DOLLARS A YEAR—ONE DOLLAR A COPY

August 1954

house + home

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Air conditioning

NAHB starts testing every advanced idea in home air conditioning in 22 experimental houses (p. 128)
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The '54 Housing Act analyzed; Northwest lumber strike pinches builders (p. 124)

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Patio houses

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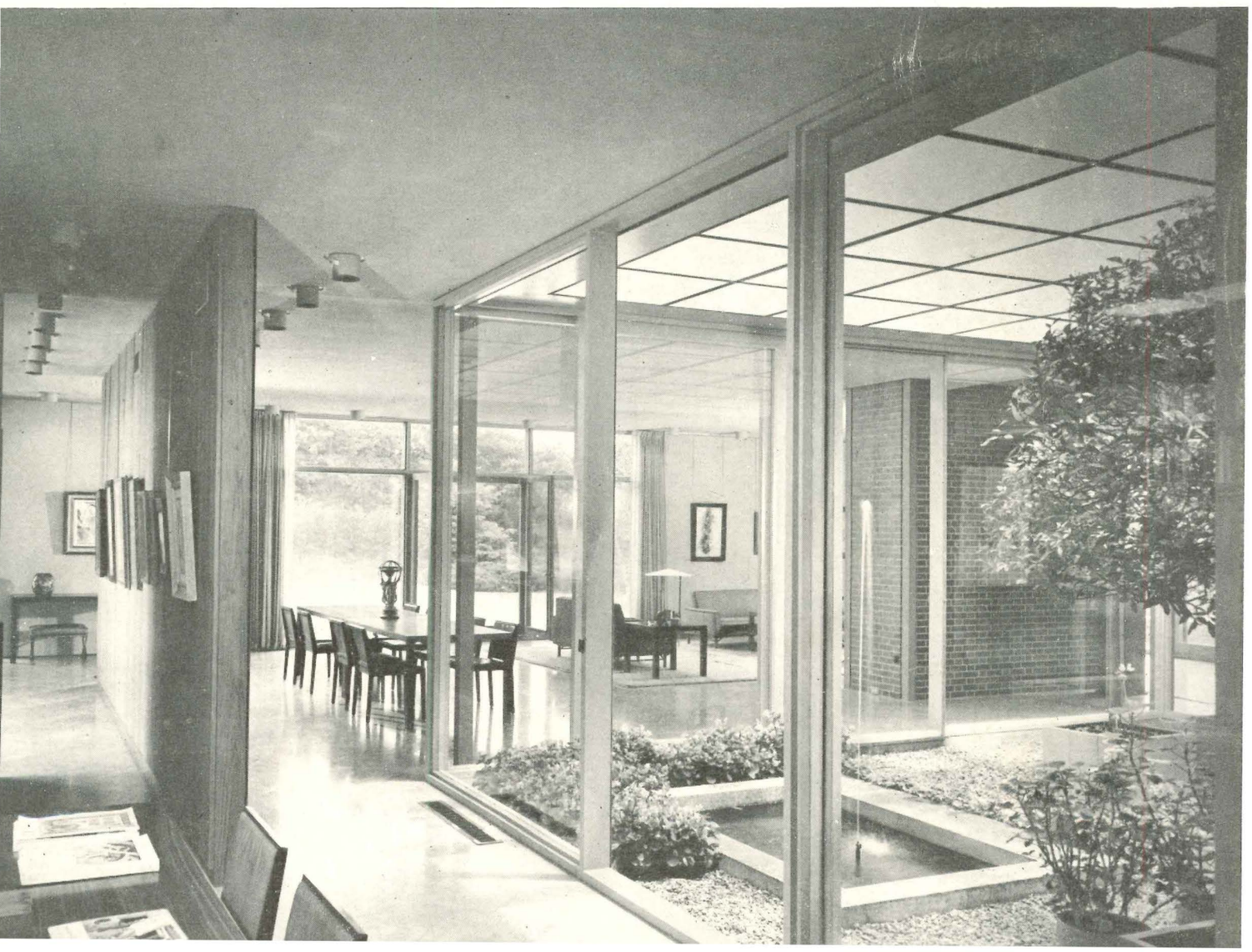

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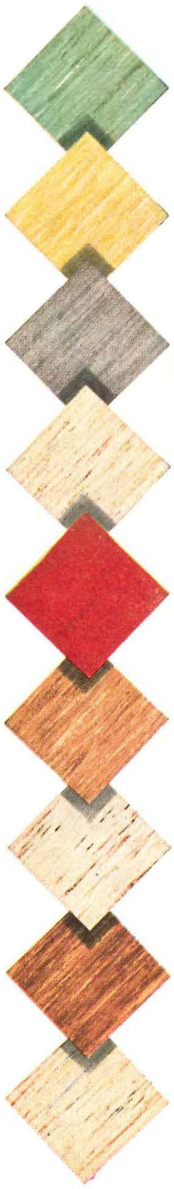
big sales asset in the spectacular TECHBUILT house



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The exciting principle of the TECHBUILT house is that you can buy as much space as you'll ever need for as little as $10,000. Carl Koch cut a substantial slice of the building costs by turning the ground level into a warm, handsome, living floor. To do this he needed a quiet, comfortable, practical flooring . . . yet a flooring that would go on concrete slab. He found the perfect solution in Gold Seal Ranchtile, the only genuine inlaid linoleum developed and guaranteed for installation on grade—with or without radiant heat.

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ate of homebuilding

▸ Burst of new subdivisions reflects builder confidence in sales prospects as mortgage money stays plentiful

▸ Birth rates—far above all predictions—provide a prop for optimism. Some experts see 2 million homes a year

int in 1953 was distinguished by more good news of construction volume. Total first- xpenditures were listed by BLS and the Commerce Dept. at a record $16.6 billion, rivate expenditures making up $11.4. Private spending ($2.2 billion) and public billion) both reached a peak in June.

perts forecasting a year-end figure for housing starts were raising their estimates. op federal housing man predicted 1.2 million starts—20% more than he was fore- g six months ago. Pat Riley, BLS construction statistics chief, told HOUSE & HOME ally he thought this mark was "possible." The official BLS estimate was upped 10% million.

e nothing-down house continued to give home sales a special impetus; in some states ably Florida — buyers were not even paying closing costs in cash on the nothing- . The pull of the latter was causing some increase in rental housing vacancies, but he nation the vacancy rate was not worrisome. Sale of old houses was still slow, but nes were going nicely, with plenty of mortgage money available. A Houston banker ted to signs of greater salesmanship on the builders' part, but added that it was "a c year." One bright spot: shipment of prefabs through May was up 17.6% over the for the first five months of last year.

ther: the birth rate continued to confound statistical projections, with emphasis second, third and fourth children. The marriage rate was down, but births would e up this decline with a need for bigger and better houses (as builders knew). A in Chicago showed that twice as many newlyweds had homes of their own to move is June as last. Reasons: higher apartment rents, easier home financing and stable uction costs.

r many a builder, it was a season for major land development plans, the result (in of the fact that the nation was rapidly exhausting the supply of developed homebuild- es. Houston Builder Frank W. Sharp announced plans for a subdivision of 15,000 plus shopping centers, theaters, banks and office buildings. In ten years, Sharp hoped ight rival Levittown, L.I. as the nation's largest residential development. Contractor ebb announced plans for a 6,000-home community near Denver, and another builder d an 8,000-home development nearby (see Builders at Work, p. 45).

es of room air conditioners, hard hit by a cool spring, perked up as a heat wave over the East and Midwest. Sales would probably still fall short of the peak pre- by the industry last winter, however.

e government was moving into the fiscal new year with confidence. As one economist "Our forces for economic growth have been buttressed." Employment figures were st since last autumn's downturn, with almost no change in unemployed from May to s opposed to an average increase of 400,000 in that month since the war. With such zation, some thought this would be the first postwar year in which the home buyer's bought as much cubic footage as it had the year before.

e hikes for steel, other is may up house costs

uilders were split on the question of r a steel price increase of $3 a ton raise the cost of a house; many were oncerned over lumber prices. On the uestion, estimates varied from a view e price rise would be "absorbed along y" to an expectation of a building cost e of 3 to 5% in the next six months. ink the fabricators are working on such margin already that they can't absorb this new increase," said a New Jersey builder. Several were concerned with the fact that a steelworker wage increase eventually means a rise in other trades. Most thought that since steel plays so small a part in home construction, it was probable that the price of the home would be only faintly changed.

"I expect the steel increase to have no effect on our house prices," said a Long Island builder now working on a 1,100-unit development. "Our big problem is lumber. The steel increase amounts to an increase in our costs of $4 to $5. The lumber increases can drive our costs up several hundreds. Lumber amounts to 40% of our $10,000 house.

Whatever happened to lumber prices, not only steel but also cement and brick, for instance, were selling above last year's levels. The developing pattern of labor wage increases of around 8 to 11¢ an hour meant construction labor would be 3 to 4% more costly in many areas. The fact that the Federal Reserve Board again lowered reserve requirements would tend to drive down interest rates which in turn stimulates borrowing and building.

The checkrein of more competition and harder sales would hold down the price of housing for a while. (The US Savings & Loan League noted that new homes in the low- and medium-price brackets were going unsold for about a month longer than a year ago.) But eventually house prices must yield to building costs. The outlook seemed to be up.

Big postwar rent rise over; some cities feel vacancies

In Memphis last month, rental property managers were telling their owner-clients the city was overbuilt, that owners would have to meet the competition of GI and public housing with lower rents, more maintenance or both. Said Realtor William D. Galbreath: "A great many rents have already been reduced. More must follow." Hardest hit, rental operators agreed, were one-family homes converted to apartments. But postwar 608 rentals were weak, too; many were renting for $70 a month up with the tenant paying for heat, gas and electricity. Now, VA nothing-down homes with three bedrooms were on the market with $60-a-month payments.

The rental market in Memphis was weaker than in most US cities. But vacancy signs again were going up in more and more places. Said a Washington, D.C. housing man: "The increase in vacancies has been creeping up on us for some weeks, but we have been hearing more complaints in the last 30 days." He attributed the change to "move-outs stemming from no-down-payment buying." In Milwaukee, owners and landlords reported the city was "starting to get back to a normal market." A few landlords were offering to cut rents $2 to $5 a month to retain tenants. In Lubbock, Tex. realty men blamed a 500-unit Wherry Act military housing project for six foreclosures of Sec. 608 and 207 rental projects in the last eight months.

Nobody was even worrying about a threat of mass housing vacancies across the country; it seemed remote. But it was clear that the great postwar rise in rents was over. BLS' national rent index told the story:

Month	*Index*	*Month*	*Index*
Jan. '48	98.8	Apr. '53	122.1
Jan. '49	103.3	July '53	123.8
Jan. '50	107.5	Oct. '53	126.8
Jan. '51	110.6	Jan. '54	127.8
Jan. '52	116.6	Apr. '54	128.2
Jan. '53	121.1	May '54	128.3

The last big jump in rents came between July and Oct. '53—following the end of

federal rent controls. Since December, the leveling off has been unmistakable. Percentagewise, the figures reveal even more. Since the month before rent controls ended, the national rent level has jumped 3.6%. But since this January, it has gained only 0.4%. This leaves the US rent index no higher than it was in the 20's. But the national disposable income is three times the level of the 20's.

Electric future for housing prophesied to financiers

"Since 1900, the electric industry has been expanding three times as fast as the average for all industries. And looking ahead, as much electrical equipment will be built, sold and installed in the next ten years as has been built in the entire 75-year history of the electrical industry!"

This ebullient prediction by W. V. O'Brien, vice president of General Electric Co., was representative of a recent upsurge of enthusiastic opinion on the prospective growth of the electrical market. O'Brien figures that by 1964 the average electrified home will have $5,000 worth of the sort of products now sold by the big electrical companies, as opposed to a present investment of $1,300 for such products. Some excerpts from his speech before the National Federation of Financial Analysts Societies in Chicago:

"In the next ten years we confidently expect that refrigerators will approach a 100% saturation, rising from today's 90%. Home-freezer installations will triple; ranges and electric water heaters will almost double; clothes driers will jump almost five times over today's level; and very significantly, room air conditioners will increase 11 times. By 1964 we look forward to 66 million home television receivers in operation, 44 million of which will be color sets using almost twice as much electric power per receiver.

"Within the decade, the growth of these and all other well-established home appliances will multiply more than 2½ times the total kilowatt-hours used by such appliances today.

"This increase does not take into account those newly introduced appliances which will play an important role in the electrical future. For example, there is the heat pump, a newcomer in the appliance field, for which there are great expectations . . . [for this] combination home heating and cooling unit whose only fuel is electric power. Today this unit is installed in only a few thousand dwellings, mostly in the southern states. But with mass-production techniques and greatly improved technical advances already under way, it is anticipated that the heat pump will soon rival the cost of any other means of home heating anywhere. Consequently, we are forecasting that over half a million homes will be equipped with heat pumps by 1964.

"In addition to today's established appliances and the newcomers already on the market, still other home appliances will create new loads for the utilities in the decade ahead. Here are just a few envisioned in the near future:

1. An electric incinerator that will dispose of trash as well as waste food, and will even sanitize cans and bottles.
2. A television screen that can be hung like pictures on the wall, connected only by a thin wire to the television receiver.
3. An electronic device for thawing frozen foods very quickly.
4. Still another electronic device for cooking foods in a matter of seconds.

"There are many other such products, of course. But these few examples serv illustrate new and expanding uses for ele power that will come from a continuous tern of product development.

"The significance of this projection ext far beyond our own electrical industry; is a valid index to the growth and pote of all aspects of our national life. Be of its tremendous capacity for multip human effort, electric power is a prime of progress, not a luxury that follows i wake of progress. In our modern worl availability of electric power determines large degree, the standard of living, the perity, the cultural vitality and the mi security of a nation."

Segregation suits may hit project builders
New York tightens its open occupancy law

A convention in Dallas, a new ordinance in New York and a lawsuit in Shreveport gave further clarity last month to the direction and methods of moves and plans to end segregation in housing.

The attack on segregation would be legal. Its spearhead would be the National Association for Advancement of Colored People. Its impetus was the Supreme Court's decision (H&H, July '54, News) outlawing segregation in schools and the court's refusal to hear an appeal from a California ruling barring segregation in public housing projects.

Target: mass builders. As already indicated by NAACP's suits against realtors and developers in Sacramento, Calif. (H&H, June '54), one big target of the drive to compel "open occupancy" will be builders of FHA- and VA-backed housing projects. At NAACP's annual convention last month in Dallas (where, because of segregation, meetings were held in churches and a wrestling arena), Mrs. Constance B. Motley outlined both accomplishments and objectives. Mrs. Motley, 32, is a New York lawyer and chairman of NAACP's housing committee. She noted that NAACP already had won seven cases in five states (New Jersey, Michigan, California, Ohio and Indiana) involving segregation in public housing projects. "We have been successful in this area," she said, "and have opened many public housing projects without litigation—just by discussing it."

The emphasis in the future, she announced, will be on private housing. "By private housing, I mean mass projects of many units which exclude Negroes by virtue of race. . . . We don't plan to enter small-scale activity against homeowners who do not want to sell to Negroes. . . . Our argument against discrimination in private housing — projects which may number 200 units—is that exclusion of Negroes there is in effect banning them from a community. One project in New York of 16,000 homes is a town in itself, with about 50,000 inhabitants. We feel such projects are almost public utilities. . . ."

First in the nation. In New York an ordinance went into effect outlawing discrimination in apartment buildings or "habilitated" with the aid of federal, or city loans or guarantees. It was th such law in the nation. It was not retro but would apply to some 2,000 FHA-b apartments now rising in Brooklyn Queens (where 95% of the 96,000 multi dwellings built since World War II have up with FHA aid). New York already law prohibiting discrimination or segre in projects receiving direct or indire from city, state or federal taxes.

In Shreveport, two Negroes (with N legal aid) filed suit in federal district asking that local FHA Chief Henry Acting Commissioner Norman Maso sponsoring Jerry Goodman Co. and E Construction Co. be compelled to go with a Sec. 213 cooperative. The $1 m 255-unit project, Clarke Terrace, was int for Negro occupancy on a site just sou of Shreveport. When residents of a m white community found out, they put e pressure on the police jury of Caddo so the jury refused a building permit sponsors then obtained FHA appro change sites. The new location: inside S port in an established Negro belt. FH cials said this was the first racial case b against 213.

Ahead: policy review. All the leg tling could produce some ironic result ready, some top government housing o were doing some serious thinking whether the government should drop nority housing programs. If the gover following the policy enunciated in Su Court decisions, was going to stress housing facilities for Negroes, how c logically maintain units to help get treatment for minority housing? The v istence of such units tacitly admitte Negroes do not have equal access to th ing market and therefore need speci grams designed especially for them.

E PROBE OPENS, Chairman Capehart (with pencil) asks a ques- Sen. Goldwater (l), Staffer McMurray and Counsel Simon hud- point. Maybank (r) listens, chin in hand.

Reni photos

FIRST WITNESS McKenna dragged big names into windfall profit charges, including former Housing Expediter Wilson Wyatt, three members of the du Pont family. He accused ousted FHA of discouraging investigations.

ıators call 608 builders on the carpet

Ignoring White House urging to wait until the housing bill is adopted, banking committee begins lengthy hearings

Two ex-FHA officials and some builders invoke Fifth Amendment. Democrats charge GOP with smear attempts

ıate banking committee steamed ahead last month, accusing government officials vate citizens of a variety of misdeeds, including free fishing trips and profiteering. estion from the White House that the investigation of FHA wait until the new bill was safely out of conference went unheeded. With the McCarthy sideshow n. Capehart and friends were in a position to regain the klieg lights. During the ion of the public hearings last month they heard an increasing number of allega- impropriety in high (and low) places of the sort they had previously heard and o treated to a few new versions.

e Senate floor, meanwhile, Sen. Harry D, Va.) whose own investigation of d been eclipsed by Republican Cape- oiled over with his most vitriolic sum- of the situation to date. Said Byrd: onvinced that the whole federal hous- gram constitutes the greatest invita- nalfeasance and moral turpitude per- by the federal government in recent . . ."

r deals.' It was a month when the industry had to suffer a lot of similar ıtions—generally in pained silence. pehart was quoted several times on ef that the investigation will expose melly, rotten deals." The daily press vith the prevailing winds of rhetoric ıion. Columnist Fred Othman wrote a out former FHA General Counsel Bur- ard ("a trembly little man . . . with ibrating on his lips"), commented on cing in the capital and discussed the scussed Shirley-Duke apartment deal ındria. The Washington *Star* offered rial on practitioners of the profit- 508s which said: "The fact that so this apparently was done by taking ge of loopholes in the federal housing save some of the profiteers from any ion but it does not make them honor- n. . . . If otherwise respectable indi- chose to operate in this questionable is not unfair to judge them by the company they kept." Scripps-Howard editors, while lacking the style of the *Star*, turned a blowtorch on the "more reprehensible" FHA officials, who knew of the "irregularities" but did not act. "These are the babies," wrote Scripps-Howard, "we hope the Justice Dept. can nail, but good!"

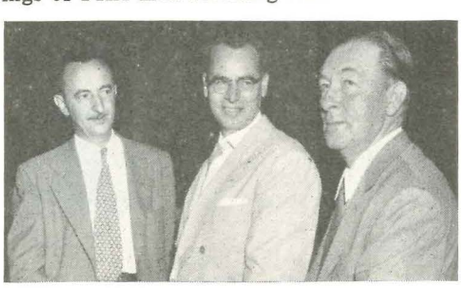
Ask me no questions. Such bristling comment from the senators and press was at least partially caused by listening to two ex-FHA men invoke the Fifth Amendment and refuse to talk to the senators. One of them—Clyde L. Powell, who "resigned" as an assistant FHA commissioner—stood on his constitutional right that "no man may be compelled to testify against himself" even when confronted with accusations that he concealed a police record when he applied for his FHA job 20 years ago. Powell had been the first official singled out as a scapegoat after Guy Hollyday's ouster as FHA commissioner in April, with circulation of reports that he had suffered heavy gambling losses. Now, the FBI dossier read into the record showed Powell pleaded guilty to a larceny charge in 1917 and received a suspended sentence. He had also been up on several charges of passing bogus checks and one of embezzlement.

Atty. William McKenna, deputy HHFAdministrator in charge of investigating FHA, testified that neither of two FBI reports on Powell's record sent to the Civil Service Commission for transmission to FHA can be found in the latter's offices. The fact that Powell had been in charge of the rental housing part of FHA from its inception until the firecracker went off does nothing to soothe the feelings of persons who have formed an antipathy to other people's 608 profits.

The other official who clammed up was Andrew Frost of Albuquerque, who was dismissed late in June as assistant FHA director in New Mexico. Frost decided he would not say yes or no to a series of questions on whether he did or did not attend a couple of girlie parties given by contractors, go south to fish at contractor expense, accept a gift of a couple of truckloads of concrete blocks for his own house.

Burton Bovard, who continued to provoke the ire of the senators by telling them he did not know of any "windfall" profits by builders under 608, also told them a quaint tale about the 1,137-unit Woodner apartment-hotel in Washington. Asked by Capehart how the edifice could have been built with an FHA-insured mortgage of $7.5 million when the law specified that no single project amount to more than $5 million, Bovard explained that the big building had been set up as two "legal entities," with provision for a wall through the middle. Bovard said he thought the wall had been built, but was "not sure."

Root of all evil. The nub of the inquisition was still 608—though Title I repair loan frauds would get the spotlight later. Tales of extra-curricular contact between official and customer (reports were submitted at the hearings of FHA men receiving wristwatches and



SHIRLEY-DUKE Project Builders Herman W. Hutman, Byron Gordon Jr. and Earl J. Preston were accused by probers of "discrepancies" in their testimony.

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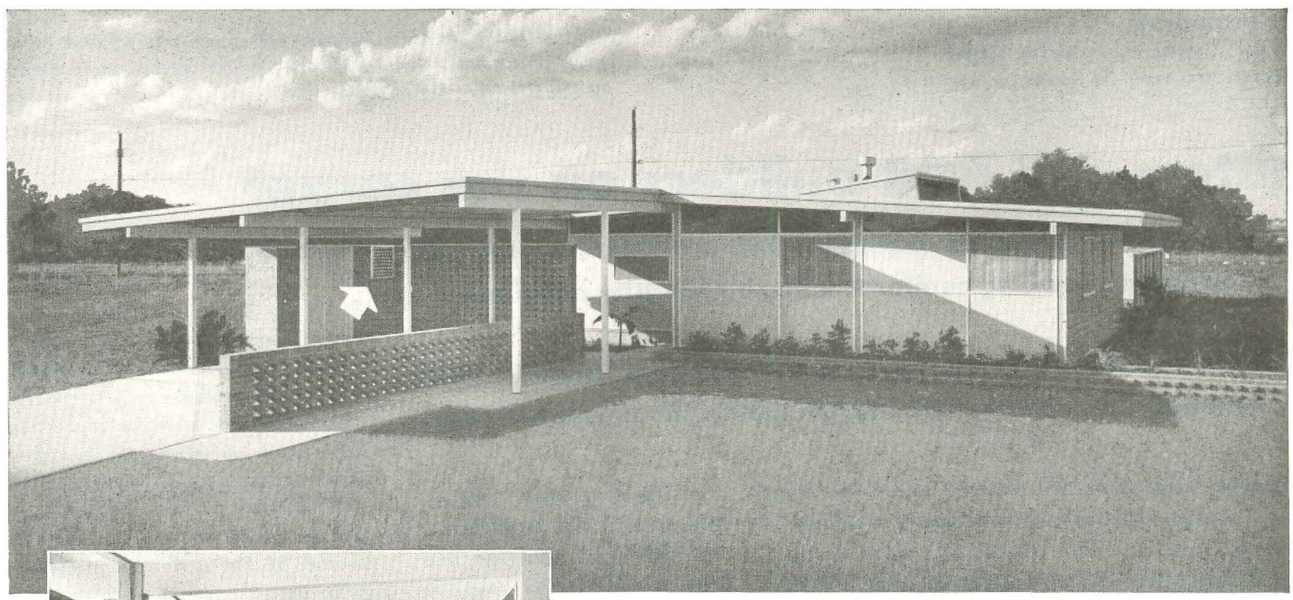

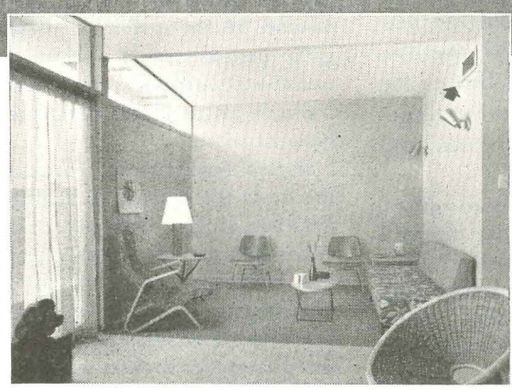

House in NAHB Air Conditioned Village, Austin, Texas, designed for Chrysler Airtemp *Air-Cooled* Air Conditioning by Fred W. Day and built by Wayne Burns. Cooling coil is located above Chrysler Airtemp Gas Furnace in hall closet. Air-cooled condensing unit for *waterless* cooling is mounted in wall of storage area at rear of carport at point marked by arrow in top photo.

High wall method of air distribution was used because of successful experience of builder and installer with this method in other homes in area. Compact duct system is confined to least used area of house.

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THE TRULY MODERN HOME IS AIR CONDITIONED

on sets from satisfied builders) were compared to the drive to get to the of the so-called windfalls. It is notable ly the briefest factual mention has ade in the investigation of just what, ning, the taxpayers have lost because profits on 608s. There has been no of how few foreclosures FHA has nake on 608s. The senators were point- accusatory finger at corporations that ade big money overnight, but they naively unaware that Congress in- 608 profits to be big in order to get housing built in a hurry. The present tion that FHA-backed housing should nited profits is ex post facto.

e the smiles off your faces," Capehart ee Washington area builders (cut, p. they were admitting to an aggregate $2 million on an original investment of The three—Herman Hutman, Earl J. and Bryan Gordon Jr.—told how they ,846,000 in FHA-insured loans to put Shirley-Duke apartments in Alexan- ey said they listed architect's fees of) instead of the $63,000 they had actu- d; got the land valued at more than), although they had purchased it for); went on the payrolls of separate tions at salaries of $20,000 apiece. The lion was borrowed from Investors Di- Services (now controlled by Robert g's Alleghany Corp.). Earl E. Crabb, e committee chairman of IDS, testified eived only $919,000 in fees—on a $14 risk. But the role of IDS' Washington r Don Loftus could not be so easily d away. Unbeknownst to IDS, and missed for it, he made a big personal buying into the project early in the

m Simon, newly appointed counsel for king committee's investigation, asked dwesky, counsel for the apartment sponsors: "If your original applica- shown the facts we have talked about ay, do you think it is conceivable FHA ave issued the commitment?"

Y: "What facts are you talking about?" "That the financing expenses would be 6½%, that the architect's fee would be half of 1%, that the equity capital would be $1,000—if all that had been in the application is it conceivable FHA would have issued the commitment?

Budwesky argued with Simon about whether the application required any showing of equity capital at all. Commented Capehart: "There are a lot of things we don't seem to be able to conceive of around here."

Also resurrected was the old Indiana scandal involving the late R. Earl Peters, ex-FHA state director, fired for insuring his own Fort Wayne 608 through his own office (H&H, Feb. '52, News). On the witness stand, Mortgage Broker Charles H. Glueck of Gary, Ind. denied acting as "front" man for Peters on the deal. Glueck insisted that he had made a profitless sale to Peters of a half share in the project.

Democrats and taxes. Burned by an increasing tendency among the investigators—especially the red-thatched McKenna—to zero in on the policy-makers of the Truman administration, Democratic senators felt obliged to get in some historical comment on the 608 program. Sen. Sparkman (D, Ala.) interrupted McKenna on June 28 with the statement: "We have known about this mortgaging out for a long time." He pointed out that attempts by Sen. Russell Long (D, La.), who was a member of the banking committee in 1950, to tighten up the 608 program to prevent mortgaging out were defeated, and reiterated that mortgages were based only on estimated costs. Sparkman's view: "If Congress failed to tighten up the law, it could not escape responsibility for any abuses that may have occurred."

Sen. Burnet Maybank (D, S.C.), the ranking Democratic member of the committee, told HOUSE & HOME after one of the sessions that he thought when the group really got down to bedrock on the 608 deals it would find that "the tax law was chiefly responsible for whatever profiteering went on." The senator's comment clearly implied that a builder's desire to take advantage of the present interpretation that excess monies on apartment projects are capital gains was the actual motivation in persuading him to mortgage out. The tax law has already appeared as a potential weapon in the fracas—a test case is being run by Internal Revenue on the premise that a builder's excess monies are really ordinary income and Sen. Byrd has a provision in the new tax bill which would classify them as that.

Another point that interested Maybank: if tenants were being fleeced by exorbitant rents due to cost padding on 608s, why has the present command of HHFA and FHA not done something about it—like ordering a rent reduction?

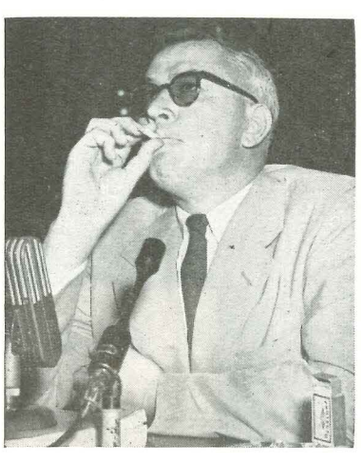
Industry reaction. If the opposition's politicians sensed that the investigators were shooting around the target, so did the building profession profess consternation at damage being caused by the committee's approach. Commented one builder: "The Republicans are so anxious to magnify the sins of the FHA as its program was conceived and carried out under the Democrats that they are willing to leave the implication in the public's mind that the building industry is dominated by crooks. They are even questioning the profit motive. It doesn't make sense."

Even Big Builder William J. Levitt got on the committee's hook. On the witness stand, Levitt recalled his firm received $29,946,500 in mortgage loans for 4,028 Cape Cod rental houses in Levittown, Long Island, insured under FHA Sec. 603. Final construction cost: $24,168,000, almost $5 million under the mortgage amount (or about $1,250 a house). The Levitts later sold their stock in the corporation created for this phase of the huge project, Bethpage Realty Co., to Junto, Inc., described by Levitt as a Philadelphia "charitable organization." Stock sale was subject to capital gains tax, whereas dividends, had they been divided among stockholders, might well have been subject to much steeper income taxes. Capehart called the profit a "windfall." It was no such thing, Levitt insisted. He defined a windfall as profit pocketed by a builder who kept the property, giving him the prospect of still more profit on sales or rents. His $5 million was simply building profit, said Levitt. Next day, builders began

Photos: Reni; UP; Harris & Ewing; AP

L CRABB
Washington man profiteer?

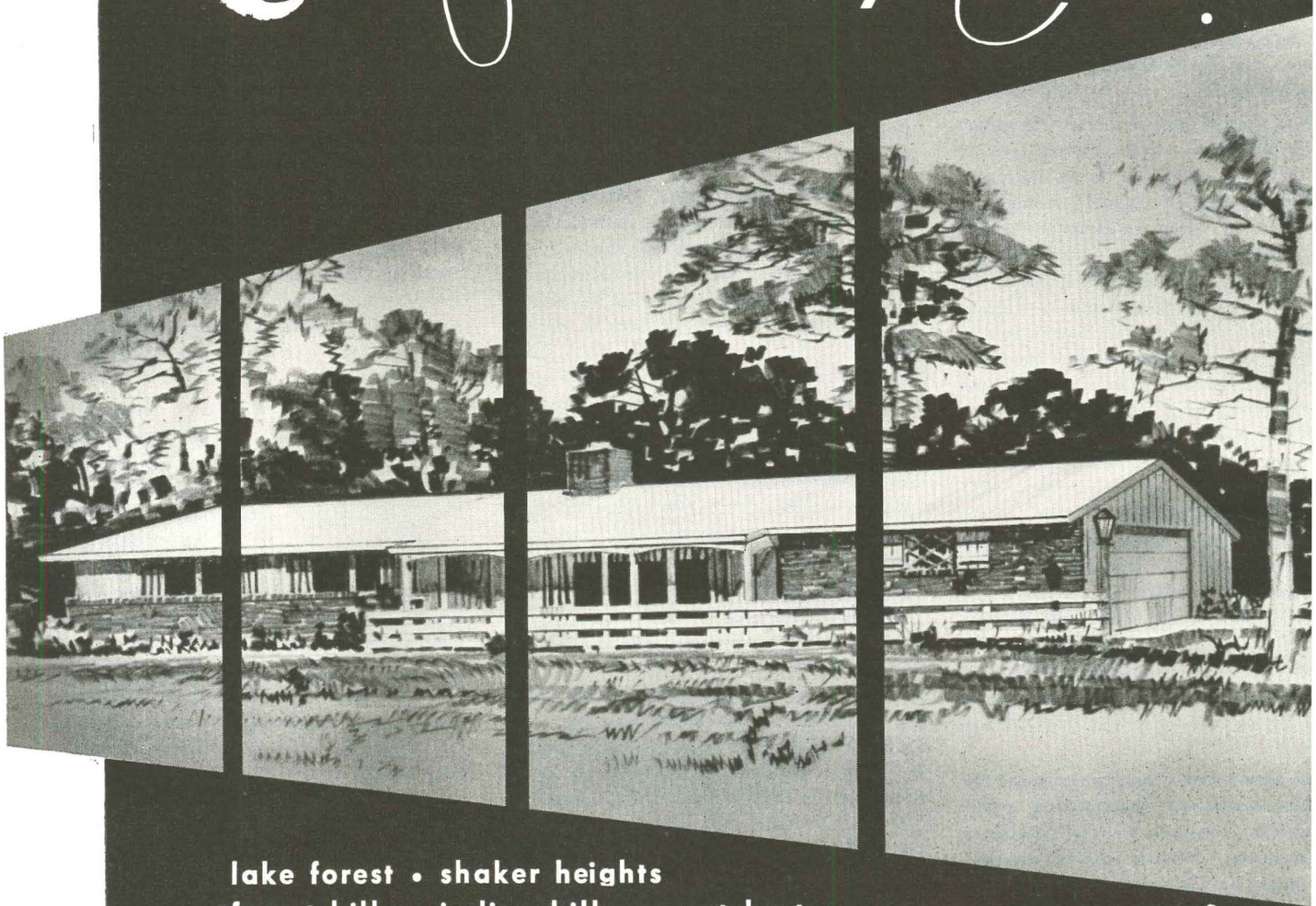
MORTGAGE BROKER CHARLES GLUECK
Profitless deal with a dead man?



FHA'S ANDREW FROST
Fifth Amendment girlie parties?

FHA'S CLYDE POWELL
A second refusal to testify

California contemporary by scholz



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ng back to the investigating senators still . Bertram Bonner of Richmond, who had e $1 million in 608 mortgage profits, com- ed it was "unfair" to criticize those who onded to urgent government appeals for ng.

torney McKenna gave the banking com- e financial summaries of the operations groups which had constructed Sec. 608 cts—27 "horrid examples" of overfi- ed apartments in the New York suburbs, nia and Texas. Both McKenna and Cape- charged it was common practice not to architects' fees allowed by FHA regula- . Thoughtful building men agreed that 608 deals were pretty smelly. For in- e, even if a 608 application was based on posed deal, the sponsor was probably vio- g the law if he put in an architect's fee % if he already had signed an agreement the architect to do the design for less.

cKenna stressed other points of more tful merit. Samples:

study of 62 Sec. 608 cases in 11 states ed that many did not pay the prevailing rate as required by law on multifamily projects (but not on detached homes). failure to pay this rate was one of the rs that resulted in mortgaging out. . . . if the certification that the prevailing rate had been paid was false, FHA the position that it could overlook this as long as it was filed."

ere the Labor Dept. forced pay- of prevailing rates, FHA often raised its itment. "The key people responsible ese abuses have been dismissed or forced ign. These abuses could not have arisen under the present law if it had been prop- dministered," said McKenna.

Kenna's technique struck some industry ers as expert use of the three-quarter to imply more than the facts warranted. lly, FHA was never given staff or in- ions to administer the prevailing wage All it was required to do was get a cer- ion from builders. Most 608s were built a scarcity of construction labor; build- ould have had to pay top rates to get built at all. Moreover, FHA omitted 608 regulations two clauses (both in- d in 207 rules) which helped make age profits possible. These were: 1) against liens other than the mortgage, 2) a ban against redemption, purchase ying off of any stock on interest in the ration except with FHA approval. The omission allowed corporations to get risk funds as loans; the second allowed se identity of the owning and building rations, retention of funds usually paid uilding services and, finally, distribution ch retained funds as a capital gain.

e data sought. Acting FHA Com- oner Norman Mason mailed a question- to all mortgagors under 608, seeking four of information on how they financed projects. "Pursuant to the authority l in the commissioner," read the accom- panying letter, "your firm as a Sec. 608 mortgagor is required to furnish the information called for. . . ." Some builders suggested the request was tantamount to asking them to convict themselves. Others speculated on the extent of the commissioner's authority to obtain such information. There is language in the charter of each 608 corporation which authorized the commissioner to request detailed information relevant to the project, but there is doubt as to whether this could be used as authority so long after endorsement by FHA of the contract of insurance. One 608 mortgagor addressed a letter to Mason in which he stated that members of his firm could find themselves under no obligation or compulsion to furnish the information requested and added that if they could determine some "reasonable purpose to be accomplished" by the questionnaire their attitude would be quite different. "We have read the publicity issued through the housing agency, and the newspaper reporting of the hearings before the banking and currency committee in the Senate," went the letter, "and have been greatly disturbed at the statements made implying wrong doing under the law in such general terms as to place every owner of stock in a mortgagor corporation or owner of a project subject to a mortgage insured under 608, under suspicion as having violated the provisions of the NHAct. . . . No specific statutes are cited, no detailed charges have been made of which this corporation is aware, and in particular at no time have we been advised as to the legal authority, chapter and verse, under which the FHA commissioner could properly demand or require this corporation to apply or dispose of funds from the proceeds of the mortgage."

Counterattack. Any such view as the above had not yet registered either on the senators or Mason's FHA. FHA had in fact, composed a gray list of about 70 Sec. 608 builders and told their men not to do business with them without checking first with Washington. The list was secret, but its existence had already stirred uneasiness in the industry. FHA also issued instructions to its staff to refuse to knowingly insure any rental housing under 203 without Washington approval. McKenna had charged that some 400 rental projects in disguise had sneaked in under 203, including a big one near Washington. (Advantages would be higher commitments and circumventing of the law on prevailing wage rates.) It was possible the inquiry could grow into a full review of all housing activities under the 20 years of Democratic administrations. Senator Byrd has warned against the corruptive potential of the HHFA's slum clearance program, and public housing's Sec. 213 co-ops and military housing have been mentioned. The committee planned to take the show on the road after the close of Congress and investigate the situation in New York, Cleveland, Detroit, Columbus, Chicago, Los Angeles, Baltimore, Philadelphia and Dallas.

HHFA given broad power to reorganize US housing

Congress has given HHFAdministrator Albert M. Cole sweeping power to reorganize his stable of housing agencies. The authority was slipped in as a rider on the Independent Offices appropriation bill—a maneuver that took by surprise the industry men who were primed to try to block such a move. Before protests could be lodged, the bill was on President Eisenhower's desk and signed into law.

The amendment, inserted by Rep. John Phillips (R, Calif.), provides that the HHFA chief's "general supervision and coordination responsibilities under reorganization plan No. 3 of 1947, shall hereafter carry full authority to assign and reassign functions, including the reallocation and transfer of administrative expense funds and authority where applicable, necessary to promote economy, efficiency and fidelity in the operations of HHFA." Stripped of legal jargon, that meant Cole can now assume dictatorial control over policies, activities and personnel of FHA, the Home Loan Bank Board, PHA and Fanny May.

Homebuilders and mortgage bankers were unhappy over the development. The two savings and loan leagues were particularly concerned over what they saw as a threat to the independence of the Home Loan Bank Board. Cole, however, indicated he planned to go slow in using his new authority, would probably use it mostly to continue the shake-up of FHA.

Giving the HHFA chief command control instead of merely "coordination and supervision" over his constituent agencies has been a pet aim of the House appropriations committee for several years. Last year, the committee stuck similar wording into the independent offices appropriation bill. At that time, FHA Commissioner Guy Hollyday opposed it strenuously and Cole, noting that a presidential committee would soon be restudying the organization of federal housing agencies, also suggested such a move would be premature. This year he did not object.

FHA reorganization sets stage for 18 new top jobs

FHA shook up its top-level administrative organization, creating four new assistant commissioner jobs in place of all the old ones. The shuffle cleared the way for FHA to use 18 new top-bracket jobs (with pay of $12,000 to $12,800) to be set up in the 1954 Housing Act. With these, Acting Commissioner Mason hoped to have better luck wooing outside talent into the scandal-shaken agency. So far, efforts have been cramped by low pay. A new assistant commissioner for technical standards (probably Charles A. Bowser) will head up separate divisions of architectural standards and appraisal-mortgage risk. Thus, FHA technical service will be divorced from domination by underwriting—a move long advocated by the building industry and congressional FHA critics. Other assistant commissioners will handle administration, programs, operations.

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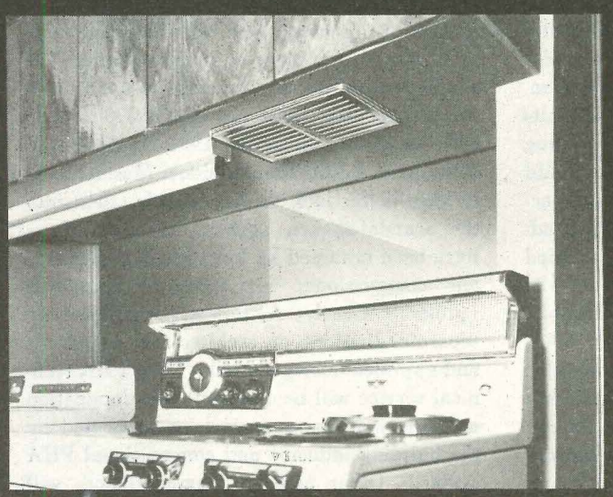
Austin Air Conditioned Home #11, built by Frank Barron, includes a NuTone 829 Ceiling Ventilating Fan in center of the kitchen.

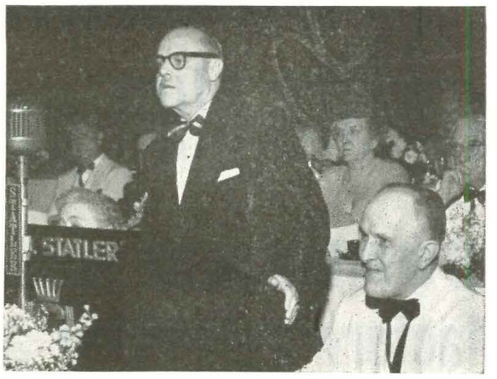


Builder W. A. Burns (Home #15) chooses a NuTone 870 Twin Blower for kitchen . . . and also a NuTone Ventilating Fan for Bathroom.

NAHB Air Conditioned Homes #6 and #12, built by B. N. Holm equipped with NuTone Model 821 Ceiling Ventilating Fans in

FELLOWS: at AIA's annual dinner, 21 architects were advanced to the honorary rank of fellow ing (l to r) Dean William W. Wurster of the University of California school of architecture, Barry Wills of Boston and Ludwig Mies van der Rohe of Illinois Institute of Technology.

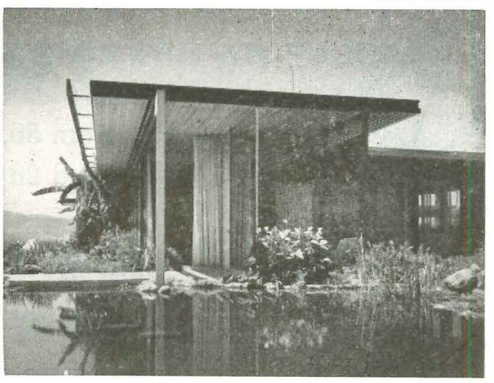
B. Bean



TWO MILLION STARTS a year by 1964 were predicted by Paul B. Wishart (l) addressing annual dinner. At right, AIA President Ditchy.

Juluis Shulman

N SYMPOSIUM speakers whose talks packed an auditorium were (l to r): Paul Rudolph, Jose Sert, Eero Saarinen and Ralph Walker. Asked Saarinen: "Have we gone overboard on too big ws, creating too many thermo-problems? Does the flat roof . . . really answer all problems?"



HONOR AWARD HOUSE, in Ojai, Calif. was cited for its "beautiful play of light and shade, the handling of materials and textures."

panding housing markets predicted at architects' convention

nation's architects—who design very f the nation's new homes but would like more—have been told that the pace of building seems likely to shoot up even than optimists were predicting a few back.

e forecasts of expanding housing mar- were made by leading speakers at AIA's annual convention June 15-19 in Boston. dicted President Paul B. Wishart of eapolis-Honeywell Regulator Co.: "The that will do more than any other to ex- the American economy in the next ten is the emerging sales appeal of a new that will be more irresistible than the dary sales appeal of the new American obile. . . . Housing is coming down in it is incorporating conspicuous engineer- dvances, year by year. The techniques lling and of mass financing are being cted.

confidently expect to see starts in the to come range far above the million-per- evel. . . . By 1964 this fascination of the ican people for what they can get in a nome more than they have in the old, have pushed starts above 2 million a . . . The American people are really beginning to realize that there is more nd more satisfaction in having a new with all its advances, than in having car parked in front of the old home."

'54 outlook improves. Short-term optimism was in evidence at an AIA-Producers Council session that found the construction outlook for the rest of this year better than previously anticipated. Watson Malone, vice president of the National Retail Lumber Dealers' Assn., reported that a majority of retail lumbermen now expect their 1954 business to exceed last year's. Last December 40% expected a decline and only 13% foresaw a bigger year. Principal reason for revised views: the spring upturn in private homebuilding. In confirmation, Vice President R. S. Hammond of Johns-Manville Sales Corp. reported J-M sales for the first 1954 quarter were within 1% of 1953's first quarter, and after an April and May upsurge sales for five months had topped expectations.

Cookie tins and nudity. Most popular convention talks were those of: 1) Editor Edward A. Weeks of *The Atlantic Monthly*, who noted that a vast volume of new houses and community facilities would be required by the "inescapable, cheerful fact" that the nation's population is increasing so fast, and 2) a panel on "The Changing Philosophy of Architecture" addressed by Architects Eero Saarinen, Jose Luis Sert, Paul Rudolph, William W. Wurster and Ralph Walker. Weeks contrasted the "cookie tin" school of American architects 30 years ago with today's modernity. Said he: "At the time I speak of—1924—architecture, as seen by a bookman, was a very tasty profession. . . . and it didn't make the slightest difference how often you plagiarized the dead. Every architect had a set of cookie tins. If he was asked to do a public building, a bank, or a city hall, he used his largest cookie tin and turned out something that looked like a badly swollen Greek temple. If he was to do a town house for a Vanderbilt, he used the French chateau cookie tin; for the moderately rich he made cookies Southern style, or beam and plaster Elizabethan, and for the little people he . . . turned out a copy of a Cape Cod cottage. . . ."

Today's design, as Editor Weeks saw it, has become "more respectful of climate and location," while "fenestration, under the stimulus of Frank Lloyd Wright and Libby-Owens-Ford, has opened up the private dwelling. . . . The danger . . . is no longer the danger of cookie tins, but the danger of novelty and nudity; the danger of omitting essentials—bookshelves, for instance; the danger of creating an interior so bare it hurts; the danger of bringing so much of the outdoors inside that man's ancient need for coziness and shelter is left unsatisfied. . . ."

Chaos in the suburbs? Panelist Rudolph, who devoted much attention to criticizing the relation of city buildings to each other

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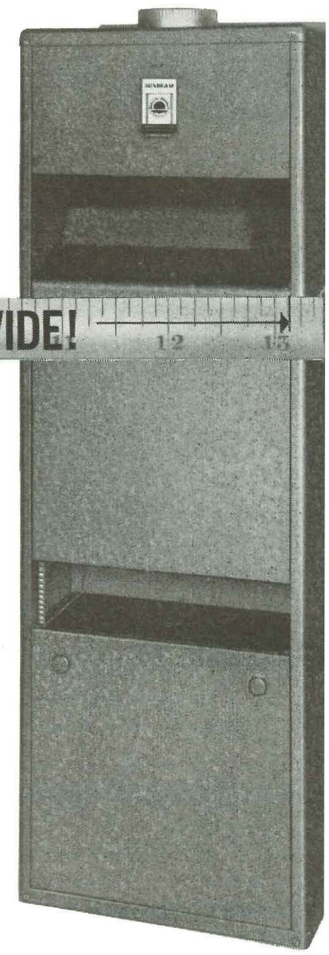

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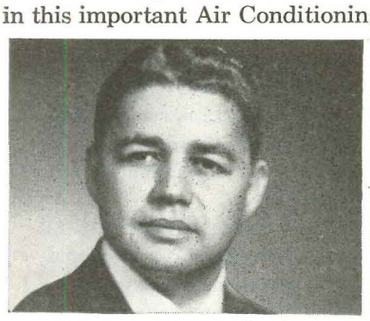
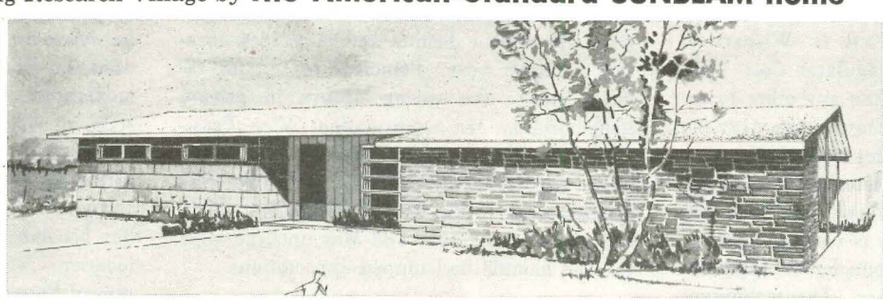
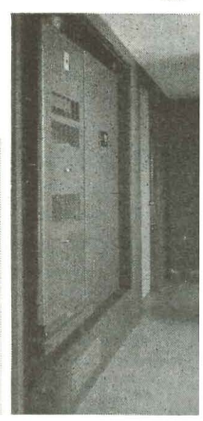


MR. FRANK C. BARRON, Austin, is the builder of the *American-Standard Sunbeam* home.



THIS AIR-CONDITIONED HOME, featuring a large kitchen-dining-activity area, was designed for informal living. Eugene Wukasch, architect-engineer; Thomas Hainze, associate.



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e alignment of building alongside our ess streets suggests large rolls of wall- r pasted on"), called for a restudy of set- restrictions in suburban housing develop- s. "The no man's land between single- ly houses caused by our setback rulings no meaning whatsoever," he said. "The idual house has received tremendous at- on but its relationship to its neighbors forming coherent and usable outer spaces most completely neglected. . . . No society ever before worked under such stupid ictions. We plant our orchards more in- gently than our houses."

n the practical level, the convention con- ed a resolution from the Brooklyn chapter would have condemned the sale of stock s for private dwellings as "contrary to the ctives of the AIA," would have instructed directors to "take all necessary steps to inate the practice."

floor debate, opponents said such a re- tion would interfere seriously with the in- sing cooperation between many AIA mem- and operative builders and would impede progress being achieved by the joint AIA-HB committee on architecture. On a voice it was defeated decisively.

nors list. Of six institute Honor Awards ounced at the convention, only one was for ouse—the James D. Moore residence in , Calif. (photo, p. 41) by Architect Rich- J. Neutra in collaboration with Dion tra (H&H, Aug. '52). The 32 awards of it included:

nbuilt House by Architect Carl Koch of Cam- ge, Mass., cited as the Best Development se (H&H, Feb. '54).

lue Ribbon Tract, Northridge, Calif. by Smith illiams of Los Angeles, architects, erected by Ribbon Construction Co. (H&H, April '54).

nshine Meadows, in Sunnydale (H&H, June , and Sunshine Glen, in Palo Alto, Calif. by nen & Allen of San Francisco, architects, ted by Mackay & Associates.

ollin Hills, Va. houses by Charles M. Good- Associates of Washington, architects, erected Robert C. Davenport (H&H, Jan. '54).

J. Pike residence, Los Angeles, George Ver- Russell, architect.

siness affairs. The convention adopted ompletely revised code of ethics for the itute. Biggest revision: elimination of the ndatory rule that "an architect shall not rantee any estimate of construction cost." ndatory rule No. 2 also was completely orded. It no longer specifically forbids e sketches," but now says an (AIA) archi- "shall neither offer nor provide prelimi- y services on a conditional basis prior to nite agreement with the client that if the templated project proceeds, he will be em- ed as its architect."

President Clair W. Ditchy of Detroit was re- ted for a second (customary) term by a e than 2-to-1 margin over Chicago's John Root, who had waged little campaign for job. Leon Chatelain Jr. of Washington, C. defeated Edward L. Wilson of Fort rth for treasurer. He will succeed Maurice ullivan of Houston.

SIDELIGHTS

Military housing

After three attempts to provide military housing by other means, the House armed services committee last month was studying a scheme calling for direct government appropriations to build about 13,000 units of family quarters in the US and abroad. Probable cost: around $170 million. The committee claims the Wherry Act returns builders $50,000 in rent for each $8,100 unit, wants no more Wherry housing built.

Build it yourself

How widespread is the build-it-yourself trend? Georgia-Pacific Plywood Co. surveyed 9,000 home owners across the nation and came up last month with this answer: 67% of Americans whose homes are valued from $10,000 to $25,000 are engaging in build-it-themselves additions or improvements. Commented President Owen R. Cheatham: "We believe more strongly than ever that the do-it-yourself trend will continue to grow rapidly, enlarging the market potential not only for numerous materials, but for tools, work clothing and innumerable other products."

Toward better house design

Efforts to bring more architects and builders together in planning subdivisions received a significant boost from Allied Building Credits, Inc., a Transamerica subsidiary which finances light construction nationwide through 35 field offices. Allied now requires its field managers to urge builders to use architects in planning tract houses. If they do not, the builders' plans must be reviewed by approved architects before financing will be considered. Allied services about $75 million in mortgages.

Air-conditioned public housing

Air-conditioning units raised temperatures in Omaha last month. Executive Manager Edward Ouren of the Omaha Housing Authority reported that four or five window air conditioners had been installed by public housing tenants. He suggested the authority limit the practice to avoid overloading the wiring. Chairman Ephraim Marks exploded: "Isn't this ridiculous? Here we are, running low-cost housing for needy people and some of them have air conditioners and TV sets!" Two other board members saw nothing wrong. "A man's home is his castle," said Member John Larkin Sr. "I don't believe in pushing tenants around."

Streamlined VA procedures

VA offices across the nation, swamped with zooming totals of applications, were told to cut the time lag between the request and the actual appraisal of existing homes to three days. Many offices were adopting a suggested telephone appraisal system to cut processing time. The lender phones VA after earnest money and a firm loan commitment have been made; VA searches its records for a previous recent appraisal; if there is none, it calls a fee appraiser who must phone his report immediately and file the written report later; VA phones the lender within the three-day limit and the deal can be closed at once. The service must be requested by the lender or veteran; it is not available to builders or brokers.

Out of compassion for the builders who must wade through pounds of VA technical bulletins and pages of VA regulations before filing for a certificate of reasonable value, the New Jersey VA has issued a simplified 14-page check list of VA requirements. With this in hand, the builder knows just what exhibits, financial statements, plot plans, specifications and other data (and how many copies of each) he is expected to file. Thus his application need not be held up while he scurries about supplying missing documents. Other VA offices have used other channels to indoctrinate builders with VA jargon and methods (e.g. lantern-slide presentation in Detroit, conferences with industry groups in other cities).

Public housing high finance

As the old fiscal year ended, public housers crowed happily that the Public Housing Administration had repaid the US Treasury $455 million borrowed by PHA to finance local housing authorities. Congress last year directed PHA to refinance the outstanding loans. The repayments reduced the federal debt, at least for the moment. But there was a catch in it.

What happened was that local authorities, taking advantage of falling interest rates, refunded direct Treasury loans with tax-free, fully government-guaranteed bonds. The bulk of the principal and interest on the bonds is paid by the US as annual contributions to local public housing agencies. These subsidies, plus loss of income tax revenue from the income of tax-free bonds—said fiscal experts—will probably cost the government and taxpayers more in the long run.

Home ownership: going up

The Federal Reserve Board, reporting on its annual survey of consumer finances, revealed a meaningful increase in US home ownership: "About 56% of all nonfarm families owned their own homes in early 1954 compared with 51% in 1950." The Fed also noted a "striking" increase in home ownership among World War II veterans, who now own their homes "about as frequently as other families." Another statistic underlined the mobility of mid-century America: "more than one third of all home owners had occupied their homes for less than five years." And 15% of home owners had lived in their houses less than two years.

HOUSING STATISTICS:

BLS revamps housing starts series; $1.4 million asked to improve other building figures

BLS last month completed a big overhaul of its monthly measure of the nation's housing activity, housing starts. The housing series has been revamped periodically since BLS published its first city building construction report in 1921, most recently in 1946-47. Changes fall into three categories:

1. BLS will now have virtually universal coverage of all local building permit systems (6,800 localities instead of 4,500).

2. The sample in nonpermit areas will be based on 1950 rather than 1940 census data. With expanded coverage in permit areas, the nonpermit slice of housing will be cut from 25 to 15% of each month's starts total.

3. Adjustments stemming from its regularly scheduled studies of permit use will be made. From these, BLS statisticians divine how soon after issuance permits are actually used, and how many are allowed to lapse without being used. As an added bonus, the bureau will now issue both regional statistics and data comparing homebuilding in metropolitan areas with that in nonmetropolitan areas.

The new series began with the June reading, which was delayed by the change-over and was too late for this issue. BLS said the new figures will be "continuous" with the old ones.

The big money. The revamped method for determining starts was made possible by an appropriation of $95,000—a drop in the bucket compared to the request for more than $1.1 million put before Congress for improved and amplified information on other aspects of the construction industry. Renewed criticism of the government's present fact-gathering setup—plus urging from the White House—forced Budget Director Rowland Hughes last month to reconsider his initial rejection of the request (H&H, July '54, News). As a result, the administration asked $110,000 for BLS, which the agency said would be used for three types of statistics gathering: 1) modernization of the bureau's obsolete system of estimating labor requirements for construction—important in evaluating public works programs, 2) an annual survey of residential builders, especially as regards the number of firms, their relative size and their methods of operation and financing, 3) information on expenditures by the federal government for alterations and repairs. The Commerce Dept. (with $1 million share of the appropriation) would: 1) make quarterly surveys of alteration and repair expenditures in other types of construction, 2) improve its national and regional estimates of new construction expenditures, 3) revise its building materials' production index, adding nine materials, 4) begin semi-annual surveys of housing vacancy rates in 15 major metropolitan areas, and 5) analyze the amounts of materials required in construction of different types of buildings.

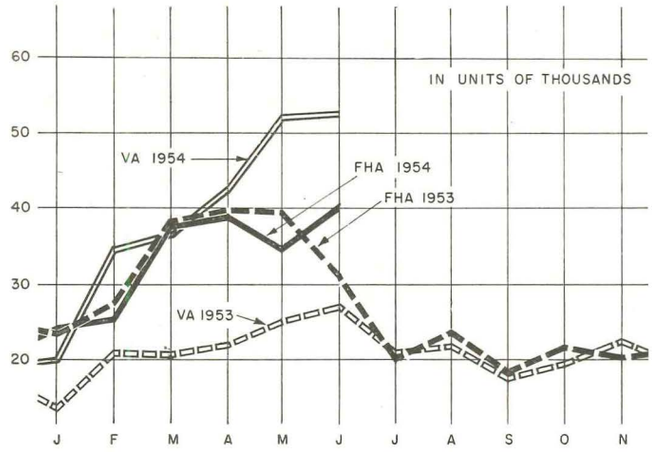
MORTGAGE LENDING ACTIVITY

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

1953	S&L assns.	Ins. cos.	Comm. banks	Mutual savings banks	All others	TOTAL
January	476	111	278	92	441	1,400
February	503	109	268	84	424	1,391
March	605	126	316	92	488	1,627
April	642	127	325	102	512	1,709
May	641	133	317	111	496	1,699
Total	2,867	606	1,504	481	2,361	7,826
1954						
January	467	108	263	85	449	1,372
February	517	105	274	85	444	1,425
March	666	124	335	103	556	1,784
April	668	130	333	112	550	1,793
May	675	123	330	118	558	1,804
Total	2,993	590	1,535	503	2,557	8,178
Change 5 months						
1953 to 54	+4.4%	—2.6%	+2.1%	+4.6%	+8.3%	+4.5%

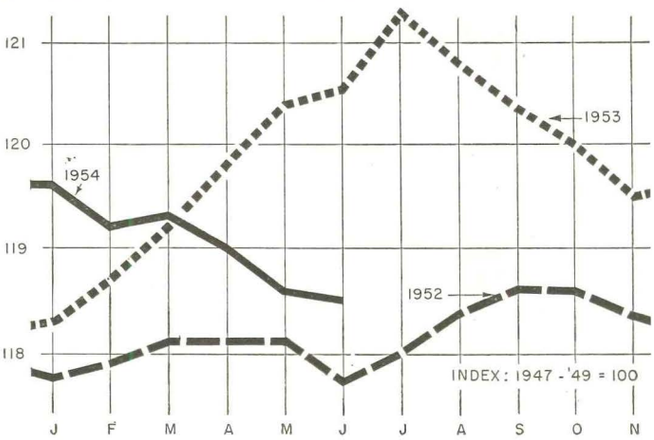
Source: Federal Home Loan Bank Board

FHA AND VA APPLICATIONS



VA appraisal requests for proposed homes totaled 52,749 in Ju Though only 504 units ahead of May, June was a four-year h Like April and May before it, June was the highest since the pre-F X stampede of Oct. '50. FHA applications for June totaled 40,474 from May's 34,715 units.

BUILDING MATERIALS PRICES



Wholesale building materials prices as indexed by BLS slipped o tenth of a point to 118.5 in June from a revised May figure of 1 (early May estimate: 118.7). Base years: 1947-49. E. H. Boeckl Associates' index of residential building costs rose one point in M to 250.4 (1926-29 equals 100).

MORTGAGE MARKET QUOTATIONS

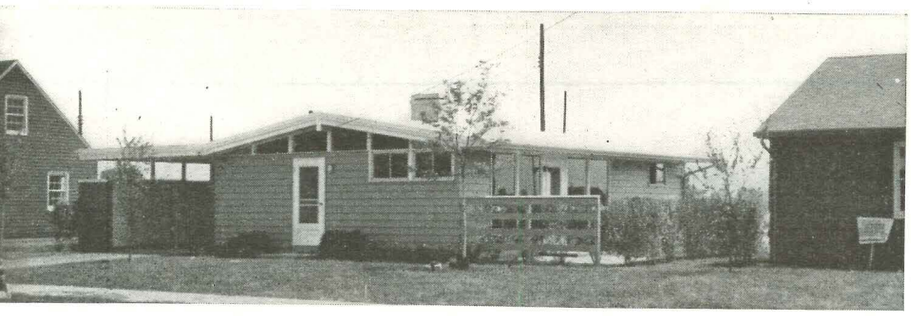
(Originations quoted at net cost, secondary market sales quoted with servicing by selle As reported to House & Home *the week ending July 9*

City	FHA 4½'s Originations	FHA 4½'s Secondary	5% equity or more VA 4½'s Originations	5% equity or more VA 4½'s Secondary	No down pay VA 4½'s Originations	No down pay VA 4½'s Se d
Boston: local	par-101	a	par-101	a	par-101	a
Out-of-state	a	99-par	a	99½-par	a	97½-
Chicago	97-99	99-par	97-99	99-par	a	a
Denver	99-par	99-par	99-par	99-par	99-par	99-p
Detroit	97½-99	a	97½-99	a	97	a
Houston	par	par	99½-par	99½-par	98-99½	98-99
Jacksonville†	par	par	par	par	98-99	98-9
Kansas City	98-par	par	97-99	par	96-98	97-9
Los Angeles	99-99½	99-99½	98-98½	98-98½	97½	97½
New York	par	par	par	par	par	par
Philadelphia	par	par	par	par	par	par
Portland, Ore.*	par	par	par	par	99	99
San Francisco	par	par	par	par	97-99	97-99
Washington, D.C.	par	par	par	par	99-par	98½-

a No market.

*Probable prices throughout Pacific Northwest. † Probable prices throughout Florida.

SOURCES: Boston, Robert M. Morgan, vice pres., Boston Five Cents Savings Bank; Chicago, Maurice A. Pollak, vice pres. & secy., Draper & Kramer Inc.; Denver, C. A. Bacon, vice pres., Mortgage Investments Co.; Detroit, Robert H. Pease, pres., Detroit Mortgage & Realty Co.; Houston, John F. Austin Jr., pres., T. J. Bettes Co.; Jacksonville, John D. Yates, vice pres., Stockton, Whatley, Davin & Co.; Kansas City, Byron T. Shutz, pres., Herbert V. Jones & Co.; Los An John D Engle, pres., Insurance Funds gage Co.; New York, John Halperin, J. Halperin & Co.; Philadelphia, W Clarke, pres., W. A. Clarke Mortgage Portland, Franklin W. White, pres., S ties, Inc.; San Francisco, William A. cus, senior vice pres., American Trust Washington, D.C., George W. De Franc pres., Fredrick W. Berens, Inc.



NCOLN VILLAGE: CAPE CODS RUB GABLES WITH MODERN, RANCH STYLES

UILDERS AT WORK:

cotash and salt boxes

ln Village, the **Farm Bureau Mutual Auto- e Insurance Co.'s** town abuilding on 1,170 of rolling Ohio farmland outside Colum- s to be a city planned from scratch. To people what they want ("colonial to con- rary") **Peoples Development Co.,** the nce company's subsidiary building the is offering 14 different models, almost ny architectural styles. Result: a mish- of design that lacks architectural ence.

ith few exceptions," says **Carl R. Frye,** president and general manager of PDC, rican cities of today are made-over rel- f another day. The nucleus . . . is a orated core. In Lincoln Village we e able to] start with fresh seed. We he fruit of our effort will be a com- y truly planned from birth." Frye's n seed" includes Williamsburg colo- New England salt boxes, expansion- Cape Cods, two-story colonials sprinkled g (and often cheek to cheek with) low- ranchers and good-looking contempo- . Example (cut, above): a good-looking itched contemporary tucked between a peaked Cape Cod and a 5" in 12" pitched er. Frye says his chief object is to give s complete freedom of choice, avoid a in a pod" look. The danger: the homely epodge of a variety store.

entually Lincoln Village will have a min- of 1,000 single dwellings, 400 rental Price range on the sale houses: from 50 to $20,000. Rents: from $80 to $95 month. Houses under $15,000 and with nents sell fastest, reports **John W. Gal- h & Co.,** handling sales. Although 15 of rst 20 were sold basementless, Frye plans nents for 50% of the next 150. By year Lincoln Village will have about 220 es completed. Next spring: the first unit shopping center by Architects **Gamble, all & Gilroy** of Ft. Lauderdale, Fla. Site ning and zoning of industry in Lincoln ge are excellent. With geography and a labor pool in its favor, it needs only de- integration to become a model city.

erstate builders

gner-Builders **Cliff May** and **Chris Choate,** nuing their expansion from California other states, signed a ten year contract Builder **H. Leslie Hill** of Dallas to manu- re and distribute Cliff May Homes in s. Hill planned 2,000 houses the first year in Dallas, Ft. Worth, San Antonio, Austin and Houston. **Briggs Manufacturing Co.** of Tacoma was under way with 1,000 homes for Washington, Oregon and Idaho, and **Burns Construction of Nevada** (Builders **Franklin Burns, Mark Bogue,** *et al*) signed a deal with a **Ranch House Supply Corp.** (May's California distributor) for 500 homes at Las Vegas.

15,000-home subdivision

Millionaire Houston Homebuilder **Frank W. Sharp,** who went into the building business in 1936 with $150 capital, announced plans for a $200 million subdivision of 15,000 homes on Houston's prairie outskirts—one of the nation's largest (Levittown, L. I. has 17,500). Sharp said the 4,000 acre development (the land cost $6 million) will "probably take ten years to complete. Construction of the first 1,000 three-bedroom, brick veneer homes (all priced about $12,000) was to start Nov. 1. The project will also have shopping centers, parks, offices, two country clubs and sites for six grade schools, a junior and a senior high, and six churches.

SHARP

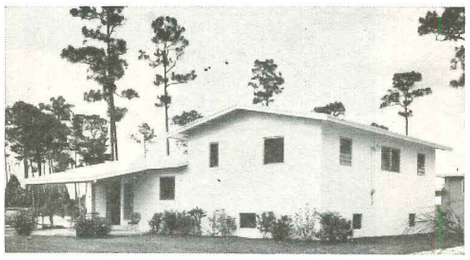
Sharp, who is 48, recalls: "I lost $1,400 on my first project, a big four-unit apartment. But I got the right experience out of it." He lined up more backing, dived back into building with the comment: "This time I'll know what the costs are." He has known enough about costs since to handle some 8,723 homes, building about half himself, selling other builders the land for the rest. His biggest development: 6,500-home Oak Forest addition. His new tract, though treeless, adjoins some of the best medium-priced residences in Houston. Says Sharp: "You know, every man working in an office wants to live in the part of town his boss lives in. This is it."

ALBUQUERQUE PROJECT WITH PAINTED TREES

NEWS

Split-level for $5.75 sq. ft.

The ubiquitous split-level turned up last month in table-flat Florida as a bargain-priced top seller. A former New York building firm, **C & N Construction Co. (S. A. Rizzo,** president; **Joseph B. Prussiani,** designer-engineer) has been selling a conventional split-level home for $11,900, or about $9.75 sq. ft. For its latest model (cut, below), instead of filling the space under the upper level, C&N dug out a semibasement which added 700 sq. ft. to the house, threw in a roofed-over patio of another 200 sq. ft. For the 2,100 sq. ft. of space under roof, the price tag was $12,300, or $5.75 per sq. ft. In a month, C&N sold



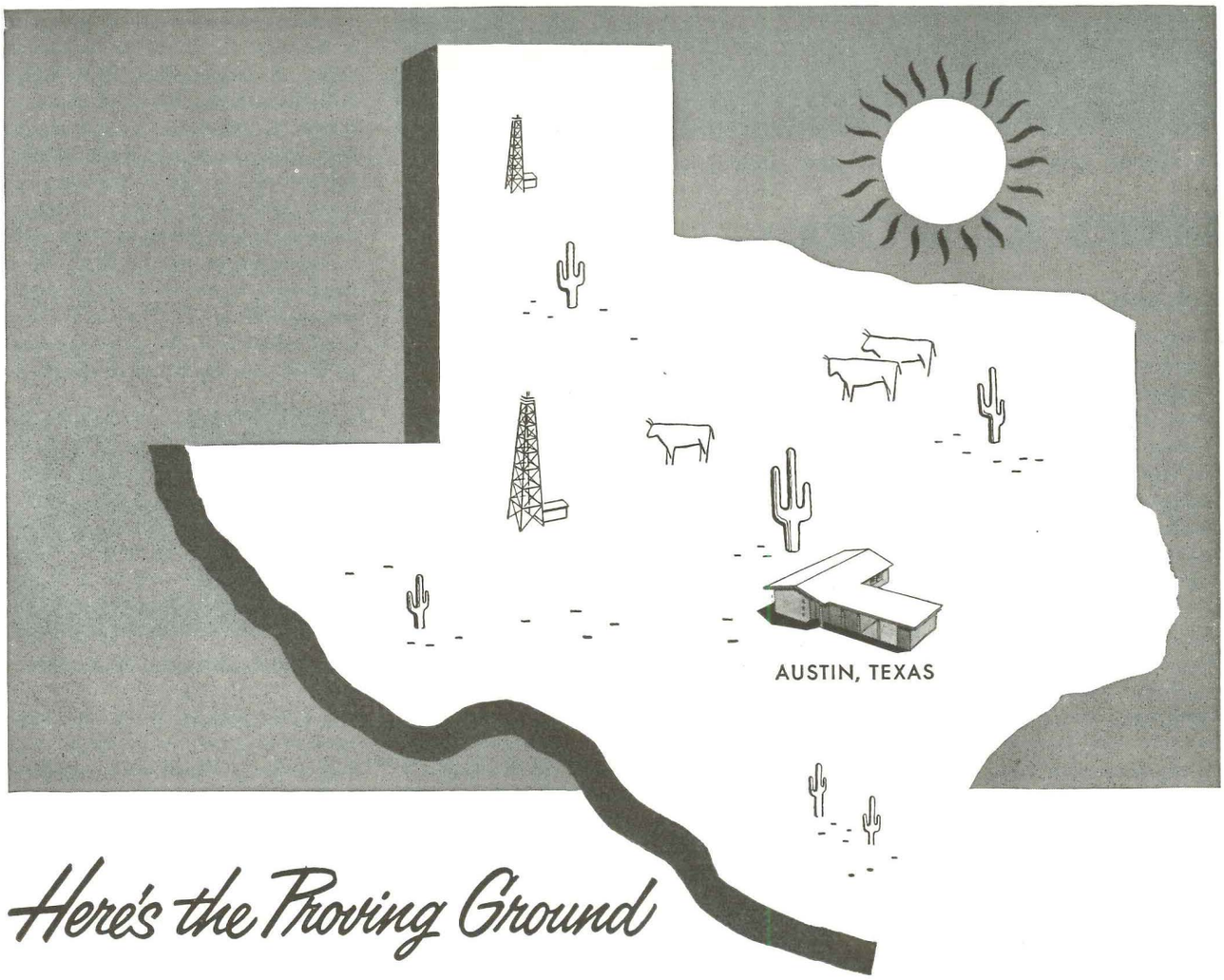
Bert Henry

LOW-PRICED SPLIT-LEVEL IN FLORIDA

225 (with nothing down, not even closing costs, to veterans, but requiring $2,988 down from others). Miami realty experts called it the largest mass-produced home ever offered in southeast Florida.

Pumice and painted trees

Dale Bellamah of Albuquerque had such success with modern-design homes built of a locally produced pumice aggregate mixture with color added that he decided to branch out into an extra 327 acres. Last winter he looked into the new material, picked a block 8" x 4" x 16" (to meet FHA and VA requirements) and gave customers a choice of six colors, including natural. In two weeks, he sold 90% of the first 79 houses planned. His most popular model was a three-bedroom house (980 sq. ft.) with butterfly roof for $9,250 (see cut, left). A two-bedroom model was priced at $8,100 and a four-bedroomer at $10,450. To step up interest in his first test model project, Bellamah brought in some trees from the edge of the Rio Grande, transplanted them in the sun-baked soil of New Mexico and spray-gunned them with green paint for the opening. He also fashioned "lawn" of crushed pumice and turned it green with the same dye process used in the pumice aggregate—a system since adopted by many builders in the area. (The painted trees, incidentally, are now thriving on their own.) Bellamah, going ahead with the 327-acre subdivision containing 1,600 building sites, will offer six models, three of the colored pumice and three of stucco. He has added a sunken living room to the popular three-bedroom model. He will also give the project two tennis courts and a swimming pool, the latter he believes to be the first ever offered in a subdivision in the state. Trees? Bellamah will import 300 more and make a park.



Here's the Proving Ground

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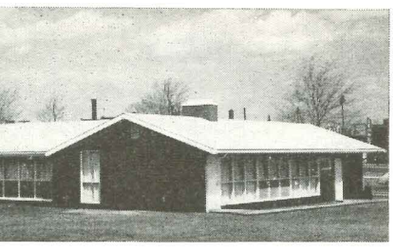
e Colorado subdivisions

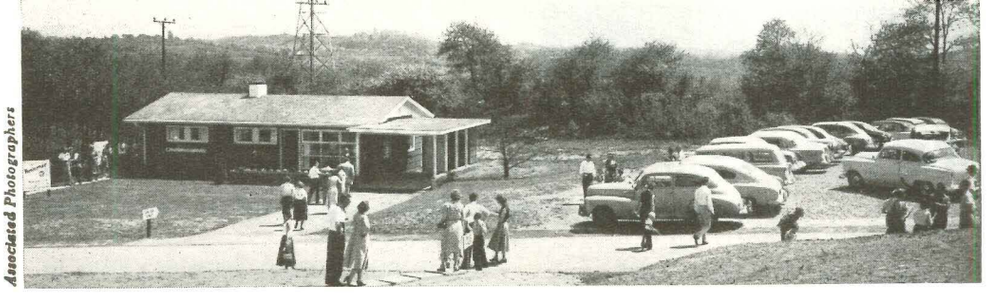
g Denver as the "outstanding city of est" in terms of growth potential, **Del** ball-club owner and big Phoenix con-, announced plans for a $100-million an community 4½ mi. north of the city on 2,000 acres of high ground. Commu-me to downtown Denver: 12 minutes by amilies who occupy the proposed 6,000 and four-bedroom homes will have their chools, parks and shopping centers and of the Rockies. Webb said he had ned every city in the West before he on Denver, made up his mind before ard that the air academy would be lo-near Colorado Springs. The project e only 2 mi. west of embryonic Thorn-ol., a 5,000-home community now being by **Sam Hoffman,** and will be near the plant at Rocky Flats and the college of Boulder. Hoffman, incidentally, won approval for *his* project only last month Washington overruled the local FHA after a year's argument over whether ton had enough water, sewage, trans-ion, schools and shopping facilities. s project is the third he has embarked h the Aldon Construction Co. of Los es (**Donald Metz,** president) and dwarfs ner two—the $20-million copper mining San Manuel in Arizona and a $30-mil-lefense housing project outside San The same week, Denver Builder **Olle berg** (Westcraft Homes) announced he ping to begin an 8,000-home city on a acre tract of foothills west of Denver's l center. Initially, he would build only nes (two and three bedrooms with car-pe patio-porches) to sell for $10,000 1,000.

prefab by Stubbins

F. Hodgson Co. of Dover, Mass., a pre-mpany that has been producing parts variety of conventional models for 60 branched out with a six-room contem-home designed by Architect **Hugh s** of Lexington, Mass. A test model of shaped, low-roofed structure has been p in Schenectady (see cut) under es of the **General Electric Co.,** which has it for everything from food freezers to witch remote-control lighting system. ns squeezed three bedrooms and a bath e wing of the 1,400 sq. ft. house and l the main part into combined dining mily space, kitchen and living room. A is attached.



FIED PREFAB BY HUGH STUBBINS



Associated Photographers

VISITORS CROWD EXHIBIT OF US STEEL HOMES' NEW "WESTERNER" IN PITTSBURGH

US Steel's six-room prefab

US Steel Homes, Inc. spared nothing in launching its newest creation. An estimated 15 million television viewers saw the full-size interior of the new "Westerner" set up in a New York studio. A few days later 15,000 citizens of Pittsburgh saw the house in the flesh (see cut). The new model is 40′ x 24′ and contains six rooms. It was adapted from an original design by **Arthur Guyon** of San Antonio and will cost about $12,500. The exterior of cedar shingles comes in any two of eight complementary colors; the interior is washable wood paneling in natural finish, contrasting with built-in furniture (except in the living room) of Philippine mahogany.

Pulse of the market

Washington Builder **Eddie Carr** expects to build about 1,000 houses on a 300-acre-plus site he has, with the first models up early this month. They will sell in the $12,000 to $15,000 bracket. **Harry Ormston** is the architect. . . . **Edward Rose & Sons,** big-volume (950 houses in 1953) Detroit builders, reached into Dayton and picked up acreage for 100 houses. The company sold 75 the first week end of operation and the rest a few days later, started working on a verbal option it had to buy adjoining land for 412 more. The house is a three-bedroom ranch model, with full basement, for $12,795. . . . Denver Builder **Lou Carey** has switched to a modern house, designed for him by **Baume & Polivnick.** He named a couple of reasons for the switch: there is just so much that can be done with conventional construction for $12,000 and, with competition what it is, something new has to be added. . . . **Harold Smith** of Arlington, Tex. (near Dallas) is building four-bedroom, two-bath houses for under $10,000 and a three-bedroom, 1½-bath home for $8,600, designed by **W. E. Richardson.** He has started 20, sold all of them from plans, and scheduled 147. . . . **R. L. Pine** of Dayton, who calls minority housing a "wonderful untapped market," is building **Pease** and **Wheatley** prefabs for minority groups there. Two insurance companies were arguing over the mortgage paper and, last month, were offering 98 while Pine held out for par. . . . **Alan Brockbank** of Salt Lake City, former NAHB president, reports he recently sold 45 houses, has 34 under construction and plans 132 more. The secret of his new house, he says, was to analyze everything he had been doing with the prefab package he had been using and find out how to do it cheaper. The new house has a brick exterior and storage walls. Houses did not sell well at a little over $11,000, but are moving at $9,950. Brockbank's model has 1,121 sq. ft. and a carport and is built on crawl space. It has perimeter heat and does not make use of the storage walls in the prefab package. . . . **A. Robert Rolde** of Boston will complete 70 Sec. 207 units by Oct. 1. He says they are the only true garden-type apartments in the area. His architect is **Ralph Williams.** . . . Topeka Builder **Jack Sargent** is expanding into Lawrence, Kan., will be in Manhattan, Kan. soon and is thinking about pushing out of state.

Onward and upward

Larry Winn of Big Builders Rau-Winn in Kansas City reports 85 houses sold in the last three months. The company offers a two-bedroom model with expansion attic for $10,-600 and a three-bedroomer for $10,720. Winn wants to try for half again as much house for about the same price—four bedrooms and two baths for $10,000. . . . **Willard Garvey** of Wichita has already built as many homes this year as he did last (150), expects to finish up with 250. He says his first six months have ranked with the best in any year past. "If anything," he said, "I am a little apprehensive because things are going so smoothly." . . . **Tom Poore** of Midwest City, Okla. will double last year's output—up to 125 houses—says people are not buying foundations any more but that "things look awfully good this year."

J. C. Nichols goes contemporary

Turning to contemporary after years of traditional design is Kansas City's **J. C. Nichols Co.,** whose new ideas are indicated in a two-bedroom, 1,532 sq. ft. model house developed in cooperation with *Living for Young Homemakers* magazine (see cut, below). Built in one of Nichols' local subdivisions, the house is priced at $25,950; it will be shop-fabricated and sub-assembled by the **Wadsworth Co.** which expects to build and show it in other parts of the country. **E. S. Elswood & Associates** designed it with **George Tsuruoka,** AIA as associate.

H&H staff photo

KANSAS CITY MODERN BY J. C. NICHOLS

PEOPLE: Ernest Born wins California AIA honor award; John Lloyd Wright faces registration court test

First annual "award of high honor" of the northern California AIA went to Architect **Ernest Born** at a dinner in Berkeley honoring University of California architectural students. Given particularly for his work as a member of the San Francisco art commission, the award cited Born's "brilliant and selfless service to his community and his profession in advancing the cause of city planning, architecture and the arts." Making the presentation, Harold L. Zellerbach, paper executive and former art commission chairman, praised Born as "a modest man who cared more for beauty than success—and who believed so thoroughly in the importance of beauty that his was a determined fight to make it part of our everyday lives. . . ."

T. Lark

BORN

After several years of sparring, **John Lloyd Wright** and California's board of architectural examiners have come to grips in a court test which may have as a by-product result the revision—or at least a careful re-examination—of California's licensing procedures for architects. Wright, 62-year-old son of **Frank Lloyd Wright,** has been charged with four misdemeanor violations of the California business and professional code.

Specifically, John Wright was charged with displaying a sign indicating he is an architect, although he has not been licensed in California (he is licensed in Indiana, Nevada and Texas); with failing to notify a client that he was not licensed; with practicing civil engineering without a license, and with designing a structure which the examining board contends requires a civil engineer. It was the second complaint against Wright over the same building. The first, relating to the civil engineering requirements of the code, was thrown out (because the charges were too vague) by a court at Oceanside, Calif., where Wright last year designed a clothing store for **Salvadore Villasenor.** (Wright also contended the engineers' and architects' licensing acts were unconstitutional, but the judge did not rule on that.) The state board of civil and professional engineers was willing to let the case drop, but the board of architectural examiners decided to press the issue. It filed an amended complaint in Oceanside.

Points of contention are whether or not the 25′ x 100′ clothing store is two stories and a basement (requiring a civil engineer, according to the code) or whether a mezzanine (Wright's claim) means it is only a one-story structure exempt from the code; whether Wright's use of "AIA" after his name on the sign in front of his office (he is a member of AIA's Indiana chapter) indicates a claim by him that he is an architect; whether or not he notified Villasenor he was not accredited as an architect in California. California law requires a civil engineer for buildings (except houses or multiple dwellings up to two stories) with more than 25′ between bearing walls. However, all structures, regardless of span, made of reinforced concrete or with steel framing, must have an engineer. The board contends the use of reinforcing rods and grout in the concrete-block walls of Villasenor's store makes it a reinforced-concrete building.

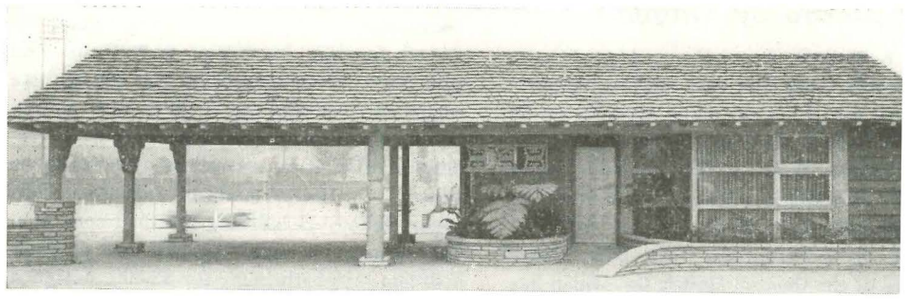
It was seven years ago when Wright moved to California from Indiana. He was denied a California license when, according to Executive Secretary **Robert Kelley** of the architect examiners, he failed to pass a civil engineering section of a test given him by the examiners. Wright challenges the legality of what he terms the "schoolboy test." Blaming jealousy among other architects in his (Del Mar) section of the state, Wright said: "I guess I was getting too much business, and now they're going after me."

The new trend toward appointment of city housing coordinators continued as San Diego named **Glenn Wade,** former city manager of nearby Coronado, to the job. One of his main duties: helping speed disposal of leftover wartime temporary public housing units.

The on-again, off-again move by **Joseph McMurray,** 42, brilliant staff economist for the Senate banking committee, to the New York City Housing Authority was on again last month. McMurray told House & Hom would take the $20,000-a-year job as e tive director of the nation's biggest local lic housing agency sometime this month. would happen to the present executive d tor, **Gerald J. Carey,** 50, was not announc once; expectations were he would be n assistant to Chairman **Philip J. Cruise,** 56.

Five more new FHA field directors took o in Albany, N. Y. **Thomas Henigan** succe **Joseph H. Murphy;** in Wichita **Richard Cla** succeeded **Ed Chapman,** newly appointe sistant to the commissioner; in Los An **Norman M. Lyon** replaced **John E. McG** who resigned to enter private business; in Orleans **Ralph H. Agate Jr.** succeeded **rence J. Dumestre,** as of July 30th; in Diego **Walter L. Forward Jr.** filled the va caused by the retirement of ailing **Edwa Walsh** several months ago; in Washin **A. M. Prothro,** FHA's acting general co was named head of the agency's new se program.

DIED: Planning Official and Builder **R M. Watkins,** 52, who had built many o homes the College Park section of Mary and who was the controversial chairm the Maryland-National Capital Park and ning Commission, July 3 in Washington, **Arrigo M. Young,** 70, dean of Seattle archi who designed such Pacific northwest tures as Yellowstone Park hotel, Seattle dren's hospital and civic auditorium and versity of Washington fisheries center, 27 in Seattle; Builder **Harry Goldstin** past president of the American Institu Real Estate Appraisers and of the C Real Estate Board, June 21 in Atlantic

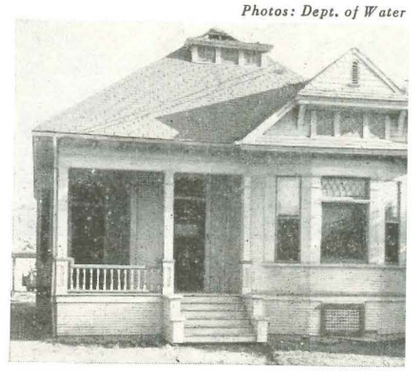


60-year-old house remodeled, draws throngs at home sh

As a demonstration of what remodeling can do for an antiquated dwelling, the Los Angeles Remodeling Contractors Assn. bought the abandoned church parish house shown at the right (for $750), moved it to the Los Angeles Home Show (for $700) and remodeled it into the modern melange of wood shakes, stone siding and service-station-sized carport shown above. To point up the contrast, the remodelers left three of the seven rooms in "before" condition, including one high-ceiling bedroom complete with brass bed and chamber pot.

The 1,800 sq. ft. structure was completely rewired, air conditioned, insulated, equipped with new utilities and interior decor. The association said it was delighted with the business tips provided by written inquiries that came some of the estimated 75,000 people w spected the house. A. J. Blackstone, in of the renovation, said much material w nated, making the cost of the job hard to

Photos: Dept. of Water



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.

pen-end mortgage system would balk repair loan frauds by "dynamiters"

hington headlines highlighting the abuse of FHA Title I repair loans sed attention more than ever on the open-end mortgage plan, whose use ebuilding industry leaders have again and again declared "the one best to finance modernization and repairs."

ıcketeer contractors would never be able to exploit home owners if they had ll their shoddy goods or services under open-end mortgage financing. This d thwart "dynamiters" from the start, because in each sale: 1) they would to deal with the original lender who still held the mortgage on the buyer's e; 2) to keep foreclosure risk at a minimum, each of these lenders would a stake of his own in protecting the home owner from assuming too much , and 3) from increasing his mortgage balance for anything that was not h-while to maintain or to increase the basic value of his property.

ers who abused the FHA Title I repair program usually concentrated their ıpeding" operations in a single neigh-ood. They usually operated on a single of credit from one unscrupulous loan e. These lenders were concerned sole-th the 9.7% interest they could ob-ın their government-guaranteed loans. cared not at all whether the home was getting a square deal or might ngerously overextending himself with any short-term debts.

ting disaster. For those who cannot ll cash, but can safely and easily make ely large monthly repayments, short-Title I loans are very useful and con-ıt—a distinct advantage over long-loans. But for millions of families ıly repayments on short-term loans for home repair or improvement jobs are eep, although they could manage the ents for the same jobs if they were l over a much longer period.

a $1,000 short-term Title I loan, for ce, repayments over three years be $31.90 a month, or more than ıs much added to the $57 a month d for interest, amortization and FHA nce on a 25-year, 4¼%, $10,000 mortgage. For many families repay-at this rate would be "too much and too soon." But if they borrowed this same $1,000 on an open-ended mortgage re-advance at 4½% they could easily meet the repayments of only $7.91 a month that would be required if their mortgage continued another 15 years, or only $6.60 a month if it extended another 20 years.

The most frequently cited cause of home-mortgage defaults since World War II has been overextension of burdensome short-term credit to young home owners. Many were swamped by high monthly repayment requirements, a condition accentuated by the operations of the repair and improvement "dynamiters." Most victims probably would have escaped disaster if they had made the same purchases on long-term repayment open-end mortgage financing.

Answers for dissenter. Acceptance of the open-end mortgage has become more widespread every year. From 1948 to 1953, reborrowing under this type of financing increased from about $100 million to $500 million annually. But there have been a few critics. Recently one of them wrote an article in *Banking*, journal of the American Bankers Assn. The author was John J. Redfield, of Cadwalader, Wickersham & Taft, general counsel for a number of New York savings banks. He approved open-end reborrowing for "appropriate capital improvements which increase the value of the security." But he opposed re-advances for repair, maintenance or nonhome purposes.

Most of Redfield's opinions, however, were at wide variance with the views of the majority of housing and lending industry leaders. Said President Ralph R. Crosby of the US Savings & Loan League only a few weeks earlier, when forecasting a record home-repair and improvement program this year: "The open-end mortgage is one of the most useful devices developed in recent years for encouraging sound home ownership and for fitting home-financing procedures to present-day needs."

In similar vein, USS&LL General Counsel Horace Russell and other leading advocates of open-ending have repeatedly pointed out that:

- The national economy requires a system like the open-end mortgage so an owner can keep up the biggest investment of his life without strapping himself, if he cannot afford to have it done with short-term high monthly repayment loans.

- If an owner allows his property to go into disrepair because he cannot afford a short-term loan, this not only depresses the value of his own property but also the value of his neighbor's.

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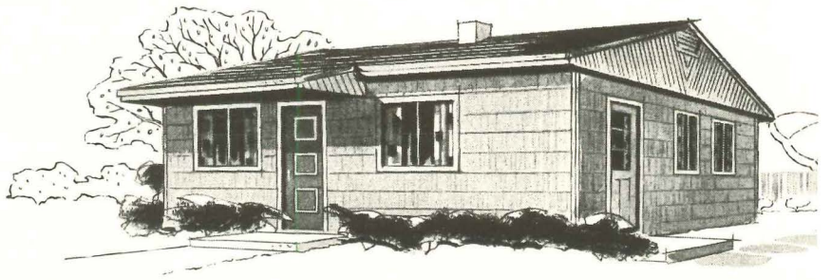
● **The P & H Gateway** 2 Bedrooms, 672 sq. ft.

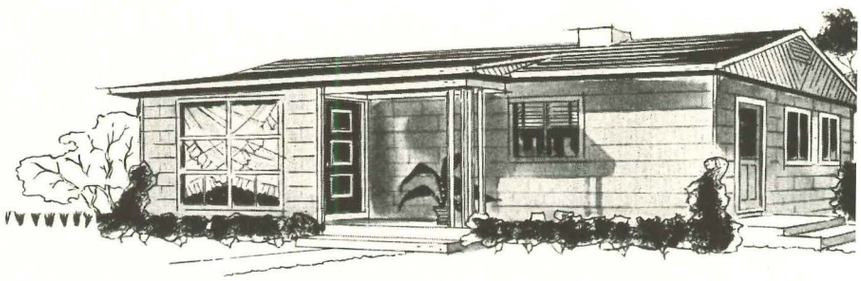


Now sell a quality home to the low-cost market. It has the same quality and materials as the best P & H Homes. The P & H builder in Youngstown, Ohio, offers the Gateway for— **$300** *down,* **$37** *a month.*

● **The P & H Dover** 3 Bedrooms, 768 sq. ft.

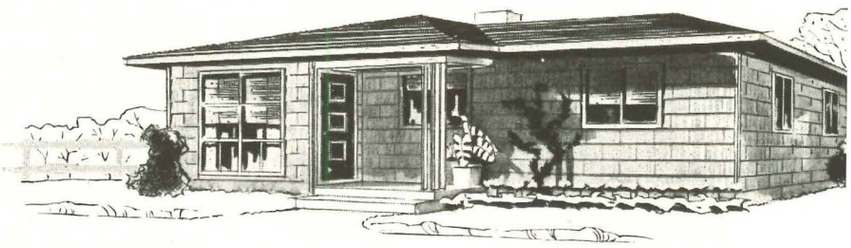
Three bedrooms for $51 a month! Hard to believe, but true. The P & H builder in Racine, Wis. is just one of many builders who offers the Dover for about **$350** *down,* **$51** *a month.*

● **The P & H Lee** 3 Bedrooms, 920 sq. ft.



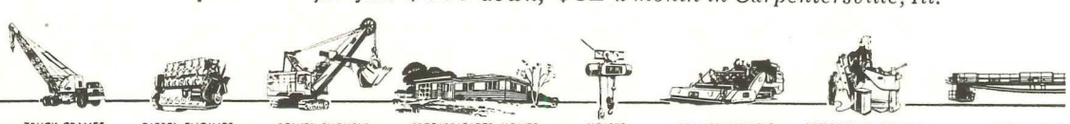
More usable space, more luxury features, more sales appeal than just about any home in its price class. It's selling—profitably—in Franklin Ind. for just **$500** *down,* **$55** *per month.*

● **The P & H Regent** 4 Bedrooms, 1,016 sq. ft.



Your market crying for a big home at a low price? It can be done—and profitably. Example: A typical P & H Builder offers the Regent for just **$600** *down,* **$62** *a month in Carpentersville, Ill.*

the P&H Line



TRUCK CRANES · DIESEL ENGINES · POWER SHOVELS · PREFABRICATED HOMES · HOISTS · SOIL STABILIZERS · WELDING EQUIPMENT · OVERHEAD CI

house+home

August, 1954

Published by TIME Incorporated

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VOLUME VI. NUMBER 2

Cover: Minneapolis patio house by Philip Johnson; photo: Warren Reynolds

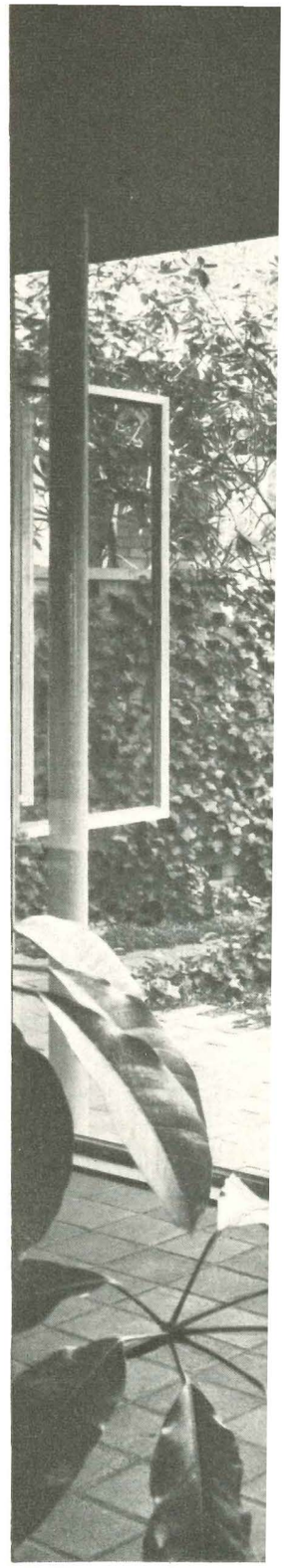
Your nicest room can be outside your house

Plenty of people know how to plan the inside of a small house. Plenty of people know how to landscape a 75′ lot. But how many people really know how to do both—plan lot and house together—and, in doing it, get an extra room thrown in as a cheap bonus?

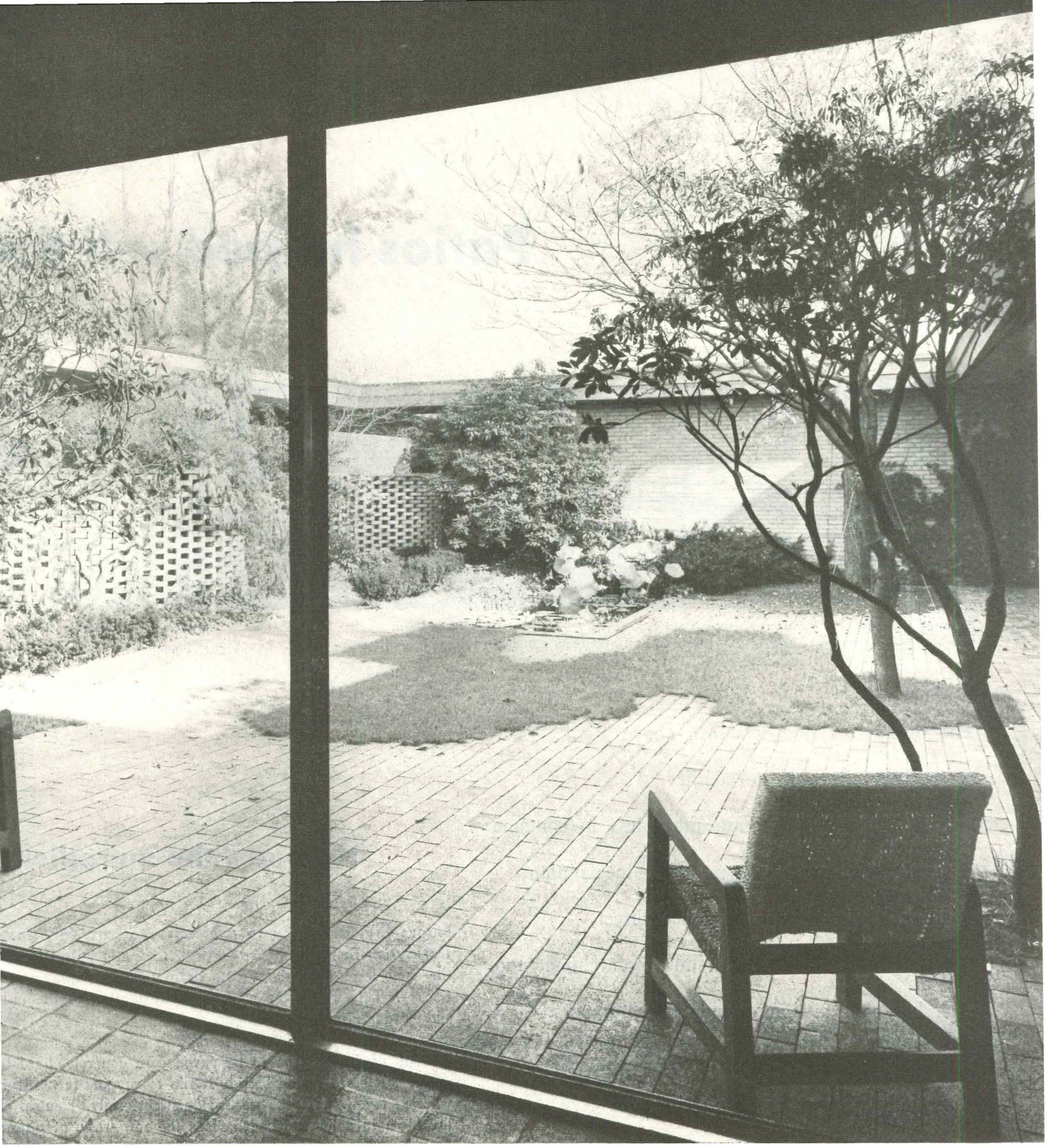
That extra room, the dividend you get for good indoor-outdoor planning, is the patio. And the next 20 pages are devoted to its design.

For the purpose of this story, we will define a patio as an outdoor space surrounded by house walls, fences or screens on at least three sides. It is the bite out of the U, the center of the doughnut, the hole in the Swiss cheese, the bubble in the champagne. It does not come free of charge, but it is cheaper than an ordinary room with four walls, floor, ceiling, heat, windows, and so on.

Moreover, it can be a great deal handsomer than an equivalent indoor room, a great deal airier, cooler, easier to maintain. And—if it has been designed with taste and discrimination—it can sell your house faster than just about anything else: for nearly everybody recognizes a bonus when he sees one.



Lionel Freedman



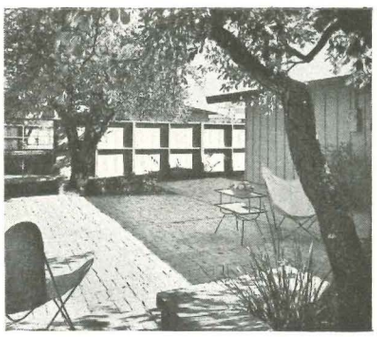
W. T. Grant House, Greenwich, Conn. Edward D. Stone, architect

We said that patios should be designed with taste and discrimination

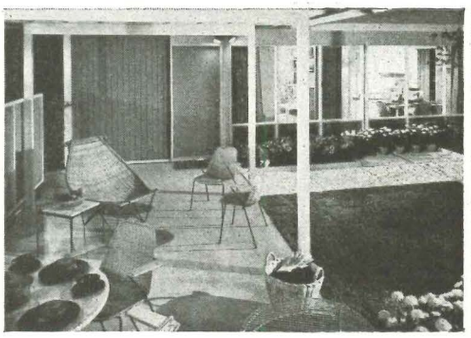
The dividing line between a glamorous, walled garden and a dreary-looking concrete yard is sometimes very thin, especially in inexpensive houses. How to make sure you stay this side of that dividing line is demonstrated in the four handsome patio houses on the next 20 pages. And on pp. 104-105, we have listed some of the devices used by patio planners to make their outdoor rooms the nicest things on the premises.

Patios helped sell the

Deercroft Builders, Pa.
Bob von Gerbig, designer



Stern & Price, Calif.
Cliff May & Chris Choate, architects



National Homes Corp.
Charles Goodman, architect

Robert Gerholz, Mich.
William K. Davis, architect

The production houses shown above
come from all over the country,
but they have three significant points in common:
each incorporates a pleasant patio in its plan,
each was designed by a good architect,
and in several cases a good landscape architect, too,
each has sold fast in considerable numbers,
topping the competition in its area.
After a long day's house-hunting,
these patios stuck in their buyers' minds.

Photos: L. S. Williams; M. L. Parker; Ulric Meisel; Russell Illig; A. J. Sepulveda; Roger Sturtevant; Frank Lotz

Here are the ingredient

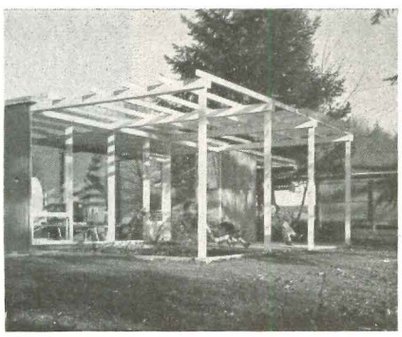
Floors that are easy to use, easy to care for, easy the eyes. Bring the house down or the patio up so they a the same level (making sure to drain the patio away from house). This makes the patio a real extension of the ind adding to its size and convenience.

Heavily used areas should be paved with concrete, hard b stone, cast stone, wood blocks or tile to support feet, furni wheeled toys—and to be washed or swept easily. Neutral c are best: in a hot, unshaded place the raw white of unfini concrete can create a dazzling glare, heat up glass-walled ad ing rooms. (Use pigments or stains to get a soft integral col Black asphalt can absorb enough sun to become uncomfort hot and sticky, then reradiate all its stored-up heat into the h at night when it should be cooling off. Break up the pa into patterns, leaving open spaces for planting to avoid m ony, help absorb heat and noise. Less-used areas can be cov with grass, clover, dichondra, gravel, tanbark.

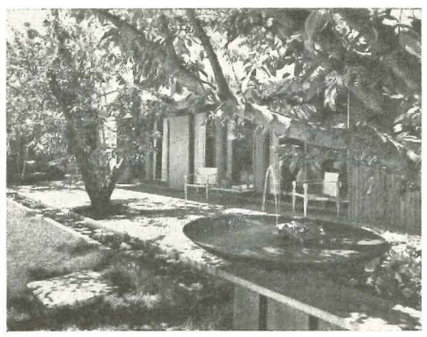
Walls that make the patio private without boxing it Screen off undesirable views with fences or masonry walls pla to be irregular, patterned or planted. Design the fence for job (e.g. solid where you need to keep out strong winds, pie where you want to let cooling breezes through, translucent w you need light).

lders' houses

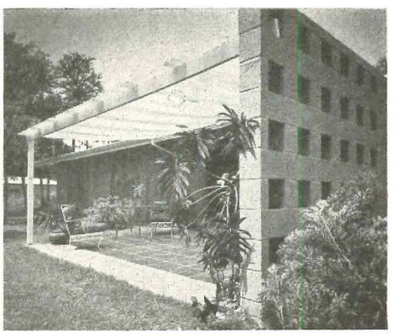
Eichler, Calif.
Emmons, architects



Robinson Homes, Wash.
Paul Kirk, architect



Gavello & Perego, Calif.
Anshen & Allen, architects



Fred Loucks, La.
Curtis & Davis, architects

od patio

that shade part of the patio and adjoining rooms. g is vital on the west side if you want to use the patio on r afternoons. Deep roof overhangs, porch roofs, pergolas, work, overhead vine trellises or the spreading branches of sized tree—all make a patio twice as livable in summer. ter, deciduous vines and trees shed their leaves, let welcome rough.

ng that does a specific job and is easy to maintain. of the most familiar plant materials—grass, flowers, hedges any shrubs—require the most attention. Ask your land- rchitect about attractive low-cost, low-maintenance planting.

ative built-ins that do one or more jobs. Your patio ly needs at least one fixed, three-dimensional object as its ive focal point—a bed of flowering shrubs, a piece of re or a couple of large rocks chosen for their sculptural Even more useful: raised plant beds with wide edges for a low stone wall that can be used as a bench; a sandbox coratively into the patio's over-all design.

: for sparkle, for sound, for cooling. A shallow ng pool can be designed inexpensively to double as a n's wading pool, a setting for water plants, a bird bath. being an appealing decorative asset, water helps keep a patio cool by evaporation, has an even greater psychological cooling effect. A fountain or a trickle of water falling into a splash basin adds the pleasing effects of water's sound and movement (see photo second from right, above).

Night lighting to prolong the use of the patio, create dramatic effects. Overhead spots, installed in roof overhangs or tree branches, will illuminate the patio, eliminate blackness beyond wide windows. Waterproof floodlights concealed at the base of trees or fountains will turn the garden into a glamorous stage set at night. Use white light; colors create weird effects.

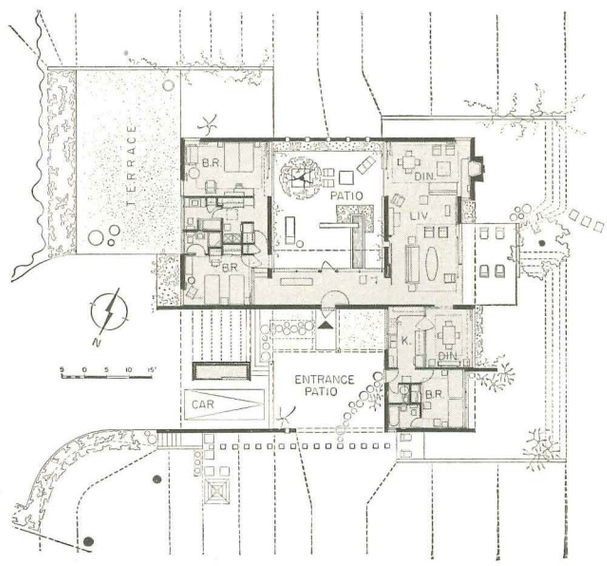
Movable outdoor furniture to set off the patio. Chairs and tables should be strong and light so they can be moved around, waterproof and durable so they can be left out in the rain or cleaned with a hose. Don't use too many or too bulky pieces; underfurnish the patio, like the other rooms of the house, to make it seem larger.

Above all, lay out your patio so it can be used. Dining space and play space should be near the kitchen for easy serving, easy supervision. Pools, planting, benches, etc. should be placed where they do not get in the way of normal circulation or cut down usable terrace area. And don't forget a hose connection on the patio side of the house!

What patios can do for your house:

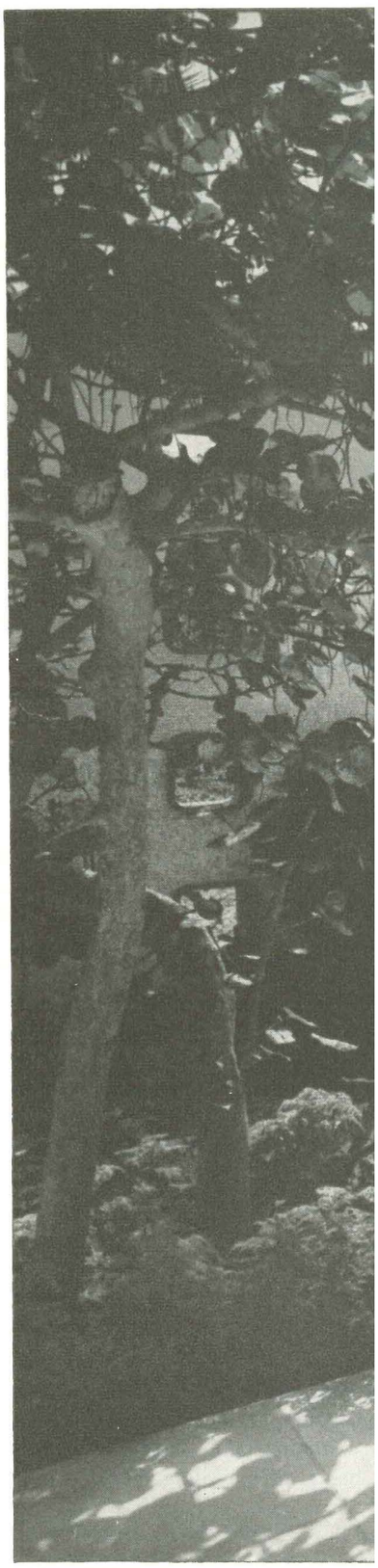
Outdoor rooms can doub

This is a 4,200 sq. ft. house—*but more than 2,000 sq. ft. of its floor area are located out of doors.* In fact, for almost every indoor room Designer Peter Fraser has built one completely equipped, completely "furnished" outdoor room that could be used for a large part of the year in *any* latitude, and can be used all year round in its Florida setting.



For example: this house has a 540 sq. ft. indoor living room next to a 670 sq. ft. living patio; it has a 220 sq. ft. foyer and an entrance court outside that is almost three times as big; and it has several small terraces, protected by cheek walls, that add both a *sense* of space and *actual*, usable space to bedrooms, dining area and living room.

In short, this house is an excellent demonstration of how to get the most out of a narrow and deep lot—and how to make a large part of that lot serve *not* as a shapeless appendage without privacy or definition, but as eminently useful living space directly accessible from every major room in the house.



Living room by day—and also by night: for this patio is equipped with small, flexible lighting fixtures hidden in flower and plant beds. There are many outdoor outlets around periphery of patio, so that these fixtures can be moved and plugged in at will. In addition, Designer Fraser has provided built-in soffit lights in roof overhangs. Floor of patio is white tile, walls are white stucco, fascia beams are gray. Planting includes sea grape tree (left), tropical ferns, palms. Just like any other room, the outdoor space has a "ceiling height"—but it is suggested by the fascia bands, rather than real. Small views are opened up through peepholes in one wall.

ATION: Jupiter Island, Fla.
ER FRASER JR., designer of house and landscaping
OS CONSTRUCTION CO., INC., general contractor

ur living space

Living room and patio (above and below) are a single, integrated, 1,200 sq. ft. indoor-outdoor living space, separated only by sliding glass walls.

Photos: Rada

Carport at left, outdoor foyer at right. Note glimpse of living patio through front door of house

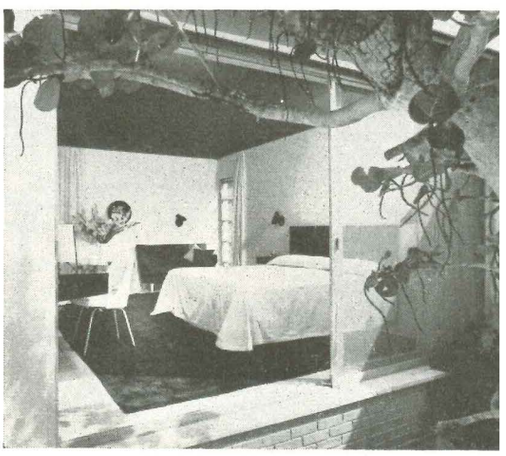
Through an outdoor foyer to

Approaching the house, you pass through a succession of small patios, each of which has its own distinct character and function, each of which is part of one large, 1,300 sq. ft. space.

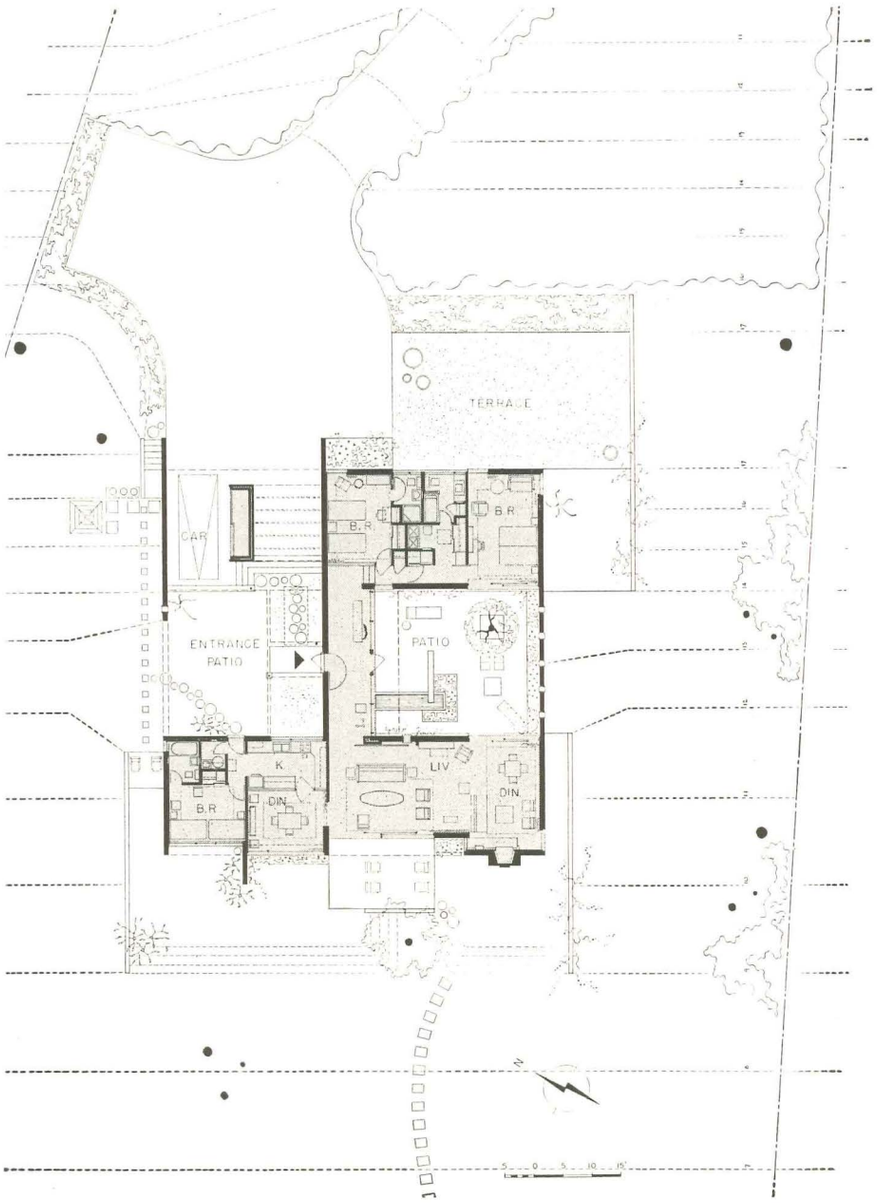
First there is a covered area, comprising the carport and the "outdoor foyer." These two are separated by a large storage bin. From here you descend three steps (a rather nice touch designed to make the entrance more formal) into an entrance court. A pattern of circular stepping stones directs you to the front door, and a suspended canvas canopy serves both as a filter for sunlight and as a shield against rains.

As you open the front door of the house you experience one of those dramatic surprises made possible by the patio plan: for instead of finding yourself indoors as you might expect, you are now faced by yet another view of another patio, right smack in the center of the house. From here, progress through the house is logical enough: nighttime areas are to the left, daytime areas to the right.

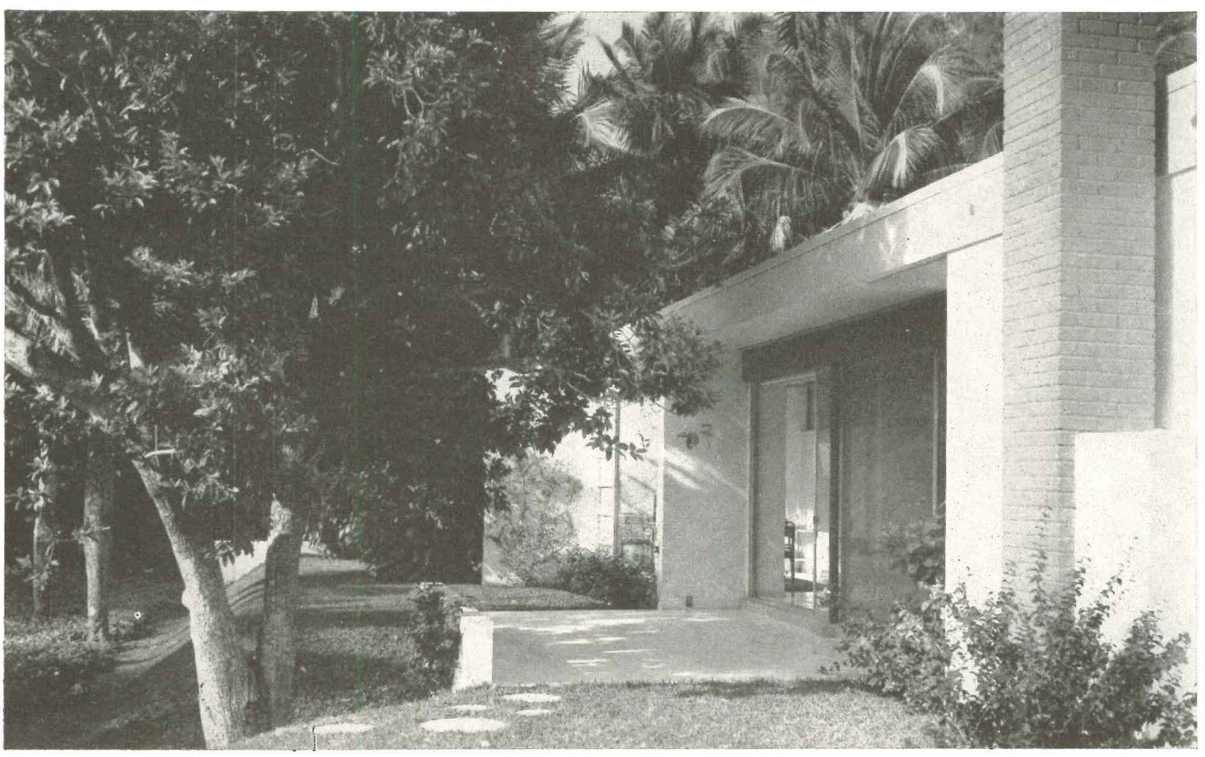
Fraser's plan is, basically, the familiar H-shape. The handsome manner in which he used the "bites" out of the H make his house unusually successful.



Sliding glass panels separate master bedroom from patio. Since the patio is walled in on four sides, bed can be opened up completely without any loss of pr

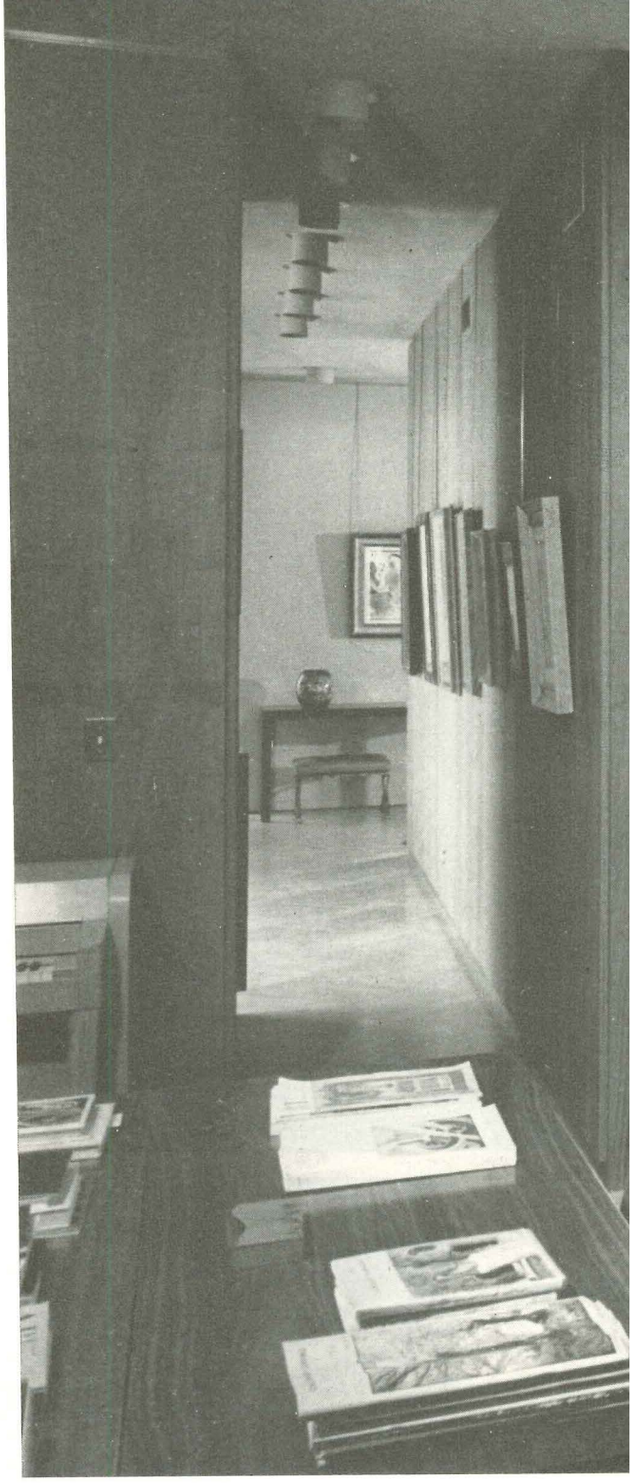


door



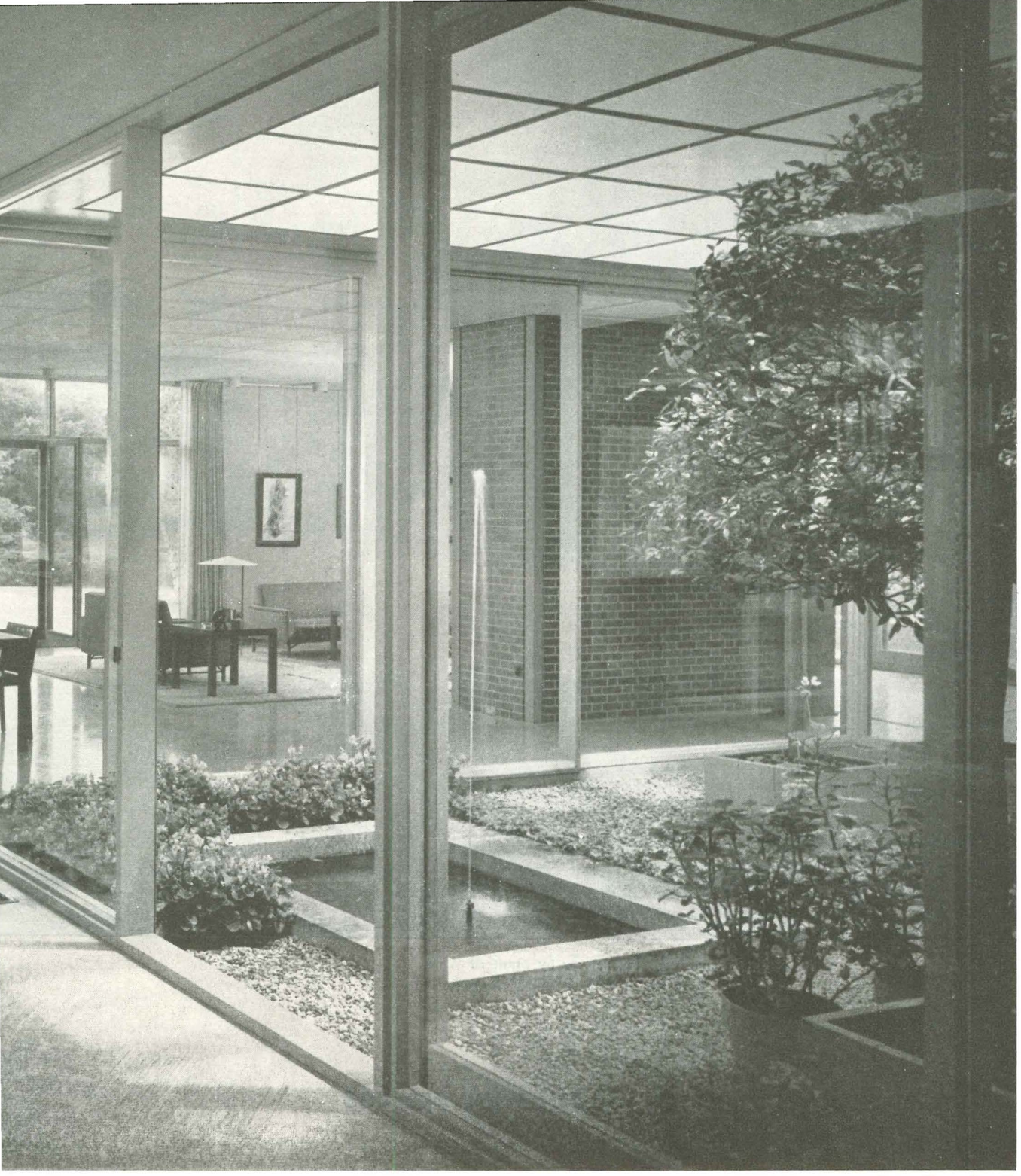
Living-room terrace faces west, is shaded by trees and overhangs. Stucco walls are chalk white, fascia boards light gray, brick panels are painted lavender or pink. Massive masonry is close in feeling to traditional Latin architecture.

LOCATION: Minneapolis, Minn.; PHILIP C. JOHNSON, architect; MAGNEY, TUSLER & SETTER, supervising architects, (Mearl E. Peterson, in charge); RICHARD KELLY, lighting; EIPEL ENGINEERING, structural engineers; JOHN DILLON, mechanical engineer; EMANUEL HOLM, general contractor.



What patios can do for your house:

Indoor gardens c

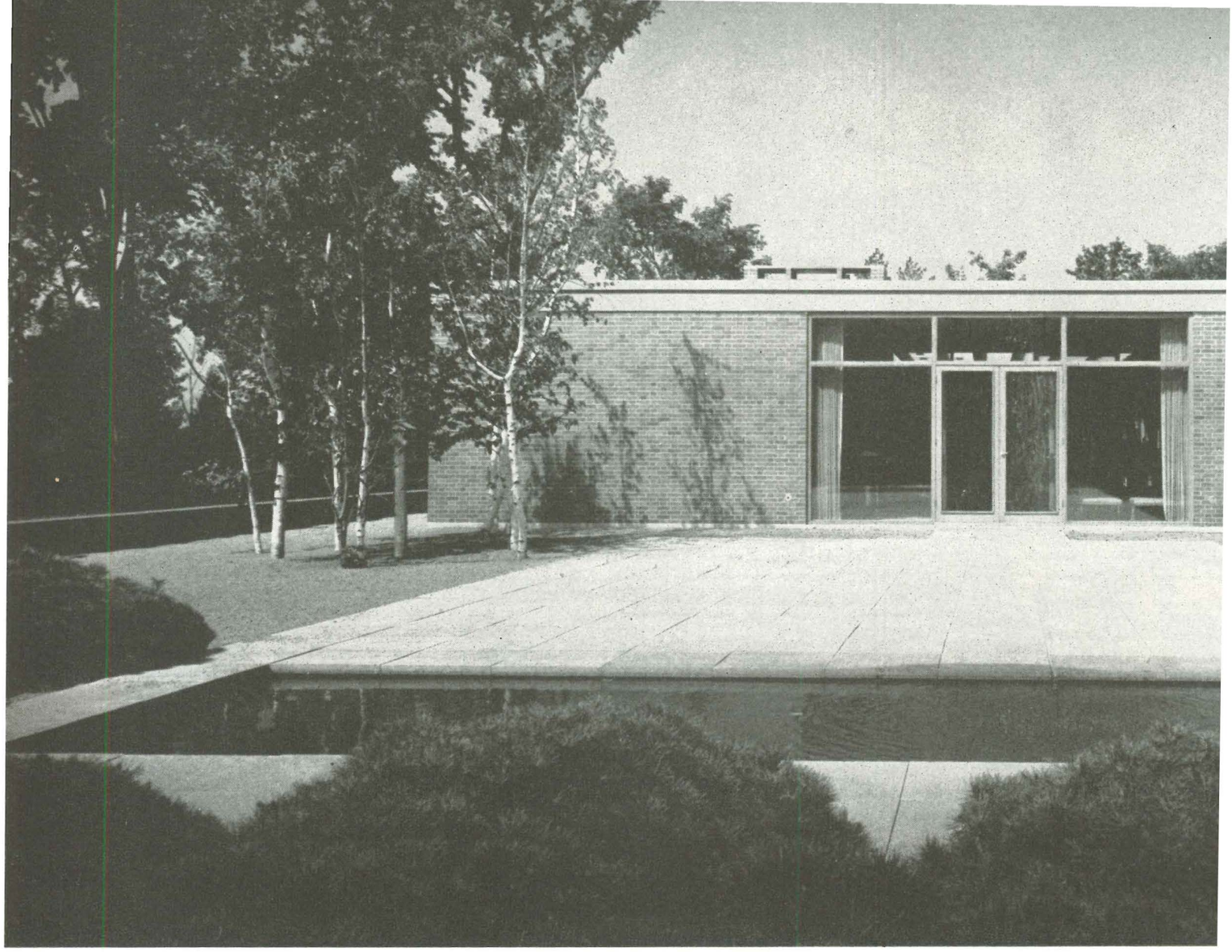


Photos: Warren Reynolds

source of light

The main block of this spacious house is 55′ wide and 70′ long. To bring light and air into the center of so large a rectangle, Architect Philip Johnson carved a 450 sq. ft. patio out of the middle of the plan, turned it into a beautiful, glassed-in garden in the very heart of the house. This indoor garden does three things: it forms a focus of attention for all the rooms that open into it; it serves as a baffle between daytime and nighttime areas in the plan; and it is a source of light, by day as well as by night.

Granted that the central patio is a necessity in so large a house, its use even in smaller plans can add an unexpected dimension to more confined living areas.



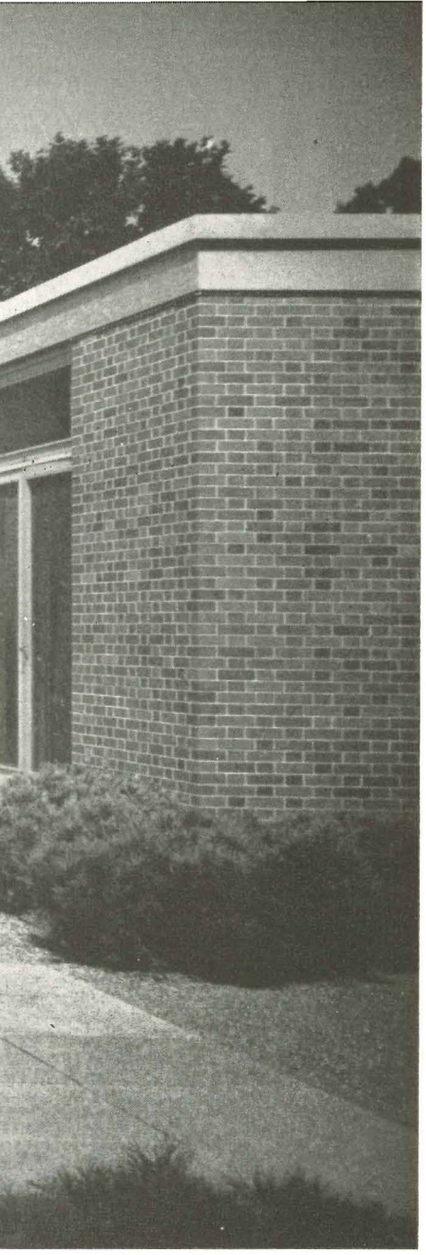
Brick is a brown Pennsylvania iron spot, once used extensively by Stanford White

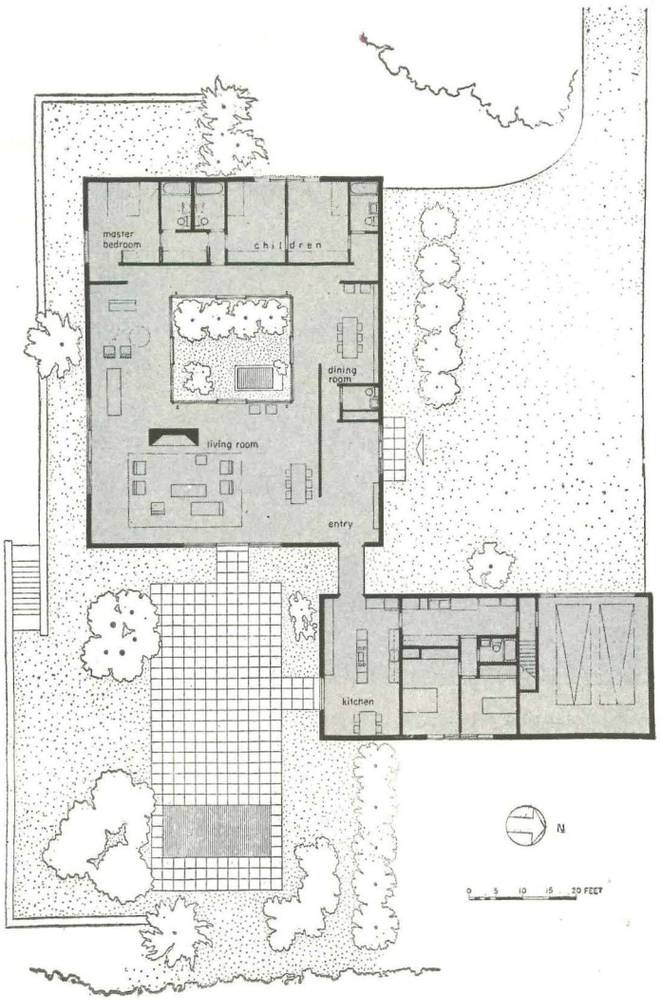
Offset wings give form to outdoor spaces

While the central patio is the most dramatic feature of this classical house, it i familiar and straightforward device. More subtle, perhaps, is the manner in two elements of the plan were offset to give form to surrounding outdoor sp

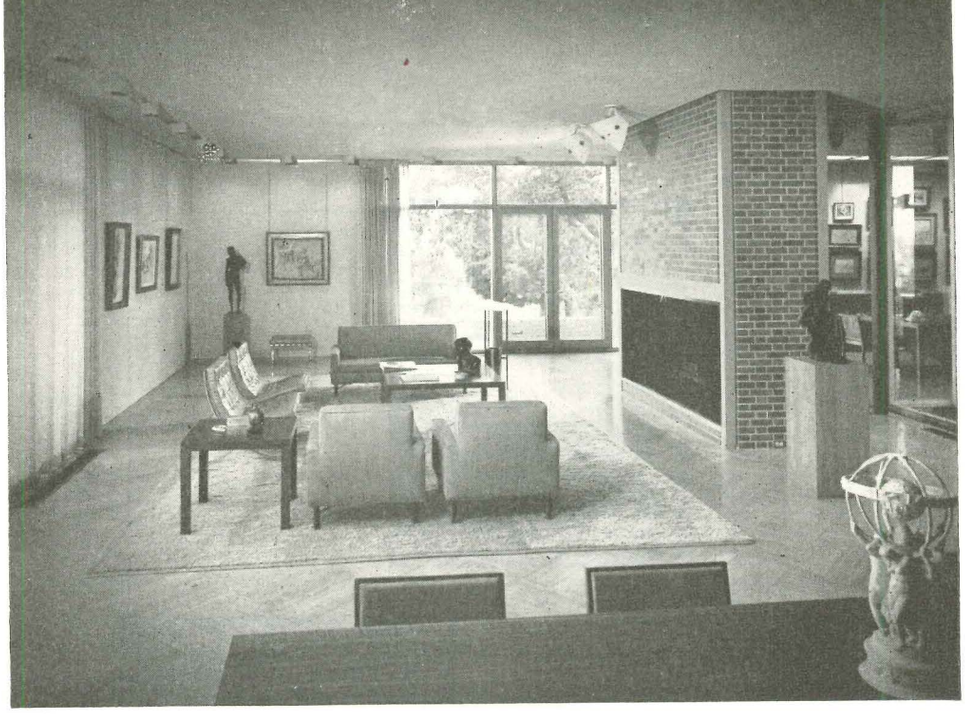
In the picture (above) there is a real sense of enclosure, repose, privacy. of this is suggested rather than real: this monumental terrace is screened or sides by the house itself; the other two sides are merely hemmed in by a low wall, by the visual barrier of the pool, by a small clump of birches and by the of the limestone paving. In short, this is a classical "room" done in th manner: with walls on two sides, and with the mere suggestion of enclosı the place of massively walled-in space. On the approach side, similar m used to suggest a formal entrance court.

Understated architecture of the sort practiced by Johnson is full of sı suggestion rather than blatant assertion, full of restrained effects rather t obvious appeals. This house has a simple dignity that should see it through m





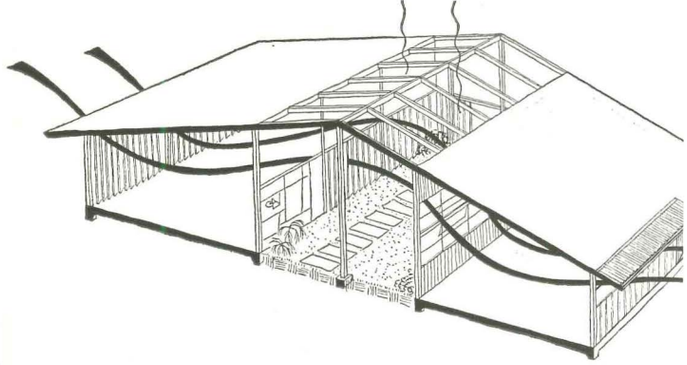
Floors are of Sicilian travertine throughout. Its color is that of wild honey. Steel was painted taupe



Owner is one of the leading art collectors in the US. Lighting by Richard Kelly was designed to serve paintings and sculpture. Furniture largely by owner. Main entrance is shielded by free-standing teak wall (below). Plan of house suggests some affinity to museum arrangements.

Central patio (opposite) has coffered ceiling of plywood, roofed ove corrugated plastic during winter months, insect screening durir summer. Daylight bulbs of 10 w. are concealed in coffers and s mented by occasional spotlights to accent plants. Coffers cut o glare, conceal lighting fixtures at night. Artificial lighting assure patio can serve as a major lighting source at night also. Ground co is gravel. Part of glass enclosure slides open.

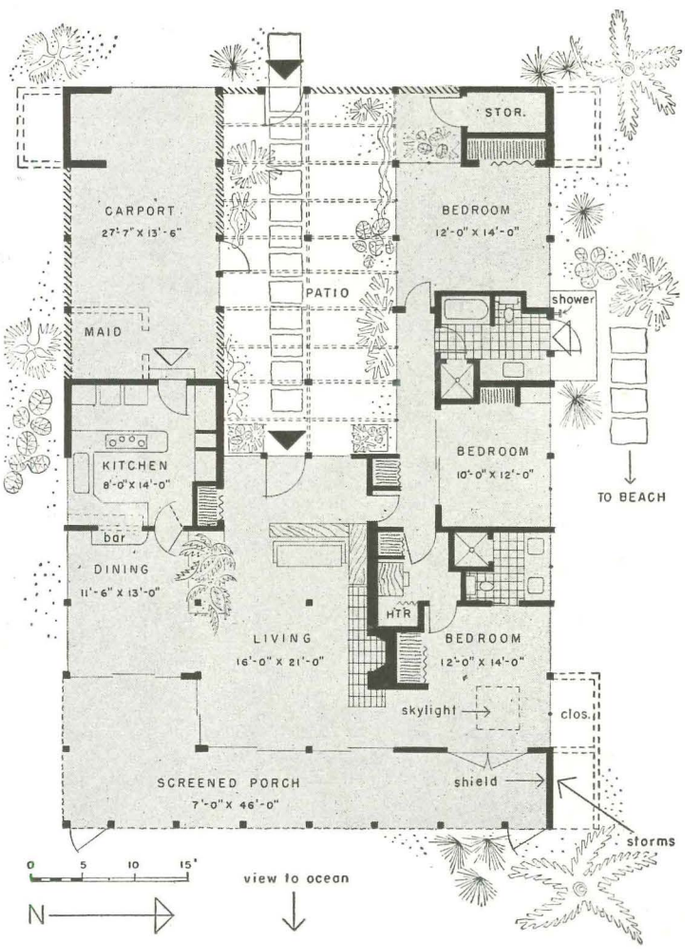
WEBB & DAVIS, contractors
AREA: 2,622 sq. ft. plus patio
COST: $10 per sq. ft.
Photos by Rada



South breeze flows through carport screening and louvers into pat through bedroom windows and out north side. Warm air can esca through screening above court, making it a cooler place to sit night than a covered porch.

What patios can do for your house

This patio wraps up fresh air and fu in a gay cocoon of color



Like many an architect who designs and builds a house fo self, Taylor Hardwick had a good time with this one. He ha experimenting with structure, materials and color (see p 118) and he made them perform some highly useful job The patio is especially ingenious:

1. As an airshaft in the middle of the plan, it takes prevailing breeze and distributes it to living and sleeping (see diagram above).

2. As a light well, it gives the rooms around it natura from inside.

3. As an entrance court, it provides a pleasant, gradual tion from street to living room, makes a small house seem and more engaging.

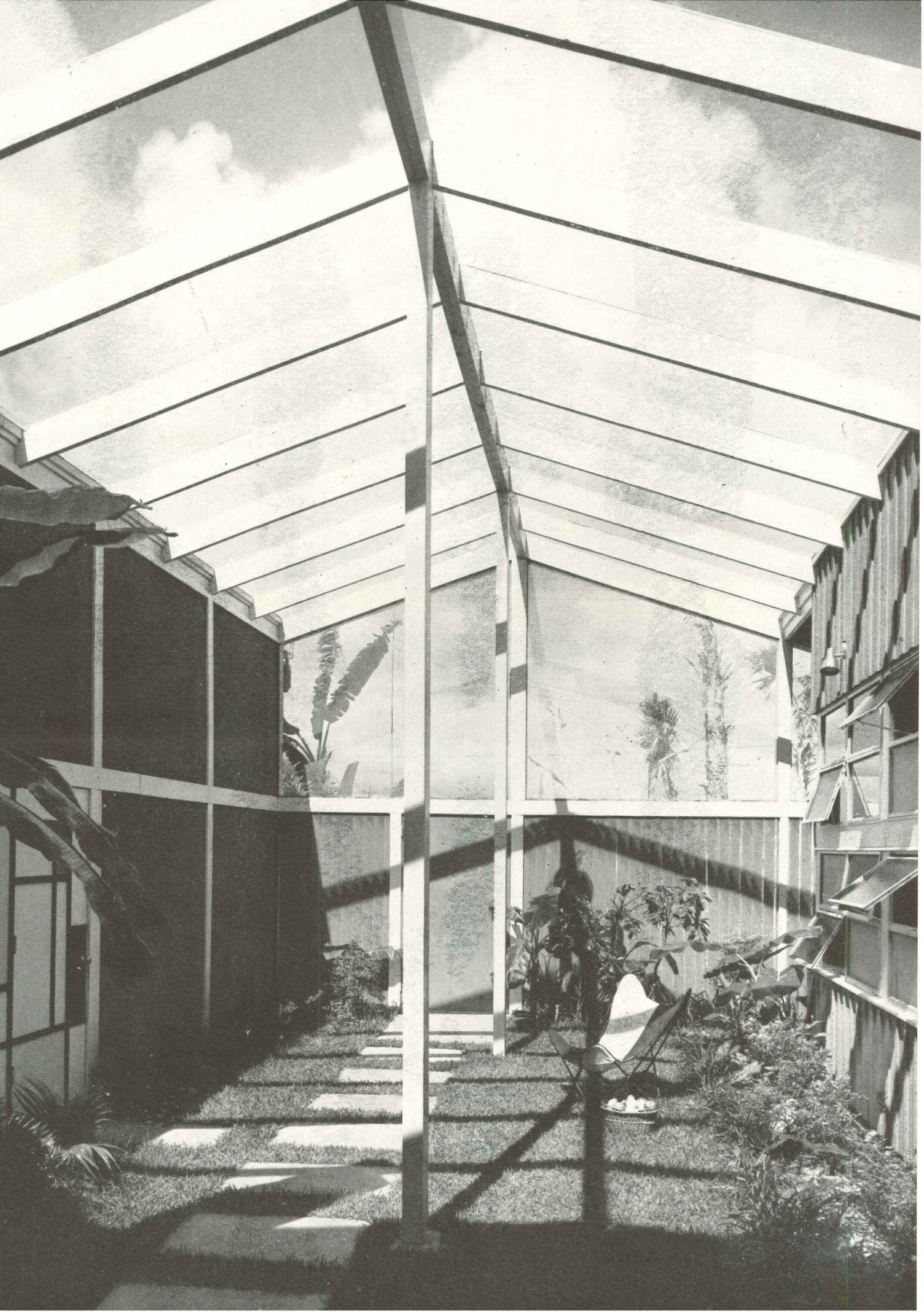
4. As a sitting terrace, it is completely private from stre neighbors, sheltered against strong northeast winds and gla sometimes strike the ocean-facing porch.

5. As a play pen, it is safely enclosed on four sides, supervised from most parts of the house.

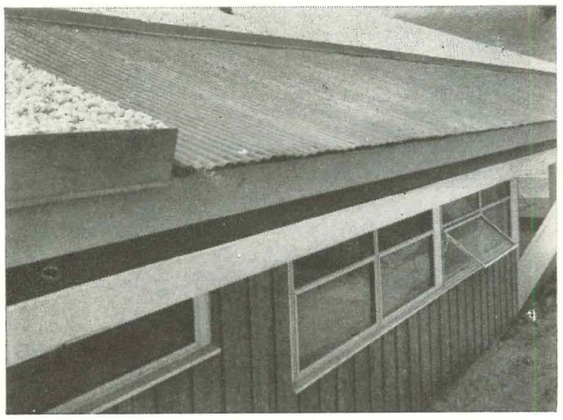
6. As a screened porch, its blue-green, glass-fiber scr blends with the sky, keeps out bugs, filters the hottest sun.

7. As a greenhouse, the screening also keeps out frost, ing the owners to grow delicate plants that ordinarily flourish this far north.

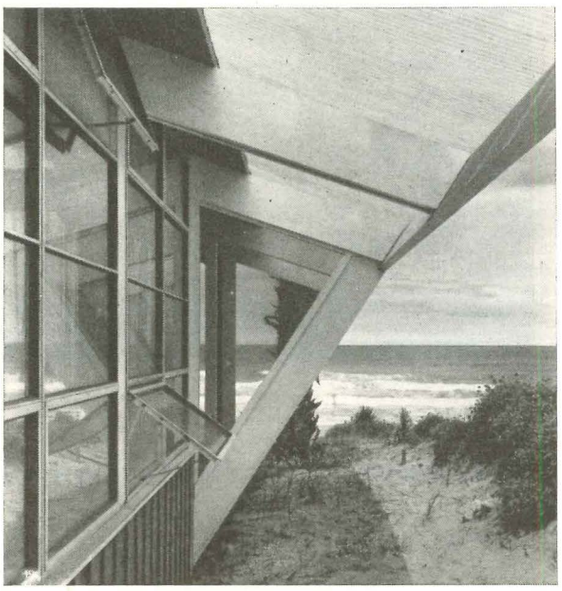
Front door opens into high entrance court ing windows (at right) may be left open sudden rainstorms, are of colored and glass, cutting glare of south sun. Door to (left) sports a cheerful Mondrian patter



ilding materials can be happy as well as practical

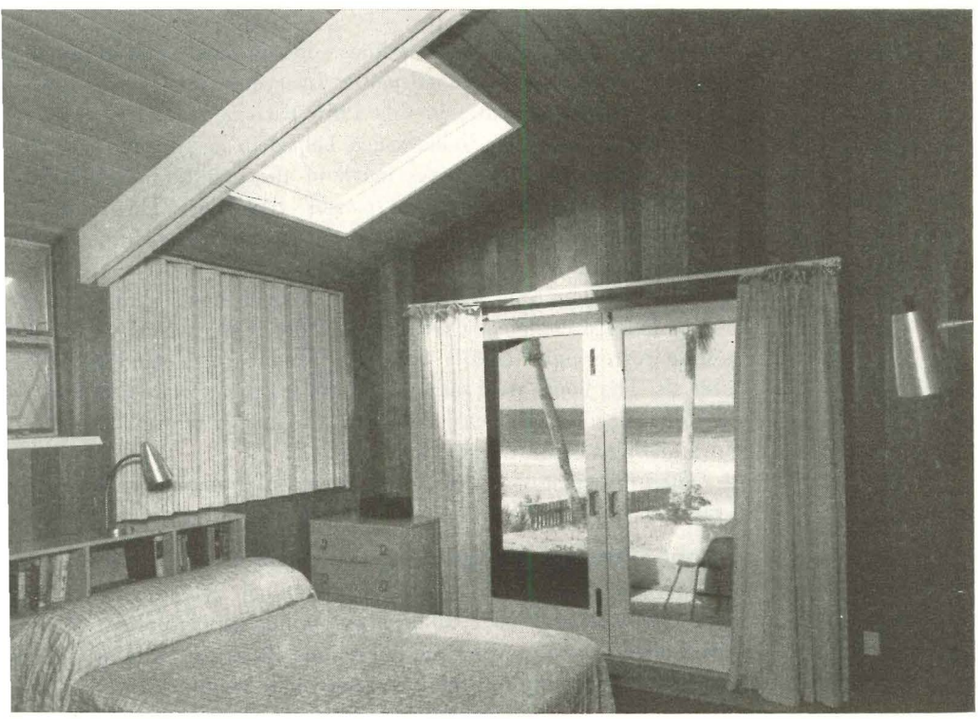


Corrugated plastic, reinforced with glass fibers, forms overhangs that keep off rain and sun but let in light. Over south side (above and below) is a 36′ strip cut from 100′ roll, green in color to "cool off" harsh sun before rays enter kitchen and dining room. On the north a 50′ length of yellow plastic lets in a warmer light.

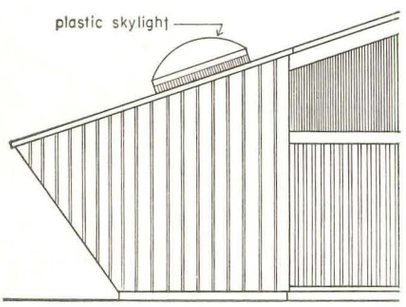


rant colors enliven front of house. Blue ing encloses patio; boards set at an angle in allow privacy without stopping breeze. Hard- says his airy structure was inspired by the latted corncribs seen on Pennsylvania farms.

-brown firebrick makes up entire fireplace with open space above to let breezes into m at far left. Fireplace and heater vents ent asbestos are brightly painted for accent. olored panes toward screened porch soften glare. Durable, easily cleaned floor is ter- made of leftover chips of many colors.



bubble skylight 4′ square gives owners view from their bed. On north side of roof, it gets little direct sunlight, does not heat up bedroom Swinging glass doors open to screened porch.



Photos: Chas. R. Pearson

Patio opens off all-purpose room, kitc

What a patio does for this home-show house:

Outdoor living is cente

LOCATION: Tacoma, Wash.
ROBERT BILLSBROUGH PRICE, architect
SHERMAN ROWLAND, builder
TACOMA MASTER BUILDERS' ASSN., sponsor

This show house proves that a house doesn't have to be in the luxu to gain from a well-planned patio. Everyone recognizes a bonus a smartly integrated patio in this 1954 Tacoma Home Show house, more than doubles its living space, helped to make it the talk of T

Architect Bob Price gives much of the credit to the Tacoma Builders' Assn. (NAHB), its sponsor. Says he: "The really sig fact is the change in the sponsor's attitude toward the archite modern design."

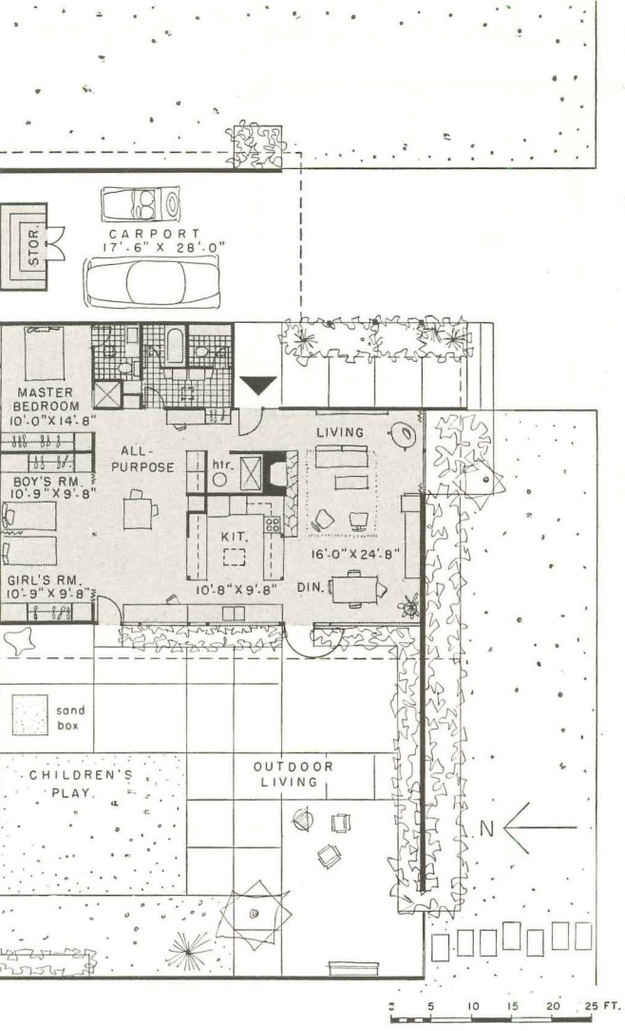
For the first time in the history of their home show, the assc gave Price a completely free hand. Only requirements were low t erate cost, simple details (for easy production), standard buildi terials. The house paid off for both builders and architect, sold tw before opening, attracted huge and admiring crowds, got the a commissions for three more houses like it.

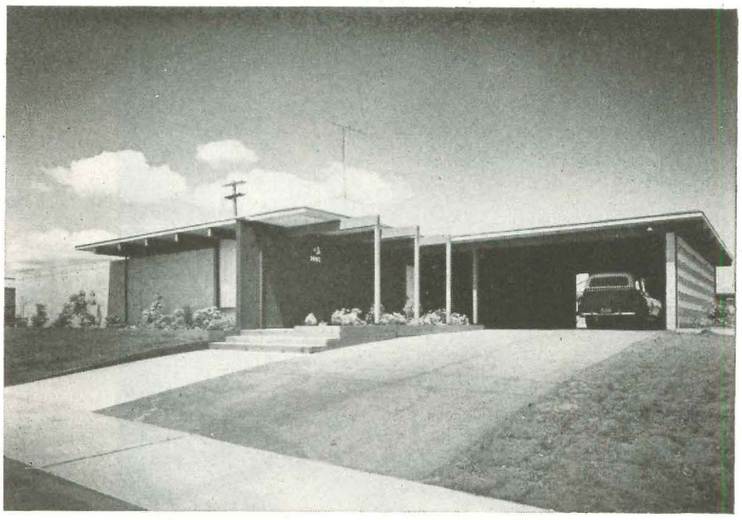
Other associations planning hundreds of home-show houses eac might profit from the Tacoma builders' new outlook and success.

What changed the builders' minds about design? Says Wa Witte, president of the association: "Outdoor living, contemporary and open planning have captured the public's imagination. We wa capitalize on that and go the public one better by building up acc for what many may still think of as extreme design.

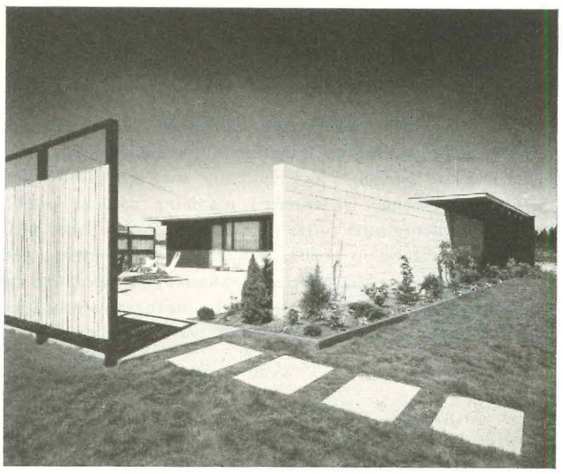
"Besides, we believe that contemporary design means more sp less money."

Price of the house: $17,500. Area: 1,550 sq. ft.



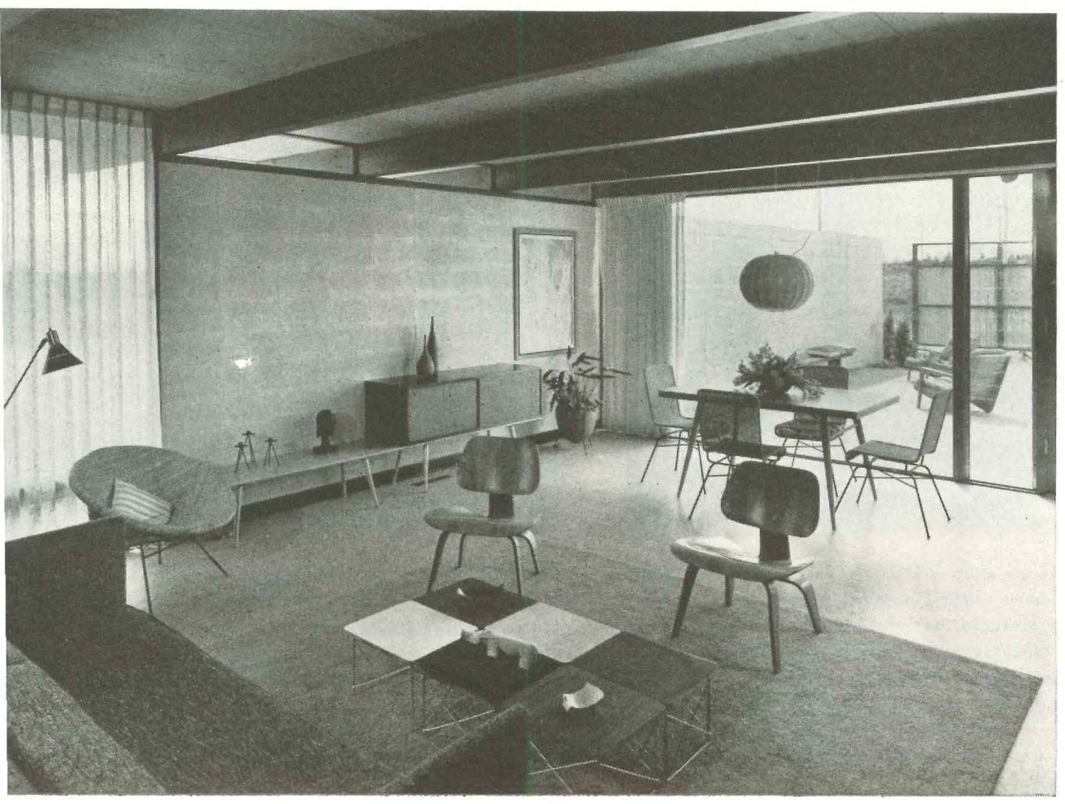


Patio is behind block wall (left). House is a forthright expression of plan and use. Nothing was used to make it look cute. All materials were chosen to give service, texture, color or interest to a particular area. Exterior finish, except for pumice block, is stained or brightly painted fir plywood.

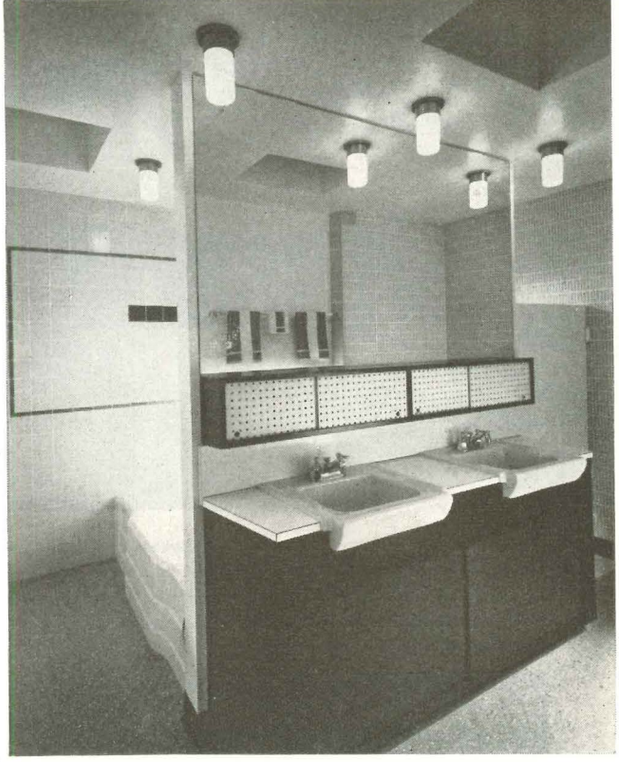


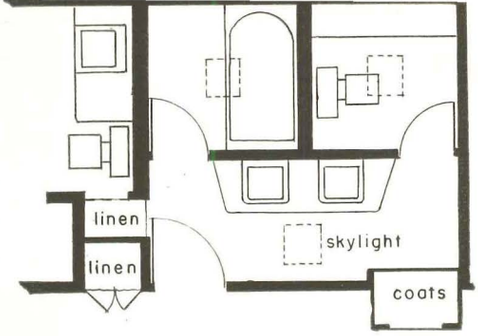
Shielded from street by long stretch of pumice-block wall, patio also extends a path of flagstone for outdoor entrance. Note high privacy fence (left).

one accessible area

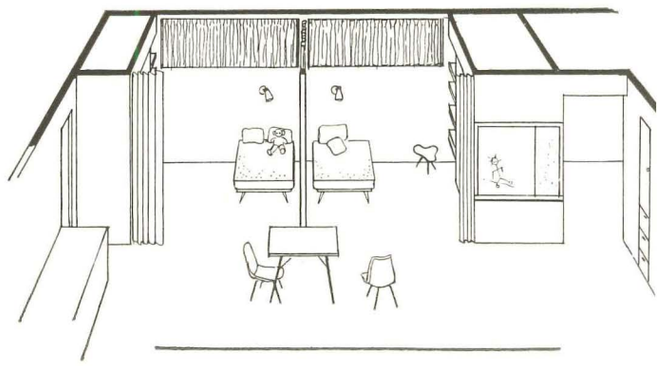


Oriented toward patio, main living-dining area seems to double in size, helped by pumice-block wall which makes smooth indoor-outdoor transition. Transom glass between beams also carries eye outdoors. Floor-to-ceiling window (left) commands driveway approach to house.

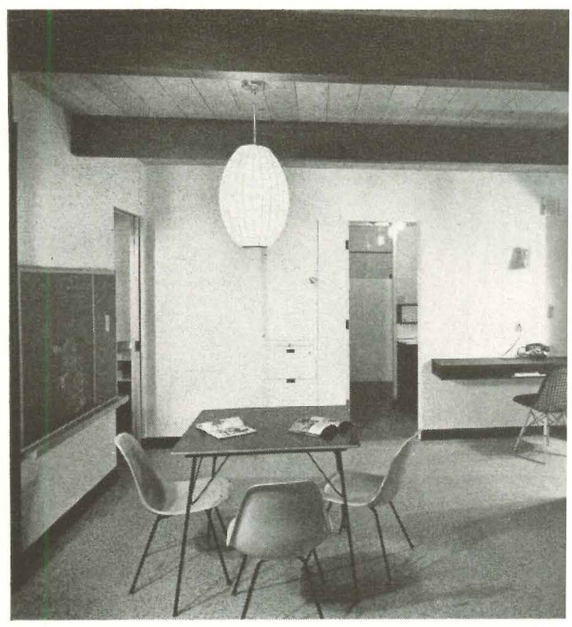




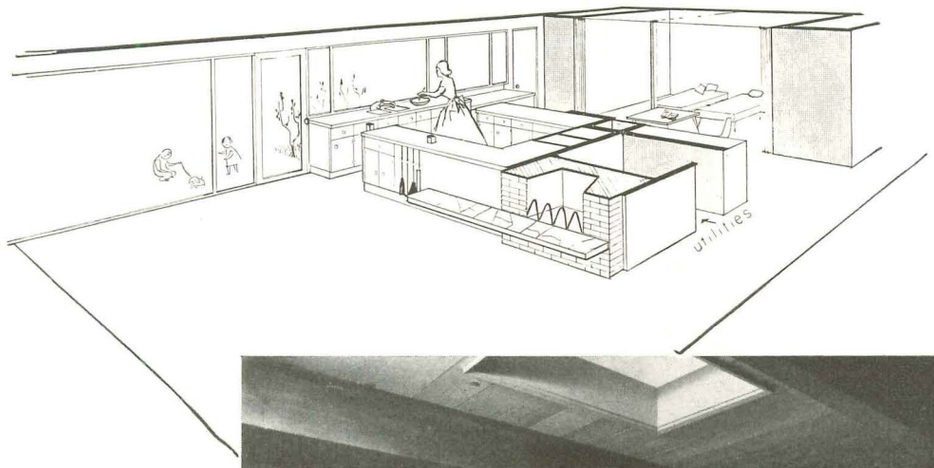
Double "T" bath for children and guests has bathtub at left, double basin at center, toilet through swinging door at right. Space under basins is economically enclosed with plywood for additional storage. Elongated medicine cabinet with sliding perforated doors puts toilet items within easy reach, and sliding doors will not bump heads. Room has no windows, gets light from skylights, ventilation from exhaust fans. Sensible compartmentalization of fixtures puts basins, most frequently used, close to door; bathtub is completely separated from toilet.



Convertible children's bedroom can be shut off from all-purpose room (right) and can be split in two by folding doors. Whole area provides space enough for a real indoor romp for kids. Other features that make the area livable for the little people; under gaily colored curtains, a perforated wall where they can hang their drawings, built-in storage wall of plywood with shelves, desk, wardrobe and drawers painted in many different colors. Architect Price planned house for "average" couple with young son and daughter, used tough materials that can withstand hard knocks. Example: fir plywood floor is covered with easily wiped asphalt tile throughout the house.

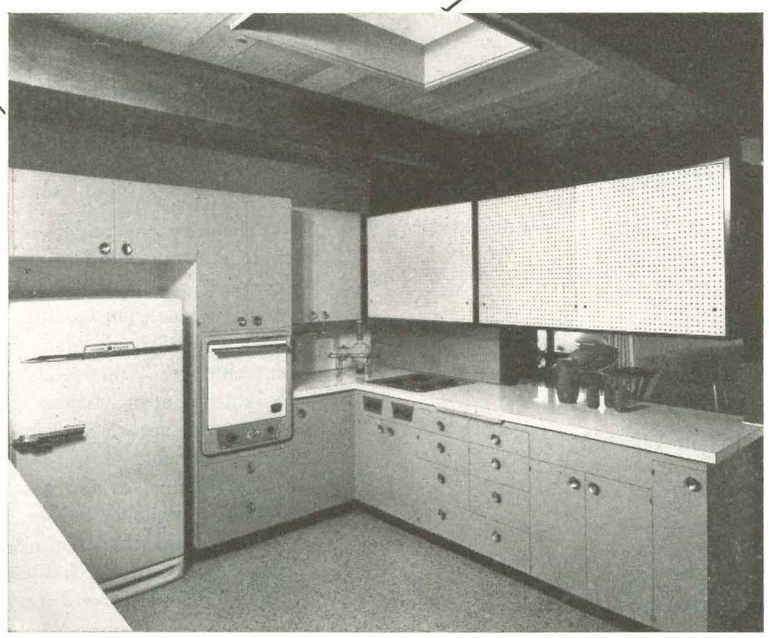


Almost half the area needed for this all-purpose room was s letting it do double duty as a bedroom hallway. This arra contrasts sharply with usual long, space-consuming corridor three-bedroom-and-bath arrangement. Washer and drier a for servantless housewife who can also supervise childre indoors or in patio. Cork and blackboard wall (left) is righ children's bedroom. Master bedroom (through door, le ground) has own bath, complete privacy, much needed fo with kids.

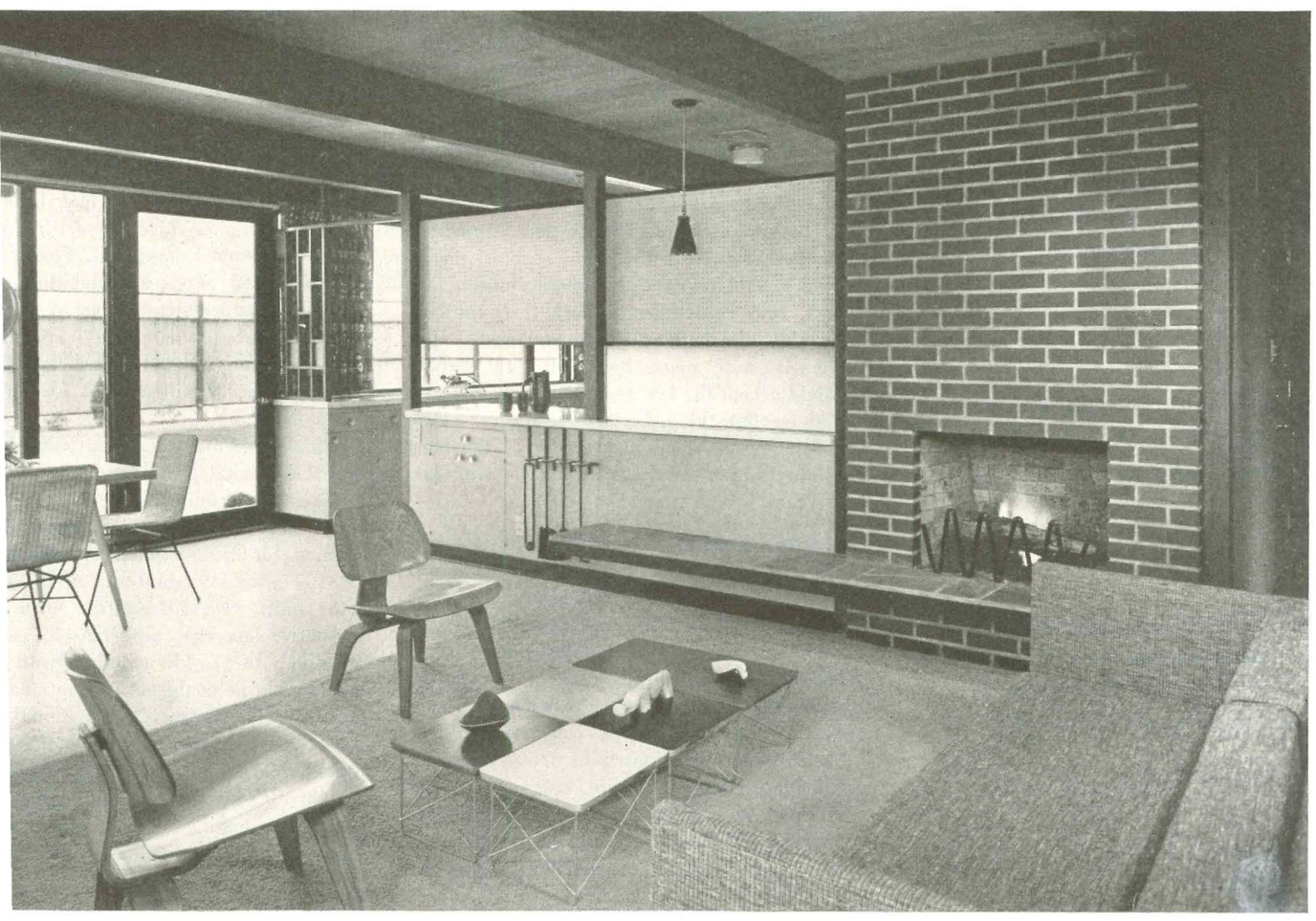


the kitchen

shares the patio



the heart of the house (center background of photo below) roost. Note from isometric how housewife mother can: 1) ldren in patio, or 2) in all-purpose room, 3) serve outdoor h a minimum of steps, 4) visit with guests in living-dining while cooking or serving dinner, or 5) enjoy the outdoor view pen-plan kitchen (photo right) is planned to keep appliances ing-room view; ceiling fenestration makes entire kitchen and cheerful. Counter-height range, built-in oven, pass- re becoming modern necessities. Note how space is fully r storage—much needed in today's kitchen. Cabinets with rs above pass-through are fir plywood.



New law gives housing new directio

Lower down payments are boon to middle-income hous

Better terms promise more sales, higher prices for homes. Antiwindfall rules will choke FHA rental Sec.

Under all the circumstances—the headline-hunting of the FHA investigation, the blu buss attacks stigmatizing an entire industry for the long-known shady dealings of operators—the private homebuilding business could breathe a small sigh of relief th Housing Act of '54 would at least leave its customary federal instruments in working

The measure—it had emerged from conference and cleared the House only stalled by the Senate filibuster over AEC when these lines were written—hobbled phases of private housing. For instance, even the Congressional conference committe gave its final form conceded the antimortgaging-out clause would probably keep some ative builders from putting up rental housing under FHA's Sec. 207.

IN THIS MONTH'S NEWS

(see pp. 33 through 48)

Senators haul 608 builders on the carpet as a long probe into alleged windfall profits begins in Washington

Steel price boost foreshadows higher building costs although some builders think housing may escape—at least for a time

Congress gives HHFA dictatorial power to reorganize FHA and other federal housing agencies

$5,000 worth of electrical appliances per house in ten years? Industry executive forecasts it will be so

John Lloyd Wright and California architectural examiners tangle in a court test of the state's controversial registration rules

The warranty requirement would probably induce many builders to add a small percentage to the prices of their homes—unless sales competition proves too keen. Fanny May's one-for-one plan, which has been a blessing to builders in money-shy regions, would be out of business, at least for a while.

But the act also made life pleasanter for some segments of private housing. Realtors, in particular, could look forward to easier selling of existing houses. And some federal officials said that the new FHA Sec. 220, designed to aid rehabilitation of blighted areas, should prove a real bonanza. Public housing, its enemies noted happily, would be cleverly anesthetized. The conference committee compromise (which two senators and three representatives refused to sign) called for only 35,000 units for one year—plus the 33,000 already in the pipe line. But the new 35,000 would be limited to rehousing families displaced by slum clearance, redevelopment and urban renewal—a hurdle which would limit the program to 10,000 units, some public housers asserted. The House accepted the compromise, 234 to 156. Some senators threatened a fight to force the whole Housing Act back into conference (where it could conceivably die in the adjournment rush). But chances were much better that the Senate would accept the law as it stood. In any case, nothing but the politically explosive public housing issue stood in the way of the most comprehensive overhaul of US housing law in years.

Limited profits. A new philosophy for government-backed private housing was threaded into the GOP measure: limited profits. It was the outgrowth of FHA investigations into the whopping income some builders derived from 608s (see p. 35). But the concept was applied across the board. Thus the rechartered Fanny May, when it eventually becomes privately owned, would be limited to a 5% dividend. Builders under FHA's Sec. 207 and 213, the Wherry Act, rental defense and rental Sec. 220 and 221 housing, would be limited to a 10% profit—a situation immediately attacked by public housers as "guaranteed profits."

The Housing Act itself would not actually fix a 10% limit on builders' profits. vided that a "reasonable allowance" fo could be included in costs. But th ferees pointedly advertised that they ha in mind; that was the figure used in th mittee report which backed up the version of the housing legislation. FH ably would limit profits to the 10%.

Antimortgaging-out. In limiting via antimortgaging-out amendments, th ing Act would require builders of ren cooperative housing to certify their costs (profit included) and then redu mortgage by the amount the loan exce allowable *loan-to-value ratio*. Land have to be listed at FHA's estimate o before building. This was far stiffer t cost certifications which had been imp Title IX defense housing and Whe (Title VIII) military housing. These quired that any excess of the mortga cost be applied to reduce the loan. Y this relatively mild ban had brou Wherry Act close to a standstill. A fense Secretary Franklin G. Floete House armed services committee r "Since the amendment of last year r sponsors to return any excess amoun mortgage over costs, we have had o new projects submitted. That law ap has done it."

What would the generally predicted of FHA's rental programs mean to c tion of rental units in the US? La said congressional housing aides, F counted for 35,460 rental multifamil or 31% of the US rental total of 124,5 7,451 units were FHA 207s. With legislative shackles, an FHA 207 l was likely to provide a builder with money than he could get conventiona 66% of value basis. A conventional volves less red tape, no chance of be up to public calumny. The suggestion a tightening-up was given Congress nesses representing big insurance com a big source of conventional rental u

Byrd & barbecue pits. Two oth categories of law-tightening also

FHA scandals: restrictions on Title loans and a watered-down version of ndments urged by Sen. Harry Byrd . For Title I, President Eisenhower d that the loan ceiling on one-family e raised from $2,500 to $3,000, the tion period from 3 years, 32 days to 32 days (with similar boosts for ily dwellings). Congress left both t and pay-off as they were. Moreover, ed the entire concept of Title I loan e. From now on, instead of full insur- to 10% of his portfolio of Title I ans, a lender would get only 90% e of each loan. That promised to ne lenders out of the program, even HA may ease the blow by cutting its e premium (FHA makes big profits on epair loan insurance). Only super- l approved lenders would be eligible Title I loans—a blow to careless ractices. And the work would have antially protect or improve the basic or utility of the property," thus rul- arbecue pits, swimming pools, patios o repair loan could be made until is occupied for at least six months, iple loans on the same property must ed the authorized $2,500 total.

the industry regarded as the most ng Byrd amendment (all were in- the Senate floor) was dropped. It ave required lenders to certify that A-insured loan they made was The problem: if a loan went sour FHA might charge the lender with l try to cancel his insurance.

survived of Byrd's amendments were luted requirement that multifamily rs and public housing authorities records as FHA or PHA order and audits, and 2) a requirement that how in annual reports how all its ants and capital contributions stand much individual builders have paid uce mortgages under the new anti- ng out rules. Cried Byrd, unhappily: l is still wide open to evasion and on and irresponsible administration. h all the loophole plugging which done, FHA will still insure loans up of the cost on the basis of a cost which is susceptible of evasion. . . ." htened features of the law:

ties: Rep. Albert Rains (D, Ala.) wo-year fight to force homebuilders to arranty on all FHA and VA one- to ly housing. Builders won an impor- -minute concession when the con- reed to require only a warranty that re in "substantial conformity with l specifications."

'hotels': For years, US hotel have been crying that many FHA cepting transient guests and offering services—were giving them unfair on. They won a partial victory in the No FHA project may be run for unless it had written approval from FHA to do so before May 28. Sponsors of rental projects will be required henceforth to swear under oath that they will not take in transients. Moreover, the law would let hotel operators within a 50-mi. radius of an FHA multifamily project sue for an injunction to halt any alleged violations.

The new law also would make it a criminal offense to misuse the term "FHA" in advertising or promotion. It would let FHA and VA exclude "willful" violators of their rules or local laws from their programs.

Lower down payments. The big plus in the legislation was easier down payments, and the near-equalization of FHA terms for new and old homes. The law would boost the mortgage ceiling for FHA Title II loans on one- and two-family homes from $16,000 to $20,000. For three-family housing it would rise from $20,500 to $27,500. For four-family housing, it would go up from $25,000 to $35,000. The act would permit owner-occupants to get FHA mortgages up to 95% of the first $9,000 of appraised value and 75% of the value above that. *(Thus on a $9,000 house, only $450 down would be required; on a $12,000 house, only $1,200; on a $15,000 house, $1,950.)* Operative builders, however, would be entitled to only 85% of the down payment terms *available to owner-occupants.* This leaves builders of homes priced under $12,000 *worse off than under the old law* (they had been getting 85% of full valuation, instead of 85% of 95%) in cases where they cannot find a buyer soon enough to avoid taking the mortgage in their own name. The effect should be to make builders more conscious of building salable houses, encourage more $12,000 to $20,000 bracket houses where terms have been unfavorable.

In making the lower down payments mandatory, Congress went further than President Eisenhower had asked. He had urged that these be made permissive as an antirecession weapon. Along stabilization lines, Congress voted the President power to permit 95% loans up to $10,000 if he feels the economy needs it.

The legislation covering FHA terms on existing houses was expected to broaden the market and perhaps boost prices. The law would permit 90% loans up to $9,000 and 75% of the excess (up to the ceilings governing new FHA houses). But loans would be restricted to 30 years *and* to three quarters of the remaining life of the structure as estimated by FHA.

The Title I, Sec. 8 program was merged with Title II. Although FHA has said it will retain lower construction standards for mortgages of $6,000 or less, prefabbers who have seen some of the proposed standards fear the land development requirements will be too stiff. Other aspects of the law the housing industry sees as gains:

Open-end mortgages: FHA was authorized to insure open-end mortgages on one- to four-family houses (VA already does). Particularly since Congress refused to ease Title I repair loan terms, the industry is counting on open-ending to give the modernization market a shot in the arm. A last-minute controversy over Senate objections to letting additional advances exceed the original amount of the loan was settled by a compromise under which the mortgagor must certify that anything above the original loan total "will be used to finance the construction of additional rooms or other enclosed space. . . . "

Urban renewal was one of the act's most sweeping changes — but little noticed lately because of the FHA controversy. Title I redevelopment of the Housing Act of 1949 would be broadened to include not only slum clearance but slum prevention and the entire new concept of urban renewal. Significantly, the law would bar urban renewal grants (but not preliminary planning advances) to communities until HHFA approves "workable" official plans to attack existing slums and prevent growth of new ones. But city councils would be required to pass an ordinance or resolution before planning funds can be granted. This would close the door to many a stunt by which public housers flim-flammed projects through before cities understood what was happening. The new law would modify the requirement that blighted commercial or industrial areas be redeveloped primarily as housing to permit nonresidential rebuilding of areas with "substantial" deteriorated housing.

Military housing: In a new FHA section created for military personnel some homebuilders might find a little-suspected bonanza. It would be the most liberal government housing insurance ever legislated. The maximum mortgage of $17,100 would permit 95% loans on homes priced up to $18,000 (instead of $9,000 for civilians). Apparently, the new section also applied to existing homes—if sold to men or women on active duty. Moreover, a soldier who gets the new FHA-military loan would still be eligible for a VA home loan after he is discharged.

The law also would extend Title VIII and Title IX for another year—subject to overriding amendments like mortgaging out.

Fanny May: The housing measure would give the President almost everything he sought in reshuffling the Federal Natl. Mortgage Assn. (H&H, March '54, p. 35). Basically, this involved revamping it into a tripronged operation part of which is destined for private control in some six to 12 years. Fanny May's "normal secondary market" would be gradually shifted into private hands, and people who sell mortgages to it would be required to buy capital stock amounting to 3% of the mortgage—a percentage builders think is too high. While the government retains its initial $70 million stock in the operation, dividends on the stock might not exceed what the government gets on its own securities. After the government is paid off, the yield would be held to 5%. And private participants would be barred from receiving any dividends based on earnings with the government's money.

A second Fanny May operation (with sepa-

rate accountability), treasury-financed aid to new mortgage programs, would have only $200 million authorization, plus $100 million for 20% participation loans. Theoretically, these might raise the kitty to $700 million to back items like low-cost or minority housing. Advance commitments under the one-for-one plan could not be revived until participants have paid some private money into Fanny May and will be limited to the amount of these mortgages. This would make the one-for-one provision almost worthless. Third Fanny May program: sell its existing $3.6 billion portfolio.

Voluntary credit committee: Creation of a Natl. Mortgage Credit Extension Committee to help steer mortgage funds into money-shy areas was authorized, under HHFA auspices. The committee was proposed by insurance companies, is aimed at making direct VA loans needless.

High-rise apartments: For Sec. 207 apartments, the act would remove the $10,000-a-unit mortgage ceiling, substituting limits of $2,000 a room ($7,200 a unit if less than four rooms). It would give FHA power to up limits for elevator buildings to $2,400 and $7,500 respectively. The new *FHA Sec. 220* —for either old or new dwellings in designated urban renewal areas—would have the same financing limits as 203 for one- to four-family homes. Four- to 12-family structures would have a special maximum of $35,000 plus $7,000 each until over four with 203 loan-to-value terms. But an alternate deal for buildings of any size would permit builders to get 90% mortgages up to $2,250 per room (or $8,100 per unit of less than four rooms), and $2,700 per room ($8,400 per under-four unit) for elevator buildings—plus $1,000 a room more in FHA-approved high-cost areas. This struck experts as one of the most profit-laden features of the act. As with 608 terms, the underlying motive was a national need. In this case, Sec. 220 is designed to give big support to the drive against slums.

Eisenhower's brave new plan for 100%, 40-year loans **(FHA Sec. 221)** was amended into uselessness. It had been proposed as a try at a private enterprise substitute for public housing. Congress limited it to 95% loans for 30 years—just the same for cheap houses as would be available under Sec. 203. The White House also lost completely its effort to get flexible controls over FHA and VA interest rates. Spurred by cries of alarm from the veterans' lobby, Congress left intact the present rigid ceilings (5% for FHA, 4½% for VA). Some proposals dropped in conference:

- A Senate amendment authorizing Title I loans for mobile trailer coaches.
- Broad language (by the House) to make an anti-Communist rider apply to all federally aided housing; public housing, however, remains subject to the requirement.
- A Senate plan to aid the fight against smoke pollution of cities by a $5 million research program under the Dept. of Health, Education & Welfare and $50 million for loans to industry.

Northwest lumber strike

Some builders slow operations to avoid paying fancy pr for lumber and plywood as biggest lumber walkout record drains Douglas fir from supply pipe lines

A strike in the Pacific Northwest lumber industry, source of one third of the na softwood lumber, seemed almost unthinkable in mid-June. Lumber is the North biggest and oldest money maker; 65¢ of every dollar of income in Oregon comes lumber. As residential building had picked up, lumber buying had quickened, a prices had risen $5 a thousand board feet at the mill. And employment was on th in the Northwest after a slow winter.

But on June 21 lumber workers came out of the woods and mills by the thous and in a few days lumber users across the nation were bidding up prices in a scra for dwindling stocks. Homebuilders were threatened with a shortage of dimension lu at the height of the busiest season since 1950.

Two rival unions—the CIO International Woodworkers of America and the AFL Lumber and Sawmill Workers Union—had joined ranks for the first time in the biggest lumber strike yet.

As they glared at each other across the bargaining table, representatives of the 100,000 workers and 465 lumber-producing operations (over half the producers in the Northwest) were beginning to wonder what they were doing to the already troubled lumber industry. The Douglas Fir Operators, a management group, was warning the strikers—and the public—that increased wages of any amount, not to mention the 12.5¢-an-hour boost sought by the unions, would mean shut downs for many producers.

Log-choked river. Around Portland, main artery for outgoing Oregon shipments, lumber was piled up by the carload on docks and mill grounds. Acres of idle log booms choked the Willamette River upstream. The Kingsley Lumber Co., a sawmill in Linnton, Ore., had 3.5 million board feet of Douglas fir sitting behind picket lines.

But wholesalers by mid-July were down to their last stick in Portland. Some were heading south to California to beat the bushes for more. Contractors, who had been enjoying a nice little boom lately, began laying off carpenters.

By mid-July lumber prices—which had shot up as much as 30% above prestrike levels—had started to settle back down as builders in increasing numbers decided to wait out the shortage. Some, wary of a price-conscious market, slowed work in several eastern and midwestern cities.

How long this would last was a matter of conjecture. It is customary at this time of year to close down lumber operations for overhaul, and to give the men a two-week paid vacation. The strikers intelligently walked out pretty much at the start of that period, may have enough loose cash to tide them over a while. But with the highest wages in the US lumber industry, Northwest workers have been buying heavily on the installment plan. Money for payment ready tight after a bad winter in whic gers could not get into the woods, will be tighter. Yet many were predicting a haul, possibly two strike-bound moni very serious disruption of managemen labor income. Using the steel settlem their biggest pitch, the unions asked a across-the-board raise of 12.5¢ an hour their present average of $2.64 for logge $2.06 for sawmillers.

High wages. The steel average is the average for southern lumber w (the other great source of US lumb only $1.16. Moreover, and most imp for selling purposes, the unions arg fact that Northwest lumber workers ha had a raise since April '52, when a month walkout got them a 12.5¢ hike.

The only raise in the interim was boost last year by the Weyerhaeuser T Co. for its own men, which caused th of the industry considerable anno Weyerhaeuser, the biggest single, inte forest-products producer in the US a only one which negotiates apart fro rest of the industry, acted to fores 10¢ strike. Last month, Weyerha caught with about 8,500 men out, was waiting mildly for the rest of the in to settle the fuss.

The strike was far from popular wi rank and file of the unions, especially wood. In that industry, cooperative not closed by the strike, were steppi production. These worker-owned plants, own no timber and are for the most p dercapitalized, were getting a new cr the market. Normally they supply abou of the nation's plywood, but it appear sible that if their competitors stayed a while longer, the cooperatives migh ture another 5% of the market.

Industry seemed in no hurry to Said one industry spokesman: "We'r going to relax and rest up for the big ahead." It was the view of manageme the union determination to get a raise

high water" was profoundly unjust. management's position that in 1952 he 12.5¢ raise was effected, the price lumber had reached a peak of $81.48 llion board feet. By January of this e price had fallen to $66.68. In 1953 ice of plywood was $90. Before the it was $76. Management held that for ady troubled industry, increased wages nly one thing—shut downs.

ns pointed out that the cost of living one up 2% since 1952, that more was being produced in less man- Replied management: "Our only of survival is capital investment in chniques and processes which, though ay put some men out of work, must bout." Already, since 1950, this trend t almost 10,000 lumber industry jobs.

e-out pains. The plain fact was that mber industry, if not exactly in dire was nevertheless going through con- le growing-up pains in this age of corporate units. Of the 53,109 active wmills, 98% produce less than 5 board feet a year. The vast majority mills are very small operations, highly itive and at the mercy of frequent wings and high labor costs. This is lt partly of the historic US splurges sumption of timber, which lure hordes l "gyppo" operators into the field, only hem fall when the first squeeze comes. ditional factor is that few operators acilities for processing and selling all -products of an entire tree. With a of gigantic producers, like Weyer- , or specialists like International Pulp r, the lumber industry is most especial- ofitable business for the manufacturer ugh to achieve product diversification, wholesaler who can round up the by- s the "gyppo" is not solvent enough e out of his timber.

more you cut, the more it costs," is y one leading banker in Seattle put great lumber dilemma: the industry dily running out of trees despite the current for conservation measures late back to Gifford Pinchot. Loggers ow go farther into more inaccessible nake longer hauls. Equipment must dily improved at greater expense to nore use of a lot more pieces of logs he same footage. Annual production t the same now (10.2 million board in 1926.

porting nation. Despite the fact e US produces about 45% of the umber supply, it imports more than ts. In 1928 the US exported a net nillion board feet, but in 1952 it im- a net 2.5 million. Canadian and avian producers with plenty of wood, lly cheaper labor costs and low-cost g are stealing the market. Lumber ts from British Columbia to the At- lantic Coast increased about 25% from 1952-53. From Oregon and Washington they decreased about 2.5%.

Perhaps the biggest single hard knock has come through the growing array of new building products such as aluminum. Window frames and doors for instance were once one of the biggest income-producers for lumbermen. Now, more and more are being made of hardy, relatively cheap aluminum—or of steel. And the highly successful salesmanship shown by the aluminum industry contrasts with relatively poor promotion shown by lumbermen. Now, plywood men are readying a major step-up in sales promotion. One item: the Douglas Fir Plywood Assn. plans to double its sales force to promote plywood among builders with the slogan "builds better at lower costs."

Gyppos vs. new ideas. Into this changing situation have been sown a plenitude of good new ideas for the uses of timber by-products—cheap acoustical tile from wood fibers, rayon, plywood—a use, say foresighted lumbermen, for "everything in the tree but the breeze." Brightest of new thoughts are tree farms, 23 million acres since 1940. But the sad paradox in this new development is the glut of tiny producers (the "gyppos") whose facilities scarcely are the place for advanced wood chemistry. More and more, the harsh truth seems to be that the future lies in the hands of great units.

The strike brought one ironic, though short-term, blessing for the little crossroads mill—zooming prices. Mills (including some co-ops) that had been on the edge of bankruptcy were coining enough profit from the strike to repay mortgages and debts for logs. Some experts have forecast this financial bail-out almost guarantees a continued oversupply of lumber, especially plywood, for at least another year.

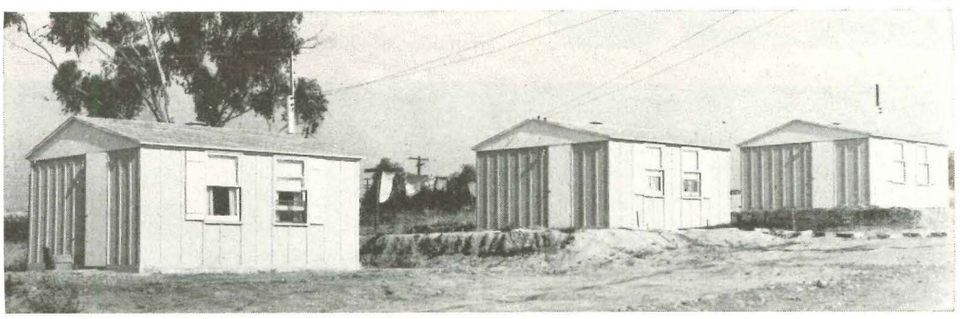
While some small operators signed early sweetheart pacts with unions for raises as high as the 12.5¢ demand, others persuaded their men to go back to work with no raise at all. But the dominant management attitude is summed up by one small operator who said last week—"I lost money last year. I absolutely cannot and will not give them a raise."

Said a striker in Roseburg, Ore., center of the biggest timber stand in the US—"I can keep paying for the car if this thing ends in three weeks. After that . . . well, the house is paid for, anyway." A retailer in the same town estimated sales were off as high as 70%. A haberdasher in Portland said his sales were off 15%.

What will be the long-term effects of the strike? On July 1, Portland's independent Republican newspaper, *The Oregonian*, analyzed them this way:

"The big steel wage settlement, providing a 5¢ wage increase, puts unbearable pressure on other industries in which an effort is being made to hold the cost line . . . but steel has the nation in an arm lock, while lumber can exert no such pressure. Steel contemplates an immediate increase in price perhaps averaging $4 a ton. Lumber prices are wholly competitive with other building materials and subject to fluctuations in construction. Prices for Douglas fir have moved up . . . but there is no assurance that they will remain there when production is resumed. Each day that Northwest mills are down, former markets are supplied and perhaps lost for good to lumber from nonstruck and foreign producers. The effects of this walkout will last a long time . . . the longer the delay, the worse off the industry will be."

Griffin



San Diego considers a ban on 210 sq. ft. homes

The question before the San Diego city council was whether such 14′ x 15′ structures like the above constituted a threat to property values and consequently whether a minimum-size zoning ordinance should be enacted to forbid their construction. Argument on both sides was spirited. A. R. Essery and Edward Tristran touched off the hassle by putting up ten of these houses—210 sq. ft., with tongue-and-groove roofing, interior partitions that do not reach the ceiling and one door. "A shame and a sin," said one local NAHB official. But outbursts from some small-home builders and beach property owners were loud and the city council voted down the proposed ordinance change, 6-0. The buildings fit the slim state law, which sets minimum measurements only for bedrooms (80 sq. ft.), bathrooms (30-35 sq. ft.) and kitchens (50 sq. ft.). City Planning Director Glenn Rick plans to present a compromise ordinance for consideration by the council this month (it has twice been postponed) putting local home sizes—variable according to the zone in which they are built—at 400 to 650 sq. ft. for single-family homes, 400 to 500 sq. ft. for duplexes and 250 sq. ft. for apartment and motel units.

Austin, Tex. is the new air-conditioning capital of the US. It may have fewer air-condit houses than Houston, Dallas or Phoenix but it has more types of c equipment and more new ideas on air conditioning than can be found i other city.

Hundreds of builders, designers and engineers from the building in will travel to Austin in the next few months to see the 22 houses which up NAHB's big field-testing project. For in this one Texas city N Research Institute has brought together equipment and ideas that sent most of the progressive thinking about summer cooling.

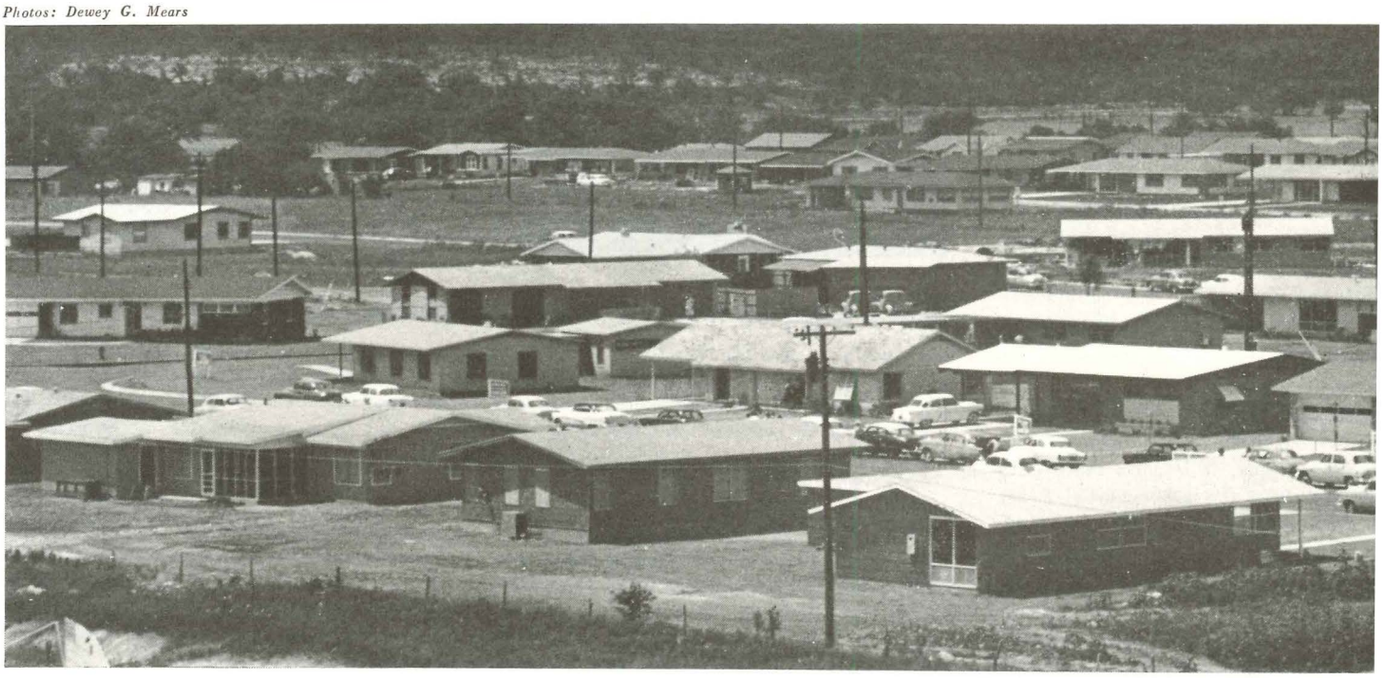
To those who cannot go to Austin for a personal inspection, Ho HOME offers this 16-page report as the next best substitute.

What can you learn about summer cooling from NAHB's

Air-conditioned Villag

Photos: Dewey G. Mears

On opening day (left) some 500 visitors representing the building and air-conditioning industries went to Austin to see the 22 experimental houses (below). NAHB President Dick Hughes said: "Our responsibility as builders is to produce more and better homes for more people. Without year-round air conditioning, no home can be comfortable."



men: Ned Cole, Len Haeger, Earl Smith, Dick Hughes

ges for:

What is Air-conditioned Village? Twenty-two houses plus an NAHB field office located in the new Edgewood residential area northwest of Austin. Houses are lived in by families who paid an average of about $15,000 for them. Each house has a different make of air-conditioning system. Houses are approximately the same size: ranging from 1,146 to 1,468 sq. ft. plus carport and outdoor storage. Families began moving in last June.

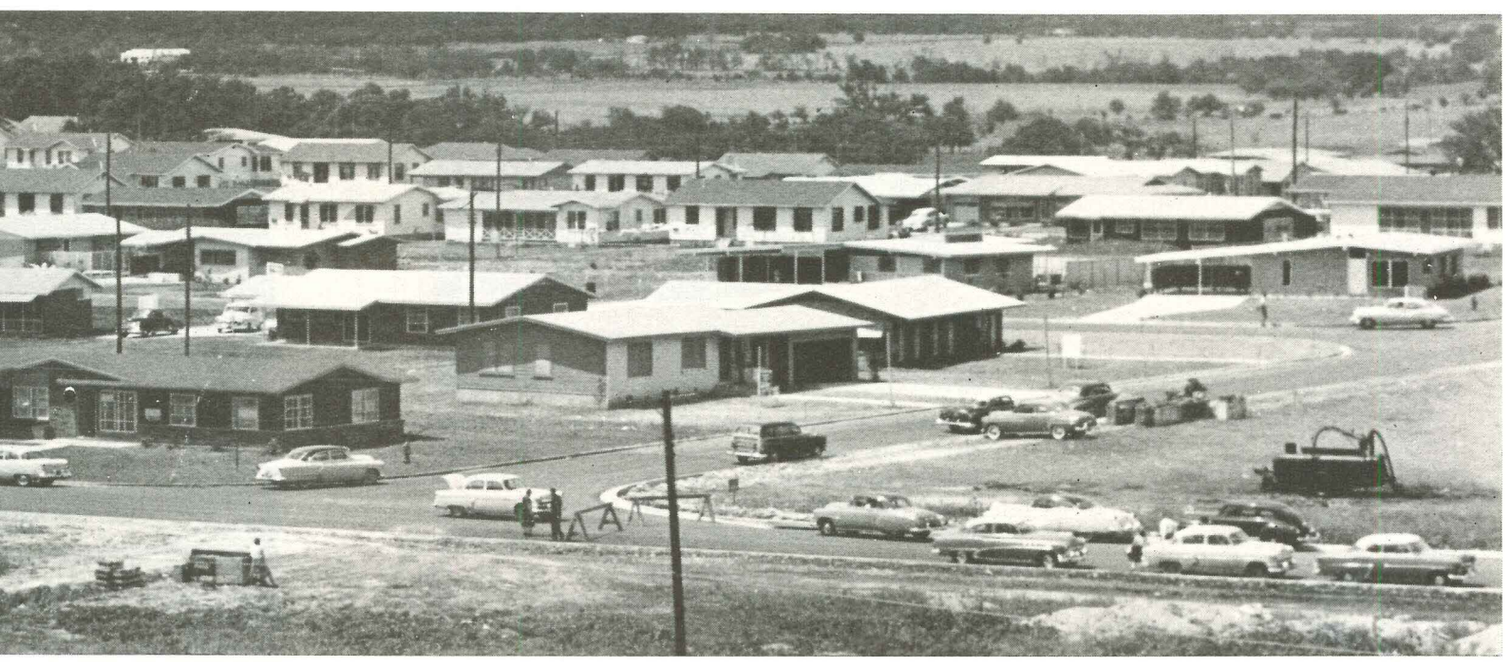
Who built it? Eighteen local builders, all NAHB members, at their own expense. Most used their standard 1954 house or a slightly modified production model; a few houses were freshly designed for this project. The majority of builders worked out the installation of their air-conditioning systems in cooperation with manufacturers or local dealers.

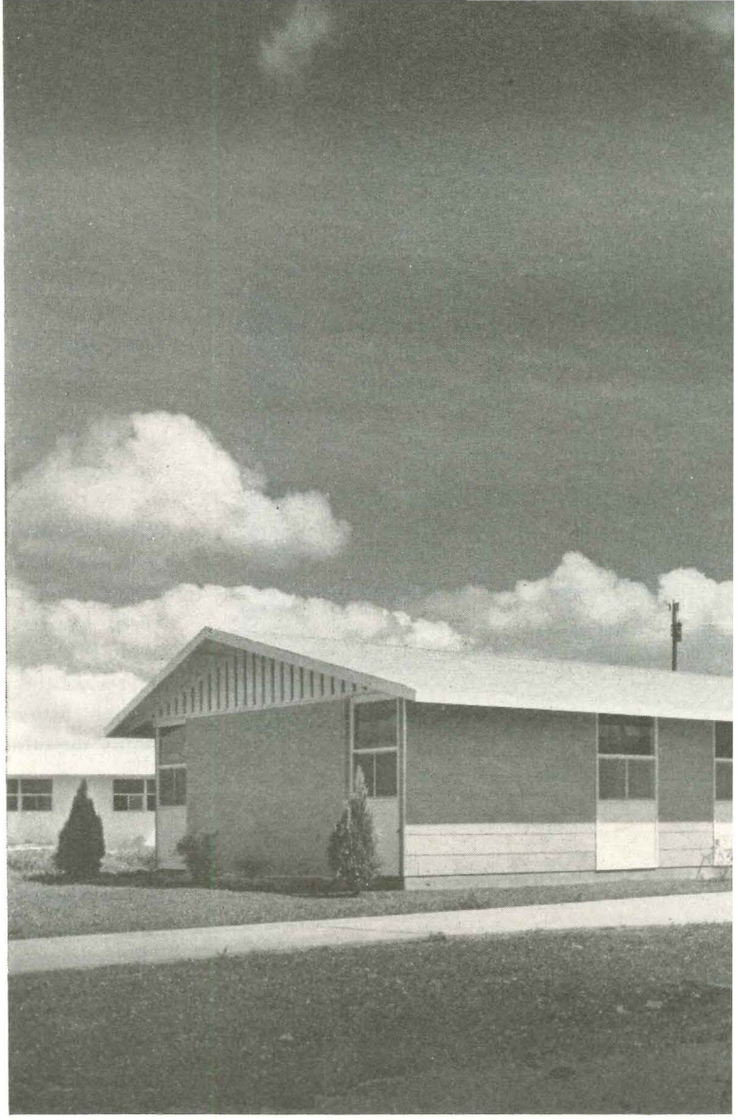
Who is behind it? NAHB, strongly backed by President Dick Hughes, Chairman Earl W. Smith of the Research Institute Committee, Leonard Haeger and Chris Christenson of the Washington office, and supervised in Austin by Ned A. Cole, chairman of the Air Conditioning Committee. Sponsoring it also are the National Warm Air Heating and Air Conditioning Assn., the residential section of the Air-conditioning & Refrigeration Institute, the National Mineral Wool Assn., Structural Clay Products Assn., 22 air-conditioning manufacturers and about 30 firms making other housing products.

What is its purpose? For one cooling season and one heating season the houses and the families in them are to serve as a field laboratory. It is hoped that investigators can get answers to many questions which will lead to the improvement of cooling-equipment installation methods and to summer-cooling use by typical families who buy merchant builders' houses.

Each house has a separate electric meter for the air-conditioning unit so that operating costs can be recorded and analyzed by University of Texas engineers. Practically every type of cooling equipment, air-distribution system, insulation and shading device is used. From instrumentation and observation many important facts can be learned (see the following pages).

Is the Village open to visitors? Village families have agreed to open their homes one day a week to qualified observers. For information write to NAHB Washington office, 1028 Connecticut Ave., Washington, DC. Reports will be issued by NAHB's Research Institute at a later date.





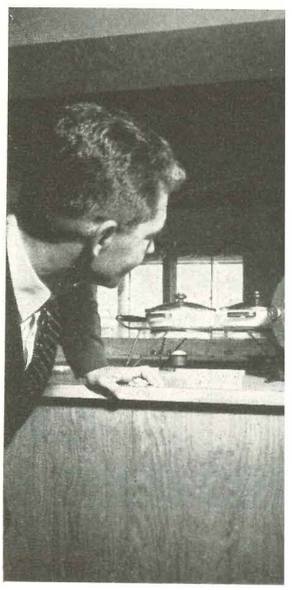
1 wide overhangs,
2 light-colored low-pitch roof,
3 plenty of windows, properly located,
4 carport or garage to shade west side,
5 other devices to keep sun off windows,
6 ventilated attic (some have electric fans),
7 thoroughly insulated attic,
8 wall insulation,
9 moisture barriers,
10 exhaust fans in kitchen and bath,
11 a variety of locations for cooling units, carefully engineered,
12 air-distribution system designed to fit the house.

These points, illustrated by house (above), contribute to cooling and good design, are repeated in all 22 hous

What's good for cooling is good for desig

Testing! Air-conditioned Village is a laboratory. Nat'l. Warm Air's field car is only one part of the testing facilities that Bill Nessell's crews are using this summer in Austin. Technicians, like man at right, will check temperatures, air flow, effectiveness of each installation and design.

Photos: Dewey G. Mears; LIFE*—Loon*



Do children eat better in air-conditioned houses? That is one of many questions medical investigators will try to answer as they call on Village families to check human reactions. Summer cooling is still so new that how it affects family living is comparatively unknown.

Air conditioning improves design. The 22 test houses demonstrate that a house designed for air conditioning looks better and performs better than the average uncooled house. Factors that make a house cooler in summer also make it a better year-around house. A wide overhang on all four sides, for example, makes almost any house look better and bigger, provides shade and protection from weather for the wall below, casts little shadow in winter.

Proper shading of windows reduces sky glare, makes indoor living more comfortable. Proper location of windows for air conditioning reduces summer sun load whether or not the air conditioning is operating. A house well insulated and with efficiently designed moisture barriers is a more comfortable place during cool days of spring and fall as well as in the middle of winter.

Such companion factors of air conditioning as ventilated attics, kitchen and bath exhaust fans, carports or garages on the west or east to provide shade, trees and shrubbery to cool east and west walls, and the proper venting of clothes driers and other heat and moisture-producing equipment all contribute to better family living.

Houses are experimental and not 100% perfect. A perfectionist, seeking the ideal house for air conditioning, will not find the perfect house in Austin because of several limitations imposed on the project. Ned Cole's air-conditioning committee was severely pressed for time and with so few people to do so much work it is a miracle that the Village was finished by opening day, June 2. Orientation is not ideal because houses had to be located in an established subdivision which already had streets and utilities.

There was a practical limitation on house design because not only were builders in a hurry, but they had to produce designs they were sure would sell in Austin and which would meet VA-FHA and lending institution requirements. Unlike Parade of Homes houses which sometimes stand unsold for months, these houses had to sell fast so families could move in and the testing program could be started.

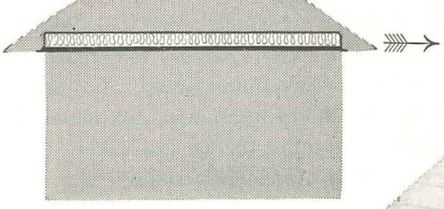
There were also size and price limitations. The committee asked builders to produce a house of approximately 1,200 sq. ft. which would sell for $12,000 plus the land. While this was a target, some houses were priced up to $17,000 because of extra equipment and their experimental nature.

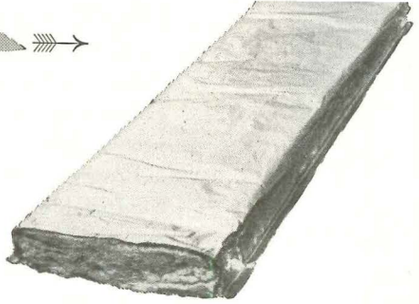
One of the ground rules laid down by NAHB's Research Institute was that each house be designed for a cooling load of approximately 2 tons. Houses in the raw had such variation in orientation, window area and other factors affecting heat gain, that it was necessary for the committee to equalize the cooling load by adding extra amounts of shading and insulation. It is emphasized that this is not a comparative test of different cooling units. Nor is it a laboratory type of research in which the essential elements are controlled. The fact that the 22 houses are different, the units are different and the families are different will provide a rich source of subject matter for observation. It is unfortunate that all the good ideas were not combined in at least one house as a demonstration of how good a house can be.

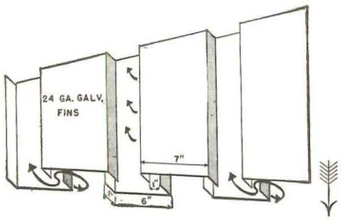
Field tests will be made by experts. Already at work are skilled technicians from the National Warm Air Heating & Air Conditioning Assn. under the direction of Bill Nessell. This is the third summer these field crews have been checking the efficiency of cooling systems. They will measure temperatures in each house at 3″ from the floor, sitting height, standing height and at the ceiling. They will measure slab temperatures, room humidity, effect of intermittent fan operation and take thousands of other recordings. There will be a careful record of operating costs. Houses have been so well insulated and shaded that some builders hope their owners will be able to heat and cool all year for $100. Aim of the research is to discover how better cooling and distribution systems can be built and installed for less money.

Families, too, will be studied. Physicians from the Texas Medical Assn. will see families periodically to determine how a cool house influences allergy sufferers. University of Texas psychologists will study how air conditioning affects the mental health and spirits of the occupants. Other studies may be made.

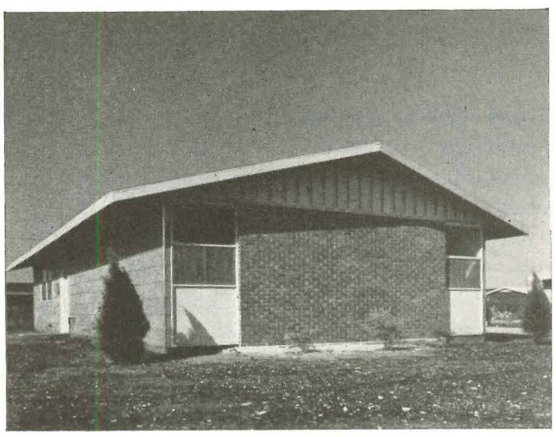
Is air conditioning practical for the $12,000 to $15,000 house? Residential air conditioning in merchant builders' projects is so new that many observers are still uncertain if it is economically practical in houses at $12,000 to $15,000. FHA and VA officials are also watching the Village.







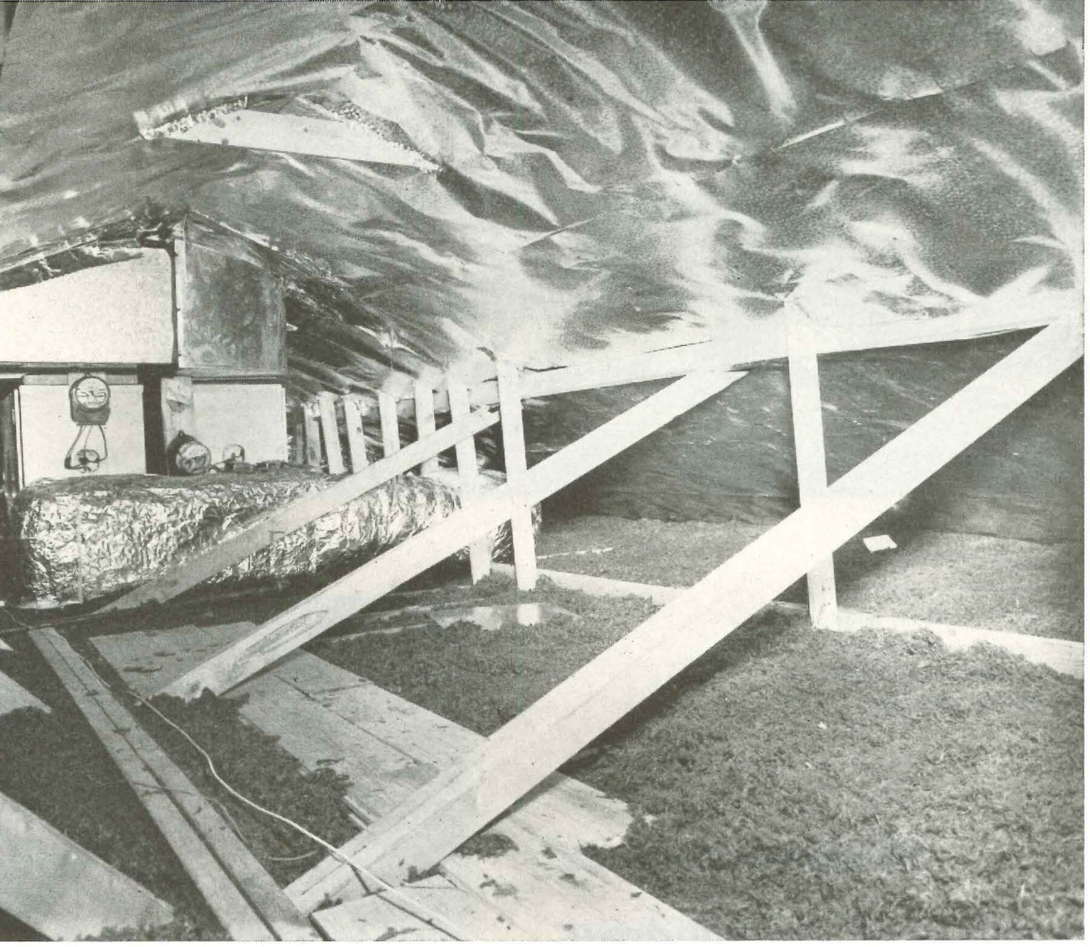
New insulation of mineral wool is topped with a silver-coated reflective paper that bounces back about 80% of the intense heat rays normally radiated to ceiling from a hot roof above. This paper should make a 3 " "full thick" batt as good as 5" of regular insulation in summer. In winter, reflective paper is of little value. Under mineral wool is regular aluminum-foil vapor barrier. Cost of "full thick" size just introduced by National Gypsum: about 10¢ a sq. ft. installed.



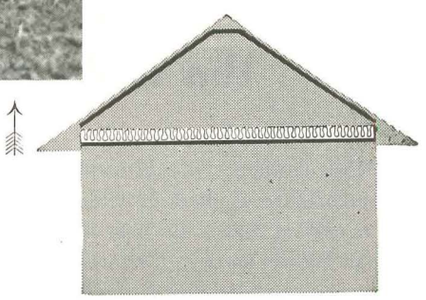
Fully vented gables in Village house (left) emphasizes importance of good air wash of ceiling to prevent heat from building up in attic. Prefabricated metal gable is shown in sketch. Experts recommend as much as 1 sq. ft. of free vent opening at each gable for every 200 sq. ft. of attic. This helps cool in summer, also helps prevent condensation in winter.

The white roof reflects from 35% to 70% of sun's heat, depending on roof texture and material. Engineers still do not know exactly how efficient a white roof is, so this one may supply important data. However, major emphasis in Village roofs was placed on insulation and vented attics.

New ro



. Mears

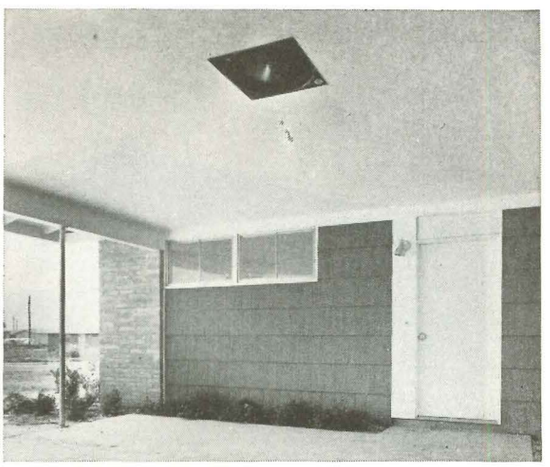


New insulation method combines advantages of aluminum foil and bulk insulation. Single-foil sheet, tacked under rafters, not only stops roof heat from radiating to ceiling below but also provides a heat shield over cooling equipment in this attic. Usual 4" of bulk insulation was blown in over ceiling. Both attic and space above foil is well vented.

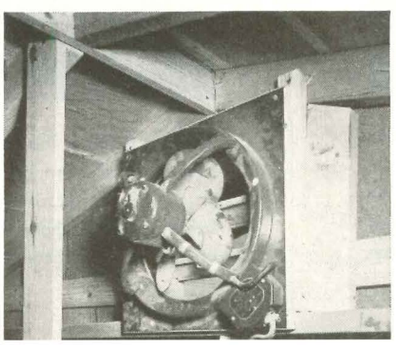
ideas cut heat load

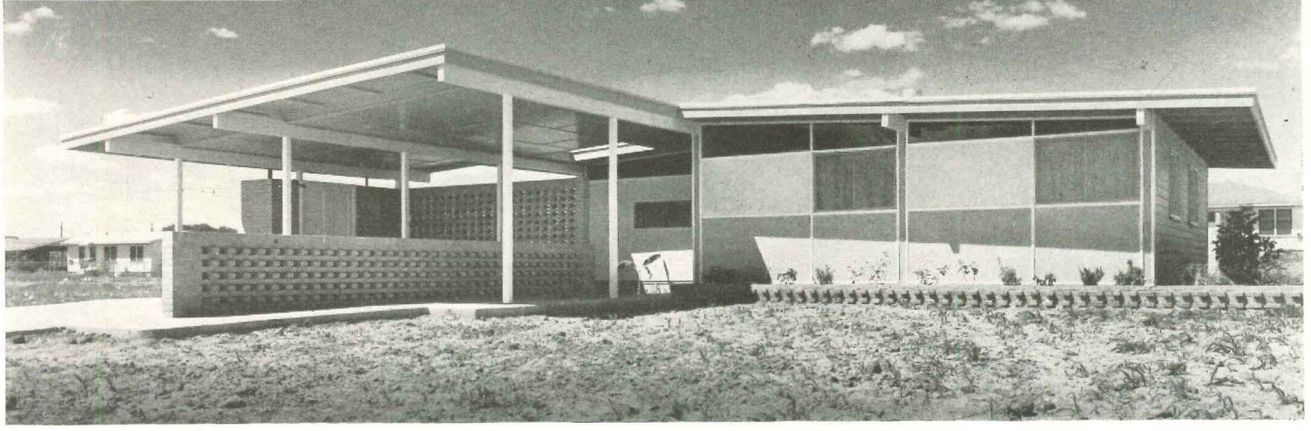
nappens under a hot roof on a 100° day? No one knows all the answers question now. A lot more will be known at the end of the summer first results are in from the Austin experiment. In an attic tempera- nay reach 150° or more on a hot day and most of this heat radiates into the house unless the ceiling is well insulated. Roofs and attics in llage houses have been designed to provide a variety of conditions so e value of roof colors, roof finishes, insulation and fans may be tested. se are the most thoroughly insulated roofs and attics that have ever uilt. Even a brand-new kind of insulation is used for the first time. mineral wool with a silver-coated paper on top and an aluminum-foil barrier on the bottom (see photo and drawing opposite).

ie attics are insulated in a new way, with a layer of aluminum foil against the rafters (as shown in the photo above). Several houses make se of 24" attic fans to keep air flowing through the attic.

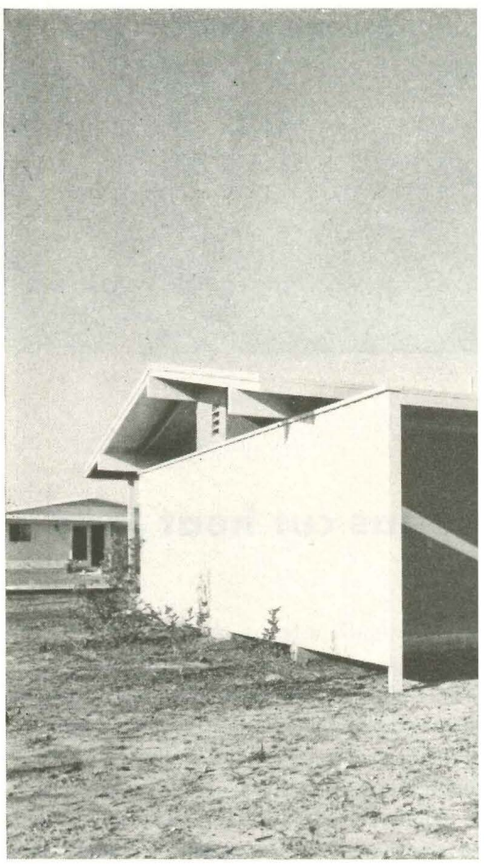


Forced ventilation over ceiling is being tested with 24" attic exhaust fans, thermostatically set to start when attic air is 100°. At left, fan blasts attic air out gable; replacement air is pulled in other gable. Fan above draws powerful air-wash in through vented gables, out through carport ceiling. In no case is air inside house affected. Fan costs about $70.





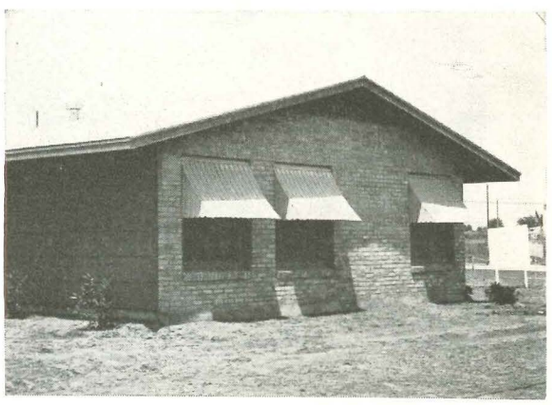
Big overhangs are a standard feature, provide shade and generally improve appearance of houses. House above has a generous overhang at right end, plus an unusually large carport roof which serves as buffer between house and afternoon sun. Designers put carport at west end of house whenever possible but orientation often made this impractical.



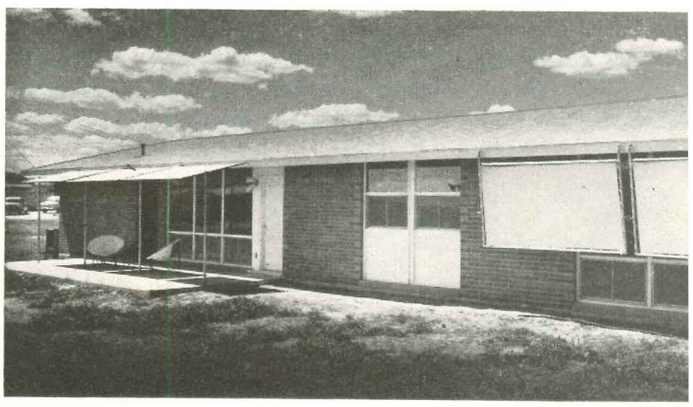
Shading reduces the huge sun load on windows

Most designers of air-conditioned houses have completely overlooked the importance of shading devices. The variety of shades and their effectiveness in cutting direct sun heat through windows should contribute important data for future houses. Test results will undoubtedly show that air-conditioned houses can have plenty of windows if they are properly shaded.

The rich assortment of shading devices includes roof overhangs, wood trellises, awnings of canvas, aluminum, steel and plastic, wrought-iron grillwork, wood shutters, reflective metal screens, double-glazing and heat-absorbing glass, sun wall extensions of carports, and the use of carports or garages to shade entire sides of houses. All these devices are just as effective in making a nonair-conditioned house more comfortable as they are in cutting the cooling load on air-conditioned houses.

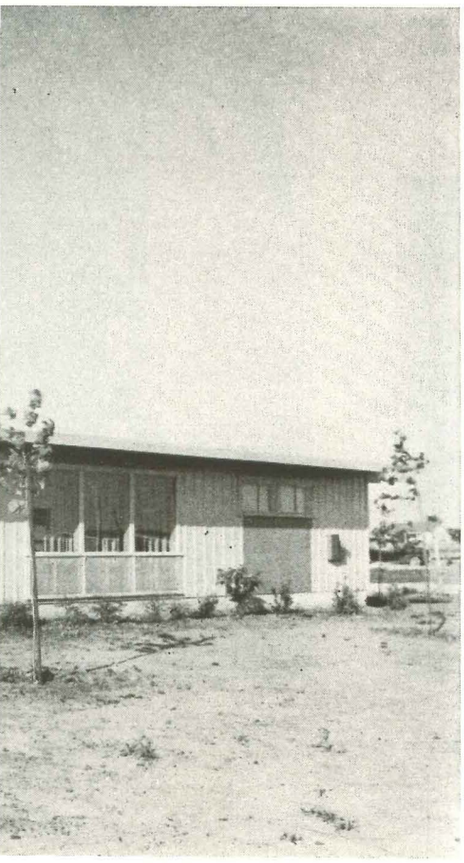


Grandpa was right when he used canvas awnings to shade his windows, for this is a practical way to cut sun loads. On other houses metal or plastic awnings were used for the same purpose. Builders' model houses should be equipped with awnings or shading devices to suggest their use to buyers. Signs might be used to explain their Btu value.

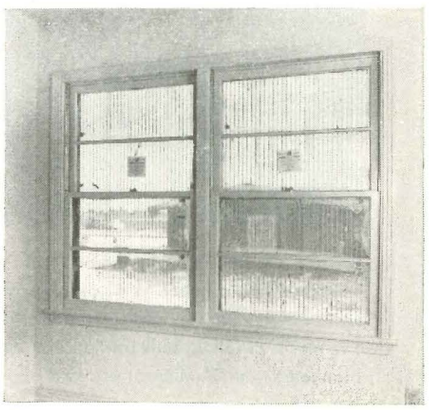


For vertical or horizontal shading, these canvas awnings do an efficient job. At left, awnings are swung up to extend roof over terrace, but as sun gets lower they can be lowered too (as shown at the right). When big windows face east or west, vertical shading is necessary.

Vertical shading devices next to windows, like these two ornamental iron grilles, can be effective in reducing direct sun on windows. Late afternoon sun is often so low in the sky it gets under the widest overhang. At extreme right (above) is a louvered wood shutter.

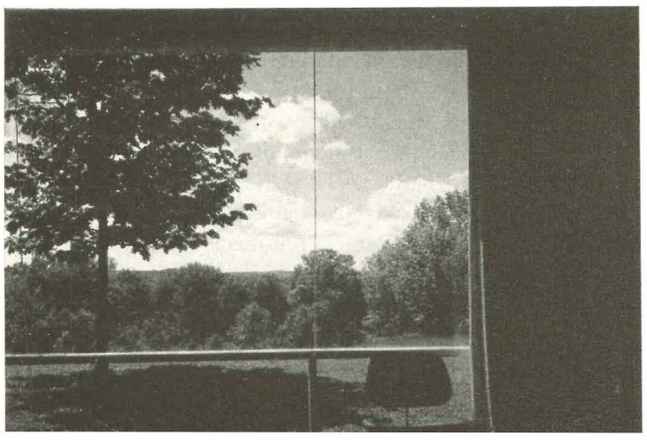


ed end wall of carport is another shading device serves copying by builders. This sun wall might have ended still farther to shade a patio or rear living Wall of this type at west end of house is important cutting sun load.



Louvered metal insect screening is a shading device, which manufacturer says lets only 12.5 to 18% of sun heat enter the room. Designed like miniature Venetian blinds, these screens let in light, but greatly reduce glare and will help to reduce the load on air-conditioning equipment. Such screens are made to fit any type of window.

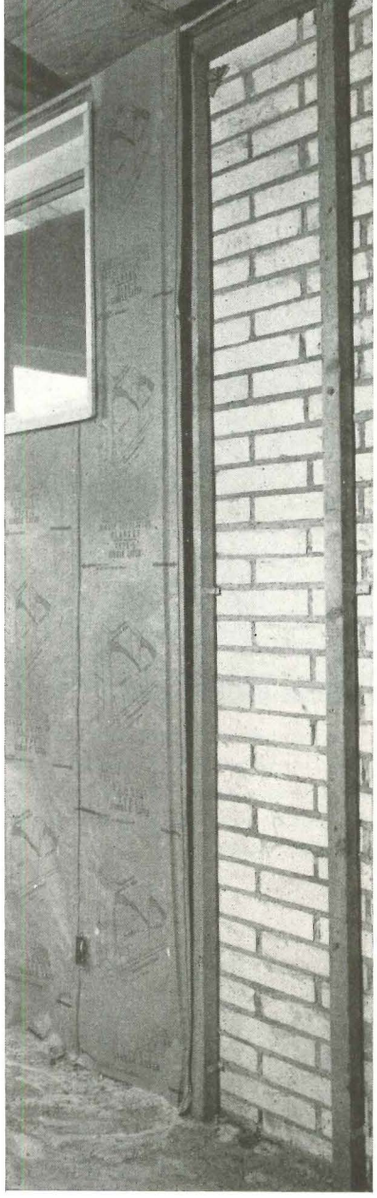
Photos: (below) B. G. Chereau; (others) Dewey G. Mears



Shade trees such as these are missing!

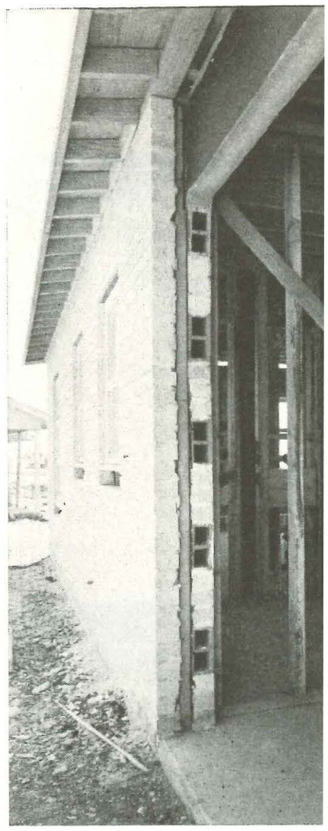
ne of best cooling devices of all

has been neglected in Austin



Brick walls of house (above) were lined with insulation as shown (left). Over-all wall heat gain was cut sharply to 2,300 Btu's per hour. Same brick walls with no insulation would have heat gain of 7,000 Btu's per hour and house would need bigger cooler. Cost of 2" wall insulation: about 5¢ a sq. ft.

Brick cavity walls, backed-up with hollow tile, are being tested to see if heavy "mass" wall boosts cooling efficiency. Fiber insulation was poured into 2" cavity giving wall U factor of .12 and cutting over-all wall heat gain from 5,000 Btu's per hour with no insulation to under 2,000.



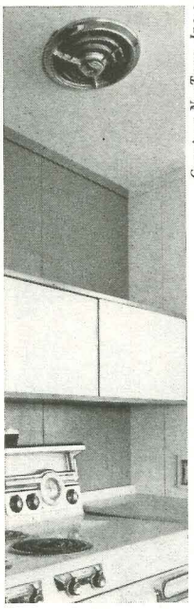
Frame walls, used in majority of Village houses, were bolstered with as much as 4" of bulk insulation or the equivalent in aluminum foil. Thus engineers hope to compare relative merits of foil vs. bulk insulation. Above photo shows walls blanketed with 3" mineral wool batts giving low .07 U factor.

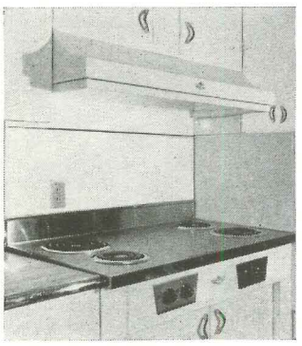
All houses have wall insulation

The fact that every wall in Air-conditioned Village is bolstered with insulation of one kind or another is significant because wall insulation was practically unheard of in the South until a few years ago. Most Southern builders still omit it because heating problems are not severe. But air conditioning puts new importance on the need for heavy wall insulation because outside heat can penetrate, virtually unchecked, through uninsulated walls.

If the walls had not been insulated almost every house in the Village would have required a 3-hp air conditioner instead of the smaller 2-hp size. Various kinds of insulation were used including 2" to 4" of mineral wool and different types of aluminum foil. In addition, insulation board sheathing was used together with mineral wool or foil. Main objective of the first phase of the testing program is to find what kind of insulation gives best results cheapest.

Exhaust fans installed in the 22 kitchens of Air-conditioned Village emphasize the importance of getting rid of cooking moisture before it can spread through a house and load down the cooling unit. Ideal location for kitchen fan is directly over the range as shown by the ceiling fan (right). Housewives have been advised to turn on fan only when cooking, turn it off immediately afterward. Also, kitchen window near fan should be opened a few inches during cooking to let in replacement air, prevent cool air being withdrawn from other rooms. Seven of the kitchens also have hoods over the range as shown (right). Each hood contains both a fan and grease filter. Engineers hope to determine how much more efficient the hood is than just a fan alone.



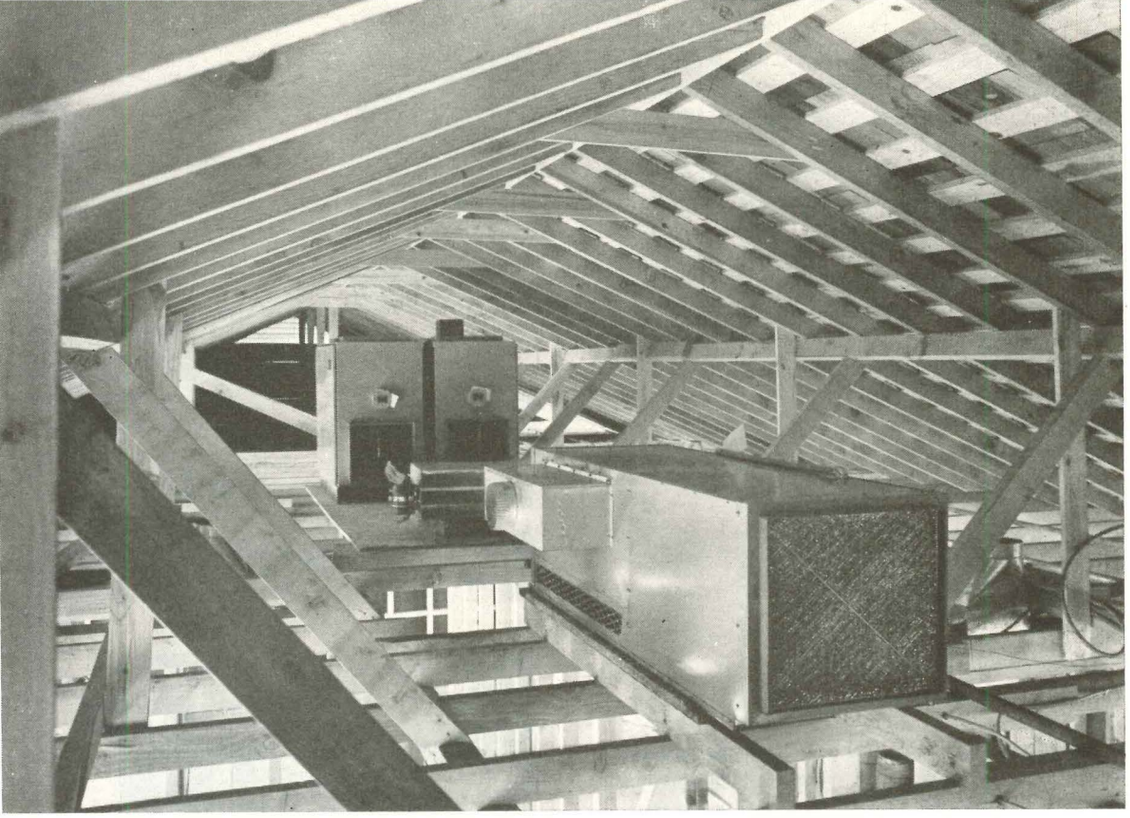


Courtesy Nu-Tone, Inc.; (others) Dewey G. Mears and Phototeck Studios

w to solve moisture problems

Vapor barriers in walls and especially over the ceiling are believed to be quite effective in stopping high outside humidity from infiltrating the air-conditioned house. So several of the houses were enveloped with foil-backed insulation as shown (right). After these walls were insulated, similar insulation was laid in the attic with the aluminum-foil backing directly over the ceiling. All houses did not get vapor barriers because condensation is not a critical winter problem in the deep South.

Ground moisture can infiltrate the dry atmosphere inside air-conditioned houses, too. So several of the slab floors were sealed against moisture travel (as shown below). Layers of heavy roll-roofing paper were lapped over the fill before the slab was poured.

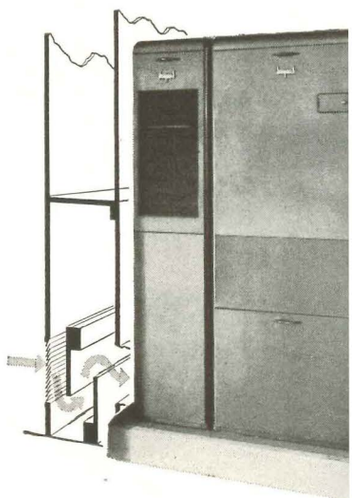


An attic location saves floor s and gets the noise away from the floor. Unit can be put in the center o house so duct runs are short. There two disadvantages: installation and icing are more troublesome than if is located elsewhere; and an attic be so hot that it reduces unit effici After this photograph was made, th tic was carefully insulated with a of aluminum foil under the rafters insulation in the attic floor.

Where do you put the cooler

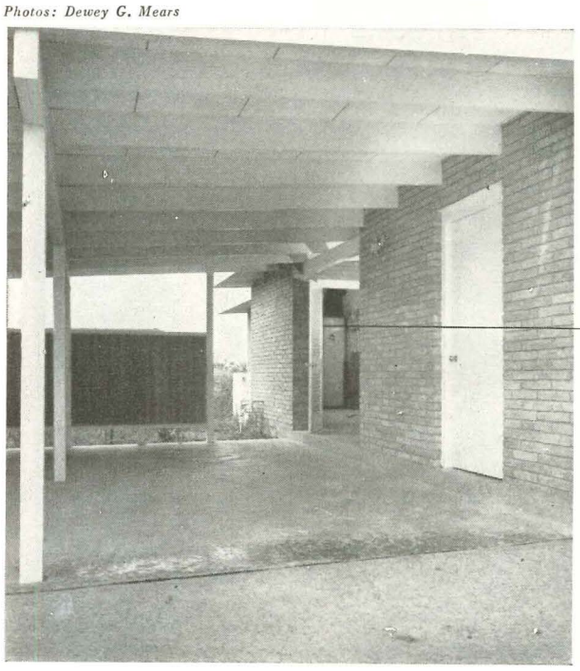
A basic question every builder must decide is where he will put his cooling unit. He may choose the center of the house, attic, basement or crawl space, garage or carport, or even a lean-to. And there are some divided units, half inside, half in the carport or outside. Each system can be found in Air-conditioned Village and each makes sense. Three of the most commonly used locations are shown here, and a crawl-space installation is on page 141.

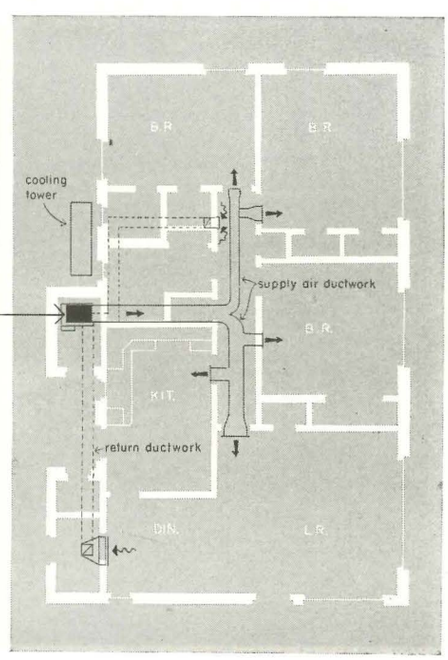
Advantage of a central location is that ducts, piping and wiring are all relatively short. If ducts are short they are cheaper, and there is less work for a fan in pushing the air through to the outlets. Greatest disadvantage of a central location is the noise, which can be a source of irritation. Among the factors to be tested in these experimental houses is family reaction to noise and the effectiveness of sound baffling.



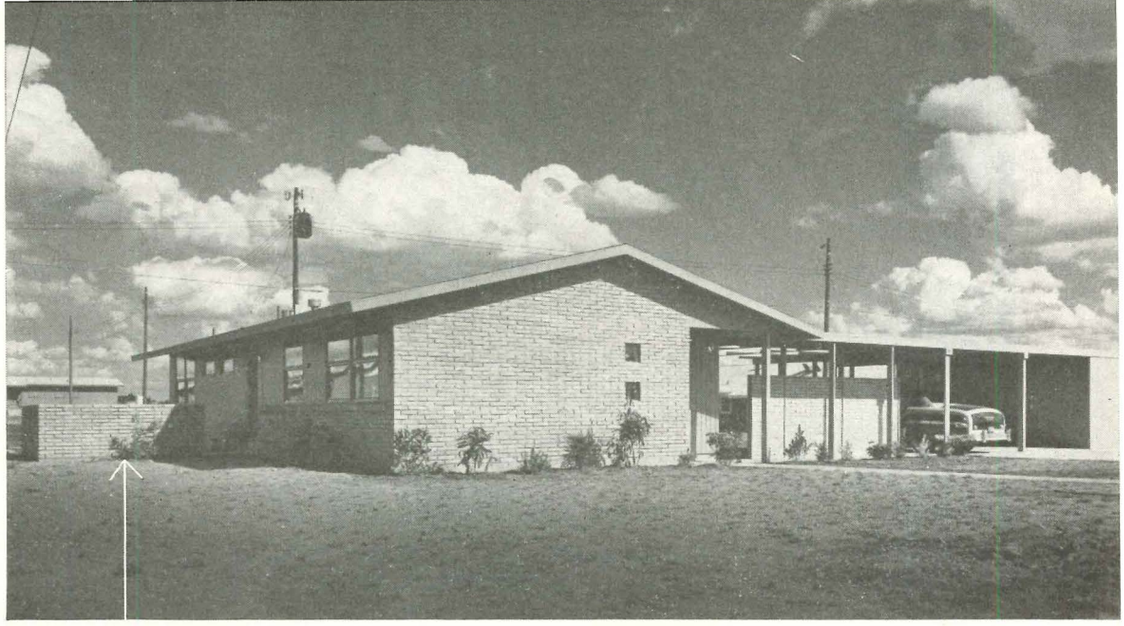
A center location cuts duct cos highly efficient but noise can be a sance. Whirring compressor noise ally travels straight into house via r air duct. Here, however, a sound b was inserted between unit and retur grille in middle of house. Sound w don't go around corners easily so is suppressed. Return air simply around baffle like water around ro midstream.

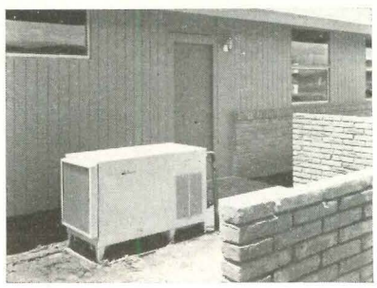
Photos: Dewey G. Mears





An outside location rids the h of noise and the serviceman, who do his work without entering the h Here the heating and cooling unit a separate room off the carport (as gram illustrates). The unit is only from center of house, so not much ductwork was necessary. Ducts rise unit, go overhead into house. Air is tributed through an overhead ple Return air passes through ducts in

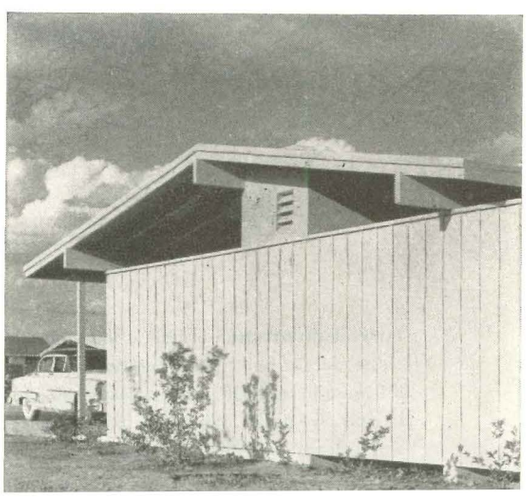




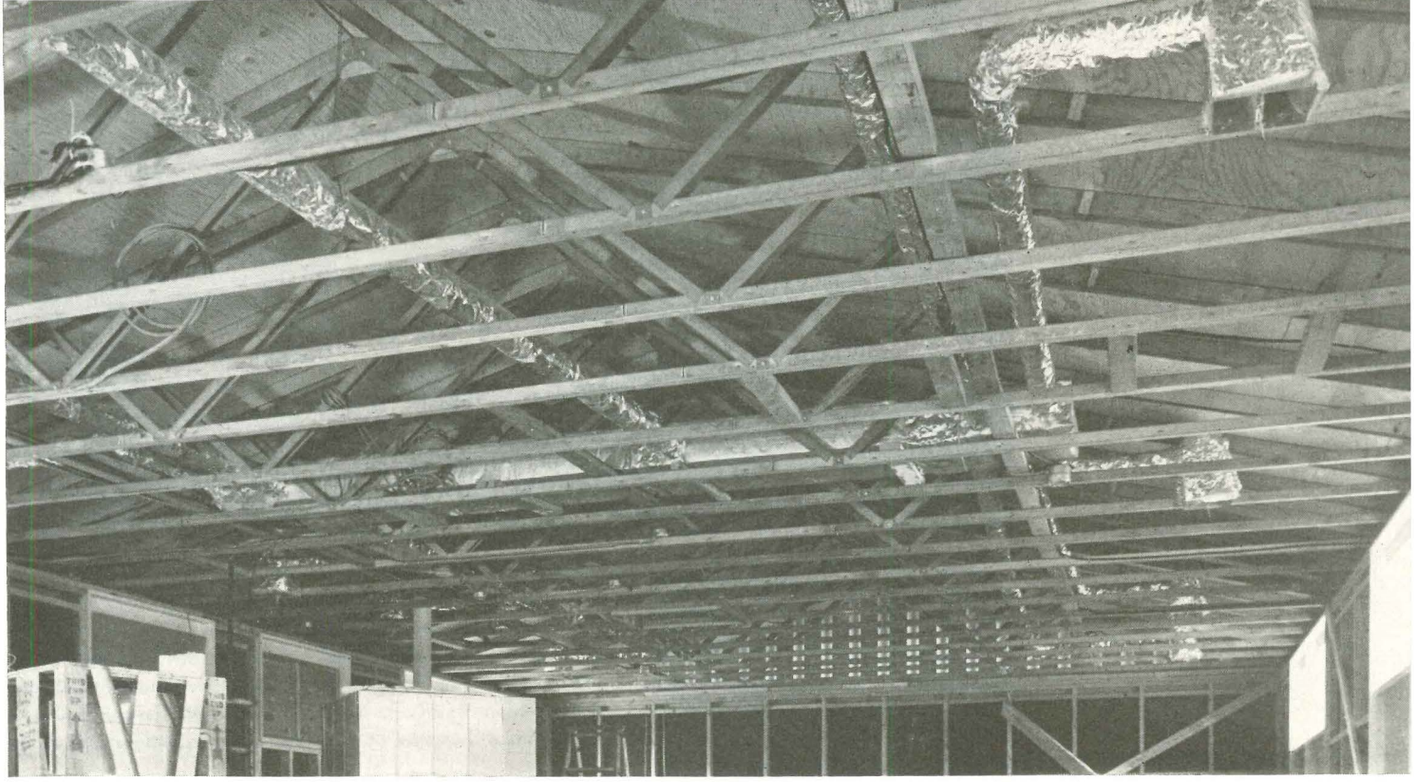
Camouflaging the water saver is done differently in each of the houses shown on this page. When water is precious, as it is in most of the Southwest, some device must be used to save it. House above uses an evaporative condenser which is hidden behind brick wall (shown in close-up at left). The refrigerant is cooled by a steady trickle of evaporating water, which costs less than $4 a season. The unit is in the center of the house, but most of the noise is kept outside at the condenser.

lew ideas for hiding water savers

Landscaped air-cooled condenser is behind stone wall at the front door, and is only a few feet from the unit just inside. While the fan noise is at the front door, it is less objectionable here than if it were at the rear of the house where the outdoor patio is located. A forced-draft cooling tower could also be hidden away in the same manner. Either this condenser or a forced-draft tower can be located on any side of the house or at some distance away.



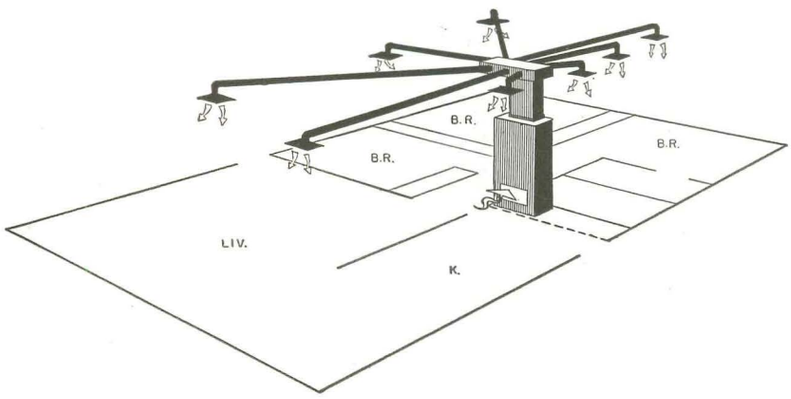
Under carport roof, this air-cooled condenser is out of the way, is inconspicuous, yet is efficiently located. This location is cheaper than the stone wall above. Copper lines carry the refrigerant back and forth between the condenser and the central unit. Other locations for air-cooled condensers include attic, or side wall of a garage or carport.



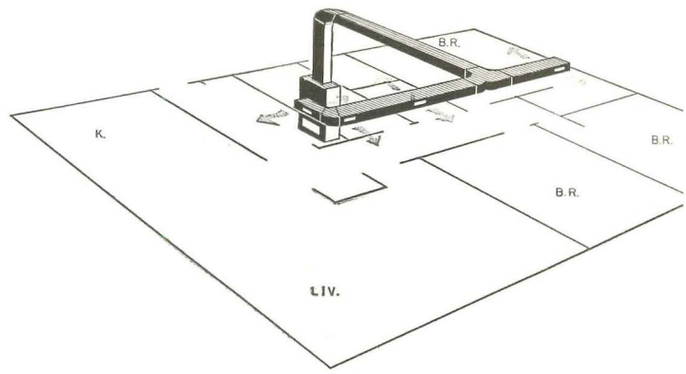
Ceiling outlets blend supply air with room air, then wash it down over windows in this system. Small prefabricated ducts are used which can be installed rapidly in this truss-roof house before partitions are in. Ducts are thoroughly insulated. This is only overhead distribution system in Village that would be acceptable in North for heating, in a slab house. Top drawing (on page opposite) gives more details on this house.

AIR-CONDITIONED VILLAGE

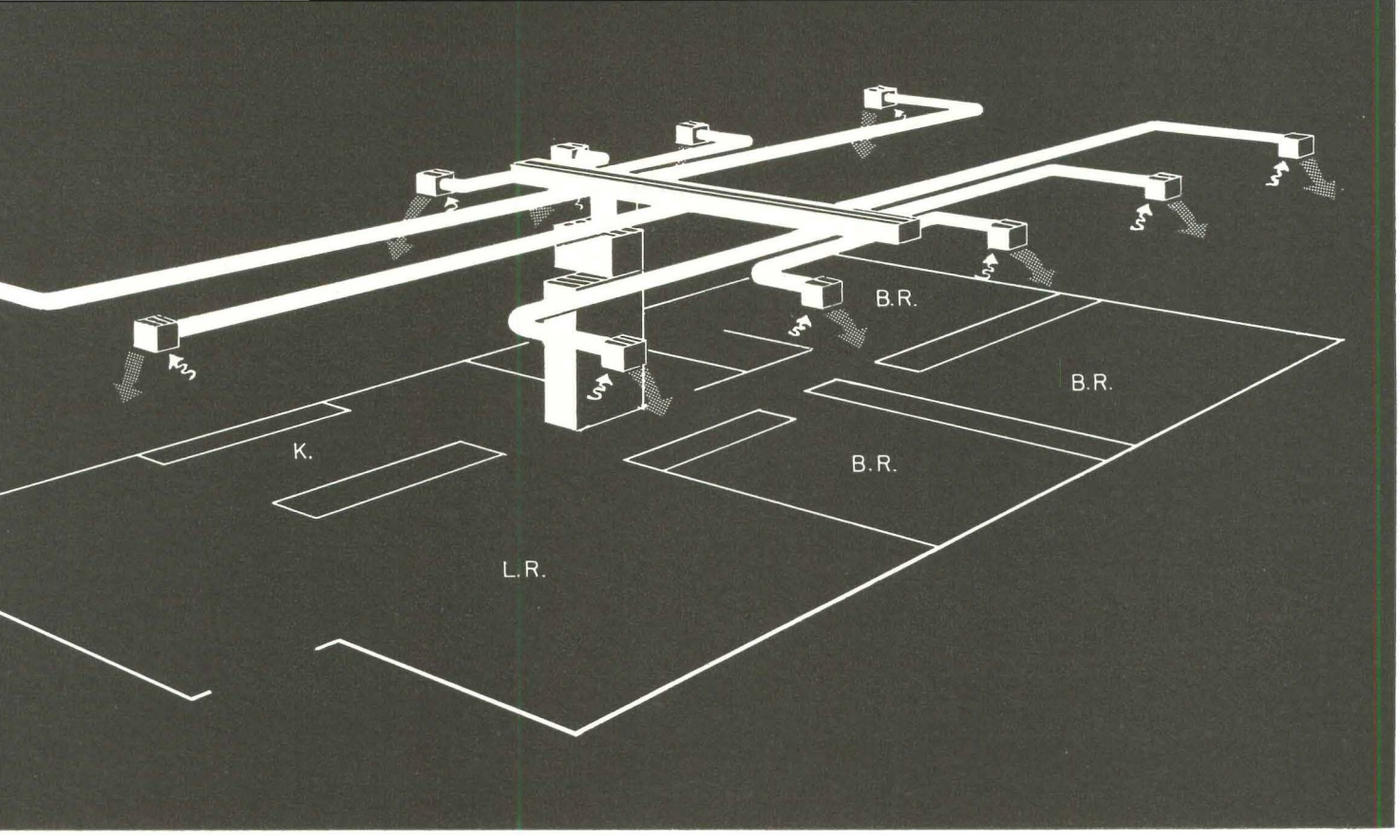
Test houses include every



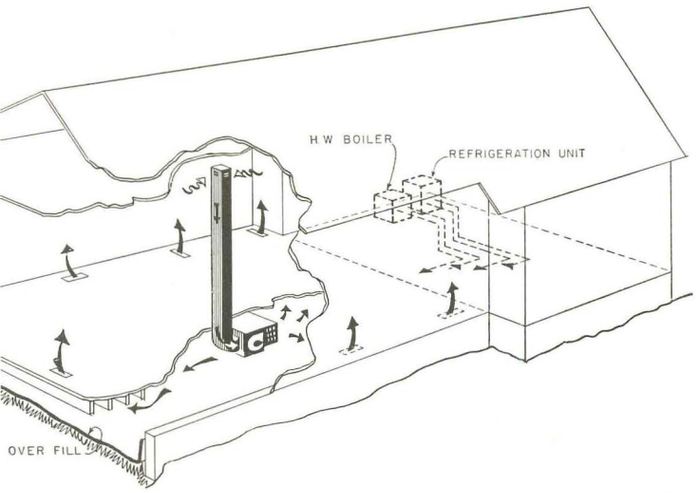
Overhead ceiling diffusers characterize this simple distribution system. It is economical because short runs of duct fan out from a centrally located unit and ducts can be installed rapidly. This would not distribute heat efficiently in cold climates, unless return air grilles were under windows.



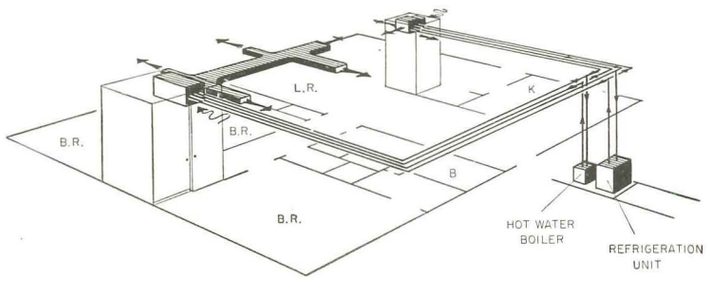
Furred-down duct in hall in this system is efficient and inexpensiv cause duct is built below regular ceiling, it eliminates insulation n if it were in attic. Cool air passes from main duct directly to rooms th inexpensive grilles. While fine for the South, this system would not ma warm floors in winter in the North.



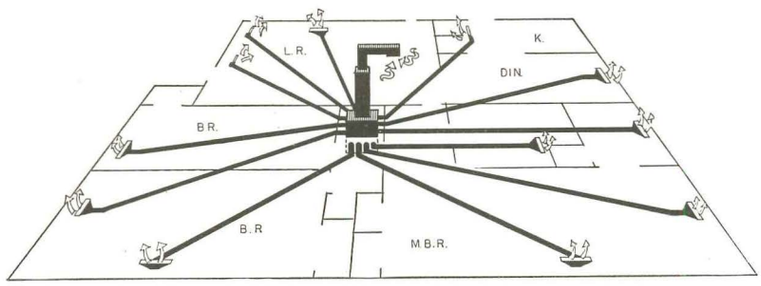
stribution system



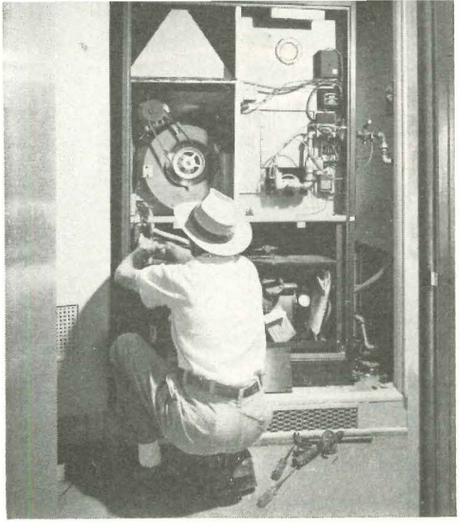
-space cooling (and heating) will probably excite more interest ıny other system. Will cold air rise through the floor registers? draft cooler blows supply air into crawl space, which must be well ed and moistureproof. Crawl space has triple layers of 15-lb. felt, pped, with paper rolled up side walls to floor. This cost $61 for 00 sq. ft. house. No ducts are necessary. Main heating-cooling unit arage, with both hot-water pipes and refrigerant lines running to t in crawl space. Return air is drawn from house into top of unit.



Zoned system was installed in one house with living space as one zone, sleeping rooms another. Cooling unit is outside (as shown in drawing), and refrigerant is piped to and from each of the coolers. When a party is held in living room, cooling can be intensified by turning thermostat down, which calls for more refrigerant. In winter, hot water is distributed in same manner. Ducts are furred down from ceiling.



Perimeter cooling and heating system in a slab house with radial ducts was installed, as it is by many builders in the North. Both cool and warm air are discharged into a plenum below the central unit, carried through 4" prefabricated ducts and discharged into each room through a 2" x 14" floor register. Ducts installed cost less than $200 per house. Another similar system has ducts in the crawl space, where they must be insulated.



First findings. When 22 kinds of cooling units are installed at once in different houses, especially by builders putting in their first air-conditioning systems, everybody concerned is bound to pick up some practical ideas.

1. There was no complete agreement on calculating heat gain, as different methods gave different results. Builders concluded the industry needs to agree on an accepted system so each manufacturer or dealer figuring a house will get the same answer.

2. Builders found that the manufacturers or their representatives did not understand the builders' problems, especially the fact that production schedules depend on precision timing, and that cooling units must be installed on time.

3. Local dealers did not give as much help on ductwork design as builders had expected. Some duct systems cost about ten times as much as others.

4. Electrical wiring was unnecessarily expensive in some cases, with one system costing over six times as much as another. Builders would like quick connections.

5. There seemed to be too wide a variation in total costs, as one unit costs over four times what the least expensive did.

6. A tug of war still goes on over the size of the equipment room: dealers want it larger, builders want it smaller. Some producers say it is impractical to crowd complex equipment into a small area.

Builder; sq. ft. area:	G. E. Maxwell; 1,224	S. R. Sheppard; 1,20
Roof:	aluminum foil under rafters, 4″ vermiculite over ceiling	4-ply foil over ceilin
Windows and shading:	36″ overhangs	36″ overhangs, reflective screening
Walls:	½″ rigid insulation, 3½″ vermiculite	½″ rigid insulation, 2-ply foil
Heat load, Btu's per hour:	25,420	25,213
Air-conditioning sponsor:	Utility	Custom-Aire

Builder; sq. ft. area:	A. J. Davis; 1,468	S. White; 1,350
Roof:	foil under rafters, 4″ ceiling insulation	6″ ceiling insulation, 24″ attic ventilating
Windows and shading:	36″ overhangs, sun wall on east, part double-glazed	30″ overhangs, all double glazing, awnings on southwes
Walls:	3″ insulation	2″ insulation
Heat load, Btu's per hour:	24,760	26,714
Air-conditioning sponsor:	Majestic	Typhoon

Builder; sq. ft. area:	W. Mayfield; 1,200	K. Flagg; 1,264
Roof:	new 3½″ batt insulation, topped with reflective paper (see p. 130)	4-ply foil, 24″ attic ventilating
Windows and shading:	36″ overhangs, reflective screening on windows	36″ overhangs, double-glazed windo
Walls:	2-ply aluminum foil	2″ insulation
Heat load, Btu's per hour:	23,869	20,331
Air-conditioning sponsor:	Bryant	Coleman

Builder; sq. ft. area:	R. L. Struhall; 1,146	C. B. Hibbetts; 1,216
Roof:	6″ ceiling insulation	3″ ceiling insulation
Windows and shading:	24″ overhangs, reflective screening	36″ overhangs, outside awnings on s
Walls:	3″ insulation	2″ insulation
Heat load, Btu's per hour:	22,290	24,096
Air-conditioning sponsor:	Westinghouse	Servel

Above are basic facts on all 22 houses

; 1,176
er ceiling

s,
lazing,
on east

L. Wilson; 1,258
6″ ceiling insulation

30″ overhangs,
awnings on northeast and southwest

3″ insulation

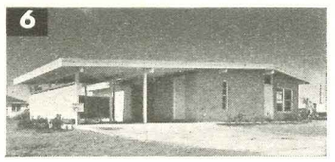
24,751
US Aircо

W. Burns; 1,170
4-ply aluminum foil,
white roof

30″-48″ overhangs,
heat-absorbent clerestory glass

3-ply foil

29,784
Chrysler



J. Andrewartha; 1,170
4″ ceiling insulation

32″ overhangs,
reflective screening

2″ insulation

22,070
York

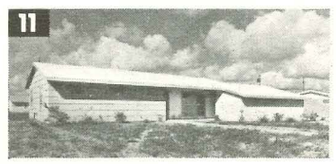
1,200
ulation
s,
est (see p. 132)

S. R. Sheppard; 1,300
aluminum foil under rafters
4″ ceiling insulation

36″ overhangs,
part double glazing,
canvas awnings on southwest

2-ply foil

22,891
Frigidaire



F. Barren; 1,270
6″ ceiling insulation

60″ overhang,
over floor-to-ceiling windows

insulation board
plus 2″ batt insulation

24,973
American-Standard

B. N. Holman; 1,250
6″ ceiling insulation

36″ overhangs,
reflective screening

insulation board sheathing,
¾″ rigid insulation,
foil-backed plasterboard

26,017
American Furnace

1,248
under rafters,
ulation,
ilating fan

s,
s on southeast

rd sheathing,
asterboard

H. T. Baker; 1,390
3″ rigid insulation,
in pitched, built-up roof

36″ overhangs,
outside awnings

4″ insulation

25,288
Lennox

R. L. Struhall Jr.; 1,200
6″ ceiling insulation

36″ overhangs,
reflective screening

3″ insulation

22,767
Day & Night

W. H. Bullard; 1,210
4-ply foil

30″ overhangs,
reflective screening

2-ply foil

23,455
Drayer-Hanson

; 1,200
fters,
ulation

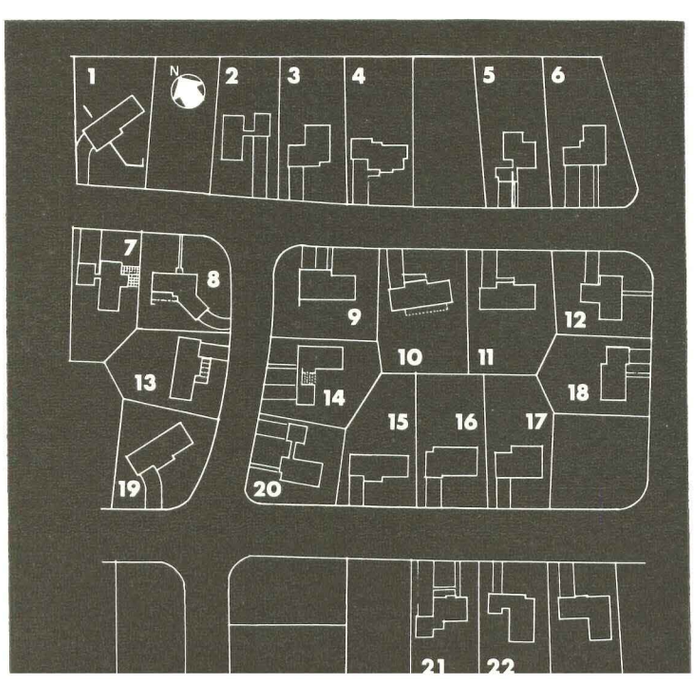
s,
outheast

W. H. Bullard; 1,200
6″ ceiling insulation

30″ overhangs,
reflective screening

2-ply foil

24,080
General Electric



22 houses have a slab-on-ground floor;
nd 22 have crawl spaces.

exhaust fans, 12 have bath exhaust fans.

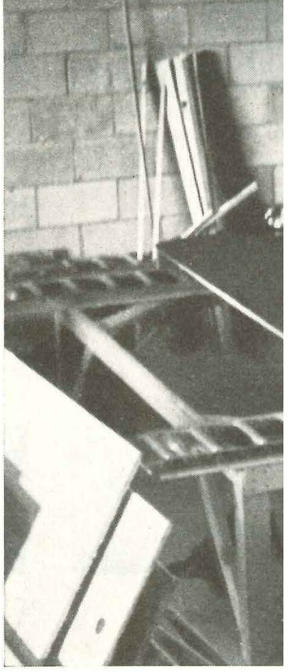
inum foil is the commercial term
ccordion sheets of foil installed with four air spaces.

refers to a double-layer foil insulation installed with three air spaces.

efers to a single sheet
air spaces, one on each side.

Photos: Dewey G. Mears and Bill Malone

New yard is located "in the country" better to serve builder rather than retail trade



Three jig tables on which pan

Lumber dealer is turnir

Here is a traditional lumber dealer—Kansas City's R. L. Swee who is now evolving into a prefabricator.

"What Sweet is doing is the biggest new change in the bu ing industry to benefit the small builder." So says Earl Hort building superintendent of J. C. Nichols, Kansas City's renow land developer-builder-realtor.

What Sweet is learning and applying to his business is important to lumber dealers as it is to builders all over the

Prefabrication—practical and essential

Says Sweet: "The prefabricator has had enough experience success to make us realize it's practical." To which his g friend Earl Horttor, who now prefabs his own panels, a "Bob realizes prefabrication is more than practical; it's essenti

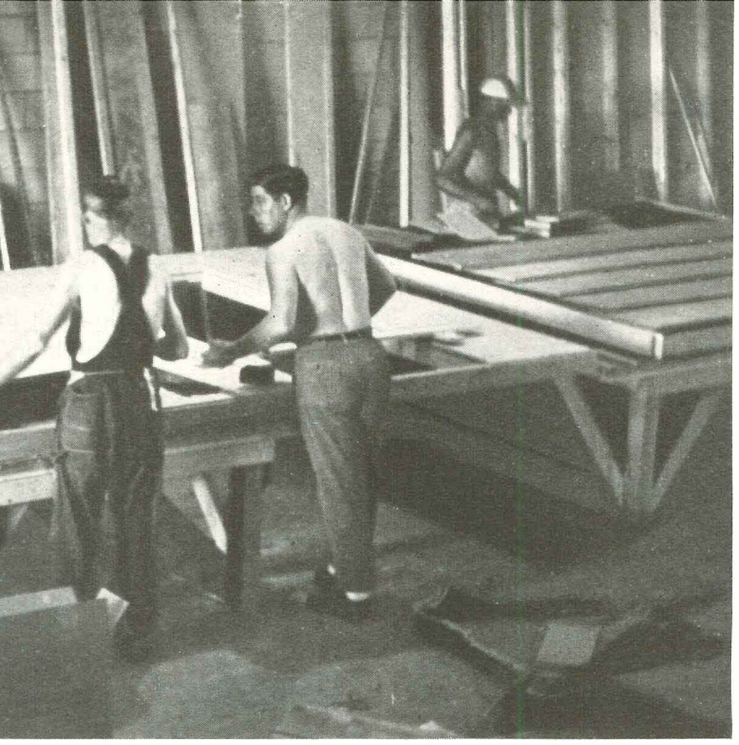
Sweet started prefabrication partly to help his best custor who were calling for "more complete packages," partly to k from losing good customers to the national prefabricators. Al 65% of his business is with builders—from the smallest to t who erect 300 or more houses per year. Remaining busines with industry (pallets, lumber for remodeling), some retail.

His first experience in prefabrication started with big build two years ago Jim Stanton (450 houses a year) tried to b his own roof trusses with carpenter labor, ran into union tro when he tried to set up his own shop. Sweet soon convi him Sweet's lumberyard could make trusses cheaper and fa Sweet has since fabricated over 30,000 trusses, has the opera down to 7½ minutes per truss.

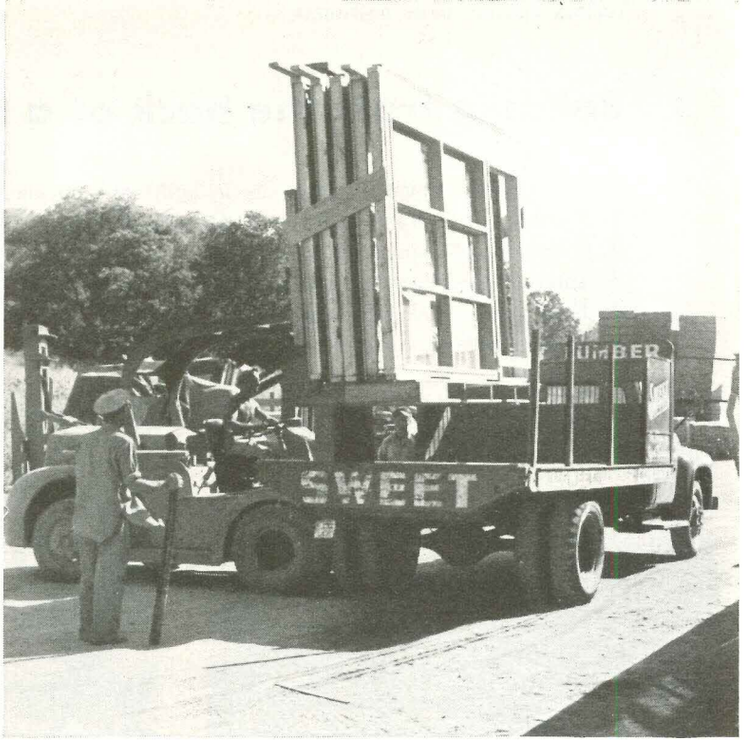
Next Sweet found he was losing Big Builder Don Elbel's k ness (up to 350 houses a year) because Elbel was getting kn down wall sections from the West Coast. Sweet countered a better offer—to deliver wall sections to the job comple assembled, shingles, windows, insulation and all.

Soon Sweet was setting up separate departments to asser more components and precut more material. Among them: s and-door, kitchen-cabinet and garage-door departments. Altho

R. L. "Bob" Sweet has been in the lumber business since he graduated from Illinois in 1924. Says he: "The lumber dealers may not always have moved ahead as fast as some others on new design and merchandising ideas—but somehow I'm reminded of the hare and the tortoise. . . "



abricated are all Sweet needs to produce 2,000 panels a year



Completely sided and insulated, panels are lifted into delivery truck

efabber to help his builder customers and *himself*

et does some of his own millwork, he says: "I'd rather stay
stock items. We manufacture only items we run out of.
sash and door department puts windows together from com-
ents of several manufacturers. We'd need a larger volume to
he whole job and compete with big manufacturers."
Each department must pay its own way," says Sweet. "If
peration doesn't make money, we drop it." Latest department,
than a year old, is Sweet Lumber Fabricators Inc., wholly
ed subsidiary.
Our idea is to help the small builder, the five- to six-houses-a-
man,*" says he. "Anything we do for the big builder works
ell for the little fellow. In fact, we can save the small builder
e money even if we can't give him the same low prices.
en he buys his components from us all prefabricated, he soon
s his whole flow of work speeded up and his efficiency
eased. We save on the cost of materials by sheer volume.
are already set up for mass production because we have a
g yard. Our new sheds were designed for handling rather
storage, and aisle widths throughout our yards are planned
a fully mechanized operation in mind. Thus we can handle
iently, and at an almost unbelievably low labor charge. Our
tion and a spur that holds 21 cars makes that possible."

en should a builder become his own prefabber?

re is a volume below which it is not practical for a builder
et up his own prefab operation. Sweet is inclined to place
"breakpoint" close to 250 houses a year. Earl Horttor places
se to 50 houses, "provided that the builder does 50 or 60 houses
y year, year in and year out" (as J. C. Nichols does). "But
above the 250-house breakpoint," Sweet points out, "we
ady supply wall sections to Don Elbel who builds from 300
50 a year.

"Wherever the breakpoint is, builders below it literally can't afford *not* to use us. Several medium-sized builders who have started prefab operations in their own yards have learned to their sorrow that it cost them money and have had to close down. If a builder wants to by-pass the lumberyard, he must have a great deal of capital he is willing to tie up in plant, equipment and inventory. And if he has ups and downs in his building operation, he soon has equipment idle and a big overhead to meet."

"One big advantage a lumber dealer like Sweet enjoys," says Horttor, "is that he can pay mill scale for fabrication whereas the build-for-sale fabricator must pay full carpenter scale." The differential around Kansas City is 87¢ an hour.

Packaged services for the small builder

"The really small builder who works on his own houses during the week and sells them on week ends himself just isn't equipped to do the job we do for him," says Sweet, who handles FHA paper, construction and final financing for his smaller customers. "In effect we become the small builder's bookkeeper."

A design department headed by his architect son-in-law Ralph Kiene (see p. 147) is another packaged service Sweet offers. Like Lumber Dealer Clarence Thompson (H&H, July '54), Sweet believes in giving the builder what he wants in the shape he wants it, has even sold roofing and oak flooring applied.

How do builders like working with Sweet?

Don Elbel: "On a $12,000 house with about 6,000 bd. ft. of lumber, I would pay $80 per M for on-site labor using conventional construction techniques. Prefabbers can do the same job for about $20 per M. The least that Sweet can save me is $350 a house."

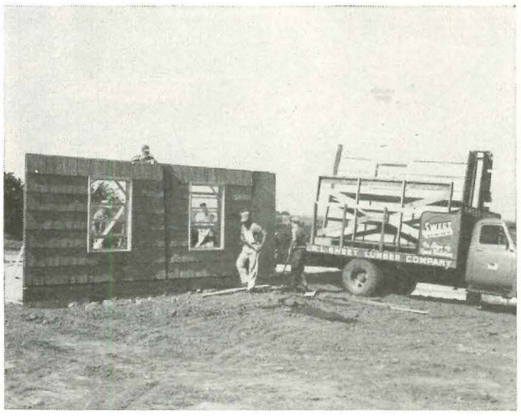
George Siemens, now doing 28 $10,000 houses: "What impresses me most about prefabrication is the saving in time. In 3½ months I will have 28 houses ready for occupancy. Besides, I have less overhead, can sleep nights if there's a lumber strike." *(To see Siemens' operation in action, please turn the page.)*

lly a builder of five houses a year is in the top 19% of builders (five and more) who build 77% of all units. Only 22,430 of the country's 119,100 builders erect han four houses a year, according to the most important BLS study.

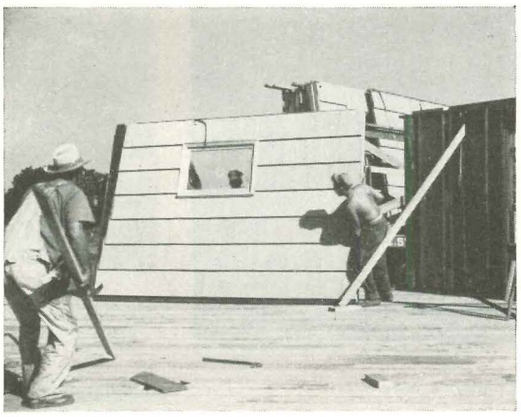
Building from the back of a truck

Five truckloads, timed to reach site in building sequence, bring:
1. Lumber for platform over crawl space day before walls go up.
2. Exterior wall panels when workmen start the next morning.
3. Interior partitions five minutes before exterior walls are up.
4. Roof trusses and gable ends shortly before partitions are set.
5. Roof sheathing, doors and hardware when all trusses are up.

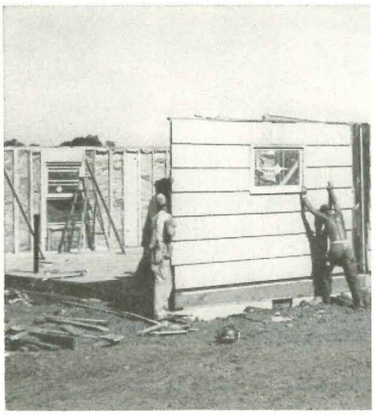
Houses for George Siemens (below) were fabricated by
according to the builder's plans. With experience gained
working with bigger builders, Sweet will engineer his own h
have his architects design them for small builders. Say:
Builder Don Elbel: "The lumber dealer can help small bu
with better design, spread it around the way new Fords do."



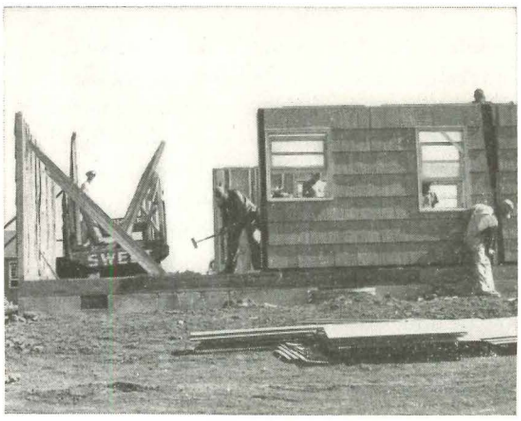
8:10 A.M. Labor force of five carpenters and two laborers has already worked ten minutes, put up two front wall panels. Ground was leveled so truck could back up to platform.



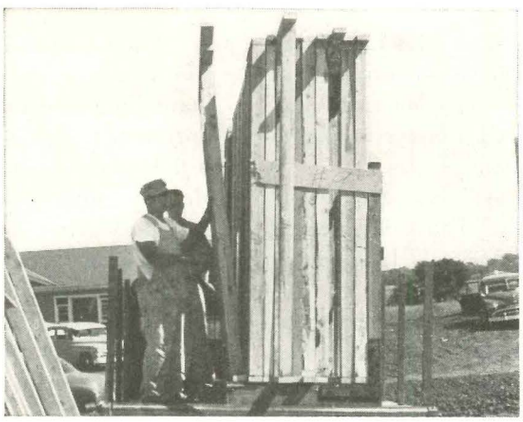
8:12 A.M. Side wall panel, tipped from back of truck, comes off easily, is slid on edge across platform to reduce friction. Sweet had tried loading panels flat, found work crews had more difficulty lifting that way.



8:30 A.M. Sixth panel is set in place. crew is used while each panel is p braced, joined to others. Awning wi installed in panel are already glazed.

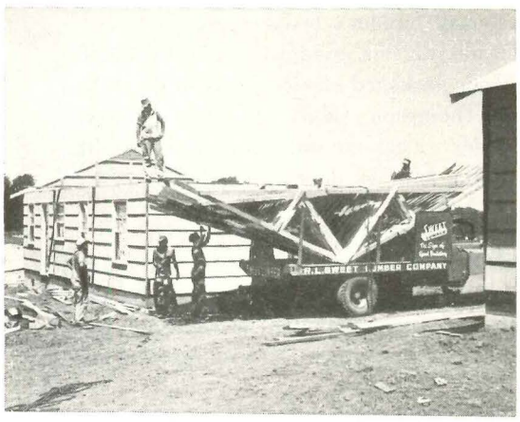


8:40 A.M. Eighth panel is placed. Mallet is used to force panels tight against each other. Under ideal conditions all wall panels can be up in 45 minutes, usually take one hour.

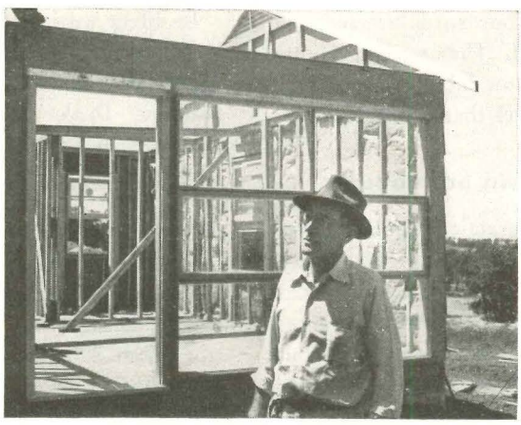


9:00 A. M. Preassembled interior partitions are moved into house through gap left in front wall where integral door and window wall will be placed after all the interior partitions have been erected.

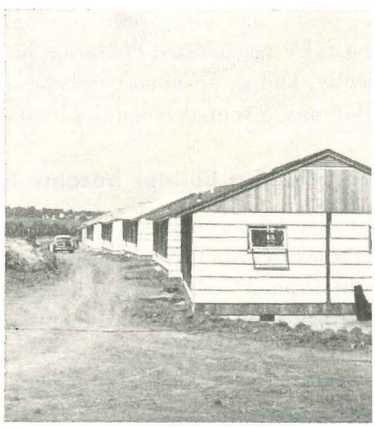
9:10 A.M. Carpenter crew sets no bearing partitions before trusses are e because workmen like it that way and found his "back of truck" system fitt



9:45 A.M. All partitions are erected, front window wall placed, first gable end in place. Truck circles house bringing gable ends and trusses closest to points of erection.



10:00 A.M. Builder Siemens watches truck pull around house after second gable end is set. "I may not save on materials cost," says he, "but I do on time and overhead. And we don't have materials shortages."



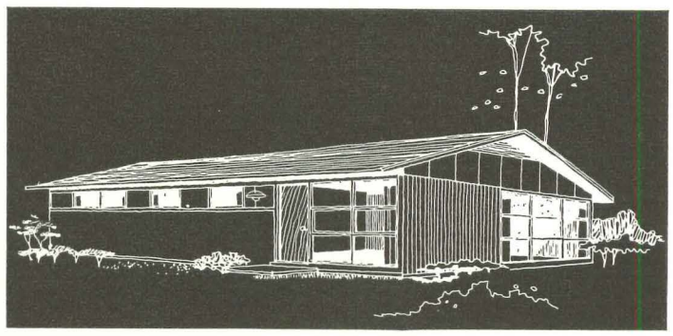
3:30 P.M. Houses are substantially roof at day's end. Neighboring conver builder, C. W. Jones (110 houses a ye deeply impressed by Siemens' speed.

veet will offer new plans, models each year

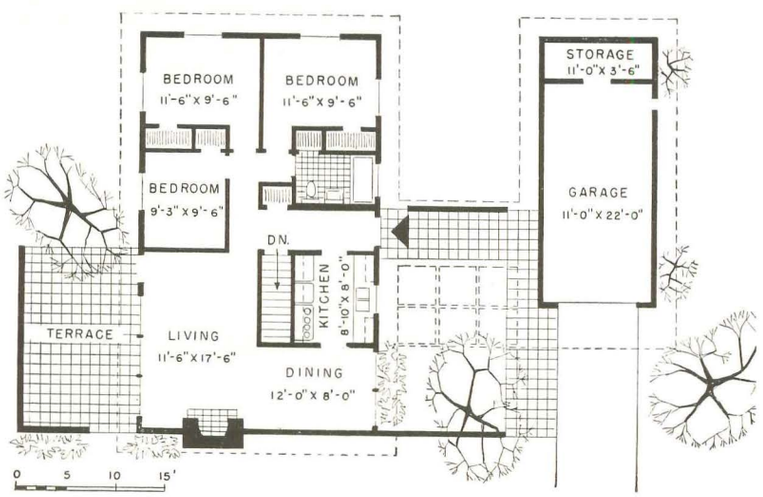
ognizing the demand for better design, Sweet says: "We have esign program outlined for a couple years ahead. But we it we have a long way to go because we're just beginning."

Vith the "Sweet Dream Home" (below), he is bidding for the cost mass market and the small builder. House package for el below will sell for $3,735 excluding garage, fences. He ked for several months with Architects Linscott, Kiene & lett to get the house engineered for economical building. The itects planned the house so it can be switched three ways on a thus offering builders built-in variation on their plots without iring costly frills and flourishes.

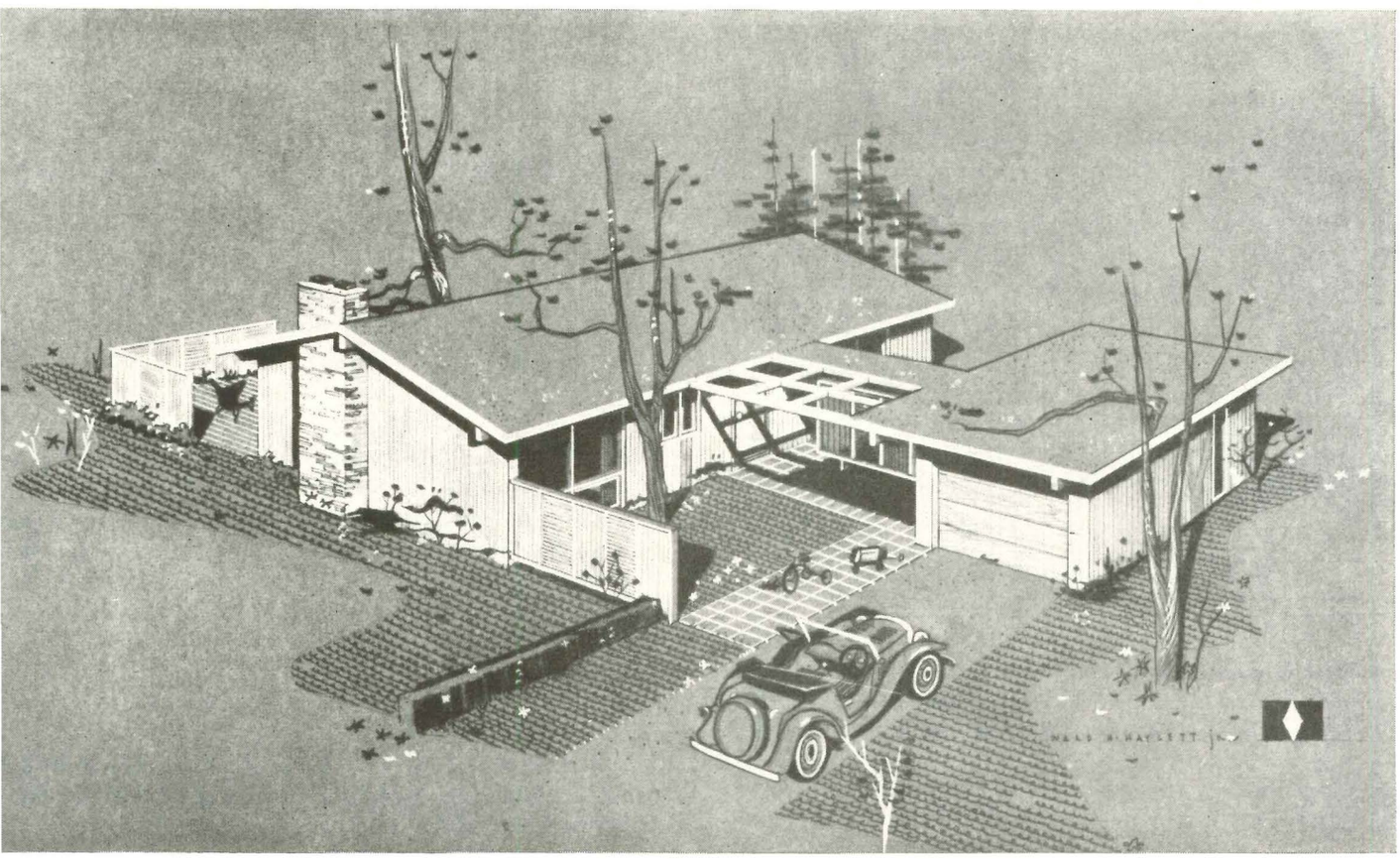
Once we get into production with this design," says Sweet, hope even the large and medium-size builders will find it ictive enough to order the whole package. Past experience the large project builders leads us to believe they have rather nite ideas of what they want in a plan. As we continue to e them, we'll probably follow their suggestions. But our big- aim with the prefab subsidiary is to offer our own design, erials and financing packages to the small builders. If we get volume on certain basic plans, we will be able to lower the l builder's costs even more than we can now."

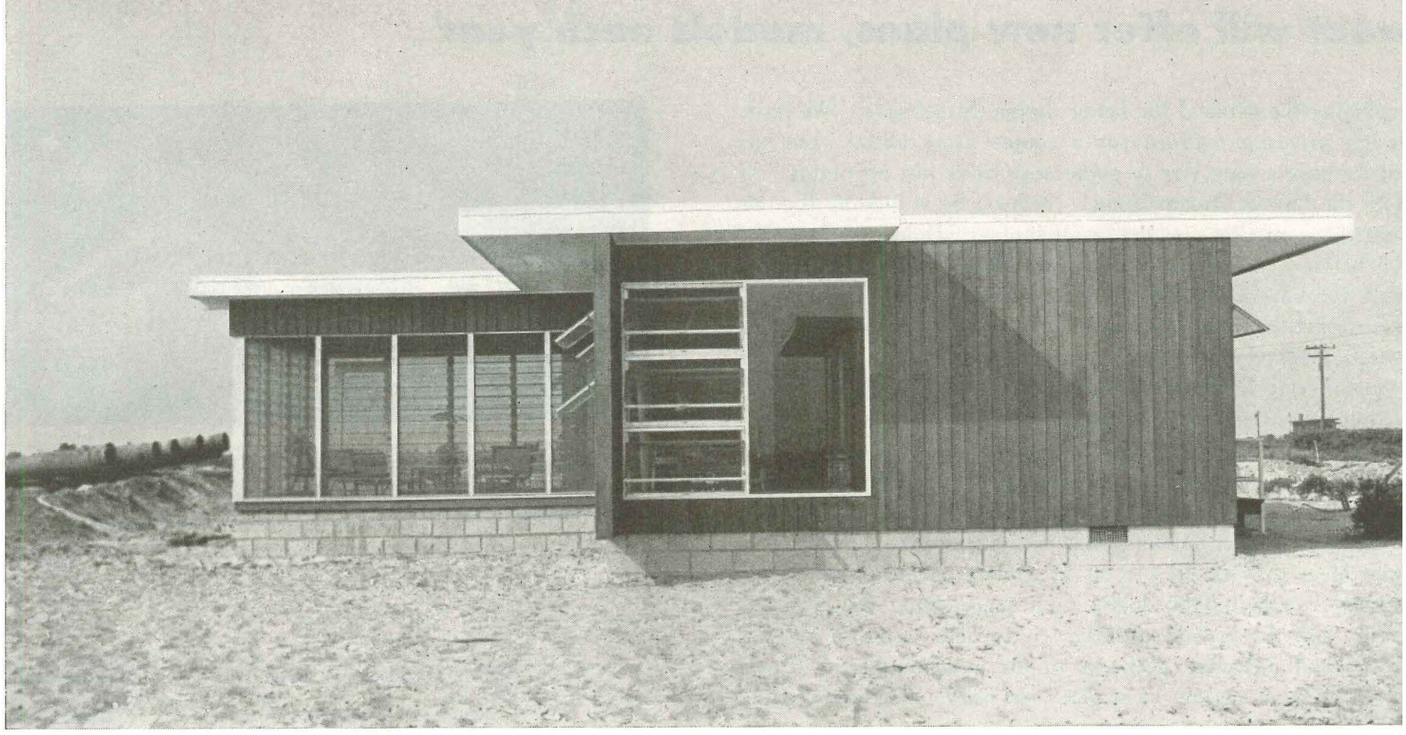


1954 model includes this four-bedroom house and two- and three-bedroom versions. Like other prefabbers, Sweet realizes he needs wide variety of sizes and models and must keep improving them.

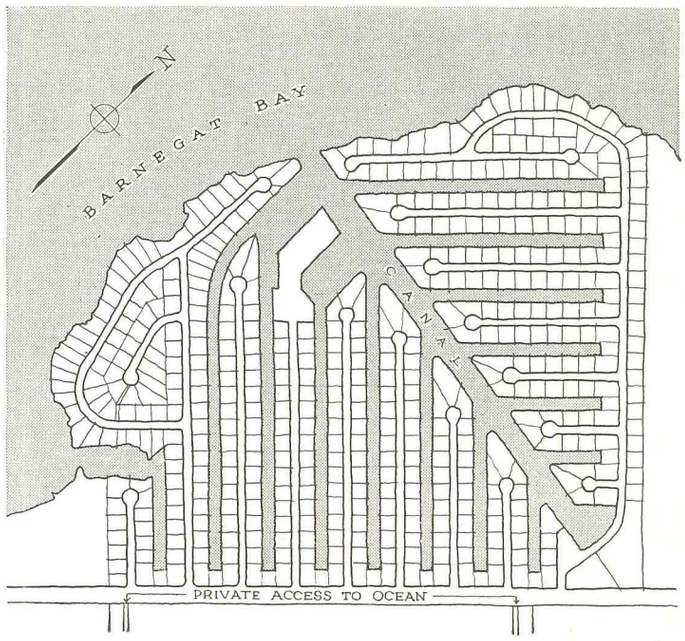


5 model, "Sweet Dream Home" (below), will shortly be erected and ayed in Sweet's yard for his small builder customers to inspect just ney inspect other Sweet products and samples. Model can be built 5-in-12 roof pitch or with expansion attic. Plan neatly solves problem utting garage on service side and still letting guests enter "dead-d" living room directly.





Canals give water frontage to each si



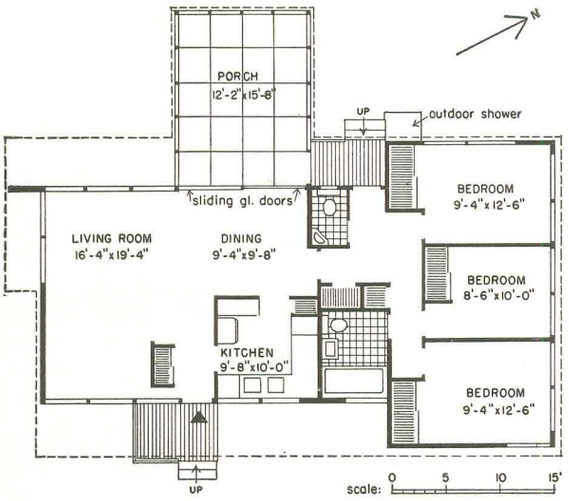
Network of canals, *dredged out to provide both access to waterways and fill for the subdivided lots, will permit docking of boats at most sites. Minimum lot sizes will be 10,000 sq. ft.; houses range from $10,000 to $20,000.*

LOCATION: Long Beach Island
SIDNEY M. SHELOV, ar
LONG BEACH ISLAND DEVELOPMENT CO.,
A. MARTIN FUNNELL & CLARA COFFEE, landscape arc

A web of canals, dredged from the low-lying peninsula, br each house in the Loveladies Harbor beach colony with c water on at least two sides of its site, and projecting lanais antee that breezes from any direction will flow through the h

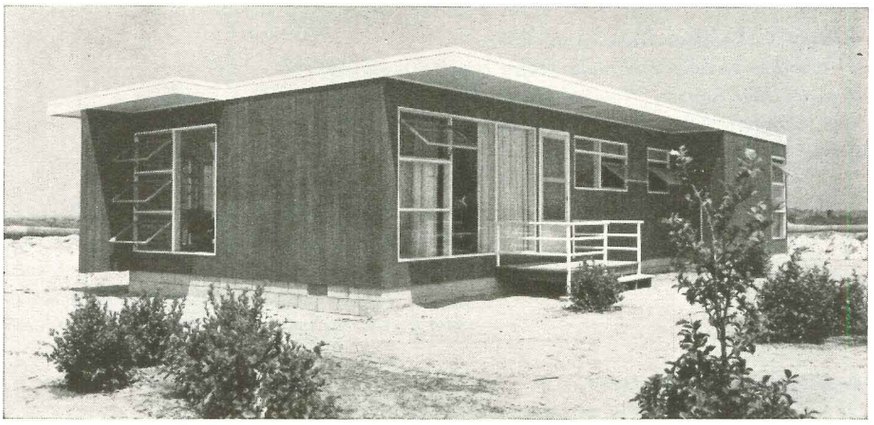
Architect Sidney Shelov provided all three walls of his porch with full-length glass jalousies to capture any stray bi but made provision for walling off the house proper in c bad weather. Surfaces are utilitarian: asphalt tile in the ir to resist sand and water; stained cypress board on the ex to weather handsomely.

Because this entire shore is flat, all houses will be sited t mit maximum views past their neighbors and across 6-mi Barnegat Bay to the mainland.



Glass jalousies *open all three lanai walls to prevailing winds, funnel air into indoor living and working areas. Sliding glass doors close off house from porch if ocean-front nights get cool.*

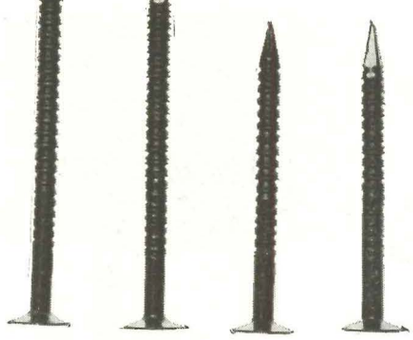
resort colony



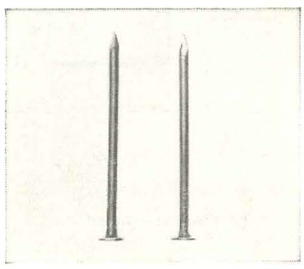
Sheltered porch *offers hospitality to visitors arriving by road, while twin windows in kitchen permit observation of front entrance. Wall extension (left) provides shade for living-room corner window, also is structural brace.*

Cross ventilation *is main objective of window placement, while 3" insulation batts in walls and roof ward off the heavy sun load. Living room is paneled in mahogany, rest of house is dry wall. Exterior planking is stained cypress.*

NEW PRODUCTS

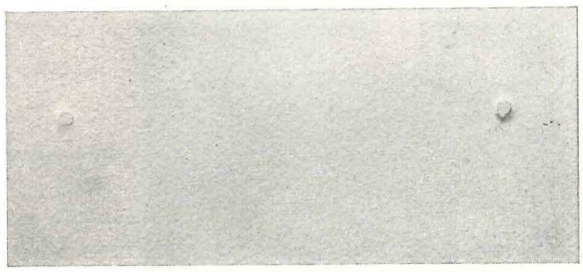


Grooved nails end "popping"



Plain shank nails lose grip

=



Nailheads back out of dry-wall surface

Leonard C. Fleming, *Milwaukee, Wis.:*
"We had to go back and make major repairs in one out of every four houses. Now, for $2 to $3 per house, we have eliminated 98% of our nail pops, which used to cost us from $10 to $50 per house."

John A. Cicci, *Melvindale (Detroit), Mich.:*
"We tried everything to stop nail popping, but in vain. Now the only popping we have is where framing is out of line and the nail doesn't hit enough wood to hold it. And it costs us only about $2.50 on a five-room house."

Andy Place, *South Bend, Ind.:*
"We think the Stronghold nail moves with the wood as it dries, and eliminates the gap between the wallboard and stud, thereby keeping the board tight and stopping the movement that causes nail pops."

Lincoln Dry Wall Co., *Lincoln, Neb.:*
"We used to use cement-coated nails, and had trouble only occasionally, but during the six months we have been using this nail, we have had no popping."

W. G. Best, *Factory-Built Homes, Peoria, Ill.:*
"We reduced our nail popping by about 85%."

Carl C. MacCartas, *Bethesda, Md.:*
"Nail popping is no longer a problem with us, though it used to be very serious, and going back cost us from $10 to $20, plus the inconvenience."

Frank E. Horpel Jr., *Laguna Beach, Calif.:*
"About six months ago we determined that a nail with the characteristics of a porcupine quill would be more satisfactory. This ringed nail fits that description. We believe that the wood fibers actually clinch around each individual ring on a far more satisfactory basis."

Charles A. Immer, *Washington, D. C.:*
"We believe that this nail, properly driven, will not pop. The poorer the lumber, the greater degree of nail popping, and core and paper quality of the wallboard have a decided effect on the proper dimpling of the nail."

One of the most perplexing (and expensive) builder problems has been the tendency of cement-coated nails to "pop" from the face of gypsum-board walls, usually after the walls have been painted, and often after the buyer has moved into the house. Resetting the nails is simple, but repainting comes high.

Several years of research at Virginia Polytechnic Institute under Dr. E. George Stern, and on-the-job experiences of leading dry-wall applicators indicate that substituting an annular grooved nail, the *Tapered Stronghold Screwnail*, for the usual cement-coated, plain-shank nail, will almost completely eliminate this "smallpox" at a cost of less than $5 per house. The parallel rings of the nail, like the barbs of a porcupine quill, wedge themselves into the fibers of the wood and show no inclination to loosen or "creep."

More evidence to come

One important piece of research, a 2½-year study of nail "creeping" made by Dr. Stern, was sponsored by the Gypsum Assn., and is expected to be released by the Technical Committee at the fall meeting in October. In the meantime, H&H queried applicators throughout the country who had had experience with the grooved nail, and their reactions are given on this page. The findings and evidence, though empirical and personal, suggest advance confirmation of the laboratory findings, since every reply was favorable. While Dr. Stern has left release of his finding entirely to the Association, he was able to say:

"Laboratory reports clearly indicate that this is the best nail available at this time and field data seem to confirm this finding."

How strong, how long?

A different series of tests was sponsored by the Independent Nail & Packing Co., and findings have just been released by Dr. Stern. These experiments tested the holding power of cement-coated and grooved nails, with the following results:

"As soon as the test plank had seasoned, the effectiveness of the nails began to vary. The cement-coated, plain-shank nail quickly

continued on p. 208

ooling costs cut almost in half

ne of Detroit's auto makers came out a new engine that provided the usual lus hp, but used only half as much fuel. ould shake up the industry. Air condi- ng may be in for just such a jolt from sonic Corp.'s *Temtron*, which claims a 2 tons of cooling from a 1 hp com- or motor.

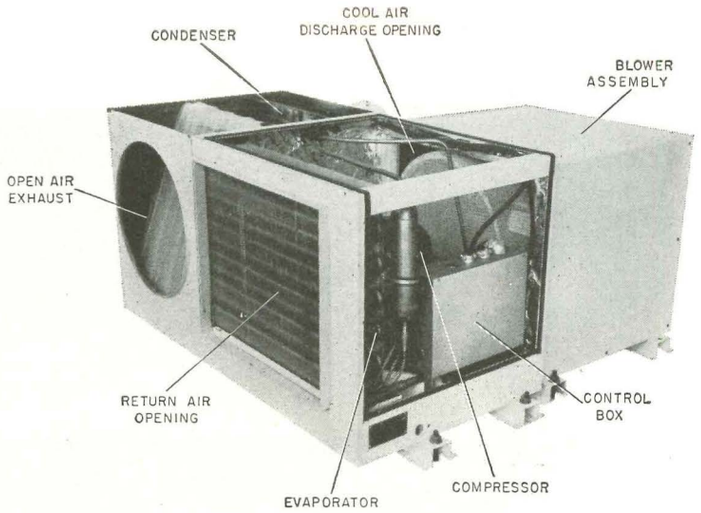
ace the compressor's electrical demand mines operating costs, the current used his unit will be 30% to 50% less than of the usual 2 hp motor that powers 2-ton coolers. Total electrical input of *Temtron* will be less than 2 kw, instead e 3 to 4 kw usual for air-cooled units. ating costs for 750 hours of operation d be only $30 at a 2¢ per kw-h rate.

e doubled capacity of the *Temtron* is on a still secret arrangement of the rative condensor mechanism, an accel- d transfer of heat from refrigerant etron 141 or Freon 22) to the cooling ce, and an improved spray head that cooling water onto the entire rectan- condensor coil.

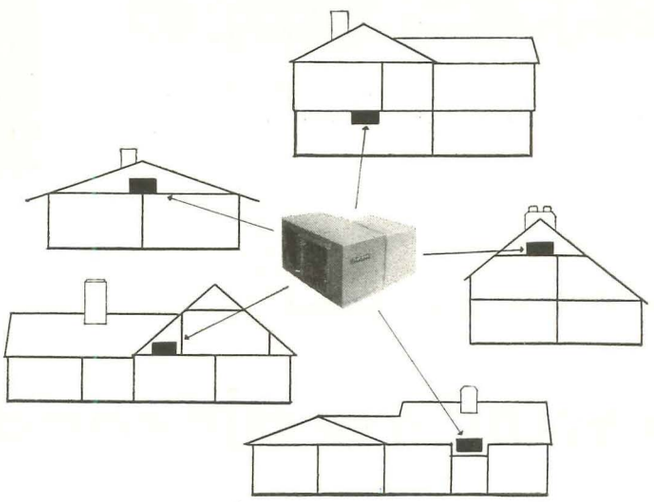
the average house

all size of the *Temtron* is 42″ x 36″ ½″, permitting it to be installed in attics, nents or crawl spaces, closets, or hung a hallway ceiling. Total weight includ- lower assembly is only 285 lb. It oper- on the usual 240-v., three-wire AC cur- Since the unit has a built-in evapora- condenser, water consumption (critical any areas) is only 10 gal. per hour. No ate cooling tower is needed. A ¼″ is all that is required for water supply, a ½″ outlet tube (local regulations may re a larger outlet). The light weight, tility, and modest installation require- make the unit important to the mod-

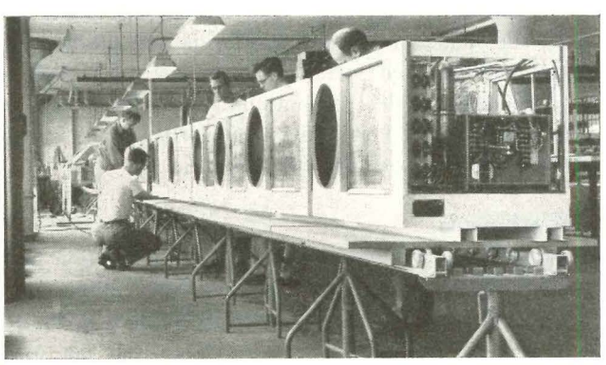
continued on p. 182



Compact arrangement of Temtron is shown when top panel is removed.

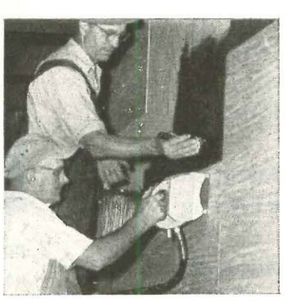


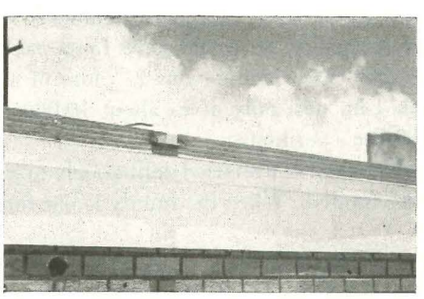
Varying location of unit is made possible by condenser dimensions, but both water supply and waste lines will have to be provided.



Assembly-line techniques are adopted to achieve mass production of 2-ton units. Other sizes and models will be added in future.

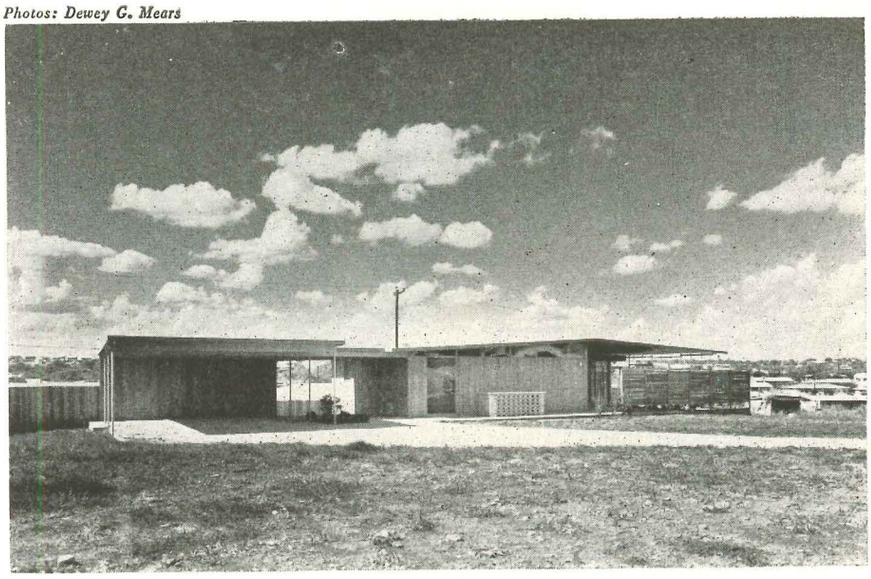
ier NEW PRODUCTS in this issue



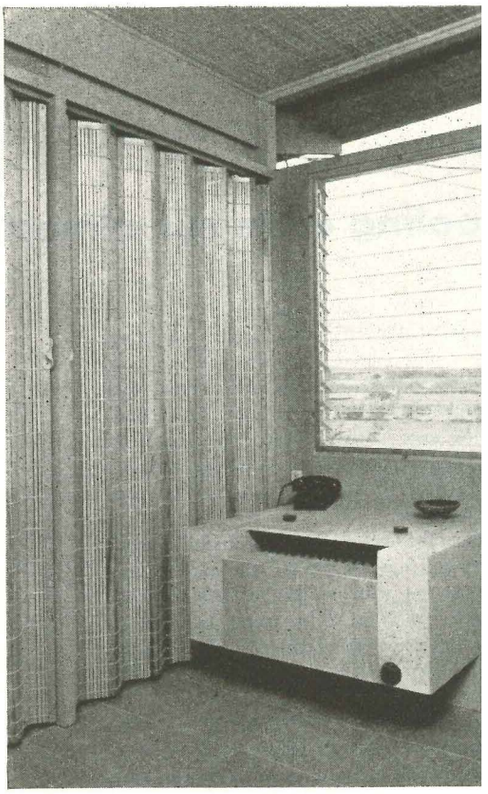


g tools for dry wall . . p. 186 an electronic gluing gun . . . p. 194 an "invisible" gutter . . . p. 192 and a sprayed vitreous wall p. 194

Photos: Dewey G. Mears



Summer air conditioning is provided in this 1,250 sq. ft. San Antonio house by three 1-hp room coolers carefully located to zone temperatures throughout the interior.



Special cabinet by Architect Ryan covers unit, is h some and serves as table or telephone desk. A supplied through horizontal opening, returned b

For summer cooling in *new* construction

When do window air conditioners ma

Everyone knows that window units are doing an admirable job of summer cooling in existing houses, offices, hotels and apartments. Why can't they do just as fine a job in new construction?

The answer is, they can. They are already being used in many new apartments and motels, especially in Florida and the Southwest. Room coolers will undoubtedly be used increasingly in new houses and other new construction, especially when dealers get out and start selling. Their market has mushroomed so fast of late that it is easier to fill orders from owners of existing buildings than to hunt up new-construction business.

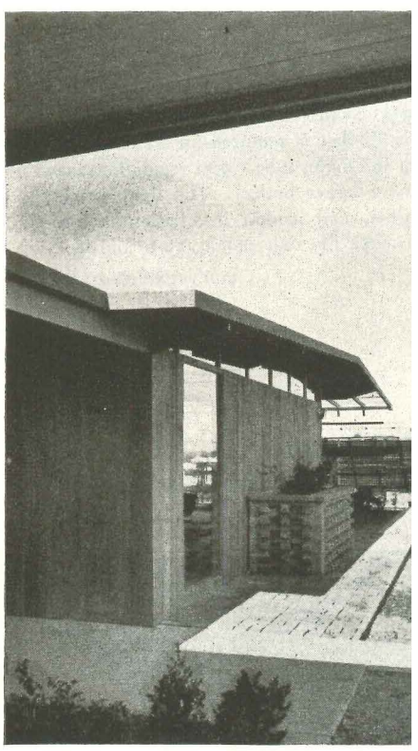
In new houses

Room coolers make good sense in new construction but there are many strings attached as to when and how, some of them discussed in the next pages. One of the best examples of built-in window units is in the 1,250 sq. ft. house shown here, designed by Architect Milton Ryan. He has overcome one of the most common objections to room coolers: their appearance.

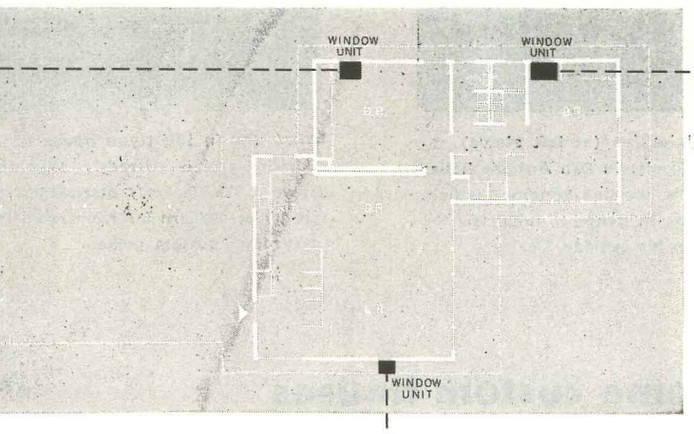
Ryan prefers radiant heating and did not want to install expensive ducts just for cooling. He bought three 1-hp units without cabinets at a wholesale cost of $260 each. In addition he spent about $100 each on his cabinets, installed. He brought in a 240-v. three-wire system as he would have for a central unit. He estimates total cost at about $1,200, for which he gets 2½ tons of actual cooling capacity. This is because each 1-hp unit only gives about 10,000 Btu's cooling whereas 1 ton is equal to 12,000 Btu's per hour.

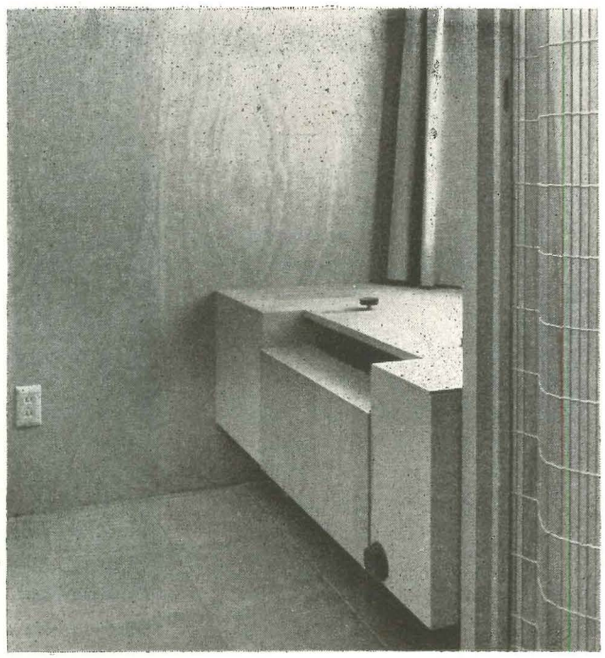
Bedroom coolers (see plan, photos) were oversized deliberately to produce quick cooling when needed and where wanted. When the family is out for the evening they cut the bedroom units off.

Disadvantages of room units: cooling efficiency is less than with a central system, life of the units may be eight or ten years rather than 20, and operating costs will be more if all units are operated continuously.



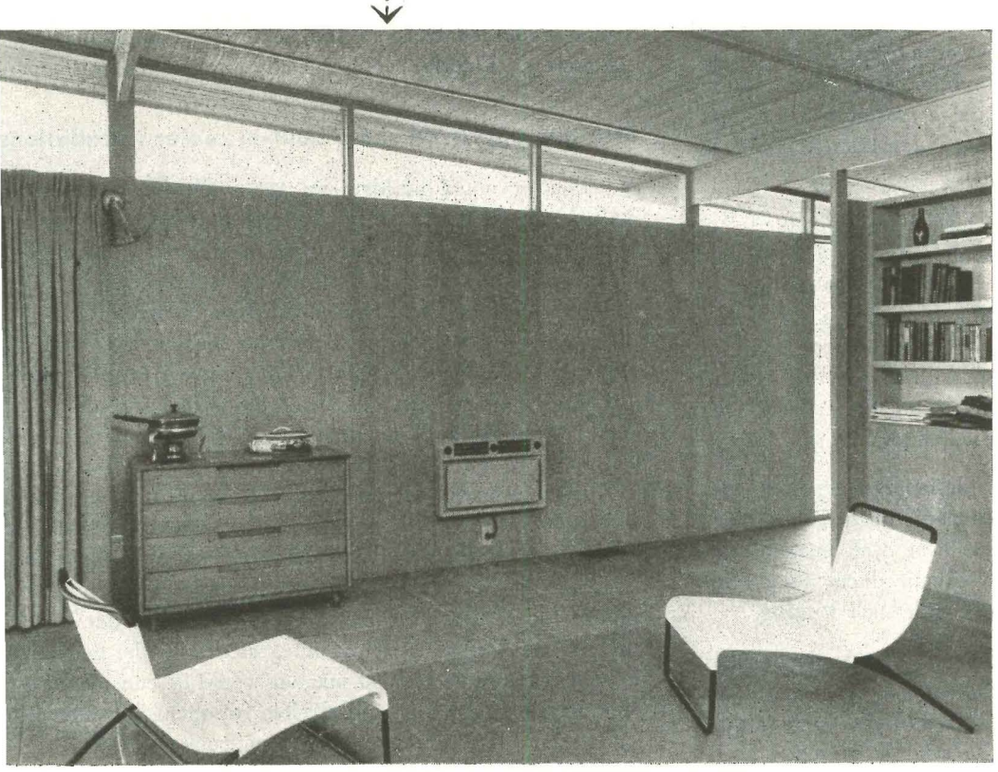
Planting box hides protruding unit ext normally an eyesore. Front of this unit i almost flush with inside wall (as shown oppo Box is open at top to permit air circulati





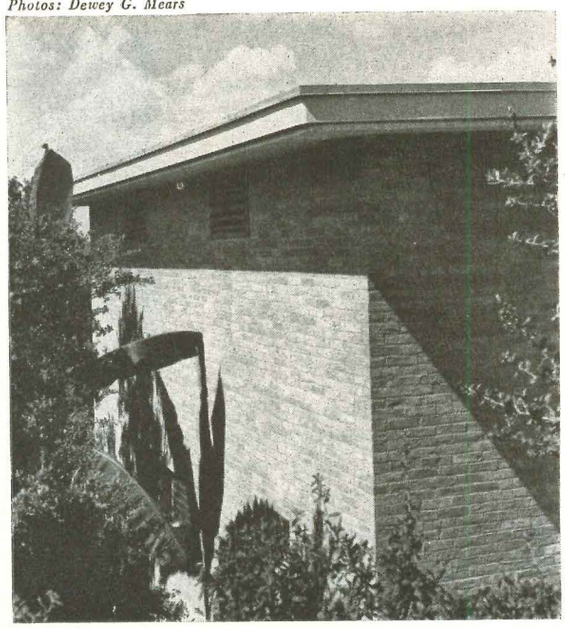
Entirely inside the room, this unit looks well from within and also gives outside of house a clean line. Only external evidence is neatly designed horizontal louvers through which air circulates to the air conditioner. Bedroom units were oversized deliberately so that they can be left off in daytime and still produce fast cooling at night.

ense?

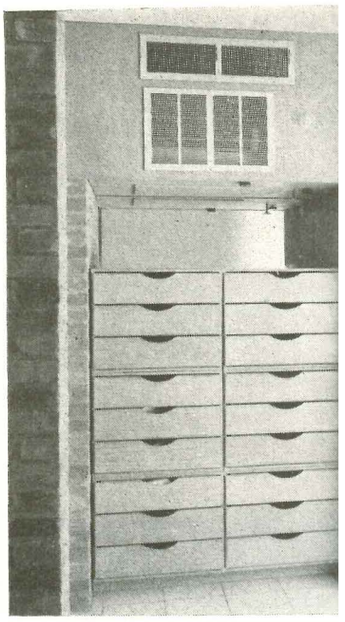


Front cover of living-room conditioner is easily removed and unit can be slid forward into room for servicing. Whenever room-unit covers are redesigned or adapted by an architect he must be sure he does not tamper with air flow, which has been carefully regulated at the factory.

Photos: Dewey G. Mears



Dummy window with glass jalousies (at left above) actually covers rear of bedroom cooler in San Antonio house by Architect Milton Ryan. This "cooling window" is perfect match for regular window in center. Jalousies are easily opened in usual manner for outside air.



Entire unit in the Ryan house is in bedroom and is furred-in over ser drawers. Cool air is discharged th top grille. Return air from room is in through bottom grille.

Room conditioners fit well into some custom houses

Room coolers are well-adapted for special needs

While most air-conditioning engineers believe that a central cooling system will do a more efficient job for an entire house, window units make sense under the following conditions:

1. In geographical area where cooling is needed only a short time during the summer and the cost of a central system has not yet been accepted by the buying public. With window units built into the wall of a living room and a master bedroom, for example, a builder can provide cooling at less than the cost of a central system. (For costs, see below.)

2. In hot climates where cooling is needed and accepted, but there is a point in the price range, usually between $12,000 and $15,000, below which people will not pay $1,000 for cooling.

Yet builders can offer partial cooling of a house below this critical price level by installing two or three room coolers. In Phoenix, the lowest-priced new house with 2 tons of central cooling is $10,995, so this becomes the competitive break-even point for window units. In most cities it is higher.

3. In new houses where the builder, designer or client prefers a heating system which does not use warm-air ducts, such as any form of wet heat, radiant heat, electric heat, wall heaters. Because window units can be installed without ducts, they offer an economic advantage when combined with such heating.

4. In houses where only a portion of the total space needs air conditioning. It is sometimes uneconomical to cool bedrooms in the daytime if they are not used and if night temperatures are usually cool. Room coolers can be used in strategic spots such as the kitchen and living room.

5. In sprawling ranch houses where the cost of long duct runs might be excessive.

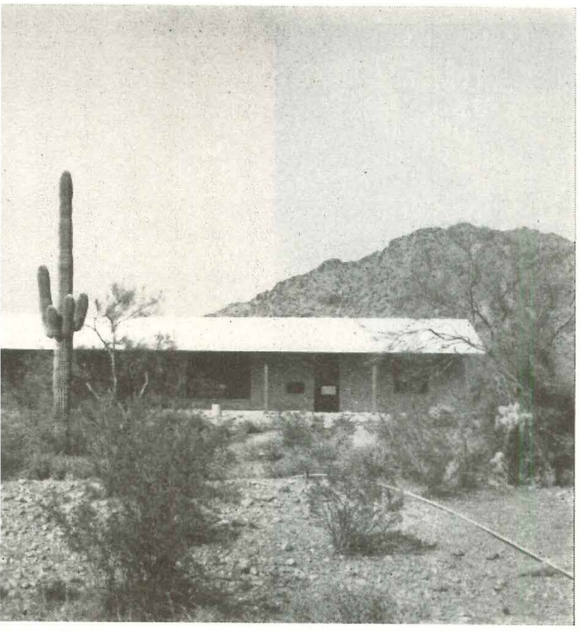
6. In one or two rooms of a centrally air-conditioned where a guest room, maid's quarters or a recreation room is at distance from the central unit—on the opposite side of a b way from the main house, for example.

7. In custom houses where members of the family want vidual room controls so they can set temperatures to themselves. Elderly people usually prefer higher tempera

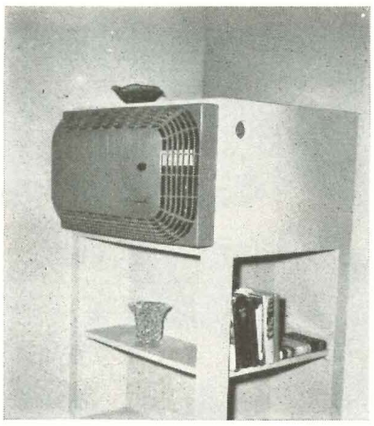
FHA has approved some built-in cooler installations

Whether or not a builder can get credit for installing w units depends on the local attitude of FHA and VA. A ago FHA's approval of air conditioning was limited to c systems but now it is recognized that "there is no need t fine air conditioning to homes of higher income groups," as McGhan, FHA's chief mechanical engineer, says. "Discri ing against the vast majority of home buyers is not our pur

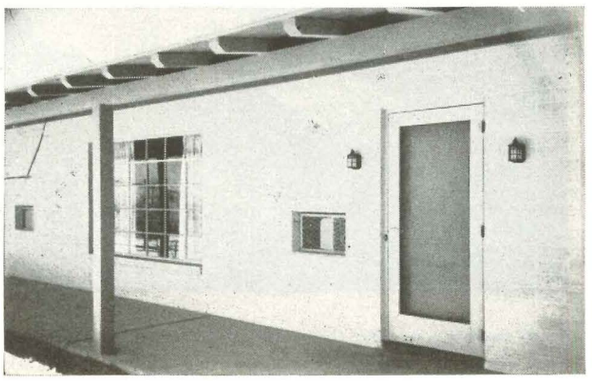
FHA is more readily convinced that window coolers are of the structure and should be insured if they are built in wall and are not easily removable. Says J. Stanley Young, of FHA's property requirements section: "It is largely l regional FHA offices to determine what will or won't be inc in an FHA underwritten loan. When a new situation arises, the case of air conditioning, the regional offices turn to ington for advice and direction. I would say that room tioners installed in a wall or integrated with the house stru in some equally permanent manner would be considered a p nent part of the realty and eligible for inclusion under an loan." But FHA assumes that a room-cooler installation mu an efficient job, that contiguous areas are not blocked off by and that there is a unit in at least one bedroom. FHA has past insured in several different cities apartment houses with in room coolers.



house of Kenneth Sloan outside Phoenix was designed for
air conditioners, with two 1-hp units in living room, one
den, and one ¾-hp unit in each of two bedrooms. He specified
nstead of central unit because they gave him flexibility of
ontrol. Only room cooled is a room being occupied.



Living-room conditioners project into room, rest on built-in bookcases. On the outside they are recessed several inches into wall (as photo below illustrates). In the two bedrooms (not shown) the units are mounted almost flush with the inside wall and consequently stick out in the back. Units keep masonry house cool, even in hot desert.



coolers vs. central systems in new houses

l costs are usually lower for window units because there ductwork. Builders might pay anywhere from $200 to $350 -hp units (bought at discount during the off season) which its to $266 to $464 per hp. Central units vary in price typical figure is from $1,000 to $1,200 for 2 hp installed, ing ducts. However, if more than three window units are ed, the cost tends to be the same as for a central unit.

ating costs of a ¾-hp unit of 1,300-w. in Dallas (rate: kw-h) is 2¢ per hour; 2½¢ per hour in San Antonio ¾-hp unit of 1,250-w. (rate: 1.75¢); and in cities where te is 3¢ it is reported to be about 27¢ for ten hours of use in w. units with a thermostat. In 3¢ areas a ¾-hp unit op- g ten hours a day in 95° outside temperature would add $8.20 to $11.40 a month to electrical bills. Two tons of l cooling for whole houses cost about $13 per month last er in Dallas (H&H. March '54).

st air-conditioning engineers would agree that central units ce more cooling for an entire house at less expense than w units. If window units cool only part of the house part time, their operating costs would be less than that of a l unit cooling an entire house.

acement costs are higher for window units. Their life is bly not over ten years. Many users trade them in after five to get newer, better models. Central units may last twice g under the same operating conditions.

e level is higher in window units because they are right in me room with the occupant.

dity control is probably better with central units which humidity down throughout the house, not just in the rooms a window unit is operating.

How to wire a house for window units

Much of the dissatisfaction with room coolers stems from inadequate wiring. Units will not deliver full cooling capacity unless they can draw full power. Moreover, poorly wired units cause sharp voltage fluctuations, lights flicker and TV is affected.

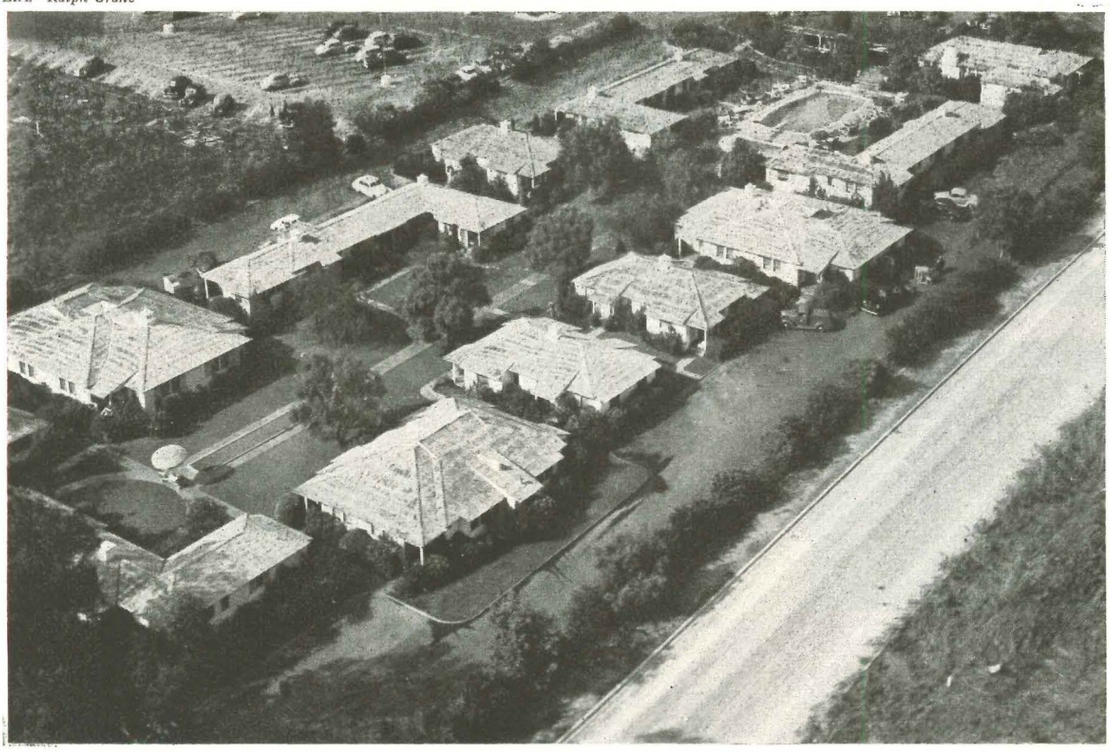
Builders should run a separate circuit of No. 12 or No. 14 wire to each room cooler. A 120-v. circuit is usually ample for units up to ¾ hp in size. However, those ¾-hp models with thermostats for automatic operation generally draw such high starting currents that they need 240-v. circuits, unless the manufacturer supplies a current limiting device. For 1-hp sizes or larger, electric companies generally require a 240-v. circuit. Builders should consider using the three-wire system recommended in an earlier issue of HOUSE & HOME (Nov. '53, p. 132).

One of the biggest wiring problems arises from a wide variation in electrical characteristics among the various cooling units made by different firms. Some units have power factors of less than 90% which is generally inefficient and causes trouble for both builders and electric companies. So many headaches have resulted from inefficient units operating at a low power factor that St. Louis' Union Electric Co., for instance, was forced to put wiring limitations on brands with less than a 90% power factor.

Some brands of coolers have power factors as low as 60%, which is unsatisfactory to the electric company. And some brands may draw as much as 25% more starting current than the same size unit by other manufacturers. For these reasons, builders are advised to call their electric company for wiring advice.

M. E. Skinner, vice president of the Union Electric Co., sums up the wiring situation this way: "There is nothing inherent in room air conditioners that makes them susceptible to electrical problems 1) if the power factor is 90% or better, 2) if starting currents meet minimum accepted standards, and 3) if units are served by adequate electrical circuits."

LIFE—Ralph Crane



Room coolers are ideal for motels (like the above) which are widely dispersed. They also save on installation costs when motel consists of small, separate cottages. Built-in window units give each guest individual control of temperature.

Window coolers r

In motels consisting of separate cottages, room units probably work at their very best. Operating costs are relatively low because units are not often on in the daytime. Transient guests arrive late in the afternoon or early evening and from experience a manager can turn on the coolers in time to take care of his anticipated guest load. Thus he only pays for the cooling he needs. Guests may set temperatures to suit themselves.

Said the manager of Old Faithful Inn at Phoenix: "Our room units are wonderful. Each guest can suit himself about using them. Surprisingly, some don't want air conditioning."

For a group of cottages installation costs are lower for room units because no ducts or plumbing are necessary. If a central unit is installed for dispersed cottages, the cost of piping is high.

Because of their low initial cost and great flexibility, room coolers are almost standard equipment in new motels throughout the South and Southwest and in the hot valleys of California. Most units are installed through the wall under a window.

In new apartments window units have six advantages over central units, according to apartment owners and managers:

1. Original cost is lower. Owner of the Park Central Apartments in Phoenix, where 150 1-hp and ¾-hp units were installed in 95 apartments, said that low bid for a central system was $110,000 compared with the window-unit cost of $45,000 plus another $12,000 for heating.

2. Tenants pay the operating costs.

3. Tenants control their own apartment temperatures.

4. Owner saves duct space.

5. Window units are ideal, especially early in the game when not all apartments are rented. Unrented apartments are not cooled as they might have to be with a central system.

6. If cooling equipment becomes defective, only one ap at a time is affected.

"But the servicing is terrible!"

"The cooling is great, but the service is terrible" said on ment-house owner. "Everyone passes the buck. I have $7.50 an hour to servicemen." Said another: "We saved original unit costs but we are sure the maintenance is g cost more than we have figured. We are amortizing o years." Owners everywhere recognize that room coolers automobiles: the older they grow the more servicing the

These remarks emphasize the importance of buying units dealer who takes responsibility for servicing and who has term interest in protecting his own reputation. In the Ne area 1,000 window units were installed in 362 units of Metrick's Long Island apartments (AF, April '53) an the manufacturer and the local dealer are anxious to pro firm name. As a result the installation was well done and calls, which have been few in the first four years, are l efficiently. Tenants and landlord are happy over their a ments. As with most apartment installations, the superinte office changes filters and makes minor adjustments, but a chanical troubles are taken care of by a dealer who services in that county for the factory. In the Metrick apartment coolers were built into a 28″ x 15″ opening under the w Installation was $57 each plus $25-30 for wiring.

What to look for when you buy room coolers

Anyone in the market for room coolers has such a wide ch day that he is likely to be confused. Prices vary so much