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April 1973

House & Home



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how to fill them up and keep them full**

What's new in security systems and equipment

Why housing's '73 will be better than anyone thought

O

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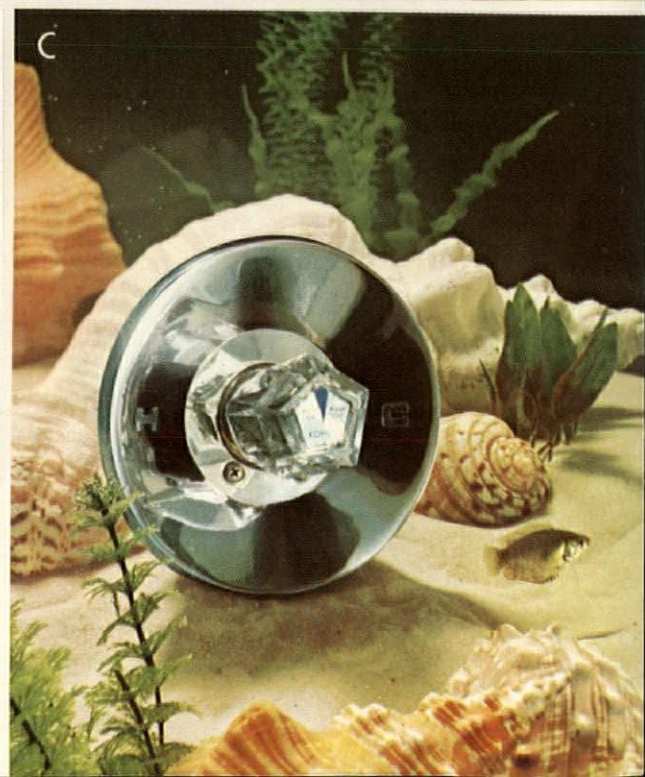
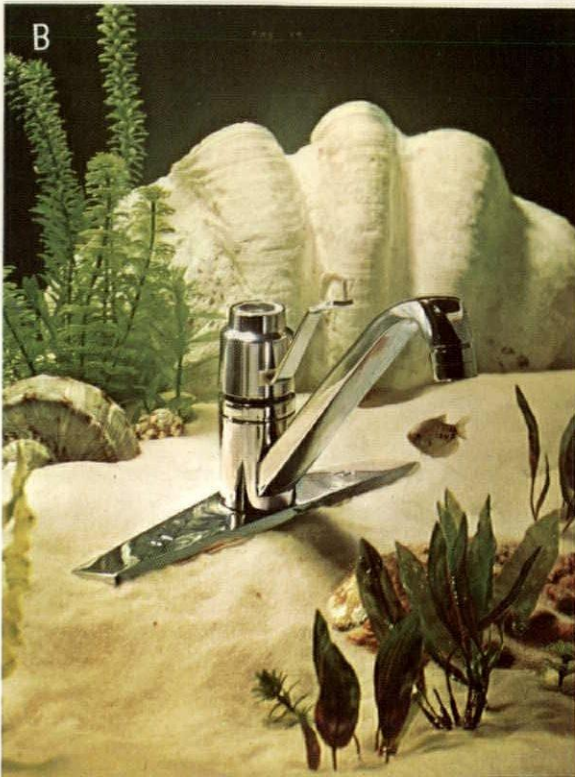
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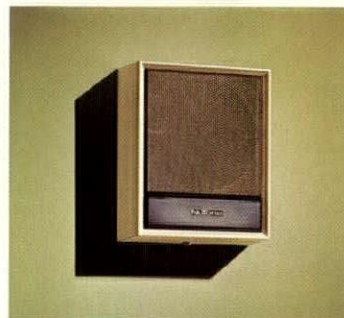
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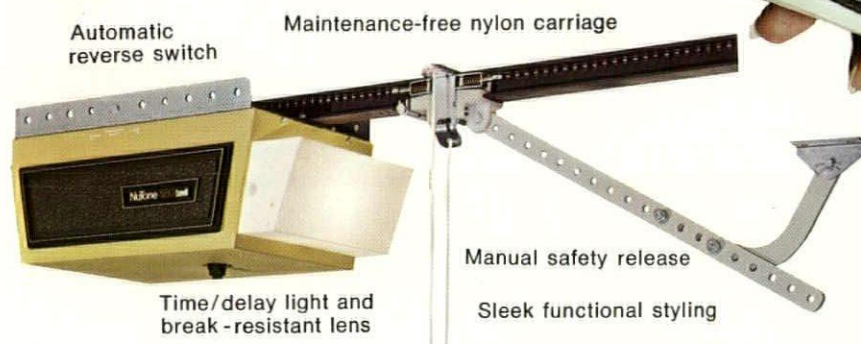
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...one of the products to see in '73**

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House & Home

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Volume 43 Number 4/April 1973

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Cover/Lake Park, San Diego, Calif. Architect: Brian Paul & Associates.
Builder: Dean A. Vickery Co. Photo: Waggaman / Ward

HUD gets its new team—Hyde is No. 2 man, economist is policy chief

President Nixon finally named his key officials at the Department of Housing and Urban Development—on the same day that he gave them six months to come up with substitute housing programs for those earlier suspended.

The President nominated the former Fresno, Calif., mayor and HUD Model Cities chief, Floyd Hyde, as under secretary; a young Labor Dept. economist as the housing policy man and a controversial Washington apartment management executive as the housing management officer. The HUD secretary and Presidential counselor, James T. Lynn, had been without a housing team since weeks before he was sworn in.

Policy arbiter. Probably the most crucial appointment for the coming months of housing policy debate within HUD and the White House is that of Michael H. Moskow, a 35-year-old economist who for the past year has been trying to improve manpower programs as the assistant secretary of labor for policy, evaluation and research. At HUD, he is proposed for a new job, assistant secretary for policy development and research; he thus will occupy the office vacated by Harold B. Finger, who was assistant secretary for research and technology.

A top HUD official confirms that Moskow will be in the housing hot seat until the new policy on federally assisted housing is developed and proposed to Congress.

"His title represents more than a name change," Hyde says. "The housing policy job used to be handled by a deputy under secretary, but the secretary felt, and I agree, that the job deserves to be set out at the assistant secretary level."

A different type. Moskow is described as bright, but never in one place long enough to develop a product of his thinking. As a

personable analyst with a Ph.D. from the University of Pennsylvania, he is said to be atypical of both the partisan appointments of the first Nixon term and the management-dominated appointments of the second.

When President Nixon cleaned out all of Labor's top officials and while its new boss, Peter Brennan, was casting about for new blood, only Moskow was left behind, not certain that he wanted to stay or would fit in

with Brennan's crowd. The HUD appointment appeared to serve a mutual need for the Administration and for the promising program analyst.

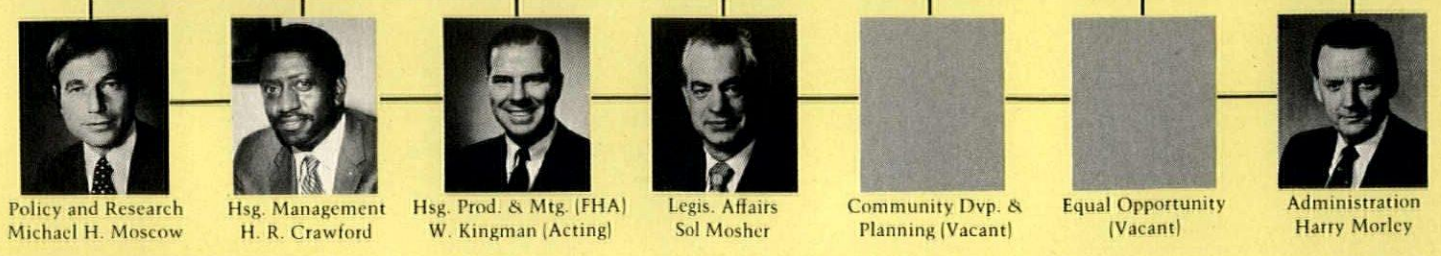
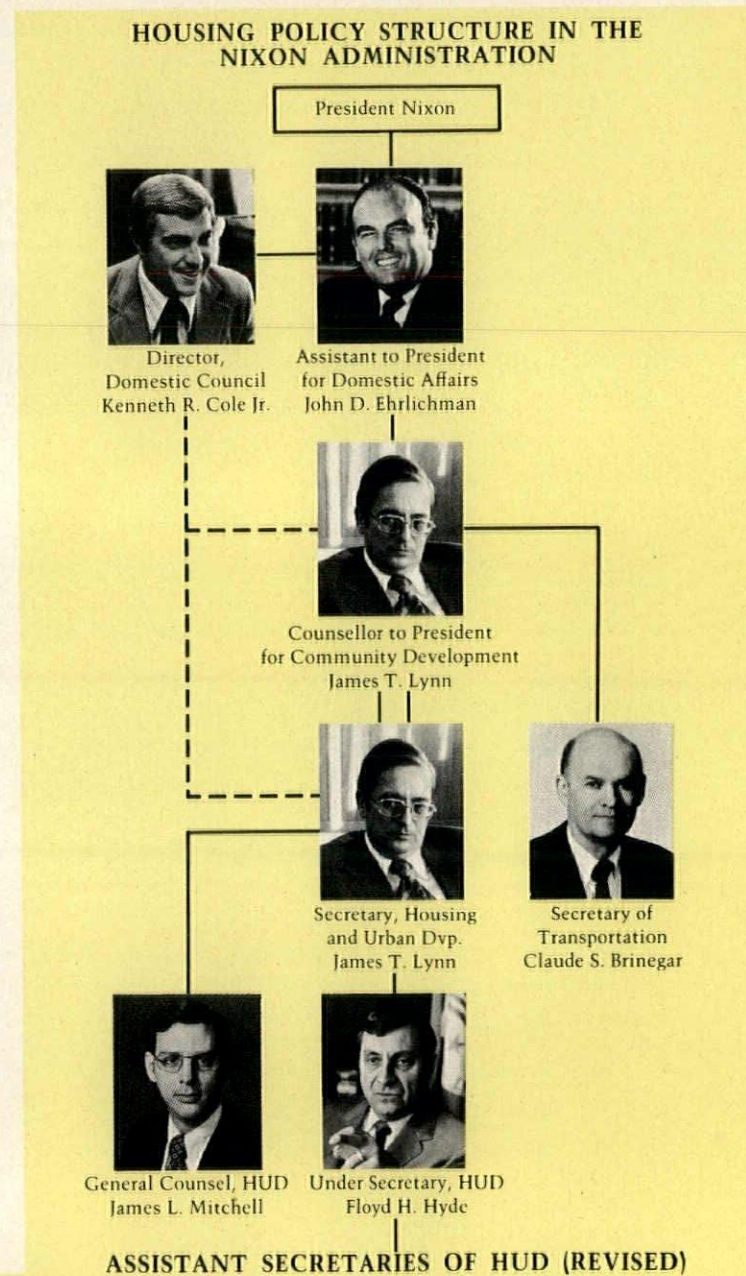
Controversy. Lynn's new housing trio, plus a new general counsel and a new HUD emissary to Capitol Hill, all require Senate confirmation. Early indications were that the new assistant secretary-designate for housing management might face some opposition during his con-

firmation hearing, at least from the National Tenants Organization, but that neither he nor the others would be denied confirmation.

The management nominee is H. R. Crawford, 34, who would become the highest-ranking black in the Nixon Administration. He is a vice president and partner in Pollinger-Crawford Corp., for which he has managed 3,500 low- to moderate-income housing units in the District of Columbia. He is also president of Kaufman & Broad Asset Management Inc., a K&B subsidiary that invests in assisted housing across the country; and he presides over management of the largest subsidized development in the District. He carries a gun as he makes the rounds of his projects, he has voiced opposition to much public housing for being "paternalistic," and he has said that much management of government assisted housing is not "firm" enough, all of which at times has earned him hard marks from tenant groups.

Before the confirmation hearing, Senator Edward Brooke (R., Mass.), himself black and a drafter of housing legislation, described Crawford as "by reputation both tough and fair."

Signal-caller. The man who brings HUD experience to HUD management is Floyd Hyde, 52. It now appears that Hyde, a lawyer, will have unprecedented opportunity and responsibility to manage the department, since Lynn has taken on duties as counselor for community development that will have him facing the White House as much or more often than the curved castle at HUD. During the Lynn briefing on the Nixon housing-and-cities message to Congress, Lynn turned to Hyde a half-dozen times for help on figures, procedures and other assistance—and wasn't disappointed once.



TO PAGE 8

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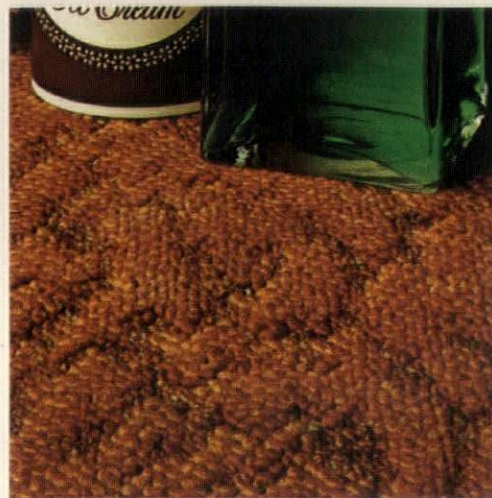
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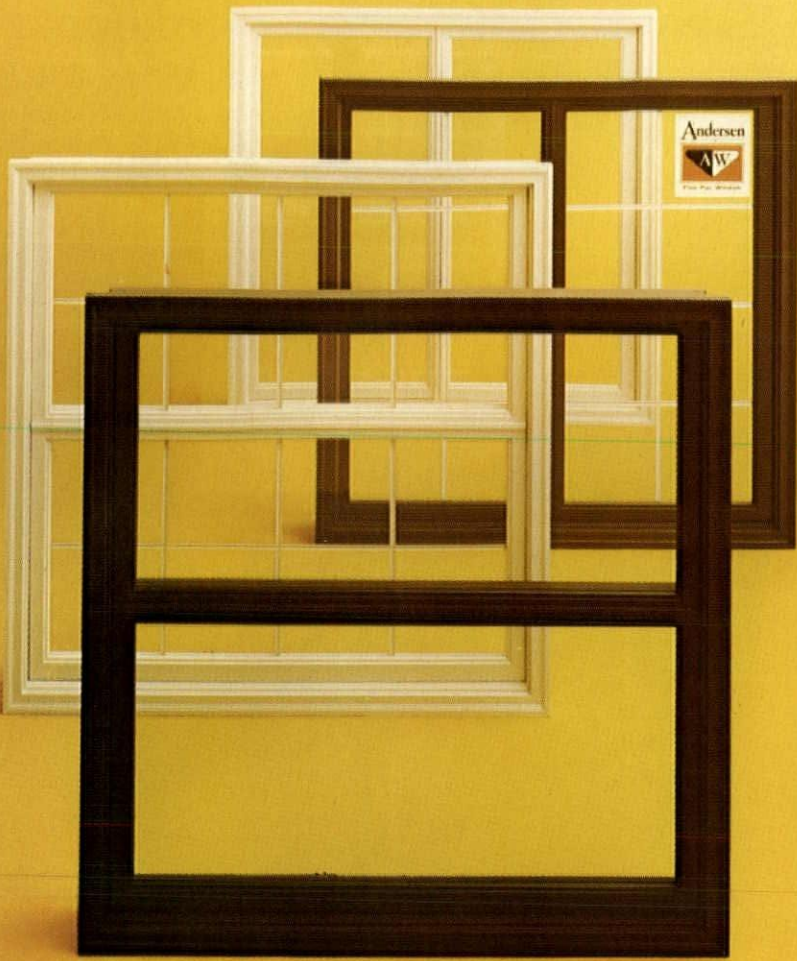


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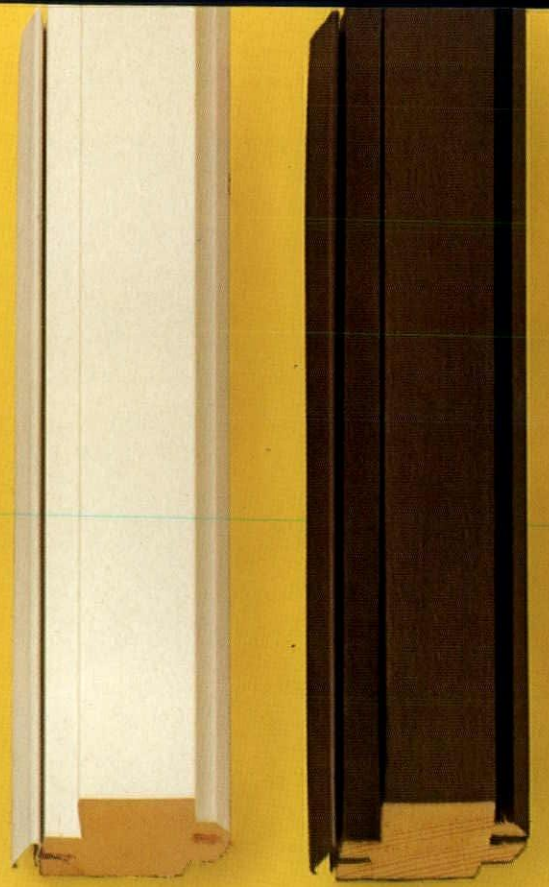
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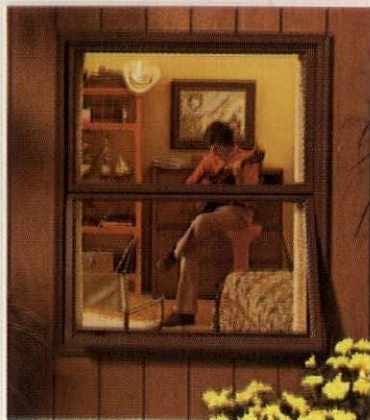
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President pledges new housing plans by fall; Lynn hints at allowances

President Nixon, warning that merely building a quantity of houses is not enough to ask of federal programs, has promised a new approach to federally assisted housing by September 8.

The President and his housing secretary, James T. Lynn, say that the search for new and better programs will involve outsiders. It will consider every alternative offered to Congress and any others that participants can come up with.

First reactions from Capitol Hill indicate that Congress, too, will be working hard on programs and will be ready at least by the Nixon deadline. Chairman John Sparkman of the Senate Banking Committee has called hearings in early April.

Uncle Slumlord. "In the field of housing, we must stop programs that have been turning the federal government into a nationwide slumlord," President Nixon said in a radio address that preceded his fifth State of the Union message, this one on community development.

The strong tone and eye-popping examples—"In one of our huge, high-rise public housing projects, less than one-third of the units are now fit for human habitation and less than one-fifth are even occupied"—were not as evident in the message to Congress itself, but he did make the same points in explaining why he ordered four housing programs suspended January 5.

'Basic defects.' "There has been mounting evidence of basic defects in some of our housing programs," the President told Congress.

"It is now clear that all too frequently the needy have not been the primary beneficiaries of these programs; that the programs have been riddled with inequities; and that the cost for each unit of subsidized housing produced under these programs has been too high." He added, however, that while trying to find "a much firmer foundation" for housing policies, commitments made under the programs prior to suspension would be honored and that 300,000 units of subsidized housing would be started in 1973.

'Better means.' The Administration is taking great pains not to appear to be prejudging what is needed, only to label as inef-

fective that which it feels is no longer needed. Thus, without saying what was required, Mr. Nixon told Congress that "we know that better means are needed—that the old and wasteful programs, programs which have already obligated the taxpayer to payments of between \$63 billion and \$95 billion during the next 40 years, are not the answer."

The HUD secretary and Presidential counselor, Jim Lynn, did give some feeling for what his new policy team (*see page 4*) would be eventually sending to Kenneth Cole, the White House adviser, for presentation to the President's assistant, John Ehrlichman, and to the President.

Allowances? Asked for the alternatives in broad terms, Lynn replied that he could not mention all of them "because one of the first parts of the process is to be sure we haven't overlooked any." He said those programs previously proposed in Congress would "of course" be considered, and he added:

"Our ideas run the whole gamut from a changed approach under existing statutes to the extent the statutes permit flexibility, to housing allowances, to turning over a greater part of the function to state governments, to looking hard at our tax laws,

and a number of others."

That may have been the most revealing Administration statement yet, when combined with another mention of allowances.

Asked rather aggressively if he was going to go "headlong into another housing program without testing it," Lynn retorted that he would like to "propose things that I would feel have sufficient assurance of success that we are not going to waste the taxpayer's money." Pushed further, he volunteered housing allowances as an example of a tested idea. It was obvious he had been briefed on the subject.

A basis for judging. "There are experimental programs," Lynn said of allowances. "There are ones started as early as two or three years ago, I believe. There are other experiments going on at the present time. We would expect to learn something from them. In the next six months I am not going to learn everything there is to know about allowances, but I may learn quite a bit that is helpful in making a decision."

Lynn said that since the study would be going past the expiration date of current programs, he would ask for a simple extension along the way.

"As to the exact form of that simple renewal, I will have to

defer a bit," he added.

Ideas from industry. Lynn was also elusive on the subject of how he would be gaining the advice of academicians, housing industry people and others, beyond stressing that "this is not an in-house study—certainly HUD has no corner on expertise in this area." Without saying how, he said HUD would consult tenant and consumer groups, the housing industry, the financial community, Congress, academicians and "everyone who has really studied this program for a long time."

Further clues to what HUD and the White House will try to avoid in their new programs came when Lynn was asked how he could say programs didn't work when the Administration boasted that subsidized housing programs since 1968 have produced more assisted housing than at any time in the nation's history.

Criticism. Here is Lynn's deficiencies catalogue—and presumably the President's—on the basis of earlier studies done by Ehrlichman and Cole:

- "We have some circumstances where people are very temporarily in housing, particularly younger people in the educational process, when there are still needs by other people to come into it."

- "When we look at people in a certain income range being able to afford new housing, but with people making slightly more having to make do with used housing, it worries me."

- Cost of government housing compared with other housing "in many cases . . . is too high."

- "There have been problems on the quality of the housing."

- "One of the main things is the amount of money that we have built into the budget to help a limited number of people. We have done a lot more than people have previously, but on the other hand, taking a look at the number of units we have produced and what we have put into the budget for them, it seems to me we should at least stand back now and take a hard look as to whether there is a better way of doing it at less cost to the taxpayer."

—PETER GALL
McGraw-Hill World News,
Washington

HUD gets its new team . . . continued

FROM PAGE 4

New setup. As with many other departments, HUD is being reorganized.

In addition to changing Moskowitz's assistant secretary title, Lynn has made two other changes. One was to take the job formerly held by Samuel C. Jackson, that of assistant secretary for community planning and management, and use it for a new "legislative affairs" assistant secretaryship. Thus does HUD join such departments as Interior and Transportation in upgrading the lobbying effort by wiping out a substantive top job. Jackson's old job is likely to be merged with that which Hyde last held, assistant secretary for community development. The exact name and the person to fill the new combination post had not been announced by the time of Hyde's promotion.

The new HUD lobbyist with the high rank is Sol Mosher, 44, a former special assistant to the Commerce secretary for congressional relations, and before that, from 1960 to 1970, administrative assistant to Representative Durward G. Hall (R., Mo.).

Lynn was the undersecretary of Commerce before he was moved over to HUD, so it is not surprising that he brought some commerce types with him. Besides Mosher, he brought in James L. Mitchell as general counsel. Mitchell had been for a year the special assistant to the secretary of commerce for policy development and director of the office of policy development. He is 36 and had practiced law with the Chicago firm of Mayer, Brown and Platt before joining the Administration. He succeeds David O. Maxwell.—P.G.



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Another housing myth spiked: '72 boom brought no general overbuilding

There was no general overbuilding in 1972, despite a record boom in housing starts and completions—and the expressed fears of many experts.

And this year's housing production will be closer to the 1972 peak than seemed possible only a few months ago. A decline of only 5% is likely.

These are findings of Advance Mortgage Corporation's new semiannual survey, *U.S. Housing Markets*. The study analyzes housing trends in 17 major markets. (Advance Mortgage, with headquarters in Detroit, is a subsidiary of First National City Corp. of New York City.)

A big '73. President Irving Rose of Advance projects 2,250,000 housing starts—total public and private—in 1973. The total for 1972 was 2,377,700.

He adds: "This is a much smaller decline than we—and most observers—had projected earlier.

"It appears that demand and mortgage funds are adequate to support an even larger U.S. market—2,300,000 starts. But environmental restrictions should cause a net loss of some 50,000 starts."

In the first half of 1972, Rose observes, some fears of overbuilding were warranted, as demand, particularly for rental units, lagged production. But demand picked up smartly after midyear as the economy grew stronger.

98% absorption. The Advance survey cites recent Census Bureau data that indicate that the 1972 outpouring of homes and apartments was absorbed as rapidly as the much smaller production in much tighter markets of other years.

All but 50,000 of the more than 2 million homes and apartments completed last year were absorbed by the sale or rental market. That's a 98% absorption rate, the highest in three years.

Taking 1970 as a yardstick, a year when production was low and the housing market was tight: New home completions increased some 50% between 1970 and 1972. So did new home sales. Nearly 75% of the new apartments were absorbed within three months after completion in the third quarter of 1970—and in the third quarter of 1972. (But only 60% of the apart-

MARKET	PERMITS	RATE PER 1000 POPULATION
LOS ANGELES-ORANGE COUNTY	68,585	42
MIAMI-FORT LAUDERDALE	68,471	42
NEW YORK	57,985	5
CHICAGO	55,017	8
TAMPA-ST. PETERSBURG	46,323	43
HOUSTON	43,978	20
DENVER	43,428	33
WASHINGTON	42,990	14
SAN DIEGO	38,290	26
ATLANTA	38,202	25
PHOENIX	37,481	35
SAN FRANCISCO-OAKLAND	36,047	11
PHILADELPHIA	35,390	7
DALLAS-FORT WORTH	34,771	14
DETROIT	29,061	7

ments were absorbed that rapidly in the first half of 1972, and that's when talk of overbuilding began.)

Suburban prosperity. Even more significant, Rose feels, are some vacancy figures just released by the Census Bureau. They show that national vacancy rates leveled off in the fourth quarter of 1972—but in a most unusual way.

Vacancies plummeted in the suburbs—and they shot up in the central cities. The central city rental vacancy rate is now half again as high as the suburbs.

"These changes are the more significant," Rose said, "in that they occur at a time when the suburbs are building three times as many homes as the central cities and a third more apartments. It appears that in 1972 the nation's suburbs could have absorbed 10% more apartments than were completed there.

"It is true a few local markets, mostly in the Southwest, have overbuilt apartments. Nearly all have already cut back on apartment starts. Other areas have seen localized—not marketwide—overbuilding. Given the

high in-migration rate most of these markets enjoy, a relatively short pause should bring their vacancies back into line."

An uneven market. All of the local markets in the Advance survey showed big increases in their rate of market absorption—the number of units sold or rented—in 1972. In Seattle, emerging from the nation's most severe recession, the increase was over 75%. In Chicago and Los Angeles County it was 60%, in Detroit 40%, in Phoenix 25%.

Activity in the 1972 boom was unevenly distributed. As a group, the 25 largest markets outside Florida had only a 1% increase over the previous record year, 1971. But the smaller markets and rural areas outside Florida gained 14%.

Superboom. Florida singlehandedly raised the 1972 boom to superboom proportions.

With 3½% of the nation's population, it accounted for 15% of all permits in the second half. Roughly half of the full year's increase nationwide was in Florida. The state wrote 40 permits per 1,000 of population, a rate only one local market out-

side Florida had ever reached—Orange County, Calif., in '62-'63.

Tampa-St. Petersburg, with barely a million in population, was the nation's fifth largest housing market in 1972. Miami-Fort Lauderdale was in a virtual tie for first with Los Angeles-Orange County. Tampa, Miami, Orlando and West Palm Beach were the hottest local markets in history, with permit rates ranging from the Miami area's 42 per 1,000 to West Palm's 68 per 1,000 of population.

Demand in Florida, Advance found, is still strong. Some 10% of the 1972 permits may have been rushed through to avoid ecological restrictions, but builders still could have sold those units if they could have built them. Large builders are hundreds of units behind on delivery and some are exceeding, in a few months, their sales estimates for an entire year.

The survey found that, paradoxically, the restrictions have increased demand. The news that curbs are in prospect converts future buyers to on-the-spot buyers, the study said. Since plans for restrictions surfaced in Florida early last year, sales demand has risen sharply and rental demand has dipped.

Flight from cities. A year ago, the Advance survey concluded that the housing boom is feeding, in part, on urban decay.

Rose wrote then: "Urban areas are hollowing out at the core and building up at the peripheries. We are treating city housing, in effect, as a disposable."

The recent vacancy statistics confirm this trend and indicate that it is accelerating.

"While there was demand in the suburbs last year for 10% more homes and apartments than were completed there," Rose observes, "it appears that some 100,000 older units in the cities were left vacant in the exodus to the suburbs or were abandoned as unlivable.

"Another implication is that nationwide or marketwide vacancy rates now have limited meaning. You must interpret whether the numbers refer to city or suburb, to old housing stock or to new.

"Detroit is a good example. Rental vacancies are over 20% in the older city stock and under 5% in most suburban areas."

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3rd	5.9	5.5	6.2
1971, 4th	5.5	4.7	6.6
3rd	5.5	4.8	6.7
1970, 4th	5.1	3.8	5.3
3rd	5.0	3.7	6.1
1969, 4th	4.8	3.4	5.9
3rd	4.8	3.9	6.5
For sale:			
1972, 4th quarter	1.5%	0.7%	1.1%
3rd	1.0	0.8	0.8
1971, 4th	1.1	1.0	1.0
3rd	1.1	0.9	1.0
1970, 4th	1.1	0.9	1.0
3rd	1.0	0.9	1.1
1969, 4th	1.0	0.9	1.0
3rd	1.2	0.8	1.1

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The architects discover the land—and start developing it themselves

Architects and developers have long worked together, albeit from opposite sides of the table. But costs and building trends have lately encouraged more architects to take a closer look at land development, and some now say the day of the architect-developer is at hand.

An example of this new breed is Perkins & Will of Chicago. One of the largest architectural and engineering design firms, P&W had specialized in commercial and institutional work.

"But our market analysis told us that we're going to experience a decline in the commercial and institutional areas," President Edward C. Colin explains. "So we wanted to get into housing and community related markets."

An outsider no more. To speed its entry into the new market, Perkins and Will decided to do both design and land development. So the company merged last year with a medium-sized developer and consultant, Spa/Redco, also of Chicago.

"We felt that as long as the architect was an outsider working on contract on a limited part of the project, he would never be able to develop his full potential," Colin says.

President Edward H. Palmer of Spa/Redco also sees advantages. "The trend is toward larger land parcels," he explains. "Areas of 200 or 500 or 1,000 acres create their own markets. So the planning and the coordination is more important. It takes the combined best efforts of both architect and developer."

In less than a year the combined organization has become one of the country's major real estate developers. It has three new towns and two planned unit developments under way, and their ultimate worth will be \$5 billion.

A role as leader. Palmer and Colin are not alone in their appraisal of the changing roles of architect and developer.

"Architects, given the opportunity, should participate in the ownership of projects they design," says Atlanta's John Portman, head of the architect-development firm John Portman & Associates. "If an architect understands all of the problems from financing to rents, he can do a better job."



ARCHITECT COLIN
'Wanted to get into housing'

Portman believes that ownership permits the degree of control necessary to allow people-oriented architecture to create new environments in city cores.

"It is fine to dream and make elaborate plans," he says, "but we like to see those dreams become realities. One of the best ways to make that happen is to participate in the ownership of a project and be an initiator, not a follower."

Christopher R. Wojciechowski of the firm of Wojciechowski & Drag Associates in Los Angeles agrees that a lead position in a project is a good one for the architect.

"Public planners and citizens have greater rapport with architects," he says.

Financing. While some architects wonder how the architect-developer can compete with the financial resources of the entrepreneurial developer, Palmer sees no special problem.

"By the very nature of the package, an architect-developer has greater ability to attract large financing," he says. "There's more money available today than ever. The trick is simply to present an investment opportunity that makes sense."

"Anyone in the business has had to go to the bank at one time or another," says Hansell Enloe, a partner in Hunt, Enloe, West, McLean & Associates of Atlanta. "Most developers don't start with any more than we do." Wojciechowski even suggests that architect-developers might just be able to out-entrepreneur the entrepreneurs—because architects are seldom squeezed financially when acting as developers.

"Too often, developers clamp the lid on fees," he says. "So architects are forced to keep a design unchanged if they are to



DEVELOPER PALMER
'It takes the best of both'

make an adequate financial return on a job."

Deals with builders. Architect-developers work in differing ways.

Perkins & Will used the merger route to enter all phases of development and design, although contracting for builders to do the construction.

Hunt-Enloe organized itself to do everything required to bring a set of plans into reality. Under separate corporate entities there are partners for real estate, development, design and construction. In a 126-acre single-family development, the partners decided to build some houses through their own construction company but to sell other lots to outside builders.

Daniel, Mann, Johnson & Mendenhall, a Los Angeles architectural firm, took yet another approach. It acquired a minority interest in Realtech, a West Coast developer.

Says Pat Flynn, the firm's communications manager:

"We want to have a wide variety of work and remain flexible. It's a way of overcoming the competition and expense associated with a service organization."

Flynn says that DMJ&M does not build. "Realtech will usually have a builder in mind," he explains. "We aren't involved. Plus, we want to be free to work with other developers as well. That's the point. Working closely with one developer enables you to work better with all developers."

Supporters. Flynn says the winds of change favor the architect-developer combination, but he warns that some developers will shy away from an architectural firm that is linked too closely with any one development company.

The American Institute of Architects says that several of its architects are going into development, but it has yet to take an official position on the trend.

And Colin and Palmer insist that they have achieved a logical extension of the entrepreneur's eventual ends and the ultimate expression of the architect's overall goals.

Both men believe that the architect-developer has the best chance of bringing off large development projects such as new towns.

And there is a word of welcome from at least one developer.

"Architects are as welcome as anybody else," says Dale Moffett, manager of community development for Larwin Northern California at Concord. "Once an architect comes in, he's a builder—and no different from us."

And critics. There is also doubt about the new concept.

H. Clarke Wells, senior vice president of the L.B. Nelson Corp. of Menlo Park, Calif., a builder and land developer, says it would take an architect two or three years to reach the volume where he would be Nelson's competitor, but Wells concedes:

"Architects could compete from the standpoint of design and they would have much better coordination in terms of getting their designs on paper and getting them executed."

Wells warns, however, that the architect-developer will be most competitive "in housing in the higher price ranges—that's where design plus good location does make a big difference," and he doesn't believe the architect-developer will do very well in rental housing because, he says, too many decisions are business rather than design decisions.

Wojciechowski agrees that there is controversy about whether architects should become developers and, if so, how.

"But," he says, "in homebuilding an architect-developer can make as much as \$4,000 per house. If he were acting only as an architect, he might make only several hundred dollars."

That is the one point on which all architect-developers agree: There's money in the land.

—MIKE KOLBENSCHLAG
McGraw-Hill News, Chicago


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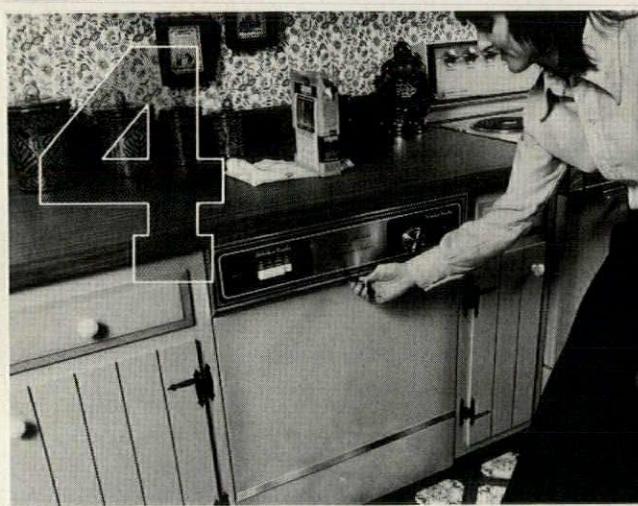
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Developers of coastal properties, struggling to keep their projects afloat without running afoul of California's new Coastal Zone Conservation Act, have gotten a bit of encouragement from the state.

Attorney General Evelle J. Younger has just ruled that developers may complete projects within the coastal zone without a permit from a regional coastal zone conservation commission if:

- They obtained building permits for the projects prior to Nov. 7, when Proposition 20 was enacted into the conservation law.

- They had performed substantial work prior to that date.

- And they had acquired substantial liabilities by that date.

The opinion specifies, however, that the development must be a single interdependent concept and that the developer must not have acted purposefully to evade the permit provisions of the law.

1,000-yard zone. Proposition 20 created a California Coastal Zone Conservation Commission and six regional commissions. They are to draw up a coastal zone conservation plan to be submitted to the legislature in 1976. Meantime the state and regional commissions, set up February 1, have veto power over most new developments within 1,000 yards of shore.

Joseph Bodovitz, executive director of the state commission, said the Attorney General's opinion clarified a statement in the law that seemed to say that a developer would have had to have been well into his project by last April 1 to qualify for exclusion. The mention of the April 1 date is generally considered to have been an inadvertence in drafting the law.

Criticism. The legal opinion didn't clear up all the questions. Assemblyman Robert E. Badham (R., Newport Beach) said:

"The Attorney General has now given an opinion that under certain conditions those who had performed 'substantial' work prior to Nov. 7, 1972 do not need to meet the provisions of the act. In actuality, what the Attorney General is saying in this opinion, which is open to judicial interpretation, is that he is attempting to change a piece of poorly written legislation that



San Francisco project of Jeremy Ets-Hokin is threatened by coastal building curb.

is not constitutionally enforceable as to the April 1, 1972 date. At the same time, by setting the cutoff date of Nov. 7, 1972, he is giving clear warning that he has no alternative but to begin enforcement of the act on all developments started after that date. In other words, if you do not have a state permit, stop construction or be subject to substantial fines."

Badham announced that he is sponsoring urgency legislation, "within the full meaning of achieving the objectives of the coastal initiative," which will provide that:

- All developments substantially commenced prior to Feb. 1, 1973 will be grandfathered, that is, treated as if they had been started before November 7.

- Delays in determinations by the commissions will not unduly penalize locally permitted developments.

- And the original jurisdiction for granting a permit will be in the hands of the local agency.

Green light. Some coastal developers are encouraged by the Attorney General's opinion.

Deane & Deane, leaders in the fight against Proposition 20, said they now believe there will be no problem in completing their two developments at Half Moon Bay, where 1,000 of their 8,500 acres fall under jurisdiction of the new coastal commission. One project is the 44-acre Frenchmen's Creek, where 25 houses are completed, 75 under construction and 75 more are still without permits. The other is a 260-acre golf course with 400 hotel rooms and a main lodge. The company has spent \$1 million on Frenchmen's Creek and

\$3 million on the golf course project.

Shutdown. Another coastal project, Jeremy Ets-Hokin's planned residential community on the site of the old Playland amusement park in San Francisco, may grind to a halt by April 1 because of Proposition 20, however. The \$52 million project had a conditional-use permit before Proposition 20 was enacted, but it was invalidated by the State Supreme Court ruling that environmental-impact reports are required for private projects which have a significant impact on the environment [NEWS, Nov. '72 *et seq.*]. The developer's environmental impact statement has since been submitted to the city planning commission, and he also has a provisional letter from the state Attorney General stating that no action is contemplated against him under Proposition 20.

But Ets-Hokin and his attorneys are not sure he has final approval, or that he will not yet be required to appear before the regional coastal commission. So he plans to shut down the excavation work until he has further assurances that the project can proceed or that a hearing is scheduled.

The ten-acre project would include 710 condominium units and a shopping center.

A solution? Another developer has demonstrated a suggestion for avoiding the headaches involved in building on the coast. Don't build. Rehabilitate.

The L.B. Nelson Corp. of Menlo Park has just purchased an existing 45-unit apartment building in Santa Cruz, half a city block from the waterfront. The

company will convert the structure to resort condominiums to sell for \$15,000 to \$30,000. Because the configuration of the building will not be changed and density will not be increased, the developer anticipates no problems in getting permits. Work will involve general upgrading and refurbishing.

Utility freeze. Another flap over Proposition 20 has arisen over the complaint of some homebuilders in northern California that the Pacific Gas & Electric Co. refused to hook up electric and gas lines to serve new houses in coastal areas without a permit from the regional commissions. Other utilities are reported to be taking the same stance.

There evidently is no delay for simple service connections but only when new poles or trenches are required.

The state commission's Bodovitz insists that, as a practical matter, no one is going to leave the houses without electricity. He says much of the criticism over the denial of connections came from builders who had poured foundations and rushed construction, trying to get in under the wire before the regional commissions were set up. These builders created their own hardships, he thinks, and since there was some legal doubt about what they did, "I don't think I blame PG&E for not wanting to compound the problem."

"What we worked out with the utilities is that if it's just dropping a line from a pole to a house, that's no problem," Bodovitz adds. "But if it means a new power line to reach the development, then there is a question. Most regional commissions are taking the position that these are areas of discretion, and that's why you need a commission."

Bodovitz formerly was executive director of the Bay Conservation and Development Commission, which has jurisdiction over construction on San Francisco Bay. The chairman of the new State Coastal Zone Conservation Commission is Melvin B. Lane, the executive vice president and publisher of Sunset Books. He was formerly the chairman of the BCDC.

—JENNESS KEENE
McGraw-Hill World News,
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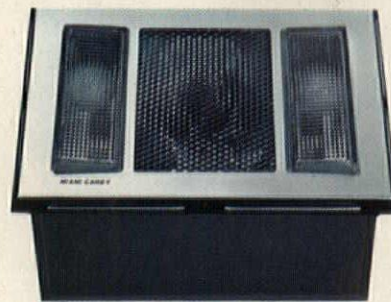
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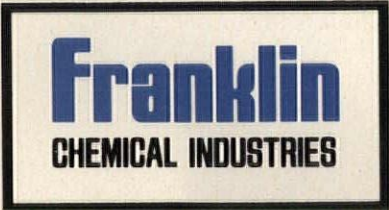
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'Forest preserve' is really a dump, so buyers dump houses back on Larwin

The company agreed to buy back 71 houses in the Chicago suburb of Hanover Park after owners sued for \$11.7 million in damages.

The federal court suits charged that the houses, built only last year, had been sold "falsely and fraudulently" and that they had not been constructed "in substantial compliance with the plans and specifications" [NEWS, Sept. '72].

The repurchase of the \$22,000-\$30,000 homes, believed to be the largest ever made by a builder, involves a portion of the 1,000-home Greenbrook Country subdivision. The project was Larwin's first venture outside of California and the first step in its expansion program following its 1969 merger with CNA Financial Corp. of Chicago.

Neither Larwin nor CNA would talk about the case as the terms of the agreement forbid all parties from disclosing details of the settlement.

Complaints. Much of the buyers' anger focused on a nearby sewage treatment plant and a garbage dump that Larwin salesmen are said to have represented as a forest preserve.

The homebuyers' claim was substantiated by Edward Heil, the owner of E&E Landfill, a company that operates a dump adjacent the Larwin project.

Heil posed as a buyer after hearing that his dump was being misrepresented. Heil later erected a six-foot dump sign over his office as a warning to prospective buyers.

The lawsuits also detailed a long list of construction defects, ranging from inadequate and improperly installed insulation to foundation slabs that were too thin, lacked reinforcing bars and an 8-inch gravel base and failed to meet pressure requirements for concrete.

Shifting peat. The foundation problems were compounded by the fact that many of the homes were built on pockets of peat, which shifts and causes cracking.

"Every builder who comes to the Chicago area runs into this problem," said one local homebuilder, "but they don't pay much attention to reports that peat is not fit for building."

He added that some builders solve the problem by backing the

peat with a layer of clay, "but sometimes it's so deep you either have to scoop it out or donate the area to the community as a park."

Flood plain. Emil Schinasi, a civil engineer with the Nationwide Engineering Service, who was hired by the Greenbrook Country homeowners, accused

owners. In the meantime, it has deposited \$650,000 in escrow to cover the repurchases, which will take place over a 13-month period. One source estimates that the final settlement will cost the company more than \$2 million.

The settlement has already been reflected in Larwin's prof-

stantial costs in solving the problems, which also had a negative impact on new sales during the year."

First-time buyers. An investigator for the Better Government Assn., a private group that reviewed homeowners' complaints last summer, termed the settlement "a good deal for both sides." Many of the homeowners were first-time buyers who failed to look at their property or to consult a lawyer, he said.

He added that homeowners in other parts of the subdivision were unsympathetic to the lawsuits because they felt the dissatisfied buyers were to blame for not insisting on inspecting the sites before buying.

Trouble ahead? According to the agreement, there can be no more litigation and the original complaints cannot be reinstated.

This may not be the last of Larwin's problems with the subdivision, however. The U.S. Attorney's office is still investigating, and a grand jury is looking into possible fraud and bribery charges involving the FHA, which had inspected the homes at various stages of construction.

—DENNIS CHASE

McGraw-Hill News, Chicago



'More suits to come,' says Larwin case lawyer

"There's a lot of money to be made in these suits," says Mark Muscarello, the Elgin, Ill., lawyer who engineered the precedent-setting repurchase of 71 homes by Larwin [see story above].

The 33-year-old attorney's practice has grown considerably since the Larwin settlement. At the moment he is talking with homeowners about suits against two other prominent builders.

And he has even been retained by a homebuilder—off the record.

Another Nader? Muscarello, who wouldn't mind being called a Ralph Nader-type—"The only difference is that he's more altruistic than I am"—sees nothing inconsistent in working for both consumers and producers.

"By knowing how a cor-

poration functions I can use a variety of techniques to my advantage," he says.

His favorite: publicity. "Corporations hate publicity. It might lower their stock and hurt them in the pocket-book," he explains.

Fearful owners. Muscarello says that the Larwin homeowners who approached him were "scared out of their wits. They thought a big company like Larwin would do all kinds of things to them, such as take their homes away.

"But a big name doesn't bluff me. I don't care who. If they're wrong, they're wrong.

Still, despite his profitable new vocation as gadfly to the industry, Muscarello thinks that homebuilders are basically honest: "It's just a few bad ones that should be shaken from the ranks." —D.C.

Larwin of building "cheap homes to save money."

Schinasi said that part of the subdivision was built on a flood plain and that Larwin had not backfilled the ponds with the proper type of soil.

He also said that some of the homes had "terrible underpinnings" with which Larwin had tried to save the crumbling structures but which instead caused more damage.

Cost. Larwin plans to renovate the homes and sell them to new

its, which dipped 31% last year. The company reported net income of \$9.2 million on sales of \$230 million versus 1971's record net of \$13 million on sales of \$188 million.

President E.L. Nicholson of CNA attributes the lower earnings to a lag in multifamily sales and "the impact of consumer problems in Larwin's Chicago-area operation." He explains that the company "responded positively to homeowners' complaints but encountered sub-

Stephen Thompson dies; realty editor

Stephen G. Thompson, 60, a vice president of the American Institute of Real Estate Appraisers and a real estate editor of long standing, died in a Chicago hospital of an embolism on Feb. 10.

Thompson began editing *The Appraiser*, the institute's monthly newsletter, in 1959. Six years later he joined the institute as vice president in charge of public relations, and he became executive vice president in 1967. He asked to return to his public relations post in 1972.

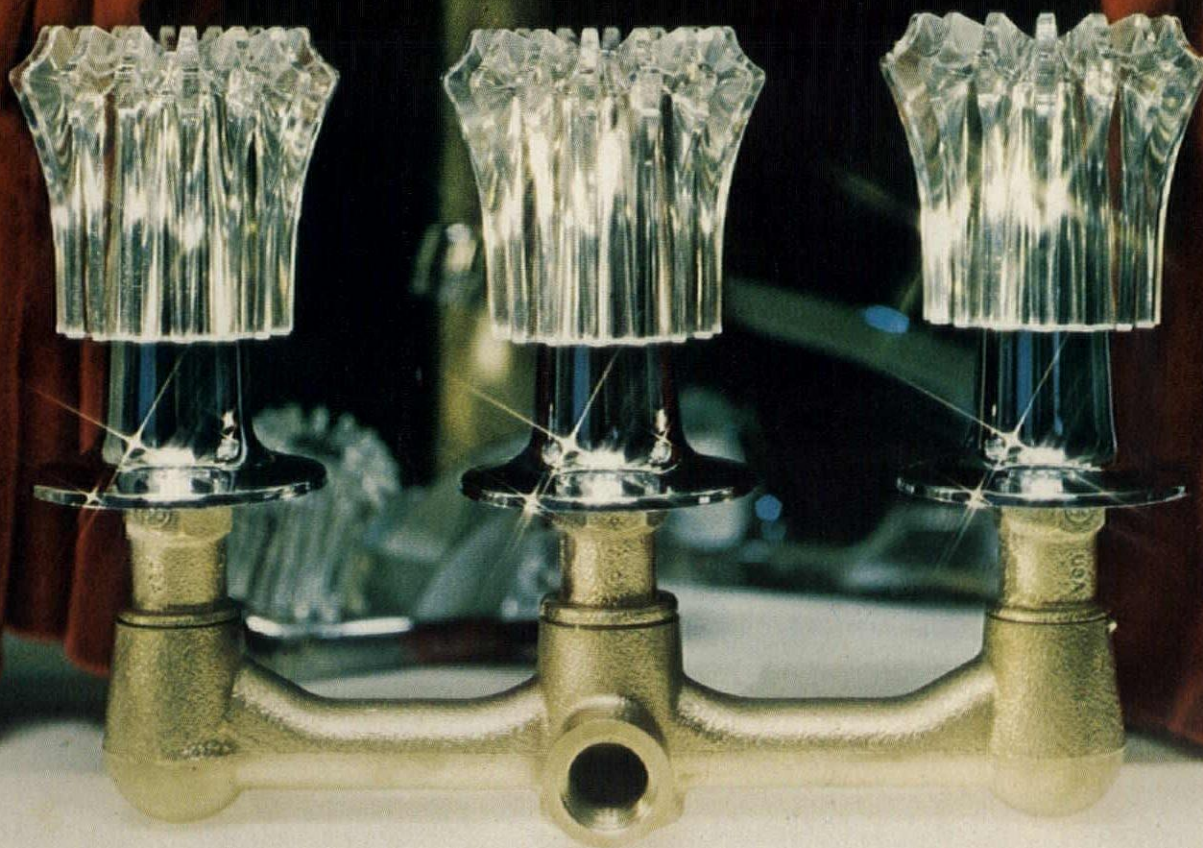
Thompson began his career as a copy boy for the *New York Herald Tribune*, now defunct. He was the *Tribune's* real estate editor from 1947 until 1952, when he became associate editor of *Architectural Forum* magazine. In 1961 he became public relations director for Webb and Knapp, the New York real estate brokerage headed by William Zeckendorf.

Thompson's wife, Dorothy, and seven children survive.



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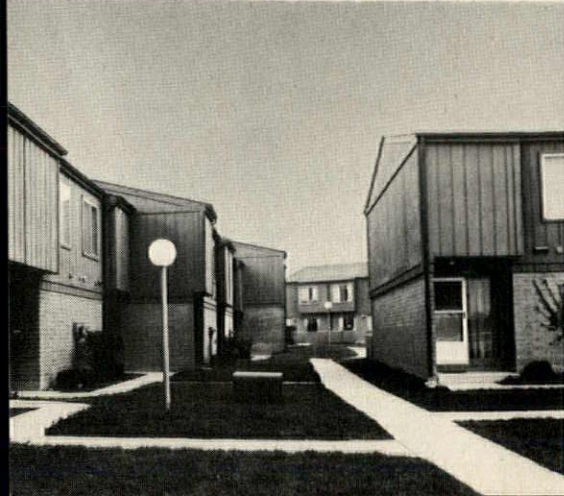
2 builders who found steel makes



In Wake-Pratt's *Royal Coachman* Apartments, Troy, Michigan, (below), 28-foot Super-C Joists are used with $\frac{3}{4}$ " plywood decking, adhesives and self-drilling screws. These long lengths are much easier to handle than wood, and come with pre-punched holes for wiring.



In their *Indian Valley Townhouse* project in Kent, Ohio (bottom), Irving Botnick and Associates are using Super-C Joists in 34-foot lengths, and saving \$190 per unit.



better joists.

This booklet has the facts.

In the middle of a 545-unit apartment complex in Michigan, Wake-Pratt switched from wood joists to Super-C Steel Joists. Why? Their analysis showed steel joists *install faster and easier than wood*, and give them a better floor system.



Irving Botnick and Associates, in Kent, Ohio, made the same switch. They're now saving 25% of the cost of a wood joist system, using Super-C joists and a concrete deck.

Developed by U.S. Steel, these joists are hot dipped galvanized steel. They don't shrink or warp. So floors don't squeak. Nails don't pop. A growing list of builders around the country are now using Super-C joists . . . in applications from single family houses to apartments.

This experience is summarized in a highly factual 10-page booklet, which shows typical applications, load span tables, and prices. You also get the name of the nearest manufacturer of Super-C joists serving your area . . . who can help you buy them for your current and future projects.



United States Steel

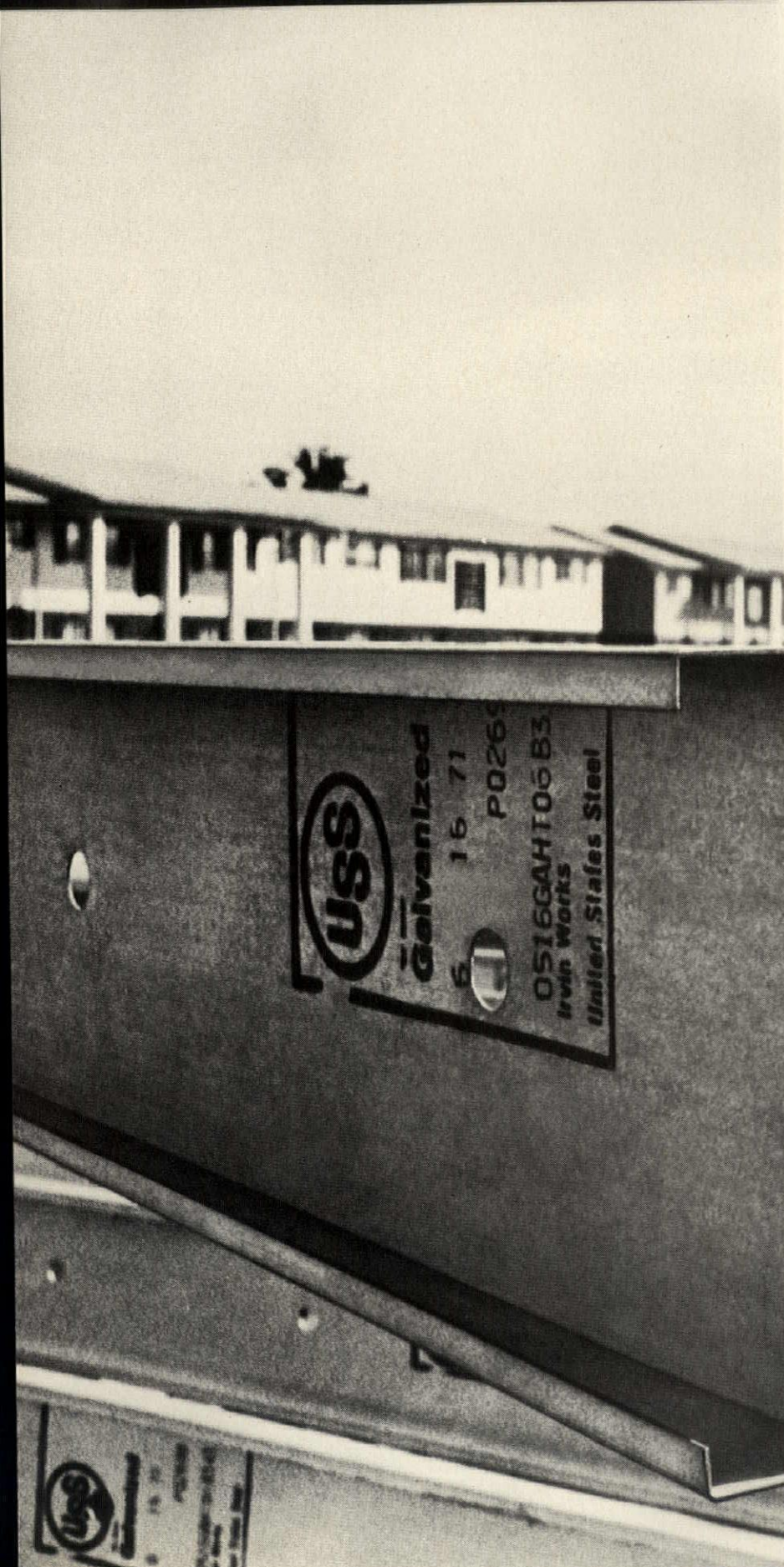
United States Steel (USS 7516)
600 Grant St.
Pittsburgh, Pa. 15230

Dear Sirs: Please send me your booklet on Super-C Steel Joists.

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Title _____
Company Name _____
Address _____
City _____
State _____ Zip _____
Type of units planned _____
Number of units planned _____

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United States Steel



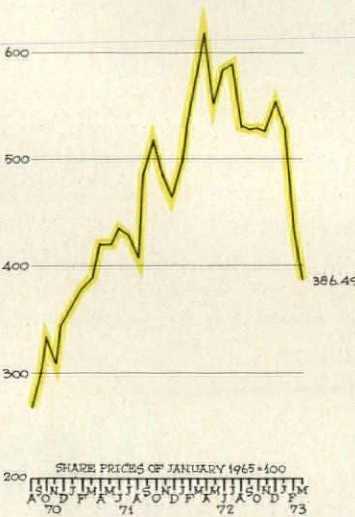
Housing stocks fall hard again—mortgage firms and mobiles lead retreat

The sharp decline in housing stocks has now run through its third month.

HOUSE & HOME's index of 25 issues plunged to 386.49, from 433.47, in the month ending March 5. Mobile home and mortgage company shares led the list down.

MGIC Investment Corp., the largest private mortgage insurer, fell sharply after a Barron's article appearing February 26 said Wall Street brokerages were preparing to issue new conventional-mortgage securities with guarantees that would obviate the need for insurance on the loans [NEWS, Feb.] MGIC, which figures in the HOUSE & HOME index, was down about ten points for the month. Another insurer, CMI, which is not on the index, lost 20 points.

Here's the graph of 25 issues.



Here's how the five companies in each group performed.

	Mar.'72	Feb.'73	Mar.'73
Builders	601	381	349
Land develop.	675	263	239
Mortgage cos.	1,057	1,377	1,217
Mobile homes	1,817	873	727
S&Ls	192	173	160

Company	Mar. 5 Bid/Close	Chng. Prev. Month
BUILDING		
Alodex	2 1/8	+ 1/4
AVCO Community Dev.	2 1/2	+ 1/4
American Urban Systems	3	- 1/2
American Urban Corp.	3 1/4	- 1/2
Bramale Cons. (Can.)	5 1/4	+ 7/8
Building Systems Inc.	1 1/4	- 1
Capital Divers. (Can.)	.61	- .06
Centex Corp.	18 1/2	- 3 1/2
Cheezem Dev. Corp.	3 1/4	- 1 1/4
Christiana Cos.	2 1/4	- 1/4
Cons. Bldg. (Can.)	3.00	
Dev. Corp. Amer.	22	- 4
Dev. Int. Corp.	1 1/8	- 3/8
Edwards Indus.	9 1/4	- 2 1/8
First Builders Bancorp.	4 1/2	- 3/8
First Hartford Corp.	4 1/4	- 1/4
First Nat. Rty. Inv.	3 1/4	
FPA Corp.	9 3/4	- 1/2
Frouge Corp.	5 1/4	+ 1/2
General Builders	2	- 1/4
General Development	3 1/8	
Hallcraft Homes	4 1/2	- 3/8
Hoffman Rosner Corp.	4 3/4	
Homewood Corp.	11 1/4	- 2 3/4

Company	Mar. 5 Bid/Close	Chng. Prev. Month
Hunt Building Corp.	7 1/4	- 1/2
Kaufman & Broad	34 3/4	- 1 1/4
Key Co.	4 1/8	- 5/8
Leadership Housing (includes Behring Corp.)	7 1/8	- 3/4
Leisure Technology	10 1/8	- 1 1/4
Lennar Corp.	15 1/4	- 1 1/8
McCarthy Co.	4 1/2	+ 1/2
McKeon Const.	4 3/8	- 1/4
H. Miller & Sons	10 1/2	- 3/4
Mitchell Energy & Dev.	29 1/2	- 7 1/2
National Environment (Sprout Homes)	1 1/4	- 3/8
L. B. Nelson Corp.	9 1/4	- 2
New America Ind.	5 1/4	+ 1/8
Oriole Homes Corp.	14 1/8	- 1/4
Pret. Corp.	9	+ 2 1/4
Presidential Realty	13	- 1/2
Presley Development	9 1/4	- 5/8
Pulte Home Corp.	5 1/4	- 1/4
Robino-Ladd Co.	10 3/4	- 1 1/8
Ryan Homes	18 1/4	- 1 1/2
Ryland Group	37 1/2	- 5
Shapel Industries	16	- 1/2
Shelter Corp. of America	3 1/4	- 1/4
Standard Pacific	2 1/2	- 1/4
Universal House & Devel.	2 1/8	- 1/4
U.S. Financial	26 1/4	- 1 1/4
U.S. Home Corp.	13 1/8	- 2 3/8
Valley Forge Corp.	6 1/2	- 1 3/4
Jim Walter	24 3/8	- 1/8
Washington Homes	4 1/2	- 1 1/8
Del. E. Webb	7	
Western Orbis	2	
Westchester Corp.	5 3/4	

SAVINGS & LOAN ASSNS.

American Fin.	16 1/4	- 1/2
Calif. Fin.	5 1/8	- 3/4
Citizens S&L Assn.	22 3/4	- 6 3/8
Empire Fin.	11 1/2	- 3/8
Far West Fin.	13 1/2	+ 3/8
Fin. Corp. of Santa Barb.	22 1/2	- 1 3/4
Fin. Fed.	19	
First Charter Fin.	20 1/2	- 3 1/8
First Charter Fin.	5	- 1/8
First S&L Shares	18	- 1 1/8
First Surety	4 1/4	
First West Fin.	2 1/2	- 1/4
Gibraltar Fin.	23	- 2 1/8
Great West Fin.	24 1/4	+ 1/4
Hawthorne Fin.	10 7/8	- 7/8
Imperial Corp.	12 3/4	- 1 1/4
Trans-Coast Inv.	5	- 1/4
Trans World Fin.	11	- 3/8
Union Fin.	12	
United Fin. Cal.	10 3/8	- 2 3/8
Wesco Fin.	17	

MORTGAGING

Charter Co.	24 1/2	- 2 1/4
CMI Investment Corp.	48 1/2	- 19 3/8
Colwell	18 1/4	- 1 3/4
Cont. Illinois Rty.	22 5/8	- 1
Excel Investment	19 1/2	- 7 1/8
Fed. Nat. Mtg. Assn.	15 1/2	- 1 3/8
Financial Resources Gp. (Globe Mortgage)	2 1/8	- 7/8
First Mtg. Ins. Co.	26	- 2 3/4
Lomas & Net. Fin.	13 1/4	- 3 1/8
MGIC Inv. Corp.	74 1/2	- 9 3/8
Midwestern Fin.	16 1/4	+ 3/8
Mtg. Associates	15 1/2	+ 2
Palomar Fin.	6 1/8	- 1 3/8
So. Cal. Mort. & Loan Corp.	4 3/8	- 2 1/4
UPI Corp. (United Imp. & Inv.)	2 1/2	+ 1 1/8

MORTGAGE INV. TRUSTS

Allison Mtg.	29 3/8	- 2 1/8
American Century	21 1/2	- 4 1/8
Arico Property Invest.	16	+ 1/4
Arico Mtg.	20 3/8	- 1 1/4
Baird & Warner	20 1/4	- 3/8
BankAmerica Rty.	29 1/8	
Barnett Mtg. Tr.	27 1/8	- 1 3/8
Beneficial Standard Mtg.	24 1/4	- 2 1/8
Cameron Brown	31 1/8	- 3/8
Capital Mortgage SBI	26 1/4	- 1
CI Mortgage group	61 1/8	- 8 1/8
Ci Mortgage group	24 1/4	- 3/8
Citizens Mtg.	17 1/4	- 1 1/4
Citizens & So. Rty.	38 1/4	+ 1 3/8
Cleve. Trust Rty. Investors	20 1/2	- 3/8
Colwell Mtg. Trust	30 3/8	- 1 3/8
Conn. General	25 1/4	- 2 1/4
Cont. Mtg. Investors	11 1/2	- 1 1/2
Cousins Mtg. & Eq. Inv.	22 7/8	- 3
Diversified Mtg. Inv.	26	- 1 1/4
Equitable Life	25 1/4	- 1 3/4
Fidelfo Growth Inv.	33	- 1
Fidelity Mtg.	38	- 2 1/4
First Memphis Realty	21 1/4	- 1 1/4
First Mtg. Investors	24 1/4	- 2 1/2
First of Denver	22 1/4	- 1 1/2
First Pennsylvania	25 1/4	- 1 3/4
Franklin Realty	8 1/4	
Fraser Mtg.	20 1/2	- 2
Galbreath Mtg.	26 1/4	- 7/8
Great Amer. Mtg. Inv.	35 1/4	- 2 5/8
Guardian Mtg.	44 1/4	- 7/8

Company	Mar. 5 Bid/Close	Chng. Prev. Month
Gulf Mtg. & Rty.	19 1/2	- 1 1/8
Hamilton Inv.	18	- 1 1/8
Heitman Mtg. Investors	14	- 5/8
Hubbard R. E. Investments	20 1/8	- 1/4
Lawwin Mtg.	28 1/4	- 2 1/4
Lincoln Mtg.	9 3/8	- 1/4
Mass Mutual Mtg. & Realty	14	- 3/4
Median Mtg. Investors	23 1/4	- 3/8
Mony Mtg. Inv.	13 1/4	- 3/8
Mortgage Trust of Amer.	21 3/4	- 3/4
National Mortgage Fund	13 3/4	- 1/4
North Amer. Mtg. Inv.	30	- 2 1/4
Northwest Mut. Life Mtg. & Rty.	24 3/8	- 1 3/4
PNB Mtg. & Rty. Investors	24 5/8	- 7/8
Palomar Mtg. Inv.	15 1/2	+ 1 1/8
Penn. R. E. Inv. Tr.	12 1/2	- 3 3/8
Property Capital	22 1/4	- 1 1/4
Realty Income Tr.	14	+ 1/4
Republic Mtg.	17 1/8	- 3/4
B. F. Saul, R.E.I.T.	19 1/8	- 2
Security Mtg. Investors	12	+ 1 1/8
Stadium Realty Tr.	7 1/2	- 3/4
State Mutual SBI	25 1/8	- 5/8
Sutro Mtg.	16 1/8	- 1 1/4
Unionamerica Mtg. & Eq.	26 1/8	- 3/4
U.S. Realty Inv.	15 3/4	- 1 1/4
Wachovia Realty Inc.	28	- 3 1/8
Wells Fargo Mtg.	24	- 5/8

LAND DEVELOPERS

All-State Properties	1 1/8	- 3/8
American Land	1/16	- .06
AMREP Corp.	10 1/4	- 5/8
Arvida Corp.	10 1/4	- 5/8
Atlantic Imp.	5	
Canaveral Int.	3	- 1 1/4
Cavanagh Communities	4 1/8	- 1/2
Crawford Corp.	5 3/4	+ 1/4
Deltona Corp.	16	- 3
Disc Inc.	2 1/2	- 3/8
Fairfield Communities	2 1/4	+ 1/4
Gen Development	10 1/2	- 1 1/4
Getty Financial Corp. (formerly Don the Beachcomber)	5	+ 1/4
Holly Corp.	1 1/4	- 1/8
Horizon Corp.	11 1/8	- 1/8
Landmark Land Co. (Gulf State Land)	3 1/8	+ 1/8
Land Resources	2	+ 1/8
Major Realty	6 7/8	- 7/8
McCulloch Oil	1 1/4	- 7/8
Southern Rty. & Util.	5	+ 5/8

MOBILE HOMES & MODULES

Champion Home Bldrs.	8 1/2	- 1 1/4
Commodore Corp.	6 1/8	- 1/4
Concheco	13 1/4	- 1 1/4
De Rose Industries	4 1/4	+ 3/8
Fleetwood	14 1/2	- 6 1/2
Golden West Mobile Homes	6 1/8	- 2 1/4
Moarmco Corp. (formerly Mobil Americana)	6 1/2	- 2 3/4
Mobile Home Ind.	13 1/4	- 7/8
Monarch Inc.	2	- 5/8
Redman Ind.	12	- 3 3/4
Republic Housing Corp.	7 1/8	
Rex-Noreco	5 1/4	- 3/4
Skyline	21	- 1
Town & Country Mobile	5 1/8	- 5/8
Triangle Mobile	2 1/8	- 3/8
Zimmer Homes	5 1/2	- 3/4

DIVERSIFIED COMPANIES

Amer. Cyanamid	29 1/8	- 3/8
Amer. Standard (Wm. Lyon)	11 1/2	- 1/4
Arien Realty & Develop.	8 1/8	- 1 1/4
AVCO Corp.	12 1/2	- 7/8
Beethlem Steel	28 1/4	+ 1 3/4
Boise Cascade	9 1/8	- 1 1/4
Building & Land Tech.	9 3/4	+ 1 1/8
CNA Financial (Lawwin)	16 1/8	- 1/2
Castle & Cooke (Oceanic Prop.)	14 1/2	- 1/2
CBS (Klingbeil)	43	- 3 1/4
Champion Int. Corp. (U.S. Plywood-Champion)	19	+ 1 3/4
Christiana Securities	170	+ 9
Citizens Financial	7 1/8	- 3/8
City Investing (Sterling Forest)	12 3/8	- 2
Corning Glass	106 3/4	- 8 7/8
Cousins Properties	24	- 2 1/2
Davos Inc.	1	- 1 1/8
Dreyfus Corp. (Bert Smolker)	13	

Company	Mar. 5 Bid/Close	Chng. Prev. Month
Environmental Systems	10 1/2	- 1
Evans Products	17	- 1 1/2
Ferro Corp.	39 3/4	- 2
First Gan. Resources	1	
Fischback & Moore	59 1/8	- 8 1/8
Forest City Ent.	9 1/4	- 1
Flagg Industries	4 1/4	+ 1 1/8
Frank Paxton Corp. (Builder Assistance Corp.)	12 1/4	- 1
Fruehauf Corp.	30 1/2	+ 1 1/2
Fugua Corp.	14 1/4	- 1
Georgia Pacific	32 1/2	+ 1 1/4
Glasscock Products	5 1/2	- 1/4
Great Southwest Corp.	7 1/8	- 1 1/8
Gulf Oil (Gulf Reston)	25 1/8	- 3 1/4
INA Corp. (M. J. Brock)	39 1/4	+ 1 1/4
Inland Steel (Scholz)	31 3/4	- 3 3/8
International Basic Econ.	4 1/2	+ 5/8
International Paper	37 1/2	- 1 1/2
Internat. Tel. & Tel. (Levit)	49 7/8	- 3 1/2
Investors Funding	7 1/8	- 1/4
Killearn Properties	9 1/4	- 3/8
Lery Corp.	4 1/2	- 1 1/4
Ludlow Corp.	18 1/4	
Monogram Industries	9 1/8	- 1/2
Monumental Corp. (Jos. Meyerhoff Org.)	49 1/2	- 11 3/4
National States Fin. Corp.	6 3/4	- 3/4
National Homes	8 1/4	+ 1/4
Occidental Petroleum (Occ. Pet. Land & Dev.)	11	- 3 1/4
Pacific Coast Prop.	2 1/8	+ 3/8
Perini Corp.	5 1/4	+ 3/8
Philip Morris	128 1/2	- 1
Prosher Corp.	2	
Rouse Co.	14 1/2	- 3 1/8
Santa Anita Consol.	18	- 1 3/4
Sayre & Fisher (Shareholders R.E. Group)	7 1/8	- 1 1/2
Shoreholders Capital Corp.	2	
Temple Industries	20	- 1 3/4
Tishman Realty	19 1/4	- 1 1/4
Titan Group Inc.	1 1/8	- 1
UGI Corp.	17 1/8	- 3/8
Uri Bldg.	12	- 1/4
Weil-McLain	13 1/8	- 3/4
Westinghouse (Coral Ridge Prop.)	36 1/8	- 2 1/8
Weyerhaeuser (Weyer. Real Est. Co.)	49	+ 1 1/8
Whittaker (Vector Corp.)	5 1/2	- 7/8
Wickes Corp.	22	- 1 1/4

SUPPLIERS

Armstrong Cork	27	+ 1 1/4
Automated Building Comp.	6 7/8	- 5/8
Bird & Decker	26 3/4	- 1 1/2
Black & Decker	114 1/2	+ 1 1/2
Carrier Corp.	24 3/4	- 1 1/4
Certain-tyed	17 1/2	- 1 1/2
Cramer	18 1/8	- 3/4
Dexter	18 1/2	- 1 3/4
Dover Corp.	45 1/4	- 5 1/4
Emerson Electric	90	- 1 1/4
Emhart Corp.	27 1/4	- 2 1/8
Fedders	23 1/4	- 4 3/8
Flintkote	20 1/2	- 3/8
Glaxo Corp.	15 1/2	- 1 1/4
General Electric	67 1/8	- 1 3/4
Goodrich	25 3/8	- 7/8
Hercules	7 1/8	
Hobart Manufacturing	3	

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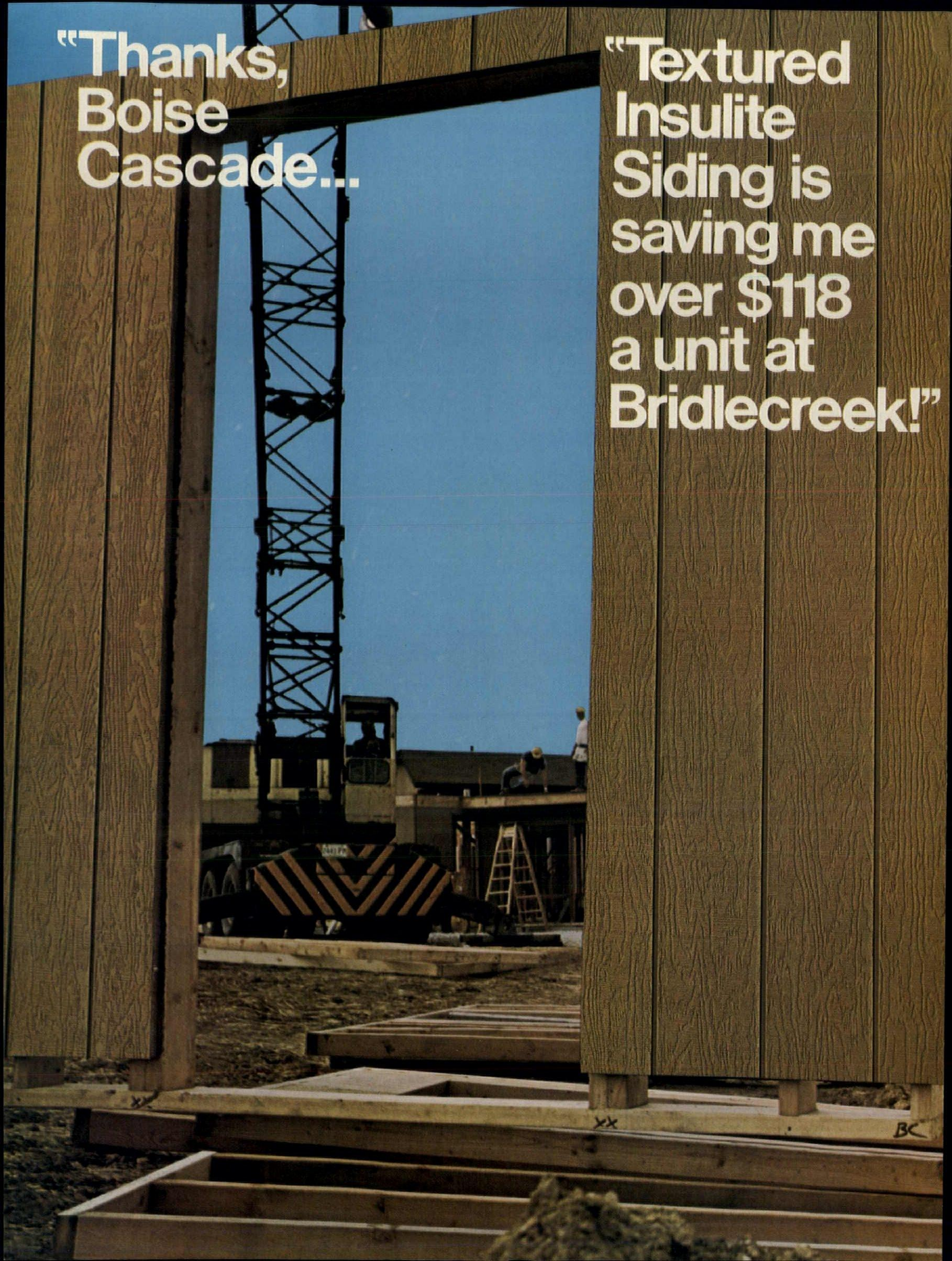


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FHA to stiffen apartment fire standards at \$295-a-unit cost to builder

Last November in New Orleans four persons died when a fire swept the top floors of a 17-story reinforced concrete building that was only five years old. In Atlanta nine died on the seventh floor of a new 11-story concrete structure occupied only a few months by elderly people.

Investigations have produced the added pressure that has now led to the first revision of the Federal Housing Administration's new minimum property standards—even before the massive stem-to-stern rewriting of the MPS had gone to the printers [News, Jan. *et seq.*].

The new fire standards will apply, when they become effective sometime this summer, to all multifamily housing insured by the FHA. There are also additional requirements being proposed to apply only to housing for the elderly and care-type housing such as nursing homes.

Ineffective codes. The new standards were explained recently by Quinton R. Wells, director of the FHA's office of

technical and credit standards, to a subcommittee of the Senate Committee on Aging. The hearing was triggered by the number of fires—such as those in Atlanta and New Orleans—in elevator buildings that presumably met all applicable building codes.

The new MPS revision, now being circulated for comment by industry, will require smoke detection devices, door closers, automatic fire alarm systems and sprinklers, plus fire walls to separate buildings into separate fire divisions. Cost of conform-

ing to the new standard would run around \$295 per apartment unit, Wells told the committee.

Nursing homes. For nursing homes, door closers would have to be automatic, activated by a smoke detector and electromagnetic door holders. This additional proposal stems from the finding that room occupants, in fleeing, leave doors open and thus allow the fire to reach the furnishings in the room and contribute more fuel to the fire. The new revision would also require an automatic sprinkler system

for any nursing home more than one story in height.

All elevator buildings with more than eight units to a floor would be divided into at least two fire divisions "in order to provide a place of refuge, other than the apartment," Wells testified.

Builder reaction. A notice of this Revision No. 1 was published in the *Federal Register* in March, with a 30-day period for comments, and HUD officials suggest that the effective date may be July 1 or even earlier. Wells' office said that, of the first 50 comments received on the proposals, "most were generally favorable," although "some of them hint—without saying so outright—that maybe they go too far."

Officials of HUD say that the model code organizations are already moving to make similar revisions to their own building codes, a generally more time-consuming effort, since they apply to all buildings. The MPS revision applies only to housing.

COST BREAKDOWN FOR NEW STANDARDS

The FHA's director of technical and credit standards, Quinton R. Wells, gave a Senate committee this cost

estimate for applying new minimum property standards to a 300-unit apartment building.

Elevators controlled by smoke detectors	\$ 1,500
Door closers, 300 apartments	9,000
Automatic sprinklers in corridors, service areas and public spaces	17,900
Smoke detectors, 300 apartments	40,000
Automatic fire alarm system	12,200
Horizontal separation	7,800
TOTAL	\$88,400



Inside your home or out, Virden

A new 95% mortgage may be a blessing—but blessings cost more money

Headlines that assert "Mortgage Rates Are Moving Up" are something of a paradox when mortgage lenders are still resting on soft cushions of unparalleled deposit volume. But, in fact, even before tighter money starts to make itself felt, something else is prodding rates upward—the highly popular ninety-five mortgage.

Ninety-fives, or conventional 95%-of-value loans with only a 5% down payment compared to those with down payments of 20% or even 50%, are an obvious blessing to cash-short younger families. And they are just as obviously a refuge for builders put off by the long processing delays with the Federal Housing Administration's 203b program for unsubsidized government-insured loans on single-family houses.

Higher interest. Ninety-fives have one catch, however. Even with the backing of the private mortgage insurance industry, they cost distinctly more than the traditional 80%-or-less con-

ventionals cost the borrower.

Most estimates agree with that of Federal Home Loan Mortgage Corporation's research director, Kenneth Plant, who says the spread is $\frac{1}{4}$ % to $\frac{1}{2}$ % between the interest paid on the 80%-or-less mortgage and the riskier class of loans with smaller down payments running on up to the ninety-five.

Popularity. While originators of conventional mortgage loans remain on the whole very conservative—in parts of New Jersey and in Baltimore a 60% loan is considered an unacceptably

rash move by local lenders—the ninety-fives took a rising share of total mortgages all through last year. The Home Loan Bank Board's monthly computation of the average loan-to-price ratio computed it as 75.0% in January 1972, whereas it was up to 78.4% in January of this year.

That increasing share, in the board's view, is the chief cause of upward creep in the HLBB's monthly conventional mortgage-yield series.

David Engelman, executive vice president of the company that insures the largest share of

the ninety-fives, Mortgage Guaranty Insurance Corp., sees a further strong expansion of ninety-fives ahead. "Everything is bullish," he says. Freddy Mack's Plant agrees that ninety-fives will continue to increase their share of the market this year, even if tight money and high rates slow their advance.

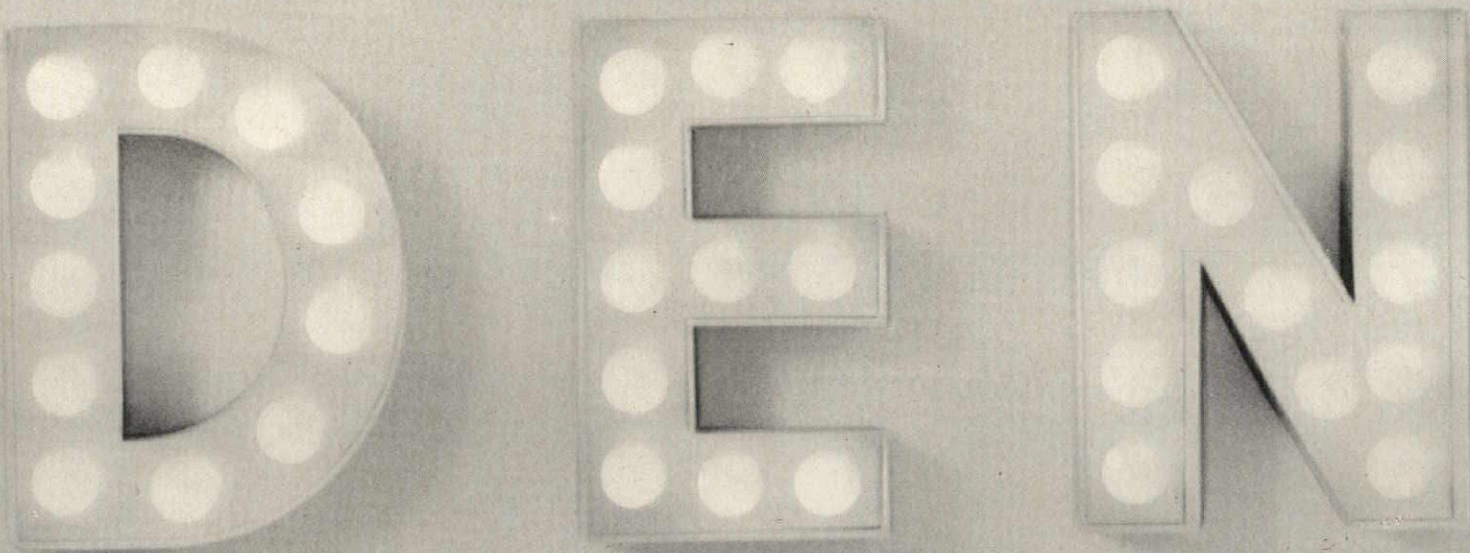
Warning signs. Even if more and more lenders are attracted to the ninety-fives, the higher interest may be starting to put off a few home buyers. Engelman concedes that a few applicants find they can't qualify, and there are some stories that builders are beginning to think about trying FHA again because of buyer resistance to ninety-fives.

However, Engelman is convinced that the ninety-five's attractive yield, which gives it a ready secondary market unavailable to loans with lower price-to-value ratios, is bound to make the ninety-five an even more important factor in the mortgage market if credit conditions tighten further. —S.W.

CONVENTIONAL LOAN SECONDARY MARKET

	Private Mkt. Avg. Price 90-95%	FNMA (4 Months) 90-95%
1973 February 6	7.75	7.889
1972 November 6	7.70	7.897
August 15	7.625	7.798
May 8	7.50	7.777
February 14	7.625	7.741

U.S. Housing Markets
Advance Mortgage Corp., Detroit



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4-1

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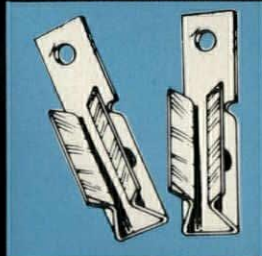
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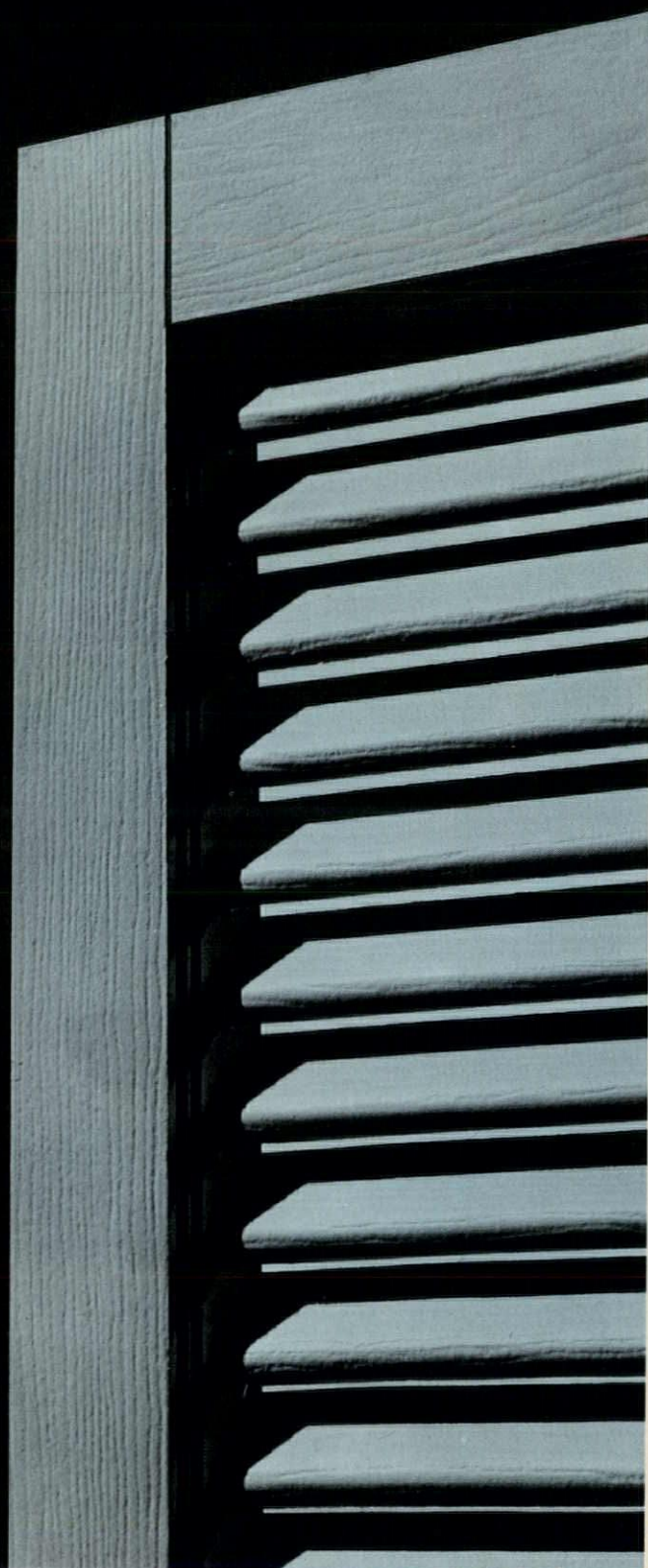
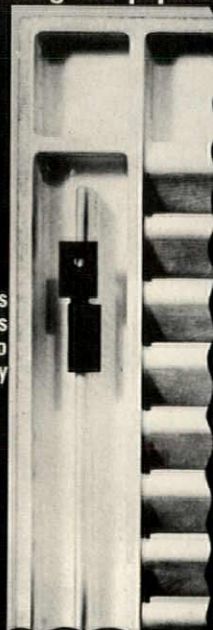


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Friars Village, a luxurious new condominium development in San Diego, is heated entirely by Gold Bond Panelectric radiant heating panels, now extremely popular in the West.



Interiors at Friars Village are colorful and luxurious. Panelectric will keep them clean—there's no soot or dirt. Panelectric can be papered, painted or textured like any other gypsum board ceiling.



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Glamorous baths turn lookers into buyers. And now is the time of year when families are looking. That's one reason we're offering you this exciting sales and merchandising package, free to all participating builders.

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Contest closes September 30. But you'll want to get going now, to take advantage of the key season when the Medallion Bath promotion will generate traffic... and build sales.

Of course, we'll want you to use Delta Faucets in your project or development. But, you've probably decided to do that anyway after seeing the new line of Delta and Delex faucets.

Write today. We'll send back details and an entry blank. With the delivery of your shipment of Delta Faucets, you'll get the Medallion Bath promotional package and be in on this big program that will mean additional sales to you in 1973.

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To work as good as they look. P.O. Box 8, Greensburg, Indiana 47240.

Our faucets work best when they're turned off.

All faucets turn water on. But the true test of a good faucet is how well it turns the water off.

Delta is a good faucet. Because we build it without a washer. So it's virtually without all the problems worn washers cause.

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Delta Faucets.

Washerless.

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This project shows how a subsidy program can trim operating costs

The project's 40-year mortgage and its below-market interest rate mean lower carrying costs, which in turn offer the possibility of greater initial spending on quality items. And these quality features will 1) cut long-term maintenance costs by up to 10% and 2) make the project a more attractive and desirable place to live.

Some examples:

One living-room wall in each unit is brick—attractive and a permanent paint-saving item.

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All heating is by electric resistance. The higher operating costs are more than offset by the elimination of boiler maintenance.

All units are served by a closed-circuit TV and intercom security system and security doors, which reduce the insurance premiums from \$60 to \$35 a unit.

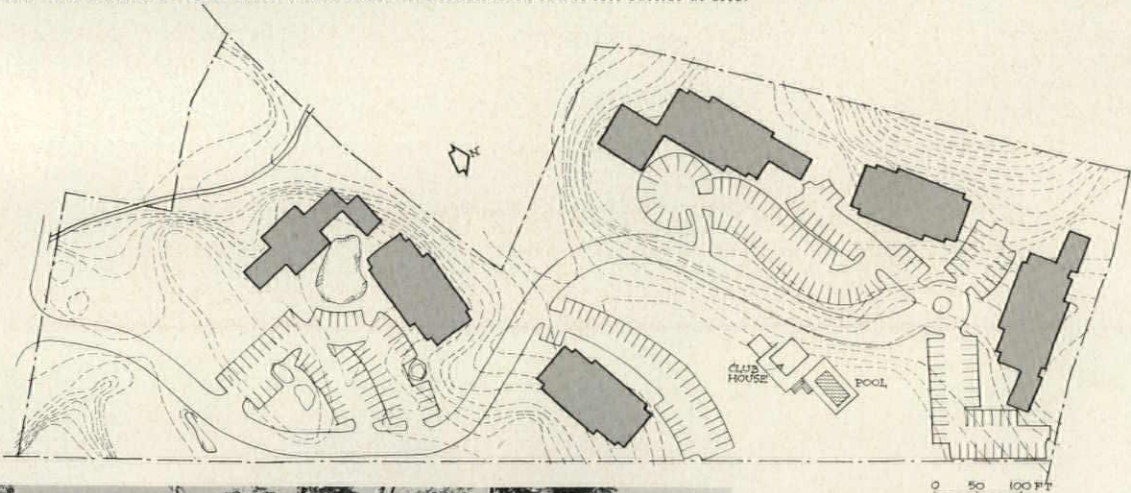
The project comprises 150 units from studios to two-bedroom townhouses. Half of the tenants receive subsidies under the state's equivalent of the 236 subsidy; of these half receive supplemental assistance.

Called Queen Anne's Gate, the project was built in Weymouth, Mass., under the Massachusetts Housing & Financing Agency. The builder: John M. Corcoran & Co. of Mattapan, Mass. Architect: Claude H. Miquelle.

TO PAGE 44



Rock outcroppings, which might have posed an excavating problem, were left in place and thus became a visual asset. Photo above was taken from lower left corner of site.



PHOTOS: PHILIP BAILEY

Site plan of first phase—150 units on ten acres—shows how buildings were placed to minimize disruption of land contour. Community building, swimming pool and playground are at low point of site, whose overall change of elevation is 18'. Bottom floors of three-story apartment buildings like the one at left are partly below grade. Brickwork is of two colors for variety; stained redwood trim blends with the wooded environment.

If people stop buying
richness and elegance, we'll be stuck
with a lot of locks.



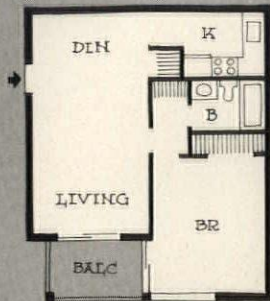
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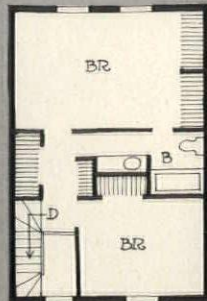
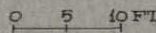
Shown: NEW Regency knob style, Antique Brass.

FROM PAGE 42

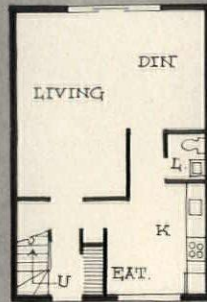
Floor plans range from 450 sq. ft. for the studio to 1,200 sq. ft. for the two-bedroom townhouse, with market-rate rents from \$185 to \$300 a month. Of the 150 units now open, 72 are one bedroom and 54 two bedroom.



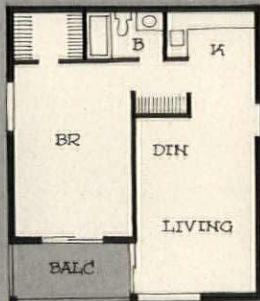
1-BEDROOM APARTMENT



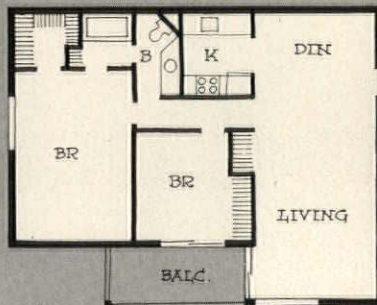
UPPER LEVEL



LOWER LEVEL,
2-BEDROOM TOWNHOUSE



1-BEDROOM APARTMENT



2-BEDROOM APARTMENT



PHOTOS: PHILIP BAILEY



Recessed balconies (left) and arched building entries (above, right), with brickwork continuing into lobbies, are among the project's design features. Builder Corcoran says such niceties are more readily approved under the Massachusetts subsidy program than its federal counterpart: "The state bureaucracy is less entrenched, more willing to swing with architectural innovation."

The One-Piece Bathing Suite.

One module installs in one step by one trade.

Walls, tub and top are molded in a single unit of colorfast acrylic sheet. Nail the module to your rough framing, hook up supply and drain lines and that's it. No drop ceilings to build, no dry wall to install, no painting to do.

The Fiat One-Piece Bathing Suite has no seams or tight corners to clean, no tile joints, cracks or crevices to collect dirt or allow leaks. Its surface is three to six times thicker than sprayed-on coatings.

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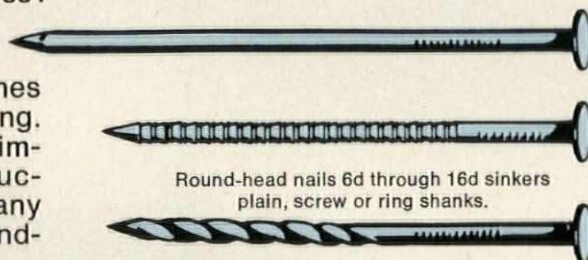
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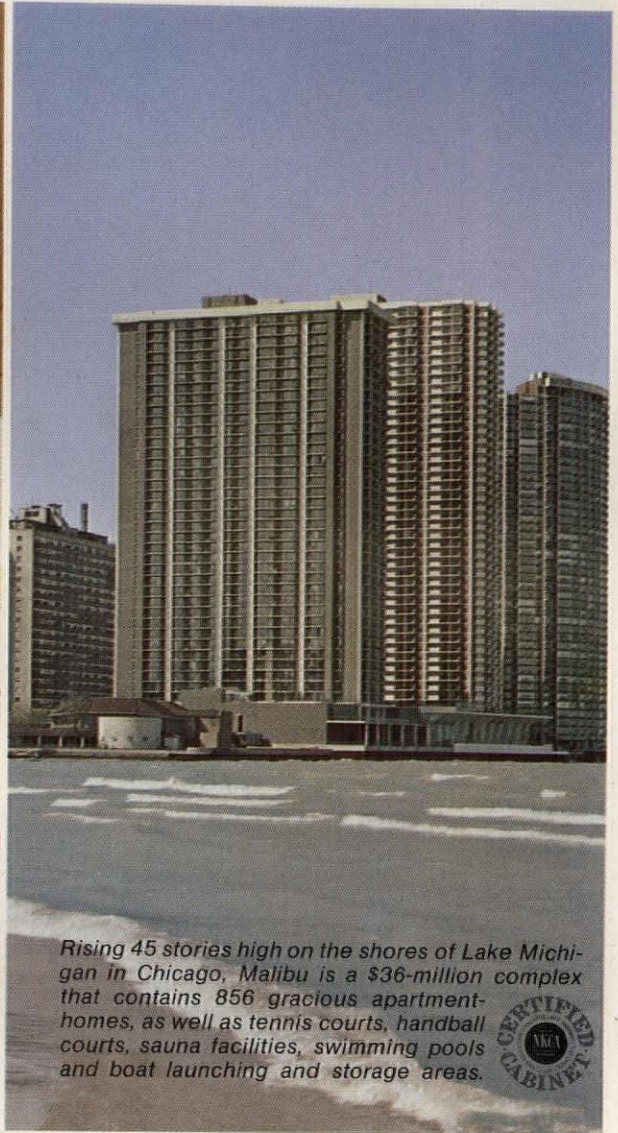
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*Hy Pawlow, Vice President
Dunbar Builders Corporation, Chicago, Illinois*

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The result is a stylishly-beautiful cabinet that needs almost no maintenance, and looks great in any kitchen. And in your business, great looking kitchens are pretty important.

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CABINETRY

FINE FURNITURE FOR THE KITCHEN

What's a public housing project like this doing in a place like . . .

. . . Sedro Wooley, Wash., a quiet little (pop. 5,000) town on the banks of the Skagit River, where subsidy is a dirty word with connotations of galumphing concrete eyesores and instant slums, and where the old ways are as durable as the 40-to-80-year-old single-family homes that make up the bulk of the town's housing stock?

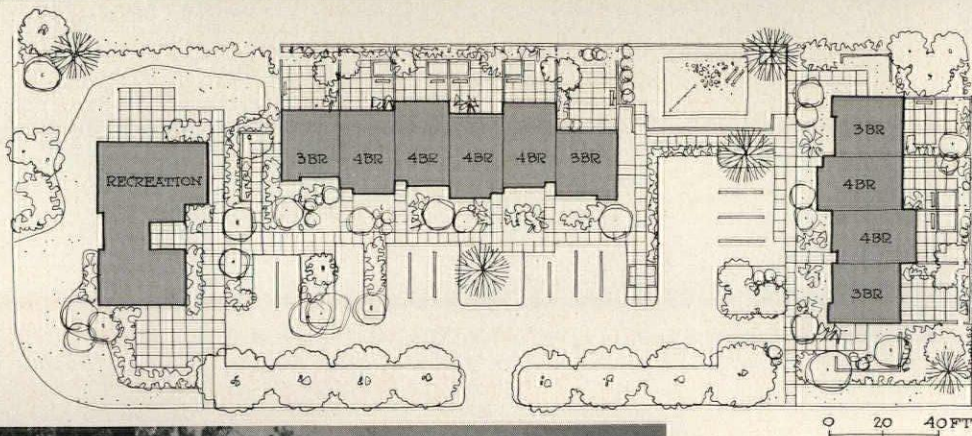
Well, the little (20-unit) project, without even a name, not only survived the prejudice, it eventually became the pride of the town thanks to its clean design, its neighborhood-size scale, its attractive cedar exteriors and its little-bit-of-landscaping that does no more than conceal the blacktop parking areas. And the whole project cost only \$340,000 including land—with a 650-sq.-ft. community center thrown in.

Built under HUD's Turnkey I program, the project opened in May, 1971 and is subsidized and managed by Washington Housing Services. Rentals are computed by a complicated formula which takes into account income and family size. Some tenants pay the \$105 maximum and some are billed only for utilities.

The project is scattered on three separate but proximate sites to avoid even the suggestion of a project look and to prevent a concentration of low-income citizens.

The builder is Dujardin Custom Homes, Everett, Wash.

TO PAGE 50



Largest of the three sites is shown in the photos at top and left and the site plan above. It has ten units on just under one acre. Total area of the sites measures 1.8 acres. The design by Ron Thompson & Associates was kept small in scale to blend with neighboring single-family houses. Visual variety is achieved by jagged roof-lines. All patios are fenced.

PHOTOS: RON DE NEND



Ruf-Sawn 316 is the biggest step in plywood since plywood.

Ruf-Sawn 316 is not only a new plywood siding product, it is entirely unique. Its surface will not check; it offers the paintability of a smooth overlay, the light weight and strength of plywood, and a natural, saw-textured grain pattern developed from real wood. And Ruf-Sawn 316 has no visible repairs or patches.

This surface was created specifically to take and hold paints and heavy bodied stains. Painting is faster and easier, with less paint required to get a superior finish. Actual tests have demonstrated that a properly applied

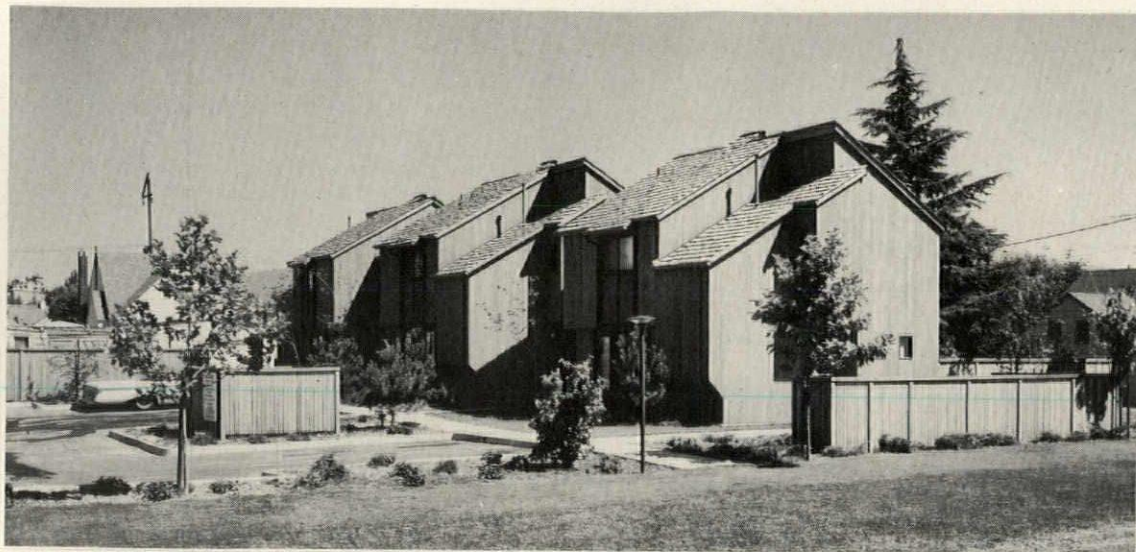
paint finish will last up to three times longer on Ruf-Sawn 316 than it will on raw wood.

These lightweight plywood panels are easily handled by one man, yet provide the racking strength required by all major building codes, without sheathing or corner bracing.

Ruf-Sawn 316 is available only from Simpson. If you would like to try the advantages and economy of Ruf-Sawn 316, contact your Simpson supplier, or write Simpson Timber Company, 2000 Washington Building, Seattle, Washington 98101.

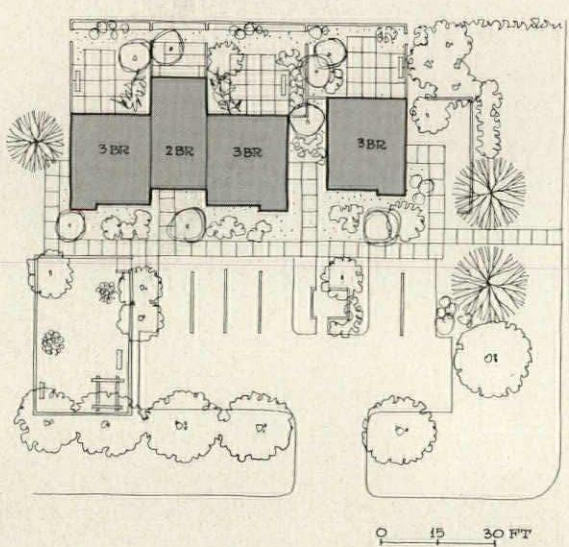
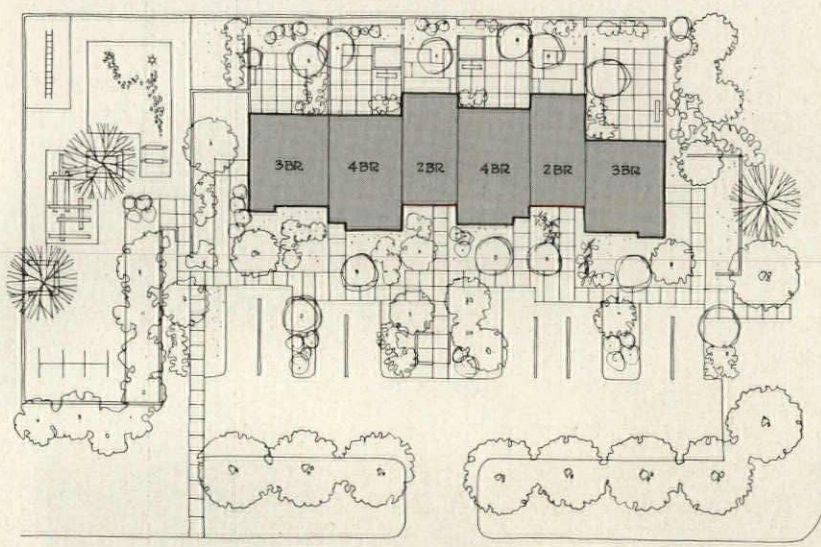
Simpson

A part of people's lives.

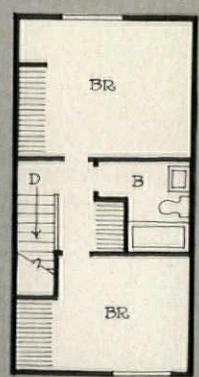


RON DE NENNO

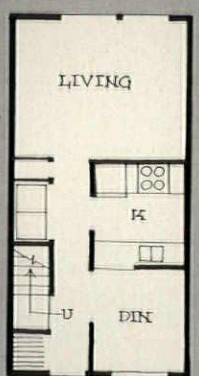
FROM PAGE 48
 Lowered roofs over stairwells break up the building's mass, as photo at left illustrates. Each unit has a sandbox, visible at left, for children, and there is a fenced-in playground on the largest site.



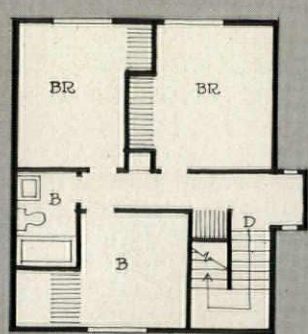
Two smaller sites are shown in the plans above. They accommodate six and four units in parcels of 24,000 and 12,600 sq. ft., respectively. The project's total mix is three 2-bedroom units, nine 3-bedroom units and eight 4-bedroom units. Apartment areas range from 950 to 1,400 sq. ft.



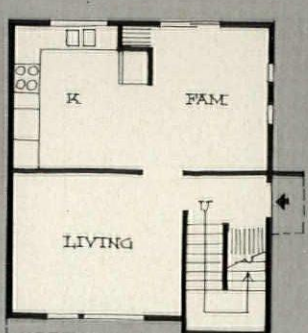
UPPER LEVEL



LOWER LEVEL

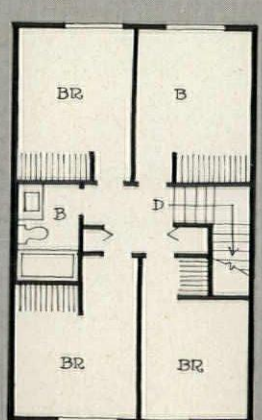


UPPER LEVEL

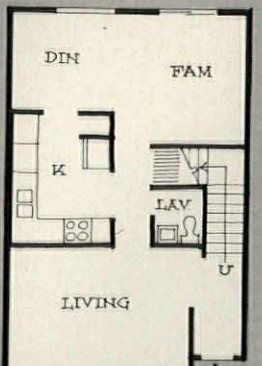


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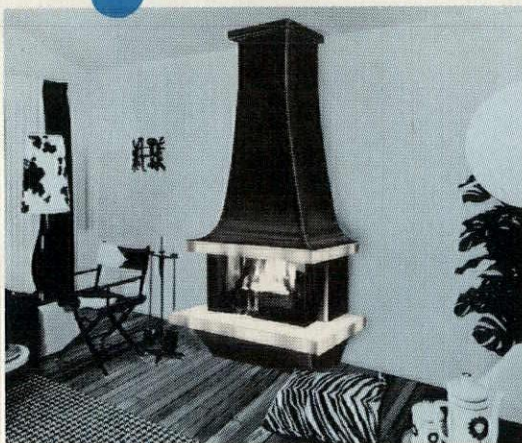
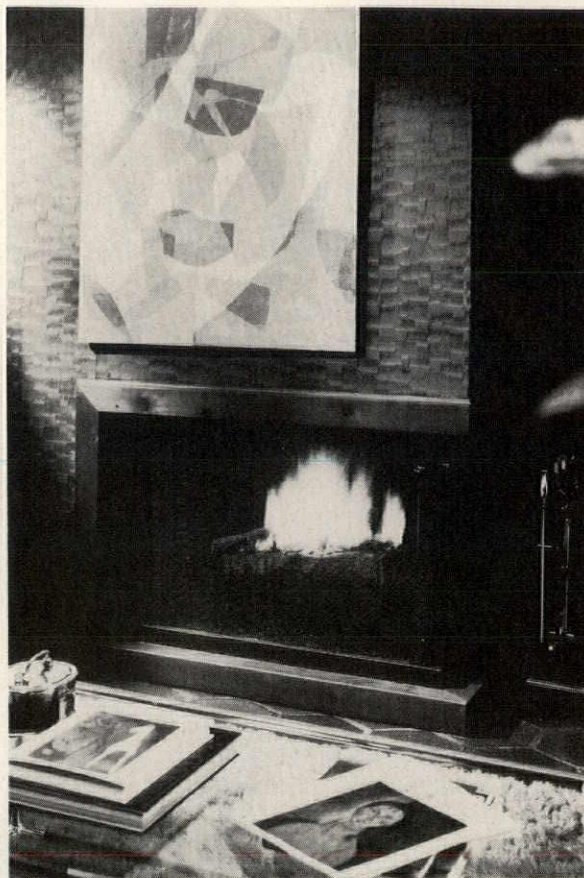
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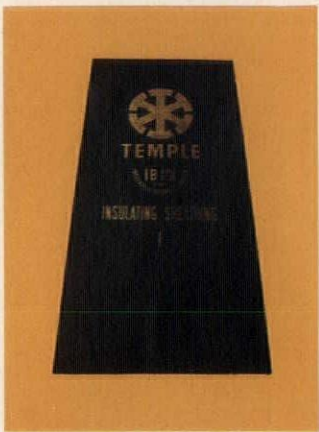
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CIRCLE 55 ON READER SERVICE CARD





"There are no set rules for setting up model-decorating budgets, but there are some guidelines that will aim you in the right direction"

During the past few years this column has focused on the creative and marketing aspects of model home and apartment interior design and merchandising.

Just as crucial to the success of a project are the financial and budgetary elements of decorating. In fact, it is budget parameters that really determine the approach to be taken in decorating and furnishing the models.

The trick is for the decorator to wring the most design and merchandising mileage out of each decorating dollar the builder allocates. So close communication between decorator and builder from the very beginning is a must. And the first step is for the decorator and the builder's marketing staff to identify the prospective buyer or renter. Only then can both the interior design strategy and the budget begin to evolve.

Determining the budget. How does a builder settle on his interior design outlays for a given job? A lot of factors come into play; for example, here's how it's handled by two California building companies, as outlined by Bayne Sparks, vice president, Grant Company, Newport Beach and William A. Freuhling, vice president, project development, Sunrise Corporation, Los Angeles.

Grant Company's interior design and furnishings budget is heavily influenced by the sales price of the units, the demographic profile of the prospective buyer and the overall number of units in the project.

"There really is no established formula—such as percentage of price tag—that we can apply to interior design costs," Sparks says. "Realistically, it doesn't work like that."

Outlays for interior design are part of the company's startup budget—an overall sum spent to get model homes and the sales area from the blueprint stage to the big day of the grand opening. This, Sparks says, differs from a project's monthly site budget which covers such things as advertising and model home maintenance.

Grant Co. builds in three basic price ranges: moderate—\$19,000 to \$25,000; medium—\$25,000 to \$45,000; and high—\$50,000 to \$90,000. So, as with many other builder/developers, the company's experience provides the criteria for how many dollars it should take to achieve well merchandised model interiors.

Taking a different approach, Sunrise Corp. does use a formula to determine its interior design budget. Square footage of a unit is usually multiplied by \$10; a higher figure is used for the resort-oriented luxury market and a lower figure for the low-cost market.

"But it also depends on your competition," Freuhling says. "If other builders around you are merchandising the heck out of their models, you're going to have to spend a little more."

Structuring the budget. There are various ways to set up the budget. Some interior decorators prefer a flat figure per square foot of the model unit. Neither the creative fee, the installation fee nor the amount spent on furnishings is broken out. The budget-per-model is the total square footage of the unit multiplied by a specific amount that includes each of those items.

On the other hand, there are many designers whose fees are broken out: so much for furniture, so much for time, etc.; in short everything it takes to get the job done has its own charge.

It is impossible to approximate or even give ballpark figures for a decorating budget without first-hand knowledge of a specific project. The variables are just too great.

For example, there are the demographics of the market, the experience of the interior designer, the quality of furniture to be used and the number of built-ins and wall coverings called for. Also to be considered is the builder's decision as to whether a locally based or out-of-town designer will be employed. This can affect freight, delivery and installation costs.

Drawing up the contract. Once the budget is set, the decorator should prepare a contract for the builder. Included will be costs for decorating the models, installation dates and a list of the items and services the decorator is responsible for—such as providing the builder with a complete inventory of all items used in the model units.

Other details should spell out who is responsible for providing carpeting, flooring and countertops, as well as a schedule for

payments. Many decorators prefer to be paid in three installments: one third of the budget as a down payment, the second third 30 days before installation and the final payment upon completion.

"What's important," says Sparks, "is to make sure there are no surprises for either the builder or the decorator. It's vital that the builder know exactly when the models will be completed for sales and promotional purposes. That's why the actual completion date should be specified in the contract. And the decorator must meet the date."

Recovering decorating costs. What happens to the furnishings when the development sells out? Some builders reuse the same items in another model complex. I'm dead set against this. The furniture isn't fresh, and the public will react negatively. Nine times out of ten, it just doesn't work out.

Other builders sell their model units intact—house plus furniture and accessories as one package.

Sparks says the well decorated model will sell quickly and that a builder can often get back from 50% to 70% of his original investment in interior design.

Freuhling agrees that it's not wise to remove furniture on a piecemeal basis.

"Anytime you break up the model by taking out the furniture, the look falls apart."

So he also suggests selling the model as a package to regain the decorating investment. This is particularly valid in a resort area because, he says, "people are always flying in from cities with their suitcases in hand; they buy a house and move in."

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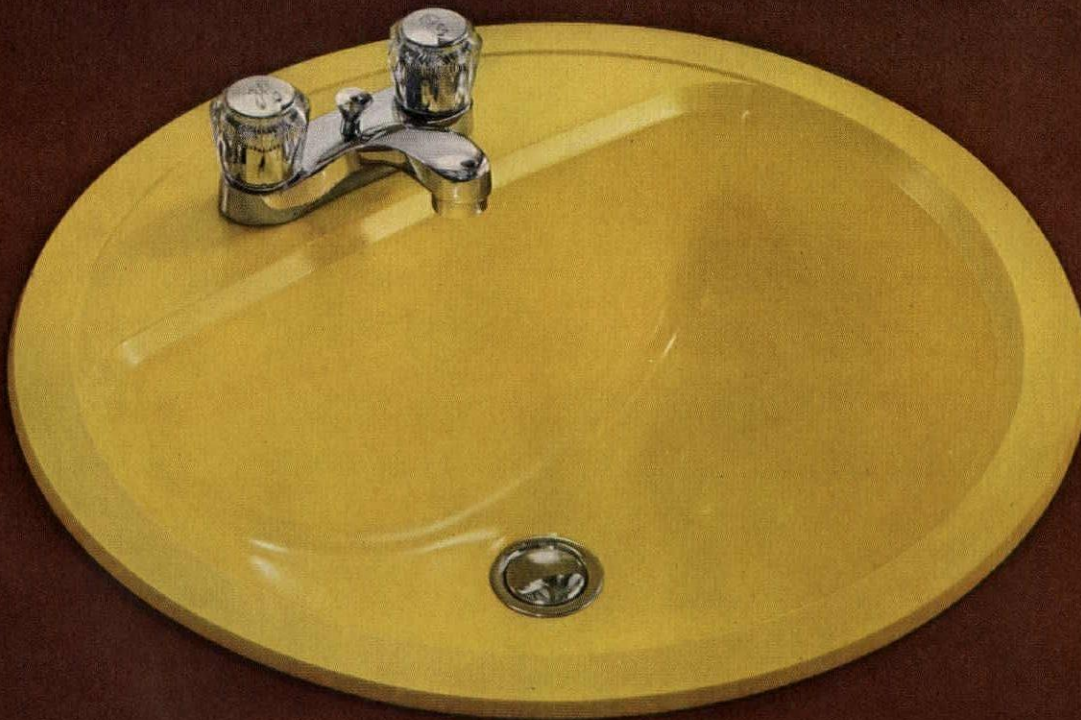
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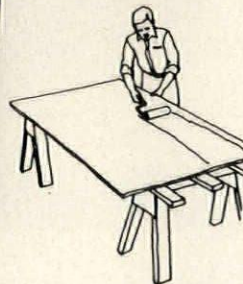
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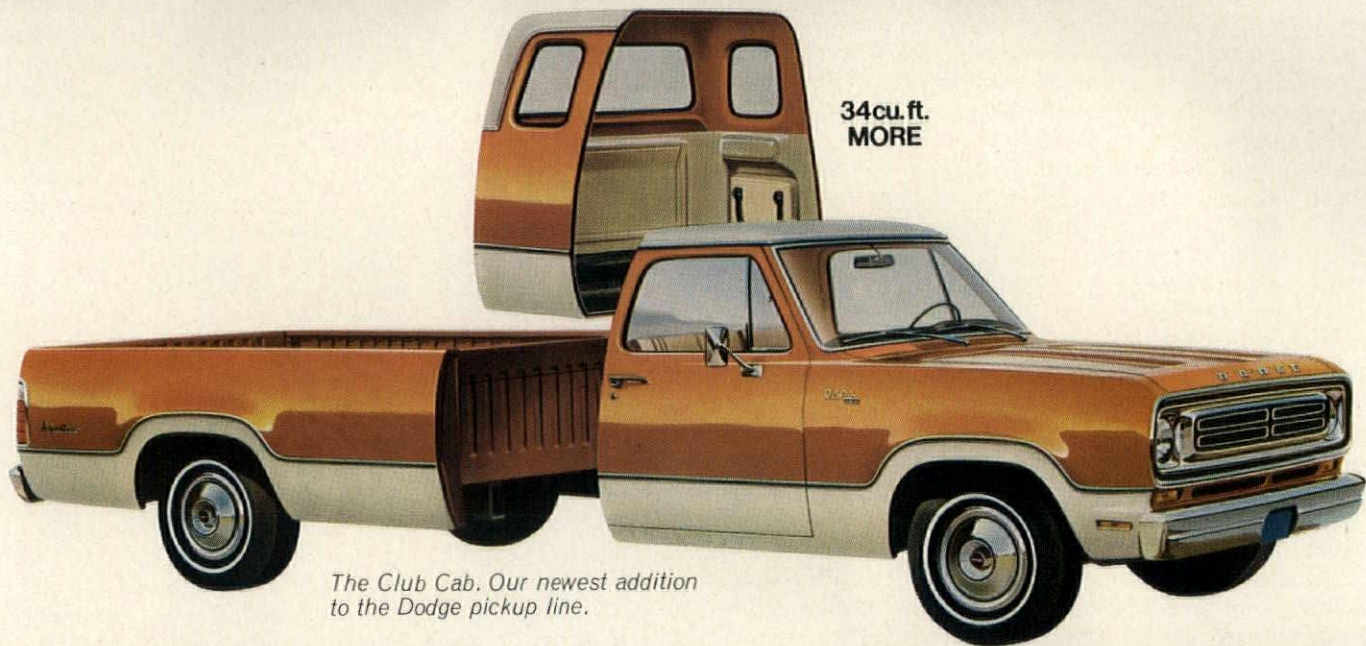
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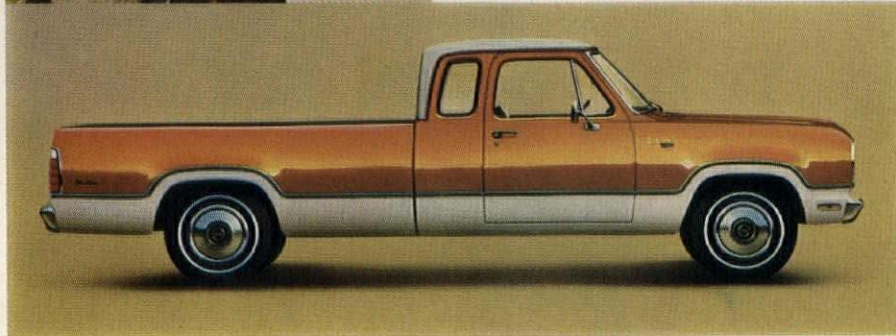
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"Funded community trust is the newest vehicle for handling management of common areas . . . And it offers decided plus factors for both buyers and developers"

Although homeowner and condominium associations are still the most widely used means for controlling common areas in open-space communities, the past few years have seen increasing acceptance of a third approach. Known as the funded community trust, it provides some distinct advantages over the other two methods of common-area management (particularly in large PUDs) since the document under which the trust operates can be tailored to the needs of the different kinds of people who live and work in a specific project.

How it works. In essence the builder/developer deeds title to all common open space and recreational facilities to a bank or other fiduciary which, for a fee, acts as trustee for the benefit of all owners and occupants. This trustee hires the actual day-to-day management. The deed provides that the trustee must give easements across the open space and right to use the facilities to those owners and occupants. Each owner (whether townhouse, single-family detached home, apartment-condominium or commercial space is involved) gets a fee simple deed, subject to the trustee's right to charge and lien each property for its proportionate share of upkeep costs for the common facilities. These can be as elaborate or simple as the builder/developer makes them in the initial instrument. Some run the gamut: trash collection, snow removal, security protection, exterior maintenance and painting, master antenna service, swim club, golf courses, etc. Others are minimal: maintaining walkways and mowing grass.

As with a condominium or homeowner setup, the decision to use a trust should be made at an early stage—generally when the builder/developer goes in for zoning approval and begins his financing program, since there is a mechanical difference in the financing setup.

Advantages for the buyer. First, he is in a familiar situation where he gets a fee simple deed as in any other routine real estate transaction. Although the deed is encumbered to the extent that the buyer has to pay certain charges, he knows roughly what he will get for those charges. There is no need for the seller to explain the condominium law (a major problem in unsophisticated market areas) or that the deed is the equivalent to a fee simple deed.

A secondary advantage to the buyer is the knowledge that a bank is acting as trustee. So the buyer knows there will be responsible management with all common-area monies

being honestly collected and disbursed. This helps instill a feeling of long-term confidence in the development since there will be psychological pressure on *all* owners to pay the bank. Most people are reluctant to destroy their credit standing by failing or refusing to pay a financial institution. So the community is virtually assured an orderly flow of funds.

A corollary advantage to the community is that the professional manager generally should find a trust easier than a group of owners to deal with. Procedures can be set up along banking lines, and the manager will not have to explain things over and over again to new committee members who know little about the problems of running a community.

Additionally, the trust is especially ideal for keeping and maintaining common facilities in second-home recreation communities since few owners are around enough to be involved with either a homeowner or condominium association on a regular basis. Such owners don't want to be bothered with attending meetings or to take part in any kind of community activity. They are buying mainly for recreation, and part of what they are buying is relief from responsibility and maintenance chores.

Advantages to the builder/developer. For one, a trust eliminates sales resistance to the condominium concept—a particularly important factor in areas where condominiums are unfamiliar to the market.

For another, the trust imposes an entity between the buyers and the developer, allowing him a greater degree of control during the build-out period than normally would be available with a homeowner or condominium association.

Thirdly, depending on which state a builder/developer operates in, a trust may be able to act as a miniature water and sewer authority for the development. At least one state has permitted the trust to act in the manner of a cooperative (because it is legally analogous) in setting up, maintaining and charging for water and sewer services. Such an arrangement could be highly significant especially if these services are not otherwise available and thus perhaps would stop a job from proceeding.

Some disadvantages. By its very nature a trust is an antidemocratic kind of instrument. It doesn't leave much for the owners to decide for themselves, so it doesn't foster the same sense of community as do homeowner or condominium associations. This could be a strong problem in primary-home

developments where it generally is thought advisable to have as much homeowner participation and involvement as possible.

Of course a trust *can* be structured so that there will be strong owner involvement. But there is something of a psychological inhibition on the part of owners to get involved with a trust. Usually they are somewhat overawed by an institution and tend to go along with whatever is put before them. Obviously this often makes meetings quieter, more rational and businesslike; it also eliminates the occasional irrational owner who takes upon himself some cause with which to stir up the community. But there's no denying that in weakening the sense-of-community, a trust also lessens a certain amount of good will that is engendered when community members work together.

An alternate set-up. There's a new twist to the trust arrangement. It's a combination plan in which the trust is created to run a specified number of years (usually buildout time) after which it automatically converts into a homeowner association. Thus the builder/developer obtains maximum flexibility in running his job while a more democratic type of operation is created after the project is completed. But this approach is too new to evaluate its effectiveness at this time. As a practical matter it is not possible to convert a trust into a condominium since the consent of all owners and all financing institutions would be required.

In general, it has been our experience that the potential owner does not respond adversely at all to the restrictions that are imposed by the trust. If it is explained to him that such restrictions are for his benefit in that they prevent other people from potentially despoiling the open space or acting in an antisocial manner, he will not object to the imposition of the trust conditions in his deed. But as with everything else, these mechanisms must be carefully thought through before the job starts. Once the choice is made, it is generally irrevocable.

In most cases, despite the disadvantage of the depersonalization that tends to occur, we believe that the funded community trust can manage a community better, for less money and with less heartache, than can a homeowner or condominium association.

A sample form of the trust document and a more detailed explanation of how it operates can be found in Urban Land Institute Technical Bulletin 62. It is available from the Urban Land Institute, 1200 18th St., N.W., Washington, D.C. 20036.

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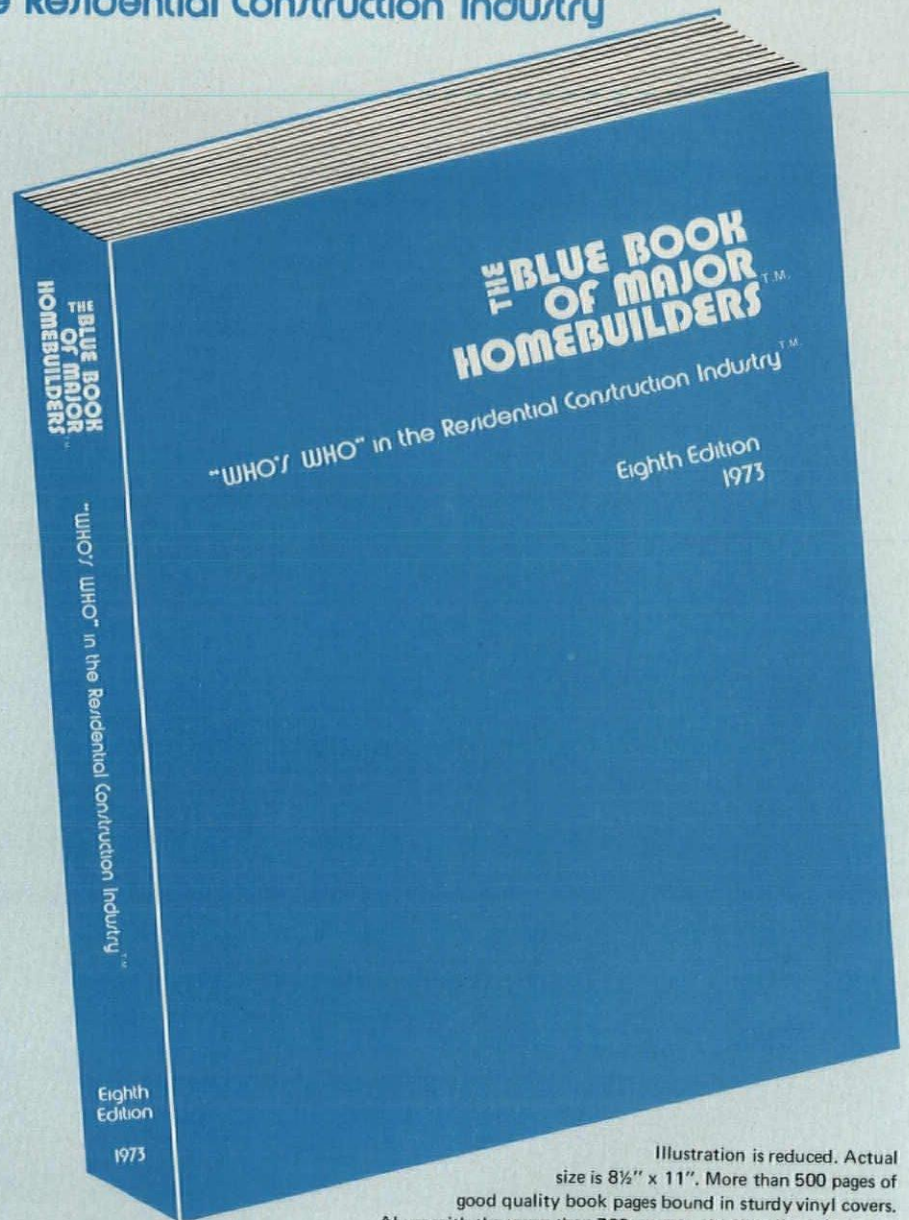


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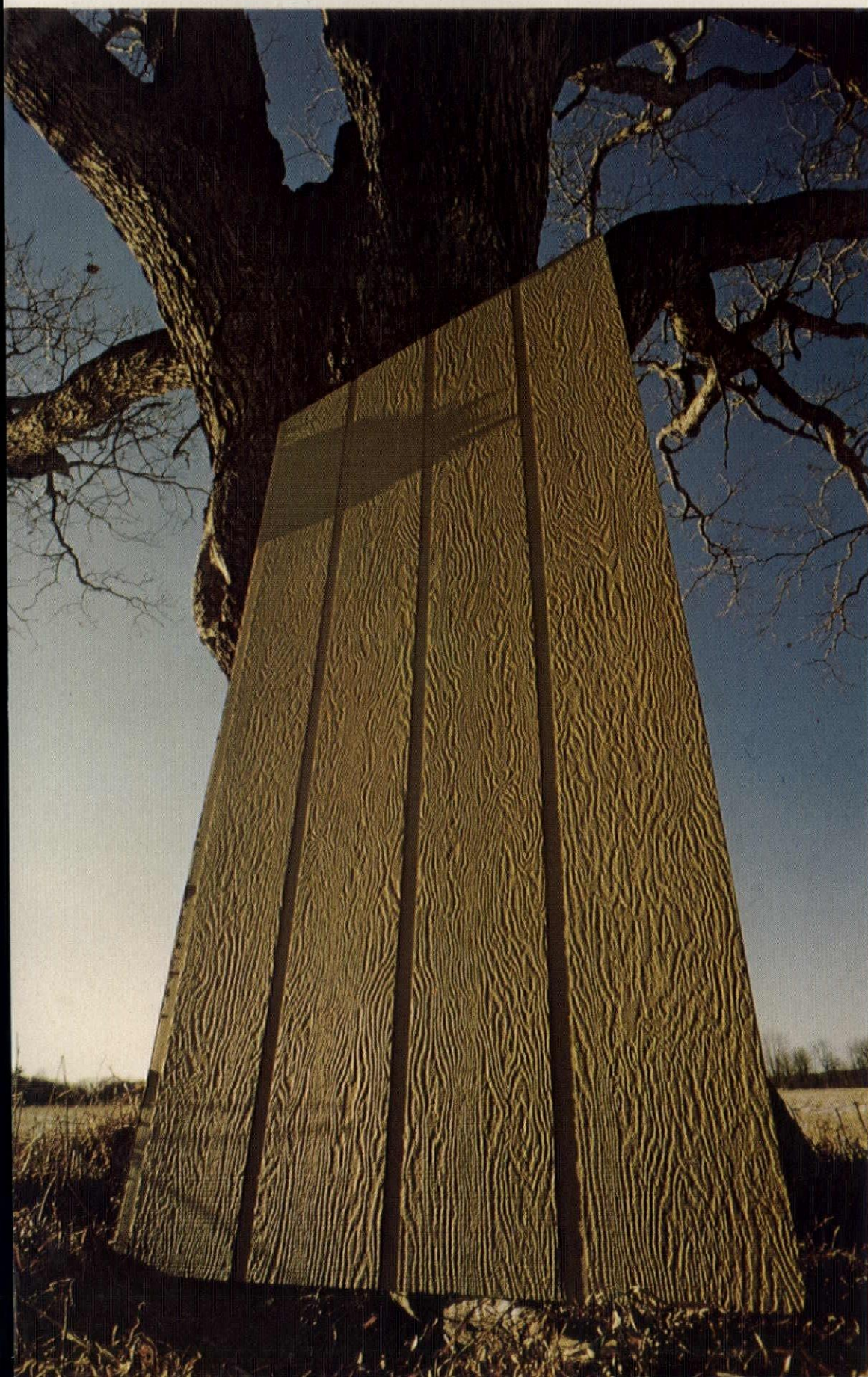
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CIRCLE 63 ON READER SERVICE CARD



"Nobody wants to look at garbage cans or pad transformers . . . So you'd better spot your on-site service facilities when you're in the site-planning stage"

Four basic service facilities that affect the physical planning of residential developments are storage and collection of garbage, electrical distribution and equipment, mail delivery and storage and general storage areas for residents.

Despite their importance, these items are seldom seriously thought of until actual construction of a project begins or, worse yet, not until it's ready for occupancy. So the final results often are disastrous—causing considerable inconvenience to the residents and high maintenance costs to the owner.

For these reasons, provisions should be made for service facility areas early in the site planning stage, taking into consideration the requirements of whomever will be responsible for the actual servicing of them—for example, the city or federal government or a homeowners association's management company.

Garbage collection is probably the most difficult of these services to cope with. Assuming a reasonably high-density development, garbage storage presents problems of aesthetics, odor, convenience and economics.

Ideally a resident should be able to walk a few feet and drop a sack into a convenient receptacle. Yet most collection companies now demand that garbage be placed in drop-off containers that can, in turn, easily be reached by a large truck. Some companies even insist that drivers can't leave their trucks, thus requiring the receptacle to be open to view.

What are some compromise solutions? First the management can do part of the pick-up itself, taking it from individual units to central collection points for the commercial company. Usually this is most logical in high-price-range projects where additional cost is not a factor (Figure A).

If individual pick-up is not economically feasible, commercial receptacles must be placed so they shield residents from sight, smell and noise. The containers also must be situated for efficient truck pick-up, screened from visitors and safe and convenient for the residents (Figure B).

Most builder/developers feel their worries about electrical service are over once they go underground. Nothing could be further from the truth. Location of surface-mounted transformers still poses a difficult planning problem. If you allow your electrical engineer to choose the location, transformers often end up at the front entries to most of the residences, leaving practically no way to

mask the devices (Figure C). But if their location is thought out in the early planning stage, possibly they can be placed a little further away where they either can't be seen or where landscaping will eventually obscure them. In most cases the outer part of the site is most appropriate (Figure D).

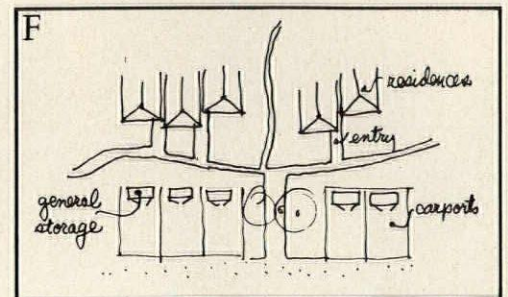
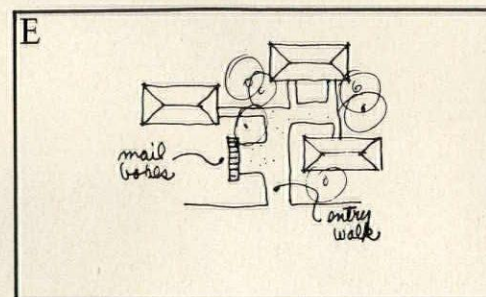
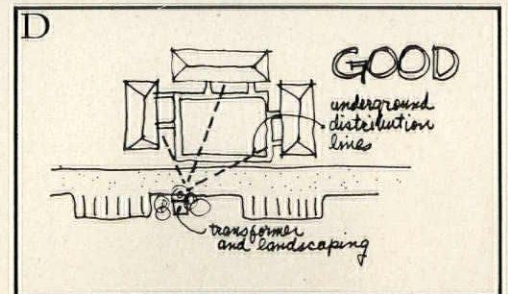
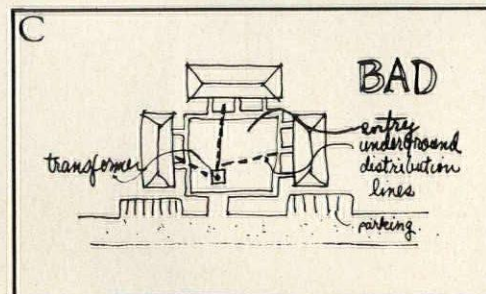
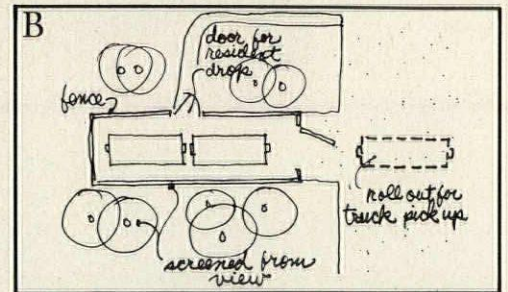
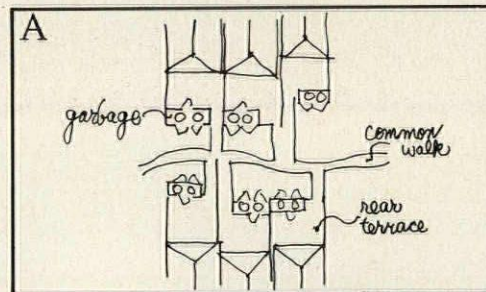
Requirements for mail delivery are rarely thought of until the postal inspector demands house numbers and mail box locations. That's usually when the development is almost completed. Obviously it's best to have mail delivered to each unit's door, but most postal jurisdictions are refusing to allow this in new medium-to-high-density developments.

What are the alternatives? If the project is large enough, it may be able to run its own branch post office, with private mail delivery. Another alternative would be to make the post office a feature of a small neighborhood shopping area. But in higher-priced developments residents consider this an inconvenience rather than an asset. For most small developments grouping mail boxes at the entry points between parking and unit

is the most acceptable solution (Figure E).

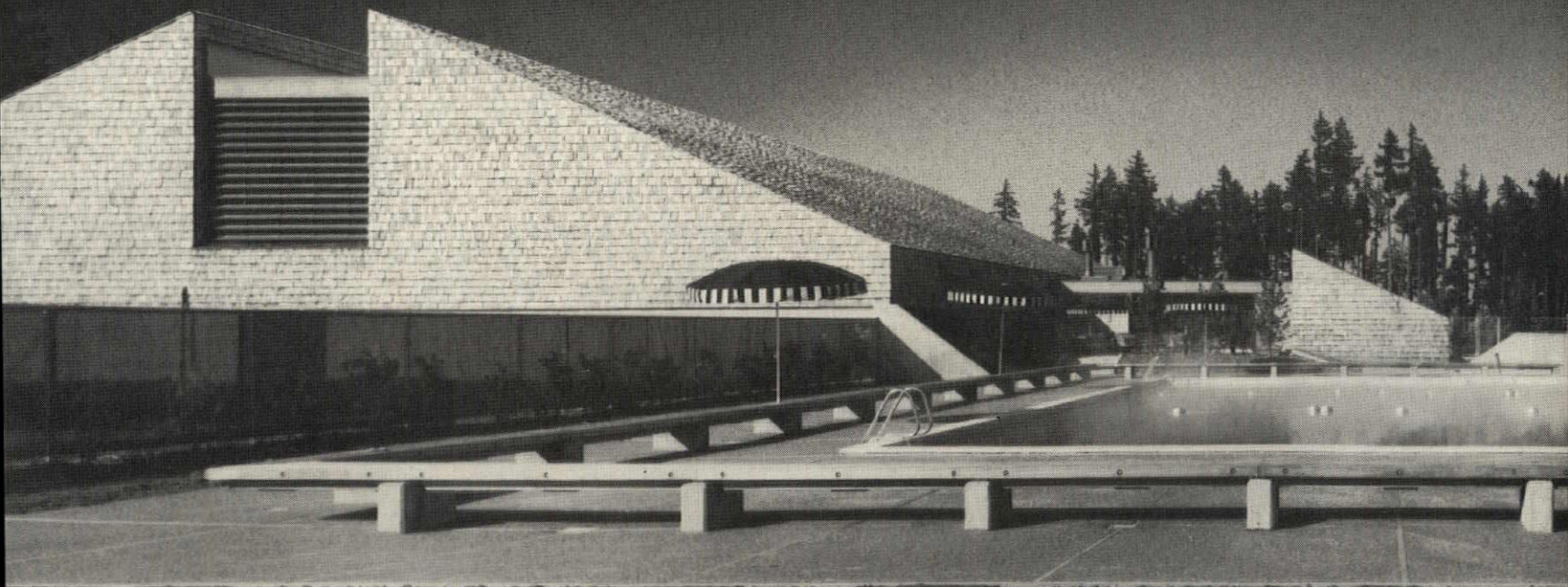
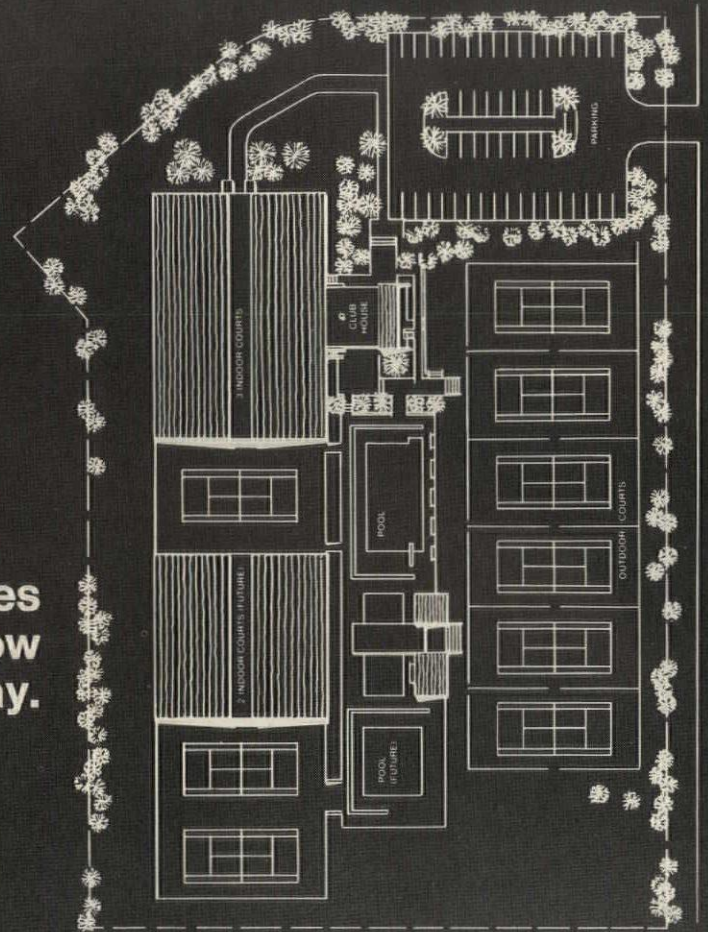
Adequate general storage space for seasonal clothing, furniture, sporting equipment and miscellaneous items of all kinds is a primary requisite for every development. This space must be easily accessible, secure, weather-tight and large and high enough. In most developments individual storage maintained by the resident himself can be provided at the end of a carport where items can be moved in and out easily. Usually the carport is near the unit so it's relatively convenient. Obviously if a storage area could be provided in the unit, say under an entry stair or in the basement, it would be even more convenient (Figure F).

Thus service facilities like the ones discussed here (and any others a builder/developer might include) should be designed in the initial stages of planning, rather than as an afterthought when the project is under construction. An inconvenienced, unhappy buyer can cause years of trouble for the builder/developer when there is a bad solution (or no solution at all) for location of these facilities.



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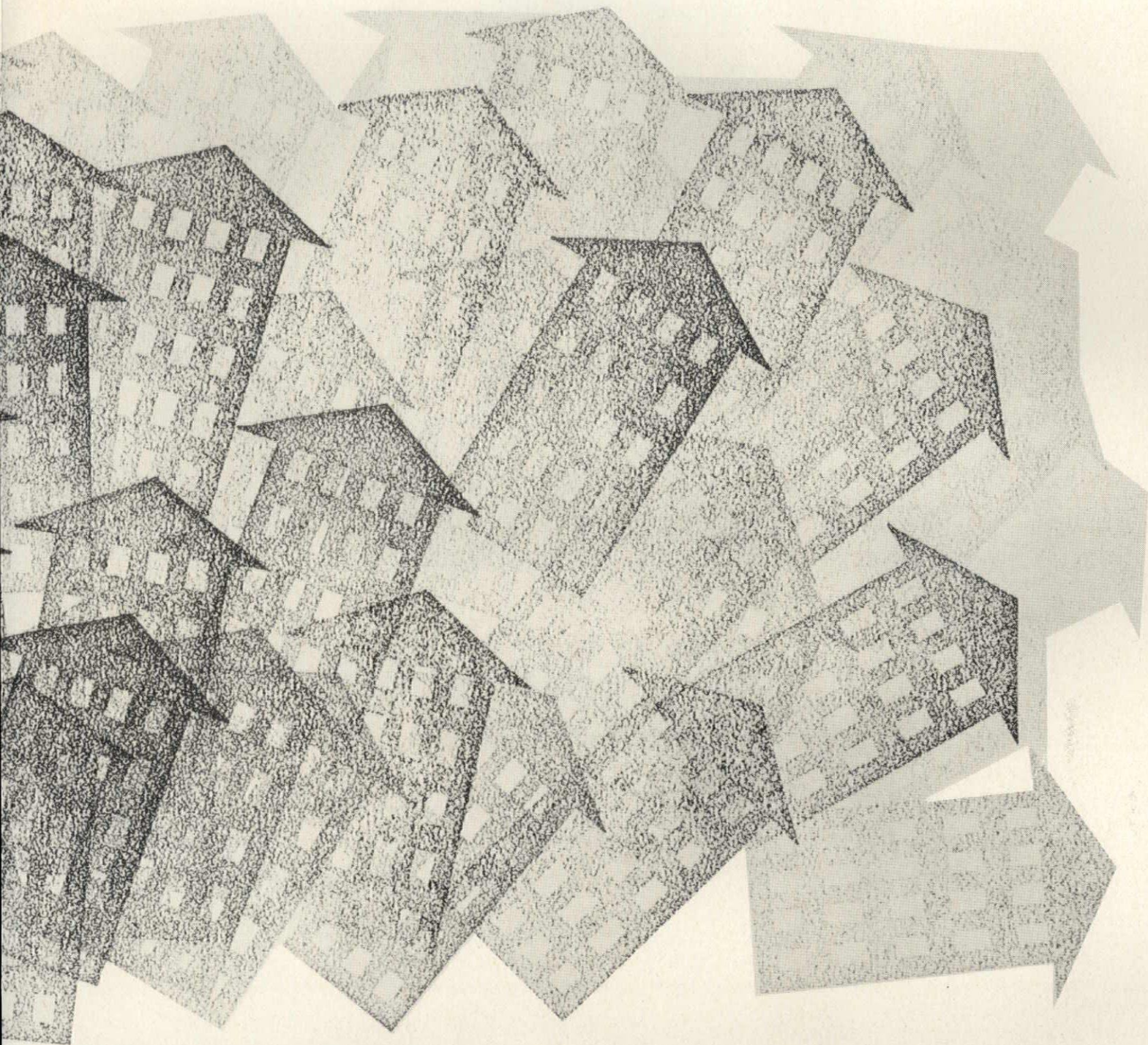
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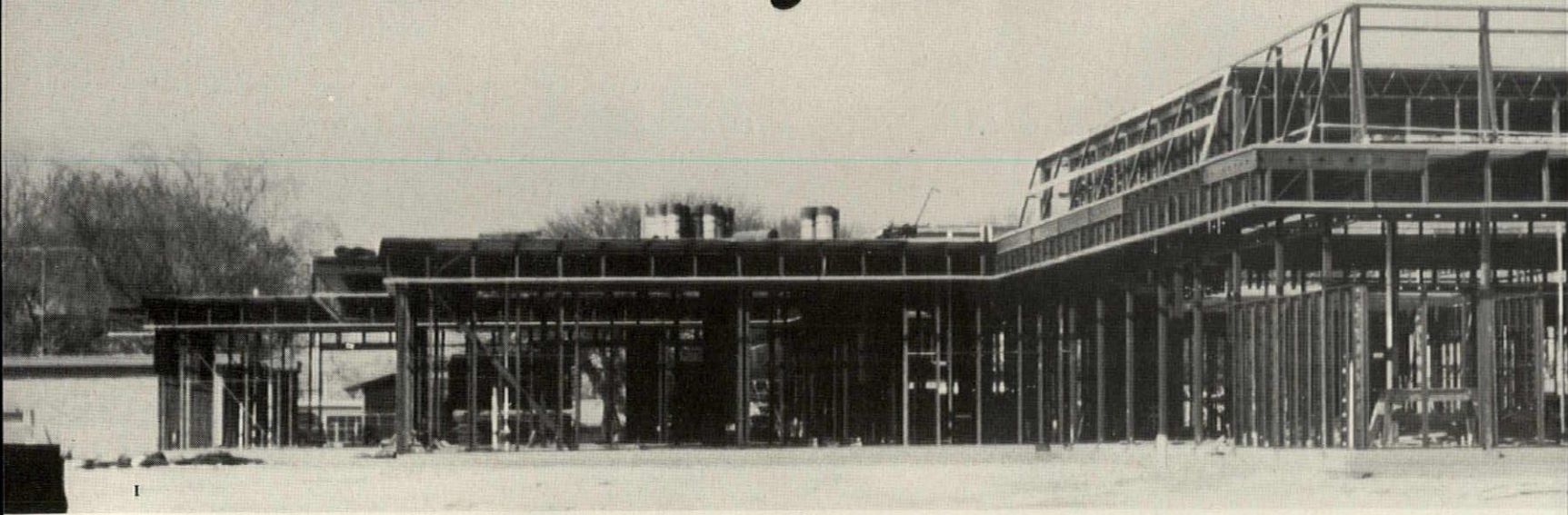
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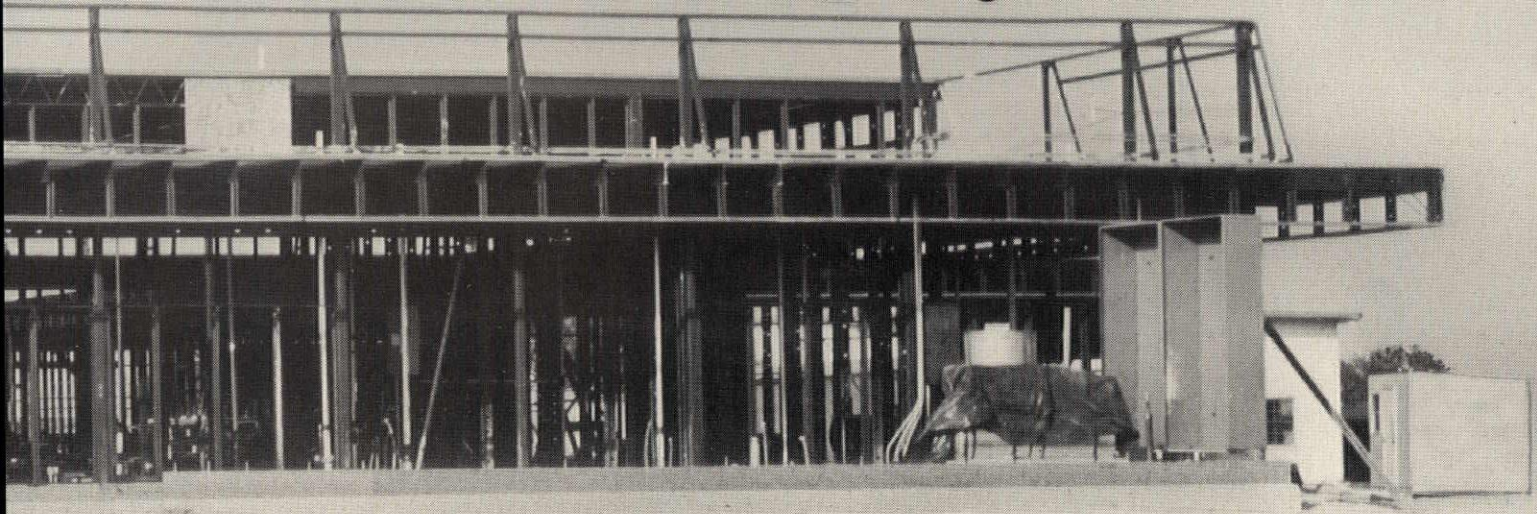
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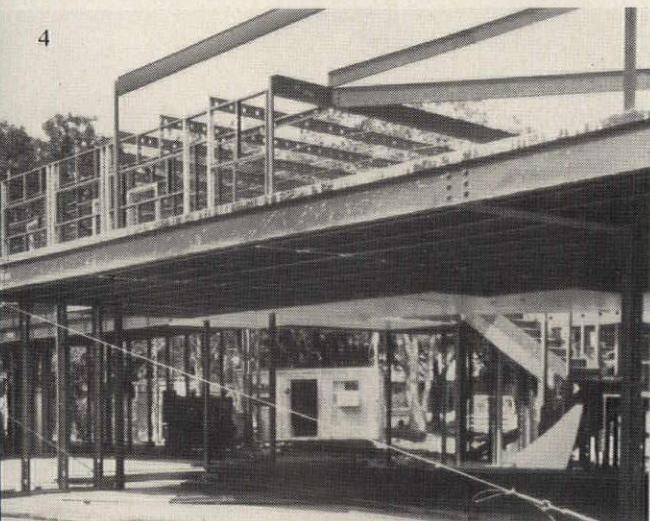
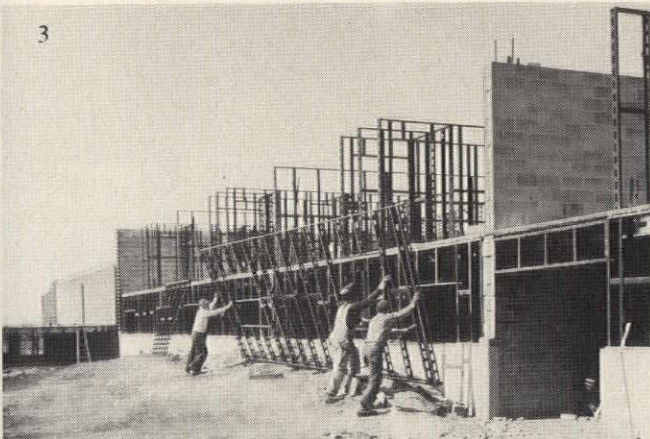
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When it comes to dishwashers, Bill Clifford doesn't speculate.

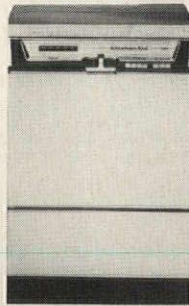
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These problems arise from the fact that he can't just sell his project once and walk away. He's locked into it. He has to keep selling it every hour of every day, because if buildings and grounds aren't kept up to snuff, if repairs aren't made promptly, if tenants aren't handled with kid gloves, he's going to have tenant committees on his neck, unrenewed leases by the dozen and a disastrous vacancy rate.

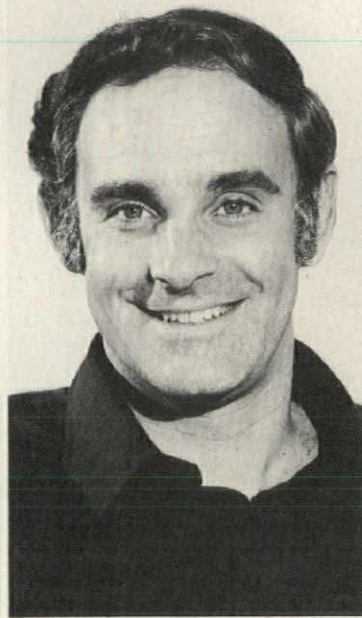
Furthermore, he has a budget problem. Few apartment projects create highly profitable cash flows; their profitability shows up usually as tax shelter and as long-term appreciation. So the critical management process has to operate with virtually no margin for financial waste or error.

And to top it all off, the apartment owner is currently trying to exist in an apartment market that, depending on its location, ranges generally from soft to catastrophic.

It is these problems of apartment management that this issue of HOUSE & HOME addresses itself to. On the next eight pages you'll find many of the solutions that experienced apartment builders, owners and management firms have found successful.

"Service is the name of the game when you're looking at the long-term picture"

RON SHULLER



So says Neil K. Bortz, president of Towne Properties Inc., who is convinced that keeping projects occupied is 95% a matter of keeping tenants satisfied.

"Our management division is in the service business," he says. "It's not in the general contracting business, or in the developing business or in the land planning business. And it's not in the business of just managing properties. We are *service*."

"Towne Properties creates environments to which we hope to attract good residents. And once they're in, Towne Management is there to service them. We're their caretakers."

This emphasis on service shows up in the company's favorable occupancy figures. In the Cincinnati and Lexington areas, where the overall vacancy rate is 7.9%, Towne Properties' apartments are about 99% occupied. And in Dayton and Middletown, where overall vacancies run from 15% to 20% or more, the company's projects are averaging roughly 88% to 90% occupancy.

Despite this rosy picture, Bortz is not completely sanguine about the low vacancy factor.

"We think that we may be underpriced, and we're more aggressively raising our rents because a 1% vacancy is not affordable. It's too low. Traditionally, we've given a lot more than our competition. So we ought to get paid for it."

And Bortz believes Towne Properties can maintain its edge over competition even if rents are raised because the company combines a better product with a strong commitment to management.

Management of a project can be no better than the people that provide it. Which is why Bortz looks for bright, motivated, well-groomed people to run his apartments.

"No matter how good top management is," Bortz says, "if a resident manager isn't good, project management isn't going

to be good. And no matter how good the manager is, if the maintenance people aren't good, residents aren't going to be happy."

So Bortz feels that finding good personnel is one of Towne Properties' biggest problems. And to get competent on-site management, the company—for the most part—builds up its resident managers from the first day they join the staff. Most start out as rental agents, then move up to chief rental agent (where they pick up some assistant managerial experience). After a year or two they're upped to manager in a small project and then to larger properties.

Many of the managers have been with the company for about six years. And most are women. The reason is historical: Until recently most projects in Cincinnati were 100 units or less and thus could not support a high-salaried man. But a woman, working to supplement her husband's income, could receive from \$3,000 to \$4,000 a year plus an apartment—a sum a small project could support.

More recently, Towne Properties has hired women to manage larger projects at \$10,000 to \$12,000 a year. And the company also has a woman district manager.

Project managers' duties run the gamut: dunning delinquent tenants for rent, assisting in preparation of budgets, acting as hostess for project parties and supervising maintenance.

Supervision of apartment maintenance carries a top priority. The company has a repair-order system, and managers are responsible for monitoring the status of repairs so that unless a problem is unusual, complaints are handled within 24 hours.

Managers also ride herd on exterior maintenance. For example: Has the snow been removed properly? Is the pool operating efficiently?

Another Towne managerial duty is to help prepare competitive analyses so that the com-

pany knows what other projects are charging for similar apartments and what rent trends are.

And in small projects (generally under 100 units) managers double as rental agents.

"We consider our managers as our representatives with the residents," says Bortz. "We do inspect all properties on an irregular basis and managers know what we'll be looking for. But we expect the manager to be our contact with what's really happening on the site."

Getting properly trained, honest maintenance personnel isn't as easy as getting resident managers. If you look hard enough, Bortz says, you'll find plenty of intelligent women who can be trained for managerial spots.

"But there just aren't that many good tradesmen. And the problem is compounded by seasonality. For example, every spring we must start with new lawn and pool crews; they can't be kept over the winter. It's hard to get good supervisors for these people, so we often wind up with college students or drifters."

Word-of-mouth is Towne Properties' biggest single marketing aid in renting up a new project. And here too Bortz is convinced that the service angle plays a major part.

"If you have a reputation for running your projects well," he says, "people will believe you have something worth looking at and they'll respond to a normal ad campaign."

So the company doesn't go in for splashy ads to announce openings. Instead, there's an opening party for politicians, investors, bankers and other VIPs.

It's difficult to rent in the Cincinnati area before units are ready for occupancy. So Towne Properties usually opens models no earlier than 30 days before delivery starts.

"That's about the longest people will wait," Bortz says. "And in the upper end of the market, prospects won't make a commitment before they see the fin-

Towne Properties Inc. currently manages only those properties it developed and has an interest in. Primarily, Towne's market is a good step or two above the typical rental market—both in terms of rent and of the backgrounds of the tenants. Most are affluent and sophisticated, and they cover a wide range of ages and marital statuses. In most cases the communities are heterogenous—ranging from singles to empty nesters. And although there are families with children living in Towne's projects, the company has never built specifically for that market.

"You have to be willing to spend money if you want to keep your occupancy high"

ished product. Actually the rental pace picks up dramatically once the final tree is planted."

Maintaining occupancy when a market dries up requires research and imagination. And it may also require restructuring rents to meet competition. Bortz describes what Towne does in the Dayton-Middletown area where, in the past three to five years, a combination of many new units and lower employment has dropped the ratio of potential tenants to available apartments:

"We canvass industry; we encourage local service clubs to hold meetings on our premises; we get involved in community-wide promotions—in fact, we had an art show at one of our Middletown projects last year.

"But basically, getting and keeping tenants goes back to the very beginning of each of our communities. We make each one *the* community in the neighborhood, and we make sure management keeps it that way. If management doesn't do the job, we shake it up. You have to look back to see when the trouble started, investigate repairs and maintenance, check your tenants. One bad apple can spoil an entire building or block.

"Almost always when we've done this where occupancy has slipped, we've found a proportionate slippage in management. And corrective measures in management have generally brought the community back."

So strongly are Bortz and his partners (Bert Agin, manager of the construction division and Marv Rosenberg, vice president for finance) committed to management that they themselves, along with many of their in-laws and relatives, live in Towne communities. And Bortz, himself, has never lived in any unit not developed by Towne.

It's a close-knit company in which most of the key people own stock. And it's a company dedicated to the theory that, says Bortz, "you've got to make sure

the residents—your number one sales force—are taken care of."

Towne's management arm became a separate division about a year ago. It operates under the direction of manager Mike Sollinger, who supervises four district managers. They in turn oversee resident managers, on-site staffs, etc. Although all accounting and rent collections are handled centrally, day-to-day management decisions are made on a district or project level. So management is a relatively independent operation.

Although the management arm has become a profit center, it didn't start out that way. Instead, Towne's financial goal was to optimize the ten-year cash flow of each project. Rather than save dollars for a quick profit, the company believed it was more important to take care of long-term and preventative maintenance requirements and to make sure tenants received good service right from the beginning.

Thus the parent arm was willing to underwrite management during the start-up period so that, says Bortz, "when we reach a plateau in ten years where we might consider refinancing or selling, a project will have matured to a point where it is worth a maximum amount of money."

Bortz admits that management started out as a stepchild at Towne Properties (as it does in many companies) because there has to be some building before there's a need for a strong management department. But it's a different story today.

"The construction guys are pretty tough, and if they have to fight management they'll beat them," Bortz says. "So we've had to build management up to the point where everyone in the company recognizes that there's more value in this business than just building and making a small builder profit. So it follows that if the real value is in long-term management these are the guys that have to produce it."



So says Linda M. Stratton, who, as vice president of management for Young/America Corp., is convinced that spending for maintenance is the surest way of keeping tenants satisfied—and therefore projects filled.

The theory seems to be working for the Houston-based company. In an area where a recent survey shows an overall 20% vacancy rate, YAC's projects are 93% to 95% occupied. So project management—in which maintenance plays a major role—gets a lion's share of the attention from both Ms. Stratton and YAC President Vernon R. Young Jr.

The resident manager is the key. So the company looks for a special type of person—usually a college graduate with business orientation. All but two of their present managers are women, since Ms. Stratton believes "Women relate better to tenants."

YAC will go to any lengths to get good people, she points out, particularly by paying more than the competition. But the company doesn't pirate from other firms: It's not ethical and it's also against the rules of the Houston Apartment Association of which she's a member.

YAC managers, who are required to live in their projects, get a salary (in general \$800 or more per month) plus an apartment and bonuses that come on a non-regular basis. (Other YAC staffers can live in the company's projects if they wish, but maintenance people cannot.)

Managers usually move up from an assistant managership in one of the company's other projects. And they take over at the beginning of the rent-up period.

"Right from the start," says Ms. Stratton, "we say, 'this is your baby. This is your money you're spending'. We couldn't do this if we switched her from project to project. She must feel the project is hers and her responsibility. Occasionally, we do have managers that burn out

Young/America Corp. manages only its own projects. Currently the company is handling 2,500 units in Houston, 350 in New Orleans and 124 in Baton Rouge. On the drawing board or under construction are approximately 2,000 new units in Houston, 500 in New Orleans and 350 in Baton Rouge. Just about every market is covered in YAC's projects—swinging singles, sophisticated (older) singles, families, empty nesters and blacks.

after they've been through the construction mess. But it doesn't happen often. Our projects generally wind up with the same managers they started with."

Supervising maintenance is the biggest part of the manager's job. And it's made relatively easy. YAC has a head-of-maintenance who visits all projects and stays around if there's a major problem. But much of the work itself is subbed out to small local companies under a quasi-employee sort of arrangement. They're not on the payroll and they don't get long-term contracts. But because they're small companies (sometimes operating out of the owner's home) they're anxious to do a good job and keep working for YAC.

Behind this subbing plan is YAC's feeling that management people who can control people are few and far between. So with the sub plan, project managers don't have to oversee a large staff—generally only one maid and one porter per project.

Instead, the manager can concentrate on other things—making sure the subs do what they're supposed to, following through on tenant complaints, checking to see that vacancies are put into spotless move-in condition.

The latter is given special emphasis by YAC. A dirty vacancy is one of three major reasons for firing a manager. The others: dirty grounds and not taking care of a resident (the term used by YAC in preference to tenant).

Taking care of a resident includes handling tenant complaints—another big part of the manager's job. To do this YAC has a standard maintenance request form in triplicate. Whoever receives a telephone complaint fills in the form (including the caller's phone number) and immediately puts it on the manager's desk.

If there's going to be a delay in taking care of the complaint, the manager calls the tenant back and explains the delay. If she can't reach the tenant by phone,

she puts a note in the tenant's apartment. Since YAC plumbers and electricians are on 24-hour call (and there are alternate service people available), most complaints are taken care of in a day or less.

Maintenance is so vital to the YAC operation that the company surveys each tenant twice a year, asking what kind of service they are getting. Also, as a double check to keep managers on their toes, all projects are shopped by YAC on a regular basis. And the shoppers are fussy; not one light bulb should be burned out, says Ms. Stratton.

Renting up new projects follows a definite timetable. It starts off well before the first units are ready to be shown (generally about 2½ months before) so that Ms. Stratton can get a good feeling for the project. She works with the advertising people, studies rent rolls, etc.

Only then does she call in the company's supervising property manager and go over everything before it's given to everybody involved in the project's construction. Each detail is checked—down to rules and regulations for tenants. Then the supervisor starts looking for a resident manager; when she is found, the leasing office is opened—not to the public—only to staff. The office is formally set up; accounting files alone take two days to arrange. Then the search begins for an assistant manager (bookkeeper) and leasing agent(s). Two of the latter generally are hired when a new project is opening; only one of them will stay on after the pace of renting levels off.

The leasing office is never opened before the entire staff is hired so everyone is letter-perfect in operational procedures.

Openings are low-key. The company doesn't generally go for the big ad or grand opening. They feel their signs create enough traffic to get them going, since usually only a few units are ready for occupancy when the leasing

program gets underway.

The supervisor stays on the property until the job is complete, or until she's convinced that the manager knows how to schedule apartments with construction and knows how to get the job done.

Renting of units in new projects and existing projects follow similar procedures. Each manager is required to get up from her desk to greet prospects as they enter the office, shake their hands, make them feel welcome. Prospects are shown the vacant units first, then the decorated models. The reason: first impressions count the most, and YAC believes that a prospect coming from a well-maintained exterior into a spotless vacancy will have the feeling that professionals are running the project.

After the prospect leaves, there are follow-up telephone calls and thank-you notes (each project has its own note paper).

Other steps followed by YAC:

- If an existing project has only two or three vacancies, they're not advertised; only when vacancies get up to the ten to 15 level are ads sometimes used.

- Model units are furnished with more expensive items than most prospects can afford (but also with some do-it-yourself touches). The reason for the upgraded furnishings: Ms. Stratton believes people like to romanticize.

- Recreation varies from project to project. Some have large recreation centers, in others there are smaller facilities for tenant activities, say a men's or women's card room. The large centers usually have a full-time recreation director; projects with smaller facilities may have a part-time director. It's usually a tenant—often a woman whose husband works—and she gets one-half of her rent as payment.

- Swimming pool winter maintenance is taken care of by porters in some projects and by outside maintenance companies

in others. In summer lifeguards (usually college students) handle pool maintenance.

Cost control is a matter of expertise. The experienced management team can tell instinctively if money needs to be spent, says Ms. Stratton.

"If my supervisor or head of maintenance says we have to spend it, we spend it. We don't even wait one day. I think cost is best controlled just by common sense. Occupancy is the most important thing. So whatever it takes to rent an apartment, it has to be done—new carpeting, painting, everything. And that's where our expertise has to come in. Knowing the product, knowing construction, knowing people is the thing. I do a budget before every project opens and it rarely deviates more than \$200 or \$300 per month."

There's no such thing as 100% security. But the presence of a uniformed security guard can have a psychologically beneficial effect. So YAC puts one guard in each project. According to company policy, he must circulate through the project each night in uniform and greet all tenants. The only time a guard is in mufti is if there's a specific problem—for example, if there's been repeated vandalism.

In addition, all prospective tenants go through a stringent screening process before they're accepted. Not only is there the usual credit check but in the case of prospects who have been apartment renters, previous landlords are questioned—even if the landlord is from out-of-state. Because screening is so thorough, YAC has a minimum of tenant problems. Occasionally someone is late with rent, but the rules are specific: On the sixth day after rent is due, an eviction procedure is begun. Tenants know this rule is followed strictly, so delinquencies are rare.

Employees are screened too. Every YAC employee takes a lie detector test covering honesty,

"Sure there's a critical shortage of resident managers. But a lot of sources aren't being tapped"

alcoholism and drugs. And the big question for potential managers is: "Are you a neat housekeeper?" Ms. Stratton finds that neat housekeepers make the best managers.

A project can get sick occasionally despite the best management. Something goes wrong and the vacancy rate rises. Sometimes it's a relatively minor problem, sometimes drastic. Take these two examples, which back Ms. Stratton's theory that there's a solution to almost any management problem if you dig hard enough.

YAC had a project in an area where the school system received so much bad publicity that family tenants (residents of three-bedroom units) began leaving for other school districts. It was so bad at one time that Ms. Stratton thought occupancy might fall to 50%. The solution to the problem was a switch to another market—empty nesters.

They changed the three-bedroom apartments into a two bedroom with den. They paneled and wallpapered walls, built in bookshelves. Then they started a direct mail campaign to families who were selling their homes and revised their advertising, slanting it toward empty nesters.

The result: occupancy is now 92%.

A less drastic example is an older project which was experiencing slightly higher turnover than expected. YAC checked the project, decided it looked a little sterile and faded out. The facade was light brick, so they repainted the trim dark brown, put a few trees out front and the project's image changed overnight. The project started renting up again.

It's approaches like these, believes Ms. Stratton, that determine the success of apartment management.

"Each project is treated as if it's the only one we own," she says. "I hope we never get so big we lose that feeling."



Professor William M. Shenkel, who specializes in apartment management, is chairman of the Department of Real Estate and Urban Development of the University of Georgia at Athens. For his consulting work he pilots a twin-engine plane to cover 16 states from Illinois to Florida.

So says Professor William M. Shenkel, whose twin careers as real estate consultant and head of the University of Georgia's Real Estate Department give him first-hand knowledge of the basic problems of apartment management.

College graduates who have majored in real estate are Shenkel's first untapped source.

"There are some 20 to 30 colleges whose real estate graduates are prime candidates to fill the openings for resident managers," says Shenkel. "Women graduates are particularly well suited to the field. Yet for some unknown reason, the industry hasn't been drawing from this ready source."

A second untapped source, says Shenkel, is military men and women retiring from the service.

"Most of them are in their 40s and early 50s—their prime. And they're going to be getting an early pension, so they won't necessarily be looking for really high salaries.

"Then, because of their backgrounds, they've proven themselves reliable. They know how to deal sensibly with crises and usually can get along well with all types of people. They're adaptable and trainable, so it's only a matter of orienting them to a new career format."

And to do this, Shenkel recommends courses that lead to a Certified Property Manager (C.P.M.) certificate. Such courses are available through accredited organizations like the Real Estate Institute of New York University and the Institute of Real Estate Management of the National Association of Real Estate Boards, Chicago.

Even though such training may be costly and time consuming, Shenkel believes it is a necessary cost of doing business. But whether it would be financially worthwhile for owners of smaller operations is a question.

"Large operators often start their junior men out in small

projects and gradually work them up to the main office where salaries are the highest."

But small operators, he points out, just don't have that kind of setup. So they have to expect turnover among their managers—particularly young personnel who are looking to advance in terms of both responsibility and salary.

"Under these circumstances, it might be preferable for an owner to forget about direct management and turn his buildings over to a professional management company."

For those owners who do want to set up a training program, Shenkel says this:

"Duties of resident managers today call for training in many areas—sociology, psychology, accounting, marketing, engineering, data processing, systems analysis and personnel administration.

These are the broad categories. But Shenkel has two specific rules of thumb that he stresses when he's called in as a consultant.

Train resident managers to fill up projects quickly—even if it means lowering rents. This controversial approach is justified, Shenkel believes, because all too often rents are pegged to an owner's expectations, not the reality of the market.

"In my consulting work," he says, "I see many cases where an owner refuses to budge from a set rent schedule. But if apartments don't rent up quickly, it makes more sense to offer short-run concessions for the sake of long-term occupancy.

"The primary reason for this situation is a widespread absence of market research to learn what people in a local area are willing to pay and what they want in the way of amenities."

Market research, he says, may reveal that a rent concession is not necessary. Instead, more service, landscaping, furniture or some other minor inducement may be all that is needed

"When you're renting up, you've got to hold to a tight timetable"

to speed rent up.

Nip tenant militancy in the bud by forming tenant committees. This tactic should be used by resident managers of large projects, Shenkel says, because it provides a forum to keep tenants informed of problems and management policies. And tenant committees can organize management-funded activities and recreation programs on behalf of all the tenants.

"The tenant committee," Shenkel says, "should serve as the mechanism to solve minor problems before they become major. In many cases a rent strike could have been avoided if only management and tenants had had the means to voice their views. This is the kind of personal contact that we need more of—so that tenants feel like human beings in their own homes."



L & S Property Management Co. of Los Angeles is a subsidiary of Loews/Snyder, a joint venture of Loews Corp. and J. H. Snyder Co. Loews/Snyder builds a variety of residential projects, including both low- and high-rise apartment complexes, some of which are sold to investors and managed by L & S. Currently L & S is managing 1,500 units in four new projects and 100 units in an older luxury building.

So says Paul Hurst, who, as vice president of L & S Property Management Co., Los Angeles, is currently responsible for renting up four projects comprising 1,500 middle-income to luxury units.

"It's vitally important to stick to a strict schedule," says Hurst. "Your early cash flow depends on it, and to a considerable degree the project's feasibility depends on early cash flow. Also, a tight schedule gives you a way to evaluate the performance of your marketing and managing teams."

The rent-up schedule must, of course, be realistic as well as strict. And to assure this Hurst cranks in all available marketing data: the existing vacancy rate in comparable rent ranges and apartment types; the vacancy rate expected at the time the building is completed; the number and quality of competing new apartments coming on the market during the rent-up period; the historic rent-up pattern for similar buildings in the area; and periodic events which will affect the rent-up rate, such as the opening or closing of a nearby shopping center, factory or college. And, ideally, he says, the start of construction should be timed so that the project will be completed in the spring when rental demand is strongest.

Here's a typical rent-up timetable for a 400-unit, upper-middle-income project scheduled for completion and the start of renting in June:

For the first five months, through October, 6% of the units should be rented up per month; for November, 2%; December, none; then, in January and the succeeding months the rate should gradually increase from December's low to 5%-6% in spring. Roughly 75% occupancy should be achieved after 15 to 18 months. After that the monthly percentage rate will drop markedly because the most desirable units will have been taken.

To monitor the schedule

Hurst's resident managers and marketing people review rent-up progress regularly. At least once a week a complete report is presented to show which floor plans and what rent ranges are moving fastest, and slowest. Says Hurst:

"At the very least, these reports will tell us if we've mispriced a particular type apartment. It's the market place that predetermines the rent for a specific unit, not us. But even if a particular unit is going very slowly, we won't drop rents except as a last resort. Instead, if we're behind our timetable, we'll readjust our marketing effort."

If a project is behind schedule, there are three marketing areas where more muscle—time and money—can be applied: model apartments, public relations and newspaper advertising.

"If the rent-up of a particular floor plan isn't doing well, you can re-do the model or offer more amenities," says Hurst. "But the last thing to do is lower rents."

Public relations efforts can be boosted. "This is the most successful type of promotion we do," he says. "It's quick and it's flexible. Editorials, articles and photographs in the large local and regional newspapers have generated more traffic than advertising."

Advertising can be boosted. For example, a typical luxury project will carry an ad budget of perhaps \$4,000 a month; this, says Hurst, could be escalated considerably in spot situations to hypo a lagging schedule.

Maintenance can help keep the schedule on time—especially for that last group of tough-to-rent apartments. A well kept-up environment and good service to tenants are powerful marketing tools.

"You can't tell prospective tenants that a project has the best maintenance people in the world" says Hurst. "That's something you must prove with a flawless lawn and spotless hallways. Then your prospects

"Precise cost control is the key to good management—and to high profitability"

will form their own opinions. Also, they're likely to ask moved-in tenants about the level of maintenance service. So you'd better make sure that these tenants' experiences have been good ones.

"We usually try to respond to a maintenance call within 15 minutes. If it's not an emergency, it might take a few hours. But in the case of an overflowing toilet, we'll get someone there in two or three minutes. At the most luxurious project we manage, a radio dispatch system allows any service call to be answered in less than five minutes."

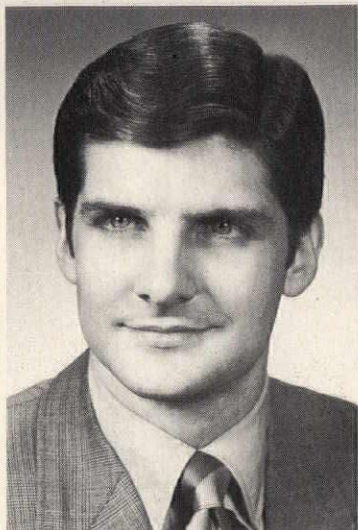
Hurst has concluded it is considerably cheaper and more efficient to rely on his own maintenance staff than on outside contractors.

"We try to hire trained people. If a man wants to learn more we'll send him to the local junior or community college to take repair courses."

"At one project we've started up a program—for an hour and a half a week—to teach the inexperienced maintenance men appliance repair and special refinishing techniques. And we also send our resident managers to school for courses in personnel administration and the like."

Hurst feels that if a maintenance man stays for only a year the company gets a good return on its schooling investment in terms of keeping up enthusiasm, getting more skilled work and having employees who can accept more responsibility.

"It's really great," he says, "to see that the more responsibility we give our people the better their performance is."



So says John S. Simoni, vice president for property management of Jack P. DeBoer Associates. Simoni heads an operation that manages 10,000 of the company's own units in 25 states and which this year will take on another 7,400 units the company plans to build and sell to investors.

The DeBoer cost control system is a highly sophisticated one that runs on computers. It allows the company to keep down costs, spot trouble areas quickly and both help and evaluate its resident managers—vital areas in keeping a project well run and at maximum occupancy.

"Furthermore," says Simoni, "since we'll be able to demonstrate that our management can rent up quickly and operate profitably, the projects we sell will have a justifiably higher price."

The computer operation is a big cost cutter. It has taken the company five years to bring the system to its present almost-finished state. "Now," says Simoni, "we can see the possibility of monitoring our projects so closely that we should be able to pare our operating costs by as much as 5% of the gross rent roll. That's a lot of money."

To establish the budget against which projects are monitored, hundreds of thousands of separate bits of data from several years of DeBoer operations were collected and analyzed.

"This means our budgets aren't just made-up numbers," says Simoni. "They're as close to the truth as we can get them. For example, the income budget takes into account turnover and slippage between the time one tenant moves out and a new one can move in. If a project is leasing up, this budget considers the realistic number of new leases per month that can be expected at that time of year."

The resident manager—who Simoni calls a business manager to reflect the fact that he is in fact running a business—keeps a

gross income and total expense breakdown that provides the net income and cash flow.

While income is tallied on a monthly basis, expense control is done on a daily basis. Each expense item—for example, lightbulbs, paint or boiler repairs—has its own budget control sheet. At the top of the sheet is the amount available for that particular month; each day, as the resident manager makes commitments to vendors, he subtracts from that total, so he knows where he is at all times.

Every month the computer prints out a budget report that shows present occupancy, turnover, each project's financial status a year ago, the current monthly budget, actual monthly expenditures, variances and, finally, all cumulative data.

"Of course," says Simoni, "the six regional managers, the director of property management and I all watch these printouts very closely. They show us if a project is getting into trouble and exactly where the trouble is. For example, we'd immediately jump if we noticed an increase in the turnover rate greater than 5%. And when a business manager is doing an exceptionally good or bad job, it usually shows up first in these budget reports.

"However, the budget does not lock the business manager into a rigid way of operating. It's an on-going process into which valuable data is constantly fed."

One type of data that benefits the entire operation is product information—everything from lightbulbs and carpeting to air conditioners and door hinges. Business managers constantly send to the home office data on the repair rate and the life span of every item. The DeBoer development and construction groups use this data to guide their purchasing decisions.

Tenants' likes and dislikes are also monitored with an eye to keeping down turnover. The two keys to holding turnover below the 5% maximum have proven

Jack P. DeBoer Associates' management group has grown rapidly since its inception in 1968. Today it administers 10,000 company-owned apartments in 53 projects in 35 cities. During 1973 the company plans to build 7,400 rental units and sell them to investors.

"Not everyone has the knack for managing property. Sometimes it makes sense to get an outside company"

to be excellent maintenance all through the project and good activity and recreation programs.

If these basics seem up to par but turnover is still high, Simoni's head office sends a questionnaire directly to a cross section of residents in the affected project. It asks such questions as how long does it take for a repair call to be answered? What don't you like about your apartment? About the apartment community? If you plan to move, where will you go and why?

The questionnaires usually draw about a 40% response. Results are sent to the business managers so they can take appropriate action.

"We had real trouble with turnover in Albuquerque, where we have two projects totaling 550 units," says Simoni. "The market was becoming soft and six-month leases prevailed. From our resident survey we learned that high turnover in one project stemmed from the two-story clubhouse which was not suitable for children.

"So we're changing the lower level, orienting it more to kids. And we learned there wasn't enough playground space, so we're making more available. But most surprising was the fact that many people strongly disliked the landscaping, which was chiefly decorative rock. So we're changing it."

Good training is the key to getting good managers and good maintenance. Says Simoni: "We have a business manager's training course and a maintenance supervisor's training course. And we have business managers working and learning in smaller projects and moving up to larger projects."

The DeBoer management group has six regional managers, who Simoni describes as "super heavy guys, real champions at administering people." Their ages range from 35 to 40, all were hired since 1968 and, with one exception, came from outside the organization with no pre-

vious property management experience.

"They are non-technical types whose innate talent lies in managing and motivating people," says Simoni. "We can teach them all they need to know about actual management."

Simoni thinks so well of his regional-manager cadre that when the units he manages go from 10,000 to 17,400, he will add only two regional managers.

Managers are also the key to curing a sick project. The same rules apply as for a new project, says Simoni. Hire a competent staff, take care of the deferred maintenance to get the project up to standard and then market the project vigorously.

"Even if the market is very soft," he says, "if your management and your maintenance become good, and if the project was a decent one to start with, you should be able to make it at least competitive with other comparable projects.

"Occupancy is the big thing. In most cases it's better to keep occupancy high with lower rents, than to maintain high rents and have low occupancy. Obviously, 300 occupied apartments at \$200 per month will produce a hell of a lot more cash flow than 150 units at \$300."

But Simoni doesn't think that curing sick projects is good business for his organization. First, the turnaround process requires tying up too much capital for too long a time. Secondly, it dilutes the organization's talent, since a sick project requires a long-term concentrated effort on the part of his most skilled people.

"A regional manager," he says, "could successfully turn around two or three projects if that's all he had to worry about. But if he didn't have those sick projects to contend with, he could successfully supervise several times that number of healthy projects. So it's a better allocation of our company's talent and money to just manage the projects we've built ourselves."



So says Robert Friedman, senior vice president of Carl M. Freeman Associates Inc., which currently manages about 3,500 units (half for itself, half for others) in the Washington, D.C. area.

"Property management, like any other business, requires a real expertise," he says.

"But the ease of entry into the apartment market has created a lot of building owners who become managers because they assume anyone can be a building manager. Very often these owners run into big problems, and they can't recognize where the problems come from. That's where the expertise comes in."

As an example, Friedman cites a problem property the Freeman company turned around for another owner.

"It was a project of 176 units—mostly efficiencies and one-bedrooms. The building had been run like a motel—all short-term leases and lots of turnovers. As a result, expenses were way out of line.

"What was needed was more stable residents. But because the building had a reputation for short occupancy, the owner couldn't attract any long-term tenants."

When Freeman's people took over, they convinced the owner that he had to bite the bullet and stick to long-term leases—a year or 18 months.

"We knew," Friedman says, "that most people in the building would move out. So we had to prove to the owner that the market was strong enough to draw new people in.

"That was the only way to do it. No other course would have erased the building's reputation of being a short-term operation; and the owner never would have eliminated turnovers that were causing his expense problem."

Freeman's organization manages all properties as if the company were a principal. And that's what a property owner should look for if he wants outside

Carl M. Freeman Associates Inc. presently manages about 3,500 units, mostly garden-apartment buildings occupied by young marrieds and, to a lesser degree, families with young children. The company manages all of its own projects and some—on a fee basis—for other owners. All projects are located in Prince Georges and Montgomery Counties, Md., and Fairfax County, Va.

management, says Friedman.

"First, the owner should visit other properties being handled by the management company. Anyone who has been in this business any length of time can look at a project, go into the manager's office and see if it's being handled in a businesslike manner.

"There are some buildings where you knock on the door, and the resident manager comes out wearing slippers and you can smell soup cooking. That's not the way to run things. If you want to run your project like a business, then the office should look like a business office."

As a second step in checking a prospective management company, Friedman recommends that the owner look especially closely at the key people in the company—the general manager, property managers, etc.—and find what their experience is and how many units they manage.

"There's no substitute for experienced people," he says. "And you have to be careful, because property management is an easy field to get into. All you have to do is hang out a shingle and you're a property manager.

"Also property management is the easiest place to cut expenses. If the going rate is 4%, someone can open up an office and say he'll do it for 2%. And an owner will say, 'great, I can save 2% just like that.' But it won't be a saving in the long run."

Poor maintenance is a good way to lose money even if it doesn't lose tenants. There's a zero vacancy rate in the Washington, D.C. area, says Friedman, so keeping tenants is no problem; there's no place for tenants to move even if their apartments aren't well maintained.

"But if you neglect maintenance just because you're full up, it's going to catch up with you later on. You'll run into major repairs, and these will cost a lot more than you would have spent

maintaining the property as you went along."

Consequently, the Freeman company has procedures on top of procedures to make sure tenant complaints are answered promptly. For example, any time a call comes in for work to be done in a unit—a broken window, say, or leaky faucet—a prenumbered work-order ticket is made out and dated. The tickets are used primarily to measure maintenance efficiency—they are filed and checked periodically to see how many jobs a worker is completing within a certain period and checked again at the end of each month to help develop standards on how many maintenance men are needed for a particular project.

"These tickets are a great equalizer," Friedman says. "You can compare them from project to project and discover that one guy is only working half as hard as anybody else."

The company also has separate schedules for routine maintenance—like changing air conditioning filters—and for annual capital improvements. For the latter, project owners are given a projection of what needs to be done—maybe it's time to replace 15% to 20% of the refrigerators.

"This way," Friedman says, "we don't distort the operating expenses in terms of being able to measure a project's performance on a year-to-year basis."

Friedman describes one company policy that may be unique in the field of apartment management:

"Every complaint letter is immediately copied for both Carl Freeman and me. This serves two purposes. "First, it gives us a very quick picture as to which projects are having problems; if you're getting a lot of complaints from a particular project, you know something's wrong.

"Secondly, our operating people know they won't be able to hide their troubles. And this is extremely important. Too often, operating people tend to believe

they can solve problems without help from the main office. But it can't always be done. Many problems get much bigger before they get smaller. If we don't know about them from the beginning, by the time we do find out, they can grow into a big crisis. It's like a small fire where no alarm is turned in until the fire is out of control."

Security is handled on a project-by-project basis. Each system has to be different because location and physical layout of the project dictate what can be done. So the company's safety procedures run the gamut from full security to none at all: In elevator buildings, there's full security—including TV cameras in lobbies; in some garden apartment projects, there's nothing. In between, a project may have a security guard who walks or rides around the property a couple of times a day or night.

In garden apartments "it's generally very difficult to have really effective security—too much ground to cover and too many individual entrances. About all you can do is keep certain areas—like trash rooms and individual laundry rooms—well lighted and locked and give each tenant a key," says Friedman.

One of the biggest problems in apartment management today is tenant clout. It's particularly rough, Friedman believes, in areas where the market is tight.

"What's happening," he says, "is that expenses and taxes keep going up. But because there's no place for people to move, when we try to increase rents, people raise hell. So we're caught in the middle because of political intervention. For example, Montgomery County, where we manage a lot of apartment units, recently held hearings on instituting rent control."

Another problem is getting your own people to realize that property management is basically a nickel-and-dime business, so there aren't a lot of major savings to be made.

"Management is a lot of small items," Friedman explains, "and the only way to really control them is to get the managers thinking in terms of spending their own money.

"Anyone in the business knows that if an owner goes to a job every day and approves every bill before it's paid, that job will run at less expense than one being run by a big management company.

"So what we do is give our managers pep talks, have continuing reviews. We try to get them to look at each expenditure to see if it's really necessary and find out if they can get a better deal."

—MICHAEL J. ROBINSON
JUNE R. VOLLMAN

**Now,
to see
how four
projects
cope with
common
management
problems,
turn
the
page**

Want a top quality project staff? Look to your own tenants

Not only do they do a better, more conscientious job, but they may save money in the bargain.

That's the experience of the JMS Investment Co., whose Tuileries project, Dallas, Tex., offers cash or concessions to several tenants in return for maintenance and other services.

For example, the project's management had had mediocre luck with pool cleaning contractors whose high school and college employees all too often were slipshod in their work. It canvassed the tenants and found a young man willing to handle the chore in return for a \$65 a month rent concession. Result: an immaculate pool at all times, since the tenant wants it clean for his own use too.

Similarly, the owner got another tenant, a deputy sheriff, to take charge of security. In return for a \$125 rent concession, the sheriff is on call 16 hours a day at the project; he also makes at least two complete rounds of the project at irregular hours each night.

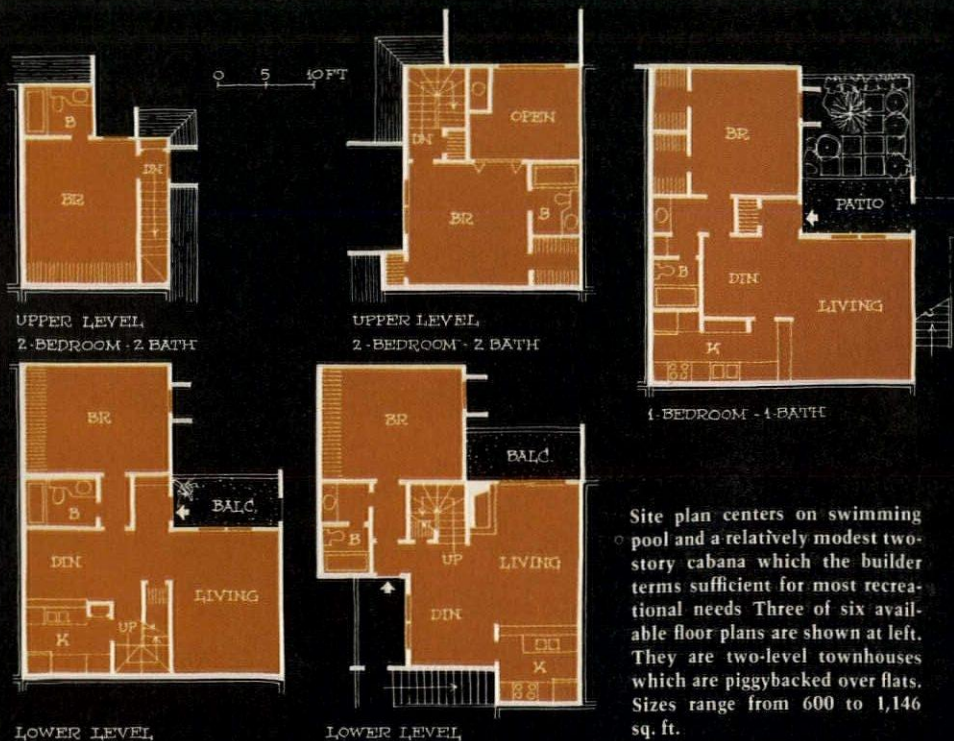
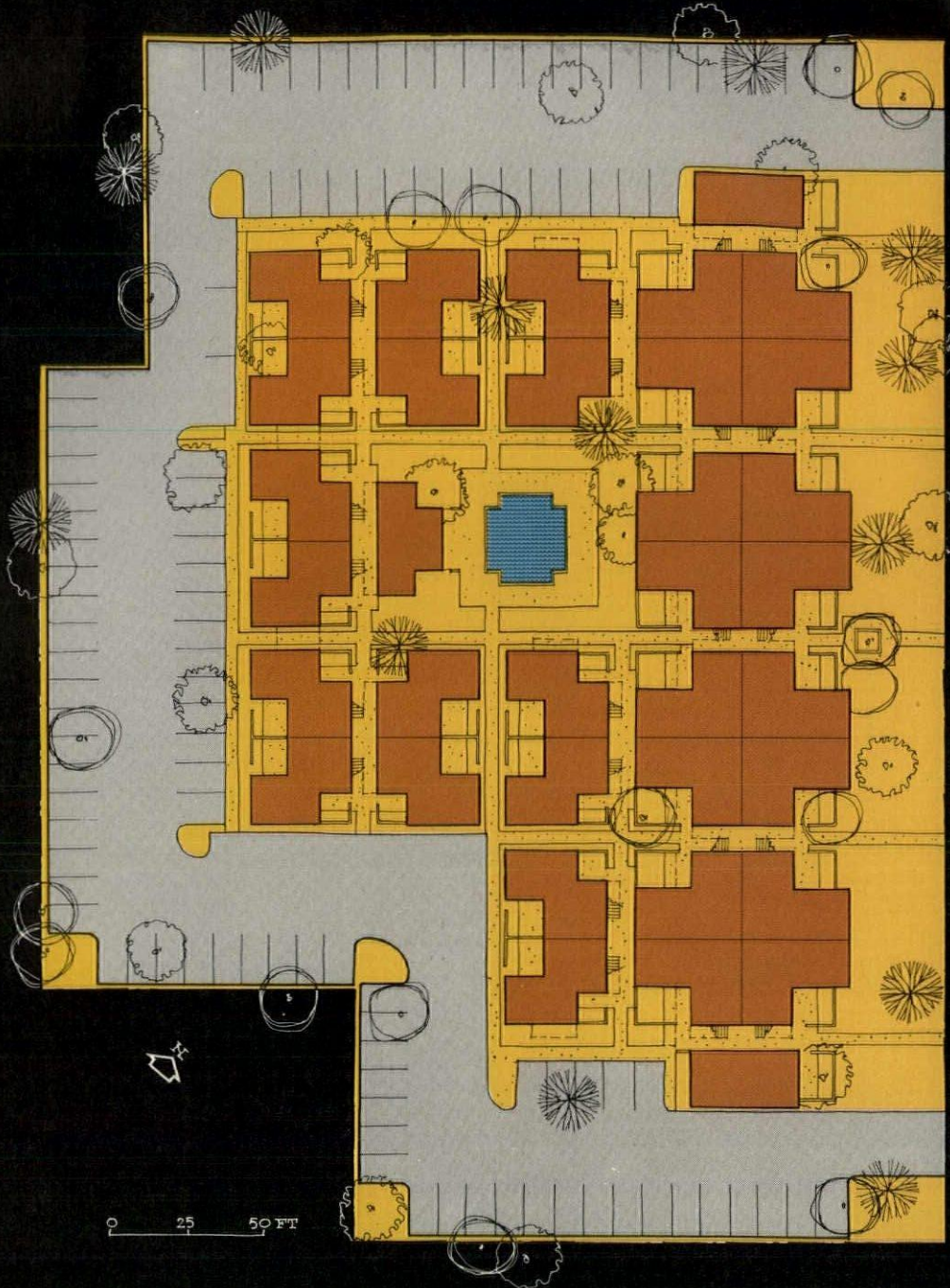
Other tenants are paid on an hourly basis to take charge when the project manager is away or to assist the maintenance manager when tenants need moving help.

The project is aimed at single people and childless couples in their twenties, and currently stands at 98% occupancy in a very tough Dallas market. Behind its success lie two main factors, according to the owner.

First, the recognition of the growing demand for one-bedroom units with an additional den or workroom. These units comprise eight of the project's 72 total and there should be more, the owner says.

Second, the emphasis on amenities inside the units themselves rather than on expensive clubhouses and similar facilities. Thus the apartments, which rent for \$150 to \$250, all have top-of-the-line refrigerators, private entries, wallpapered bathrooms and entries, patios or balconies and shag carpeting. In addition, two-story units have vaulted ceilings with a balcony overlooking the living room, and some units also have fireplaces.

The owners feel that a recreation building is not really missed by this market, since most activities involve either the swimming pool—where every week a keg of beer is donated by the management—or trips to nearby sporting events which management helps arrange. It has proven far more economical to rent a nearby bar for parties than to build and maintain extensive—and generally underused—recreational facilities.



Site plan centers on swimming pool and a relatively modest two-story cabana which the builder terms sufficient for most recreational needs. Three of six available floor plans are shown at left. They are two-level townhouses which are piggybacked over flats. Sizes range from 600 to 1,146 sq. ft.



Mansard roof shows influence of French architectural style on which the Tuileries—whose name was taken from the French palace—is based. Photo above shows the swimming pool area. Fences and wing walls (left) provide maximum privacy for the project, whose density is 32 units to the acre. Architect was Kirby-Mayer & Associates Inc.

Want to hold young tenants? Maintain a life style that they dig

The prime market for Apple, a 406-unit rental project in Santa Ana, Calif., is singles and young marrieds in the 21-to-30 age bracket. And Leadership Housing Inc. finds this group wants some very specific things. Items:

Lush, year-round landscaping. It's an item that consumes a full 15% of the project's operating budget, but it's so important to the marketing effort that weekly inspections are made to insure that the grounds always look as though they were planted that same day.

To keep the lush look permanent, the bulk of the original landscaping was done with evergreen trees, and every season the flower beds are replanted with annuals.

An extra room that can be converted into a den or sewing room. This was a real challenge to the architect's ingenuity because it had to be squeezed out of virtually the same space used for the one-bedroom units; otherwise rents would have had to be raised substantially. The solution was to sneak a little space here and a little there—eliminate a hall, make a dining alcove off the living room instead of a separate room, and cut down the size of the bedroom. Altogether, 192 of the project's 406 units have this plan, and they have been the easiest to rent up.

Bold interiors. Lime green, orange and brass are the eye-catching color schemes used in the models, and they make a powerful impact.

Luxurious recreational facilities. These include a \$275,000 clubhouse, heated pool, saunas, whirlpool bath and the like.

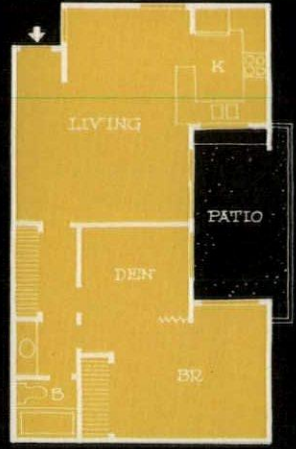
The project opened in April 1972, reached 92% occupancy in August and has since averaged between 90% and 95%, which, the developer says, is substantially better than its competition. Rentals range from \$140 for the furnished studio unit to \$210 for two bedrooms and two bathrooms.



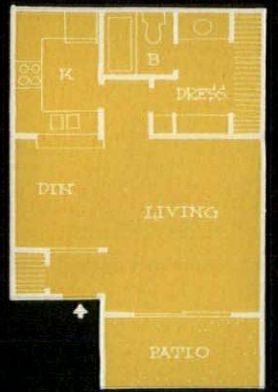




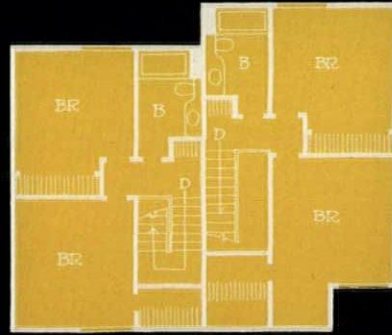
Alternating skewed clusters and curving walks (site plan) give the effect of more open space than actually exists. Density is 32.7—406 units on a 12.4-acre site. Floor plans range from 487 sq. ft. for the efficiency units to 962 and 1,011 sq. ft. for the duplexes (near right) which are piggybacked in pairs over the two-bedroom flats (far right). Architect: Rolly Pulaski.



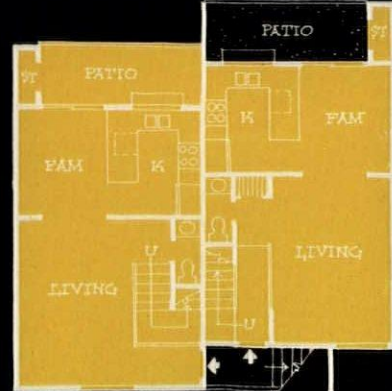
ONE BEDROOM & DEN UNIT



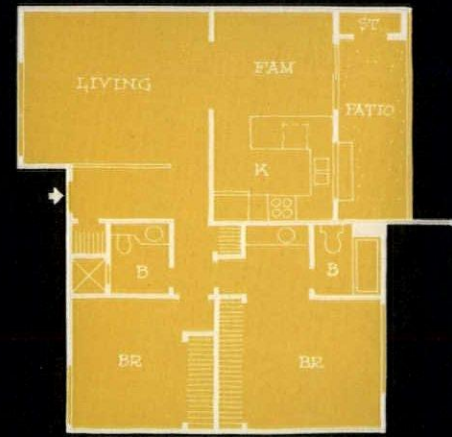
EFFICIENCY UNIT



UPPER LEVEL



LOWER LEVEL
TWO BEDROOM DUPLEX



TWO BEDROOM UNIT





PHOTOS: THE ASSOCIATION

Dining areas (left) and living rooms (above) in some units open onto patios, which tenants are free to landscape as they like. Interior amenities include air conditioning, wall-to-wall shag carpeting, private dressing areas and marble bathroom countertops.

Got a really tough rentup problem? Turn everybody into rental agents

And everybody means not only tenants but personnel managers of nearby companies and even real estate salesmen and other project managers.

That approach pulled Shadow Oaks, a 164-unit project in Walnut Creek, Calif., out of a very tough bind. The highly publicized Bay Area Rapid Transit system that was supposed to reach Walnut Creek was delayed two years. The delay left Shadow Oaks and 15 other rental projects in the area high and dry, and an already tough competitive situation worsened when one of the other 15 projects began cutting rents.

Unwilling to go that route, the developer, Klingbeil Co. of Columbus, Ohio, turned instead to an ultra-aggressive campaign that resulted in 85% occupancy after a year—excellent under the circumstances. Full occupancy is expected this spring when BART finally gets to Walnut Creek.

Bulwark of the campaign is Klingbeil's offer of a \$50-per-unit cash payment or rent concession to all quasi-agents who include:

Residents who bring in their friends. The pitch: "You'd like to be surrounded by people you like, so bring them in and make money on the deal." And, of course, such clusters of friends will be more likely to stay in the project.

Managers of neighboring adults-only communities. They send over prospects they cannot accept because of age or other restrictions.

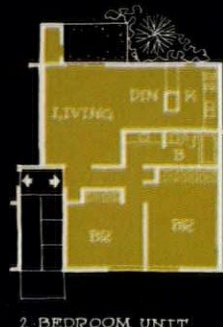
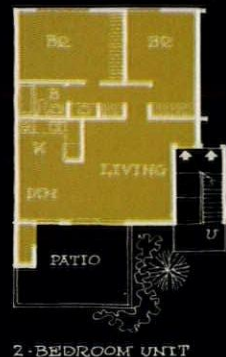
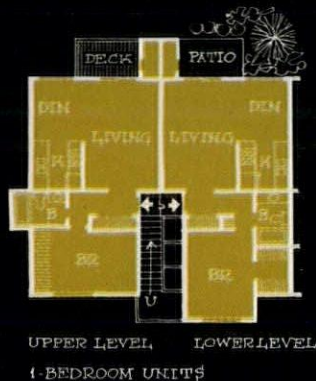
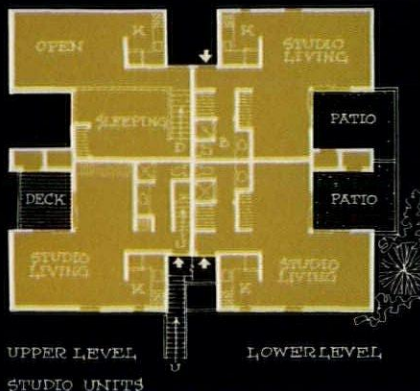
Real estate agents. These are the best sources of in-migrating families who normally would buy single-family houses but find those in the area much higher priced than equivalent housing back home.

Personnel managers. They don't receive the \$50 fee but are told how much cheaper it is to retain an apartment for trainees on temporary duty or transferred executives seeking housing than to rent motel rooms for them. In some cases relocated employees elect to stay on.

In addition, every prospect is asked where he works and the names of other people his company is bringing into the area. Since a number of nearby companies are expanding rapidly, this frequently starts a whole chain of referrals.



Split site is a minor marketing bonus, since tenants who are averse to children can live in the smaller section that is off-limits to families with kids. Floor plans range from 510 to 880 sq. ft.





PHOTOS: JOSHUA FREEMWALD

Architecture and landscaping provide a number of interesting contrasts. Color contrast comes from the rough-sawn cedar exteriors which accent the luxuriant landscaping, which itself provides a contrast of texture and color with olive trees and profuse ivy ground cover. And an interesting contrast of form results from the close proximity of horizontal trellises and vertical grape arbor fences (left). Architect: Kaplan & McLaughlin.

Is tenant friction causing too many moveouts? Make compatibility your keynote

Friction is more of a problem than most people realize—including the tenants themselves. Any minor but continual assault on the nervous system can create an annoyance level just below the threshold of consciousness. Then all it takes is the most trivial added annoyance—such as a leaky faucet not promptly fixed—and boom! There goes a tenant.

This almost never happens at Lake Park, a 254-unit project in La Mesa, Calif., according to the co-owners, builder Dean A. Vickery and Pacific Lake Park Development Co. The project numbers among its contented residents two millionaires who could certainly afford to buy detached housing if they chose to. Moreover, at 98% occupancy, the project is about five percentage points over the prevailing rate in the area.

Of the three keys to this success that Vickery cites, the most important is tenant screening. This involves far more than merely culling out undesirable prospects; it also means very careful selection of the families who will live in each three- or four-unit structure.

The watchword is compatibility—the partygivers go into one building, the hi-fi bugs into another, the milquetoast types into a third, and so forth. And further divisions are made according to age, since the tenants range all the way from college students to retired people.

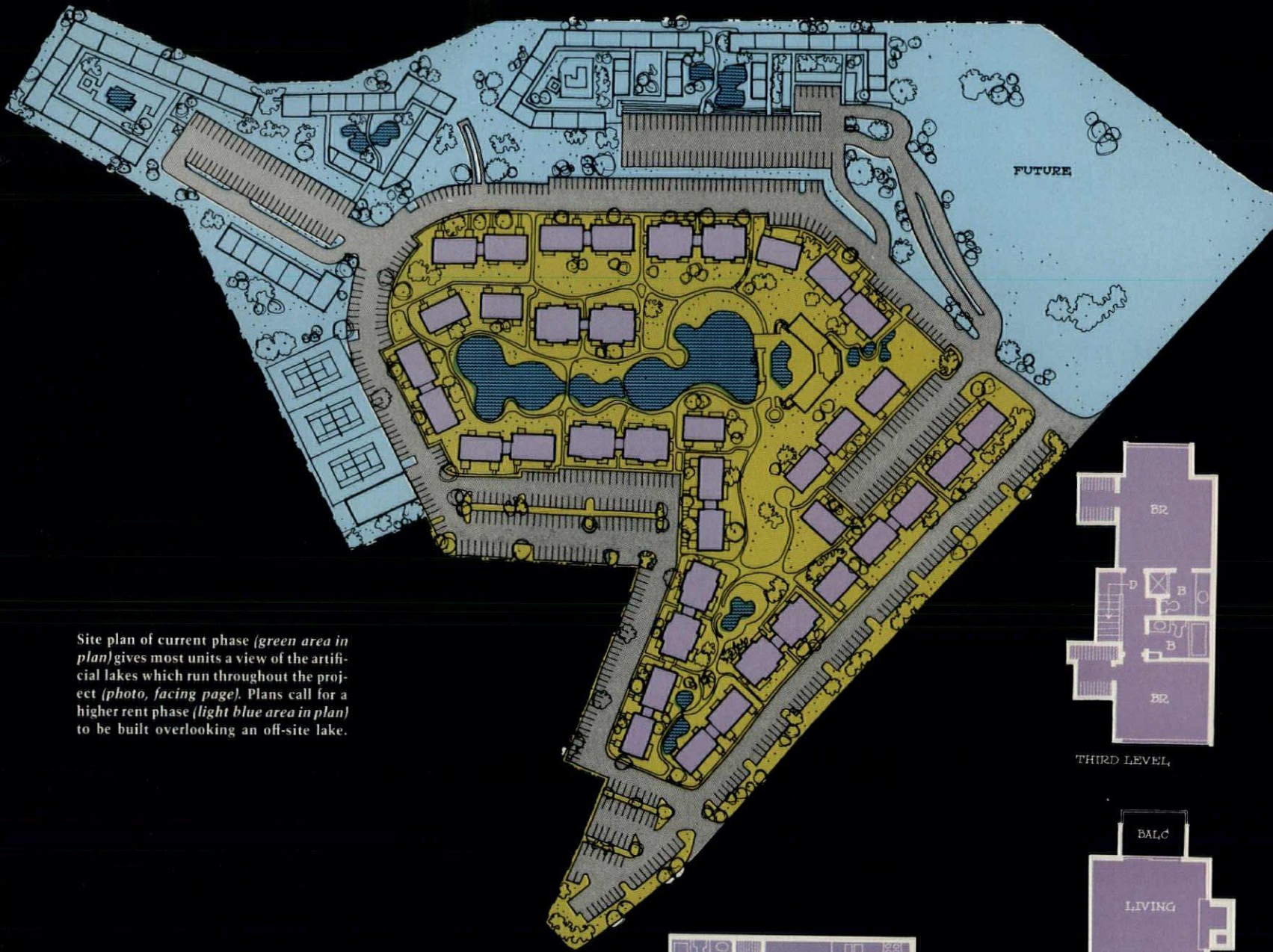
What makes the system work is a project manager with very keen antennae who can tell in a few moments whether the prospective tenant belongs in the community and if so, where. And although such selectivity did delay the initial rentup, the low turnover has much more than made up for it.

The second key is management's aim to instill as much of an own-your-home feeling as possible within the strictures of a rental project. This means, for example, placing no restrictions on wallpaper—Vickery says a tenant's desire to paper his apartment is a real indication that he intends to stay. And it means management that strives to be helpful when help is requested but is unobtrusive at other times. For example, management makes no attempt to drum up interest in the recreational facilities, which are simply there for residents who want them. (Some rather unusual services such as a notary public and a copying machine are free of charge.)

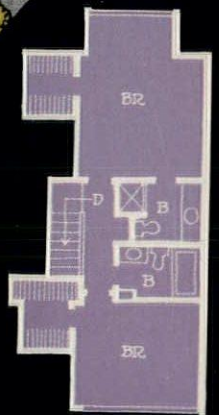
The third key is a simple but vital one—soundproofing to the maximum possible extent, including double walls and foamed-in plumbing. It helps to keep that annoyance level way down.



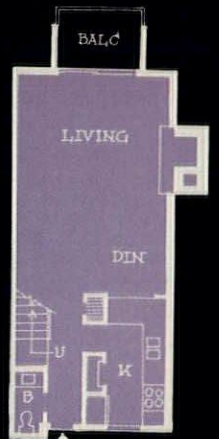




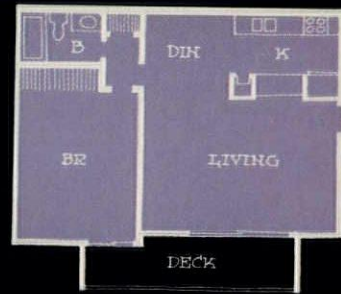
Site plan of current phase (green area in plan) gives most units a view of the artificial lakes which run throughout the project (photo, facing page). Plans call for a higher rent phase (light blue area in plan) to be built overlooking an off-site lake.



THIRD LEVEL

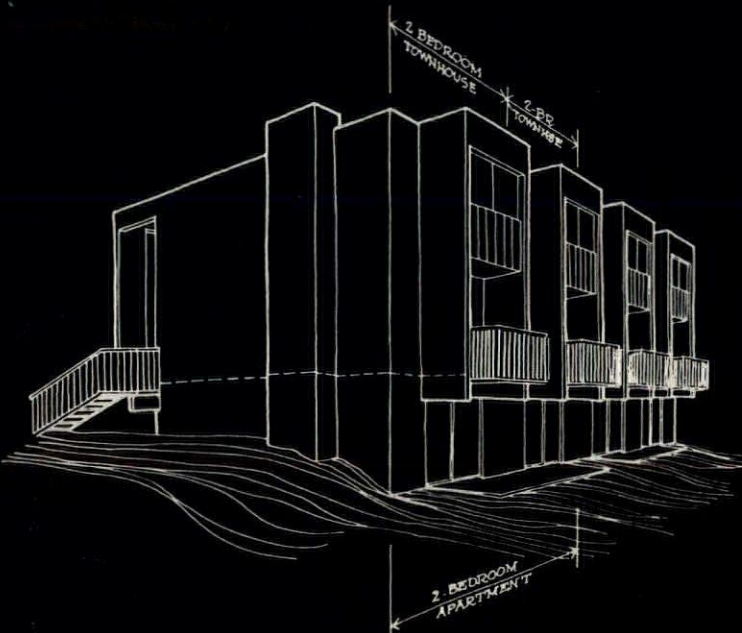


SECOND LEVEL, 2-BEDROOM TOWNHOUSE

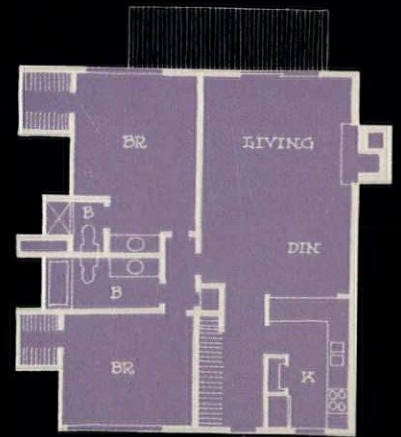


ONE BEDROOM APARTMENT

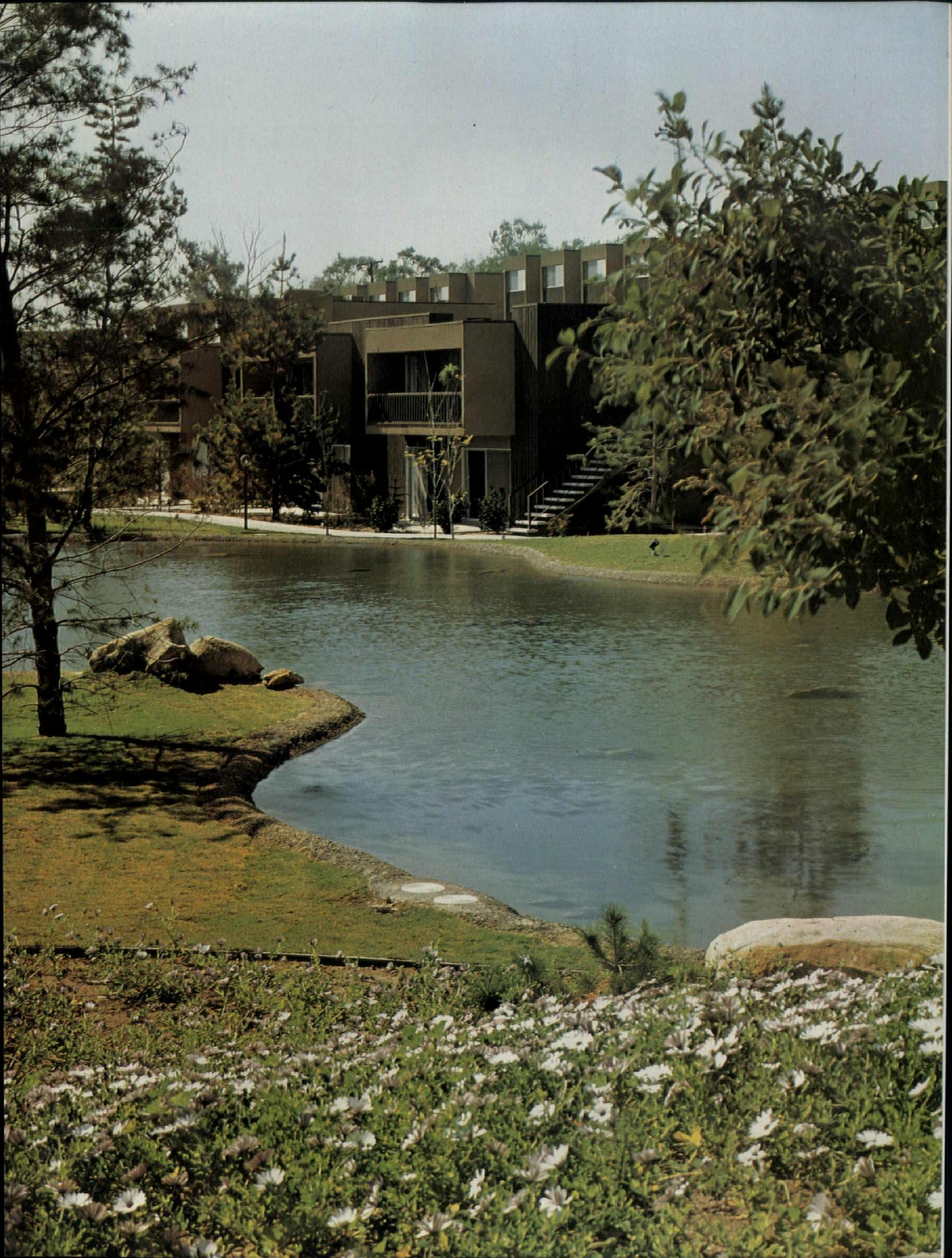
0 5 10 FT



Unit mix includes 116 two-bedroom townhouses piggybacked in pairs over 58 two-bedroom, below-grade flats (drawing, left), plus 80 one-bedroom apartments in two-story quadruplexes. Architect: Brian Paul.



FIRST LEVEL, 2-BEDROOM APARTMENT



“Our customers show a marked preference for Nord doors.”



"We like them for other reasons."

Kenneth L. Murrow, president of the Jayhawk Construction Company, has built 3,000 homes in Topeka, Kansas. He knows the trends. And he knows quality. His customers like the variety of designs Nord offers. Keeping his customers pleased is enough reason for Murrow to choose Nord doors. But he has other reasons, too. "We like the functional quality, design, and workmanship. Just as important, the prices are competitive. And we appreciate the outstanding distributor service we receive."

25 years of quality homes

Eighty percent of Jayhawk Construction's sales are by referral. That's indicative of the quality homes Murrow builds. His latest development is Briarwood West, a 260 unit townhouse complex where prices range from \$40,000 to \$75,000. It's part of a total development that will contain 500 units upon completion. To achieve individuality and maintain quality, Murrow selected four different Nord carved designs for the entry doors in Briarwood West.

The Nord Philosophy

Both Murrow and Nord have been in business for 25 years. Since the beginning, they've both been concerned with quality. Nord's founding philosophy is still an integral part of their manufacturing process. It's a policy of combining old-world craftsmanship and natural wood with modern technology. So Nord uses electronic gauges to reject any lumber with undesirable moisture. But in the end, skilled artisans hand-finish each Nord door.

Nord's balance of technological innovation and skilled artisans who take pride in their work has paid off. It provides builders, like Kenneth Murrow, with distinctive doors at "commodity" prices. And it provides home buyers with a variety of designs and lasting quality.

For full-color literature on the new Nord doors of distinction, just write "doors" on your letterhead and mail to E. A. Nord Company, Everett, WA 98206.



Kenneth Murrow and the Nord Cortez entry doors used in Topeka's 260 unit townhouse project, Briarwood West.

NORD

MAKES IT BETTER — NATURALLY



It's easier to sell a house when it looks as if it's worth the price.

Most people don't know much about building, but they do know something about brick.

They know that, unlike aluminum or wood, brick is durable, provides good insulation and is almost maintenance-free. And that it is the ultimate in fire protection. When potential buyers see brick, they're impressed.

So a smart builder uses brick. Especially in exterior walls.

He knows that the outside of a house is good for about 80 per cent of a buyer's first

impression. And only about 5 per cent of the house's cost.

He also knows that if the first impression isn't a good one, he usually won't get a second chance.

A smart builder uses brick for inexpensive custom touches, too. To make the house look as valuable as it is.

After all, a buyer doesn't know as much about your house as you do. So you have to give him a little help.



**BRICK INSTITUTE
OF AMERICA**

1750 Old Meadow Rd.
McLean, Va. 22101

Sliding Door



Swinging Door



Sales leader
for 12 straight years.

Same Price

Only Ford vans have so many better ideas that make vans easier to drive, to service, to use.

Ford offers you a choice of conventional swinging doors or, at the same price, a sliding side door for cargo handling in cramped alleys and beside loading docks. Three separate tracks—at top, bottom and center—give bridge-like support for solid, smooth one-hand operation and tight door seal.

Shorter outside, easier to park. Compared to other makes with similar loadspace, Econolines have significantly less overall length for better maneuverability in city-delivery operations.



Easy, out-front servicing. Routine service points are right at hand under convenient outside hood: water, oil, battery, wiper motor, voltage regulator, master cylinder, and many others.

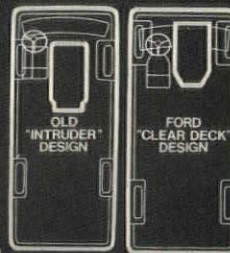
Strong, Twin-I-Beam Independent Front Suspension — Ford's exclusive design smooths the going for both load and driver. Two forged steel I-beam axles provide strength and durability; wide wheel stance means stability in cross winds.



Wider at top for built-ins. Body sides are more vertical, wider apart at top than other vans. Built-in units fit better.

Big payloads. Three series, in two lengths, offer maximum payload of over two tons.

Engine clear forward. In Ford's van design, engine is all the way out of the cargo area. Over 8½ ft. clear floor behind driver's seat, over 10 ft. in the SuperVan.



FORD ECONOLINE VANS

FORD DIVISION

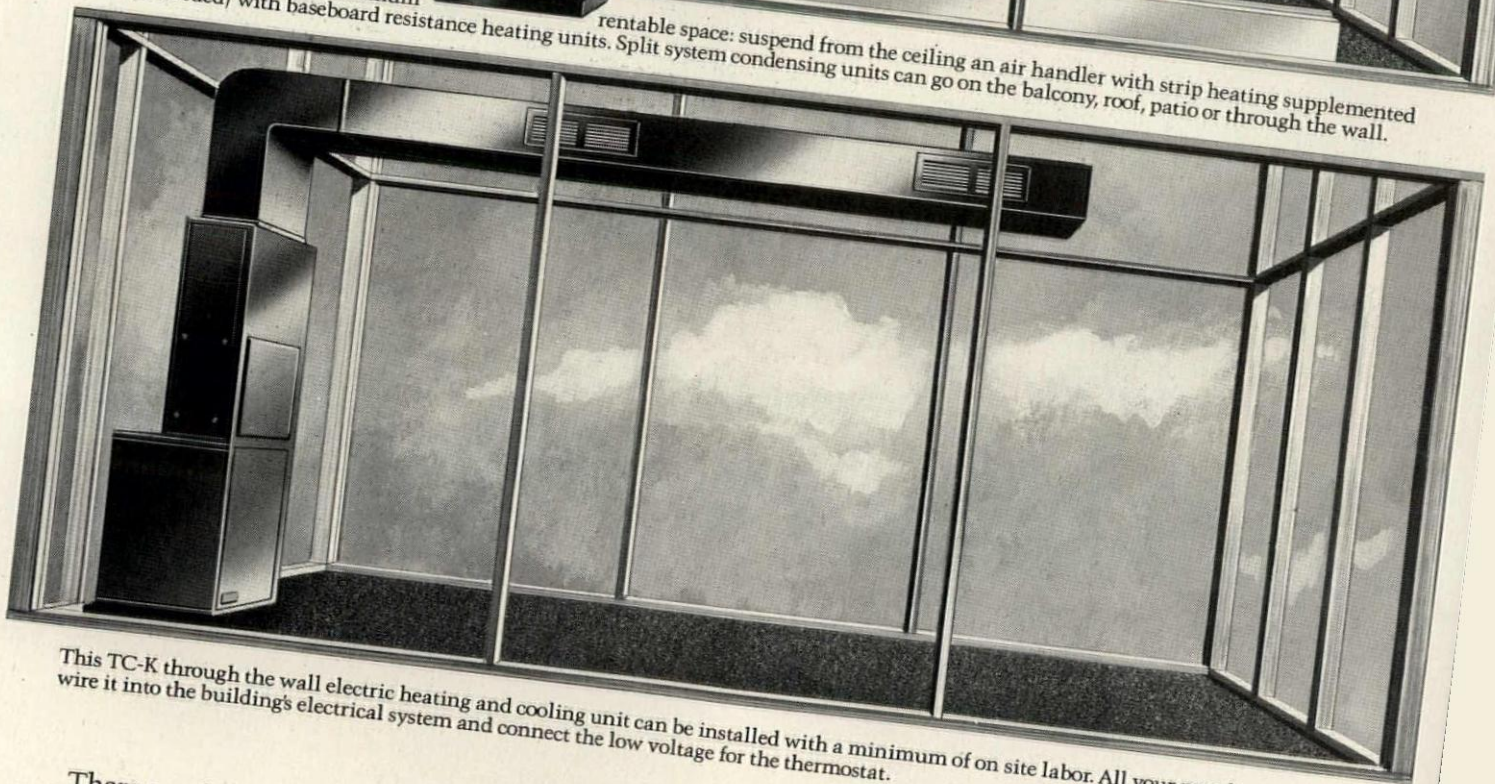


Availability may be subject to Environmental Protection Agency certification

General Electric's heating and and why you should



This system gives a maximum (if needed) with baseboard resistance heating units. Split system condensing units can go on the balcony, roof, patio or through the wall.



This TC-K through the wall electric heating and cooling unit can be installed with a minimum of on site labor. All your men have to do is wire it into the building's electrical system and connect the low voltage for the thermostat.

There are almost as many ways to heat and cool an apartment as there are architects, building codes and utility tariff schedules.

This could mean coordinating different work crews, dealers and warranties. It doesn't have to.

Not if you choose General Electric. With GE, you can get natural gas (or propane) furnace heating, electric

furnace heating, heat pump or electric baseboard heating as a primary or supplementary source. From one source.

We'll sell you a split system air handler that has optional electric heat and measures a mere 10" high, by 34" wide, by 19" deep.

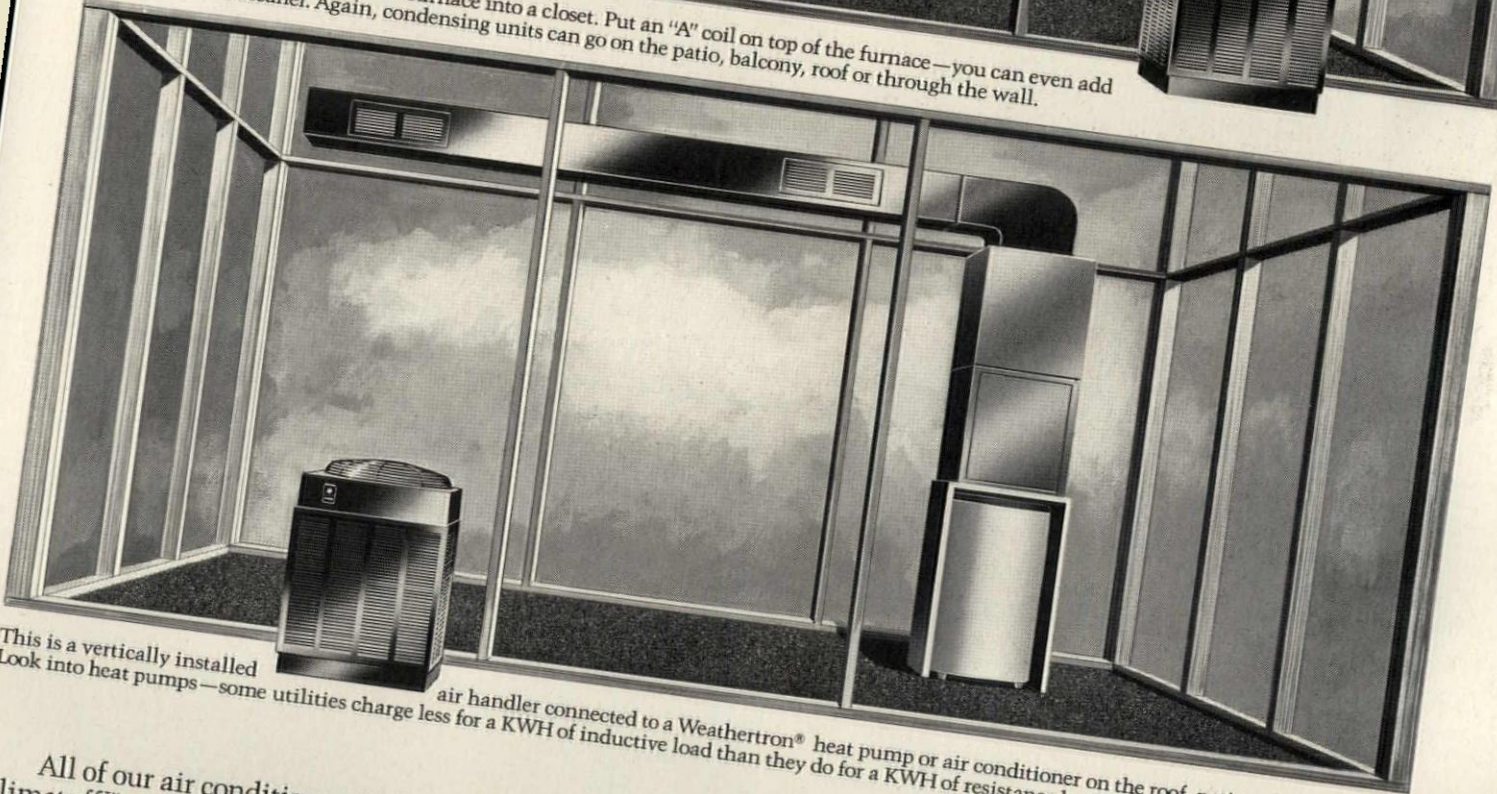
We have a line of accessories: thermostats, humidifiers, electronic air cleaners and electric resistance heaters.



cooling systems for apartments install one of them.



Put this LU-C gas, or LE-C electric furnace into a closet. Put an "A" coil on top of the furnace—you can even add an electronic air cleaner. Again, condensing units can go on the patio, balcony, roof or through the wall.



This is a vertically installed air handler connected to a Weathertron® heat pump or air conditioner on the roof, patio or balcony. Look into heat pumps—some utilities charge less for a KWH of inductive load than they do for a KWH of resistance load.

All of our air conditioners have our unique Climatuff™ compressor—the one that has proven itself in more than 750,000 installations.

All of the condensing units shown have our Spine Fin™ condensing coils that eliminate almost all of the brazed joints where leaks may occur.

We also offer a National Service Contract on our equipment. This contract, between purchaser and the General Electric Company, establishes maintenance

costs (labor and parts) from the second through the fifth year after installation.

All from GE. A name known and respected by any potential tenant.

Your local dealer is in the Yellow Pages under "Air Conditioning Equipment and Systems!"

GENERAL  ELECTRIC

Security:

Everybody wants it — and you can sell it with these new products

Your prospective buyers or tenants may not raise the question, but more often than not it's on their minds: How secure is this project from professional thieves, casual rip-off artists or even less savory intruders?

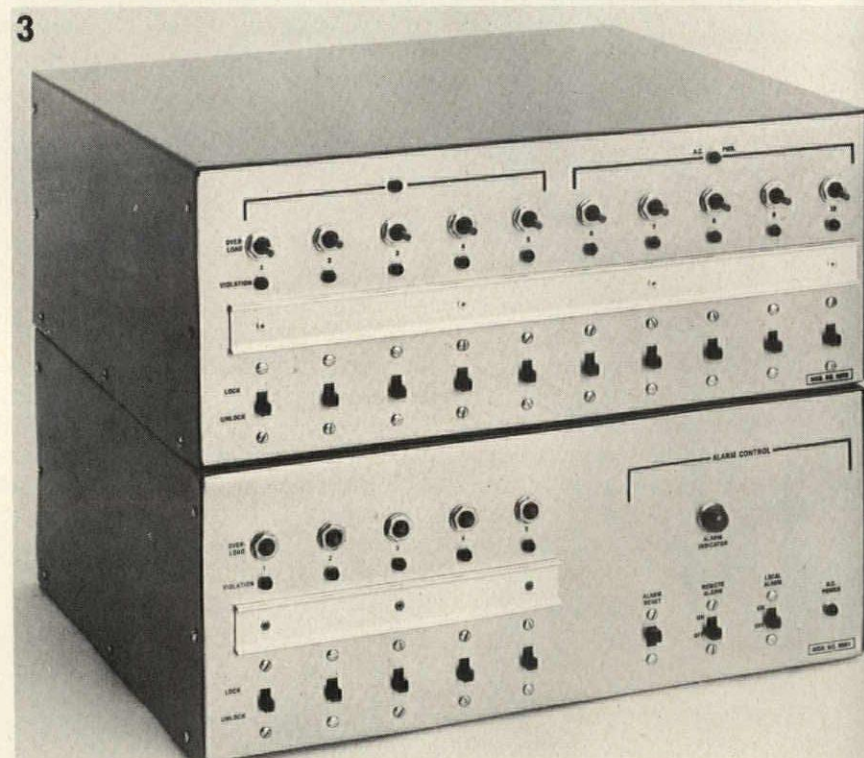
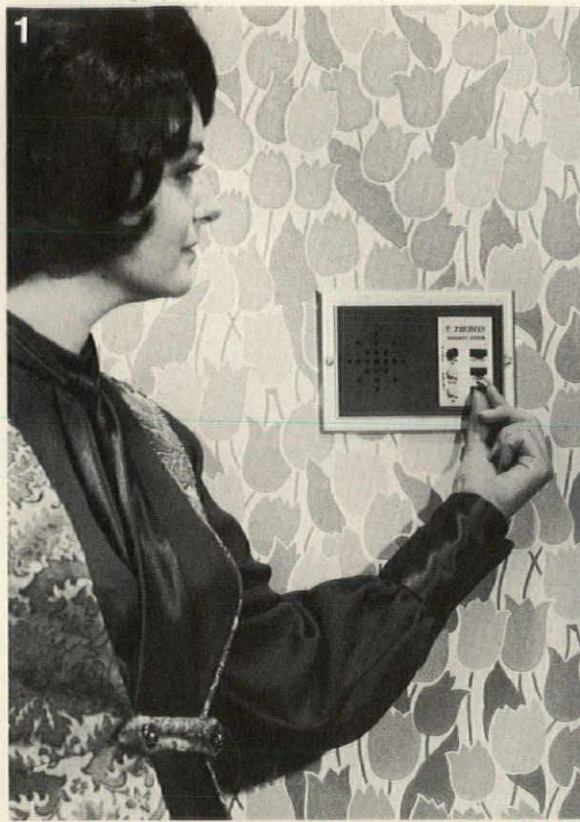
The answer to that question can spell the difference between high and low apartment occupancy or fast and slow house sales—particularly in major metropolitan markets.

Just how much security you build into a project will, of course, depend on what you're building and where—townhouses in suburbia, for example, or high-density apartments in an urban area. In any case, the problem is twofold: first, how to monitor and control outsiders entering the project; second, how to protect the individual units.

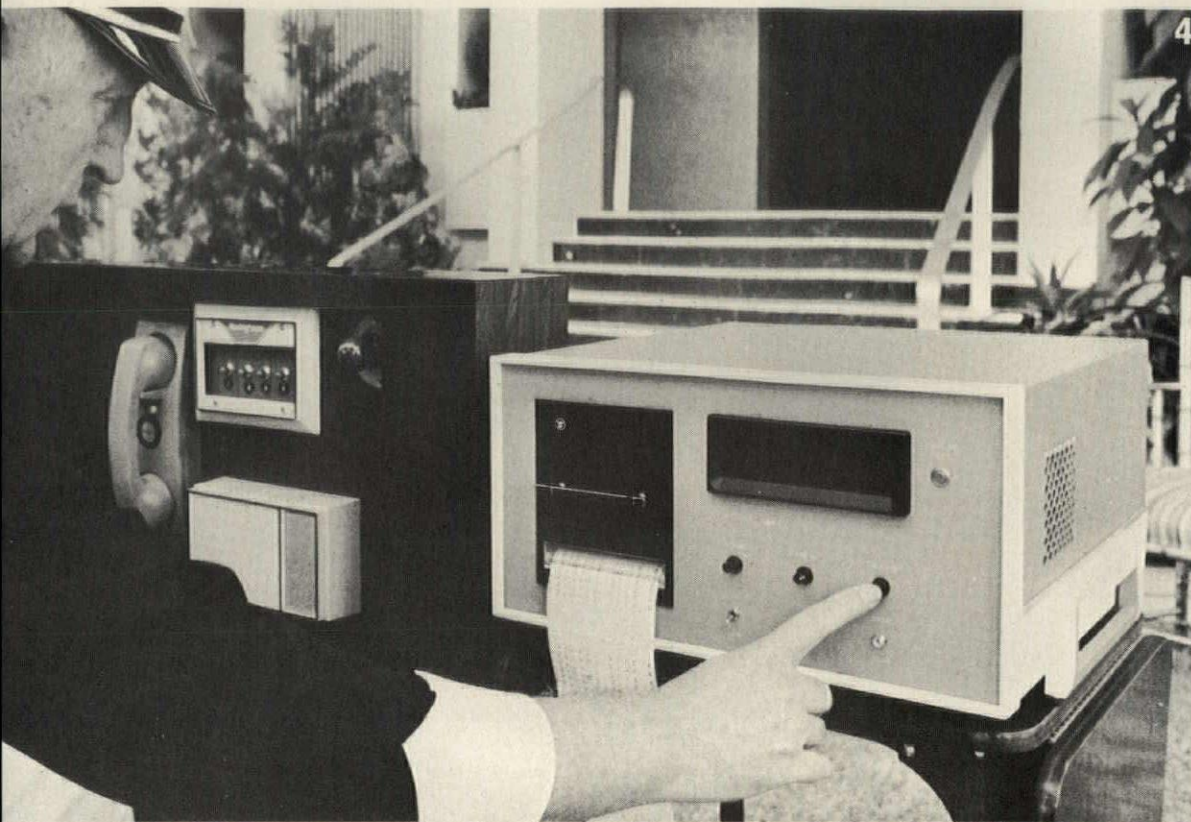
Part of the solution is a matter of early planning—arrangement of buildings, location of building entries, layout of access roads and pedestrian walks and the like. And part of the solution hinges on your choice of security equipment.

In the past few years the housing market has been deluged with such equipment—everything from simple locksets to sophisticated monitoring and detection systems. This multiplicity of competing products has its good and bad points as far as builders and developers are concerned. On the one hand, it has tended to bring down prices. On the other, however, it has complicated product selection.

To clear up some of the confusion—and to help you pick the right product for the job—HOUSE & HOME presents the security devices and systems shown on this and the following pages.



marketplace



4

Security Systems

Intrusion and fire alarm (1) operates from a master control panel in the house. The forced-entry system is activated by low-pressure voltage switches in doors and windows. A horn, sounding intermittently, signals intrusion and a steady blast warns of fire. Systems come individually also. Thomas, Louisville, Ky. CIRCLE 260 ON READER SERVICE CARD

Surface-mounted intrusion alarm (2) is activated by magnetically wired window and door switches. Manual switches, located around the premises, enable an occupant to sound an alarm. A keylock device at the entry door remotely controls the system. Rittenhouse, Honeoye Falls, N.Y. CIRCLE 261 ON READER SERVICE CARD

Electronic door monitoring system (3) registers an alarm at a central control panel if an individual door is tampered with or opened. A patented electric contact-switch hinge connected to a specially wired electric door-lock trips the alarm if disturbed. Monitor lights on the master unit pinpoint the trouble-area. Hager Hinge, St. Louis, Mo. CIRCLE 262 ON READER SERVICE CARD

Apartment security system (4) includes a master control panel installed in each unit that signals fire, intrusion or emergency. A printed warning is flashed across a screen and an alarm is sounded. A message is also received at a main communication center shown. Westinghouse, Pittsburgh, Pa. CIRCLE 263 ON READER SERVICE CARD

Fire and smoke detector (5) utilizes an ionization-type sensor that is super-sensitive to the products of combustion given off in the earliest stages of a fire. Up to six units can be interconnected to transmit an audio alarm through the premise. Pyrotronics, Cedar Knolls, N.J. CIRCLE 264 ON READER SERVICE CARD

Apartment door answering system (6) permits tenants to use their regular telephones to identify visitors before admitting them to the building. Each apartment has a three-digit code which the visitor dials from a Touch Tone® panel phone in the lobby. The tenant answers his phone and can dial in the visitor. AT&T, New York City. CIRCLE 265 ON READER SERVICE CARD

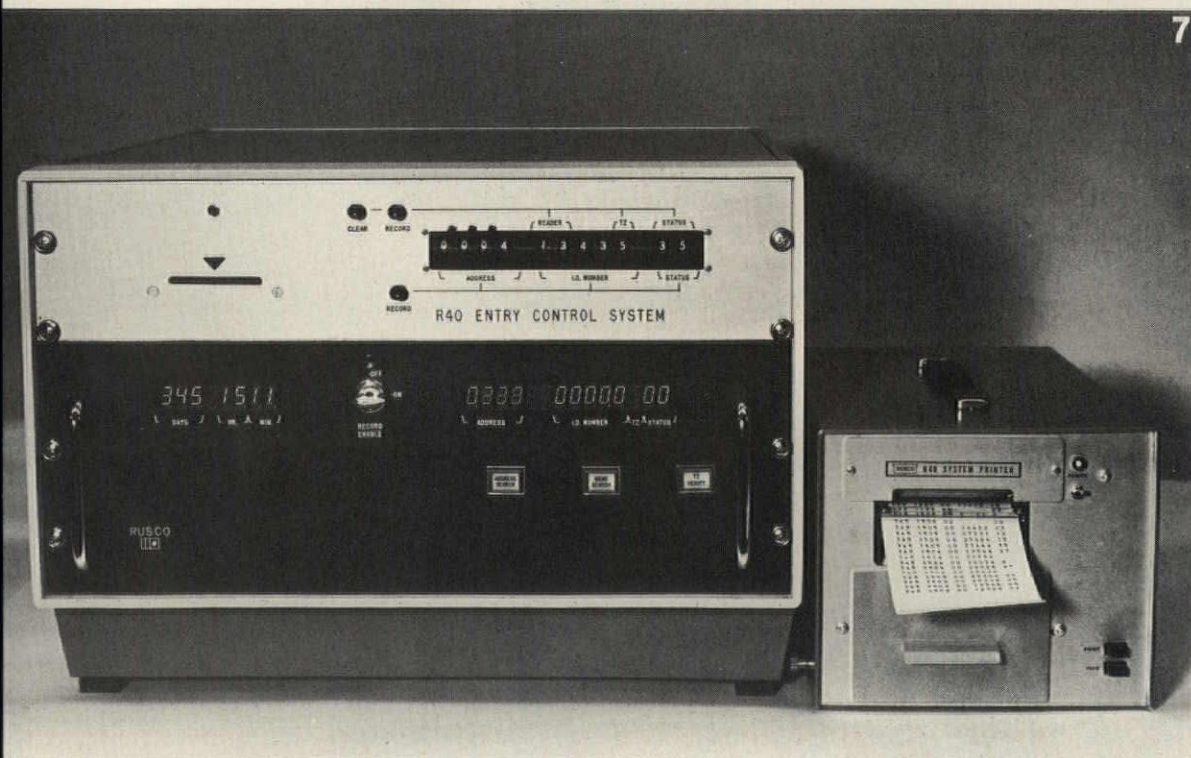
Access control system (7) utilizes remote solid-state card-operated readers and a centrally located mini-computer console. Entry is permitted by plastic card only or by card plus personal code. The system permits recoding. Rusco, Pasadena, Calif. CIRCLE 266 ON READER SERVICE CARD



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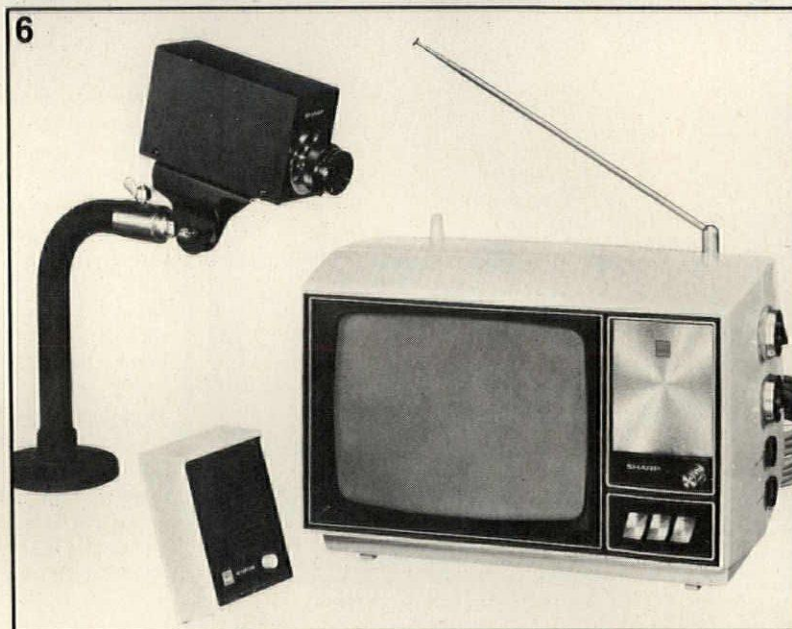
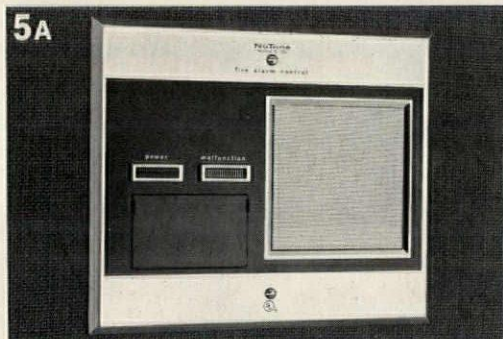
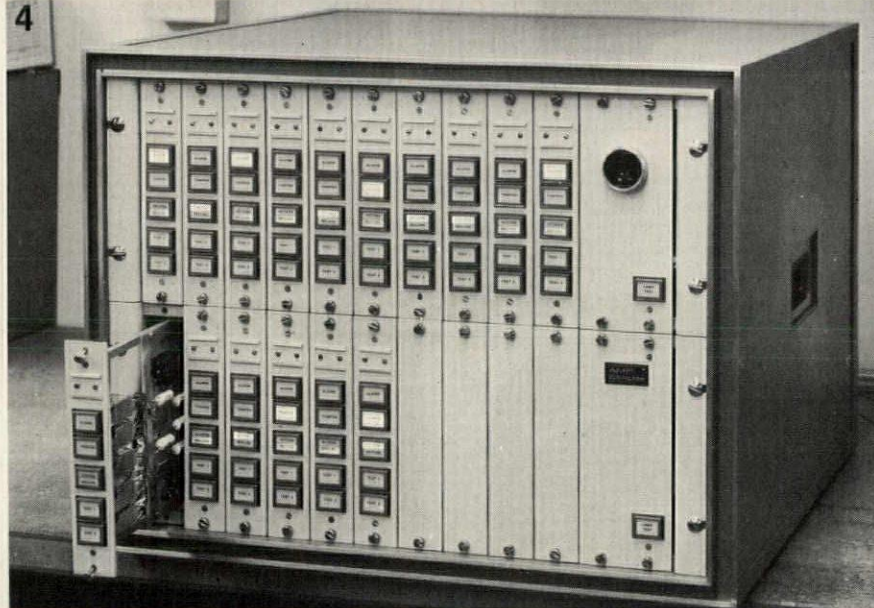
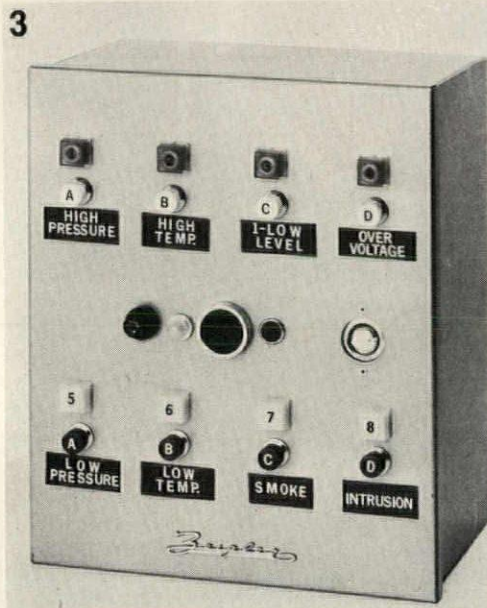
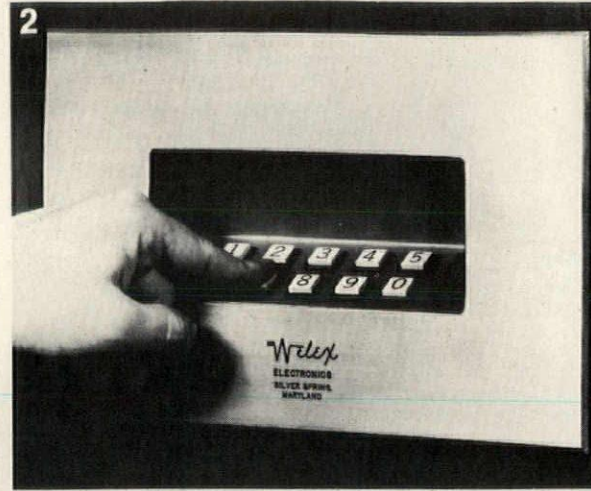
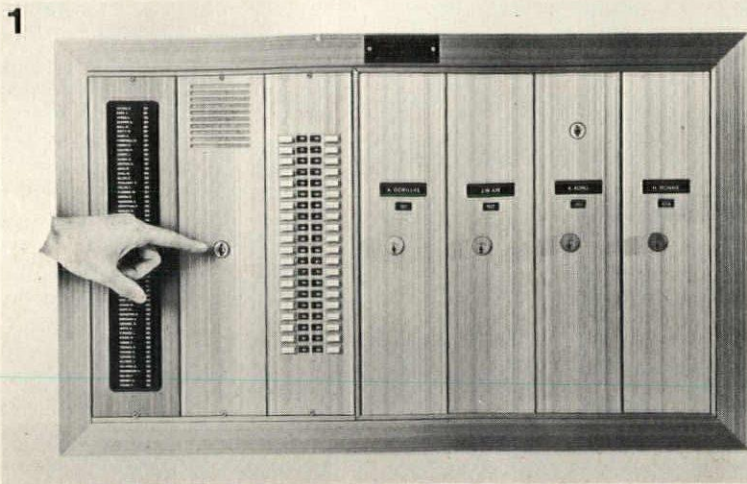


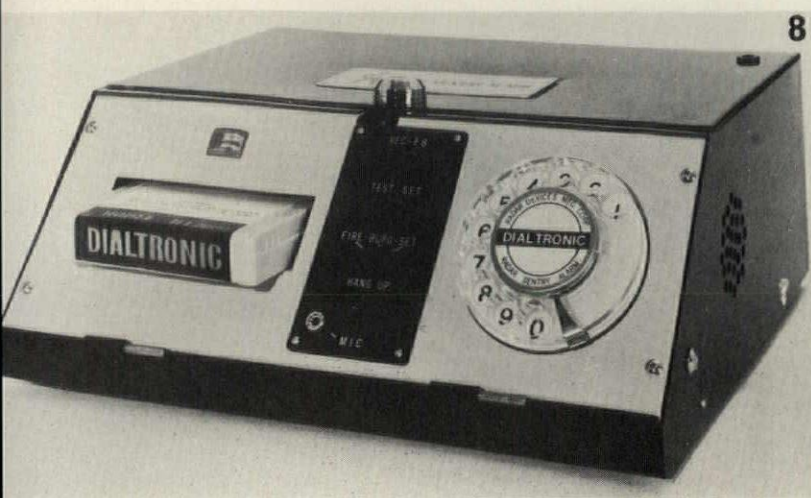
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marketplace





8

Voice-actuated intercom system (1) is equipped with a key-activated time delay door-opener that permits a postman to gain access to a lobby. When a postal service master key is inserted into the device and turned to the right, the door opener is activated for 12-15 seconds. This system eliminates the need for a separate key-keeper box. American Device, Steelville, Ill. CIRCLE 267 ON READER SERVICE CARD

Access control system (2) utilizes existing locks and a special electric door strike. The quick entry combination-lock system consists of a pushbutton entry panel mounted outside the door and a control unit located inside. Three to six digit combinations can be easily programmed into the control unit. Options include penalty and alarm circuits for erroneous entries. Welex Electronics, Silver Spring, Md. CIRCLE 268 ON READER SERVICE CARD

Annunciator and control panel (3) is engineered to work with new or existing security systems. Panels with computer-type circuitry may include flashing light indicators, loud pulsing beeper alarms or a combination of both. The system, which can be connected to monitoring devices, can report temperature, air or liquid flow, existence or absence of liquids, smoke, intrusions or any other detectable condition. Zeigler, Gardena, Calif. CIRCLE 269 ON READER SERVICE CARD

Security alarm monitoring system (4) will work with various types of sensors and detectors. Individual line monitoring plug-in modules have lighted pushbutton indicators that pinpoint any disturbance. Accessibility to the protected area is controlled by switches on the master unit. Two separate test indicators are also provided. An audible alarm is sounded and appropriate lights flash when a line registers a change from the normal. AMF, Alexandria, Va. CIRCLE 270 ON READER SERVICE CARD

Built-in fire alarm system is designed to give early warning in case of fire or lethal smoke accumulation. System consists of surface-mounted smoke/heat detectors, ceiling-mounted fire/heat sensors (5B), recessed control panel (5A) and an outside alarm and flashing beacon. A buzzer sounds if a detector circuit malfunction occurs. Nutone, Cincinnati, Ohio. CIRCLE 271 ON READER SERVICE CARD

Closed circuit TV system (6), designed to provide complete home security, comes equipped with a camera, monitor, 2-way intercom, 50' cable and camera mounting bracket. The easy-to-install monitoring system offers sharp, clear reception. A built-in electronic

eye adjusts automatically to light change for a uniform picture. Sharp Electronics, Paramus, N.J. CIRCLE 272 ON READER SERVICE CARD

Burglar alarm system features a special keyless door control (7) that allows family members to enter and leave the home without setting-off the alarm. System can be deactivated by punching out the correct code on a pushbutton panel located inside the entry door. When alarm is tripped, a loud warning sounds at the house and is simultaneously relayed to a central control office. ADT, New York City. CIRCLE 273 ON READER SERVICE CARD

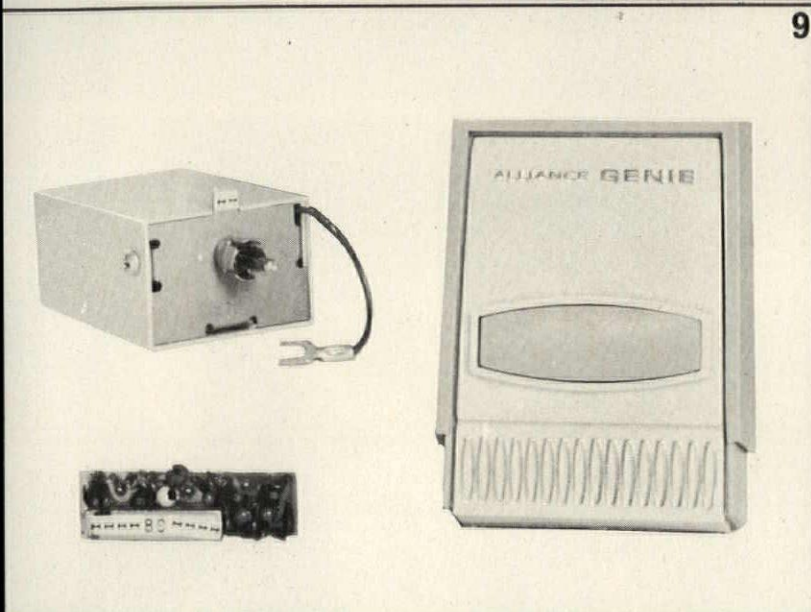
Automatic telephone dialer (8) for alarm systems permits fast, silent communication of prerecorded distress messages to police, fire department or other designated parties. The device, which can be connected to even the simplest security system, will automatically dial a preprogrammed number and deliver a prerecorded message when the alarm is activated. Mountain West Alarm Supply, Phoenix, Ariz. CIRCLE 274 ON READER SERVICE CARD

Garage Controls

Garage door radio-control (9), "Cryptar", increases the number of radio frequencies available from 144 to 1,440 thereby decreasing break-in possibilities. The system consists of a plug-in element (upper left) for the garage receiver and a miniature circuit (lower left) for the hand transmitter (right). Random unwanted signals that might cause erratic or unauthorized operation of the door are filtered out. Alliance, Alliance, Ohio. CIRCLE 275 ON READER SERVICE CARD

Automatic garage door opener (10) features a self-energizing batteryless transmitter. The "Astro 300" transmitter unit contains a miniature generator activated by a thumb lever on the case. Unlike batteries, unit is not affected by cold, heat or aging. The opener also features light delay to keep garage light on, an automatic reverse if the door meets an obstruction and a separate key switch to activate the opener from outside the garage. Stanley Door, Birmingham, Mich. CIRCLE 276 ON READER SERVICE CARD

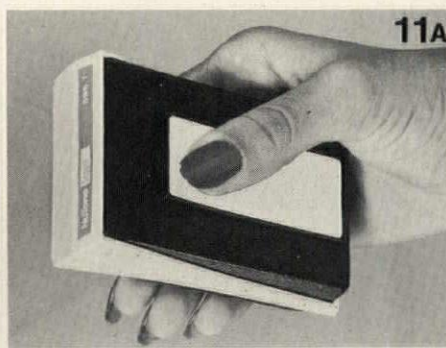
Automatic garage door opener for radio control transmitter/receiver operation (11A&B) is equipped with a 1/3 hp. motor for use with 18' doors. A springloaded chain assures smooth operation. The power mechanism is completely protected by a steel housing. Features include a reversing action to avoid obstructions, a safety clutch and security lock and time/delay light. Nutone, Cincinnati, Ohio. CIRCLE 277 ON READER SERVICE CARD



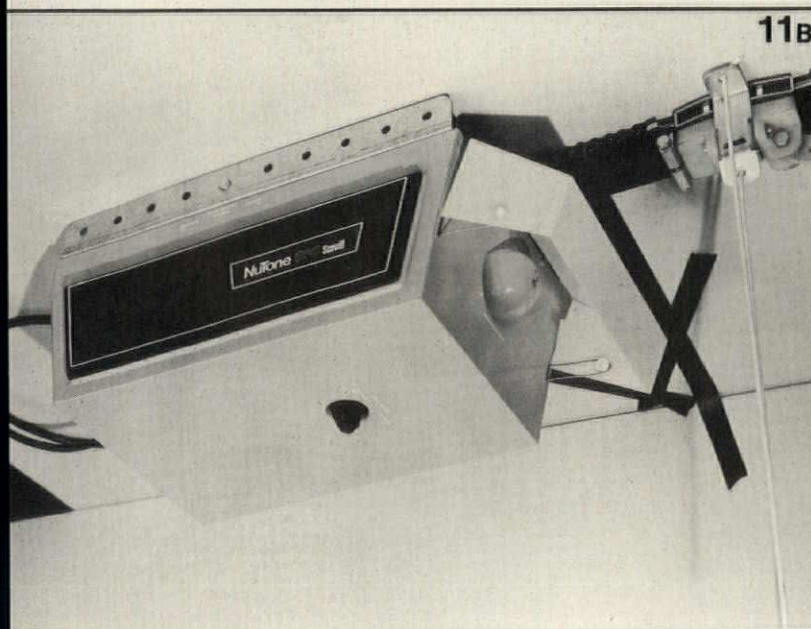
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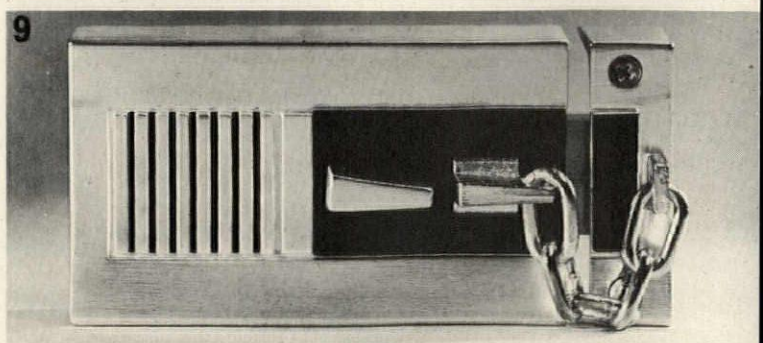
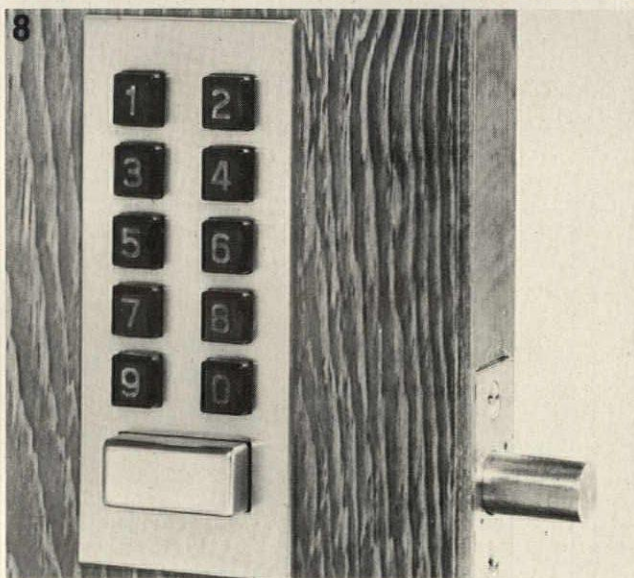
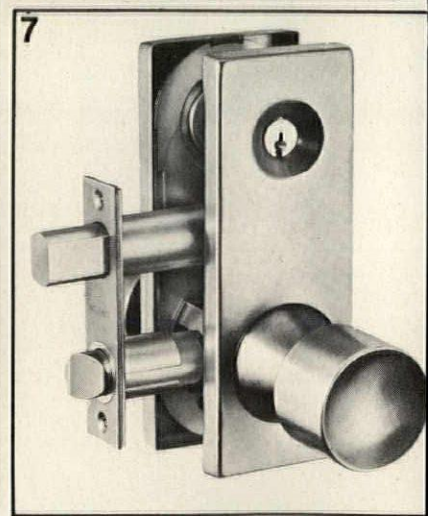
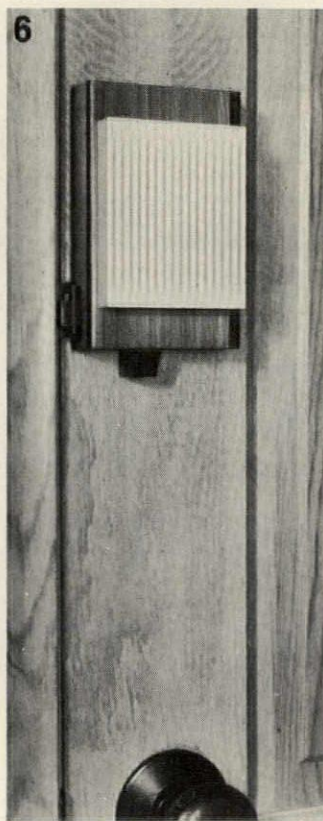
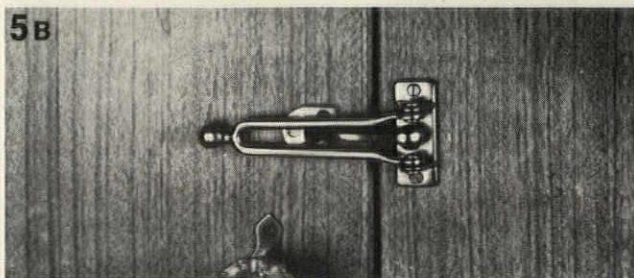
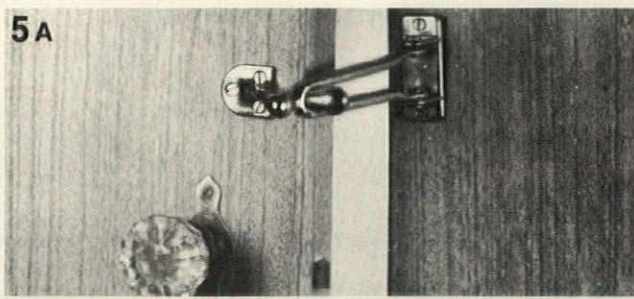
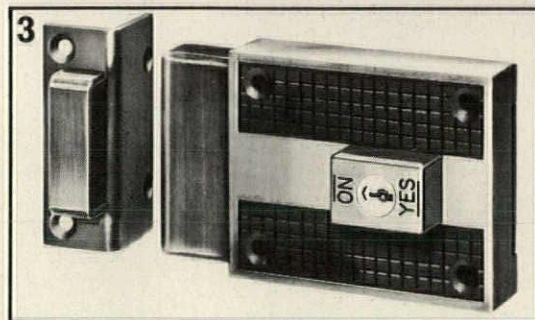
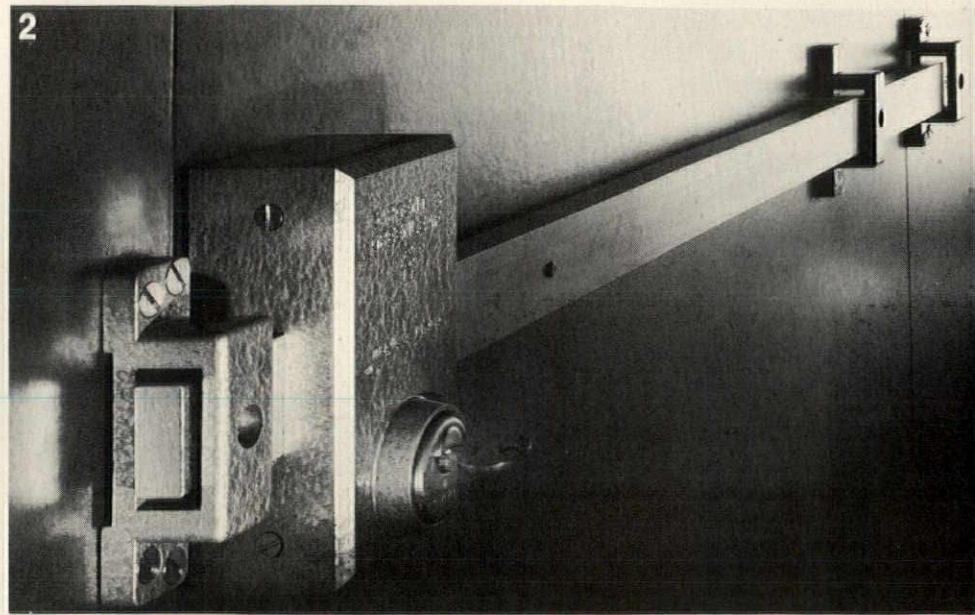
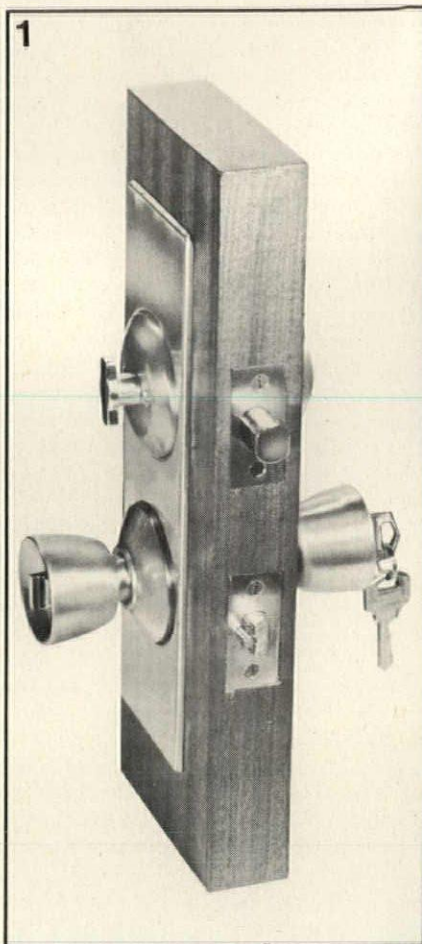


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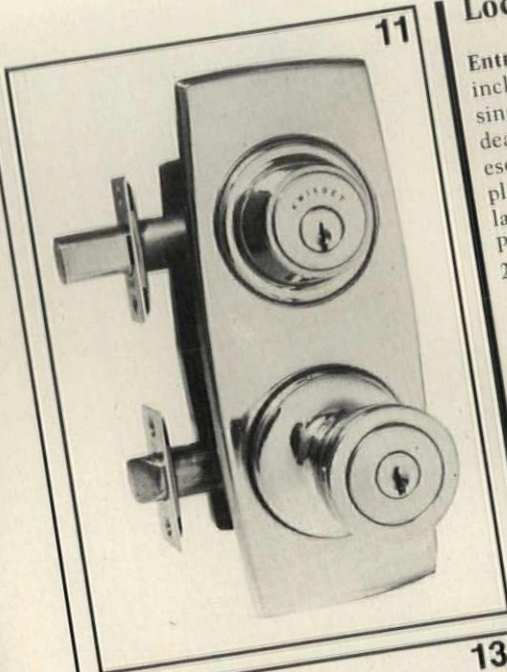
11B

marketplace





10



11

Locks & Locksets

Entrance-door-handle package (1) includes a key-in-the-knob lock, a single cylinder extra security deadlock, inside and outside escutcheons and a latch bolt cover plate. The unit is of polished and lacquered brass. Lustre Line Products, Philadelphia, Pa. CIRCLE 278 ON READER SERVICE CARD

Cross bar lock (2) provides extra security while permitting convenient access. The "Barricader Bar", which is attached the entire width of the door, features a double locking door bolt. The heavy-duty unit attaches to the door frame. A double cylinder permits quick key-entry from either side. Sargent & Greenleaf, Rochester, N. Y. CIRCLE 279 ON READER SERVICE CARD

Interlocking jimmy-proof lock (3) features double-key deadbolt operation. Only keys can throw or retract the bolt. Turning inside key to NO position and removing it prevents outside entry even with a key. The lock has an antique brass finish. National Lock, Rockford, Ill. CIRCLE 280 ON READER SERVICE CARD

Pushbutton combination lock (4) eliminates the need for keys. The lock, with five buttons in a circle, can be set for any one of thousands of combinations and recoded when desired. Heavy-duty device has an all brass face plate. Simplex, Collinsville, Conn. CIRCLE 281 ON READER SERVICE CARD

Auxiliary door lock (5A&B) permits a door to be opened 6" while remaining locked to screen visitors. The rugged "Cobra Lock" utilizes a solid security bar instead of the conventional chain. The chromeplated device mounts easily on flush and swing-in doors. El Al, Merritt Island, Fla. CIRCLE 282 ON READER SERVICE CARD

Burglar alarm bolt (6) is a pre-entry signal that sounds a warning before a door is opened. The solid steel deadbolt triggers the alarm when forced entry is attempted. Sliding the bolt into the strike activates the alarm; withdrawing shuts off the signal. Stanley, New Britain, Conn. CIRCLE 283 ON READER SERVICE CARD

Double locking security device (7) combines a 1/4" deadlatch with a 1" deadbolt. Unit locks by a turn of the upper thumbturn and placement of the knob in a horizontal position. The outside knob is automatically disengaged and spins freely. Schlage, San Francisco. CIRCLE 284 ON READER SERVICE CARD

Pushbutton combination door lock (8) is equipped with a 1" hardened-steel deadbolt. A four-digit combination unlocks the

door from the outside. Pressing a simple reset bar locks it. From the inside a steel unlock button opens the lock, another secures it. Combination can be changed easily. Presto-Matic, Lyons, Ill. CIRCLE 285 ON READER SERVICE CARD

Lock-alarm (9) features a deadbolt lock and chain coupled to a battery-powered electronic alarm. Unit provides pre-entry protection. Any attempt to pick or force the lock, deadbolt, chain or door sets off a shrill pulsating audio signal. 3M, St. Paul, Minn. CIRCLE 286 ON READER SERVICE CARD

Decorative front door handleset (10) is a standard single-cylinder mortise doorlock for doors 1 1/4" to 2" thick. Lock is controlled inside by a thumbturn. Exterior handle is 1 1/4" long and interior handle is 9/16". Unit is offered in the heart model shown or a bean design. Acorn, Mansfield, Mass. CIRCLE 287 ON READER SERVICE CARD

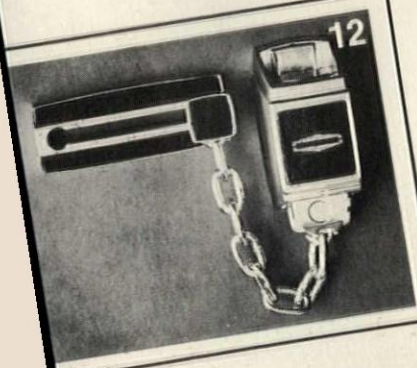
Double security lockset (11) offers protection against panic as well as burglary. "Protecto-lok" combines a cylinder deadlock with a key-in-knob lockset. A turn of an inside knob opens both for a fast exit. Kwikset, Anaheim, Calif. CIRCLE 288 ON READER SERVICE CARD

Heavy-duty key-chain door lock (12) is of solid brass. The 1/4" thick chain of link steel cannot be pried, slipped or pushed off its catch. Unit locks with a five-pin tumbler mechanism that can be keyed to a regular door lock. Ideal Security, St. Paul, Minn. CIRCLE 289 ON READER SERVICE CARD

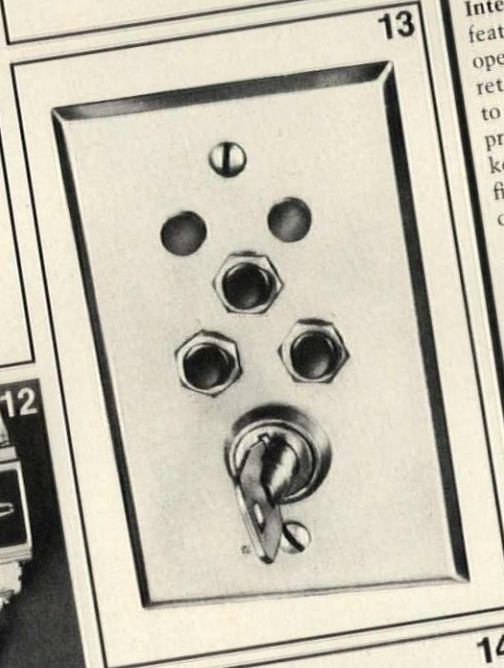
Electronic locking system (13) prevents picking and unauthorized use of keys. The turn of a key activates the device. Tapping out the correct three-digit code then opens it. Use of the incorrect code sets off an alarm. Code is changed by shifting positions of electronic memory bits at the main panel. Acron, Lakewood, N.J. CIRCLE 290 ON READER SERVICE CARD

Round faceplate drive latch (14) permits the installation of inch-throw maximum security deadbolts in any existing metal door installation. The unit is installed by making a 1" edge hole, driving the latch in and adding the cylinder and thumbturn. Dexter, Grand Rapids, Mich. CIRCLE 291 ON READER SERVICE CARD

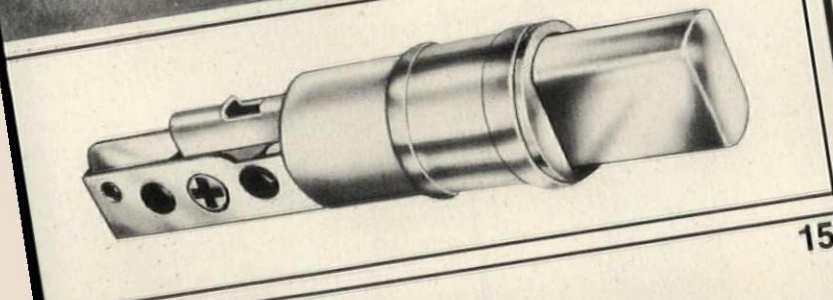
Pick-resistant key-in-knob lockset (15) utilizes a seven-pin tumbler for extra protection. Turning an inside button to a horizontal position locks the exterior knob. It can only be released with key or a manual change of the button position. The knob is always free for exit. Parker Hardware, New York City. CIRCLE 292 ON READER SERVICE CARD



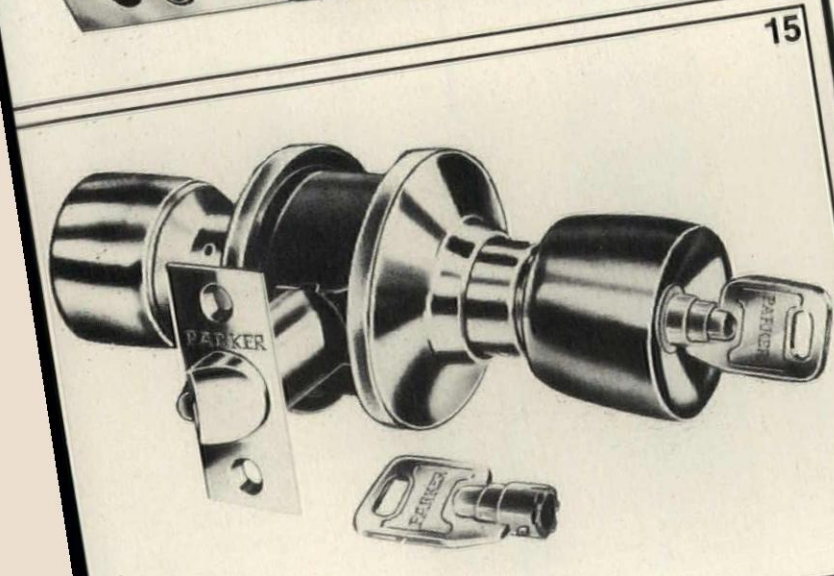
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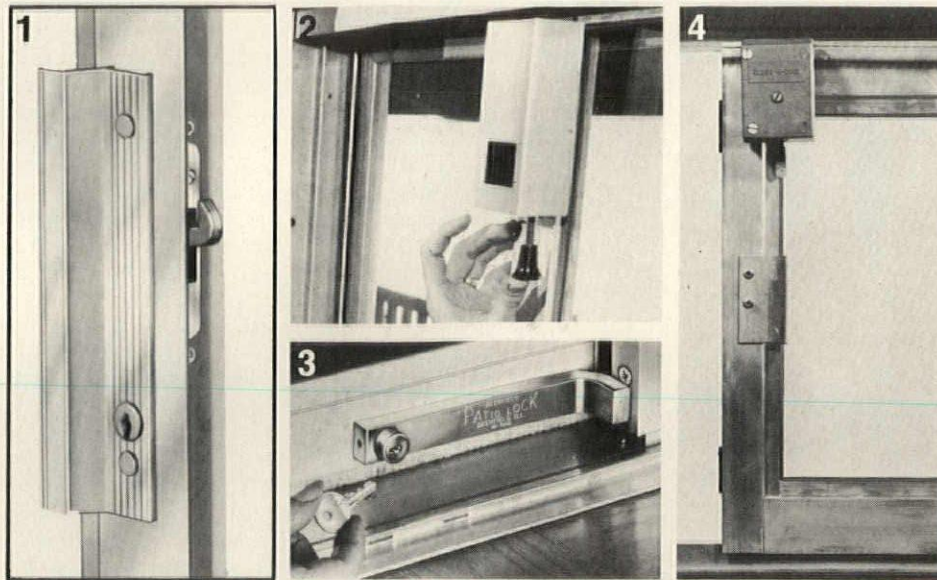
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15



Patio Door Locks

Locksets (1) for narrow stile sliding glass doors incorporate inside and outside pulls of extruded aluminum. Decorative inserts and trim are optional. Units available with a tumbler cylinder lock have a pushbutton control inside. Adams-Rite, Glendale, Calif. CIRCLE 293 ON READER SERVICE CARD

Pre-entry lock alarm (2) features a battery-powered electronic solid-state sound module. Any attempt to force the door results in a shrill pulsating siren. Doors are secured by a hardened steel deadbolt. 3M, St. Paul, Minn. CIRCLE 294 ON READER SERVICE CARD

Key-operated aluminum bar lock (3) fits most patio doors with a metal frame and a bottom rail 1 1/4" or wider. Unit is attached to the inside base of the door with three metal posts that fit into drilled holes. A key locks the posts into position, preventing the door from sliding. Deerfield Lock, Deerfield, Ill. CIRCLE 295 ON READER SERVICE CARD

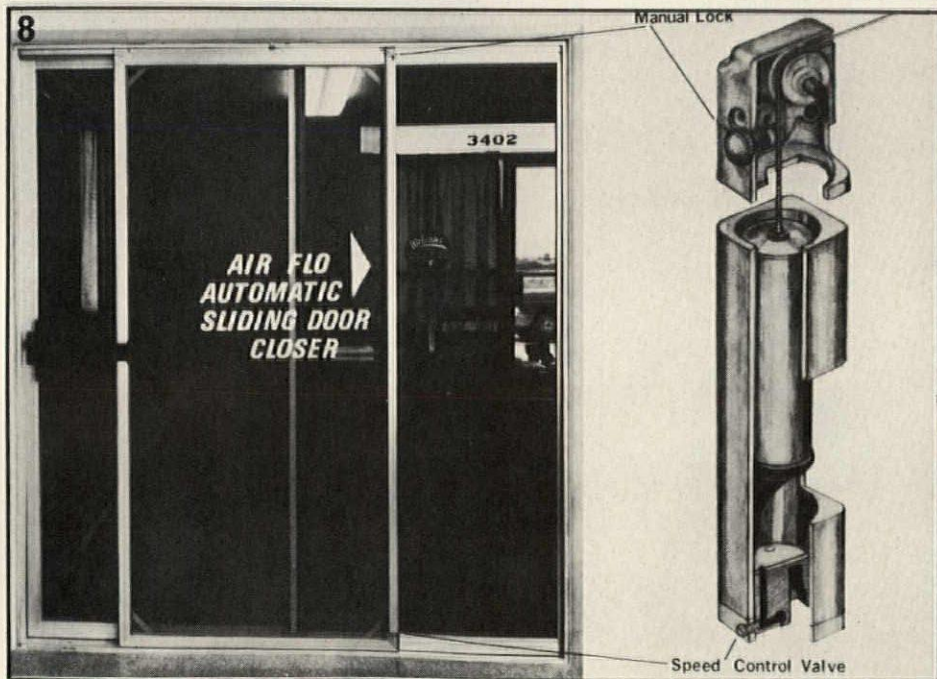


Automatic door closer (4) can lock a sliding patio door in any position from fully open to completely closed. Spring-loaded lock needs no electricity. Unit adjusts to doors up to 6' wide and works on inside and outside sliders. American Mfg., Oklahoma City, Okla. CIRCLE 296 ON READER SERVICE CARD

Automatic sliding-door closer and lock (5) provides added security for a vulnerable area. The spring-loaded unit locks from the inside with a twist. This prevents lock-out and tampering from outside. Dorex, Arlington, Tex. CIRCLE 297 ON READER SERVICE CARD

Sliding-door closer (6) is spring loaded. Tension can be adjusted to provide desired closing speed. Unit can be set so that the door remains fully open. When door is closed the device locks giving extra security. Briar Craft, Briarcliff Manor, N.Y. CIRCLE 298 ON READER SERVICE CARD

Electric deadbolt (7), for use with swinging, sliding and motor-operated doors, features automatic deadlocking and low-voltage operation. The tamperproof bolt is held into the locked position electrically and cannot be moved manually. Folger Adam, Joliet, Ill. CIRCLE 299 ON READER SERVICE CARD



Automatic door closer (8) is available in eight models to fit almost any size and weight door. "Air-Flo" moves at a preselected speed and features a manual control that holds the door open at any position and also serves as a lock. U.S. Products, Tempe, Ariz. CIRCLE 255 ON READER SERVICE CARD

"HOW CAN ANYONE AFFORD TO HEAT THAT PLACE?"



Welcome to 1983, a time when even the tiniest home can cost a fortune to heat. A grim picture that just might become reality. Look at the energy crisis and fuel rationing we have, in some parts of the country, right now.

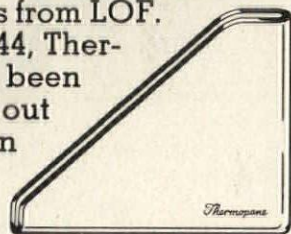
Home-buyers will become more and more concerned with the cost of heating and cooling. You can take advantage of this concern with Thermopane® insulating units from LOF.

Since 1944, Thermopane has been keeping cold out and heat in homes all over the country.

Today's Thermopane Xi™ is even better insulation. A layer of inert gas has replaced dry air in the space between the panes.

Thermopane will help your home-buyers reduce heat loss and increase indoor humidity with less chance of window fogging, right from the moment they move in. As time passes and the cost of heating climbs, Thermopane will become even more valuable.

For more details on Thermopane Xi, available only from LOF, write for our brochure: "How to Brighten Your Outlook." Libbey-Owens-Ford Company, Dept. G-473, 811 Madison Ave., Toledo, Ohio 43695.



LOF



Heatilator fireplaces stack to any arrangement.

Renters now paying up to \$15 more per month.

Something simple for the builder who hasn't tried Heatilator no-masonry fireplacing.

Shown above is one reason why Heatilator fireplaces are so popular with developers; they make it so easy to include highly competitive fireplace charm in homes and apartments.

Simple installation. These factory-built systems come complete—fireplace, chimney and roof termination, ready to install. Place anywhere in any room, on wooden floors, up against combustible wall materials. No masonry foundation required! Easily stacked for multi-level arrangements.

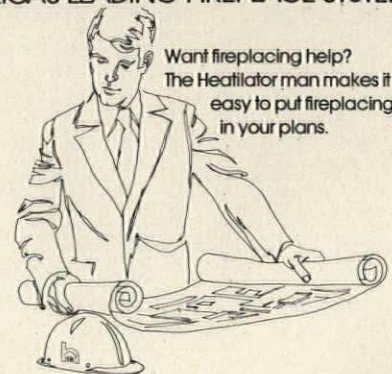
Extra profits. Builders are boosting rental income up to \$15 more per month, increasing their cash flow, loan and sales value with Heatilator factory-built fireplaces.

Complete selection available—woodburning and gas models, built-in, wall-hung and free-standing. All offer unlimited decorative and trim options.

Call collect, (319) 385-3198 for fireplacing assistance from your Heatilator Man. He'll help you factor fireplacing simplified into your plans, and leave behind a useful Fireplace Planning Guide. Heatilator Fireplace, A Division of Vega Industries, Inc., 1843 W. Saunders Street, Mt. Pleasant, Iowa 52641. Also available in Canada.

See Catalog in Sweet's Architectural and Light Construction File.

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AMERICA'S LEADING FIREPLACE SYSTEMS



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The Heatilator man makes it
easy to put fireplacing
in your plans.



Built-in wood or gas fireplacing.



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70 Maytags help keep the laundry operation exceptionally smooth at Hazelcrest Condominiums, reports Mr. Masterson.

They have 35 washers and 35 dryers. "The residents couldn't be more pleased," he writes.

Opened in December of 1968, Hazelcrest Condominiums comprise 35 handsome buildings with a total of 285 units and 712 occupants in Hazelcrest, Missouri.

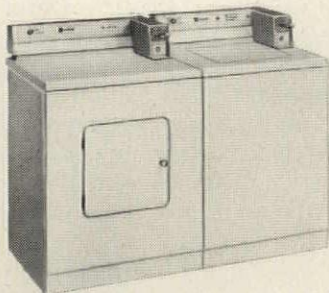
"We decided to go Maytag all the way, dryers as well as washers," writes Mr. Joseph C. Masterson, manager. "It proved to be a good move. The residents couldn't be more pleased with these machines, and our whole laundry room operation is exceptionally smooth. Repair costs on our 70 Maytags have been low."

Of course, we don't say all Maytags will match the record at Hazelcrest Condominiums. But dependability is what we try to build into every Maytag Commercial Washer and Dryer.

Find out what Maytag dependability can do for you. We'll also



send details on exclusive Maytag DIAL-A-FABRIC Washers that let customers dial a programmed cycle for any washable fabric . . . even wool! One dial setting does it. Mail the coupon.



THE MAYTAG COMPANY, Advertising Dept. HH-4-73, Newton, Iowa 50208.

GENTLEMEN: Please rush me full information on the dependable Maytag-Equipped Laundry package.

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Help get her out of the racket.

Hear the thump. The bump. The din. It's coming right through the floor. And we dare you to try sleeping with noise like that.

People living in multi-family dwellings

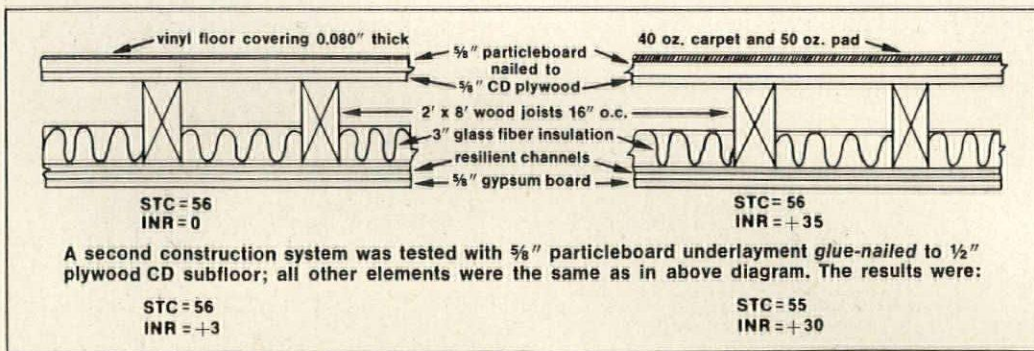
of its particleboard two-floor system. The results were eye popping, not ear shattering.

Using two different types of standard, code approved constructions and testing

Now, compare the numerical ratings with other floor systems. You'll see that particleboard's two-floor system exceeds all other floor systems by wide margins. While the carpet and pad contribute heavily toward all STC and INR values, particleboard's acoustical properties outperform all other underlayments, and the two-floor system makes a major difference in cutting out the thumps, bumps, and din commonly found in multi-family dwellings.

So, when you're preparing to build, check out the particleboard two-floor system. That way you'll be helping yourself. And you'll be keeping a girl out of the racket too.

For further technical information, write the National Particleboard Association, 2306 Perkins Place, Silver Spring, Maryland 20910.



don't need that racket. They can live elsewhere or keep complaining until you can't stand the racket.

The National Particleboard Association recently ran a series of sound tests at one of the most famous acoustical laboratories in the country to test the sound transmission and impact noise resistance levels

each with both a vinyl covering and a pad and carpet, the STC and INR ratings were extraordinary as shown in the diagrams.



National Particleboard Association
2306 Perkins Place,
Silver Spring, Md. 20910

NPA Members: (those with asterisks manufacture underlayment)

American Forest Products Corp.	Hambro Forest Products, Inc.	Southwest Forest Industries*
Boise Cascade Corp.*	International Paper Co.*	Temple Industries, Inc.*
Brooks-Willamette Corp.*	Louisiana Pacific Corp.*	Tenex Division
Cascade Fiber Co.*	Mexwood Products, Inc.*	The Pack River Co.
Collins Pine Co.	Olinkraft, Inc.*	Timber Products Co.*
Duralflake Co.*	Rodman Industries, Inc.	Union Camp Corp.*
Georgia-Pacific Corp.*	Resinwood Division	Weyerhaeuser Co.*

Aquamix even looks like it costs a whole lot more!

What's your project — rental units? The longer you own the building, the more you'll like Aquamix.™

In a laboratory test we turned five Aquamix fittings on and off 250,000 times. (The equivalent of 10 years of normal use.) Those fittings are still going strong today.

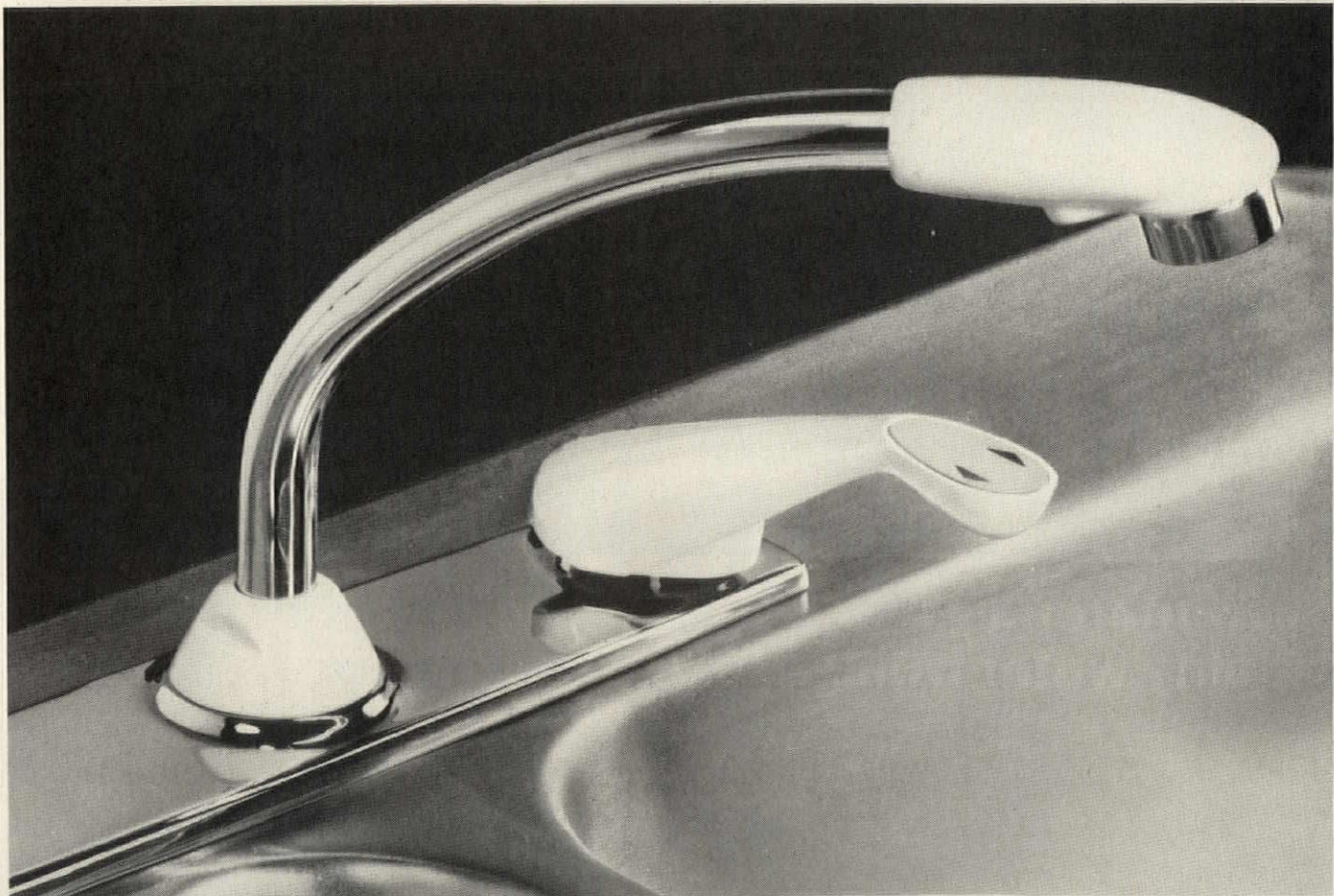
One reason — our exclusive ceramic cartridge.

It's completely unaffected by sand, silt, grease and other impurities that cause leaky faucets and nagging tenants.

Or, is it houses you're building? Take a good look at Aquamix. That clean, contemporary styling is just what appeals to today's home buyers.

It all adds up. And your plumbing contractor has the figures to prove it. Ask him.

Your own kitchen faucet may not last as long.



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Now merchandise the added value of bottle-quality water from the kitchen tap.

Install a AMF Cuno Aqua-Pure Water Filter beneath the kitchen sink and merchandise bottle-quality water to your prospects.

It will mean all your buyers will enjoy not only spring fresh water, but every cup of coffee, tea or frozen orange juice made with it.

It's a simple addition. It goes under the sink easily. And at low cost!

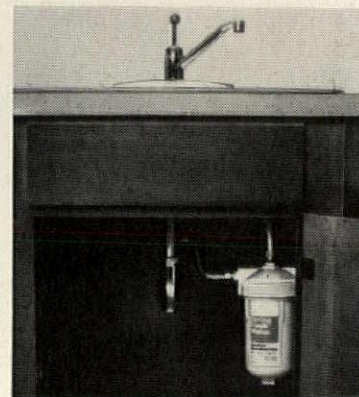
Replacement filters need only be changed every three to six months and

can be done by the housewife or your maintenance people if you like to maintain access to the premises.

The Aqua-Pure Water Filter is a new customer benefit you can advertise with every new unit you build.

Check with your plumbing supply dealer. Or write: AMF Cuno, Consumer Products Division, Dept. HH, 400 Research Pkwy, Meriden, Connecticut 06450.

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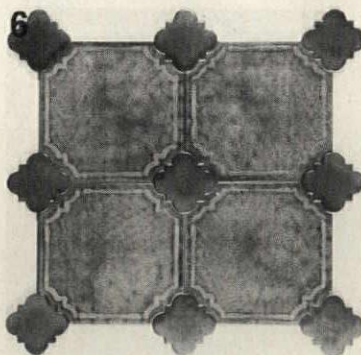
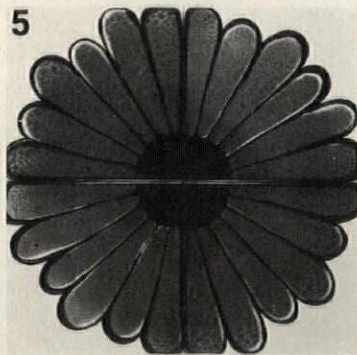
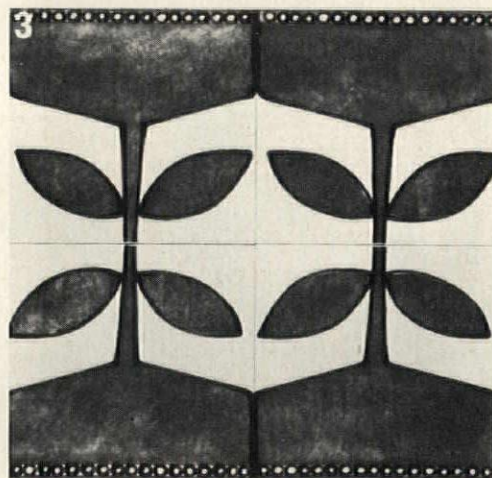




Automated bartender mixes an honest drink

Drinks are never too strong or too weak when they are blended to precise proportions by an automated bartender. Liquids are dispensed instantly when a programmed punch card is inserted in the device. The furniture-styled bar with a slate laminate countertop requires no plumbing and plugs into a standard outlet. It can stock ingredients for more than 50 selections. Unit

is ideal for a recreation or pool area where a bar is desirable but a bartender not feasible. The system, run by a solid-state printed circuit, even sanitizes itself. The easy-to-maintain, easy-to-operate device is guaranteed against defects in materials and workmanship for one year from date of purchase. Leisure Products, Plano, Tex. CIRCLE 201 ON READER SERVICE CARD



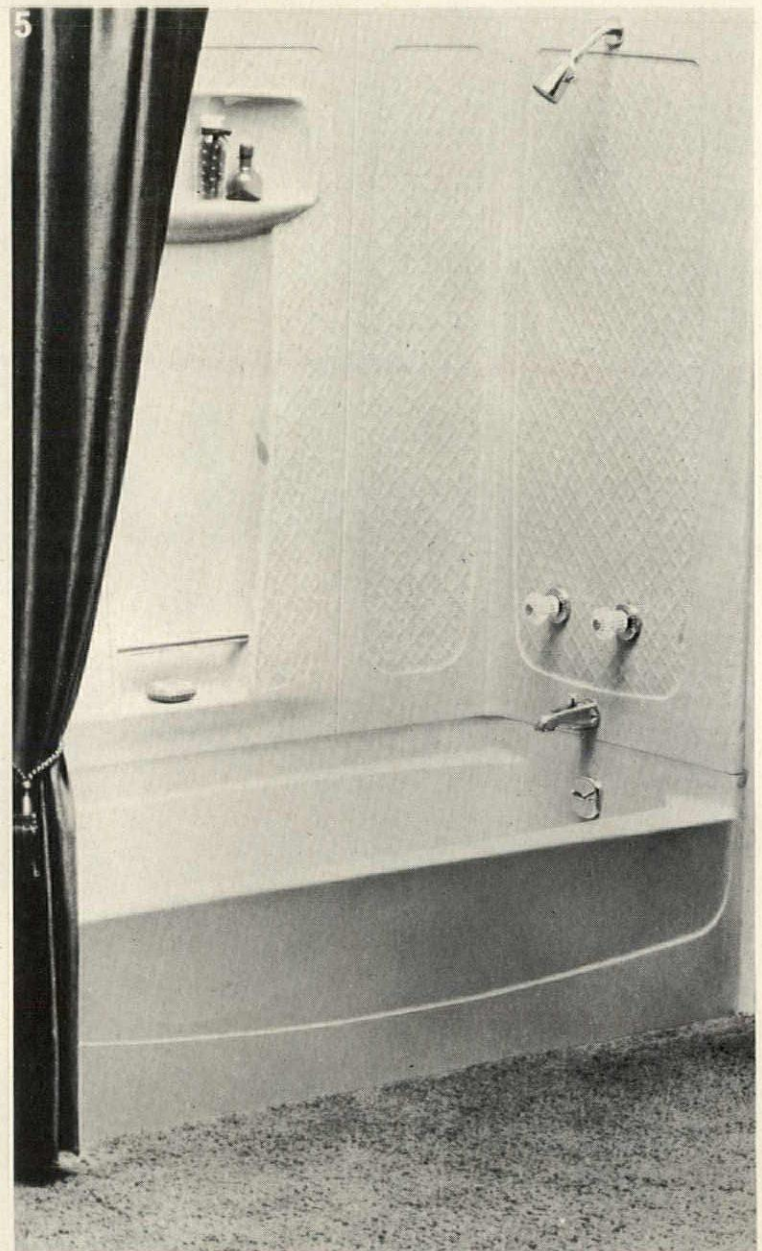
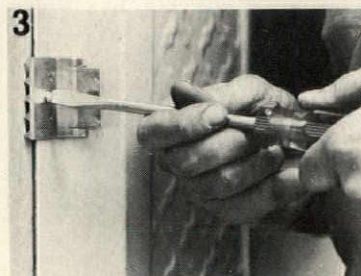
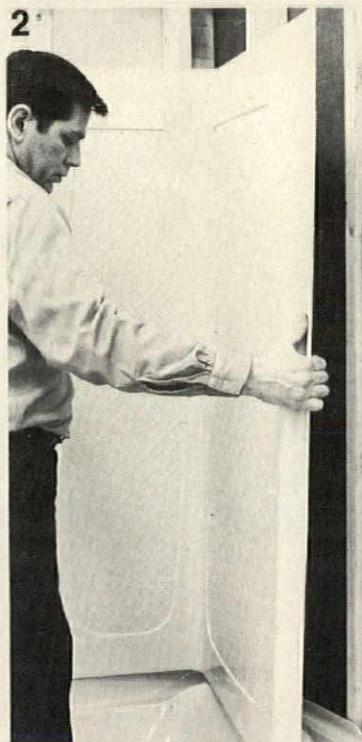
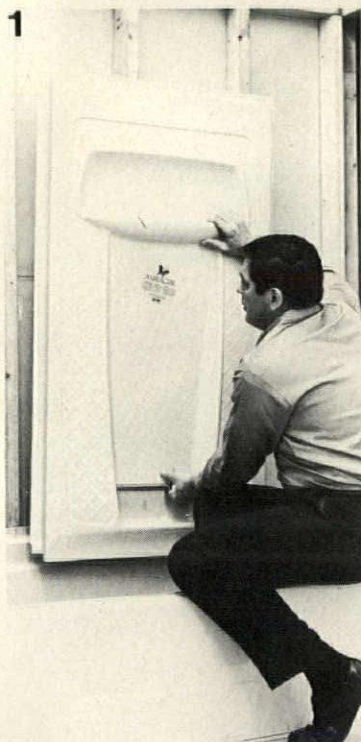
Handcrafted ceramic tiles range from classic to contemporary

Floor tiles, designed to blend with any decor, are kiln-glazed with matte, shiny or opaque finish and can be applied by mastic to a plywood subfloor. Shown are seven different patterns from classic Italian and Spanish to snappy contemporary. Two designs from the D'agastino collection (1, 2) are traditional Mediterranean. Contemporary tulip pattern (3) is in blue and white.

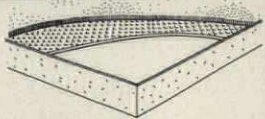
Three-dimensional classic (4) is offered in five colorations including solid white. "Daisy" (5) comes in four tile variations that provide a custom look for any floor. Traditional "Moresco" (6) is available in white or rust and the modern Mediterranean design (7) comes in striking black and white only. Agency Tile, Nanuet, N.Y. CIRCLE 200 ON READER SERVICE CARD



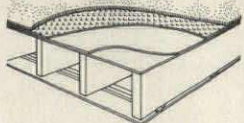
Nostalgic Birthday Bath (left) is a celebration of Kohler's 100th anniversary. The striking bath combines the ball-and-clawfoot tub of yesteryear with contemporary styling and colors. The 6'-long, 37½"-wide unit has a lustrous, enamel interior bonded to cast iron and features a smooth rolled rim. It is available in red, black or white. Fittings on both the bath and the lavatory (above), part of the "Antique" series, come in brushed or polished chrome or gold electroplate. Kohler, Kohler, Wis. CIRCLE 202 ON READER SERVICE CARD



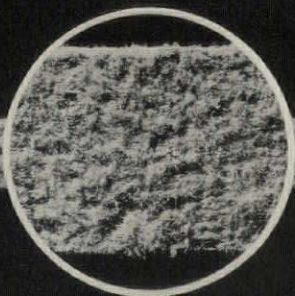
Unitized bath/shower can be installed in a standard 5' bathing alcove. Fiber glass "Versa Bath" has a Miracril acrylic surface. The four-piece system installs directly to studs. First the bathing unit is positioned and secured, then the center (1) and end (2) wall panels are mounted using special fasteners (3) that grip the stud with metal teeth. A mildew-resistant silicone-base sealant for seams provides color-matched finishing. The system, with integral safety-grip bar, soap-dish and shampoo-shelf, comes in a range of colors. Borg-Warner, Mansfield, Ohio. CIRCLE 203 ON READER SERVICE CARD



IIC 70 (INR+19) acoustical test on 5" concrete slab with carpet and pad.



IIC 65 (INR+14) acoustical test on conventional framing with 5/8" plywood subfloor, 5/8" gypsum ceiling and resilient channels, carpet, pad.



Approximately 3X size enlarged section of Resilbase, a 100% recycled, all wood fibre material. Insulating, moisture resistant and protected against termites, rot and fungi.

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homasote


CIRCLE 133 ON READER SERVICE CARD

H&H APRIL 1973 133



Stacking storage cabinets and a decorative three-way mirror provide a totally finished look for a bathroom. The two-door units are 17 1/4" deep, 53" high and come in 12" or 18" widths. Three different door styles are offered. Mirrors in 36", 48" or 60" widths are available in a choice of three trims. Rutt-Williams, Elkhart, Ind. CIRCLE 204 ON READER SERVICE CARD

Simulated-marble lavatory, "Rondlyn Shell" has a curved front, a shell-shaped bowl and a no-drip edge. The unit, in a choice of 20 colors, measures 24"x19 3/8"x5 1/2". Specifications for curved vanity are available. L&M Cultured Marble, Chicago Ridge, Ill. CIRCLE 207 ON READER SERVICE CARD



Oriental-style soaking tub of heavy-duty fiber glass reinforced polyester features a surface that is warm to the touch and helps maintain water temperature. The 40"x40", 32"-deep unit has a molded-in seat. Finished on all sides, tub comes in standard colors and tangerine red. American Standard, New Brunswick, N.J. CIRCLE 208 ON READER SERVICE CARD



BILLY CASPER, famous golf pro, says, "GOLFOMAT® is great! It requires every skill needed on an outdoor course."

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Offer more to your present and prospective tenants. With one or more GOLFOMAT® units at your apartments, you'll have your own country club indoors, and your tenants can play three of the world's most famous courses:

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And don't think GOLFOMAT®'s any easier to play! This computerized golf game requires the same clubs and balls, and you use the same swing and form needed outdoors. All the pleasures and problems of golf are here, including drives, chip shots and putting.

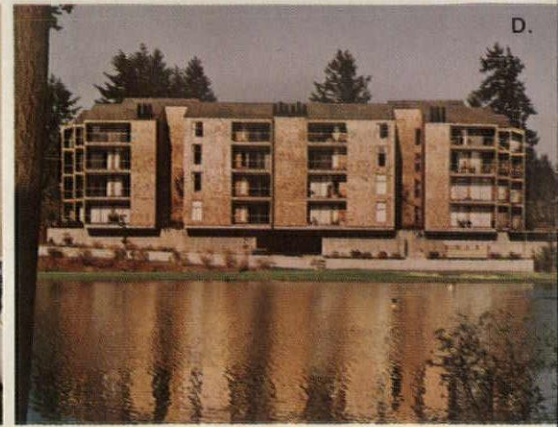
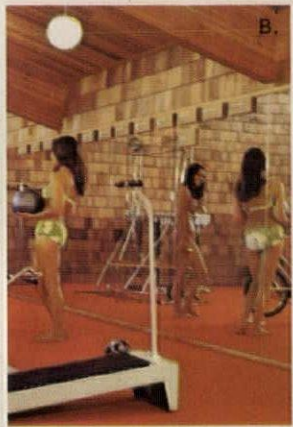
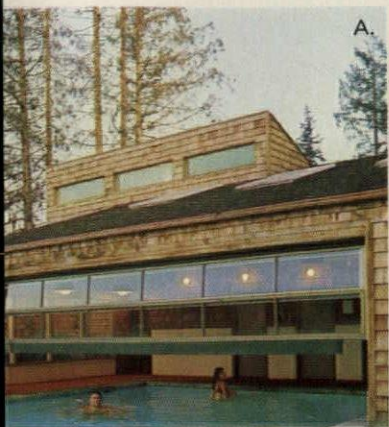
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How to create a free and airy atmosphere for high density living with PPG Glass.



PPG Glass opens things up to the wide-open spaces, while loosening many of the tight space restrictions that go along with high-density building.

Here at Sixty/01 near Seattle, you see units that come alive with light and space. And amenities that combine practical qualities with great visual impact. They're just a few of the ideas included in our 48-page, full-color brochure—"PPG Lifestyle/70s." It's free just by writing to PPG Industries, Inc., Dept. HH-343, One Gateway Center, Pittsburgh, Pa. 15222.

- A. A retractable glass wall creates an indoor-outdoor pool so tenants can swim all year round.
- B. Besides the obvious practical advantages, mirrored walls make this in-complex health spa look much larger than it actually is. When they're mirrors made with PPG *High-Fidelity*® float glass, you get the truest reflections, too.
- C. A total-glass wall, with sliding doors included, maximizes a waterfront view while adding extra space to the room. If the sliders are PPG *Herculite*® K tempered safety glass, they're also safe and practical.
- D. Private balconies overlooking a ten-acre manmade lake add to the appeal of the midrise units.
- E. A 16-foot glass end wall brings in a light and airy view. In colder climates, PPG *Twindow*®*Xi*™ insulating glass keeps the weather out and the heat in.

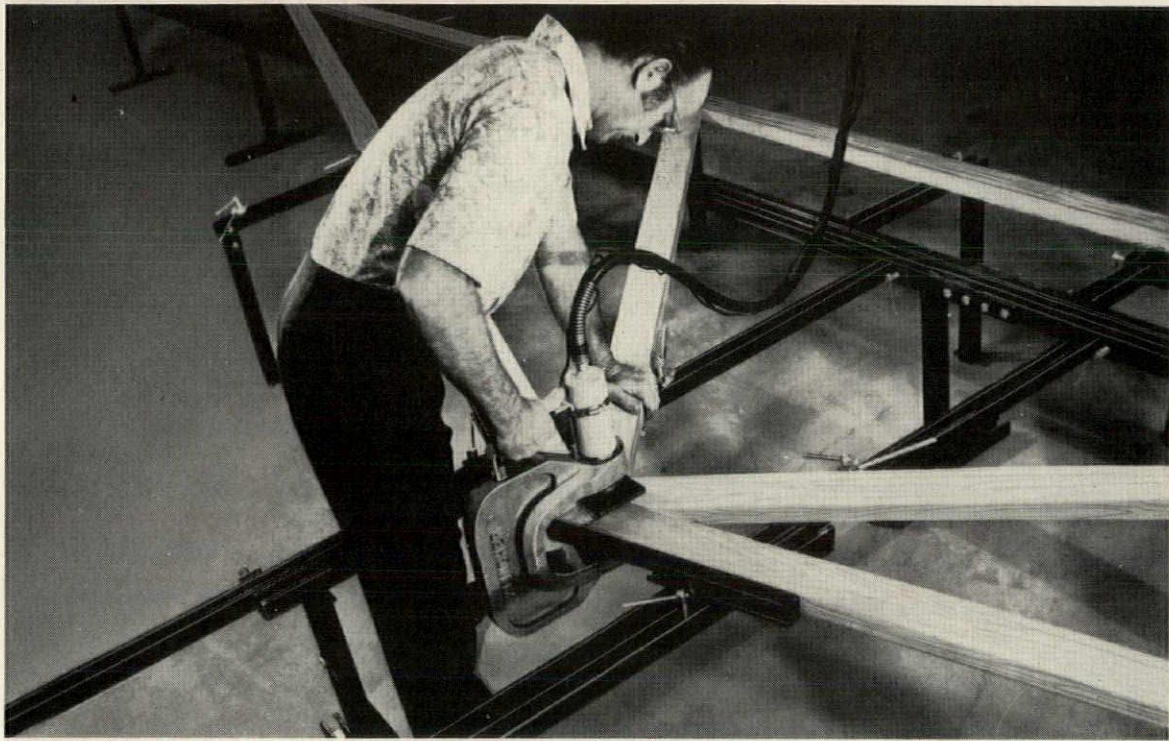
PPG: a Concern for the Future

CIRCLE 135 ON READER SERVICE CARD



Sixty/01, Seattle, Washington.
Owner: W/O Co.

introducing Panel Clip's new
**low investment
 truss system
 with a low plate cost.**



\$1,499 Total purchase price

Panel Clip's new Klincher® and Jig is the most dependable, flexible and economical system on the market. It puts you in the truss building business for a monthly lease of only \$54.

COMPLETE NEW KLINCHER® SYSTEM

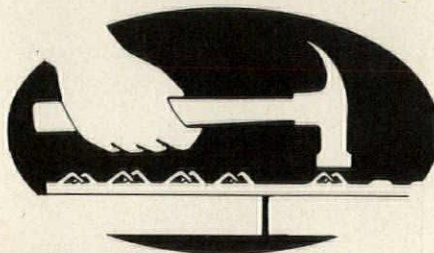
The new, more powerful Klincher® is portable, light enough to be hand held and uses standard 120 volt current. Yet it is so powerful it

can press two clips in one squeeze, which eliminates flipping the truss during construction.

NEW JIG.

New Jig adjusts rapidly to various pitches and spans to 40' (54' and 60' available).

New Series III Truss Clips were specifically designed to enable the small truss fabricator to compete



with the giants. Series III Clips are ideal for residential use. They must be installed with the new Klincher® Truss Press.

Series II Truss Clips remain the most versatile on the market and can be installed by hammer or with the Klincher®. They are ideally suited for fabrication of longer span trusses such as in Farm Buildings.

Call or write today for full details.

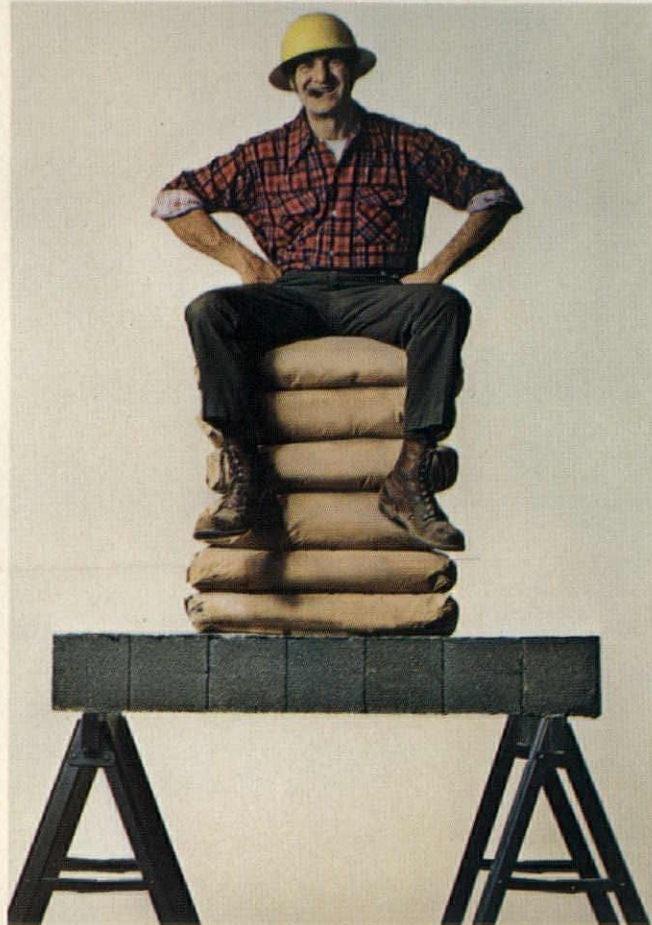
THE PANEL CLIP CO.

P.O. Box 423, Farmington, Mich. 48024 / Phone 313 / 474-0433

Concrete block + mortar.



Concrete block + new BlocBond.



Owens-Corning announces Fiberglas* BlocBond**—the new way to build concrete block walls.

Here's how it works: The first course of block is laid in a bed of mortar for leveling purposes. After that, each course is dry stacked. BlocBond is then troweled onto both sides of the wall.

Result: a wall that's three ways better than conventional concrete block and mortar construction.

A BlocBond wall is better because it's stronger. Specially

developed fibers of alkali-resistant glass in new BlocBond help give walls twice the flexural strength of concrete block walls built with conventional mortar. Which means a block wall built with BlocBond can take punishment no similar wall built with mortar can withstand.

A BlocBond wall is better because it's water-resistant under normal conditions. BlocBond is applied to the *surfaces* of the wall, not between the blocks. It acts as

a moisture-resistant barrier.

A BlocBond wall is better because it helps you save time and money. It eliminates the need for a brown coat if stucco is specified. It's easier to paint than a bare concrete block wall. Or it can be left "as is."

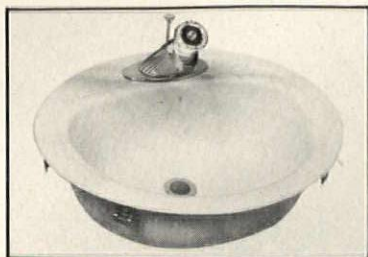
Want to know more about the new way to build concrete block walls? Write for a free BlocBond information kit. Owens-Corning Fiberglas Corp., Attn: B. J. Meeks, Fiberglas Tower, Toledo, Ohio 43659.

*T.M. Reg. O.-C.F. **T.M. O.-C.F. Corp.

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OWENS/CORNING
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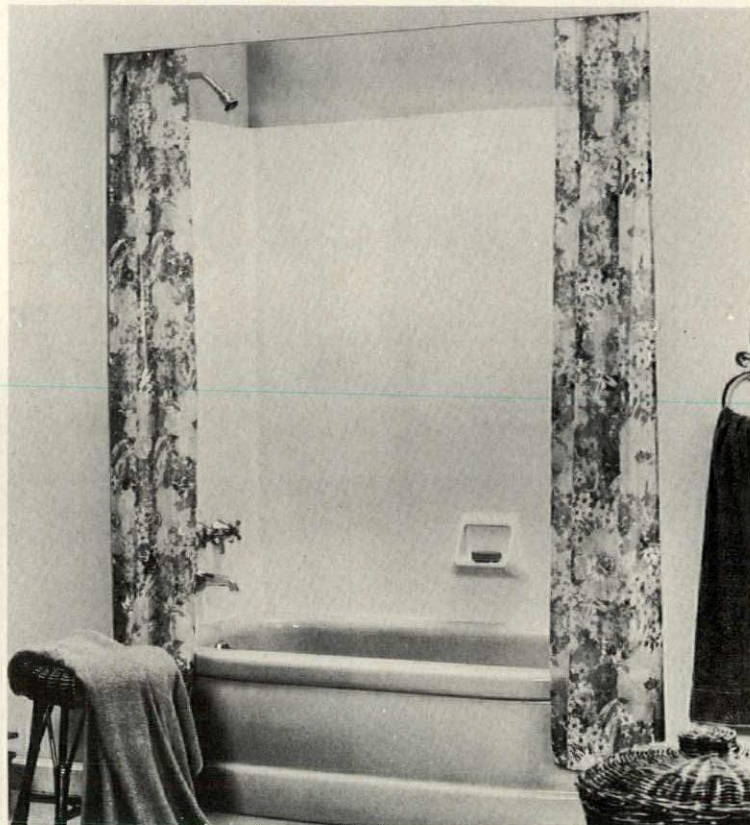
PRODUCTS/BATHROOMS



Decorative acrylic lavatories—oval or round—have integral soap dishes and an exclusive porcelain-on-steel overflow. Available in a selection of solid or marbled colors to blend with any decor, the durable, stain-resistant lavatories are reinforced with structural plastic for rigidity. Peerless Plastics, Evansville, Ind. CIRCLE 205 ON READER SERVICE CARD



Knock-down vanities are constructed of "Herculex" plastic laminate. Available in white and Spanish oak, units have a hand-carved look. The easy-to-maintain cabinet can be cleaned with any household cleaner. Vanity with special fastening clip is easily assembled using only a Phillip's screwdriver. Polycraft, Archbold, Ohio. CIRCLE 206 ON READER SERVICE CARD



Easy-to-install fiber glass tub-wall can be used over any hard solid surface. The system, with only three pieces and no corner seams, eliminates grouting, edge moldings and mitering. A special pressure-sensitive tape adhesive system eliminates the need for bracing during curing. Surround comes in six colors. Swan, St. Louis, Mo. CIRCLE 209 ON READER SERVICE CARD



Benchmark Entrance Doors

Deep-molded steel beauty. On both sides.

Engineered to give you the most for your money.

Exclusive "Wood-looking" Designs. Special embossing method creates extra-deep-drawn panel details in a single sheet of rugged 23 gauge galvanized steel. Identical front and back sides for an authentic, graceful look that makes a handsome impression—entering or leaving.

Quickly-Installed Package. Pre-finished and pre-hung, Benchmark Doors come complete. Adjustable "frost-free" threshold and door sweep. Refrigerator type magnetic weatherstripping. Reversible, flush-mounted heavy-duty hinges.

Trouble-Free Construction. Benchmark Doors cannot warp, swell, shrink or crack—eliminating the major causes of call backs. All-steel design with interlocking edges engineered for rigid construction and thermal barrier. Special blend of polyurethane foam is injected under high pressure to form an insulating "sandwich" that blocks out noise and weather, no need for storm doors.

Choice of Models and Options. Six deep-molded designs and a flush style. Four models with lights. Single or double doors. 1-hour Class "B" fire label available. Doors approved by FHA Materials Release #757.



Benchmark Bi-Folds—Unbeatable at every price level!
 Extra thick for extra rigidity—full 1 1/4" thickness and unique channel design outperforms ordinary metal doors. Each panel is shaped under tremendous pressure from a single sheet of fine 23 gauge steel. The result—a completely smooth surface. No applied trim to rattle or work loose. Nylon-quiet glide ride, doors fully sound-deadened.

Choice of five styles—two that match Benchmark Entrance Doors for the ultimate in elegance!

Write Today for full details, or call Benchmark (703) 373-8877.

GENERAL PRODUCTS COMPANY, INC.

P.O. Box 887, Fredericksburg, Virginia 22401

Benchmark Steel Doors Bi-Folds and Entrance Systems

CIRCLE 138 ON READER SERVICE CARD

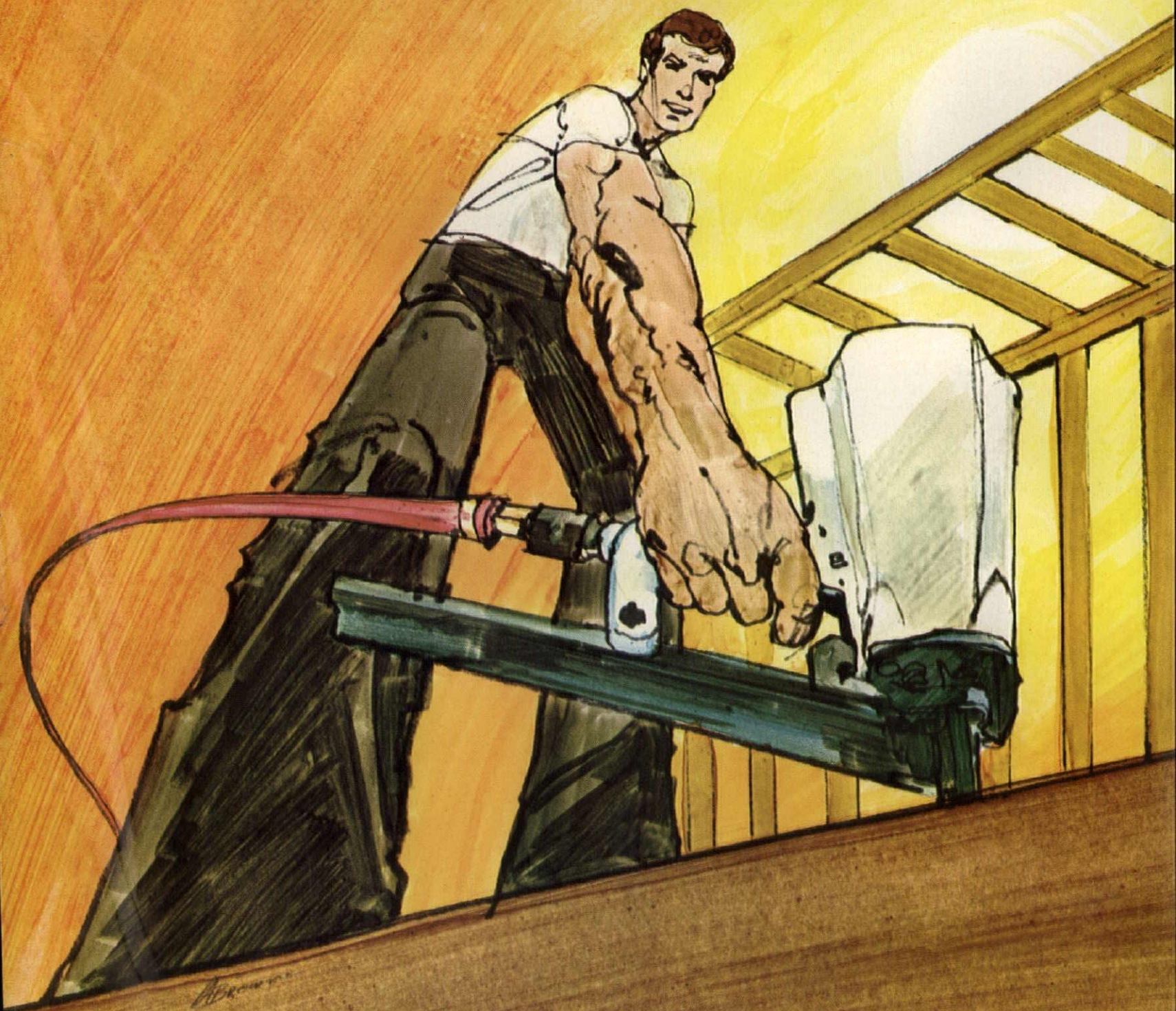
Nail off roof sheathing jobs six times faster

How? Use a Paslode Gun-Nailer®. This pneumatic nailer drives 7,000 nails an hour, drives 'em straight home, hard enough to pull loose boards tight. No wasted nails. With the Gun-Nailer's speed—like six men with hammers—and its builder-proved dependability, you finish faster, you can handle more jobs, and net more profit per job. Drives 8d (2½") or 6d commons or coolers. Nails come in sturdy strips. Magazine loads in seconds. Other Paslode power nailers drive nails in lengths from 1½" to 3½", including ring shank nails and screw-type nails. Write for nearest distributor's name.

Paslode Company (Division of Signode), 8080 McCormick Blvd., Dept. HH, Skokie, Ill. 60076. In Canada, Paslode Canada Reg'd.

P PASLODE®

CIRCLE 139 ON READER SERVICE CARD



HOW WE CAN PROMISE YOU NOW THAT WE WON'T RAISE OUR PRICES ALL YEAR.



Telling you now what our cabinets will cost in December — and guaranteeing it — let's you make commitments you couldn't make before. And in this business, commitments are important.

By knowing your costs now, for the whole year, you can better plan your business for the whole year.

As the leading manufacturer of kitchen and bathroom cabinets, Triangle Pacific is not only able to make long-term promises. We're able to keep them.

For one thing, because of our size, we're less affected by unforeseen circumstances. Six factories, strategically located, make us less vulnerable to local problems than if we had only one.

Also because of our size, we're better able to offset increases in the cost of labor and materials by greater productivity and volume.

And even if we promise something and later find out it was a mistake we have the resources to be able to live with our mistake.

We've held our prices since the middle of 1971,

while at the same time making improvements in our line.

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Enthusiastically accepted by both builders, and consumers, it's just one example of how we can pass advantages on to you without charging you for them.

But there's another area of our business that's just as important as price.

Delivery.

At Triangle Pacific, we never promise you cabinets faster than we know we can deliver them. Even if it means having to turn down business.

We honor our commitments, so you can honor yours.

So, write or call and ask us to send you more information. One of the things you'll get is our price list.

It could turn out to be the only one in the business that will be good all year.



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Our job doesn't end until your homes are sold. We create sales-making events for you with newspaper ads, radio and TV spots, billboards, 4-color brochures, famous personality tie-ins. And much more. Referral programs, public relations programs, liberal co-op advertising allowances. Marketing support all year 'round that helps keep you miles ahead of your competition. In sales, in profits.

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He's specially trained to help you build and sell better homes with the highest profit. He lives and works where you do, knows your market, works with you on a one-to-one basis. The Man from National is your right hand man whenever you need him — from site planning through point of sale. No National Homes builder ever goes it alone. Where profits are concerned, you can't beat us — so, join us. Talk now to The Man from National.

1972



Appliances by Hotpoint

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HH-4

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BERGER CONVERTIBLE TRANSIT-LEVEL MODEL 320

Keep the lid on building costs

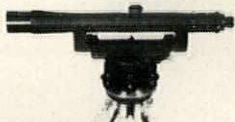
—with the instrument of “101” uses

The more building jobs you can do with a single instrument, the easier it is to keep costs down. That's why Berger's Convertible Transit-Level (Model 320) is really custom made for these days when construction costs keep soaring and nibble away at your profits.

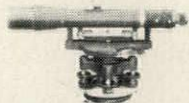
The Berger Convertible meets building challenges from measuring angles, extending lines and setting forms to aligning structural steel and establishing grades for streets. It does these and scores of other jobs fast and accurately — the insurance you need to protect against costly “do-overs.” And like every Berger instrument, it's manufactured right here in our Boston factory.

Which Berger is best for your needs?

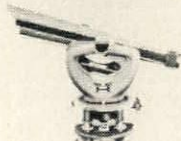
(Not shown: Model 500 Optical Plummet Transit-Level. Same specifications as #320 but with optical plummet. S357*)



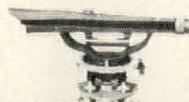
18" PROJECT LEVEL. Model 480. 33-power coated optics. With horizontal circle and 5 min. vernier. S357*



HEAVY DUTY 12" DUMPY LEVEL. Model 150. 25-power coated optics. S204*



SPEED-A-LINER BUILDER'S TRANSIT-LEVEL. Model 200A. 20-power optical system. S154*



SPEED-A-LINER DUMPY LEVEL. Model 190A. 20-power internal focusing telescope. S102*

For its moderate price you get big instrument features like a 22-power telescope with coated lenses that focuses 3 ft. to infinity, horizontal circle and vertical arc with double vernier reading directly to 5 min., plus all the other features and superb craftsmanship for which Berger has been known since 1871. See the Berger Convertible...get the feel of it, at your dealer. Or mail coupon for full information.



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| <input type="checkbox"/> 18" Project Level \$357* | <input type="checkbox"/> SPEED-A-LINER Dumpy Level \$102* |

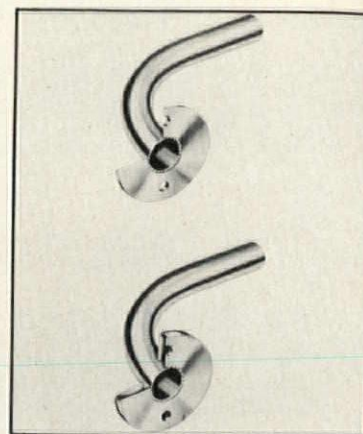
*All prices F.O.B. Boston, include carrying case and plumb bob. Tripod extra.

Name _____ (please print)
Company _____
Address _____
City _____ State _____ Zip _____

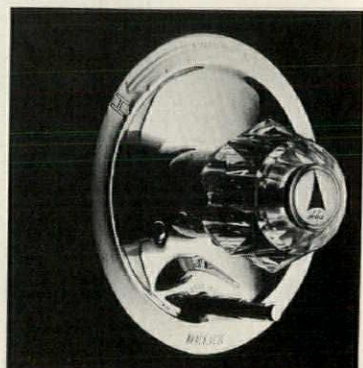
PRODUCTS/BATHROOMS



Shower enclosure is designed for narrow 24" and 30" stalls. Flexible plastic door panels that won't fade or mildew fold back to a mere 5", providing the widest possible opening. Enclosure has a frame of sturdy aluminum with an etched silver finish. Bottom track is closed on top so it cannot trap dirt. Kinkead, Chicago. CIRCLE 210 ON READER SERVICE CARD



Grab-bar and anchoring system meets the safety needs of invalids and others. Designed to withstand pressures greater than 1,300 lbs.—more than double FHA and VA requirements—bar is offered in various sizes. Bradley, Moorestown, N.J. CIRCLE 211 ON READER SERVICE CARD



Single-control mixing valve protects against the danger of accidental scalding by hot shower water. “Scald-guard” emits cool water first with hot being added until desired temperature is attained. An adjustable high-temperature stop device limits the turn of the handle. Delta Faucet, Greensburg, Ind. CIRCLE 212 ON READER SERVICE CARD



Commode-style vanity has a one-piece, simulated marble top and bowl. Lavatory has a sculpture-like shell design and is shipped with a separate back-splash. Cabinet comes in a variety of door styles in natural wood or laminates to blend with any decor. Unit is 19" deep and 30" wide overall. Rene Products, Cleveland, Ohio. CIRCLE 213 ON READER SERVICE CARD

A few solid vinyl reasons for siding with Celotex.

This is Philip Carey Villager® solid vinyl siding. The ultimate in maintenance-free beauty and protection. For any home.

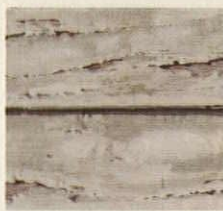


In any climate. The beauty of Villager vinyl siding is more than

skin deep. Because it's made from B. F. Goodrich Geon,® the color

goes all the way through. In light gray, light green, light yellow, and white.

And that means scratches won't show...it will never need painting for protection; yet it may be redecorated, if desired. In addition, Celotex Carey vinyl siding won't rot like wood. It won't rust or corrode, the way



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WON'T WARP OR DENT



WON'T RUST OR CORRODE



INSULATES



WON'T CONDUCT ELECTRICITY



WON'T SUPPORT COMBUSTION



WON'T ROT

metal sidings can. And there's no chance of finding unsightly dents or warped panels. Celotex vinyl sidings won't support combustion.

Or conduct electricity, for that matter. Yet, it does insulate. Against heat, cold, and sound. And the variety

of styles, accessories, and ease of application of Villager vinyl siding is the perfect combination for the new-home builder or the remodeling contractor. Honestly, after hearing all of these solid vinyl facts, wouldn't

you rather side with Celotex vinyl sidings?

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BUILDING PRODUCTS

Celotex understands the man who builds.

insist
on a
genuine **Genie**[®] AUTOMATIC GARAGE DOOR OPENER SYSTEM
BY **ALLIANCE**

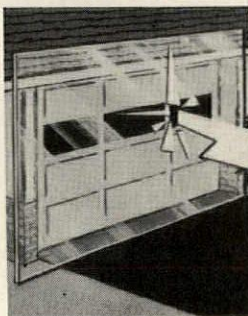


Genie--"the garage door picker-upper!"

Opens the door...turns on the light...closes the door...locks up tight!


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- Genie!** Pre-sold through national advertising and local promotion.
- Genie!** Backed by a nation-wide network of reliable dealer service outlets.
- Genie!** Performance-proved by satisfied users everywhere.

Call your local dealer or mail coupon today. You'll find out how the merchandising program for Genie Automatic Garage Door Opener System by Alliance can help you sell more homes.



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The exclusive new Cryptar accessory makes Genie the safest, surest, most secure automatic garage door opener system on the market. Cryptar gives a Genie system what amounts to its own personal radio frequency in an area by increasing the number of available frequencies from 144 to 1440. Buy it now or add it later.

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The secret's in our patented Balanced Suspension System. It lets Leigh doors operate smoothly even in minor out-of-square openings. Installation is quick, easy, and right the first time. With only a simple, fast adjustment.

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Get in touch with your dealer, or drop us a line for details on the industry's most complete line of metal bi-folds.

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REZ® NATURAL WOOD FINISHES... THE BEST THING THAT'S HAPPENING TO WOOD

Rez® Color collection



Architects: Bohlin & Powell

If you're thinking about color . . .
. . . for the exterior of homes and apartments, for interior paneling, or doors or ceiling beams, then think about the REZ Color Collection—it's a new and exciting array of earth tones and wood tones that enhance the natural beauty of wood.

In the REZ Color Collection you'll find *quality* colors—colors that are inspired by the latest in fashion for exterior and interior home decor.

And it's easy to put on fresh new color.

There's a variety of REZ Natural Wood Finishes . . . to match the type of wood to be stained and to simplify the work. Here are two that are brand new:

REZ Exterior/Interior Solid Color Latex Stains—ideal for the rough sawn woods or textured sidings that are so popular today . . . give you solid color rustic beauty, and go on fast because they're latex. Clean up with soap and water.

REZ Exterior/Interior Semi-transparent Latex Stains—these permit the natural wood grain beauty and texture to show

through. Easy application and cleanup.

Last longer than conventional stains. On exterior surfaces, REZ Latex Stains form a tough, flexible film that clings to the wood and resists cracking and peeling—they're even mildew resistant.

Which REZ Stain should you use?

Detailed information on the complete line of REZ Natural Wood Finishes can be found in Sweet's Catalog (9.9/Re). Or, write to The REZ Company, One Gateway Center, Pittsburgh, Pa. 15222; or Box 3638, Torrance, CA. 90505.

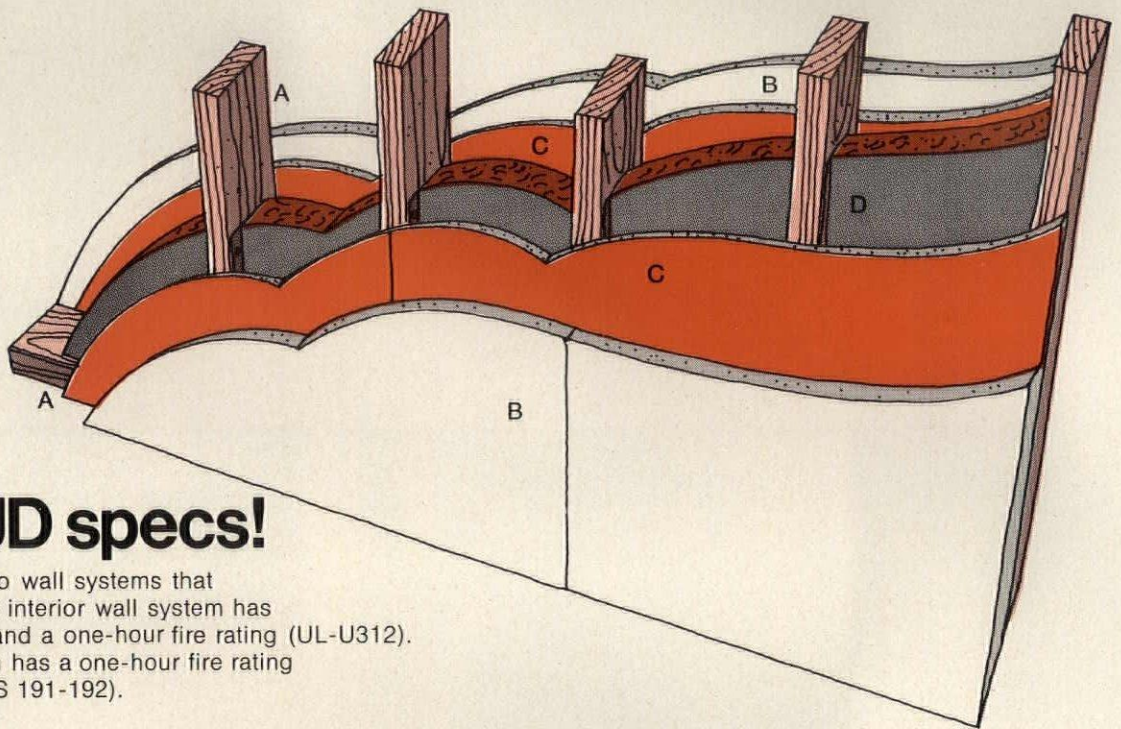
Rez®
Natural Wood Finishes

by
PITTSBURGH® PAINTS

You can't beat these systems!

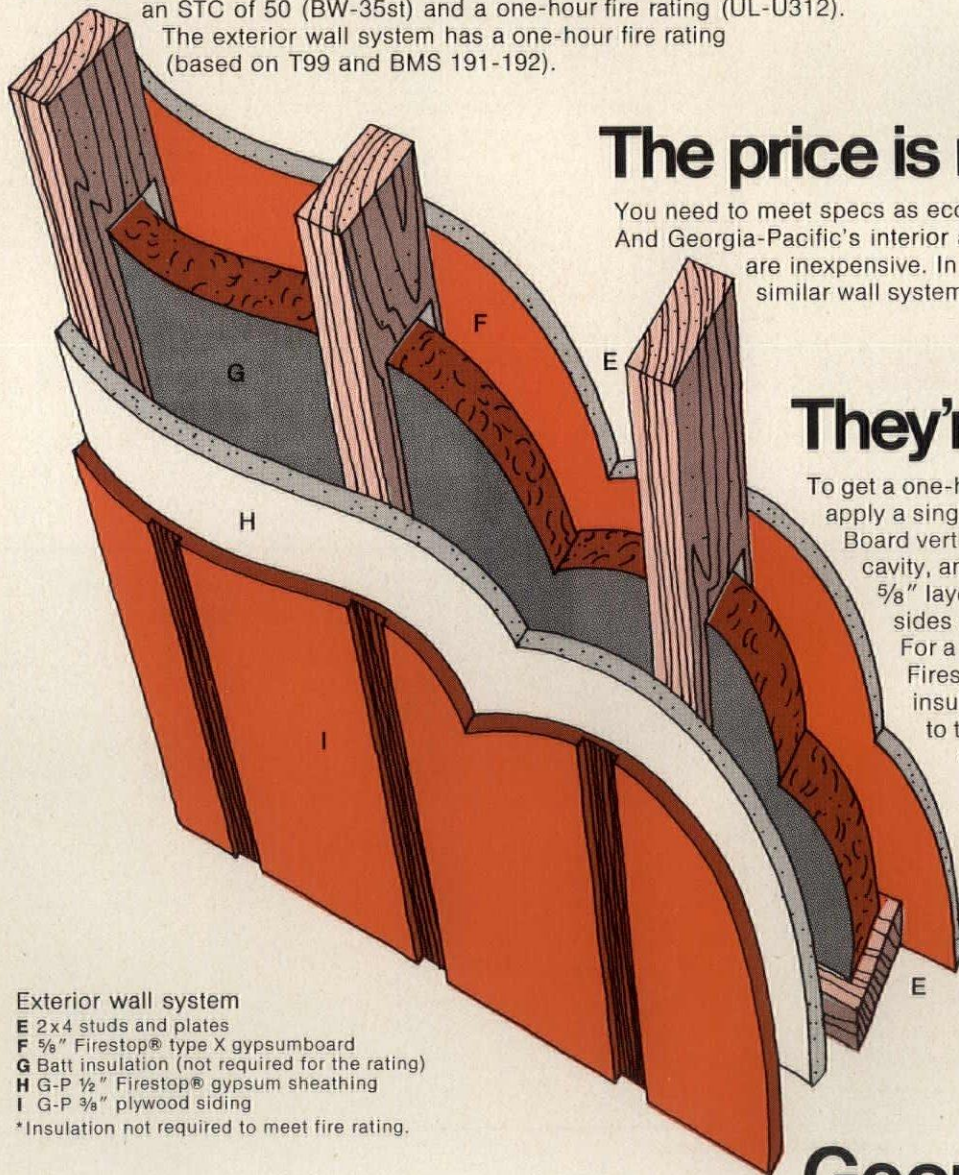
Interior wall system

- A 2x4 studs and plates.
- B 5/8" Firestop® type X wallboard
- C 1/4" Incombustible Gypsum Sound Deadening Board
- D 2" glass fiber insulation



They meet HUD specs!

Georgia-Pacific has put together two wall systems that meet your required HUD specs. The interior wall system has an STC of 50 (BW-35st) and a one-hour fire rating (UL-U312). The exterior wall system has a one-hour fire rating (based on T99 and BMS 191-192).



Exterior wall system

- E 2x4 studs and plates
- F 5/8" Firestop® type X gypsumboard
- G Batt insulation (not required for the rating)
- H G-P 1/2" Firestop® gypsum sheathing
- I G-P 3/8" plywood siding

*Insulation not required to meet fire rating.

The price is right!

You need to meet specs as economically as possible. And Georgia-Pacific's interior and exterior wall systems are inexpensive. In fact, there aren't any less expensive similar wall systems on the market.

They're easy to install!

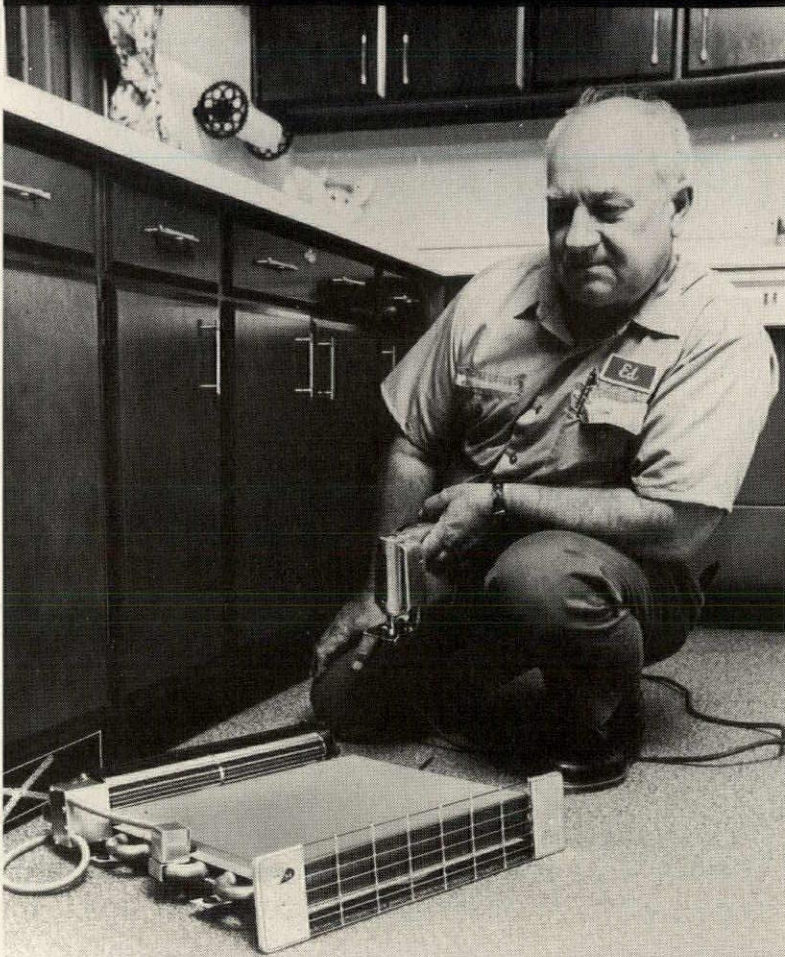
To get a one-hour fire rated interior wall with an STC of 50, just apply a single layer of G-P's 1/4" Gypsum Sound Deadening Board vertically to both sides of wood studs, with insulation in cavity, and secure with nails. Then, strip laminate a single 5/8" layer of Firestop® Gypsumboard vertically to both sides of the sound deadening board. It's that easy. For a one-hour fire rated exterior wall, apply 5/8" Firestop® gypsumboard over wood studs and insulation.* Then attach 1/2" Firestop® sheathing to the outside wall and cover with 3/8" or 5/8" G-P plywood siding.

Georgia-Pacific

Gypsum Division, Portland, Oregon 97204



New compact hydronic heat package does the work of 20 feet of baseboard!



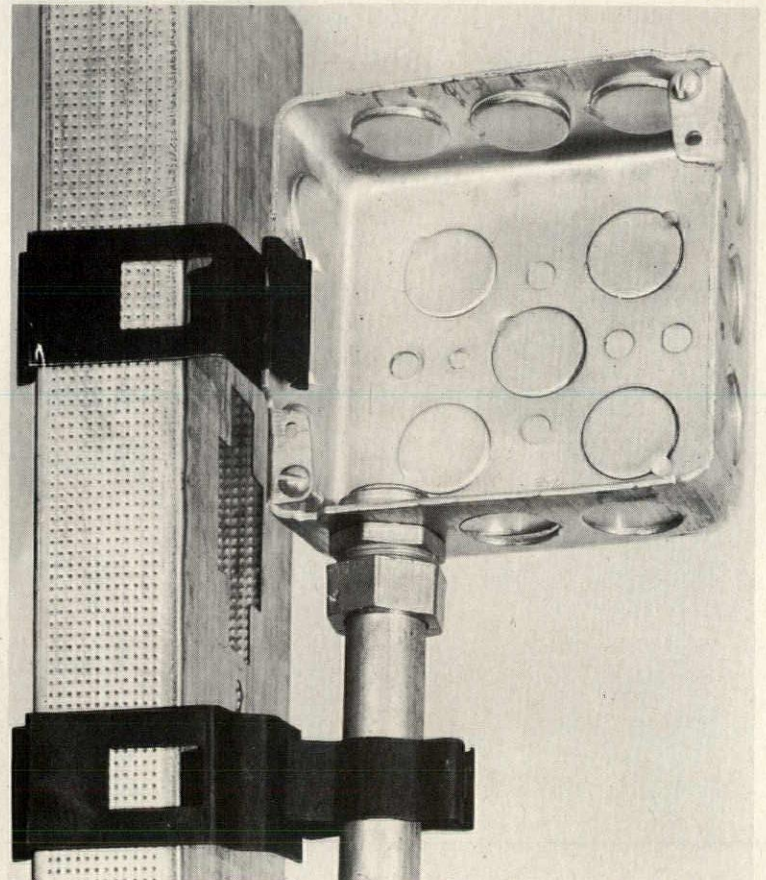
The Beacon-Morris *Twin-Flo* is an integral part of your hydronic heating system, just like baseboard or convectors. The difference is, it's compact, fits most anywhere, and *it literally pours out the heat.*

A 4" x 14" x 18" *Twin-Flo* equals 9 feet of baseboard. A slightly larger model equals 15 to 20 feet. You have 5 sizes and types to choose from to solve any hard-to-heat problem.

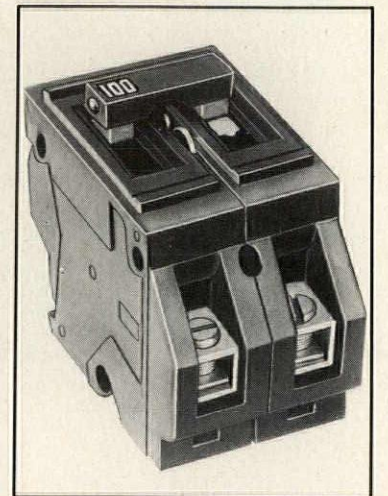
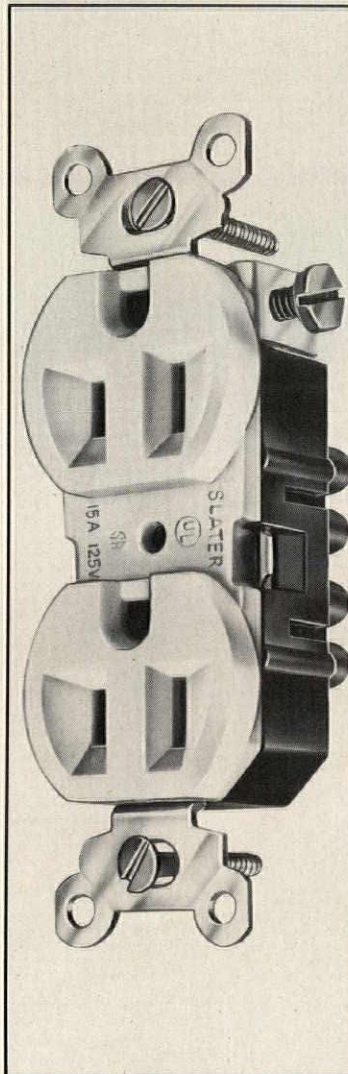
The rule is: if you've got plenty of room for baseboard, use it. If you don't, find a mere 14" in a cabinet kickspace, or over a door, in a stair riser, almost anywhere . . . and have your heating contractor install a *Twin-Flo*.

Technical details? *Send for them!*
Beacon-Morris Corp., 60 Brainerd Rd., Boston, Mass. 02134.

twinflo®
By BEACON-MORRIS



Box-to-stud mount clip provides quick installation of electrical outlet boxes on metal studs. Steel spring clips snap onto the stud and lock the box into place without screws. Device has a double-locking stud-grip and a notched flange. Fastway Fasteners, Lorain, Ohio. CIRCLE 238 ON READER SERVICE CARD



Plug-in circuit breakers, with 10,000 amp interrupting capacity, meet 1971 National Electrical Code requirements. Breakers are available in single pole from 15 to 50 amp, as duo-breakers from 15 to 40 amp combinations and in two poles from 15 to 125 amp. Pop-up trip indicator and lock-on and -off are standard. Wordworth Electric, Covington, Ky. CIRCLE 239 ON READER SERVICE CARD

Duplex speedwire grounding receptacle has 8 backwire holes and accepts up to 10AWG wire. Convenient break-off tab and sidewire release require no special tools. Controlled-height contacts confine arcing between contact points and blade. Ground contacts are set safely. Slater Electric, Glen Cove, N.Y. CIRCLE 240 ON READER SERVICE CARD



FLOOR AND ROOF JOISTS COST LESS THAN 2 x 10's

And give you all these extras

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If that sounds impossible just check the quality and price of 2 x 10's. Then consider the extra costs you'll incur because of warped and twisted lumber, shrinkage, slow installation and uneven floors.

Compare that with TJI performance and you're in for a pleasant surprise. Not only does the TJI actually compete in original price but it also cuts other costs dramatically.

In floor systems the TJI will span up to 24 feet at 2 feet O.C. and in roof systems to 40 feet. It also installs from two to four times faster than 2 x 10's. Broader flanges mean faster nailing and more savings. The plywood webs cut easily for fast installation of plumbing, wiring and even

large ductwork. That can often eliminate expensive suspended ceilings.

TJI floor systems are level and absolutely rigid. There's no shrinkage to cause cracks in walls or sticking doors and windows. You get all the benefits of a top quality system and end up saving time and money in a dozen different ways.

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Once you've seen our new stainless steel sinks, all the others seem dull as dishwater.

But that sculptured contemporary look does more than win feminine hearts. It helps control splashes, too. The bead around the bowl drains water back into the sink to keep the counter dry.

And check the off-center drain. If you've ever been dragooned into doing dishes, you know how a stack of plates in the bowl can stop water from going down the drain. Our off-center design allows the water to keep on draining.

These new self-rimming sinks have the kind of beautiful practicality American-Standard is famous for. But then we've had a lot of practice. Over 100 years of making water behave. Our sinks show it.

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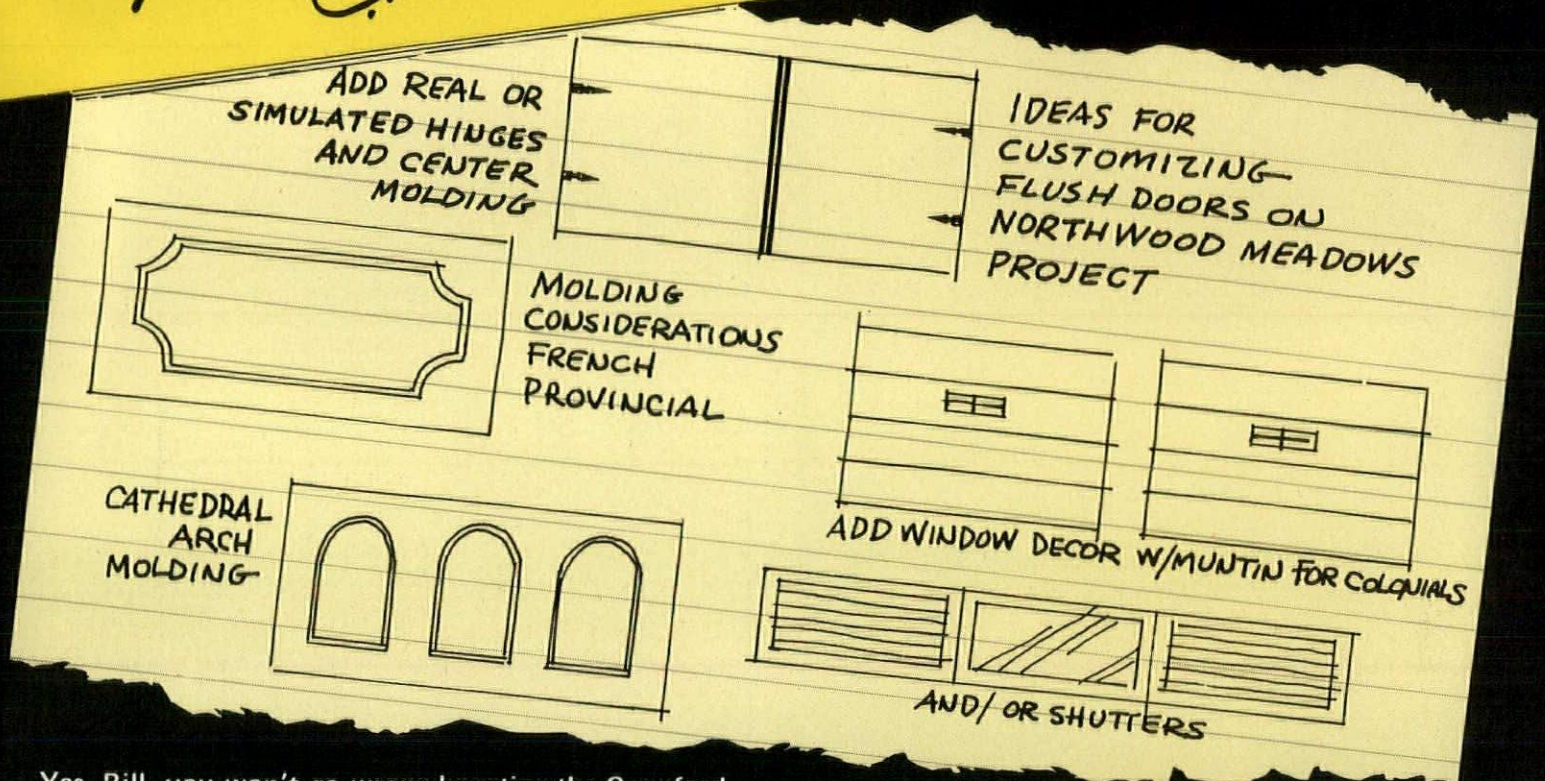
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Yes, Bill, you won't go wrong boosting the Crawford Model 466 Flush Garage Door. C.M. will recognize you're on top of things when you and your Crawford distributor show him samples and go into detail about these benefits. . .

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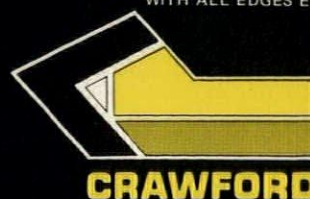
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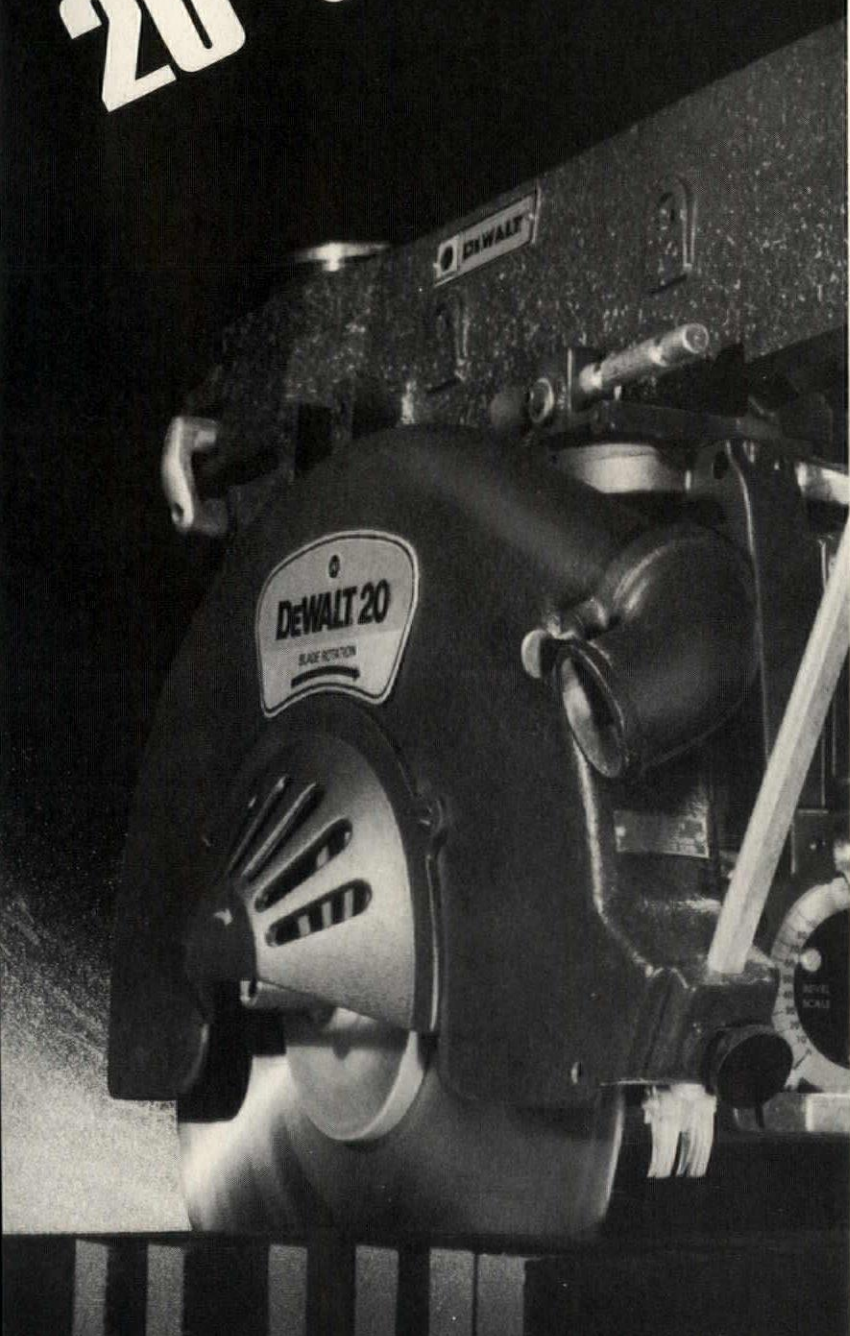
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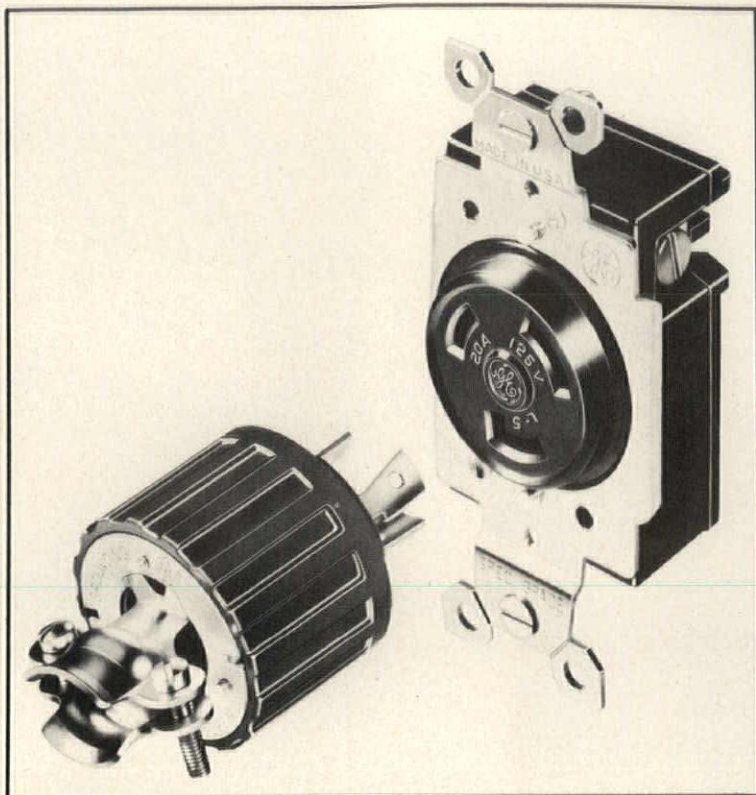
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FROM THE EXCLUSIVE DEWALT® 20" GIANTS...

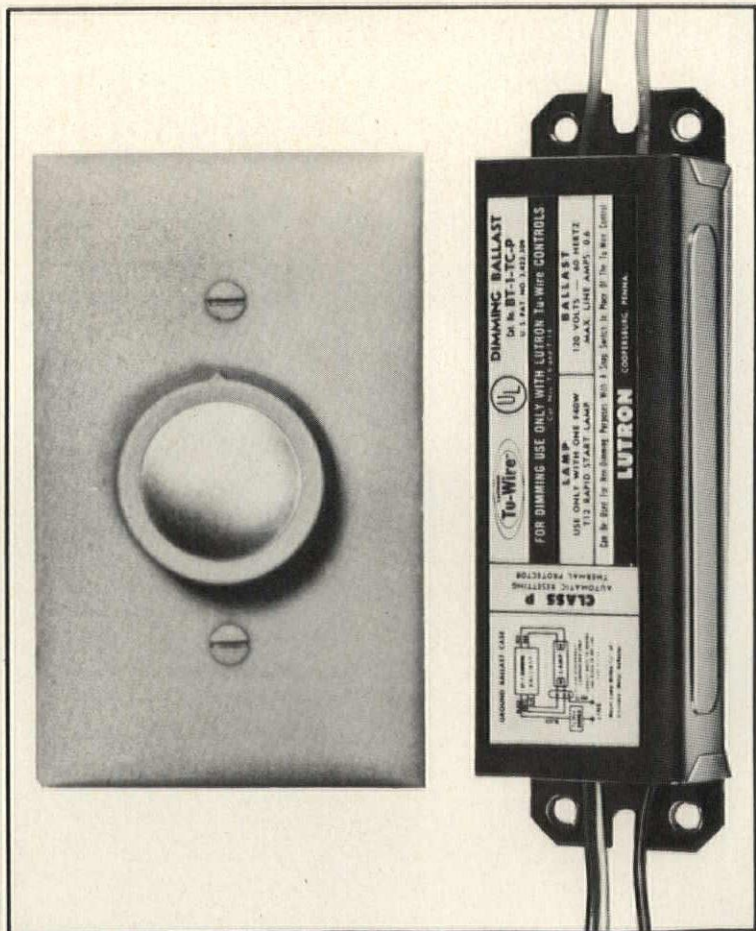


DeWalt's two new 20" models set records. Ripping capacity to 48-3/4". Right hand miter capacity to 23". Maximum depth of cut—6-15/16". All with standard equipment!

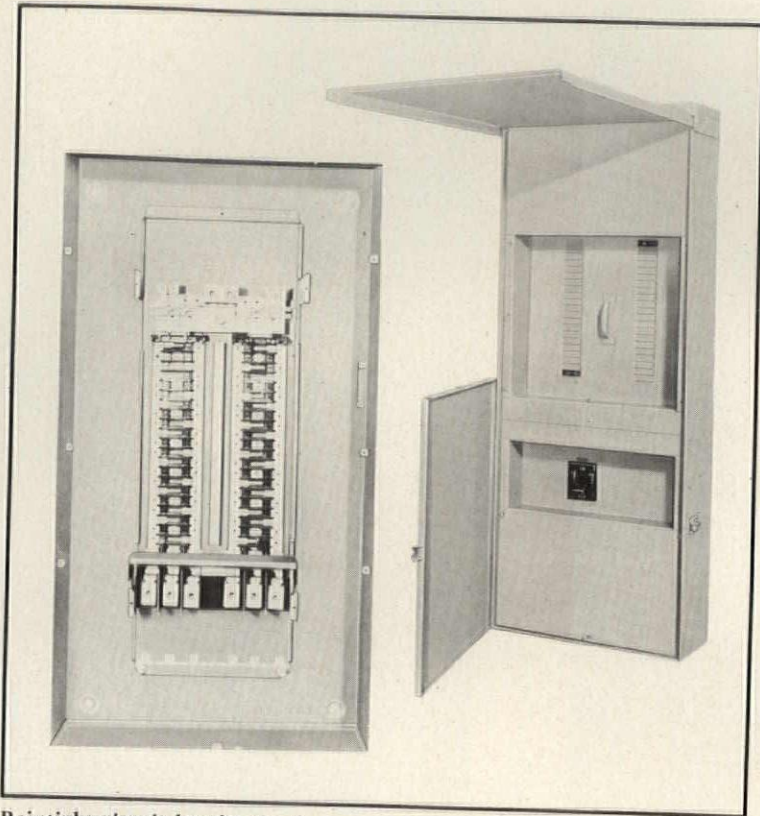
PRODUCTS/ELECTRICAL



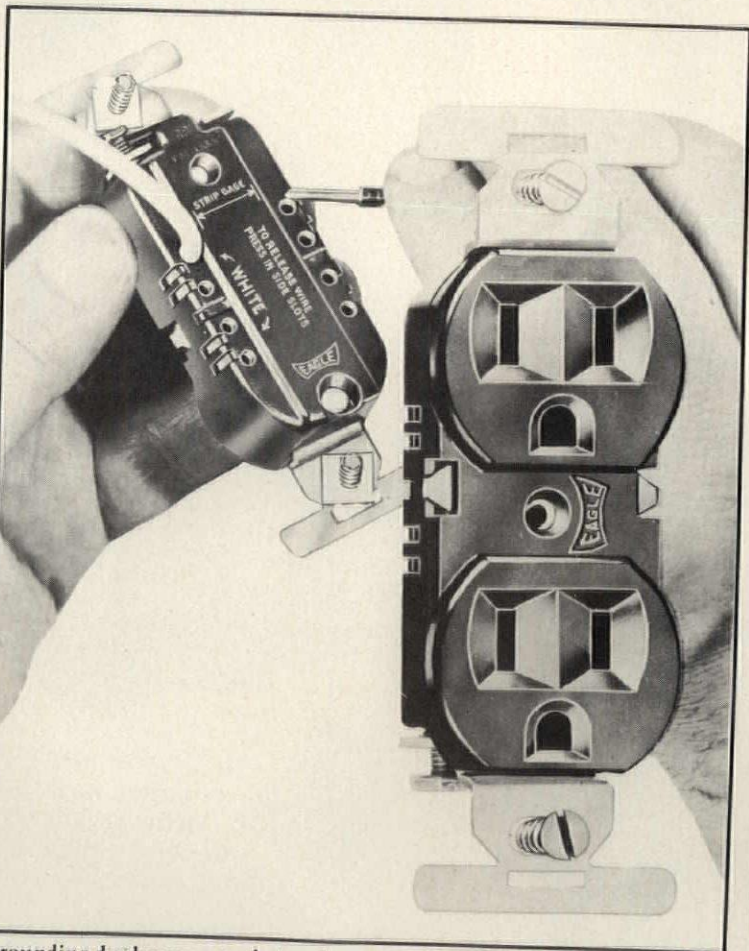
Locking receptacles and plugs and connectors are available in 20 and 30 amp ratings. The PVC/ABS thermoplastic devices feature heat-resistant melamine housings to minimize arcing and tracking, heavy-duty bronze contacts and positive grounding of the metal ring and cord grip assembly. All wires are safely enclosed in individual pockets within the insulated housing. General Electric, Lynn, Mass. CIRCLE 234 ON READER SERVICE CARD



Fluorescent dimming system can be used in place of a light switch with no extra wiring required. The device connects easily to the two existing wires in a wall box. Solid-state, UL-listed dimmers come in two sizes and can control up to 14 40W rapid-start lamps. The system features a built-in sliding minimum-illumination-level control that permits adjustment after installation. Lutron, Coopersburg, Pa. CIRCLE 235 ON READER SERVICE CARD



Raintight circuit breaker load center, constructed with a 400 amp rating, is designed to accommodate increased residential amperage demands. Offered in 24 and 42 circuit units, the smaller center is manufactured specifically for service entrances. Unit meets the requirements of the National Electrical Code for service area equipment when no more than six disconnects are installed. Square D, Lexington, Ky. CIRCLE 236 ON READER SERVICE CARD

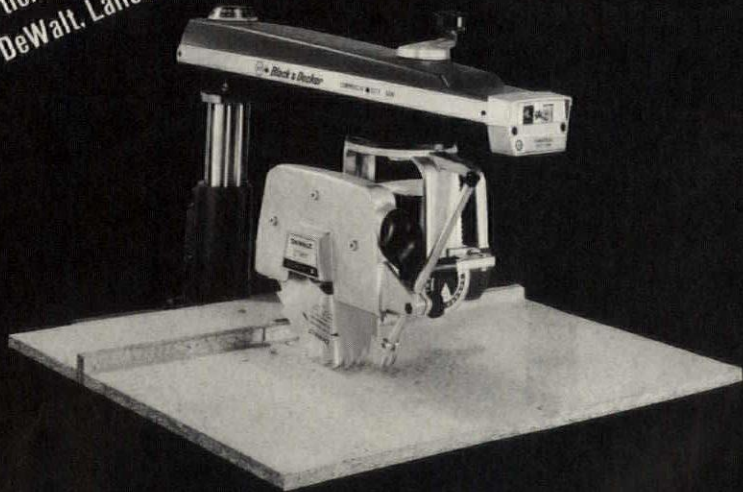


Grounding duplex receptacle is redesigned to accept up to #10 copper-clad aluminum or copper wire. The three-wire receptacle has eight tapered back holes for fast continuous wiring and a side release slot for each. The unit is shallow and narrow to allow more room for wiring. An accessible break-off tab for use in two-circuit wiring is featured. Unit comes in brown or ivory. Eagle Electric, Long Island City, N.Y. CIRCLE 237 ON READER SERVICE CARD

CIRCLE 155 ON READER SERVICE CARD →

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16"s-14"s-12"s-10"s
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DeWalt's 10" and 12" builders' models have up front controls, automatic brake, totally enclosed DeWalt motor. Currently featuring leg stand and cabinet specials.

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Martin "Build-In-Anywhere" Fireplaces build in easier because they're engineered for ZERO CLEARANCE. You can locate them anywhere, on any floor, against any wall, combustible or not! And you can stack them directly above each other for multi-level installations, thanks to simplified chimney offsets.

Martin "Build-In-Anywhere" Fireplaces perform better because each is a carefully engineered system, complete in itself, with factory-built, hearth-to-chimney-top components including round contemporary or simulated brick roof-top terminations. And because the outer walls of each Martin firebox are insulated with 1" compressed insulation. Minimum heat loss from room when fireplace is not in operation!

Martin "Build-In-Anywhere" Fireplaces boost profits because they're easy and economical to install, yet add immeasurably to the competitive appeal, saleability, or rentability of any residential property. It's good business to install fireplaces ... good sense to install "Build-In-Anywhere" Fireplacing by Martin.

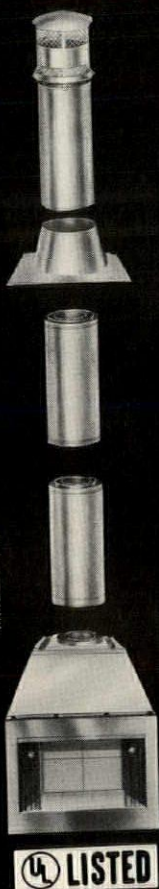


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- 4. Round 3-wall pipe with 30° & 15° offset elbows.
- 5. Round contemporary or simulated brick roof-top terminations.
- 6. 1" compressed insulation around outer walls of firebox.
- 7. Simple, fast installation requiring no foundation.
- 8. Designed for single or multi-story installation.
- 9. UL listed.

Martin offers a complete line of quality fireplaces, such as: Free-Standing, Built-In, and Wall-Hung, in gas, electric, and wood-burning models.

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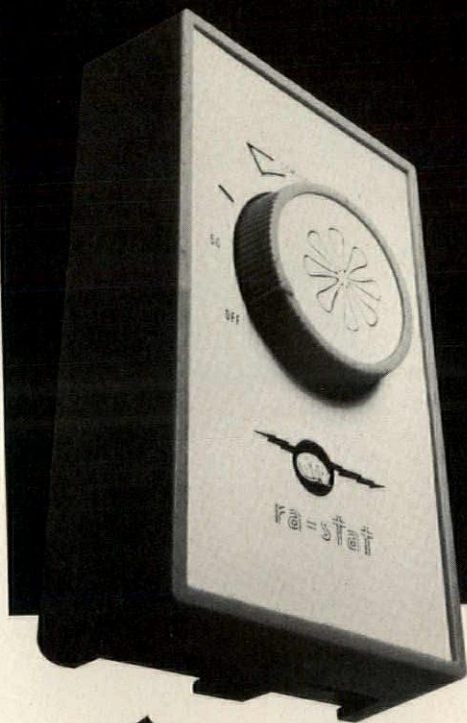
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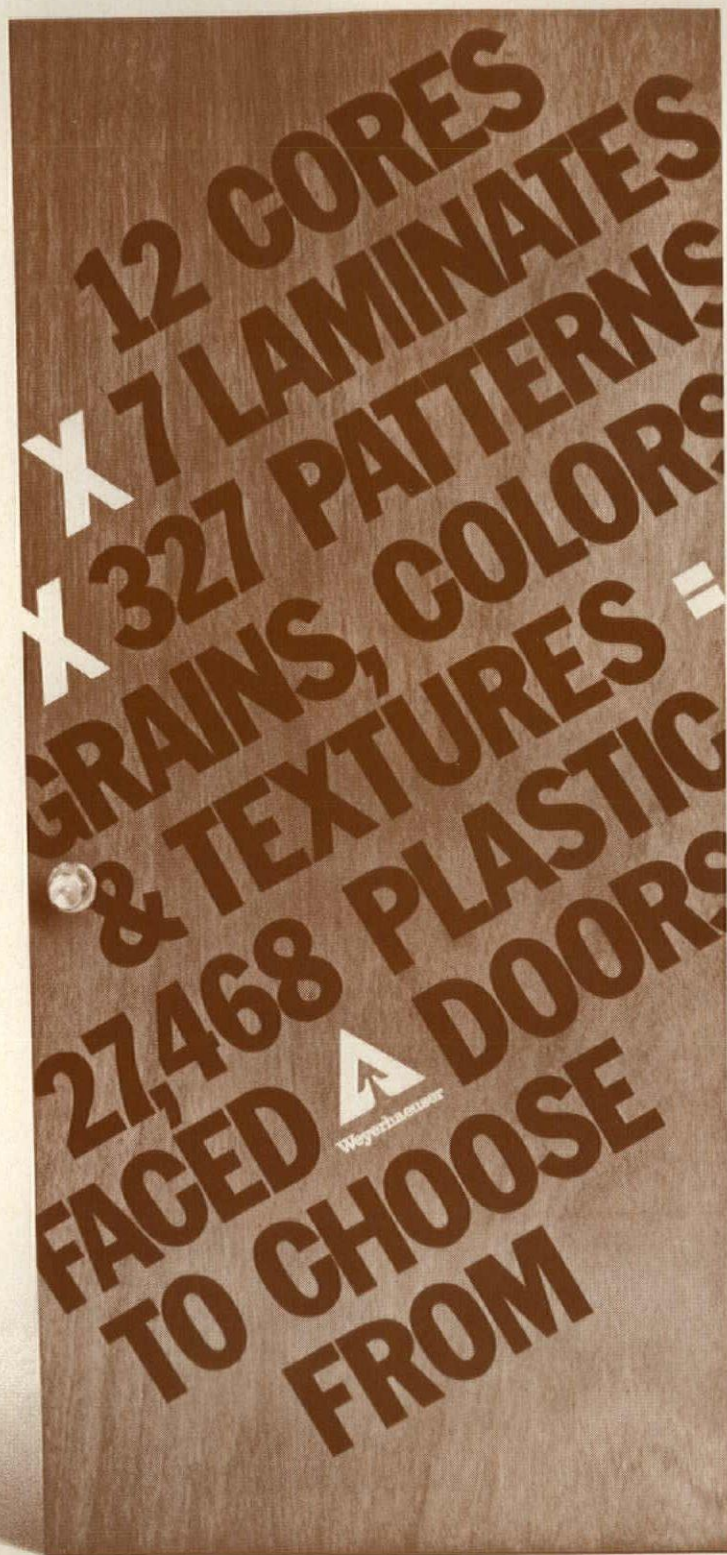


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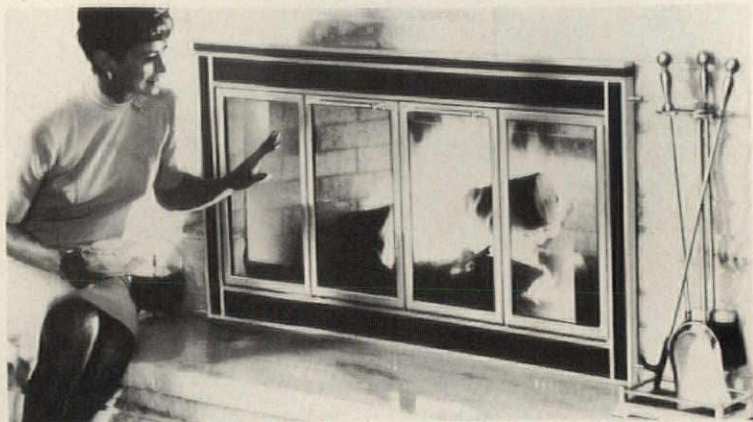
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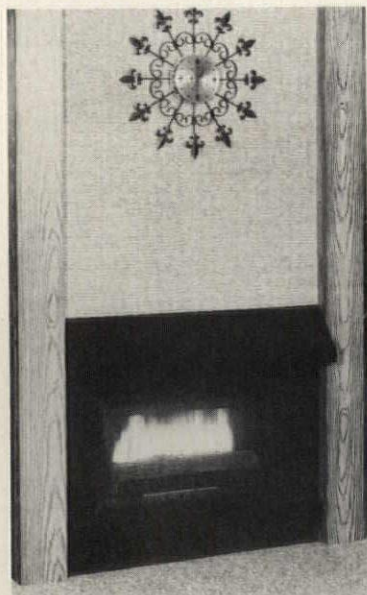
For builders interested in seeing California's outstanding developments, join us on a special pre-Conference tour that begins June 10 and covers some 20 developments from San Diego to San Francisco. For more information, contact Frank Halleran, PCBC Managing Director, 235 Montgomery St., S. 1247, San Francisco, Calif. 94104. Phone (415) 981-1067.



Firescreen with "Glassfyre" folding doors opens wide to provide unobstructed access to a fireplace. Tempered-glass doors with piano hinges can be easily removed for cleaning. Firescreens, which fit flush against the wall, come in several styles and finishes and can be ordered to fit any fireplace. Portland-Williamette, Portland, Ore. CIRCLE 214 ON READER SERVICE CARD



Woodburning fireplaces can be installed without masonry footings or foundation. Units with zero clearance can be set on flooring and against studding or a finished wall. Heat-circulating feature can be ordered. Heatilator, Mt. Pleasant, Iowa. CIRCLE 215 ON READER SERVICE CARD



Fireplace/forced-air heater combination has a heating capability of 40,000 BTUH. The "Starflame 400" gas-fuel system has an adjustable back register for distributing heat to other rooms. Vented with 4" ducts, the unit needs no masonry footings or foundations. Dyna Manufacturing, Lynwood, Calif. CIRCLE 216 ON READER SERVICE CARD



Modern freestanding fireholder has curved lines designed to complement today's bold furnishings and graphics. The polished metal doors of the firebox and the ashpit, below, glide around to provide desired opening. The "Zodiac" is offered in colors as well as black. Washington Stove Works, Everett, Wash. CIRCLE 217 ON READER SERVICE CARD

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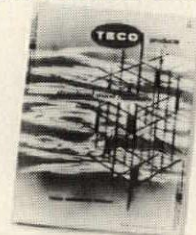
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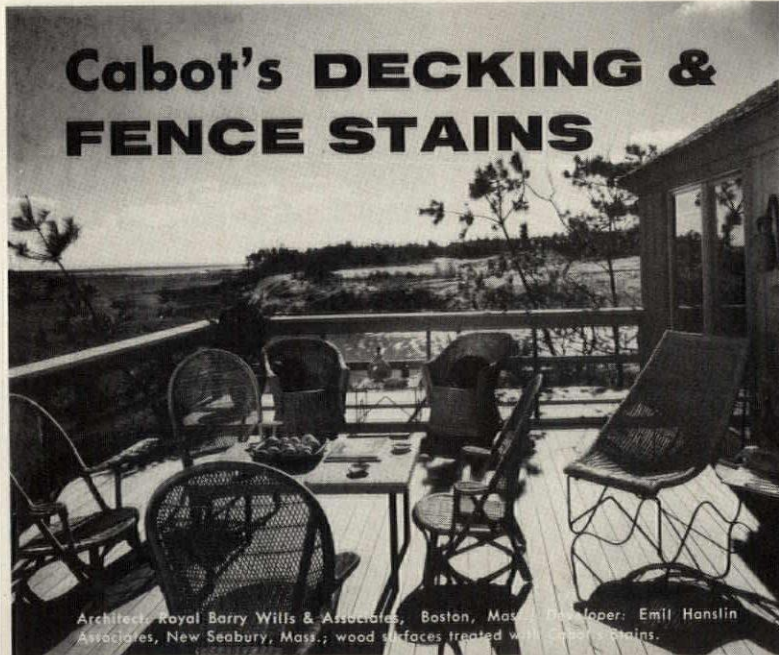


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CIRCLE 89 ON READER SERVICE CARD

**Cabot's DECKING &
FENCE STAINS**



Architect: Royal Barry Wills & Associates, Boston, Mass. Designer: Emil Hanslin Associates, New Seabury, Mass.; wood surfaces treated with Cabot's Stains.

Wood decking and wood fencing, popular now as never before, require a finish both decorative and durable. Cabot's Decking & Fence Stains, developed specifically for this purpose, beautify and protect wood surfaces under the most difficult conditions. The stained surface resists cracking and peeling, mellows with age, will not rub-off or track-off. Available in eleven pleasing colors; suitable for all types of wood.



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Morgan announces a new horizon in

The look, the feel,
the beauty of wood,
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Imagine a material that offers all the best qualities of wood: the look, the solid feel, the warm appearance. Then imagine a perfect structural material which offers dimensional stability, high material density and proven time and wear resistance.

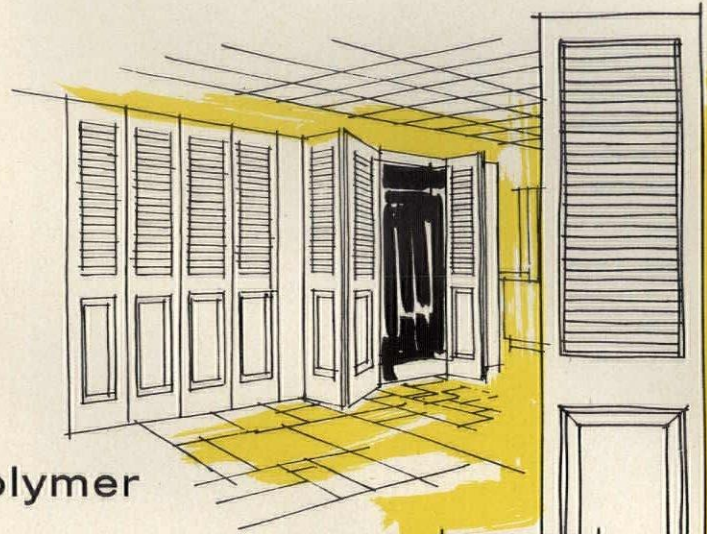
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Structured Polymer is a unique material which offers a variety of advantages to building construction. Exceptional durability. Stability. Rich, warm appearance. Impact resistance.

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Bring the beauty and warmth of a wood-like appearance to any interior with Morgan Bi-fold Doors. Attractive one-piece design features beauty that is more than skin deep. Your choice of two designs, each having solid, unitized construction. No reinforcement needed.

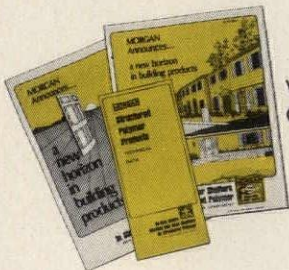
Come complete with hardware, ready to be installed. Attractive white factory prime finish is ideal. Install as is, or paint if desired. Low installed cost. Fast, easy installation.

Bi-fold doors of Structured Polymer. By Morgan. A beautiful way to add gracious appearance to any room. Quickly. And with the assurance of achieving lasting beauty.



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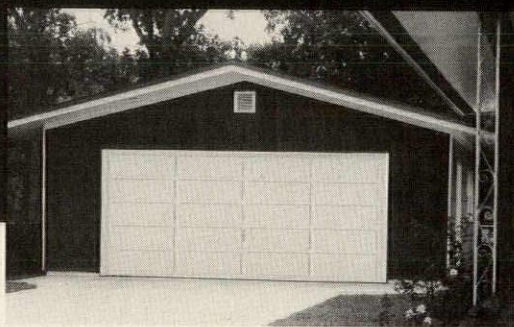
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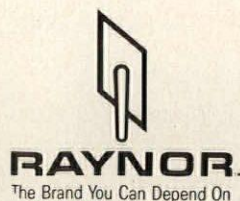
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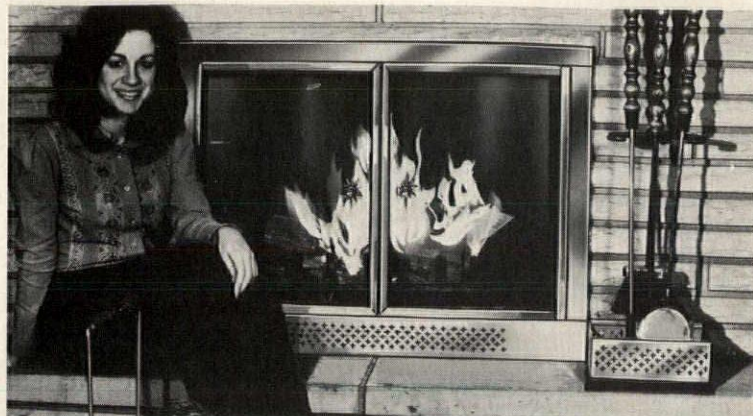
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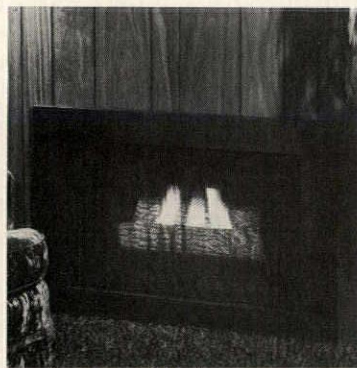
PRODUCTS/FIREPLACES



Fireplace ensemble, with a baked enamel finish over solid brass construction, has protective coating that never needs polishing. Firescreens feature tempered-glass doors and a special glass-wool insulation in the fireplace enclosure. Ensemble includes matching accessories and log basket. Heritage Fireplace Equipment, Akron, Ohio. CIRCLE 218 ON READER SERVICE CARD



Gas-fired factory-built fireplace is equipped with an automatic built-in damper. A single lever control on the hearth automatically opens the damper before gas logs are ignited and closes it when fire is extinguished. Majestic, Huntington, Ind. CIRCLE 219 ON READER SERVICE CARD

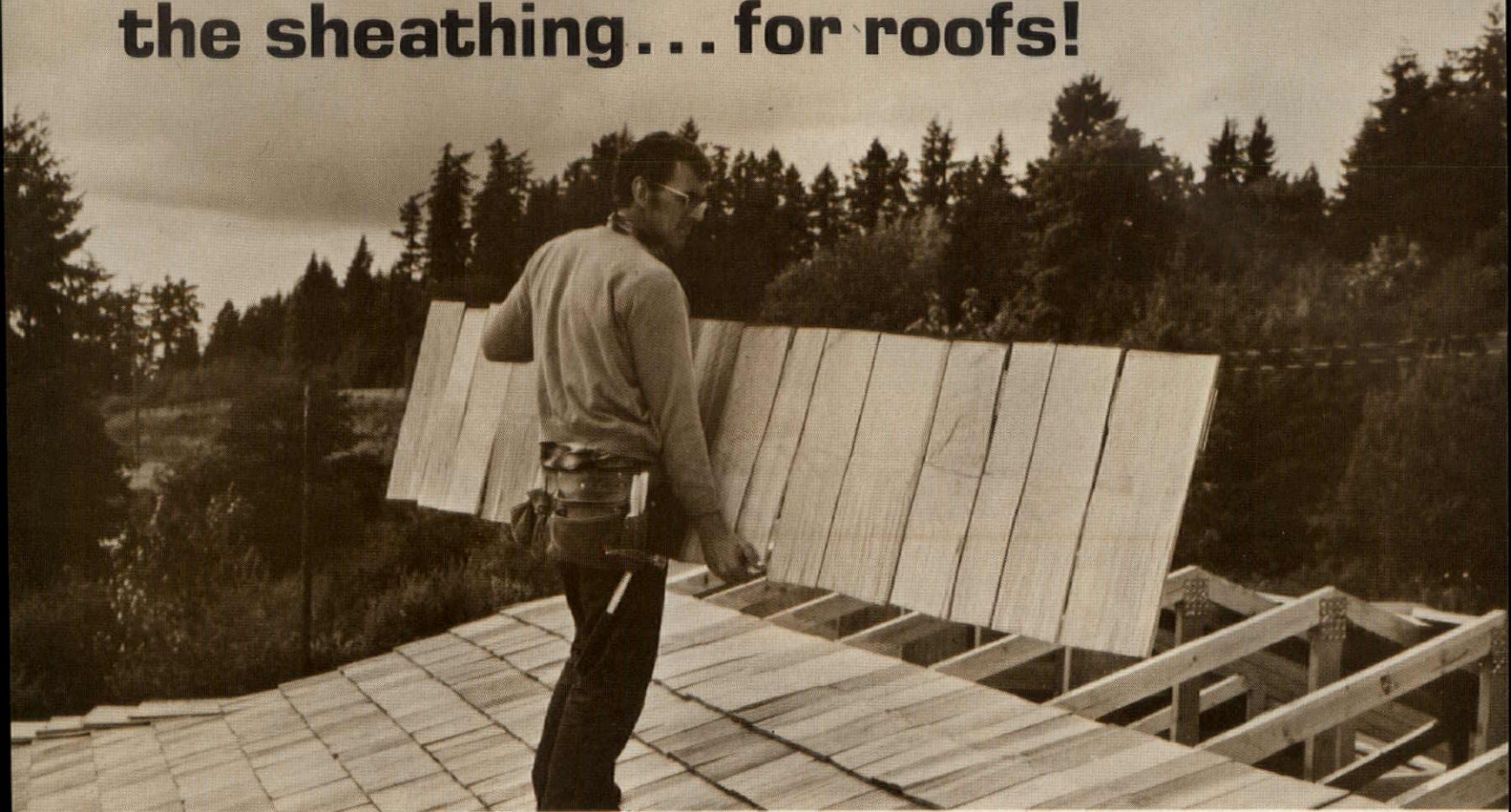


Gas fireplace, "Fireform", uses a 4" vent pipe rather than the more expensive, standard 5" pipe. Unit, which takes up only 2 sq. ft. of floor space, fits between standard stud spacing. Ideal for new construction or remodeling, the fireplace can be set at floor level or elevated. Superior, Fullerton, Calif. CIRCLE 220 ON READER SERVICE CARD



Prefabricated space-saving fireplace for electric logs is ideal for a small room. Unit is constructed of Brickettes®, kiln-dried 1/2"-thick bricks with standard dimensions. The fireplace consists of a firebox body, a mantle and a ceramic tile hearth. Unit comes in three brick colors. Modern Methods, Evansville, Ind. CIRCLE 221 ON READER SERVICE CARD

Handsome handsplit shakes now available in 8-foot panels including the sheathing... for roofs!



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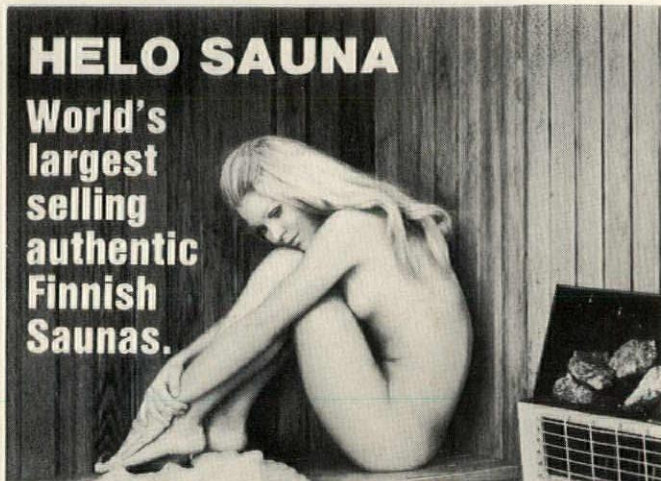
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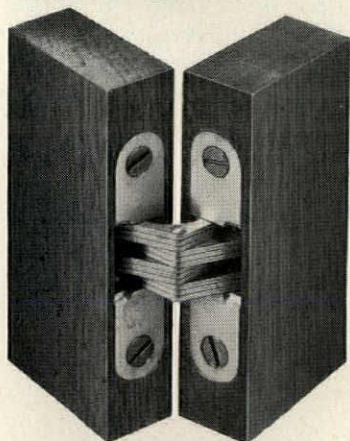
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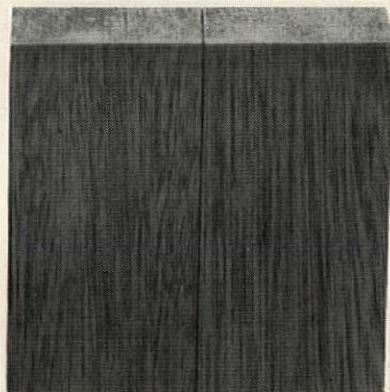
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The hinge that hides



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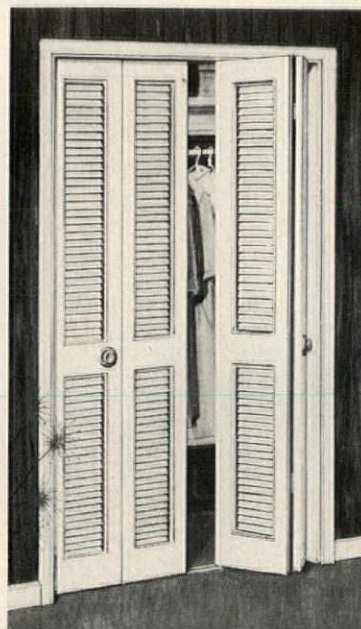


NOW YOU DON'T

The Soss Invisibles—for a custom look for any room! These amazing hinges hide when closed, eliminating unsightly gaps, hinges, and door jams. They're the perfect hidden touch for doors, doorwalls, storage cabinets, built-in bars, stereos, and TV's. Specify the Soss Invisibles wherever looks matter. See listing in Sweet's or write for catalog: Soss Manufacturing Co., Division of SOS Consolidated, Inc., P.O. Box 8200, Detroit, Mich. 48213.

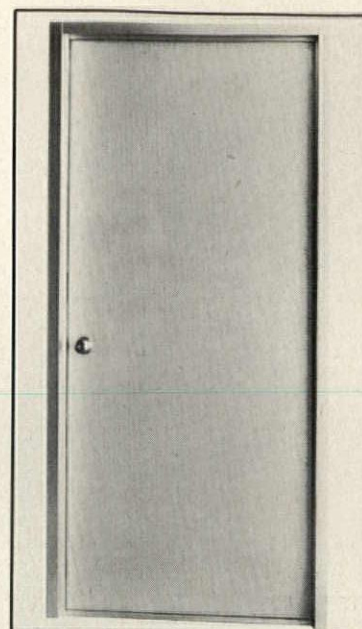


CIRCLE 164 ON READER SERVICE CARD



Plastic bi-fold doors are constructed with fully vented louvers. Doors, which come half or fully louvered, are resistant to nearly all types of damage. Stiles, rails and panels will not crush, shrink, expand, rot, dent, chip or warp. Doors can be factory-coated with an acrylic base. Walled-Lake Door, Richmond, Ind.

CIRCLE 228 ON READER SERVICE CARD



Flush door is faced with fluted aluminum on both sides. A clear anodized surface is standard with a bronze hardcoat finish also available. The 1 1/4"-thick flat door with a flame proof core, resists mildew, dry rot and deterioration. Weatherstripping cuts water and air infiltration. Amarlite/Anacondia, Atlanta, Ga.

CIRCLE 229 ON READER SERVICE CARD



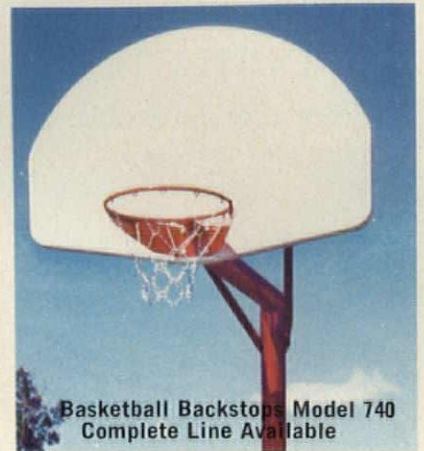
Handcarved rosewood entry door, "Regency", is dramatically formal yet simple. A geometric pattern on inset squares is carried over onto optional side panels. Available in three sizes, the doors are carved on both sides. Side panels are offered in two heights. Hand-rubbed oil-finished pieces are of solid kiln-dried rosewood, 1 1/4"-thick dowel-and-groove construction. Elegant Entries, Worcester, Mass. CIRCLE 230 ON READER SERVICE CARD



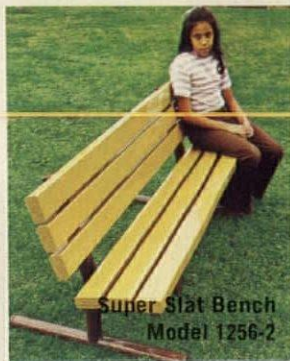
Junior Whirlwind Slide Model 118



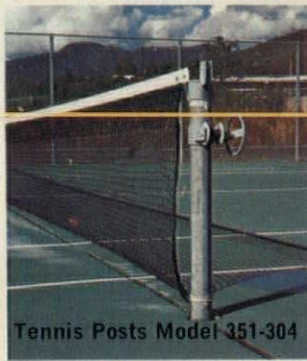
Earthtone Jack & Jill Model 500-2



Basketball Backstops Model 740
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Super Slat Bench
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Tennis Posts Model 351-304



Nature Boy Swing Model 244-2

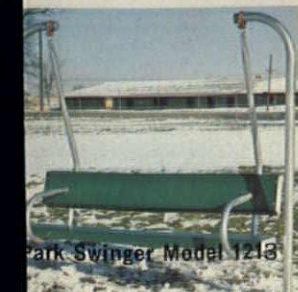


Ring-A-Round Table Model 1101

Sun Deck Model 1220



Twin Rider (Mouse) Model 608-4



Park Swinger Model 1218

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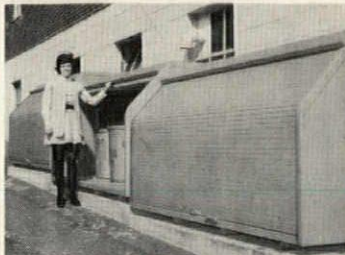
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TM 500	5 cans	27"	x55"	x121"
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Double Depth Tee-M Units for 30 gallon cans				
TM 4430-DD	4 cans	54"	x55"	x 49"
TM 6630-DD	6 cans	54"	x55"	x 74"
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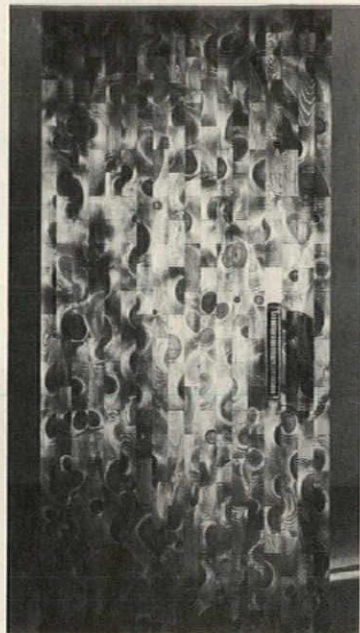
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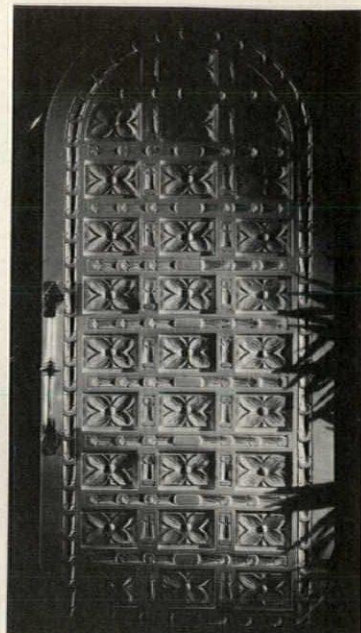
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PRODUCTS/DOORS, WINDOWS



Designer door of knotty-wood blocks weighs around 6 lbs. per square foot. A special frame is designed into the unit and heavy-duty ball bearing hinges are used. Laminated for strength, doors have scratch- and dent-resistant finishes. Material can also be used for dividers and walls. Customwood, Albuquerque, N.M.

CIRCLE 231 ON READER SERVICE CARD



Hand-carved mahogany door, shown with an arch top, is available in any size or shape with or without the doorjamb. Door can be carved on one or two sides as desired. Matching laterals and transoms are also offered. "Del Oro" comes in standard sizes or can be custom ordered. Pinecrest, Minneapolis, Minn.

CIRCLE 232 ON READER SERVICE CARD



Cafe-door hinges feature two removable ramp controls that allow doors to swing closed or to stay open in either or both directions. With ramps installed, doors always return to closed position. With ramps removed, doors remain opened if desired. Heavy-duty hinges provide quiet positive operation. Units will support doors 3/4" to 1 3/8" thick and weighing up to 50 lbs. National Manufacturing, Sterling, Ill. CIRCLE 233 ON READER SERVICE CARD

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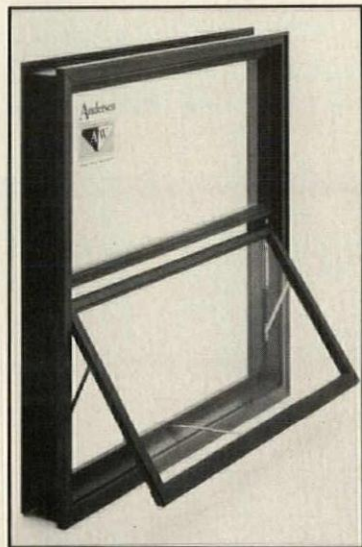
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Contemporary entry door features three vertical glass panels that admit light and provide visibility. The prehung, foam-core steel door, available factory-primed or finished in a choice of eight colors, will not sag, warp, bend or crack. It is equipped with a thermal-seal weather barrier that keeps out cold. Everstrait, Pease, Fairfield, Ohio. CIRCLE 222 ON READER SERVICE CARD

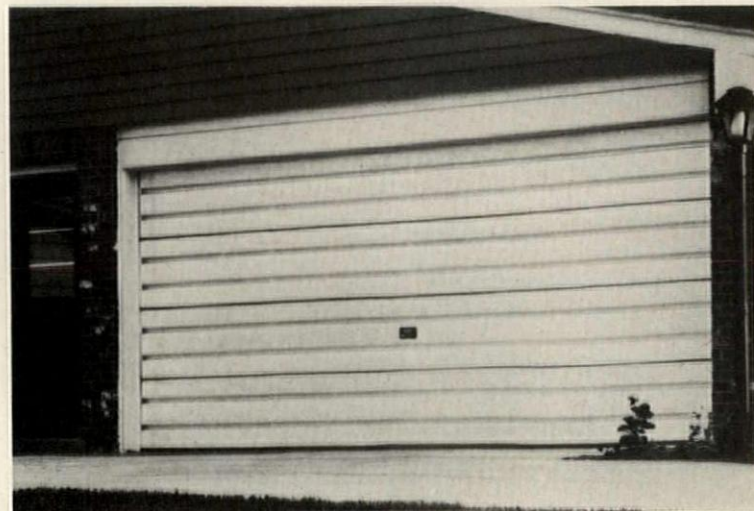
Prefinished wood window, "Flex-pac", is now available in a dark terratone to blend with natural shades of wood, stone and brick. Previously offered in white only, the four-in-one window may be used as a casement or awning unit with or without vinyl grilles. All hardware is factory-installed. Andersen, Bayport, Mich.

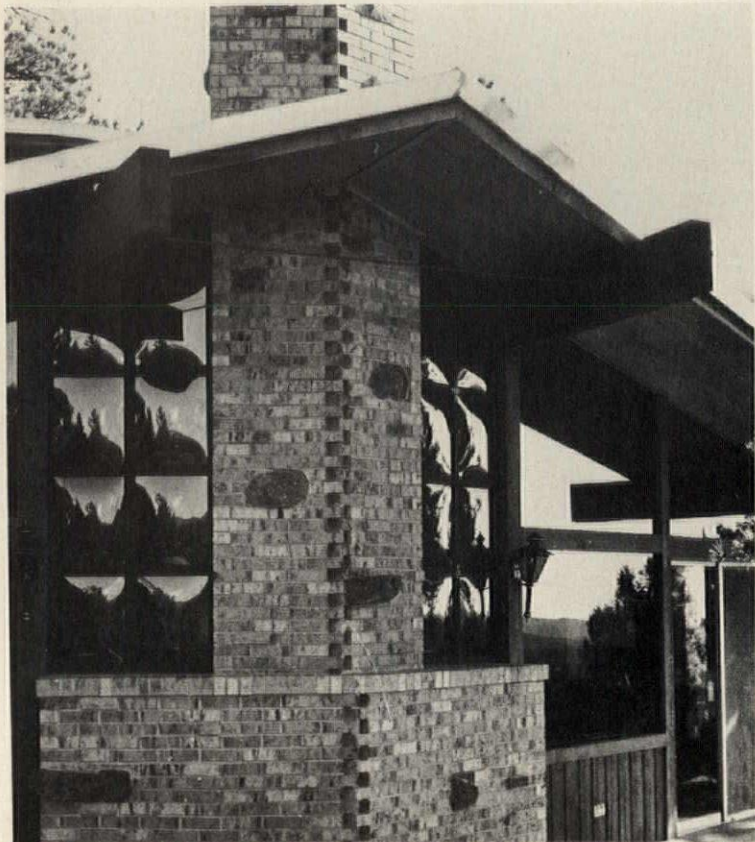
CIRCLE 223 ON READER SERVICE CARD



Fiber glass garage door (below) is equipped with pre-assembled hinges, an adjustable tapered track, combination hinge and roller brackets and adjustable lift and bump brackets. Full-length pinch-proof joints are weather-tight. Door can be locked from inside or out. Stanley-Berry, Birmingham, Mich.

CIRCLE 224 ON READER SERVICE CARD





Contour-shaped glass windowpanes have a shallow curved surface that reflects light, adding visual interest to any exterior. Shape does not distort the view or the amount of light passing through the pane. "Vexocave", in standard sizes, can fit into any type window using normal glazing methods. Vexocave, Morrison, Colo. CIRCLE 225 ON READER SERVICE CARD



Custom-built replacement window, "Thermal-gard", features dual panes of glass with an insulating air space between. No storm windows are needed. Aluminum frames are encased in rigid vinyl extrusions thereby eliminating metal-to-metal contact and minimizing condensation. Season-all, Indiana, Pa.

CIRCLE 226 ON READER SERVICE CARD

Flush garage door (below) has a skin of "Dortex", a plate-embossed hardboard. The door combines the durability of flush-door construction with the appearance of simulated wood planks and panels. Weather- and dent-resistant facing can be finished with a wipe glaze or painted as desired. Masonite, Chicago.

CIRCLE 227 ON READER SERVICE CARD



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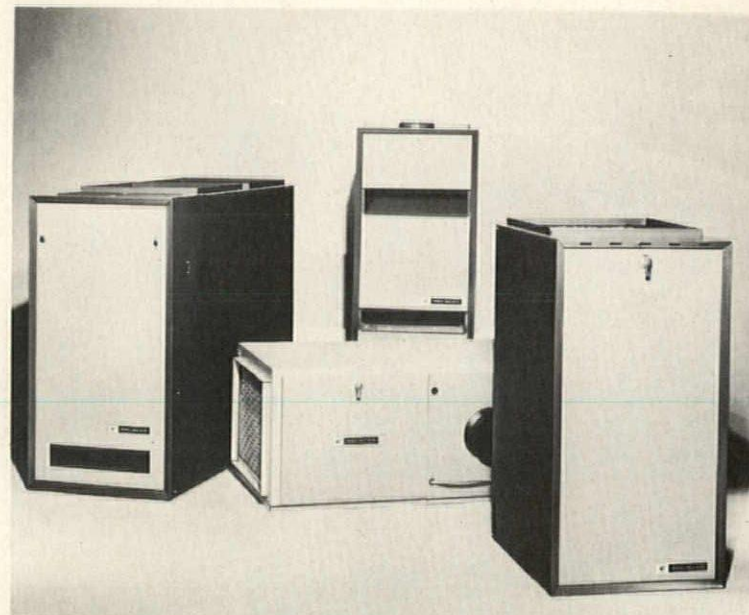


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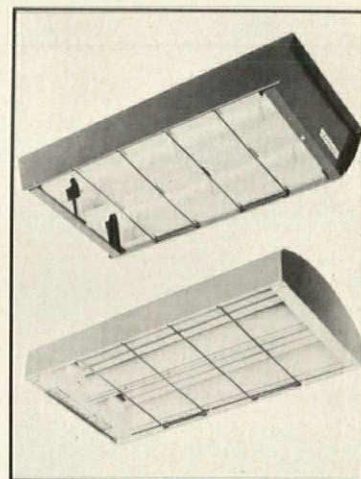
CIRCLE 91 ON READER SERVICE CARD



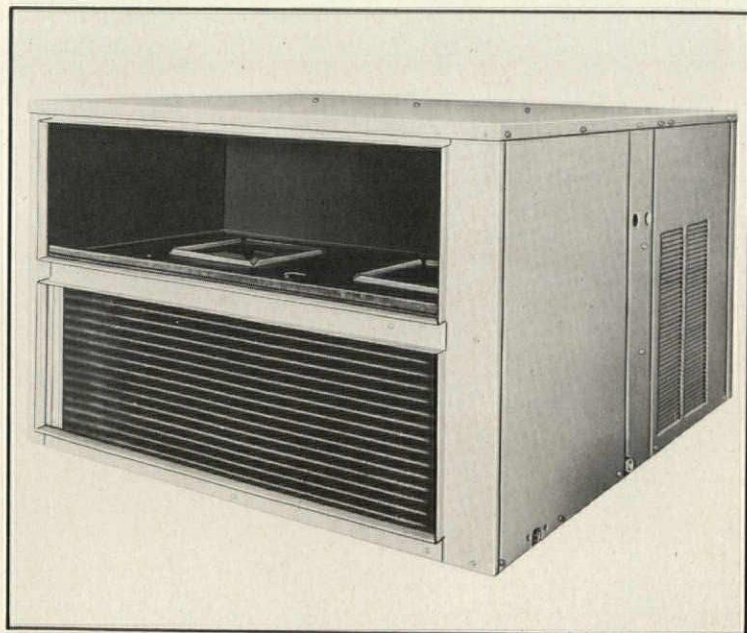
Total heating and cooling line includes a full selection of central air conditioning equipment and gas, oil and electric furnaces. The air conditioning line consists of precharged condensers in 2, 2½, 3, 4 and 5 ton capacities, evaporator coils in matching capacities, blower coil cabinets and precharged refrigerant tubing. A full range of furnace styles and sizes is offered. Weil-McLain, Michigan City, Ind. CIRCLE 241 ON READER SERVICE CARD

Quartz lamp infrared heaters give off both heat and light at the flick of a switch. Ideal for heating vestibules and waiting areas, units can be mounted as easily as fluorescent lights. The heaters need no ventilation. Aitken, Geneva, Ohio.

CIRCLE 242 ON READER SERVICE CARD



Compact heating and cooling unit that installs through the wall comes in 9,000, 12,000 and 15,000 BTUH cooling capacities. Suitable for new construction or remodeling, the 28"-wide one-piece cabinet/sleeve unit comes in steam, hot water or electric versions. Slant/Fin, Greenvale, N.Y. CIRCLE 243 ON READER SERVICE CARD



Single-package electric cooling units are designed for installation in attics, crawl spaces or suspended from floor beams or roof rafters. Units can be used singularly or multiply. Available in nominal 3, 3½, 4 and 5 ton capacities, package comes completely assembled, prewired, charged and tested. Supplemental heating kits from 5 to 20KW are available as an option. Mueller Climatrol, Milwaukee, Wis. CIRCLE 244 ON READER SERVICE CARD



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CIRCLE 174 ON READER SERVICE CARD

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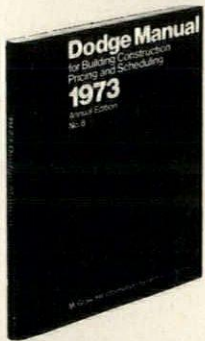


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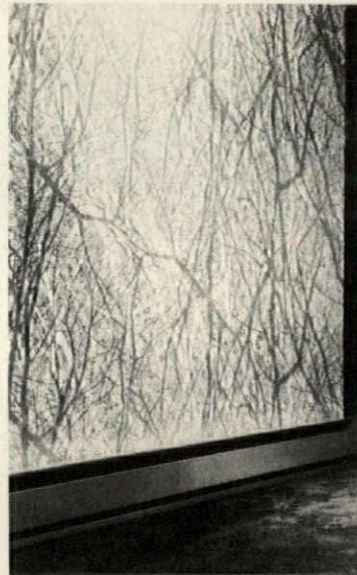
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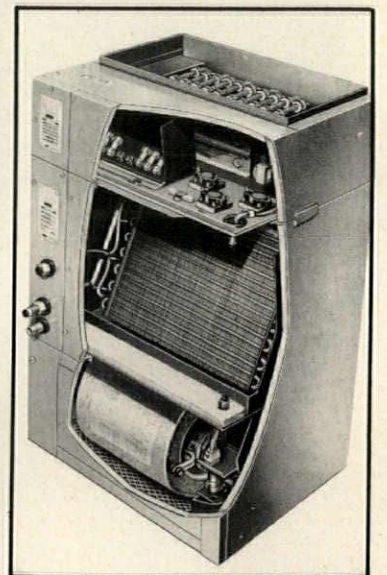


Hot-water electric baseboard heating system provides controlled heat without plumbing, furnaces or ducts. Operating on permanently sealed-in water, each heater is a complete circulating system in itself. Each easy-to-install unit operates independently of all others. A portable plug-in model is offered also. Intertherm, St. Louis, Mo. CIRCLE 245 ON READER SERVICE CARD



Baseboard heater with a free-floating heating element features all enclosed wiring and electrical connections. Contemporary designed cabinet in baked-on beige enamel blends well with any decor. A snap-on grille can be installed or removed easily. Positive-grounded unit is equipped with a built-in rug guard and deflector that directs the flow of air. Fasco, Fayetteville, N.C.

CIRCLE 246 ON READER SERVICE CARD



Up-flow blow-coil cooling units are designed for small space applications in apartments and single-family dwellings. The compact 38"x23"x18" air conditioner comes in 1½, 2 and 2½ ton sizes with cooling capacities that range from 18,000 to 31,000 BTUH. Galvanized steel cabinet can be wall-mounted or set on the floor in a corner or closet. Lennox, Marshalltown, Iowa.

CIRCLE 247 ON READER SERVICE CARD

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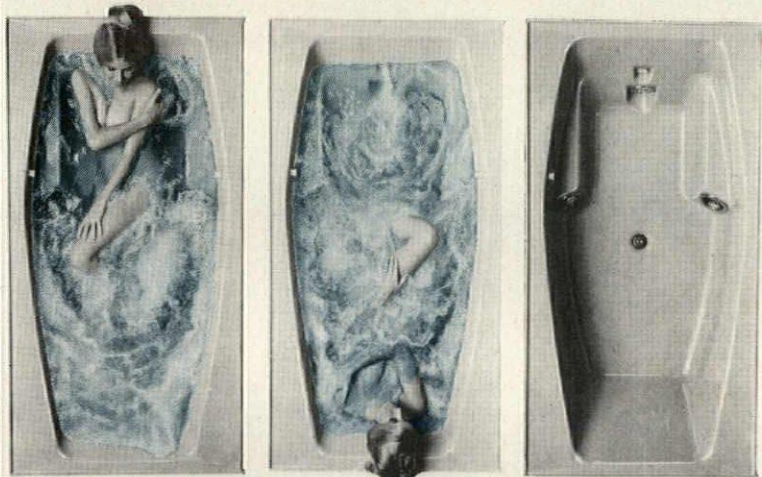
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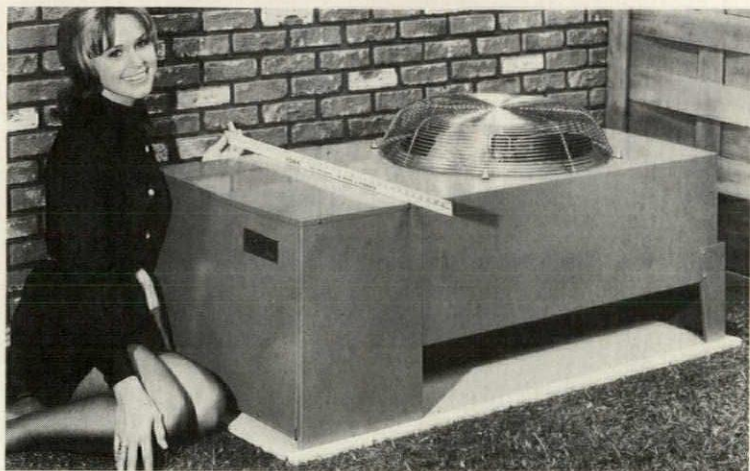


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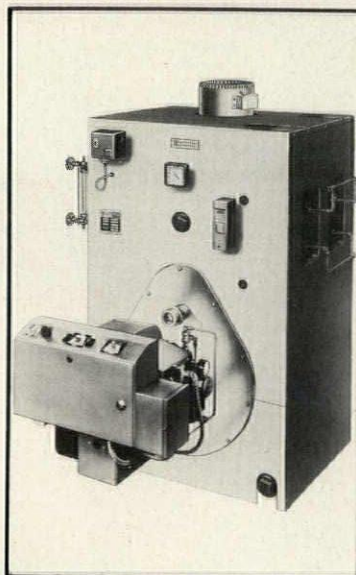
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Electric baseboard heaters can be used as additional heat sources in hard-to-heat areas such as the basement playroom shown. Two heaters on opposite walls of the room are controlled by a line voltage positive-off thermostat. Byrant, Bridgeport, Conn. CIRCLE 248 ON READER SERVICE CARD

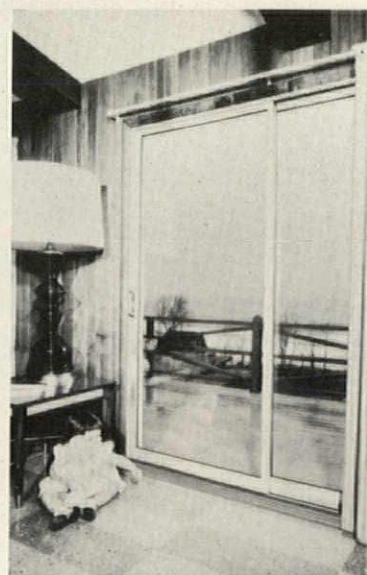


Air conditioning system, "Champion III", can be easily installed in any house regardless of design or existing heating system. Models range in size from 1½ to 5 ton cooling capacities. Cooling coil can be placed in a variety of locations and positions as required but the compact condensing unit always remains outside. York, York, Pa. CIRCLE 249 ON READER SERVICE CARD



Pressure-fired cast iron boiler is available with burners that operate on light oil, gas or a combination of the two. The unit, which takes up considerably less space than boilers with comparable outputs, requires no external draft devices or high chimney. Unit is available in models offering output ratings from 620 to 3,430 MBH. American Standard, New Brunswick, N.J.

CIRCLE 250 ON READER SERVICE CARD



Perimeter heating, designed specifically to regulate the temperature in rooms with large glass expanses, eliminates fogging. "Thermo-base Glasswall" prevents heat transfer through the glass. Unit, which is mounted flush in the floor, blankets the glass with warm or cool air and provides quiet, draft-free air flow. Floor plate is scuff-proof aluminum. Leigh, Coopersville, Mich.

CIRCLE 251 ON READER SERVICE CARD

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LITERATURE

Electric heating/cooling products are cataloged in full-color, binder-hole-punched brochure. Product information is listed in two ways: in chart form, with color illustrations and abbreviated specs and product-use description for each item and in page form, including complete information and/or the name of the available brochure for obtaining it. Chromalox, Emerson Electric, St. Louis, Mo. CIRCLE 305 ON READER SERVICE CARD

Prefinished hardboard paneling, in decorative patterns and textures, is illustrated in color photos of room settings and close-ups of panels. Available moldings and accessories are discussed. Specifications and installation information are included. Masonite, Chicago. CIRCLE 303 ON READER SERVICE CARD

Fire safety properties of a variety of building products are presented in chart form. Key regulations, standards and test methods currently used in the U.S. are tabled. Also included are prepaid postcards to be sent for further information on improved fire safety. Monsanto Fire Safety Center, St. Louis, Mo. CIRCLE 304 ON READER SERVICE CARD

Pregouted ceramic mosaic sheets are described. Six color blends, four color blends and four grout shades

are illustrated. The binder-hole-punched brochure includes specs. American Olean, Lansdale, Pa. CIRCLE 312 ON READER SERVICE CARD

Carpets are listed by model name and number. Each style cataloged is accompanied by a description of texture, fabric, width and colors available. Warehouse and showroom locations are included. Photos are not used in this literature. Lewis Carpet Mills, Cartersville, Ga. CIRCLE 314 ON READER SERVICE CARD

Prefinished hardboard paneling, in a choice of colors, textures, patterns, murals and finishes, is featured along with harmonizing moldings. The full-color brochure includes specifications. Marlite, Dover, Ohio. CIRCLE 309 ON READER SERVICE CARD

Plywood sidings are featured in full-color photos of actual applications. Close-ups of panels show details of textures and patterns available. Technical data, finishing recommendations and application instructions are included. Simpson Timber, Seattle, Wash. CIRCLE 302 ON READER SERVICE CARD

Weatherstripping and thresholds are shown in scale drawings. Contents are listed in two separate indexes—one by product and one by model

number. Pemko, Emeryville, Calif. CIRCLE 306 ON READER SERVICE CARD

List of ASTM publications for 1972-73 is alphabetized by subject. Over 600 pieces described deal with standardized testing methods and specifications for materials, the knowledge of materials and materials evaluation. Prices and ordering forms and instructions for literature listed are included. American Society for Testing and Materials, Philadelphia, Pa. CIRCLE 301 ON READER SERVICE CARD

Weatherstripping information for casement, awning, hopper, double-hung and slider windows is presented in charts and illustrations. A companion brochure discusses a door weathersealing system. Showing how the system works on steel, wood and composition doors and frames, literature includes a list of product features and gives air- and water-leakage test data. Schlegel, Rochester, N.Y. CIRCLE 313 ON READER SERVICE CARD

Water closet and bowl literature includes black and white diagrams of installation details. Product attributes are listed. Specifications are included. Mansfield Sanitary, Perrysville, Ohio. CIRCLE 310 ON READER SERVICE CARD

Bathroom products catalog—including medicine cabinets, vanity bases, faucets, bowls, accessories and lighting—gives many suggestions for decorating. Full-color booklet features photographs of products in room settings. Colors and finishes are shown. The index, on the inside back cover, is visual, with illustrations of products rather than an alphabetical listing. General Bathroom, Elk Grove, Ill. CIRCLE 307 ON READER SERVICE CARD

Sheet copper is described in four sections: sheet copper fundamentals—including physical properties, structural requirements, sheet sizes available, etc.; sheet copper designs—actual cases where the sheeting has been used; diagrams of possible uses of copper flashing; and specifications. One full-color page shows the colorations of copper as exposure to weather ages it. Copper Development Assn., New York City. CIRCLE 311 ON READER SERVICE CARD

Lumber buyers guide lists over 200 sawmill members from the West Coast. Booklet includes—in chart form—sawmills, their sales and production, standard lumber sizes, lumber abbreviations and rail freight rates. West Coast Lumber Inspection Bureau, Portland, Ore. CIRCLE 308 ON READER SERVICE CARD

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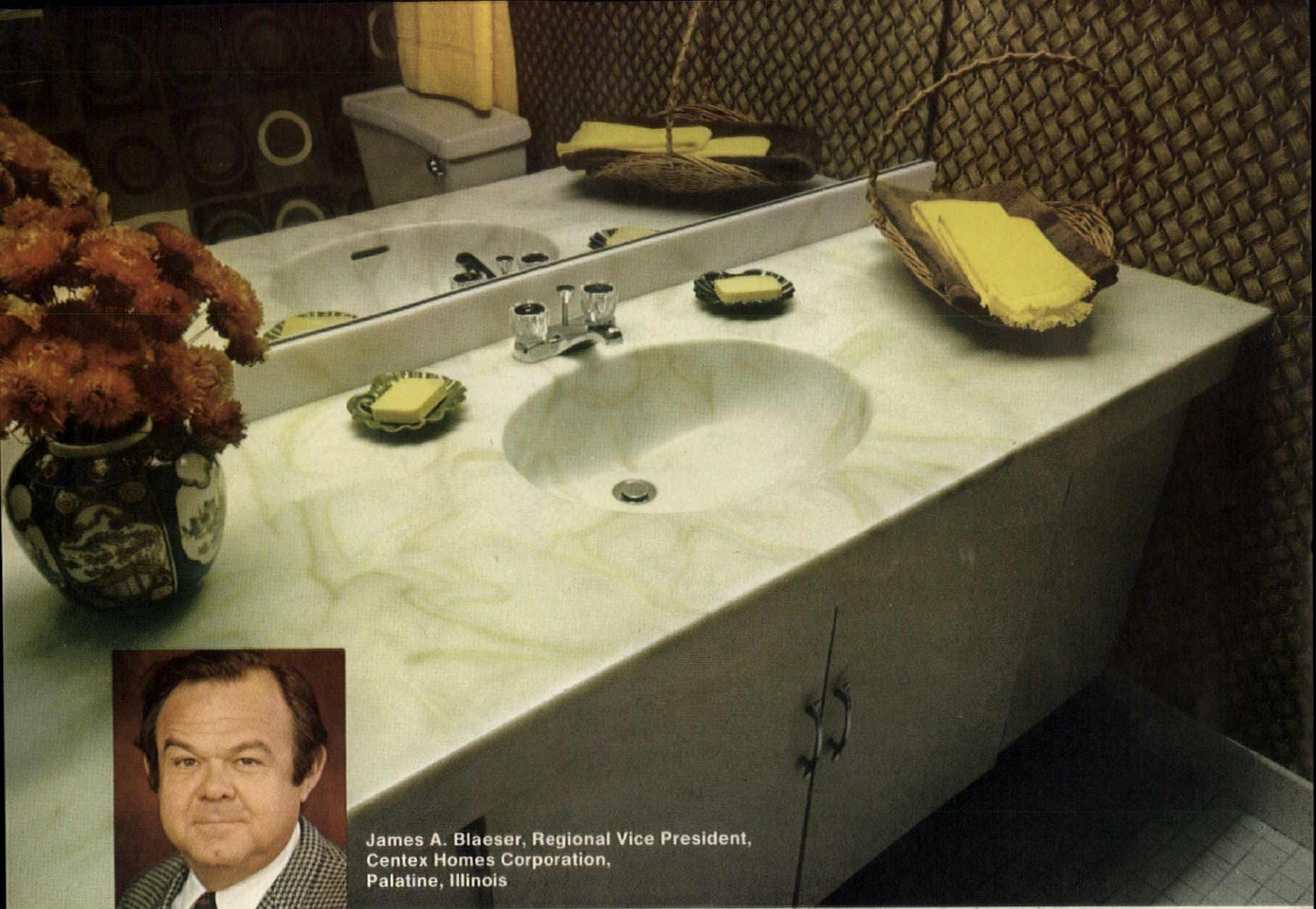
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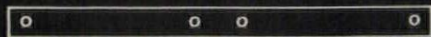
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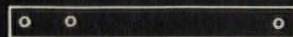
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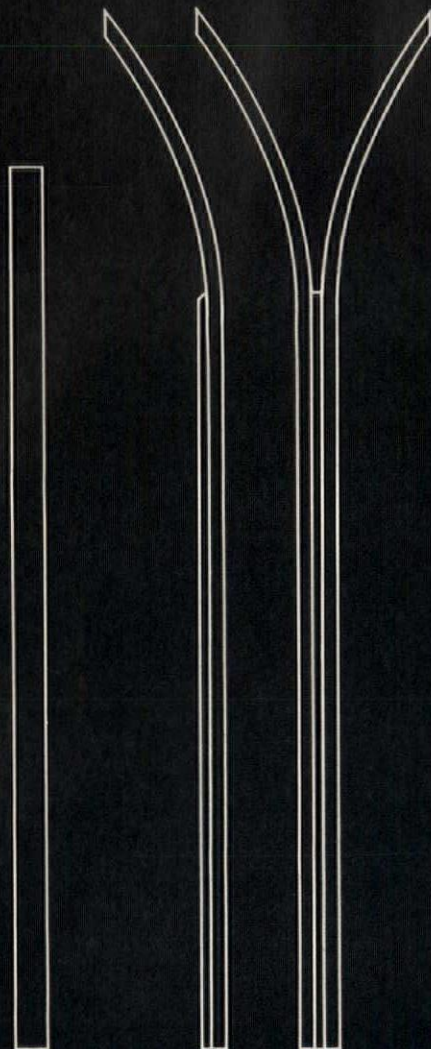
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