much longer in this dry, air-conditioned closet."

What people say about air conditioning . . . and ways for you to merchandise it

“We eat better”

“I give my children a hot meal every night in summer just as I do in winter. I found kids won’t eat cold vegetables. Now they eat their vegetables every night.”

“I bake all the time now. In the other house I hated to turn on the oven in summer because the kitchen became so hot.”

“My three children are healthier now because they eat so much better.”



. . . kids won’t eat cold vegetables

To dramatize more home-cooked meals

Sign over a kitchen stove: “You’ll enjoy cooking in this cool, air-conditioned kitchen—and your family can have hot meals all summer long.”

Sign on kitchen wall or on a dining table: “Good food means better health for your family. Everyone eats better, feels better in an air-conditioned house.”

“We’re healthier”

“Our daughter used to have one summer cold after another. But none of us has had a cold since we moved here.”

“Air conditioning is wonderful for children. They don’t have colds, croup or heat rash.”

“My boy gets hay fever and when he begins to sneeze outside he runs in for a while. It’s wonderful for him.”

Said a Houston physician who is a child specialist: *“There is no doubt that air conditioning is better for children. Their general health is better and they have fewer specific illnesses, such as colds and heat rash.”*

To dramatize low costs

Use a framed cartoon showing a mother with four children going into a doctor’s office. Caption: “There are fewer visits to doctors among air-conditioned families. Your own physician will tell you that with air conditioning children have less colds, croup, heat rash and other summer complaints.”

Sign: “Do pollen, hay fever, summer allergies bother you? They won’t if you live here. This house is air conditioned.”

Sign: “Last summer in a Midwestern city there were 12,716 pollen grains per cu. yd. in outside air. Inside an air-conditioned house there were only 6 grains per cu. yd. If summer allergies bother you, you’ll find relief with air conditioning.”

Frame a drawing of hundreds of yellow dots inside a square, next to it another square of the same size with only a few dots. (If your area is particularly bad for hay fever or allergy victims, get local figures from your public health authorities.)



. . . when he begins to sneeze

“Operating costs are low”

“We run our machine 24 hours a day and were prepared to pay quite a lot of money. Actually it costs us much less than we’d thought, and we save part of the cost in fewer restaurant bills.”

To dramatize low costs

Get actual costs for similar size units in similar houses and put a sign on the air-conditioning unit: “A house this size can be cooled for only \$00 per month. Mr. and Mrs. of [this address] paid \$00 last August. Mr. paid \$00.” Use examples where families had a separate meter for air conditioning. Get a statement from the utility company on average costs. Operating costs are lower than you think.

What people say about air conditioning . . . and ways for you to merchandise it

"We sleep better"

"In hot weather my husband used to come to breakfast saying he got so little sleep it was a waste of time to go to bed. He's a new man since we've had air conditioning."

"My children go to bed earlier now because I can make the rooms dark. Because their rooms are both dark and quiet, they sleep longer in the morning. I know they are healthier for it."

"You get the dreamiest sleep in an air-conditioned house."

"I've got twice as much energy in summer now as I ever had before."



. . . a waste of time to go to bed

To dramatize the benefits of a good night's sleep

Sign in a child's bedroom: "Your child can get 12 hours of restful sleep in this quiet, darkened bedroom where you control the temperature and moisture. Good sleep means good health."

If a bedroom is furnished put this sign on a pillow: "You'll get the dreamiest sleep of your life *all summer long* in this quiet, air-conditioned room."

Sign on a bedroom wall: "Like to sleep in a cool, dark bedroom? Then this room is for you . . . with perfect ventilation."

Another sign: "Got four in your family? Then each of you can get a good night's sleep for only 6¢ a person (25¢ per night, 25¢ per day)."



"No mildew"

"In our old house we had lots of mildew. Now we don't have any."

To dramatize the mildew problem

Put a pair of badly mildewed shoes (and other mildewed articles) in a closet with a sign: "These mildewed shoes came from a house that is *not* air conditioned. You can forget mildew if you live here because air conditioning keeps the air dry."

"Our house is cleaner and we dust less"

"Spring and fall when I open my windows I can tell immediately that the house gets dustier."

"There is less cleaning to do, and when I clean now I feel more like working."

In one study of 70 families living in air-conditioned houses, 64 said that air conditioning made house cleaning easier.



. . . open windows—dustier house

To dramatize easier housekeeping

Set a filter in a frame with a funnel-shaped collar around one side. Arrange a strong electric fan to blow directly into the funnel. To demonstrate how the filter removes dust toss in a handful of light sand, sawdust or bits of excelsior. You might arrange a large mirror so visitors can see the reverse side of the filter without standing in the breeze of the fan. Sign: "An air-conditioned house is a cleaner house because filters like this remove the dust."

Hang up a pair of very dirty filters with a sign: "Let a filter do your dusting. These filters take out dust, soot, sand, lint and particles. Housekeeping is easier."

Sign in a broom closet: "Keep your brooms and dust mops here, but you'll have less dusting to do . . . this house is cleaner because it's air conditioned."

What people say about air conditioning . . . and ways for you to merchandise it

"It doubles the pleasure of entertaining"

"When we have a party now the men leave on their coats and the women can dress as they want to."

"We do more entertaining because we enjoy it more."

"We have a much better family life."

"The movies and the automobile broke up family life, but TV and air conditioning are bringing families together again."

To dramatize summer entertaining

Frame a color photograph or drawing from a magazine showing home entertaining. Caption: "Everyone enjoys inviting in old friends. For new summer popularity there's nothing like a cool, comfortable house."



. . . oh for a cool, comfortable house

"It's easier to get help"

"When you advertise for a girl now they ask if you have air conditioning."

"My maid does more work now that she's comfortable and she often works later just to keep cool."

"I leave the windows closed all summer"

"I don't worry about rain coming in the windows or about burglars."

"In hot weather the windows are closed and locked whether I'm home or away."

"We save the price of a summer home"

"Now that we have air conditioning we've sold our summer house. We're so comfortable here we stay home all summer."

"There's a psychological advantage"

"I can work three or four hours in my garden on a hot day and I can stand the heat because I know I can go inside and cool off. There's a great psychological advantage in air conditioning."

"It is fine for the kids"

"My three children play out in the morning but come inside as soon as it gets really hot. The whole neighborhood gathers in our den."



The whole neighborhood gathers . . .

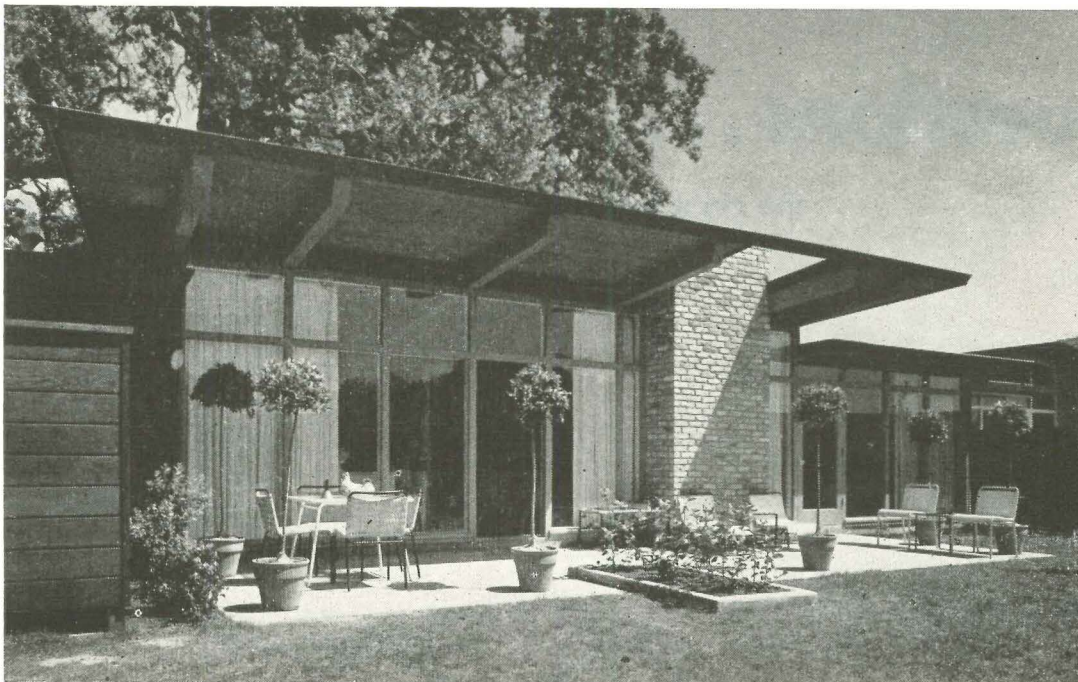
To dramatize all these features . . .

Salesmen should be familiar with these features. Quotes such as those at the left should be included in a give-away pamphlet. Builders should try to get quotes from local families who have used air conditioning. Testimonial advertisements have always been successful.

Set up a special room in the garage or elsewhere where some of the above signs may be used. Display an air-conditioning unit and show by cards how it operates. Display your insulation and describe how your house is warmer in winter as well as cooler in summer. Explain why a house designed for air conditioning with insulation, overhangs, minimum west windows, etc. adds comfort, reduces air-conditioning operating expense.



. . . included in a give-away pamphlet



Roger Sturtevant

How much heat comes in a window?

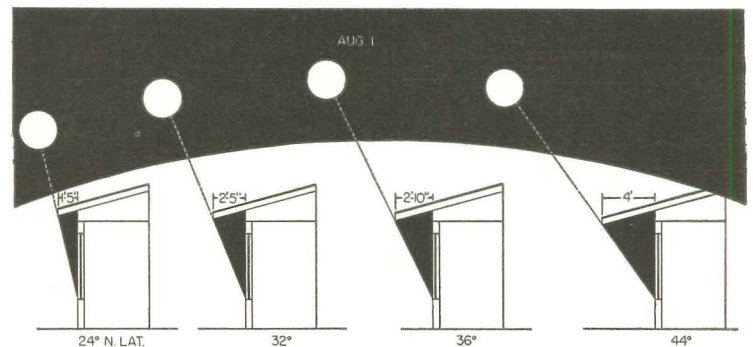
The theory that all the problems of the air-conditioned house are licked if it has no west windows is bunk. Windows in any of your four walls can be a critical source of heat. A new study reveals that:

1. East windows equal west windows as a source of sun heat. The accompanying table shows that exactly as much solar heat pours in through east glass in the morning as comes in west windows in the afternoon. Morning temperatures may be lower than afternoon temperatures but sun heat in the morning coming through unshaded windows can quickly dissipate all the cooling that has been stored up overnight in slab, walls and furniture. Then the compressor has to start up sooner and run longer. When this happens there is no reserve cooling left in the house to help the unit through the hot afternoon. So shading east windows cuts the over-all heat load and reduces operating costs sharply.

2. North windows let in plenty of heat, too. In Corpus Christi and Central Florida an unshaded north window lets in just about as much solar heat as a south window (as shown in the table). This is because the sun rises in the northeast and shines on north windows as long as four and a half hours every morning. About 3 P.M. the sun has come around and hit the north glass again and will continue to hit it for the rest of the afternoon.

3. A northern house needs a wider south overhang. In the South the sun is almost overhead at noon so a narrow overhang will serve to shade south windows. The farther north you go, the wider the overhang you need.

4. Heat-absorbing glass works better than double glass on east and west exposures. Because numerous air-conditioned office buildings are using heat-absorbing glass, builders are asking how effective it is for keeping sun heat out of houses. The table shows that single-pane, heat-absorbing glass consistently lets fewer Btu's through east and west windows than double glass; but in the North double glass would have an edge because it minimizes drafts, cuts heat losses in winter. In the South, however, it may be a good idea to use single heat-absorbing glass, which is cheaper than double glass, for east and west windows.



Shading south glass with an overhang is clearly dependent on latitude. The farther north you are, the wider the overhang you need to shade your south windows fully.

Average 24-hr. cooling load—Btu's per hr. per 100 sq. ft. of glass

	North	East	South	West
1. 28° N. Lat.				
Central Florida, Corpus Christi, Tex.				
Sheet glass	2,040	4,880	2,130	4,880
1/4" heat-absorbing	1,700	3,610	1,760	3,610
Double-glazing	1,490	4,030	1,540	4,030
2. 36° N:				
Nashville, Tulsa				
Sheet glass	1,950	4,950	3,060	4,950
1/4" heat-absorbing	1,630	3,640	2,370	3,640
Double-glazing	1,430	4,090	2,320	4,090
3. 44° N:				
Watertown, N.Y., La Crosse, Wis.				
Sheet glass	1,990	5,140	3,820	5,140
Heat-absorbing	1,650	3,780	2,880	3,780
Double-glazing	1,460	4,280	3,030	4,280

Heat load through unshaded glass varies with latitude and exposure (as shown). Figures include both sun and outside air heat over 24-hour period—most accurate method for computing home cooling load. Table is result of new study by Libbey-Owens-Ford research engineers.

14 crucial questions . . .

the right answers can cut your air-conditioning costs

*Some houses are easy to cool,
so operating costs are low.
Some houses have trouble spots,
so operating costs are high.
The difference between them is planning.
Better planning pays off not only in operating costs
but also permits the use of a smaller cooling unit,
which costs less in the beginning,
costs less to operate
and does a thoroughly satisfactory job.
Here are 14 questions
you can use to test your house:*

1. How can you stop humidity from infiltrating your roof?

Answer: install a ceiling vapor barrier.

It can cut the humidity in air-conditioned houses one-third, reduce first cost for cooling and operating costs 8 to 10%, especially in unusually humid locations. These figures are based on findings in test houses with and without vapor barriers. (How big a part moisture plays is demonstrated by the fact that 134 quarts of water were removed from one 1,800 sq. ft. house in 24 hours.)

How it works: it stops outside air vapor from seeping into the house through the ceiling, which is about ten times more permeable than the walls.

2. Is it O.K. to have ducts in your attic?

Answer: only if they are insulated like refrigerators.

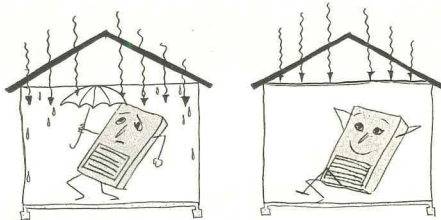
Cool air traveling through poorly insulated or uninsulated attic ducts can pick up so much heat that little cooling reaches the house. In one such case supply air left the conditioner at 60°, but was up to 76° before it reached the last room in the house. In another, despite large gable vents and a white marble-chip roof, attic air was 145°. Many engineers further recommend at least 6" of insulation for ceilings (see H&H, Aug. '53—top priority No. 1).

3. What effect does the age and sex of house occupants have on cooling systems?

Answer: surveys indicate that young people want more cooling. Middle-aged and older people want less cooling. Men usually prefer a 2° cooler house than women.

For the first group you will generally have to count on delivering 75°, for some as low as 68°, temperatures. The older people are likely to prefer 76°-78°. As to the difference between the sexes, a woman who shivers all summer in a 72° house says: "Just right for my husband but, my gracious! too cold for me. I wear a sweater."

Cautionary note: if your customers are likely to want ice-box temperatures, warn them that the lower they set their thermostats, the higher their bills will be.



Ceiling vapor barrier stops the rain of moisture

4. How can you stop moisture from being sucked up from a crawl space?

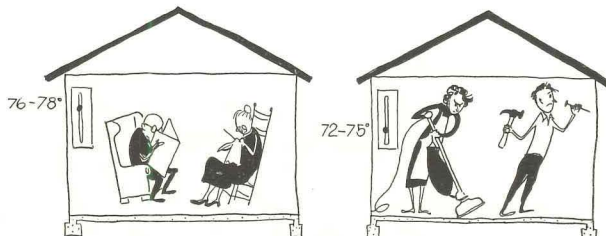
Answer: install 55-lb. roll roofing paper over the ground under the crawl space.

In a crawl-space house, moisture from damp ground or from normally dry ground which has been dampened by a lawn sprinkler is sucked up into the house, overburdens the cooling system and makes the house uncomfortable.

5. Will a given cooling system work equally well on any lot?

Answer: no. For "hot" lots you will need bigger units or extra shading devices.

Veteran Engineer Bill Nessell who studies air-conditioned houses all over the US says: "We see projects where a builder lays out a cooling system for one house and repeats it in all his houses without regard for orientation. But when big windows face east or west, the system is unable to handle the extra load they impose."



Air conditioning vs. age and sex

6. Is the biggest unit automatically the best unit to use?

Answer: no, quite the contrary.

Too big a unit quickly lowers the temperature, then shuts off. Humidity builds up during the off periods, and on-off cycling all day builds up costs. In effect an oversize unit goes to sleep on the job. Too small a unit draws peak power around the clock, even on mild days, and will also run up costs.

Solution: each house demands an individual heat-load calculation which can only be made satisfactorily by an experienced residential air-conditioning engineer.

7. Do you need fresh-air ducts?

Answer: almost certainly not in a medium-sized house which has an exhaust fan.

After two summers field-testing air-conditioned houses, engineers of the National Warm Air Heating & Air-Conditioning Assn. report: "In no case did an owner complain of odors or stale air." Most houses checked had no air ducts for taking in fresh air, did have kitchen exhaust fans.

Tentative conclusion: enough air infiltrates houses to keep them fresh—especially with an exhaust fan.

Cautionary note: the kitchen exhaust fan should be directly over the cooking surface in order to remove odors at their source.

8. How much can you count on slab construction to lighten the cooling load?

Answer: about 10% vs. crawl space or basement.

New cooling tests by the University of Illinois confirm earlier reports that the heavy slab mass stores up appreciable cooling overnight, releases it to the house the next day.

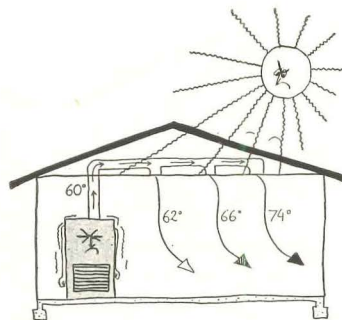
Note: during the test researchers checked for condensation on slab floors. They found none so concluded it was no problem, at least in the North.

9. How can you avoid trouble with your ducts?

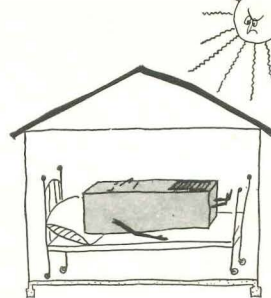
Answer: have them 1) large enough, 2) insulated right.

Be sure your ducts are big enough to begin with (larger than for heating alone) because once they are sealed in the walls, you can do nothing to correct the condition but tear the house apart.

Where cool ducts pass through warm space it is crucial to insulate them so moisture will not form on them, nor will they lose their cooling. Ducts running up an outside wall can lose practically all their cooling to the wall cavity. Ducts running through any uninsulated space, like a utility room, lose cooling if they are not insulated.



Beware of cool ducts in a hot attic



Too big a unit goes to sleep on the job

10. What is the biggest source of heat inside the house?

Answer: the clothes drier.

Try to move it into the garage or utility room. But if you cannot move it, vent it directly to the outdoors, even if it is in the basement (H&H, Aug. '52, p. 109).

Kitchen heat is normally not a problem with a proper fan installation over the stove. Refrigerators and other appliances do not cook up enough heat to warrant extra vents.

11. How can you reduce maintenance and service bills?

Answer: give your buyers simple instructions on how to clean and change filters. Teach them how to drain a cooling tower in the fall and turn it on in the spring.

There is no mystery to air conditioning.

12. How can a builder get higher valuations for cooling from FHA-VA?

Answer: work out operating and maintenance costs with the greatest possible care.

Be sure they are complete and accurate. Never go alone to FHA-VA and try to explain something new you do not understand. Take an experienced engineer with you and let him do the talking.

13. How can use of the "24-hour theory" save money?

Answer: don't turn the unit off at night.

If engineers calculate cooling loads on the basis of 24-hour operation they can specify a smaller unit, which obviously costs less. If a cooling unit runs through the night it stores up cooling in the slab, walls, furniture, etc. The next day this stored-up cooling is slowly released to help the compressor cool the house. Cold can be stored up in a house just as heat can.

14. What can be learned from electrical bills?

Answer: plenty.

Doubting Thomases among builders who are skeptical of engineers' slide-rule calculations on how much heat comes through windows, roofs and elsewhere should do some first-hand investigating of electrical bills for air conditioning. For electrical bills confirm the theories and priorities given by H&H (Aug. '53) in an article that should be read again by all builders who are about to use air conditioning.

Prediction: one of the next major design trends in air-conditioned houses will be the addition of shading devices outside the house. For the easiest, cheapest way to stop sun heat from getting into a house is to cast shade on east and west windows. Exterior shading devices are getting a great play at NAHB's Air-conditioned Village (p. 119) and are certain to cut electrical cooling bills.

Can air conditioning sell houses?

These builders say

yes!

Dick Hughes, *Pampa, Tex.; president, NAHB*

NAHB President Hughes is well-known as the staunchest backer of air conditioning among builders. This year he is bringing out a new line of houses (H&H, Feb. '53) and will offer air conditioning as optional equipment in all of them. One of his subsidiary firms sells air conditioning. He hopes soon to include air conditioning as standard equipment in houses even under \$10,000.

Jesse Johnson, *Ft. Lauderdale*

"Air conditioning is the strongest appeal attracting prospects to our \$13,784 houses. Air conditioning was the sink-or-swim factor on which we built our sales program." Under construction: 100 houses; 60 sold.

Lloyd Fuller, *Tucson*

"Tales they had heard about operating costs made people cautious about air conditioning, but it proved a definite sales help. We feature it in our lowest-priced \$8,950 homes and find it a tremendous boost. It is a definite must at \$15,000 and up. We are not building any homes without it and FHA and VA give us 100% allowance for its cost."

Harold Sarshik, *20th Century Construction Co., Haddonfield, N.J.*

"Air conditioning is definitely a sales feature. We built 85 houses at \$15,500 to \$17,500 with air conditioning and sold every one. But no one will buy air conditioning alone. The house and neighborhood must be good. This year we plan to do 250 and air condition all of them, including some at \$13,500."

Kemmons Wilson, *Memphis*

"We opened four air-conditioned models at around \$17,000 in December and sold 11 houses the first day, four the next. As a sales feature there is no place we could have spent \$1,100 (cost of air conditioning over heating) which would have done us as much good."

Charles R. Byrd, *Birmingham*

"Buyers in the medium-price range are willing to forego other improvements to get air conditioning. Most prefer it to a fireplace. Air conditioning has tremendous sales appeal, especially at \$20,000 or over, and is well worth the extra cost."

James D'Agostino, *Teaneck, N.J.*

"In my \$30,000 price everyone wants the latest ideas and they want air conditioning. Of my last 28 houses, I sold 27 with air conditioning. It is a great sales builder on a hot day. When folks walk into an air-conditioned house it hits them like a ton of bricks."

Etheridge & Vanneman, Inc., *Atlanta*

"In this territory air conditioning is a very definite stimulant to sales in all price classes. Money expended for air conditioning could not have been used to better advantage for any other facilities in the house. We are now planning a house to sell for \$7,990 with complete air conditioning." Their last year's air-conditioned houses sold for \$16,790.

Orlin Edwards, *Chattanooga*

"Buyers want air-conditioned homes. How much extra they will pay is still a question. But people found ways to buy automatic heating and they will not be satisfied until their homes are cooled also. We install air conditioning in every home we build at \$16,000 to \$24,000.

Elbert L. Fausett, *Little Rock*

"Air conditioning proved a boon in our trade area. Sales are far in advance of construction." His price, \$11,000 to \$17,000.

Truitt Peachy, *Houston*

"People are going to buy window units sooner or later in our \$20,000 and up houses so why not give them central air conditioning right now?" All but two of the first group of 26 houses (by several different builders) in his project are air conditioned.

These builders say

no!

Frank Vellanti, *Florida Sundeck Homes, Homestead*

"In spite of our sales-promotion program, the results of air conditioning were negligible in our \$5,580 to \$8,100 houses. As a matter of fact it hurt us. Air conditioning is perhaps an aid to more expensive homes but in low-priced homes the results were zero."

George Halraven, *Houston*

"As an attraction, air conditioning is all right, but it's no roaring success. It is a necessity in houses over \$20,000 but I tried it at \$13,850 and it is strictly a luxury there."

Miles Strickland, *Houston*

"I'm not going to pioneer. I've tried to do a good job of squeezing three bedrooms and two full baths into a \$13,500 house. I get 100% GI financing. Why should I add air conditioning and change the arrangements?"

L. W. Prokop, *president, Houston Homebuilders*

"People want space in a house and at a price under \$15,000 you cannot provide both space and air conditioning." He has put air conditioning in houses over \$40,000 and in two at \$13,000 and \$15,300, but will not air condition his new group at \$11,000 to \$12,000.

P. H. Wolf, *Houston*

"I'm a great believer in air conditioning. In houses at \$25,000 and up you have to put it in, but under \$20,000 it's different because sales there are strictly a matter of down payment and monthly payments."

These builders say *if...*

J. S. Norman Jr., *Houston*

"Air conditioning could help sell small houses but it is not doing so today. People are interested only in buying financing. The terms they get make more difference than air conditioning." But the Norman firm will put summer cooling in about 50 of its 150 to 200 houses at \$15,000 to \$16,000 this year, and will fully prepare the rest for air conditioning. A Norman subsidiary will take on an air-conditioning dealership.

Strauss Bros., *Lincoln, Neb.*

"In our \$12,500 to \$15,000 price, air conditioning was taken by 25% of buyers. We think it is worth the extra cost of \$799 for 2-tons and \$925 for 3-tons installed. Some buyers like the fact that air conditioning can be added later."

Albert Kaufman, *Elmhurst, Ill.*

"It helps sales in summer but not in winter. I would call air conditioning a partial success in our range of \$18,900 to \$22,500."

James R. Price, *pres., National Homes, Lafayette, Ind.*

National Homes offers air conditioning for \$500 to \$600 extra (H&H, Nov. '53). Although the idea was new for its dealers, and winter is a poor season to sell air conditioning, Price reports that 6% of houses sold for delivery the first quarter this year will have air conditioning.

Joseph O. Shaffer, *Jacksonville*

"In the \$20,000 to \$25,000 class where we build, we believe homes must be air conditioned. But we doubt the advisability of the extra cost below this price. Air conditioning has not been an outstanding success principally because of lack of public education. Low running costs have not been stressed in advertising. We are planning a local home show built entirely around air conditioning, where each firm can show the public what units look like and cost."

Lou Barba, *Summit, N.J.*

"The time to start selling air conditioning is May. In the winter, July and August seem a long way off." Last summer Barba sold air conditioning in his \$19,800 contemporary houses that outsold conventional designs in his area about four to one. But he found air conditioning was not a sales feature in winter, so he switched to an equivalent amount of appliances.

T. E. Braswell, *Houston*

"Sales have been good but I want to keep them good, so I added air conditioning. But I didn't open until September and I can't tell yet how air conditioning will go. I've sold four of the seven built or under construction." He has an \$11,700 house with 2-tons of air conditioning, the lowest priced air-conditioned house in town.

Baldwin Hvass, *Greenwich, Conn.*

"It does and it doesn't. I put air conditioning in 25 houses at \$25,000 to \$35,000 last year and sold every one. I know that at \$30,000 or more air conditioning does sell some people. In extremely hot weather it definitely helps. But under \$30,000 people shop around a lot and while they like it, many feel they can't afford it."

What does this add up to ?

Houses over \$20,000:

1. Most builders agree that air conditioning helps to sell houses over \$20,000 in hot climates.
2. In cooler areas there have been some successful projects, but cooling is selling far slower than in the South.

Houses under \$20,000:

1. Builders do not agree on the exact price where air conditioning becomes a help to sales. Some of the most pessimistic builders are in Houston, some of the most optimistic are in the North. But there is plenty of proof that when air conditioning is put in a well-designed house and merchandised it becomes a sales feature.
2. Air conditioning by itself will not sell a poor house in a poor location. Like a good kitchen, it helps to sell a good house that is priced right.
3. Last summer air-conditioning sales in new houses under \$20,000 were seriously hampered by two factors: mortgage money and FHA-VA. Many builders who had hoped to try air conditioning had so much trouble getting mortgage money that they did not want to do anything to disturb their financing pattern. FHA and VA in many areas penalized families who wanted air-conditioned houses by insisting they have considerably higher incomes to pay for allegedly high operating costs.

*Here is how the editors of FORTUNE,
America's No. 1 business magazine,
appraise the progress, the prospects and
the market for homebuilding.*

Their advice: *build better houses.*

*The public can afford them,
and the public will pay higher prices
for better values.*

FORTUNE reports on: **The changing market**

—by Gilbert Burck and Sanford S. Parker

James Mason



for housing

The revolution in housing is going on right now, and these are the changes that have produced it:

Queues like this one (waiting to get into a house in the Lakewood subdivision in Los Angeles) form wherever houses are displayed, prove over and over that people want to own houses. Cross country they spend week ends house-hunting.

Housing is the only one of the nation's four largest markets (the others are food, clothing and autos) that today has strong potentialities for growing *faster than the economy as a whole*. Housing is now close to a \$20-billion market already larger than the auto market, and promises to become larger still. House-building is bound to play a portentous role in keeping the whole American economy prosperous, because new houses mean new furniture, new appliances, new stores, new highways, new schools.

Probably no American industry has had more heads shaken over it than the housing industry.

Only seven years ago housing was being described (by FORTUNE, among others) as the industry that capitalism forgot. For the past four or five years many economists have been predicting an early slump in housing. Only a few weeks ago Colin Clark, the noted British worrier, was lamenting that housing provided no hope for America's faltering 1954 economy because housing costs are too high. But the fact is that the housing market—barring war or depression—now holds promise of providing the great US "growth situation" of the fifties and the sixties.

▶ **People need a lot of housing.** Households are increasing at an unexpectedly high rate. The average age of the country's housing stock is 25% higher than it was in 1930. It would take perhaps ten million new units to restore the 1930 age house distribution.

▶ **People can afford a lot of housing.** Cash income per family unit (1953 dollars) has risen 40% since 1929, but the value per occupied housing unit has fallen 15%.

▶ **Better houses are costing less.** The major obstacle to replacing substandard houses was high costs. Today, however, leading builders are using mass-production principles to offset the high cost of everything that goes into a house, and are reducing both costs and prices. Many boast plausibly that a house today is a better buy compared to a 1946 house than a 1954 car is compared to a 1946 car. Certainly the day is close at hand when almost anybody with a job can afford to own a house.

▶ **Financing, underwritten by the federal government, is easy and cheap, and Eisenhower Administration policy is to keep it that way.** One little-known but very important example of how the government has helped: during the war, to get emergency housing erected, FHA committed itself to guaranteeing mortgages before the houses were built. This practice has been extended, and enables builders to put up five times as many houses with the same capital as they did before the war.

▶ **People want to own houses.** Because houses are becoming so attractive, people are bestowing on them something of the pride and interest they have long lavished on autos. A house is not only *Home, Sweet Home*, it is something to look at, read about, talk about, fix up, improve and even to stay in. Just as popular desires and aspirations in the twenties centered around the auto, so American desires and aspirations now seem oriented back to the home, or at any rate popular aspirations are sufficiently expanded to embrace a house as well as a car. Home ownership is becoming a kind of mass movement that almost surely will accelerate greatly the development of the market.

People can afford to buy far better homes than they have been buying since the war

Instead of estimating an arbitrary "need," suppose we now try to analyze the demand by comparing what has happened to the home-buying power of various income groups since 1929 with the value and age of the houses they can buy. The charts (left) show the result. They show that the nation's standard of housing has failed by an astonishing margin to keep pace with the nation's ability to pay for better homes.

The number of family units with more than \$7,500 disposable income (1953 dollars) has more than doubled since 1929—from two million to 5,300,000; but the number of houses worth more than \$22,500 has *decreased* from 2,200,000 to 1,800,000. In other words, what was once a modest surplus of higher-priced houses has turned into a large deficit.

If the housing industry had been anywhere near as successful as the auto industry in getting its "share" of middle and upper income purchasing power, the US might have, instead of its 1,800,000 houses worth more than \$22,500, nearly eight million of them.

The number of family units with \$4,000 to \$7,500 disposable cash income (1953 dollars) has increased more than threefold—from 5,400,000 to nearly 18 million. How much did a family in this income bracket pay for a house in the twenties? Up to three times its income, or in other words, from \$12,000 to \$22,500.

But since 1929 the number of housing units worth \$12,000 to \$22,500 (in 1953 dollars) has increased by only about 30%—from 4,800,000 to 6,300,000.

To put it another way, some 11 million families in the middle brackets are living below what might be called their 1929 standard of housing.

The number of family units with \$2,000 to \$4,000 disposable cash income (1953 dollars) has increased only from 13,100,000 to 16,200,000, and the number of housing units worth \$6,000 to \$12,000 has increased much more proportionately—from 8,400,000 to 13,800,000.

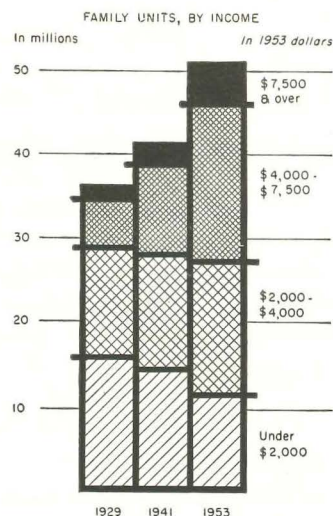
The number of family units with \$2,000 or less in disposable cash income (1953 dollars) declined from 16 million in 1929 to 11,500,000 in 1953. But the number of housing units worth \$6,000 or less *increased* from 14,500,000 to 24,200,000. This suggests that millions of family units with *more* than \$2,000 a year in disposable cash income (1953 dollars) are living below their "standard" of housing (and perhaps above their "standard" in television and cars). Moreover, the bulk of these 24,200,000 housing units are more than 30 years old, and although a lot have been remodeled, probably a quarter of them are substandard.

In other words, during all this housing boom Americans have been spending relatively far less for housing than in 1929. They have been buying more cheap houses and fewer better houses.

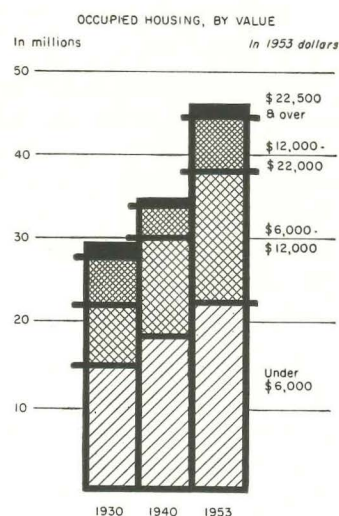
How account for this phenomenon? For one thing, it reflects the underbuilding during depression and war. For another, most houses built since the war, thanks in part to FHA's emphasis on low-cost housing, were relatively low priced (see chart opposite).

Finally, housing seems an excellent example of what economists call a price-elastic commodity: when its price rises more than the general price level, people end up by spending less on it.

Between 1929 and 1947, according to imperfect indexes available, the cost of homebuilding rose more than half again as much as the general price level. People responded, apparently, by spending a smaller proportion of their income on it.



There are a lot more prosperous families and a lot less low-income families than in 1929, but . . .



There are few better houses available—and a lot of cheaper houses!

America needs 1,250,000 new nonfarm homes a year

The need for housing is still much greater than anyone thought it would be.

Part of the need is the fundamental, almost irreducible need based on the net increase in households each year, plus an allowance for destruction and vacancies. This is what the economy must have merely to maintain the present ratio of housing stock to population.

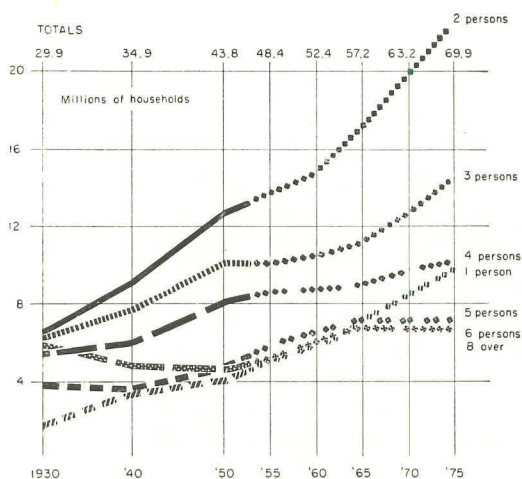
This basic demand, created mainly by household formation, is staying unexpectedly high. The wartime and postwar marriage boom is not tapering off as much as once appeared likely and single people are setting up more households than was expected. Thus household formation is not likely to fall below 800,000 in 1955-59. It will rise steeply again after 1960, when the baby crop of the forties begins to reach marrying age.

To this 800,000 units of basic demand, there must be added perhaps 300,000 to make up for demolition and maintain a reasonable vacancy rate as the housing supply increases. So 1,100,000 housing units* are needed just to satisfy minimum requirements in the years 1955-59.

The second need is for units to raise the standard of housing as high as the over-all living standard has risen, and to keep it rising at about the same rate. It is called the replacement need, because it involves scrapping old houses.

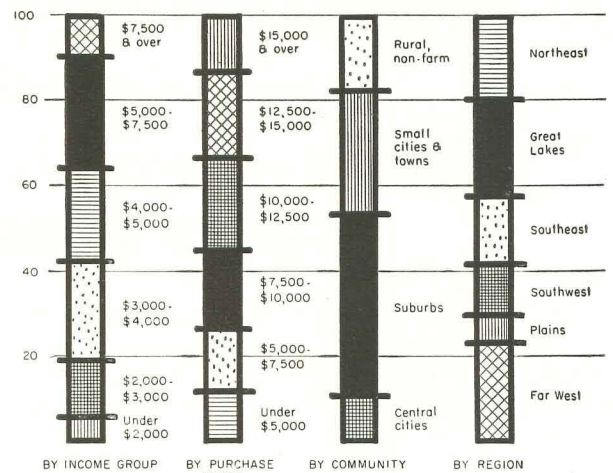
Estimates of the replacement need usually depend on who is doing the estimating. In 1950 the HHFA figured that 6,300,000 units of the nonfarm home supply were substandard, and that 7,700,000 would be so by 1960; to wipe out this substandard housing in, say, ten years, would require about 700,000 units a year (in addition to the 1,100,000 needed to satisfy basic demand). Other estimates have assumed that the housing stock—now 44 million nonfarm units—should be replaced or rebuilt every hundred years, which would mean a replacement-market potential of nearly 450,000 housing units a year.

* This estimate includes 100,000 farmhouses and 200,000 net conversions, mostly big single units cut up into smaller units; thus the minimum need is for some 800,000 new units of nonfarm housing.



More but smaller households . . . the number of five-or-more-person families is expanding right now and creating a new demand for larger new houses. Yet the average size of the household is shrinking. Why? Because the number of one- and two-person households is rising steeply. More widows and newlyweds are living by themselves.

PERCENT OF POSTWAR HOUSES (ONE-FAMILY, NON-FARM)



The postwar housing boom . . . was disproportionately 1) middle-class, 2) suburban, 3) West and Southwest. Families with \$3,000 to \$7,500 a year bought 81% of the total; 76% cost \$5,000 to \$15,000 (all in 1953 dollars); 43% were built in the metropolitan suburbs and 29% in small cities and towns; and nearly a quarter were built in the fast-growing West, which has only 13% of the nation's population.

People will spend more for houses if they are offered better values

To keep the ever normal housing boom going strong, the industry must probably reduce costs and prices. This, however, does not mean that its gross must decline. Just as people spend less on a durable whose price increases inordinately, so they tend to spend more on durables whose prices decline encouragingly. So possibly the industry can achieve a high dollar volume by making both new and remodeled houses so attractive, physically and financially, that people who can afford to pay more will be willing and even eager to spend more.

Can the industry improve its product that much?

The forces of progress. The widely used indexes of housing costs are inadequate, for they are based, not on the cost of the finished house, but just on the cost of labor and materials going into it. They make no allowance for the skill and productivity of the builders. Actually, the forces of productivity are overcoming the forces of stagnation.

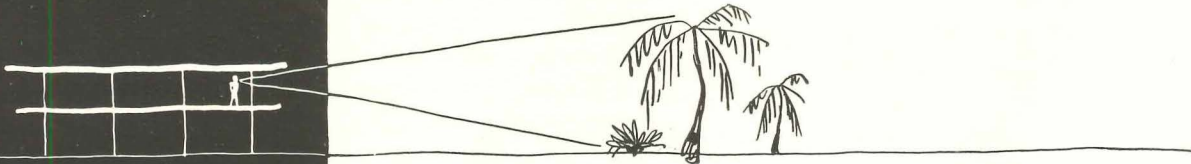
The industry has begun to give more for less, and competition will force it to give still more for less. Even the casual observer can see some of the evidence of recent progress—the ingenious utilization of space, the simplification of design, the integration of house and land, the use of fabricated components. But a closer look at technique reveals a long list of advances that add up to something close to a revolution.

Factories in the field. So far it is the mass builders who are making the spectacular advances in cutting costs and giving more for the money.

This is roughly verified in a book called *Housebuilding in Transition*, by Sherman J. Maisel, associate professor of business administration at the University of California. Mr. Maisel estimates the cost of constructing a 1,000 sq. ft. house by a small builder (one to twenty-five units), by a medium-sized one (twenty-five to ninety-nine), and by a large one (100 units and more). Before overhead and profit, he figures the house would cost the small builder \$8,759, the medium-sized builder \$7,916, and

continued on p. 193

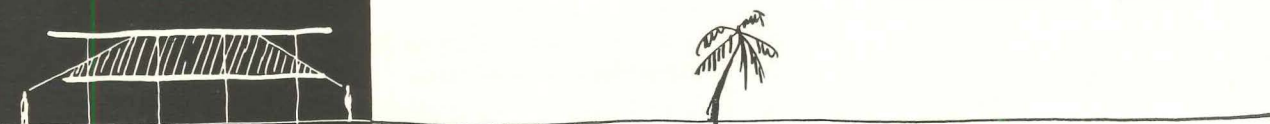
Because this glassy house is raised up on stilts . . .



. . . it gets a much better view



. . . it catches much more of the breeze



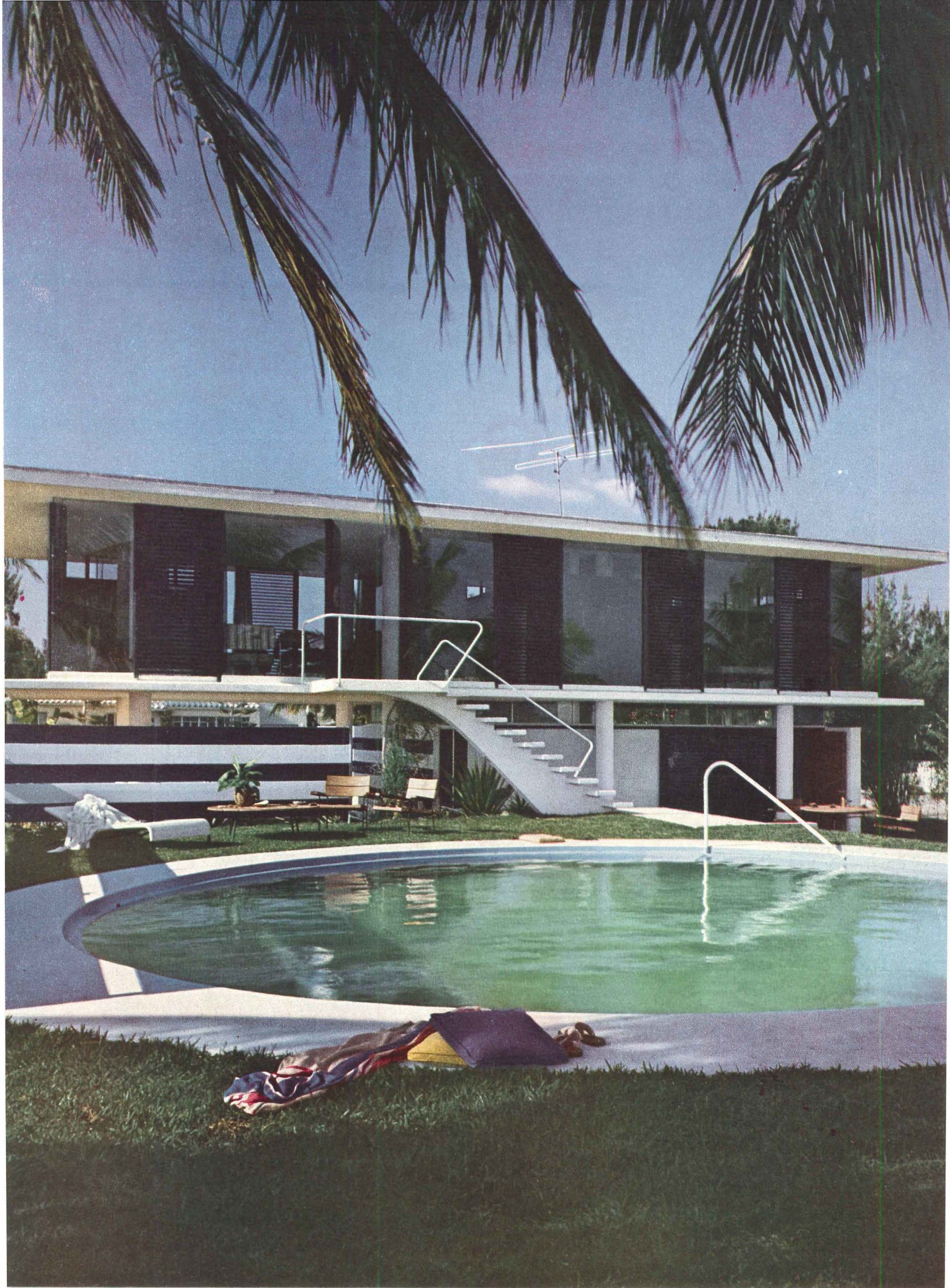
. . . and it still retains a lot of privacy, despite the glass

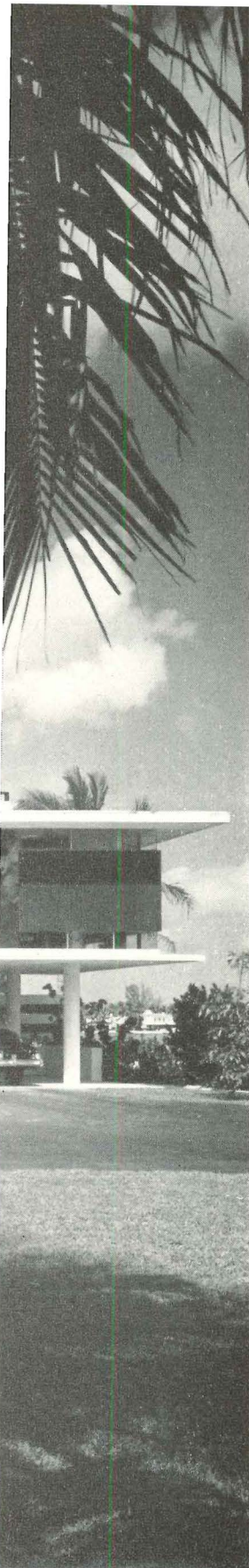
The sketches on this page suggest three excellent reasons for raising houses up on stilts—and, especially, wide-open, glassy houses. The reasons: you get a much better view than you would from the ground; you get much more of the breeze than you would down below; and you get a great deal of privacy even though your house may be as transparent as a goldfish bowl.

These reasons make a great deal of sense in almost any kind of climate. In southern Florida they make particularly good sense. Architect Rufus Nims, who designed this spectacular house on stilts in a setting of palm trees near Miami, knows about as much about Florida living as anyone. And he is convinced that a stilt solution is almost unbeatable for a subtropical climate.

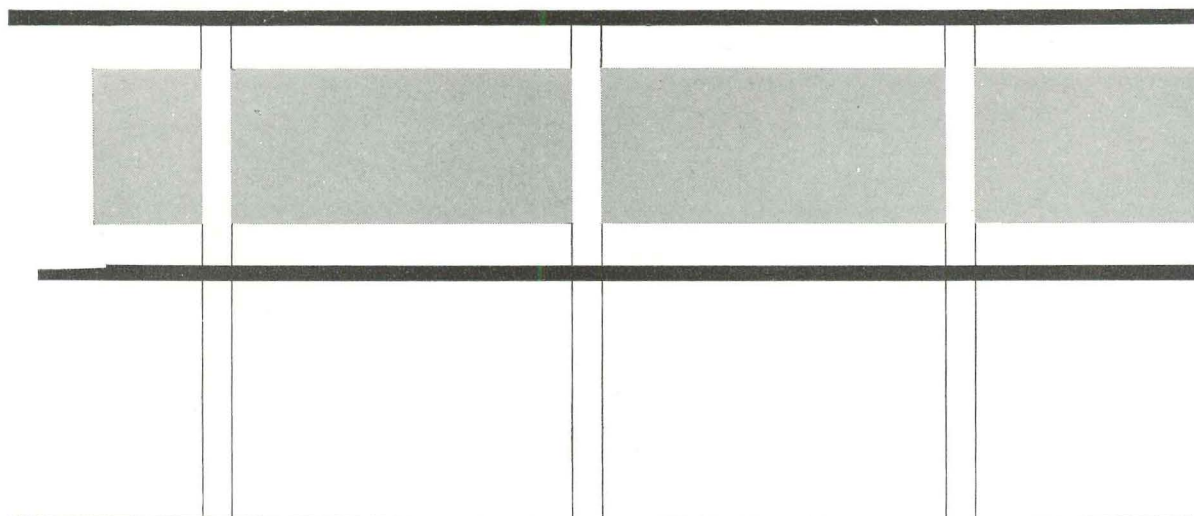
He is not alone in this: South Pacific islanders and others have, for centuries, raised their houses up on stilts to catch more of the constant breeze (which is still the best air-conditioning medium available). Architect Nims has learned a few other tricks from them: for example, his roof overhangs are deep enough to provide excellent shelter against sun, sky glare and torrential rains; and his structure is sufficiently open to survive almost any hurricane. For details of these and other ideas, please turn the page.

LOCATION:
Hibiscus Island, Miami Beach, Fla.
RUFUS NIMS & WILLIAM JAMESON,
architects
NORMAN J. DIGNUM,
structural engineer
This house was first seen
by consumers in *House & Garden*.





DIAGRAMMATIC SECTION SUGGESTING
SEPARATION OF CONCRETE STRUCTURE
FROM NON-STRUCTURE



Because the frame is reinforced concrete . . .

. . . slabs are easily cantilevered out all around the house

Result: plenty of protection from sun, glare and rain

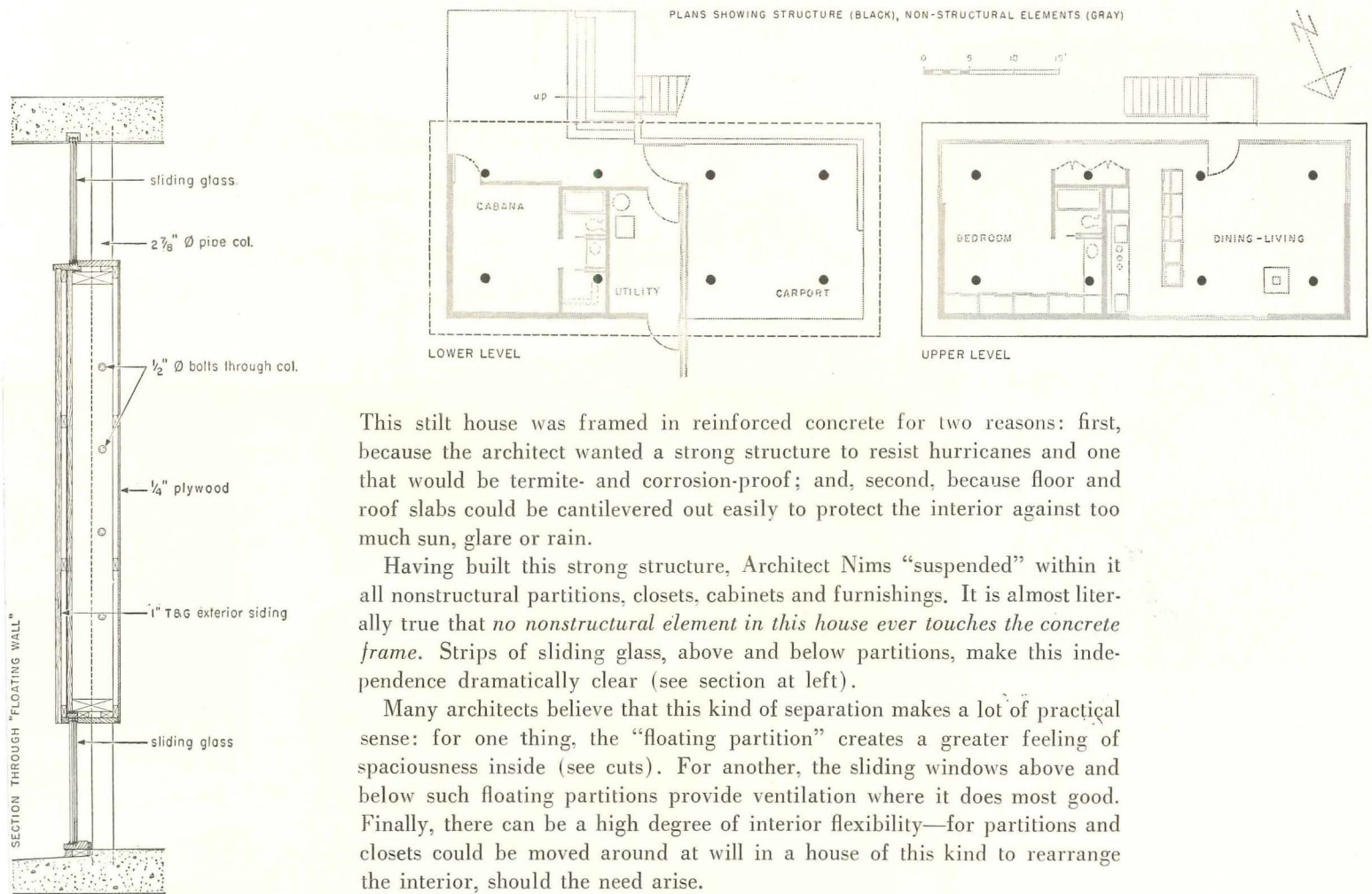
"Floating walls" seemingly supported on strips of glass increase the sense of spaciousness inside. For similar reasons, Architect Nims raised up all his furniture, reduced visual obstruction of floor area to minimum. Glass strips above and below partitions slide open, provide additional ventilation where it does most good.





... partitions and closets can "float" independently between floor and roof

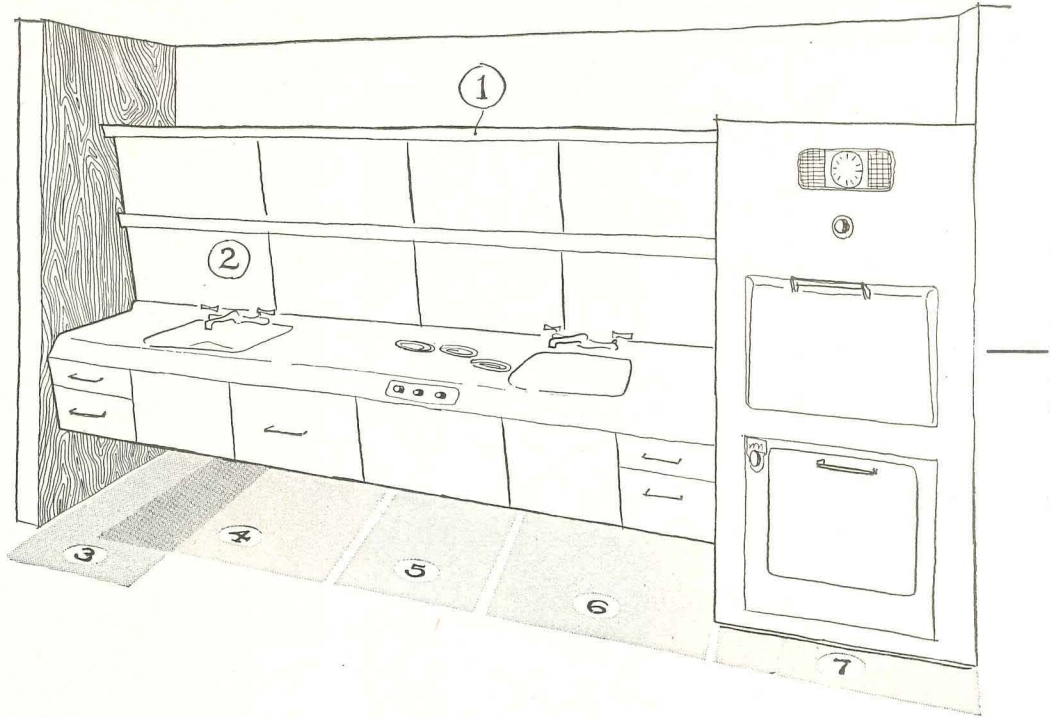
Result: a sense of airy spaciousness inside



This stilt house was framed in reinforced concrete for two reasons: first, because the architect wanted a strong structure to resist hurricanes and one that would be termite- and corrosion-proof; and, second, because floor and roof slabs could be cantilevered out easily to protect the interior against too much sun, glare or rain.

Having built this strong structure, Architect Nims "suspended" within it all nonstructural partitions, closets, cabinets and furnishings. It is almost literally true that *no nonstructural element in this house ever touches the concrete frame*. Strips of sliding glass, above and below partitions, make this independence dramatically clear (see section at left).

Many architects believe that this kind of separation makes a lot of practical sense: for one thing, the "floating partition" creates a greater feeling of spaciousness inside (see cuts). For another, the sliding windows above and below such floating partitions provide ventilation where it does most good. Finally, there can be a high degree of interior flexibility—for partitions and closets could be moved around at will in a house of this kind to rearrange the interior, should the need arise.



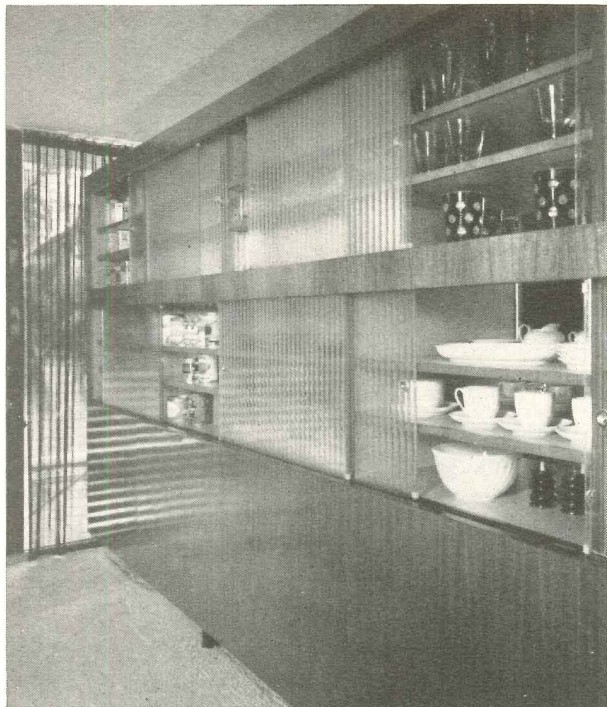
... and because the kitchen has been restudied from scratch

**... it challenges accepted practice
by combining horizontal wall refrigerator,
eye-level oven, twin sinks
in one prefabricated work cabinet**

Architect Nims has taken the kitchen out of the kitchen and put it into the living room. To make it look as if it belonged there, he has designed it in two prefabricated units that look like handsome pieces of furniture:

One is the work wall (above). The most revolutionary idea here is the counter-level, cork-lined, 7 cu. ft. wall refrigerator behind silver-surfaced doors. (Its cold loss, according to Nims, is "not excessive.") Other components are a wall oven with shoulder-high controls; continuous, shadowless strip lighting; separate sinks for food preparation (shallow) and for pot cleaning (deep); and a ceramic tile counter with a 3/16"-high lip to prevent water from splashing onto the floor. (Because the owners don't go in for serious housekeeping, the shaggy, white and washable rug is not out of place. It is made in two pieces, for easier laundering.) Joints between tiles are very tight to keep cement from getting greasy with use.

The other piece of furniture is a storage wall (left): this one separates kitchen from dining area, contains two-way access shelves with sliding glass doors and a built-in drop-leaf table on the dining side. Nims has worked on kitchens for Howard Johnson, used this special design to test his most advanced unit-prefabrication ideas. To build this kitchen he had to buy and de-gut standard appliances. He hopes to manufacture prefab kitchens in time.



Two-part kitchen consists of free-standing storage wall (above), built-in work wall (right). Architect Nims used ceramic tile for lavatory counters as well.



1. Strip lighting for shelves and counter. Casts no shadows.

2. Horizontal refrigeration with sliding doors, two removable racks of adjustable, shallow shelves. Thus everything is within sight and reach.

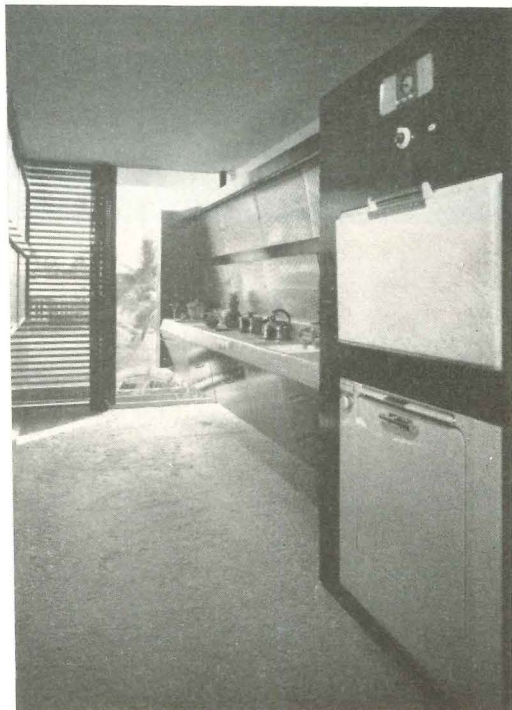
3. Hard and soft drinks stored at kitchen end. Access does not interfere with kitchen activities.

4. Food preparation with own sink, refrigeration and storage above, garbage bin under sink.

5. Cooking area with deep, usable counter space in front of burners.

6. Clean-up area with special deep sink. Result: pots and pans disappear from sight.

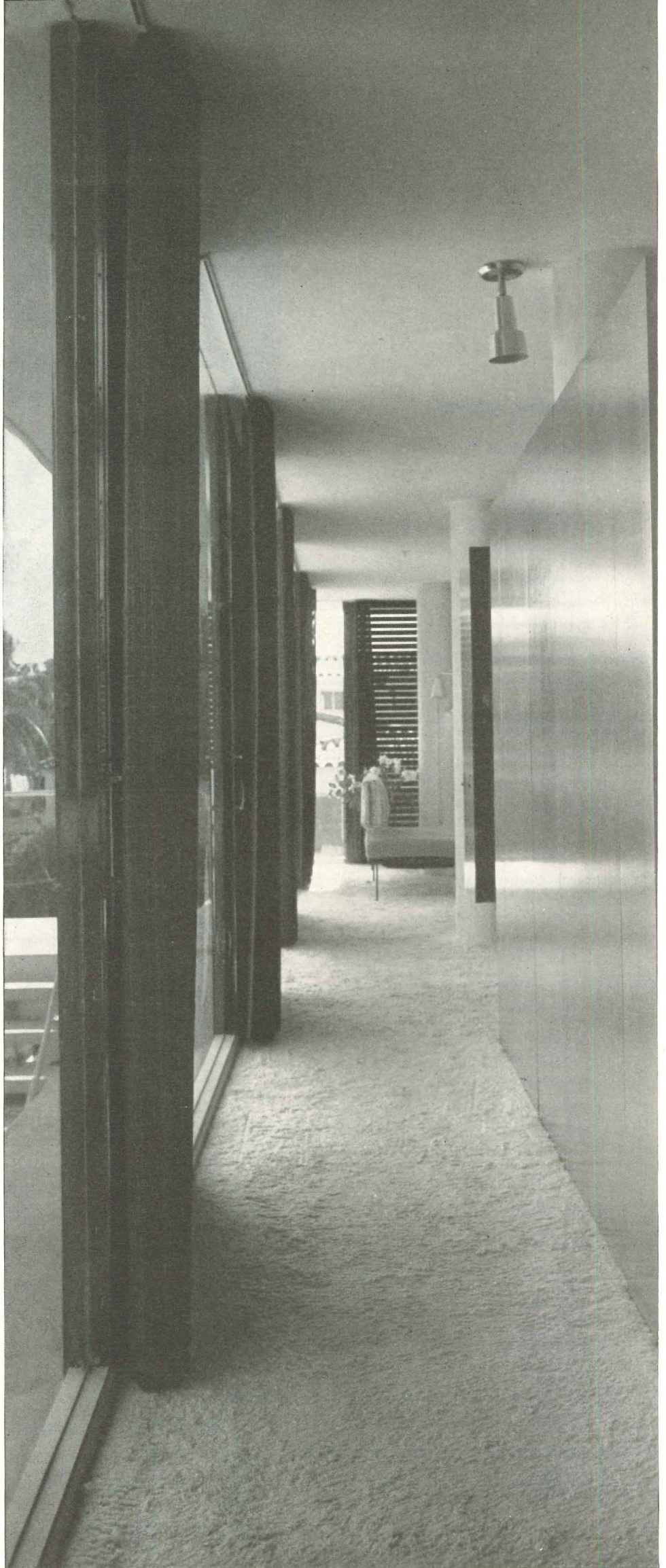
7. Utility area with eye-level oven, storage above, built-in dishwasher below.



Utility unit shown in foreground (above) contains oven with shoulder-high controls, dishwasher below.

Glare control is handled two ways: deep green plastic screening, green жалousies and green curtains all help to cut down brightness; and ribbon windows above and below partitions help illuminate ceilings and floors evenly, reduce contrast between brightness of indoor surfaces and the principal sources of glare outside—sky and water.

Interior photographs and photographs on this page
1952, The Condé Nast Publications Inc.
photos: © Ezra Stoller



Round Table panel

FOR THE AMERICAN INSTITUTE OF ARCHITECTS

Morgan Yost
chairman
Committee on Home Building Industry

Charles Goodman
Washington, D.C., committee member

John N. Highland Jr.
Buffalo, committee member

George Riddle
Glendale, Calif., committee member
former chief architect of Los Angeles FHA office

Donald Honn
Tulsa

FOR THE AMERICAN INSTITUTE OF REAL ESTATE APPRAISERS

Watson Bowes
president

FOR THE LIFE INSURANCE ASSOCIATION OF AMERICA AND THE AMERICAN LIFE CONVENTION

Milford Viesser
chairman
Joint Committee on Housing and Mortgage Lending
vice president, Mutual Benefit Life Insurance Co.

John Jewett
vice president, Prudential Insurance Co.

Charles Van Anden
vice president, New York Life Insurance Co.

FOR THE MORTGAGE BANKERS ASSOCIATION

John D. Yates
chairman, FHA Committee
vice president, Stockton, Whatley, Davin & Co.

John F. Austin Jr.
president, T. J. Bettes Co.

FOR THE NATIONAL ASSOCIATION OF HOME BUILDERS

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president

Earl Smith
1953 chairman
Construction Committee and of the Research Institute

Leonard Haeger
director, Construction Dept.
and Research Institute

Chris O. Christenson
asst. director
Construction Dept. and Research Institute

Jack Beatty
Miami, regional vice president

Frank Collins
Philadelphia, member executive committee

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Denver

Joseph Goldman
Chicago

Martin Jaska
Pomona, Calif.

Andrew Place
South Bend, Ind.

David Slipper
Los Angeles

Irwin Jalonack
vice president and chief mechanical engineer
Levitt & Sons, Inc.

FOR THE NATIONAL ASSOCIATION OF MUTUAL SAVINGS BANKS

Harry Held
chairman, Committee on Mortgage Investment
vice president, Bowery Savings Bank



Photos: R

FOR THE NATIONAL RETAIL LUMBER DEALERS ASSOCIATION

Clarence Thompson
chairman, Lumber Dealers Research Council

Chester Hubbell
president, C. T. Hubbell Lumber Co., Albany

Charles Segal
general manager, L. Grossman Sons, Inc.
Quincy, Mass.

FOR THE PREFABRICATORS

Frank P. Flynn Jr.
executive vice president
National Homes Acceptance Corp.

William J. Messingschlager
assistant to the president
US Steel Homes

Howard Vermilya
vice president
American Houses, Inc.

FOR HOUSING RESEARCH

Dr. Clifford F. Rossweiler
chairman, Building Research Advisory Board
vice chairman of the board
vice president for research and development
Johns-Manville Corp.

Prof. James T. Lendrum
director, Small Homes Council
University of Illinois

William Scheick
executive director
Building Research Advisory Board

ECONOMIST

Miles Colean
construction economist
Washington, D.C.

CHAIRMAN

P. I. Prentice
vice president, TIME INC.; editor and publisher, HOUSE & HOME

Action follows fast after Round Table protest to Hollyday and King on valuations

On December 16 and 17th, spokesmen for every key group in homebuilding met around a HOUSE & HOME and LIFE Round Table to tell FHA Commissioner Guy Hollyday and VA Loan Chief Bert King that FHA-VA appraisal policies are discouraging better housing. Their unanimous report and recommendations fill the next ten pages.

Commissioner Hollyday and his associates from FHA insisted that some of the criticisms were too sweeping and others were unfair, but he is moving fast to correct many of the valuation practices that drew protests at the Round Table.

Specifically:

1. He is inviting a member of the Round Table panel to come to Washington and advise him on his architectural set-up.
2. He has begun negotiations with the Building Research Advisory Board for help in bringing FHA up-to-date with technological progress.
3. He has gotten word around to everybody in FHA that FHA is just as much interested in encouraging better houses as it is in encouraging cheaper houses.
4. He has reasserted his strong stand that FHA must accept and encourage contemporary design.
5. He has strengthened his technical staff and made it more directly responsible to himself.
6. He has instructed all FHA offices to tell builders they need no longer file itemized cost estimates with their commitment applications.
7. He has instructed all offices to advise builders informally what valuation credit they can expect on optional features, so builders can tell customers how much added down payment each such feature will require.
8. He has instructed all district offices to give more recognition to higher overhead on more expensive houses.
9. He is giving careful consideration to the problems involved in asking the Civil Service Commission to give higher classification to some of the key field jobs in the underwriting division in order to make the pay high enough to attract and hold better men. **Other action will follow shortly.**

GOVERNMENT OBSERVERS

T. Bertram King
*Loan Guaranty director
Veterans Administration*

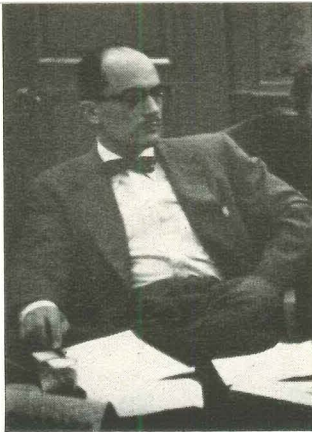
Guy T. O. Hollyday
commissioner, FHA

Walter L. Greene
deputy commissioner, FHA

Edmund D. Cronon
*assistant chief, architectural section
Underwriting Division, FHA*

Byron Hanke
*chief, Land Planning Section
Underwriting Division, FHA*

Alfred W. Jarchow
*technical officer
Underwriting Division, FHA*



Lendrum:
 "All these other things
 could be solved
 if FHA had the right people . . ."

FHA and VA appraisals are delaying progress toward better quality and design in houses

We are all deeply appreciative and sincerely grateful to FHA Commissioner Guy Hollyday, Deputy Commissioner Walter L. Greene, VA Mortgage Chief Bert King, and their associates, for meeting with us to consider how FHA and VA appraisal policy and practice can contribute more effectively to housing progress.

All of us realize that FHA and VA are the best things that ever happened to the home-buying public and the homebuilding industry. All of us realize that FHA has made a great contribution to better housing by putting a coast-to-coast floor under homebuilding standards and forcing all housing to meet those minima. All of us realize that FHA and VA have enabled millions of families to own far better homes than they could otherwise afford.

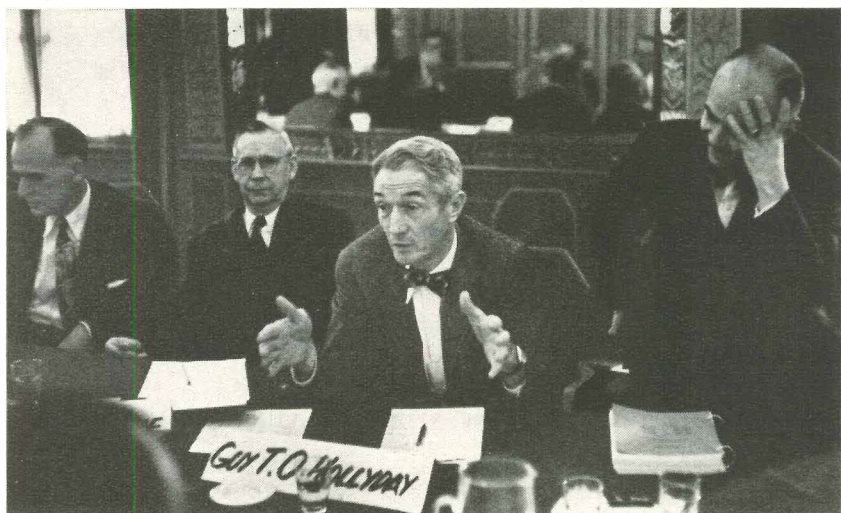
But these chief executives of FHA and VA did not join us at this Round Table to hear such praise repeated. They have called for plain talk and creative thinking. They have asked us to pool our experience from every section of the country and our knowledge of every aspect of homebuilding for a composite picture on just one question—the question of how FHA and VA appraisal policies and practices are today affecting housing quality and housing progress—for better or for worse.

Our report will concentrate on FHA and its problems, but many of our comments hold equally true for VA.

Correcting what is wrong with FHA and VA appraisals offers a great opportunity to the new heads of the federal housing agencies, for without good appraisals FHA and VA can have no sound foundation on which to build their programs.

By wise and understanding appraisals truly reflecting the values added by better planning, better design and better materials, FHA and VA can encourage builders to offer higher quality and better values. By unenlightened appraisals FHA and VA can block the path of housing progress, for few builders can afford to put much money into qualities and features which will not get full credit in their appraisals, nor can they venture experiments and improvements if they fear those experiments, even if successful, will reduce their valuations.

Appraisals are the one critical housing problem the President's Advisory Committee on Housing Policy did not try to solve. But unless the present faults in FHA and VA appraisals are corrected, the success of all other solutions and all other programs will remain in doubt and jeopardy. Without good appraisals, how can FHA underwrite the government's plans for better new homes? How can FHA underwrite its plans for improving and rehabilitating existing housing?



Hollyday (center): "My staff is here to learn . . ."
Greene (at his right): "We have tried to get Civil Service to let us pay more."



Hubbell (center below): "FHA can't help until they educate their inspectors . . ."
Riddle (right): "They have that negative approach!"
Segal (left): "FHA is no advantage to the small house builder."

And on this hard truth all of us are agreed—architects, builders, suppliers, lenders, appraisers and research scientists alike:

Since the war the appraisal policies and practices of FHA and VA have been an adverse factor on housing quality and progress. FHA has become a leveling influence rather than an upgrading influence—leveling up from the bottom, but leveling down from the top.

In broad terms, we are agreed that in its appraisal policies and thinking:

1. FHA has not kept pace with the revolution in homebuilding which FHA itself made possible (see p. 147).
2. FHA has not kept pace with the revolution in architecture which offers homebuilding its best hope of providing better living at less cost (see p. 149).
3. FHA has not kept pace with the revolution in technology which is obsoleting almost every construction feature of the pre-FHA house (see p. 148).

As a result we are agreed that:

1. FHA has discouraged builders from offering quality beyond the minimum property requirements by not giving adequate credit for its added cost.
2. FHA has blocked progress toward better design by penalizing design change and innovation in its valuations, often by as much as 20%.
3. FHA has delayed the adoption of better new materials and more efficient new construction methods, sometimes by long procrastination* and sometimes by flat refusal to approve technical advances.

Even if none of these indictments is true, the mere fact that almost all builders believe them to be true has almost the same unfortunate effect. If a builder believes he will get no higher appraisal with a \$400 heating system than with a \$237.50 installation, his decision not to spend the extra money will probably be the same whether his belief is well-founded or not.

The FHA and VA executives at our Round Table have ably explained their valuation system and argued that such a system should not discourage quality or progress. In reply we can only say there is a great difference between government appraisal policy as they have expounded it and government appraisal policy as we have experienced it in the field. There is also a great difference between appraisal practice from office to office. If FHA appraisals everywhere were made as the underwriting manual prescribes, the problem would be much less serious.

In theory, the appraisers give full credit for the higher costs of quality features, provided they do not make some one part of the house too good for the remainder of the house or make the house itself too good for its neighborhood. In practice this is not so. Builders find it comparatively easy to get full credit for the cost of meeting the minimum property requirements with conventional design. They find it difficult to get full credit or even adequate credit for anything better.

On quality houses, most builders find they can get higher valuations for conventional financing.

* In the past year Washington time lag on approving new techniques has been cut from six months to four weeks.

Here are 13 recommendations to improve FHA-VA appraisals

There is no quick and easy way to correct the influence FHA-VA valuation policies and practices are having on housing quality and housing progress. This is a very complex problem calling for a complex answer—an answer which will require new attitudes, new concepts, new standards, new research, new organization, new people—and almost certainly more money to pay for better appraisals. Specifically, it will require:

1. A new attitude throughout FHA and VA towards quality, a new willingness to accept change, and a new acceptance of contemporary design.
2. A new frankness about appraisal methods and procedures, an end to mystery and an end to fear. Too few architects and builders have any confident understanding of how to improve their valuations as they improve their designs and specifications. Too many builders are afraid to question or challenge the valuations they get for fear of reprisals on their next houses.
3. A new issue of dynamic instructions to the field and then better supervision to assure more uniformity of appraisal practice from office to office.
4. A better realization of the revolutionary changes FHA and VA financing have brought to homebuilding. An appraisal system designed to police a chaotic handicraft is not likely to be the best system to raise standards in an assembly-line industry.
5. Some completely new thinking about valuation. Is it true that a house cannot be worth more than it cost plus a small fixed profit?
6. A new willingness in Congress to let FHA spend enough of its income to attract and hold architects and appraisers good enough to meet their difficult responsibilities.
7. A new set-up in FHA which will restore independence to the technical section in Washington, giving it freedom to approve and encourage good new products and good new methods and giving it authority to approve them not for one office but for every FHA office in the country.
8. A fresh revision of the minimum property requirements worked out in collaboration with the various groups that are contributing to homebuilding progress.
9. A new program for continuing review of FHA-VA standards. This program should take full advantage of such private enterprise research facilities as can be tapped through the Building Research Advisory Board and such field-testing facilities as are available through the Research Institute of the National Association of Home Builders.
10. Some simple procedures for appraising a basic house plus or minus various optional features a builder would like to offer as part of his package, so that a builder can tell the prospective buyer in advance just how much of the added cost of these various features can be covered by the mortgage and how much has to be added to the down payment.
11. A clearer understanding that tomorrow's house will include far more equipment and far more built-in furniture and a greater willingness to include these built-ins in the valuation.
12. A new design quality adjustment like the construction quality adjustment to let appraisers give a premium valuation for superior planning, livability, and appearance.
13. A new deal on minimum-income requirements to let buyers qualify for more expensive homes, if the builder can show that the added first cost will reduce the monthly maintenance more than enough to cover the increased interest and amortization.

Here are just three examples of the good

truer valuations could quickly achieve

Like the power to tax, the power to appraise is the power to destroy, to prevent, to discourage. But it is also a power to create, to encourage, to hasten. In fact, we believe better FHA-VA appraisals—truer and more farsighted appraisals—might prove the greatest single influence to help American families get better homes at prices they can afford.

Consider just three examples where FHA-VA appraisals could exert a tremendous influence for good by reflecting true value more accurately:

1. Everybody knows that a house with adequate wiring is a better buy, and everybody knows that adequate wiring means providing for increased future loads without requiring the costly installation of additional circuits after the house is finished.

If FHA would advise builders that inadequate wiring will be discounted in its appraisals and, conversely, the added value which can be assured at small cost through better circuits will be fully reflected, we believe the overnight effect on wiring standards would be very great.

2. Everybody knows that kiln-dried and grade-marked lumber gives home buyers greater assurance of quality construction. If No. 3 lumber is used where No. 1 is called for, the harm can never be made good later.

If FHA would make it known that its appraisals will cover the cost of using kiln-dried lumber and, conversely, will be lowered to reflect the uncertainties present when grades are not marked, we believe home buyers could be assured overnight of better-built houses.

3. Everybody knows that most local building codes are loaded with requirements which are as useless as they are costly. Their only purpose is to create unnecessary work and expense. Up to now FHA appraisers have sanctioned, upheld and, in effect, subsidized the featherbedding waste entrenched in these local codes by adding the cost of these wastes to their valuations, regardless of whether it added anything to the true worth of the house. The more wasteful the code, the higher the appraisal.

If FHA would make it known that from now on its appraisers can give no replacement cost credit for meeting certain specific code-imposed standards which add little or nothing to true value (such as, for example, metallic cable for wiring), FHA would be giving a tremendous push to code reform at the same time it was making its appraisals a truer reflection of value.



Collins:

"There never was a more secretive fraternity... a hell of a good system to confuse the builder."

Today the odds are loaded

against quality at every step

in the appraisal procedure

The odds are loaded against quality by the rule-of-thumb methods by which FHA replacement cost estimates are made. They are loaded against quality by inadequate differentials in the physical security rating. They are loaded against better design by the arbitrary penalties the construction examiner can impose on any departure from conventional styling. They are loaded against good design by the \$50 top most FHA offices allow for architects' fees—a top which could almost rule out the employment of any but architectural hacks. They are loaded against quality by rule-of-thumb methods under which all comparable houses in the same section are leveled out to roughly the same valuation in the market price estimate. They are loaded against quality by the ceiling placed on valuation by the capitalized rental estimates—a ceiling which could mean that only those quality and design features that assure higher rents can add to the appraisal.

But the most serious deterrents to better quality and better design in the FHA appraisal system are these:

1. No added expenditure for quality can be reflected in the final valuation unless it gets by each and every one of these obstacles. The rule provides that the final valuation shall be the lowest figure arrived at by three separate methods of appraisal.

2. The builder has no basis for confidence that any extra expenditure for quality of materials or quality of design will be reflected in his appraisal. Lacking that confidence, how can a builder be blamed if he plays safe and sticks close to conventional design and minimum standards, where he can be sure his full costs will be reflected in his appraisal?

And even if a quality feature gets by all these obstacles and gets full credit in the valuation, FHA imposes one final penalty on quality. Its minimum income requirements do not give adequate consideration to the lower maintenance costs in a well-built house using better materials and better equipment.

We believe it would be easy to show that, counting maintenance, interest and amortization together, it would be cheaper to live in a quality house than in a minimum standard house costing even \$2,000 less.

The discrimination against quality we have just briefly noted is so fundamental that it needs a fuller explanation.



Flynn:

"We have to overcome prejudices in the FHA offices."

Bowes (right): "The attitude of the government officials here is very encouraging."

Jewett (left):

"Code situations are getting worse."

Defects in the security rating

1. Inadequate differentials are applied. One house may pass with a rating of 51, another may pass with a rating of 95. But no member of our panel believes this 85% difference in rating would be translated into more than a 5% difference in the appraisal.

If a builder with a physical security rating of 51 can come so near to getting the same appraisal as a builder whose rating is 95, what incentive does this offer builders to put better value into their houses?

2. The quality construction adjustment is neglected. In FHA theory the best builders in each district should get an extra 5% for good workmanship; the poorest builders should be penalized 5%. In practice we believe few FHA offices apply this full differential.

3. Quality design cannot be rewarded. All of us believe that good design and planning can add more than any other single factor to the value of a house, but the security rating provides penalties but no positive rewards for any deviation from stock-plan architecture.

In theory, quality workmanship by the mechanics is supposed to earn a premium appraisal, but not even in theory is there any provision for a premium valuation to recognize the architect's superior design for better living. In practice, on the contrary, any effort to offer progressive architecture is apt to bring a heavy penalty or an outright rejection for "nonconformity."

Perhaps the outstanding example of FHA appraisers' misguided attitude toward design is the house the American Institute of Architects picked as the best builder's house of 1950. FHA turned it down cold for mortgage insurance. Somewhat similarly, FHA refused, on the grounds of unusual design, to insure a mortgage on *House Beautiful's* Pace Setter of 1953. Again, VA imposed a \$1,000 design penalty on an architect-designed house in Tulsa that HOUSE & HOME selected to symbolize the 1954 house on its first 1954 cover—a house that has since won two awards from the National Association of Home Builders—and FHA has so far balked at approving any mortgage at all on the project!

Discrimination in the cost estimate

Here quality suffers because the FHA architect usually saves time by using the same unit costs for the parts and equipment used in a good house that he would use for the parts and equipment used in a minimum house. The FHA officials here today assure us that this is contrary to FHA instructions, but nonetheless we believe it is the practice from coast to coast.

For example, in Los Angeles a forced warm-air heating system for tract houses goes into the cost estimate at \$237.50 (the lowest bid to be found), even though the builder may have paid \$400 for it and even though it is commonly agreed that a good heating system cannot be installed there for less than \$400.* And the water heater goes in at \$60 regardless—the installed price of the cheapest heater with only a one-year guarantee.

In Miami, all interior doors from the cheapest to the most expensive go into the cost estimate at a flat price per opening; all terrazzo floors go in at the same price per sq. ft., all kitchen cabinets at the same price per running foot; all washbasins, whether big enough or not, go in at the price of a minimum lavatory.

In South Bend, all wiring systems go in to the cost estimate at the same \$5 per outlet whether quality materials are used or not, (viz. 89¢ switches or 19¢ switches), whether the house is served with a minimum 60-amp. entrance box or with a 100-amp. entrance box, whether the wiring behind the outlets provides for increased future demands or not.

Even in San Francisco, one of the best FHA offices, new trees go into the cost estimate at the same 85¢—the price of a very small whip sapling.

Inasmuch as the maximum FHA valuation on the house can in no case exceed the replacement cost figure obtained by adding up all these minima, it follows that the FHA-VA valuation is almost bound to penalize the builder who installs a good furnace. It is almost bound to penalize the builder who provides better doors, better cabinets, bigger trees. It is almost bound to penalize the builder who recognizes the tremendous increase in the use of electrical appliances throughout the house and tries to provide wiring which will prove adequate for expanding needs.

In the face of such leveling down in the appraisals, is it any wonder that not one builder's house in ten is adequately wired? Is it any wonder that builders' tracts must wait too long for shade trees to grow? Is it any wonder washbasins are too small?

Nobody gains by the way quality is sacrificed by this kind of appraisal. The home buyer soon finds himself saddled with unnecessarily heavy maintenance and replacement costs. The lender often finds the borrower's ability to meet his mortgage payments seriously impaired by the maintenance drain on his income.

Here are some specific instances of what this appraisal pressure for lower quality cost the buyer of the house—the man FHA is mandated to protect and help:

His \$237.50 furnace will have to be replaced within a few years and the replacement cost may well be around \$600—far more than the cost of installing a good system in the first place.

His hot-water heater with a one-year guarantee is marvelously engineered to wear out in 13 months and will have to be replaced, again at a cost very much greater than the cost of installing a quality heater with a ten-year guarantee in the first place.

Within a few weeks the new home owner may find it necessary to spend upwards of \$100 for more adequate wiring which could have been provided for a third as much while the house was being built.

* The Los Angeles FHA office denies this.

Only good appraisers can make good appraisals;

FHA should be allowed to pay good men better

Some among us believe the trouble with FHA appraisals is primarily a problem of men rather than a problem of methods, and all of us agree that:

▶ Able men can make even the worst system work, and there are FHA offices where the present system is giving satisfaction.

▶ Nothing in the FHA manual calls for less-favorable appraisals on houses with good design and better quality than on houses with hack design that just meet the minimum property requirements. Quite the contrary. And nothing in the FHA manual says minimum houses are a better mortgage risk than good houses.

▶ FHA needs more good men on its architectural, technical and appraisal staffs, though it would be completely unfair to blame all the faults in FHA practice on any group of individuals.

▶ The very first step FHA should take toward better appraisals is to make sure all its architects and appraisers are men with the experience, judgment and imagination needed to do their job right.

To that end we unanimously recommend:

1. FHA should be allowed to pay its architects and appraisers enough to attract and hold good men without the very real personal sacrifice required by its present inadequate pay standards. Their salaries now are considerably less than competent architects and appraisers can earn in private practice. They are, in fact, less than the wages of a carpenter foreman or a real estate salesman. *The wonder is that FHA has been able to hold on to as many good and dedicated men as it has.*

2. FHA should be allowed to spend enough of its income to employ enough good men to do the job.

3. FHA's authorization should be put on a more flexible basis, so that FHA can take on more men as needed to meet any sudden increase in the volume of appraisals it is called upon to make and the volume of mortgages it is called upon to insure.

All of us agree that the FHA Washington office is seriously understaffed, especially on the technical side (for example, there was only one man working on mechanical problems at the time of our meeting and only two men are working on land planning). All of us agree that some local offices are understaffed for their present volume of business and still others would find themselves understaffed to handle the volume they would attract if they were functioning promptly, efficiently and constructively. In other words, the FHA field staff may be able to handle its present work load after the current reduction from 4,100 to 3,500 men, but it could not do so if each office were functioning smoothly enough to attract its full quota of business.



Jalonack (center):

"You can't get the top men unless you pay them."

Slipher (left):

"You may put in a Cadillac, but the appraiser gives you credit for a jeep."

All of us believe the budget bureau is being penny-wise and pound-foolish in trying to make arbitrary cuts in FHA spending

The treasury has little or nothing to gain from enforced parsimony in FHA, since FHA is supported entirely out of its own revenue. Not since 1941 has a penny of the taxpayers' money been used for its operation, and before long FHA will have paid back the last of the Federal money with which it was started.

The only possible cost of FHA to the taxpayer is the contingent liability of \$15,500,000,000 on the mortgages FHA has insured. To the extent that the FHA appraisals have been sound, this contingent liability need cause no alarm. To the extent that FHA appraisals have been unwise, the federal treasury may have to make good on the appraisers' errors in judgment. Either way, the budget bureau should find it more profitable to allow FHA enough money to operate a good underwriting section than to starve the agency to a point where its appraisals are open to question.

FHA has not kept up with the revolution in homebuilding FHA itself made possible



Place:

... "A sort of hocus pocus voodoo deal.
If you want to get into a snow job,
ask the cost man some questions."



Scheick:

"The system lends itself to mysticism
and personal vagaries."

FHA financing has revolutionized homebuilding and transformed it overnight from a handicraft to an assembly-line industry. But this FHA-born revolution is not yet reflected in FHA's own approach to appraisals.

The FHA risk-rating system was worked out when it was expected that the great majority of houses would be built by individual builders for individual owners. This is no longer the case. Today builders erect 82% of their houses for sale, most of them to customers the builder and his architect have never laid eyes on when the plans and specifications are fixed.

Before FHA, the customer could usually be consulted to learn whether he would be willing to pay for this or not pay for that. Today's builder and today's architect can get no such help from the buyer. They must make a long series of independent decisions on where to spend more money and where to spend less. And the question they will most often ask themselves is whether the added expenditure can be covered by the mortgage (in which case it will probably stimulate sales), or must be added to the down payment (in which case it will probably reduce sales).

Despite this revolution in the industry, the FHA approach to valuation is still essentially negative, designed to police a chaotic and backward handicraft, but ill-suited to encourage progress in a dynamic, competitive industry. It reflects yesterday's problem of an appraisal made directly for an owner-occupant and unconsciously carries forward an archaic animus against the modern merchant builder.

What we need now for today's homebuilding industry is a far more positive and dynamic approach and a valuation system intelligently calculated to make it at least as profitable for merchant builders to offer better quality, better design, better value. We also need an appraisal system which will make more adequate allowance for the higher overhead which makes low unit costs possible, and the sales expense which was hardly contemplated when FHA was first started.

And in this day of assembly-line and often prefabricated housing, many of us are even beginning to question whether or not it makes sense to limit the valuation of a house to a sum arrived at by adding up the assembled costs of its parts and then adding a fixed allowance for overhead and profit. No one would dream of setting such a limit on the value of an automobile or any other industrialized or semi-industrialized product. The object of every successful business enterprise is to develop a product that is worth more than it costs. And if a smart architect-builder team can develop a house whose value is far greater than the assembled cost of the materials they use, we can see no good reason why the value added by better judgment and greater skill should be written down by the FHA or VA appraisers to the same level as a house into whose planning less thought, good taste and inventiveness were put.

As long as the valuation cannot exceed the accumulation of replacement costs FHA is bound to exert a discouraging pressure on progress and a discouraging influence on ingenuity.

FHA must catch up with technological progress that is fast obsoleting yesterday's house

More scientific research has been applied to homebuilding in the 20 years since FHA began than in all previous centuries, and the speed of technological advance has accelerated far beyond anything FHA is organized to match.

Almost everything about today's house is new since 1934, or at least newly brought into general use. Slab floors, roof trusses, dry wall, plywood, plastics, insulation, asbestos and aluminum siding, radiant heat, forced warm air, summer cooling, double glazing, awning windows, jalousies, storage walls, asphalt tile and roofing, stressed skins, three-wire circuits, garbage disposers, built-in furniture and fixtures, rubber-based paints—all these and many other features were almost unknown two decades ago.

To keep up with such rapid progress FHA needs a technical division that will be correspondingly fast on its feet, smart, aggressive, and eager to help home owners and homebuilders profit by every good new method and every good new product. How can FHA hope to develop such a forward-looking program as long as it subordinates its technical staff to an underwriting division which we consider openly and unashamedly hostile to innovations?

The functions of a technical division and an underwriting division are almost antithetical. The latter is rightly concerned with protecting investors against undue risk resulting from any premature use of products or methods whose soundness is not yet proved. The former should be concerned with getting better products and methods accepted as quickly as possible. The one function is negative; the other is positive. We believe they should be balanced off in the FHA organization in what might be called a two-platoon system, with both responsible directly to—and coached directly by—the commissioner himself. This is the way FHA was set up before 1940, and we believe it is the way FHA should be set up now.

No matter how much the technical division is strengthened, the underwriting division will still have great power to obstruct progress by penalizing anything unfamiliar in its appraisals. To balance this negative power we recommend:

1. The technical division should take the initiative in educating the district offices on better new methods and products, taking care to explain their implications and their proper use.
2. Once the technical division has approved a new method or material, its approval should be binding on all FHA offices. It is unfair and absurd to make the sponsors of each innovation sell it from FHA office to FHA office, and it is nonsense that any FHA office should be free (as recently happened) to veto such a proved economy as truss framing for roofs.
3. When a builder appeals to Washington on a valuation he considers unfair to some innovation the technical division has approved, the technical division should stand ready to help him plead his case.



Riddle: "Guy's hands are tied by Civil Service"

The technical division should be headed by an eminent technician whose opinions would be respected, and it should have a big enough staff to function promptly and efficiently—a staff considerably larger than today's.

But the FHA technical division cannot afford to compete with the tremendous research facilities created by private industry over the past 20 years, and it should make no attempt so to compete. It should, on the contrary, take full advantage of all this private research, and concentrate on getting its benefits realized more broadly and more quickly.

As questions arise calling for technical information beyond what is commonly known or clearly established, FHA should ask the Building Research Advisory Board to get the needed facts from private industry. When field tests are needed, it should call on the Research Institute of NAHB.

A further means of maintaining technological alertness would be the establishment of a Technical Advisory Committee comprised of experts from industry and the design professions. The functions of such an advisory committee would be to observe and report FHA practices to the commissioner, to make recommendations for revisions in the underwriting manual and the minimum property and construction requirements, to assist in developing methods for encouraging innovation, and to consider such special technological questions as the commissioner might put to it. The organization of such a committee would be facilitated and its prestige and effectiveness enhanced if it were established under the auspices of the Building Research Advisory Board of the National Research Council.

FHA has misunderstood the revolution in architecture and delayed its progress

The FHA appraiser's attitude toward progress in design has been as shortsighted as it has been harmful. It has been harmful because it forces the great majority of builders to pass up the advantages of better livability and greater economy offered by contemporary design. It has been shortsighted because ten years from now the market acceptance of houses whose plan and design were already 20 years out of date when they were built will surely be much lower than the market acceptance of houses which were abreast of up-to-date design standards when they were first offered for sale.

Some of the blame for the obstacles FHA has placed in the path of architectural progress must fall on FHA architects who could not adjust themselves to the sea change in architectural standards since FHA was started. Some of the shortsightedness reflects the average mortgage lender's dangerous preference for looking backward and financing the kind of houses which used to be good mortgage risks a generation ago.

Too few mortgage lenders realize that fashions in housing change just as fashions in everything else. Anyone with a smattering of architectural knowledge can tell from its style the approximate year when a given house was built, just as anyone seeing women pictured in crinolines can fix the date in the sixties; women wearing bustles in the eighties; women wearing peek-a-boo waists at the turn of the century.

As styles in houses change, their marketability changes too. The boxlike cubes which were so readily acceptable in 1910 were hard to sell in 1925. The imitation Spanish and imitation half-timbered houses which were so popular in 1920 were hard to sell in 1940. The so-called Dutch Colonial of 1929 is out of date today.

In all these architectural style changes there is a time lag between architect acceptance, builder acceptance and popular acceptance. The public is always 10 to 20 years behind the architect in accepting any new housing style, just as Main Street lags behind Paris on women's fashions.

Many architectural experiments fail to catch on, just as many dress style experiments on the Rue de la Paix are quickly dropped. But once a design trend has clearly established itself with the architect it follows as the night the day that before too many years this same design trend will win public acceptance too; that houses which reflect this design trend will have good marketability and that houses which do not reflect this design trend will have less marketability.

Consequently we are almost unanimous* in affirming that:

Long before their mortgages are paid off, houses built today in what is now called "contemporary design" will have a far better marketability than houses built today from designs already 10 or 20 years behind the times

* One member of the panel did not concur in this section of the Round Table report.



Rassweiler: "This has got to be a dynamic industry and that means constantly doing something for the customer."

In past decades many changes in architectural taste were changes in style alone. There was no special reason why Spanish houses should have been so popular in 1920, and no special reason why Dutch Colonial should have been so popular in 1930. But today's contemporary design reflects a basic and fundamental change in purpose and direction whose significance appraisers and lenders cannot afford to underestimate.

Today's contemporary design is not just a matter of flat roofs and big glass areas. It is a long overdue emancipation from the foolish effort to make houses built in twentieth century America look as if they had been built in sixteenth-century England, seventeenth-century France, eighteenth-century Massachusetts or nineteenth-century Spain. For the first time in nearly two generations architects are now concentrating single-mindedly on how best to use today's resources and today's construction methods to create the best houses for today's way of living. They are borrowing space from all outdoors to provide big-house spaciousness on a small-house budget. They are reflecting America's new love for outdoor living. They are adjusting their plans to the new age of electrical servants. They are making housekeeping easier and taking advantage of all kinds of new materials and new machinery—from plastics to insulation to air conditioning—to make houses far more comfortable and far less costly to maintain. And they are developing a new esthetic and a new approach to beauty better suited to today's mass production than yesterday's fussy detailing, which today's labor costs make prohibitively expensive.

As more and more families learn how much better a real 1954 house can be than a 1954 imitation of a 1754 cottage, it will become harder and harder to sell the kind of houses the FHA appraisers have been encouraging for the past decade.

Highand (below, center): "FHA could help to educate the bankers"

Goodman (right): "FHA appraisals give the builder no incentive... science has not been brought to bear on the M.P.R."



The influence of FHA and VA appraisals touches every home for the average man

In planning homes for sale, few builders feel they can afford to think first about what kind of house will be the best value for the money. Most builders try to build the kind of house that will get them the highest valuation in proportion to its cost.

This valuation determines the financing the builder can get on his advance commitment and how much of his own money he must tie up in each house. More importantly, the valuation determines how big a mortgage the home buyer can get and how small a down payment he can make.

The whole purpose of FHA insurance and VA guarantees is to enable millions of average families to own far nicer homes by paying for them like rent than they could afford to buy if the cash payment had to cover any large part of the purchase price. FHA and VA make their greatest contribution to American living standards when they enable builders to offer better houses without forcing people to pay cash for too much of the extra value. Any sizable increase in the cash requirement to pay for better quality or better livability puts the house beyond the reach of millions of buyers.

In other words, any increase in quality or amenity which FHA appraisers will recognize in their valuations makes it possible for the buyer to enjoy a nicer home. But any increase in quality or amenity which has to be paid for in cash makes it impossible for the buyer to own the house at all.

There are two big reasons why builders will seldom find it good business to spend money for quality and value for which appraisers will not give them full credit:

1. The prospect's own appraisal of the house will be greatly influenced by the government appraisal. How can he help suspecting a house is overpriced if the FHA valuation does not cover the added cost of its quality features, with the result that a house priced at, say, \$12,000 is stigmatized with a \$10,500 appraisal from the US government?
2. Every increase in the required down payment makes the house harder to sell. An extra \$100 spent to make an \$8,000 house more livable and more lasting will make it more salable if the extra \$100 is covered by the mortgage. But it will make the house harder to sell if the extra \$100 is not reflected in the valuation and so requires an increase of \$100 (25%) in the down payment.

These FHA and VA appraisals affect almost every house built for the average American family.

It may be true that less than one-third of all mortgages carry FHA insurance or a VA guarantee, but before the mortgage crisis upset all normal financing patterns 73% of all new houses built for the mass market between \$6,000 and \$12,000 were financed with FHA or VA help, and the other 27% were financed by lenders who had to come close to meeting FHA and VA terms to get the business. In other words, the financing pattern for practically all housing for the mass market all over the country is set by these two agencies of the federal government in Washington.



Carey (speaking): "A builder cannot get a higher valuation if he gives the buyer a better value at less cost."

Beatty (left): "No matter what I specify the appraiser uses the same unit cost he has in his book."

Goldman (right): "You can have lousy architecture and still get the same \$50 credit for design."

We ask only that FHA appraisals be fair and stop discriminating against quality

All of us realize that too high appraisals from FHA and VA would be even worse than too low appraisals, for the success of FHA and VA financing depends very largely on the lender's confidence that the government appraisals are sound and not inflated. We also realize that every builder is trying his level best to push his own valuations higher, and we confess that almost every builder thinks of the appraisal process as a battle of wits in which he is justified in overstating his costs, on the theory that the appraiser will never allow him what he asks, so he had better ask for more than he expects.

Because we realize too high appraisals are as dangerous as too low, we want it clearly understood that we are not necessarily urging FHA and VA to make their appraisals more generous. We are just recording that under present policies and practices FHA and VA are discriminating heavily against houses with better quality and more progressive design. They are appraising cheap conventional houses at 100% of cost and appraising better houses with better design at a substantial discount. All of us feel this discrimination is lowering housing standards instead of raising them; i.e., it is defeating the announced first purpose for which FHA was created.

All we ask is that FHA and VA appraisals should be fair—fair and understanding and farsighted. We ask only that the appraisals should reflect the true long-term value of the property and give proper credit to the intangible but no less real values which can be added by better quality, better design, better taste, more efficient planning, better siting, better neighborhood development, better orientation, better color, greater flexibility, more economical standardization, lower maintenance, better storage, less wasted space.



Vermilya (right): "The builder must tell his complete story."

Yost (center): "Why shouldn't a good builder with good design make a bigger profit—even if his cost is just the same?"

Colean (speaking): "Everything said here about FHA applies to VA, too."



How to bankrupt slum owners

▶ A report in Chicago puts its finger on some financial pressures that can help end blight in any city

▶ Omaha adopts rehabilitation ordinance and Memphis votes to do so. Both will create new city departments

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(see pp. 33 through 54)

Housing Bill would give President vast power over VA and FHA terms, shake up Fanny May, push low-cost and rehabilitation FHA loans

A tax suit threatens hundreds of millions of dollars of homebuilders' profits

Mortgage market: some brokers predict FHAs will go above par as lenders hunt choice loans

Six distinguished architects team up with builders to plan a 'research village' of houses with ideas others can use

Canada, adopting a new housing act patterned on the US model, sets out to insure loans for 40% less than FHA's price

As homebuilders, realtors and other civic-spirited citizens delve deeper into slum rehabilitation, they run more and more into bigger problems of good or bad city government. Twin results: 1) slower progress in some cities than rehabilitation enthusiasts originally predicted and 2) more and more plain and thoughtful talk about slums and what makes them.

There is nothing horrifying about slow progress. US slums grew to their present scope over a century; it will take decades at best to erase them. And in the mere fact that people are beginning to talk (and magazines and newspapers to print) the unpalatable truths of why slums persist lies an encouraging sign of awakening public opinion.

One deep-reaching analysis of slum-making emerged last month from Chicago's Citizens Committee to Fight Slums,* which had been quietly prodding down to the roots of the problem since last June. The committee, headed by Attorney Laird Bell—a tall, slender, gray and shy partner in one of Chicago's top law firms—recommended much that was already done or underway in Chicago's growing effort to fight slums. But its significant contribution to the nationwide attack on blight was a public display of three slum taboos.



BELL

Slums & race prejudice. One was a frank avowal that Chicago's slum problem is inseparably twined with its race problem.† Said the committee: "Our drifting policy of recent years has not only been timid and detrimental, but has prevented progress toward the solution [of the problems] . . . of in-migration [Negroes and Puerto Ricans], racial tensions and racial discrimination." The committee recipe: Negro areas must be dedensified by allowing Negroes "unrestricted access to land, both vacant and improved"; this will require "general acceptance" of open occupancy which "must rest on widespread educational campaigns supported by an official city and suburban policy of removing, rather than fostering, discriminatory barriers." At the same time, the committee suggested sterner enforcement of controls against overcrowding. It got right down to cases:

1. The Chicago Real Estate Board should get property owners to adopt a standard lease form providing automatic cancellation of leases if tenants permit overcrowding.

2. The Chicago Association of Commerce should try to persuade members to "assume full responsibility" for adequate housing for workers recruited outside Chicago.

3. The Department of Buildings must step up enforcement to make overcrowding "more difficult or impossible" and not stop

short of forcing owners to evict tenants.

4. Negro leaders "must initiate a concerted effort to discourage the continued inflow of people whose presence can only compound the present difficulties."

5. The City should work with the Puerto Rican government to stop "indiscriminate migration." (Chicago's welfare commissioner last month flew to Puerto Rico to spread the word that indigent migrants would be shipped home rather than given relief.)

Control migration? Some critics called the race recommendations unrealistic, but nearly everyone in Chicago applauded the committee for facing up to a problem that most Chicago counsels have tended to duck. Some contended the committee was just indulging in wishful thinking in suggesting that Negro and Puerto Rican immigration be controlled. Citizens all, they have as much right to move as anybody else. Philip Hauser, a University of Chicago sociologist who spoke at a follow-up conference on the report, suggested that Negroes will keep on moving to Chicago as long as Chicago's factories have an expanding need for cheap labor. Nobody disagreed that Negroes need more land. How and where to get it without opening up race sores remained the problem—in Chicago and other northern cities.

The two other taboos exposed: 1) the effect of restrictive practices by labor and the building industry on building costs, and 2) financial practices that make life easier for slum operators. On the first of these, the committee charged: "The many restrictive practices on the part of labor organizations, contractors and subcontractors contribute to excessive local housing costs. For example, it is a public secret that restrictions on the amount of work allowed to constitute a standard work day by the local building trades, together with other factors, make a given house cost more in Chicago than almost anywhere else in the

* "Housing Action Report of 1954" to Mayor Martin H. Kennelly.

† For other news of the relation of slums to minority housing, see p. 52.

country." The committee had virtually no remedy to suggest. For lack, apparently, of any better idea, it suggested a Congressional investigation aimed at amending antitrust laws. The committee blamed labor unions for costly and inefficient inspection procedures in the Department of Buildings. It said jurisdictional division of inspectors, partly the result of union pressures, requires "up to seven" inspectors for a single structure.

Financial malpractice. When the committee returned to financial practices that are lifeblood for slum operators, it produced a set of recommendations that could well be copied across the nation. It said: "The continued existence and spread of slums is aided and abetted by the operations of a few institutions which extend the protection of the trust device of slum operators, provide a steady flow of mortgage funds, encourage and assist the conversion of residential units and provide the necessary fire and other insurance." The committee called for four major reforms:

1. Courts should hold banks responsible for the condition of buildings for which they serve as trustees. Under Illinois' naked land trusts, legal title to slum properties can be held by banks or corporate trustees, thus shielding the real owners from identification and effective prosecution. (In recent fatal fires, city officials attempting to prosecute have bumped into this blank wall.) "A few banks with lax investigation policies have become notorious for handling slum properties," said the committee. It urged trustees to require covenants from owners that property is not being used illegally.

2. Mortgage bankers should refuse to make loans on buildings unless they comply with the building code. "Mortgages should contain a uniform default clause under which a violation of the housing, building or zoning laws would give the mortgagee the right to call a default. . . . An affirmative statement should be required from borrowers that the building does not produce illegal revenue and that all construction existing or contemplated is legal."

3. The Chicago Board of Underwriters and Lloyd Surplus Line Brokers should notify their members of buildings found in violation of fire laws. Said the report: "The operation of slums would be difficult, if not impossible, unless fire insurance were available. Most of the 'old line' companies do not make a practice of insuring slum property. Most (such policies) are written by a small group of specialized companies at penalty rates. . . . The companies which specialize in slum properties may 'lay off' as much as 80% of their business with a few large re-insurance companies."

How much effect such moral pressures would have on financial malpractices remained to be seen. The citizens' committee planned to stay on the job. In Chicago as in few other cities, it could count on strong newspaper support.

Ordinance in Omaha. Other rehabilitation developments:

► Omaha (pop. 251,117) adopted a rehabilitation ordinance setting up a neighborhood conservation board. The move followed a successful pilot block rehabilitation project spearheaded by Omaha realtors led by N. P. Dodge Jr. (H&H, Oct. '53). Drafters of the ordinance took inspiration from laws in Indianapolis and Denver, ignoring Baltimore because they did not want the conservation office to be swallowed up by an existing city department (as it is in Baltimore) and thus deprived of enough stature to cope with the problem. The Omaha ordinance gave the conservation director, the board's salaried (\$6,000-\$9,000) executive officer, power to enter private dwellings with or without a complaint, but it placed main reliance on cooperative efforts against blight. As originally drawn, the ordinance called for fines of \$10 to \$500 and/or 90 days in jail for housing violations; it wound up with fines of \$5 to \$100 and/or 90 days. Mayor Cunningham named a promising five man board (which serves without pay): Charles Peters, real estate salesman; T. H. Maenner, one of Omaha's biggest realtors; Attorney Robert H. Peter-

son; Insurance Agent Arthur J. Hanson and Eugene Skinner, a grade school principal, City health officials persuaded Omaha that the conservation director must be a sanitary engineer with a master's degree in public health—a requirement most rehabilitation experts consider pure foolishness. Instead of the \$35,000 a year asked to start the program, the city put up a mere \$14,000. It was hard to see how that was anywhere near enough.

► In Memphis, the city commission approved plans to create a housing improvement department suggested by a citizen's committee to study urban rehabilitation needs of the city. Plans—still to be adopted in ordinance form—call for a \$57,000 annual budget for a 10 man department which hopes to have a pilot block rehabilitation project under way within 60 days.

► The AFL executive council, meeting in Miami Beach, declared its opposition to rehabilitation. Said the AFL: "Central emphasis in the administration's approach is on a rehabilitation or remodeling of existing dwellings instead of new construction. The housing needs of modern America cannot be met by a patch-up program. City and rural slums must be wiped out, not camouflaged."

Photo: Eliot Noyes



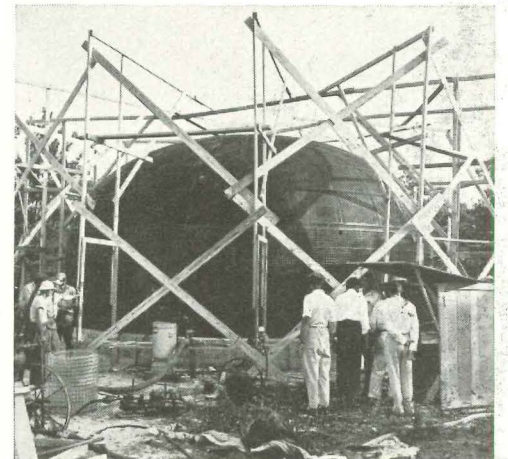
Big glassed openings give balloon houses a new look

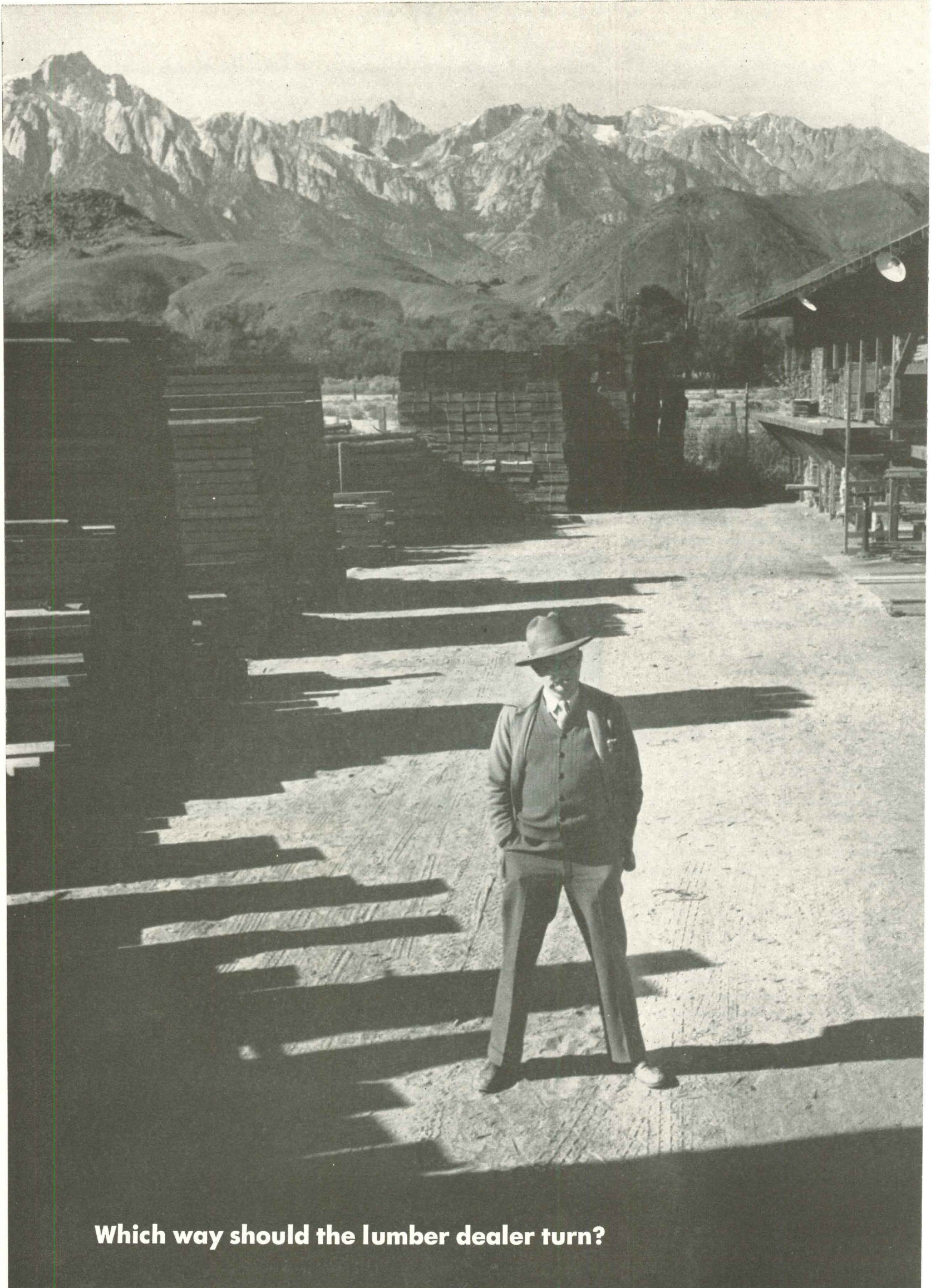
The big problem with sprayed concrete balloon houses, ever since Engineer Wallace Neff first patented the process in 1942, has been to make them esthetically attractive. Early models were close to spherical, suffered the additional indignity of graceless fenestration. In the US, not two dozen have been built.

Last month, passersby at Home Sound, Fla. (27 mi. north of Palm Beach) gaped with amazed interest at the latest in concrete bubble houses—the first built to Connecticut Architect Eliot Noyes' new designs (H&H, July '53, News). By flattening the dome, slicing his 30' circle with 16' openings fore and aft and recessing windows and doors, Noyes had created the most graceful bubble houses yet. They are built by spraying Gunite over chicken wire held in shape by a nylon and neoprene balloon (cost: \$5,000 to \$10,000). Glass fiber insulation goes between two courses of concrete. Inside, partitions reach up only to the curve of the ceiling, letting the breeze that blows in atop the red and white porch canopy flow straight through the house. The bathroom is enclosed.

While the two model houses might sell for as

much as \$16,500 (if Owner J. V. Reed ever sells them), Noyes thinks the 600 sq. ft. bubble could be sold for about \$6,500 plus land on a mass production basis. The shell without interior finishing costs only \$3,250 (\$5.33 sq. ft.). Manhattan's Airform International Construction Corp., which holds rights to the balloon process, is dickering for FHA approval.





Which way should the lumber dealer turn?

To help his small builder customers compete

Should every lumber dealer turn prefabricator?

Many believe the lumber dealer holds the future of the small builder in his hands. Without help from the lumber dealer, how can the small builder compete with the economies and efficiencies that assembly-line construction gives the big builder and the prefabricator?

Now at last the nation's retail lumber dealers are getting ready to pitch in and compete with the prefabbers at their own game: precutting and preassembly.

Through a grant from the Lumber Dealers' Research Council the University of Illinois Small Homes Council has developed and field-tested a panel system it expects will save the average small builder 30% on labor in framing and sheathing a house.

Here are the most important features of the plan which the lumber dealers have adapted and call Lu-Re-Co for LUMber REsearch COuncil:

1. Prefabrication. Lumber dealers would prefabricate enough 4' x 8' exterior wall panels (and roof trusses) to frame an entire house.

2. Preassembly. Doors and windows would be fitted into the framing in the lumberyard.

3. Simplification. Instead of buying so many board feet of 2" x 4"s, 2" x 6"s and 2" x 8"s, a builder would buy enough panels and enough trusses for his houses.

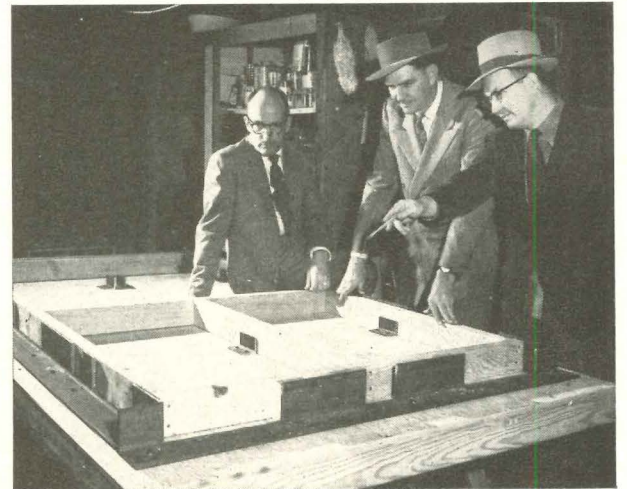
4. Standardization. All panels would be 2' or 4' wide. All ceiling heights would be 8' plus a tolerance.

Most immediate savings would come from simplification, which will make it much easier for small builders to plan their operations economically, and from preassembly, which might reduce the cost of door and window installations 40%.

In the long run, the biggest savings would probably come from standardization. Already three of the leading window manufacturers are producing a new line of special windows that fit the panels.

The American Institute of Architects and the National Association of Home Builders have already recommended a ceiling height of 8' plus a tolerance (H&H, Mar. '51). The added support from the lumber dealers should encourage more manufacturers to develop more products, such as storage walls, stairs, bathtub enclosures, to fit such a standard height. Already lumber mills are beginning to cut studs and headers to standard building lengths.

Photos: (below) Public Information Office; (opp.) Hagel



Window panel in jig is checked by Small Homes Council staff: (left to right) James T. Lendrum, director; Ray Harrell, in charge of field testing; Rudard A. Jones, assistant director and panel project chief. SHC explains the system in its latest publication "Homes from Pre-assembled Wall Panels."

Uniform 2" x 6" lintel makes panels work together

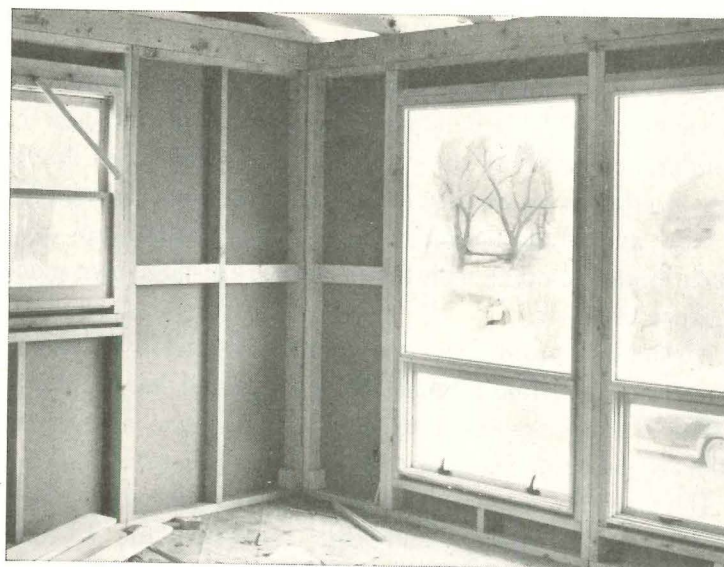
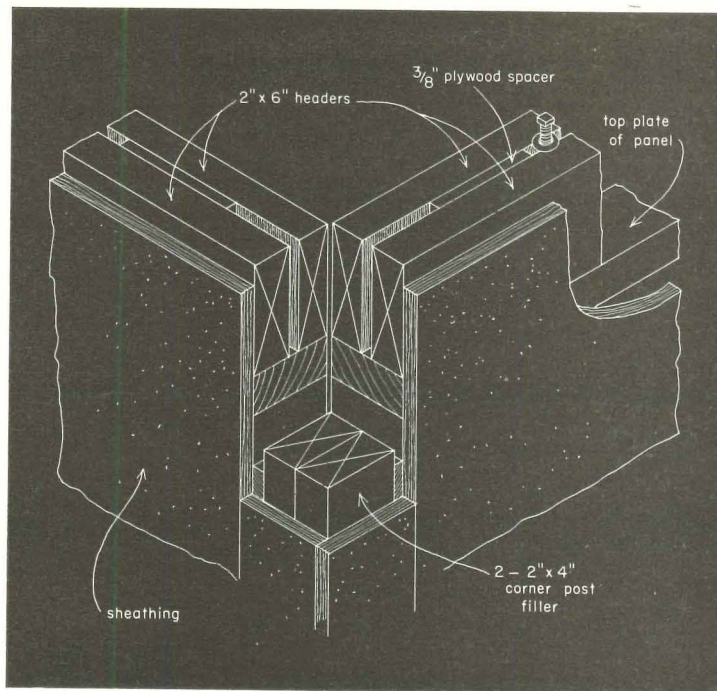
The important idea in the Lu-Re-Co system is not the panels which have been tried many times before. The real importance is in the double 2" x 6"s which form a continuous lintel to tie the structural panels together, much as the 4" x 8" beam ties Cliff May's preassembled panels together (H&H, July '53, p. 97). Like other forward steps in wood-frame engineering, the Lu-Re-Co system saves labor by using a little more lumber.

It offers the great advantage of making all the panels—solid panels, door panels, window panels—work together. It eliminates the need for cripples and heavy lintels above door and window openings. It ends any question about 2' truss spacing where studs are spaced 16" o.c. It works equally well with odd panel widths if the builder prefers them.

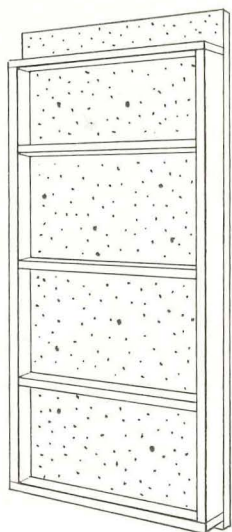
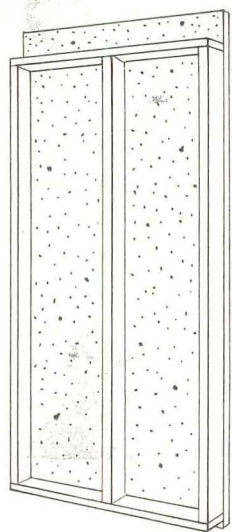
In effect, it converts the panel system to post-and-beam construction, with the intermediate stud serving only to reinforce the sheathing and wallboard as needed, and the load carried by the two studs at the end.

Use of the double 2" x 6" header involves half again as much lumber as in a conventional double 2" x 4" top plate, but this is largely offset by shorter studs and the saving of lintels and cripples. On a demonstration house the net added lumber cost was only \$6.50, a very small item compared with the double saving in labor: 1) less man-hours needed; 2) lower-cost labor in the shop than in the field.

Almost everyone seems agreed that the Lumber Research Council has developed a good idea (see p. 158). Now the big question is how many lumber dealers are worried enough about the business and leadership they are losing to bestir themselves. The fact that only 247 of the 26,000 lumber dealers contributed to the research is hardly an encouraging omen that enough of them are interested in new ideas to help their customers.

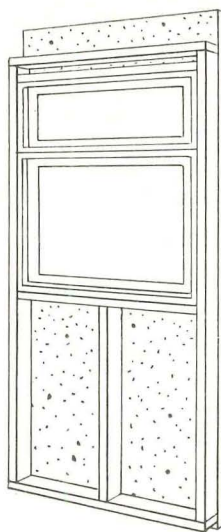


Basic panels are 4' wide, 7'-7 $\frac{1}{4}$ " high. Actual height of continuous lintel brings rough ceiling height to 8'-0 $\frac{7}{8}$ " (isometric, top). Used with trusses, panels permit open-room construction (photo above).

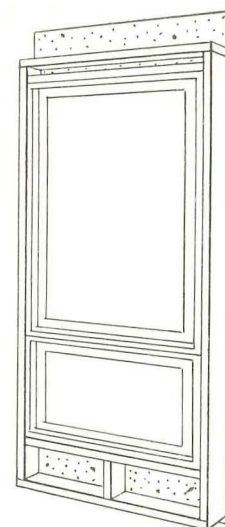


Studs can be cut, assembled, sheathing and vertical siding applied while solid panel is still in jig in 20 man-minutes. Exterior can be prime-painted in shop.

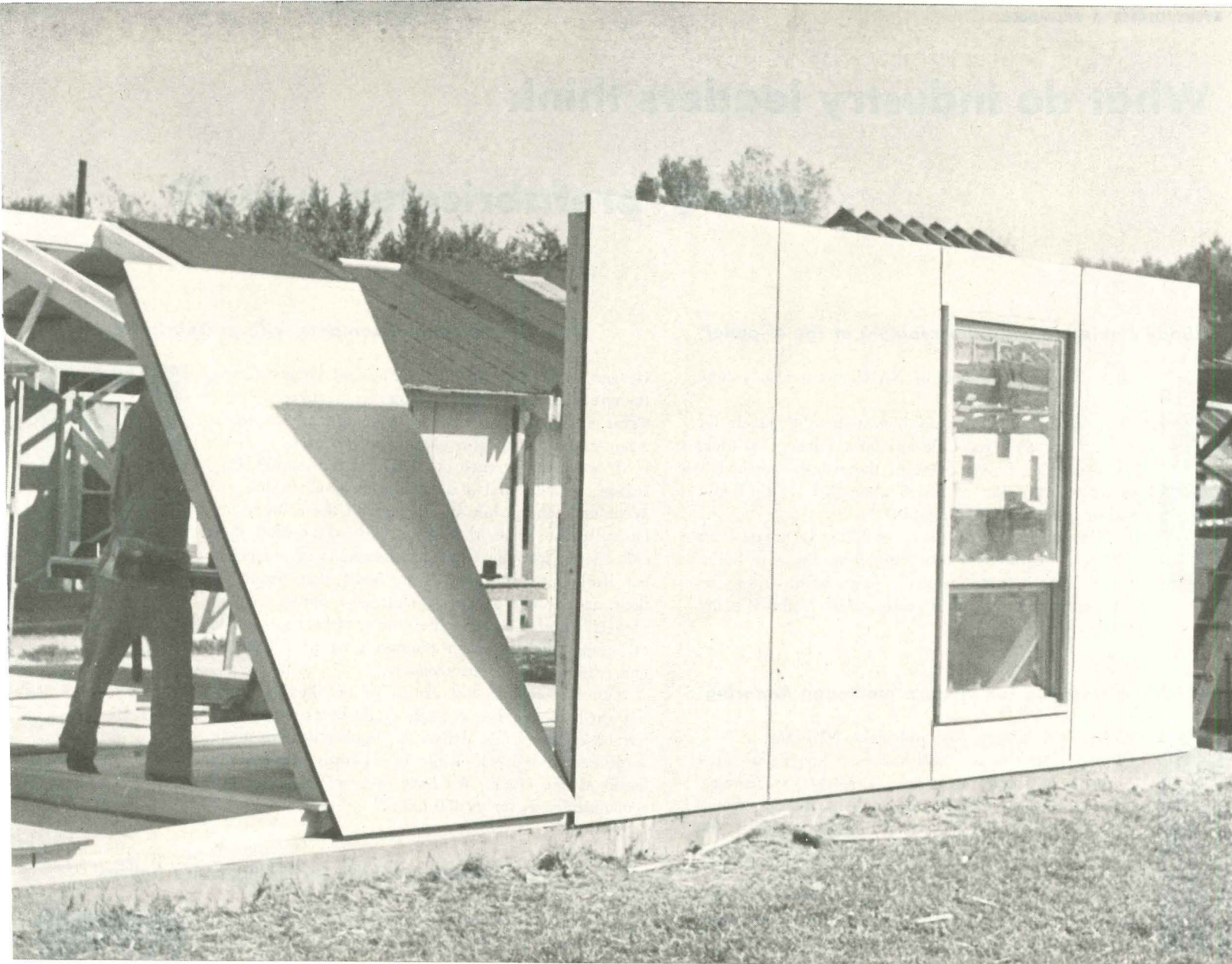
Solid panel with horizontal girts 2'o.c. takes more time to complete than panel with vertical members, uses more board feet, is designed for vertical siding only.



Privacy window panel for kitchens, bedrooms, bathrooms has 45" sill height. Panels take fixed glass, double-hung, awning, hopper, casement, sliding windows.

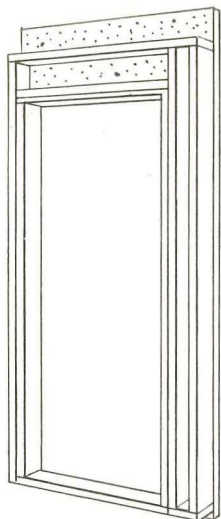


View window panel can be cut, framed, sheathing and siding applied, and window installed in 1 $\frac{1}{2}$ man-hours. Panel takes one fixed unit, one operating unit.

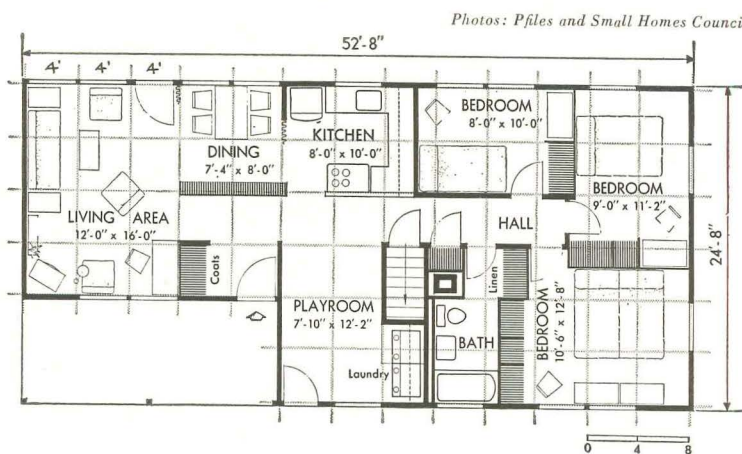


Building with parts instead of pieces

Two men can easily carry and erect individual panels for 1,000 sq. ft. house in day's time. Tying panels together on slab and tilting complete walls into place would be more economical but requires a six-man crew.



Door panels take 26 man-minutes to cut, frame. As in tilt-up construction, doors cannot be applied in jig because sill would fall below the base of the jig.



House dimensions are based on 4' panel width, thus 4'-wide sheet materials, can be used inside and out with minimum cutting. Panels still permit extensive plan and elevation variety.

What do industry leaders think of a 4' prefabricated panel?

'Somebody's going to whip the problem of the 4' panel'

Dick Hughes, president of NAHB (and also a lumber dealer):

"I've been trying to fit my operation to 4' panels for a year now and Ned Cole has been working on them for a couple of years. One of these days somebody's going to whip the problems altogether, if Lu-Re-Co panels haven't already done it.

"The advantage of panel building is greatest on scattered lots and for small builders. I'm sure builders will use it to get a lot of houses built. It may be some time before the full potentialities of the 4' panel are realized."

'Small builder's vehicle for modern mortgage financing'

Norman P. Mason, past president, NRLDA:

"I hope these panels will make it easier for small builders in small towns to get mortgage financing. With a uniform product the smallest builder should be able to get approved financing arranged so that the same VA and FHA terms available to the regular prefab purchaser are also available to him.

"Mortgage lenders should like this system because it gives them a broader field to work in and better houses to lend on.

"Panel construction could provide a prefab factory in almost every village and hamlet in America—a factory that could operate without the costly overhead and promotional expense of a national prefabricator. Panel construction provides a uniform variation of dimension that has all the advantages of complete standardization without monotonous sameness. I like it because it adapts itself to any style of architecture."

'Panels fit the small builder's operation like a glove'

Philip Creden, chairman, public relations committee, NRLDA:

"The reaction to the panels has been amazing. The interest shown has come almost too fast for us . . .

"Their biggest appeal is to the small builder in the small community because they are simplicity itself. They can be handled easily by two men, do not require expensive equipment; they are modular inside and out for economical use of sheet materials, even interior partitions could be made in the jigs.

"I can see a particular appeal for building with these panels in many small Southern towns where small plants are springing up and there isn't sufficient skilled labor available to make homebuilding economical. The small town lumber dealer's contractors have been drifting away from him; this should bring them back.

"The standardization of good design in small communities where FHA offices say design and structure of small houses do not compare with prefab values will be a natural result."

'Panelization cannot compete with prefabrication'

George Price, vice president, National Homes Corp., the nation's biggest prefabricator:

"This system focuses on just framing and sheathing a house and does it at a sacrifice in materials.

"It won't make much of a wave in the market. One reason: dimensional standardization won't catch on. We found that people in all parts of the country are basically the same, that they really want what they can afford; but you can't get thousands of independent dealers to see that. They insist that people in their area won't accept standardized houses. Stock plans for builders aren't the answer either; thousands of lumber dealers mean thousands of plan changes and a resultant loss in economy.

"Other economies lost are in volume buying: lumber yards cannot buy enough single items to save the purchasers much; in deliveries: lumber dealers make several small deliveries while we generally ship a whole house at one crack. We have even managed to ship economically as far as 350 miles."

'Another effective vehicle for selling more houses'

H. R. Northup, executive vice president, NRLDA:

"This is not just a way to beat the prefabber at his own game. It's a way to sell more houses because it does what the prefabber does—gets a house up quicker and at lower cost.

"Panel building is readily adaptable to resort towns, with a market for, say, ten houses and little local skilled labor to build them quickly.

"Manufacturers may find this worth while because it may help them to cut the number of window sizes they make—something I'm sure is uneconomical

"I don't think anyone knows yet the full implications of the system because it's such a versatile tool."

'A step in the right direction'

Leonard Haeger, director, NAHB Research Institute:

"This is a step in the right direction, because it is leading more and more to standardization of building components. The lumber dealer becoming a component manufacturer is all to the good. And this system does make some of the economies of mass production available to the small builder through his lumber dealer.

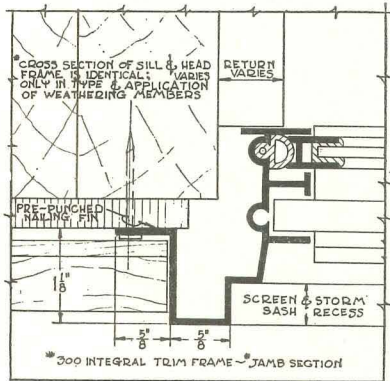
"The fact that you're off one stud in this new system over conventional stud spacing (by the extra stud every 4') of course presents the problem of standardizing on another rough stud opening. But perhaps this will point eventually to all standard components working together.

"Frankly I had hoped this panel would be more advanced than it is: the National Youth Administration worked on a similar one back in '39 and '40. I realize of course the present panel is highly simplified to reach the lower levels of skill in assembly."

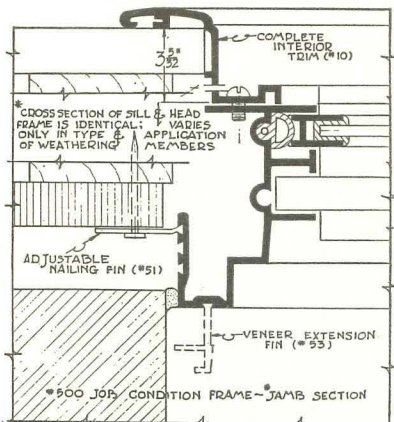


Photos: F. Bachrach; Lainson Studio; Sklar Studio; H. Staples Assoc.

NEW SLIDER SOLVES ALL INSTALLATION PROBLEMS



1 1/8" deep by 1/2" wide exterior trim (casing) and 5/8" wide pre-punched full perimeter nailing fin is integral part of window frame. Installed over sheathing in framed rough opening in less than five minutes. Almost impossible to rack. Easily mullied. May be used for masonry block construction; however, Job Condition Frame recommended.



100% versatile. Exterior trim (casing) is integral with window frame; contains continuous perimeter dovetails to accept simple installation fins (#51, #52 or #53) for wood frame or masonry construction. Simple vertical mulls. Jambis pre-drilled for positive screwing to rabbeted wood bucks. #51 Nailing Fin (pre-punched) provides six adjustments; one of three side dovetails chosen; offset in fin leg reversible before sliding fin into dovetail. #52 Masonry Block Fin (not shown) centers window frame in block slots. #53 Veneer Extension Fin provides wide brick mould when greater than 1" finger space required. #10 Interior Complete Trim used in wood frame construction in conjunction with #51 Nailing Fin; a complete package fitting any through-wall thickness from 4 3/8" to 5 3/8" regardless of thickness of exterior sheathing and thickness of interior wall materials. Infinite adjustment. #20 Interior Cove Trim (not shown) used when frame is installed in block construction with #52 Masonry Block Fin and interior masonry left exposed; #20 Trim also applicable for other types of wall construction.

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HOUSING MARKET *continued*

the large builder \$7,142. The small builder, after allowing less than \$750 for overhead and profit, would have to charge \$9,500 for the structure. But the large builder could charge nearly \$1,000 less and still have nearly twice as much for overhead and profit.

Such are the advantages of mass production, as the trade knows well. The inefficient builders have been making a lot of money in the sellers' market of the past eight years, while the efficient mass builders have been making fortunes and giving more to boot. HOUSE & HOME quips that the postwar housing market has created more millionaires than Texas oil.

But the easy pickings are almost over. The coming years will be hard on the inefficient builders and probably on the little ones. The mass builders haven't increased their share of the market very much recently, but the odds are certainly now in their favor.

Houses in factories. Even the mass builders may have their troubles, for they are now being threatened by the prefabricated house. . . . Indeed, FHA Commissioner Guy Hollyday predicts prefabs will account for as much as 40% of new single-family structures.

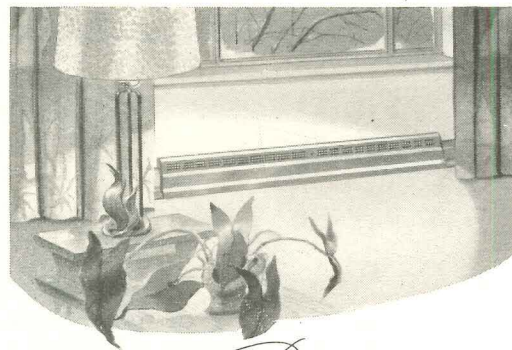
To conventional builders or others who may regard this as a prediction out of the wild blue, it may be interesting that some 75% of all new houses put up last year in Fort Wayne, Ind. were prefabs.

If the prefabs do boom, they will transform the market. They are already a force in breaking down the restrictive and arbitrary codes that have hobbled efficient building so long. And prefabs could supply a sizable share of what might be called the Cadillac market. As things are now, the man with money is penalized in the housing market. If he wants a tailor-made house only half again as big as the biggest of the mass-produced houses, he ends up by paying not half again as much but two or three times as much.

Save in the suburbs of metropolitan areas, it is impossible to mass-produce expensive houses on site for the simple reason that not enough people want identical ones. But the prefabricator with his national market could give upper-income families so much for their money that he could make a sizable contribution toward eliminating the lag in housing standards by the upper-income groups. And this part of the market could grow faster than the others as real incomes rise and more families move into \$7,500-and-over income groups.

"Cheap as rent." So much for the way the industry itself is being revitalized; now look at the financing that is enabling people to own a new house as cheaply as they can rent an old one. It makes a striking contrast with financing 30 years ago. Mortgages then cost at least 6%, and frequently as much as 10, and many second mortgages cost a nominal 10% and actually as much as 25 to 30%.

continued on p. 198



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$2\frac{5}{32}'' \times 2' \times 8'$ with ship-lap edges;
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lengths with square edges.

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ASPHALT-IMPREGNATED
INSULATION SHEATHING**

$2\frac{5}{32}'' \times 2' \times 8'$ with V-lap edges;
 $\frac{1}{2}''$ and $2\frac{5}{32}'' \times 4' \times 8'$ and $9'$
with square edges.



Gypsum Board Products



Lath & Plaster Products



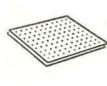
Insulation Board Products



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Houses the first month!



THE REASON ?

Alexander Caplan's model home in Chatham Township, New Jersey was a G-E "Young America" House—erected by the builder from basic plans supplied by the Home Bureau of General Electric. The G-E Kitchen-Laundry particularly delighted prospects.

IT WILL PAY you to investigate how helpful General Electric's Home Bureau can be in this new era of tougher selling—just as it has been to Mr. Caplan and her successful builders throughout the country. Today people are getting mighty choosy and want more for their money.

Just completed are specifications for 4 new "Young America" Model Homes which contain features prospects want most in their new homes . . . features *they can afford*.

Outstanding among the "want-most" features is the attractive General Electric Kitchen-Laundry.

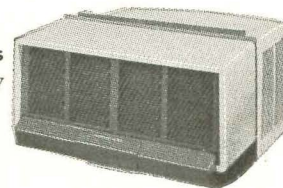
The value of these dependable appliances can usually

be included right in the regular mortgage, *and the monthly cost to the home owner is usually no more than that for a typical telephone bill.*

Builders in scores of cities are reporting phenomenal sales results of General Electric "Young America" Houses. Why don't you get all the facts through your General Electric distributor today?

Home Bureau, General Electric Company, Appliance Park, Louisville, Kentucky.

New G-E Room Air Conditioners at low per-unit cost! Models are easily installed. No plumbing required.



You can put your confidence in—

GENERAL  **ELECTRIC**

For Perimeter Heating

Now... Improved

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3 new features!



● **Wrapped in black asphalt duplex kraft**

● **Lined with aluminum foil**

● **Ends dipped in wax**

at NO increase in price!

SONOAIRDUCT—the economical fibre duct, which has in two short years revolutionized installation of loop, radial and lateral slab warm air heating systems—HAS BEEN IMPROVED . . .

The new SONOAIRDUCT contains all the cost-saving advantages that has made it so popular with heating contractors and builders everywhere. The basic new improvements are:

SONOAIRDUCT is now aluminum foil lined for lower coefficient of air friction!

SONOAIRDUCT is now wrapped in a black, weather-resistant asphalt duplex kraft, trade-marked in the usual orange lettering.

SONOAIRDUCT is now end dipped in wax to make it more impervious to moisture!

SONOAIRDUCT will continue to be available in 27 sizes—2" to 36" I.D., up to 50 ft. long in specified lengths, or it can be sawed to desired lengths on the job. Fits all standard metal bends, elbows, registers, T's, etc. Permitted by F.H.A.

All this—at NO increase in price!

Write today for complete information and prices

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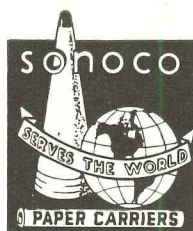
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Can be sawed to exact lengths on the job. Easy to handle, level and fit. Saves time, labor and money.



REG. U.S. PAT. OFF.

HOUSING MARKET *continued*

Long-term mortgages were almost unheard of, and most mortgages were subject to call at the end of a short period. To get a mortgage, in brief, a man had to have almost enough money not to need one. This was one reason, if not the only reason, that the housing market of the twenties collapsed.

What happened next, as everybody knows, was that the government got into house financing . . . [and] the government guarantee of mortgages, which has cost the taxpayer nothing so far, has done more than anything else to make possible a million or more new houses a year. If people had to pay 20 to 30% down, as they do on some uninsured mortgages, millions never would have bought houses. And because government-guaranteed mortgages have proved ideal investments for banks, insurance companies and similar institutions, mortgage money flows freely across state lines.

FHA's practice of making advance commitments has enabled builders to finance large-scale developments and work out the techniques of quantity production. FHA and VA dominate large-scale residential construction; they underwrite the financing of nearly three-quarters of the new construction in the \$6,000 to \$12,000 range, and 80% of all retail housing.

The new program. The government's role as insurer of mortgages, indeed, is so vital that no one in the industry, builder or banker, Republican or Democrat, would hear of its relinquishing that role. Some have agitated for liquidating Fanny May. But hardly anybody connected with building wants to do anything with FHA except to liberalize it. And that, in essence, is what the President's Advisory Committee on Government Housing Policies has just recommended.

Scrappage and rehabilitation. There may be one flaw in the rosy homebuilding picture. Vacancies in multifamily units in the cities are rising fast, but are still low among single-family units. What will happen if builders turn out such irresistible houses at such irresistible prices that people rush out and buy new houses as they buy new cars? That is, what will happen to the houses that nobody wants?

The answer is not wholly clear, for the housebuilding industry has never enjoyed a true replacement market of any consequence. Over the long run, however, the question should provide its own good answer. With housebuilders still underselling their market, a high vacancy rate should result not in a distressed market for expensive housing, as it did in the late twenties, but in demolition of worn-out, dilapidated, submarginal housing. Dwellers in a substandard house, when confronted with the opportunity of living in a modern pre-fabricated house and acquiring an equity in it to boot for about \$50 a month, are not going to stick to their old houses.

What will happen to the obsolete vacancies then is exactly what should happen.