HOW TO DESIGN AND DETAIL TO BUILD BETTER FOR LESS

THIS TRUSS MAKES MOST SENSE FOR A 20' SPAN

THIS GRADE BEAM FOUNDATION CAN SAVE $125 A HOUSE

THIS IS THE BEST WAY TO FRAME A BEARING WALL

COMPLETE CONTENTS, PAGE 89
Get rid of cooking odors, excess heat and grease with a NUTONE Built-In Range Hood-Fan and Oven Hood-Fan.

...FRESH, ODOR-FREE AIR IN THE KITCHEN with NU-TONE'S BUILT-IN RANGE HOODFAN

...PROTECTION FOR CABINETS OVER OVEN with NU-TONE'S BUILT-IN OVEN HOODFAN

...TIDY, UNCLUTTERED KITCHEN COUNTERS with NU-TONE'S BUILT-IN FOOD CENTER

NU-TONE'S INTERCOM-RADIO IS A "STEP SAVER" ...PROVIDES RADIO-MUSIC THROUGH THE HOME

FRIENDLY MUSICAL GREETINGS AT THE DOOR ... WITH NU-TONE'S DOOR CHIME AND CLOCK
AMERICA'S FINEST CABINET MANUFACTURERS INCLUDE NUTONE IN THEIR KITCHENS

No wonder NuTone Built-Ins have national acceptance by all the leaders of the kitchen cabinet industry. These manufacturers are convinced that NuTone adds value and splendor with 5 kitchen features every woman wants. These famous names listed below now offer you cabinets with "cut-outs" for NuTone Built-Ins. Be sure to call your favorite cabinet manufacturer for full details . . . or write for complete catalogs and installation data.

Write for New Catalogs
NUTONE, INC. - Dept. HH-10 - Cincinnati 27, Ohio
NAME
FIRM
ADDRESS
CITY
STATE
Heating and cooling equipment costs drop because aluminum-clad insulation retards heat flow to make smaller and less expensive units ample for all needs. Aluminum-clad insulation, recognized for quality, means extra sales appeal.

Lower heating and cooling bills, too, for aluminum-clad insulation bounces back furnace heat in winter and reflects scorching sun rays in summer to give home buyers a year-round bonus in comfort.

Install aluminum-clad insulation...

sell Care-free living

When you install aluminum-clad insulation, you're saving money as well as adding the extra sales appeal of Care-free living. The savings are realized in smaller, less costly furnaces...the sales appeal in lower fuel bills for heating, air conditioning, or both.

The advantages, for you and for home buyers, both stem from the remarkable ability of aluminum-clad insulation to bounce back furnace heat in winter or solar heat in summer and to serve as a moistureproof barrier against vapor that condenses to rot framing and blister paint. So outstanding is the performance of aluminum-clad insulation that a 1,200-sq-ft house, properly engineered and fully insulated with aluminum-clad insulation can be heated and air-conditioned for as low as $12 a month! Give homes you build the “comfort engineering” of complete aluminum-clad insulation; they sell faster and they cost you less.


“ALCOA THEATRE” — Exciting Adventure, Alternate Monday Evenings
Selling Homes is much easier when...

the Gas furnace cools in summer, too!

Now at new low cost for Builder and Buyer!

Show them a home that's heated in Winter by clean, silent Gas. Show them they can set a simple thermostatic dial—and the Arkla-Servel Sun Valley* circulates gentle warm air to every room. Tell prospects there's no worry about fuel deliveries either. Dependable Gas is piped right into the home. And both you and your buyer are protected by Arkla's five-year performance warranty. Choice of two models: the $\frac{3}{2}$-ton 500 and 5-ton 750.

Show them a home that's cooled in Summer by a simple change-over that turns the Gas furnace into a Gas air-conditioner. Dust-free, pollen-free, dehumidified air automatically circulates through the house. Clean, healthful, comfortable—even on muggiest days. With Sun Valley*, offer buyers a home cooled in Summer, heated in Winter—at lowest cost.

**ONLY GAS** does so much more...for so much less!

Merchandising:

OOT BROS. FEATURE 2 FURNACE HEATING IN IDEA HOME OF YEAR

“Our Better Homes & Gardens ‘Idea Home of the Year’ features an entirely new concept in Winter-Summer Air Conditioning. We feel that this heating system with Area Control is not only a vital part of our idea home but will be a key selling feature,” says Syracuse, N. Y. builder Leo Oot.

“We took advantage of the American-Standard 2 Furnaces for the Price of 1 offer and installed two gas-fired winter air conditioners. Separate duct systems for each furnace allowed us to reduce the size of the duct work and actually cost no more than for a single heating unit.

“Area Control is ideal for summer air conditioning. For this we used the American-Standard* ACP-35 (3½ hp) air-cooled self-contained summer air conditioner to give us complete year ‘round versatility.”

Leo Oot summarized his report on the installation with: “We expect 80,000 visitors to our ‘Idea Home of the Year’ and we intend to merchandise our American-Standard two furnace installation as one of the model’s most exciting new features.”

HOW IT WORKS

WINTER AIR CONDITIONING. Greater comfort and economy of operation is assured with two furnaces—each with its own thermostat and duct system. Heat is distributed to either zone only as required. Area 1 is the living area containing family room, kitchen, living and dining room. During the day this area requires the most heat while Area 2, which is the bedroom area, can have a lower setting on its separate thermostat.

SUMMER AIR CONDITIONING utilizes an air-cooled, self contained unit with twin compressors. The full cooling power of both compressors can be directed into either area or both areas. Or just one compressor can be used to dehumidify the air throughout the house on temperate days.

Installation by H. R. HUCHZERMIEIER, MINOA, N. Y.

Special Offer:

2 FURNACES FOR THE PRICE OF 1

for model home zone control installations:

To prove our point that two American-Standard furnaces for zone control will make the heating system your number one selling feature, American-Standard Air Conditioning Division distributors and their dealers offer you—for your model home—two furnaces at the same price as a single furnace of equivalent Btu capacity! Before you place another heating contract, why not take advantage of this offer?

Prove to yourself that a two-furnace zone control system will become your best salesman. Provide more comfort . . . lower fuel bills . . . longer furnace life! Your customer doesn’t have to take these advantages on faith! Here is extra value he can see—two furnaces instead of one!

Contact your local American-Standard Warm Air Heating dealer or mail coupon for name of nearest source

Choose from the complete American-Standard line of gas-fired and oil-fired warm air furnaces and companion summer air conditioners for all residential requirements.


Air Conditioning Division, American-Standard, Dept. HH-9, 40 West 40th St., New York 18, N. Y.

Please send free Zone Control booklet and information on how I can obtain the 2 for 1 special on furnaces for model home installations.

Name ____________________________  Company ____________________________

Street ____________________________  City ____________________________  Zone State ____________________________

AMERICAN-Standard AIR CONDITIONING DIVISION

HOUSE & HOME
Influence

millions of prospective home buyers thru the pages of the

Influential

The Saturday Evening

Post

Sept. 27 Issue

Trend-Setter

Living

for young marrieds

November Issue

This national advertising to your prospects sets the stage for quality home buying. Be sure your homes have warmth, charm, and livability...qualities which Ponderosa Pine Woodwork offers the home buyer.

There are authentically styled Ponderosa Pine Window units, panel and louver doors, entrances, mantels, cabinets, moulding, and trim to match any architectural design. And, they finish beautifully.

Because Wood is So Good to Live With

Ponderosa Pine Woodwork

An Association of Western Pine Producers and Woodwork Manufacturers

MEMBERS—Woodwork Group

Anderson Corporation

Andron & Gulevz Co.

Biltmore Corporation

Carr, Adams & Collier Co.

Continental Screen Co.

Contemporary Companies, Inc.

Farnley & Lofschiger Mfg. Co.

Grinnell Sash & Door Co.

Hub Millwork Corp.

Iheap Mfg. Co.

Ideal Co. (Wm. Cameron & Co.)

International Paper Co.

—Long Bell Division

Malta Manufacturing Co.

Monrovia White Pine Sash Co.

Morgan Company

Philadelphia Screen Mfg. Co.

Rook Island Millwork Co.

Sasmuin-Merck Co.

Warshall Screen Door Co.

Western Pine Mfg. Co.

White Pine Sash Co.

MEMBERS—Lumber Group

Alexander-Stewart Lumber Co.

The Amanda Company

Associaled Lumber & Box Co.

Bay Lumber Co.

Bladen Lumber Co.

Hodge-Scplin, Inc.

Cal-Ida Lumber Co.

Cascades Lumber Co.

Collins Pine Co.

Crandall Mfg. Co.

Diamond Match Co.

Georgia-Pacific Corporation

Glennery Lumber Co.

Edward Hins Lumber Company

Industrial Wholesale Lbr. Co.

Kaiser Lumber Co.

Long Lake Lumber Co.

McCloud Lumber Co.

Michigan California Lbr. Co.

J. Nielson Lumber Co.

Micho Lumber Co.

Oregon Lumber Co.

Pickering Lumber Corp.

Scott Lumber Co., Inc.

Setter Forest Products

—Int. of Gladding Forest Products

Southwest Lumber Mills, Inc.

Ralph L. Smith Lumber Co.

Tamor Forest Products Co.

Tarter, Webster & Johnson, Inc.

Type Knot Pine Mills

U. S. Plywood Corp.

—Shasta Division

Warm Springs Lumber Company

Western Pine Association

Weyerhaeuser Sales Co.

Weston Lumber Co.

ASSOCIATE MEMBERS

Cassentine Hardware Co.

Cranford Chemical Co.

David Orton Moulding Corp.

Duncan Lumber & Moulding Co.

Monarch Metal Weatherstrip Corp.

Protection Products Mfg. Co.

Unique Balance Co.

Wood-Treating Chemicals Co.

Zegers, Inc.

39 South La Salle Street

Chicago 3, Illinois
It's the Windows and Woodwork of Ponderosa Pine that give your home this charm and livability.

Now is the time to plan your new home! All this beauty, charm and livability is yours when you include Ponderosa Pine Windows, panel doors and other woodwork in your plans.

Practical, too, for Ponderosa Pine Window units resist cold, heat and dust. They're preservative treated for long life. And, regardless of the weather, you'll find that unwanted moisture doesn't form on the frames to damage walls and furnishings.

These are all good reasons why you should plan to build with precision built Ponderosa Pine Woodwork... good reasons why Wood is preferred 2 to 1 over any other window material for American Homes. Ask your architect, builder or lumber dealer.

Because Wood is So Good to Live With...

Ponderosa Pine Woodwork
32 S. LaSalle St., Chicago 3, Illinois
An association of Western Pine Producers and Woodwork Manufacturers.

Look for this seal of Window Quality.

One of a series of beautiful, full-color advertisements.
DEMONSTRATE THIS MODERN CONVENIENCE
...and sell homes faster

Delco-matic Garage Door Operator!

Here is the finishing touch to the completely modern home. It's the Delco-matic, and a convenience that appeals to everyone who has ever wrestled a reluctant garage door in the cold, wet and dark. For Delco-matic takes over the job of operating the heaviest, bulkiest moving part in a home. It reduces human effort to button pushing. And it's a dramatic convenience that is easily . . . convincingly demonstrated.

Delco-matic in the garage and an electronic actuating unit, either portable or car-mounted, will do it. Drive your prospect up to the garage. Press the button and let him watch what happens. Up goes the door, on go the lights. Drive into the garage and push a button, either in the car or in the garage or home. Down comes the door, off go the lights. The entire operation is that easy, and it starts your prospect thinking of the comfort he'll enjoy on wet, cold nights. Delco-matic is much more impressive than many of the taken-for-granted labor-savers in the same home.

Mail coupon or look for CRAWFORD DOOR SALES COMPANY in your telephone directory.
RELY ON

TODAY
QUIET HOMES SELL BETTER...

How can one family enjoy totally different activities when some require quiet and some are unavoidably noisy? No wonder home sound conditioning is becoming such an important consideration for new home buyers.

Forestone ceilings can help sell your homes. They absorb excessive noise in a luxurious looking textured surface. This extra value is a compelling sales point, and because your own men can install Forestone quickly and economically, the final cost is about the same as ordinary ceiling materials.

Washington's Plastic Drawers are NEWS!

• Styled Right • Sized Right • Priced Right

FOR EVERY BUILDING NEED!

• Will not warp, separate, stick or bind.
• Smooth surfaces will not snag.
• Easily cleaned...no corners.
• Fronts to match cabinets easily attached.
• Greater customer appeal.

Washington's Plastic Drawers are molded of high-impact Polystyrene in harmonizing neutral color with chrome-plated steel stiffener slides. Drawer is completely supported by metal sliding on nylon. Installation, shipping and storage costs are at a minimum.
VERSATILE...Washington Plastic Drawers For:

- KITCHENS
- WARDROBES
- OFFICES
- BEDROOMS
- BATHROOMS
- SCHOOLS

20 Drawer Sizes to fit almost any requirement:

For complete information on Washington’s Plastic Drawers, fill out coupon below and mail.

TO: WASHINGTON STEEL PRODUCTS, Inc.
Dept. H & H-6, 1940 East 11th Street
Tacoma 1, Washington

Gentlemen:
Send complete information on Washington’s Plastic Drawers.

Name ____________________________
Business _________________________
Address __________________________
City _____________________________ Zone ______ State

WASHINGTON STEEL PRODUCTS, Inc.
Dept. H & H-6 Tacoma 1, Washington

SEPTEMBER 1958
The Amvit Joint on Glas-Glaz, the remarkable new glass lined pipe designed for use as both an under-the-house drain and as a house-to-street sewer connection, is a factory made compression joint made from plasticized resins of polyvinyl chloride.

The joint is on the pipe delivered ready for installation. All you do is push the pipe together. The surfaces of both bell and spigot rings are in constant compression because the diameter of the plastic spigot ring is larger than the largest diameter of the plastic bell ring. Nothing can enter the line.

With Amvit Glas-Glaz in new long lengths, you can install an average house connection line in less time than ever before, thus reducing labor costs. There's no other equipment needed, no tools, no caulking.

Glas-Glaz is the true plumber's pipe, a product that will guard your reputation as a quality home builder. It has everything, costs no more than ordinary pipe, and will outlast the life of the house.

Amvit Glas-Glaz is available only from American Vitrified Products Company and their authorized dealers.

Write for this complete folder now.
Long-Bell

Ven-O-Wood® and Flakewood®

decorative Panel-Board

smooth...smart...sophisticated

Ven-O-Wood
Philippine Mahogany
Rift Grain Fir

Flakewood
Cedar, Fir, Maple,
Pine and Philippine
Mahogany Flake

Announcing:
Two New Wood Paneling Products
UNSELECTED BIRCH
VEN-O-WOOD
ECONOMY FLAKEWALL*

*Trademark

Mail this coupon for the whole story on these outstanding Long-Bell panelings.

INTERNATIONAL PAPER COMPANY
Long-Bell Division, Dept. H11
Longview, Washington

Please send me a FREE sample of Ven-O-Wood and Flakewood, along with complete descriptive information.

Name ____________________________
Firm Name ________________________
Street ___________________________
City _____________________________ State _________

SEPTEMBER 1958
It's the single-home, aeration-type sewage treatment system. It meets minimum FHA property standards. It meets all criteria of N.R.C. Report No. 586 (for U.S. Public Health Service)

New Sales Appeal for Countryside Homes

The Cavitette is more than just an answer to "septic tanks not approved here." It also gives the builder something new with which to sell. For example, he can tell prospective buyers about such advantages as: no objectionable odors; no tank cleaning; handles all home appliances; operates on same principle (aeration) as city sewage treatment plants. In fact, the home buyer will recognize the Cavitette to be the final step in complete modernization of countryside living.

But what about the cost-profit picture? In most areas, the complete Cavitette System will cost less than a complete septic tank installation with tile bed. It may also permit smaller lot sizes ... or open up low cost land where septic tanks are not allowed.

Cavitette dealers and distributors are being set up throughout the country. But, if you have no outlet nearby at present, we will be happy to supply any information you need. In the meantime, consult your controlling health authorities for local requirements.

YEOMANS BROTHERS COMPANY

2003-8 N. Ruby St., Melrose Park, Ill.

Please send me literature specified below:

☐ Complete technical information on the Cavitette.

Name:

Title or Business:

Company:

Street:

City. ______ Zone ______ State:

No. of Homes Planned _______
It takes extra values to soften up today's tough buyers. And what can add value to a home like B&G Hydro-Flo Heating...a radiant forced hot water system...hydronic* heating at its best!

The B&G Hydro-Flo System advertisement reproduced here presents an entirely new conception of home comfort. It stresses the advantages of zoned heating, which permits different areas of a home to be kept at temperatures best suited to their functions. For example, the living room at 72°, recreation room at 68° and bedrooms at 65°.

Add to this the economy and convenience of a year 'round supply of hot faucet water, heated by the same boiler that heats the house. Cleaner, quiet operation, accurate temperature modulation...fast heat when needed...low fuel bills, all are plus features which add sales value to any home.

These are the reasons why a B&G Hydro-Flo System is a major selling feature—not just a heating plant.

Send for free booklet

This fully illustrated booklet gives the complete story of the B&G Hydro-Flo System—worth while reading for any builder.

B&G Booster...key unit of the system

Under thermostatic control, this silent electric pump circulates hot water from the boiler through the system...supplies heat to match the weather. Quiet operation and long-lived dependability are outstanding characteristics of the B&G Booster. Nearly 3,000,000 have been installed to date.

*Hydronics: The science of heating and cooling with water.
GAS OR ELECTRIC

Same size opening lets you offer either
AT NO EXTRA CABINET COST!

No need to run up your labor and materials costs! Suburban ovens and cook tops use the same size openings for corresponding electric and gas models. And with Suburban you not only offer your prospects their choice—you offer them more work-saving features than any other built-in range on the market. Yes, all the features Home Economists all over the nation have said women want! Your prospects will see and want these features in the Suburban units you put in your kitchens...just as they see them pictured in America's leading home magazines.

GET YOUR VALUE-PACKED PRICE FROM YOUR DISTRIBUTOR—SEND COUPON FOR LITERATURE TODAY!

Samuel Stamping & Enameling Co.
Dept. HH-98, Chattanooga, Tenn.
I'd like to have the facts about Suburban.

☐ Gas ☐ Electric

Name:
Address:
City: State:

HOUSE & HOME
To compare the plasticity of any two mortars, try shoving a brick into place, with a full head joint. The more plastic the mortar, the easier the work. Try this with Brixment mortar!

AND GOOD PLASTICITY

IS THE FIRST REQUIREMENT OF GOOD MORTAR

One of the most important characteristics any mortar can possess is plasticity. Within certain limits, plasticity is the greatest single factor not only in the economy of the brickwork, but also in its strength, its neatness, and its resistance to the passage of water.

One of the outstanding characteristics of Brixment mortar is its unusual plasticity.

Because of this plasticity, a bag of Brixment will carry three full cubic feet of damp sand and still be as plastic as 1-2-9 cement and lime mortar.

Brixment mortar’s exceptional plasticity makes it easy for the bricklayer to secure neat, economical brickwork, with the brick properly bedded, and the joints well filled.

LOUISVILLE CEMENT COMPANY, LOUISVILLE 2, KENTUCKY
Cement Manufacturers Since 1830
WHY McKEE OVERDOORS OFFER YOU MORE!

ONLY McKEE DOORS
HAVE ADJUSTABLE "TWIN ROLLERS"
★ LONGER DOOR LIFE ★ WEATHERTIGHT CLOSURE
★ RAPID INSTALLATION ★ TROUBLE-FREE OPERATION
★ CONSTANT-BALANCE WEIGHT DISTRIBUTION

TWICE THE VALUE...NO EXTRA COST!

More Sizes and Designs in Stock.
Lifetime Guaranteed "Dorlux" or Exterior-Grade Fir Panels.
Custom Woods, Finishes and Materials Available.
Custom-Computed Counterbalance Springs.
Stiles and Rails Are Mortised and Tenoned, Steel Pinned and Glued.
Galvanized Steel Track and Hardware.

SEND FOR THE NEW McKEE OVERDOOR CATALOG-MANUAL

THE LATEST, BEST, MOST COMPREHENSIVE OVERDOOR GUIDE FOR ARCHITECTS—BUILDERS—CONTRACTORS

Complete information, diagrams, specifications, optional equipment, applications...plan, perspectives, and photographs of the completed door.
Special engineering consultation—a McKee service.

Distributors are located in all principal cities.
Look for McKee Doors in the "Doors" section of the YELLOW PAGES or contact the Sales Manager, McKee Door Company, Aurora 1, Illinois

RESIDENTIAL • INDUSTRIAL • COMMERCIAL • SERVICE STATION

McKEE DOOR COMPANY
85 HANKES AVENUE • AURORA 1, ILL.
In every way, Copper is better...

| LIGHTER WORK. Copper drainage tube and fittings needed for a job are only 1/4 the weight of ferrous materials. And there's no laborious threading or caulking. |
| FEWER JOINTS. Copper drainage tube comes in easy-to-handle 20-foot lengths. Install long runs with fewer joints and fittings — save installation time and cost. |
| CLEANER. Craftsmen say they like to install copper tube — it's cleaner work. There's no mess from threading, caulking, pouring lead and wiping joints. |
| FASTER. Contractors all over the country are finding that normal time for roughing-in soil, waste and vent lines can be cut about half with copper tube. |

| SAVES SPACE. A 3-inch copper tube stack and fittings can be installed within a 4-inch partition. There's no need for wide plumbing walls or build-outs. |
| MAKES A BETTER JOB. Copper tube won't rust; its smooth inside surface resists clogging—and a copper drainage system lasts. Your customers stay satisfied. |
| SELLS BETTER. To your customer, an all-copper plumbing system means quality and better resale value for his property—he knows maintenance will be less, too. |
| TAKES FEWER TOOLS. Only a few light tools are needed to install copper tube — no heavy, cumbersome equipment to haul and set up. You're on the job faster. |

...and you save money, too

Many of these advantages produce substantial dollar savings to the plumbing contractor and builder. Right now, savings are greater than ever.

For instance, the estimated cost to install a copper tube drainage system for two bathrooms and kitchen as illustrated in the model above was 20% lower than for cast-iron and steel piping.

Use copper on your next job and compare time and costs. Take advantage of these savings to build more business by offering ALL-COPPER plumbing. For descriptive literature and cost comparisons—write: The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

Anaconda®
COPPER TUBE AND FITTINGS
Available through Plumbing Wholesalers
Made by
The American Brass Company

SEPTEMBER 1958
1. Straight Counter Corner
Republic's base end closure panel for a dead corner adjacent to an appliance is in a straight line, providing greater economy because no special corner counter top is needed as with some other brands. Saves up to 30%.

You can answer the requirements of any kitchen, any buyer . . . and you cut costs . . . when you select and install Republic Steel Kitchens. Work's done in a few hours, rather than putting in job-built wood cabinets that take two men up to a week to finish. And . . . there's no painting, no finishing, no expensive callbacks to fix warped doors and sticky drawers.

Enjoy planning freedom plus real economy with the flexible Republic Steel Kitchens line. Here, for example, are but four of 54 sales and savings ideas from our popular "Kitchens Sell Homes" booklet. Start cornering your costs . . . send for your free copy today.

2. Dead-Corner Plan—Most economical way to turn a corner, but sacrifices two feet of corner storage below counter, three feet in wall cabinets. Stock corner fillers join the cabinets.

REPUBLIC STEEL KITCHENS
BUILDER SALES • DEPT. C-5229
1028 BELDEN AVE., CANTON 5, OHIO
☐ Send my free copy of "Kitchens Sell Homes."
☐ Have my nearby Republic Steel Kitchens distributor call.

Name

Firm

Address

City Zone State

TURQUOISE • PINK • WHITE • YELLOW... at no extra cost!

3. Reversible Corner Plan
Republic's 44" corner cabinet can be switched right or left. Dead-Corner Plan costs $2 less, but reversible method provides maximum corner storage. Same stock counters as in No. 2 can be used.

4. Diagonal Corner Plan
Spiner cabinet and stock matching counter still costs less than No. 3, looks de luxe. Full storage counter allowed here, and on wall where Republic's corner wall cabinet has been used.

REPUBLIC STEEL KITCHENS
Old world elegance, new world styling, that's the happy blending Virden offers in its new line of Brass 'N Glass lighting fixtures. Of imported glass and gleaming brass, these fixtures will set your house apart, add the sales excitement that makes prospects say "yes."

Virden distributors in all major cities have these fixtures on display now. For the name of the one nearest you, look in the yellow pages of your telephone book. For a colorful brochure (V-100) write John C. Virden Company, Dept. HH, 5209 Euclid Avenue, Cleveland 3, Ohio.

Building a model home? Ask your distributor about VIRDEN'S Model House Plan.
U. S. Steel Homes Division announces a brand-new low-cost package home—the BEACON. The new USS BEACON can be erected on a full basement, crawl space, or slab foundation. The BEACON line features the structural advantages of steel wall-framing, and is available in five architectural styles. BUT, the BEACON package also contains many new innovations, all contributing to a material cost reduction. The result: a brand-new low-cost manufactured home.

Build the new BEACON Homes—in all five architectural models. And be sure to point out these features to your customers:
- Large kitchen with Youngstown steel cabinets, in color.
- Three extra-large bedrooms.
- Large picture window in living room.
- Plenty of storage space, both inside and outside.
- Combination storm and screen doors.
- Large attic ventilating louvers providing fresh air flow.
- All load-bearing walls are steel-framed.
- Engineered and factory-assembled roof truss system.
- The same high-quality workmanship and design that marks all USSH homes.

Complete package—The BEACON Home comes in a truly complete package, including storm doors, window screens, and full architectural treatment. Builders will find that erection costs in the field will be substantially lower. The BEACON package contains pre-assembled trusses and new factory-finished exterior. Completely finished windows are included, even to the final coat of paint. You get all these advantages at a new low price with the BEACON package. Send the coupon today for complete information.

United States Steel Homes Division
United States Steel
Dept. HH-98, 525 William Penn Place
Pittsburgh, Pa.

Please send me plans, complete details, and promotional information on the new BEACON Home.

Name: ..................................................
Firm: ..................................................
Address: .............................................
City: .................................................
State: .................................................
Don't kid yourself about garbage disposers!

Why do thousands of sales-minded builders insist on In-Sink-Erator in their homes?

Because women so thoroughly dislike messing with garbage, one of the best silent salesmen in your model home is a nationally-known garbage disposer. Experience proves it. And a recent survey of women who own and use an In-Sink-Erator proves that actually seven out of ten name this disposer their favorite or next-to-favorite appliance!

No other disposer matches In-Sink-Erator's "sales-packed" exclusive features!

Most women—the major influence in any new home sale—make their buying decision right in the kitchens of your homes. Here's where economical In-Sink-Erator really sells hard for you. Outstanding exclusive features no other disposer can match—like patented automatic reversing action that grinds food waste finer and faster, and whisper-quiet action—give her the kitchen efficiency she wants most, which often turns the sale to you. To learn more about how In-Sink-Erator helps sell your homes, see your plumber or write, wire or phone In-Sink-Erator Mfg. Co., Dept. HH-89, Racine, Wis.

The industry's most complete line of quality disposers

A MODEL FOR EVERY BUILDER NEED

MODEL 27. The ultimate in beauty and smooth performance
MODEL 17. The best lock-cover disposer you can buy today
TELEX. It telescopes to fit any existing high or low drain line
MODEL 77. Includes all exclusive features at a modest price.
MODEL 333. Challenging all other budget-priced disposers

Dramatic national ads and powerful promotion aids

help sell your homes when you team up with

In-Sink-Erator

Originator and Perfecter of the Garbage Disposer
"Every built-in telephone outlet is a talking point"

—says Mr. John Kieren, Builder, of Milwaukee, Wisconsin

"Nowadays home buyers are shopping around more than ever," says Mr. Kieren. "They compare a lot of homes before they buy. It's important to have sales features that make your home stand out, and my agents find that planned telephone outlets are invaluable talking points.

"The reason is simple. Telephones are important in modern living. Home owners want them conveniently located and attractively installed. As a result, the builder who plans ahead for telephone outlets is sure to be offering people what they want."

Your local Bell Telephone business office will be glad to help you with concealed wiring plans. For details on home telephone wiring, see Sweet's Light Construction File, 8i/Be. For commercial installations, Sweet's Architectural File, 32a/Be.

BELL TELEPHONE SYSTEM
Corners stay tight
Boards stay flat
Nailing stays put
Paint lasts longer

Redwood exhibits these potential values only after skilled processing from forest to homesite. Through 90 years, The Pacific Lumber Company has emerged as the oldest major redwood producer because PALCO Siding has earned the reputation for delivering these values with unsurpassed uniformity—at no extra premium in cost. For PALCO has constantly pioneered efficient flow-line methods, scientific seasoning and kiln drying, improved equipment, and personnel policies which keep skilled and responsible experts on the job from apprenticeship to retirement. These are the ingredients which make up the "hidden values" you expect in redwood—and you get in PALCO Redwood Siding.

Recently resold, this 30-year-old Berkeley, California home demonstrates the permanence of good design and the "hidden values" you can expect in Palco Redwood Siding. Note tight mitered corners, flat surfaces, and evidence of perfect paint retention.

Specify the best in Redwood

THE PACIFIC LUMBER COMPANY

Since 1869 • Mills at Scotia, California

100 BUSH ST., SAN FRANCISCO 4 • 35 E. WACKER DRIVE, CHICAGO 1 • 2185 HUNTINGTON DRIVE, SAN MARINO 9, CALIF.

MEMBER OF CALIFORNIA REDWOOD ASSOCIATION

SEPTEMBER 1958

807
"It is important that today's modern homes are built with a great deal of thought given to convenience. For this reason, we encourage the installation of wiring for modern Electric Ranges in the homes we build.

"We have been in the building business since 1887 and feel without a doubt that this has done a great deal to create happy home owners," says Mr. Richard Jacobs, Vice President, Roedl-Jacobs Co., Beaver Dam, Wis.

PROOF OF THE DEMAND

For more than 11 years, growth in the demand for ELECTRIC Ranges has been constant, as this chart shows. There are three times as many ELECTRIC Ranges in American homes now as there were 10 years ago. Every day, more than 3,500 are being installed. They're a selling feature you can't afford to overlook!
Why are more Electric Ranges included in new homes than any other type? The answer comes from builders themselves. Ask them, and they will tell you “the Electric Range stands out as a most wanted item” or “this has done a great deal to create happy home owners” as you will see below.

There are many good reasons for this builder and customer preference for Electric Ranges. This range can help you sell your homes. It offers customers modern cooking equipment—as modern as the other appliances in the house. Women want this kind of cooking because it is clean and economical, and frees them from drudgery. Some prefer free-standing models, others the built-in type—but whichever they choose, the Electric Range is a wanted feature.

Install this genuine selling help in any new home you build—large or small—and let it prove that it’s worth its weight in sales!

“My customers overwhelmingly prefer electric built-in ranges,” says Mr. Jack A. Morrison, builder of Walnut Hills, Mansfield, Ohio. “Along with the other built-in appliances and conveniences in our homes, the electric range stands out as a most-wanted item. We have no sales problems, because we offer the maximum in modern electrical living along with well-designed, soundly built homes. And nowhere are the benefits of electrical living more obvious and salable to our customers than in the kitchen area.”
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THE HOUSE WITH FIXTURES BY
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TWIST... and assembly is complete, alignment perfect. Time 25 seconds.

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Now . . . here is high style in wood casements. These new PELLA CASEMENTS with 24" x 68" glass adapt perfectly to standard height walls. Plenty of room below for perimeter heating. Pleasing proportions above for ceiling-to-floor draperies. And, they trim out to standard doorway height. ROLSCREEN equipped. Insulating glass. See our catalog in Sweet's or mail coupon today. Distributors throughout U. S. and Canada. Consult classified telephone directory.

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She may not know a 1-3-5 mix from a 1-2-4. But she is an expert on eye appeal—and no other product gives you so much eye appeal for so little cost as Amerock Cabinet Hardware. And it's right at eye level where she can't miss seeing it. So give her this extra touch of quality with sure-fire sales power. Specify Amerock, the quality hardware name she knows best. There is a beautiful "Contemporary" (see right), "Modern," or "Colonial" pattern for every interior.

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... Mr. Elio DeCesaris, President, Oaklawn Home Builders, Inc., Oaklawn, Rhode Island.

"The G-E master selector switch is something everyone just has to touch," reports the builder.

Mr. Domenic Faraone of Thomas Electric Co., Inc., electrical contractor for Oaklawn, states: "With G-E remote-control, I can offer extensive multi-point switching more economically than with the 3-way and 4-way switching required to do the same job in ordinary wiring. Plenty of convenient multi-point switching plus the G-E master selector switch turn the builder's wiring system into a real house-selling feature."

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Mr. DeCesaris, current President of The Rhode Island Home Builders Association, is himself building and selling 20 to 25 homes per year, in the $15,500 to $25,000 price range.

Ask your electrical contractor or General Electric distributor to show you how this modern wiring system can help you sell houses faster, OR: Write for your free copy of the new G-E Remote-Control Wiring Booklet for Builders, to General Electric Company, Wiring Device Department, Providence 7, R. I.

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HOUSE & HOME
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"K&M" Building Sewer Pipe remains clean and smooth year after year. Roots don't get inside. Water can't get outside. Joints remain permanently tight. In addition, "K&M" Asbestos-Cement Building Sewer Pipe won't rot, rust, or corrode. Resists the normally destructive action of detergents and hot water which deteriorate some other pipe materials.

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So join the trend to the modern pipe from "K&M." See your building supply dealer today, or write to us for more information.

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<td>Colors: All Standard and Special Kentile Asphalt Tile colors</td>
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HOUSE & HOME
Roundup

Does inflation threaten home building's comeback?

Inflation has replaced recession as the chief concern of the nation's money managers. The Federal Reserve Board showed its concern by authorizing a boost in the rediscount rate and hiking the cash requirement for stock purchases (see p 59). Result of these steps—plus the plummeting bond market—has been a tightening of the mortgage market and fatter FHA-VA discounts.

Congressmen concerned about inflation banded together to defeat the free-spending-and-lending Democratic housing bill (see p 42) and the $2 billion community facilities bill. Inflation should be a prime concern for home builders. Materials prices have started back up and labor costs never stopped rising even amid construction unemployment (see p 65). About half the construction labor pacts signed this year run two or three years—with additional increases in the future. This means builders must try to offset added labor and material costs by using techniques to build better and more for less (see p 91). And it adds new importance to research aimed at cost reduction (see p 65).

The danger for builders: higher costs mean higher house prices which could produce new consumer resistance just as housing seems ready to boom again.

Civil Rights Commission to include housing in first study

The new Civil Rights Commission, which has taken a year to get itself moving, pulled one surprise in its first announced study. It will include discrimination in housing in its first effort, along with education and voting. The commission is setting up advisory groups in each state and preparing a handbook for guidance. The complete report is to be submitted to Congress and to the President Sept. 9, 1959. It seems certain to focus a new light on the entire problem of segregated housing.

Labor seeks more time to end closed shop deals

Local labor contracts by the hundreds are being revised to get rid of closed shop provisions. But so many still do not comply with NLRB requirements that the AFL-CIO Building Trades Dept last month asked for an extension of the Sept 1 deadline. Lawyers in one national union office worked through a pile of 3,000 contracts, had revised 1,000 of them by mid-August.

Labor experts agree NLRB will enforce its closed-shop ban by applying the Brown-Olds remedy if necessary (April, News). This means builders would be jointly responsible for refunding all union dues paid under a contract with illegal closed shop clauses (builders would have to pay alone if the union is out of funds). NLRB has said informally it will not go looking for offending contracts, but will wait for complaints. But an AGC aide warns: "The penalties involved are big enough so this may look like a lucrative field to unscrupulous lawyers."

FHA to brief field directors on urban renewal

FHA's 75 field office directors will meet with central office brass in Washington for a week beginning Sept 15. The meeting, first since 1954, was called in hopes the directors could be briefed on what the 1958 housing act would mean to FHA. The field men are also scheduled to get a thorough indoctrination in urban renewal. This results from many complaints that FHA directors are so preoccupied with residential work in the suburbs they neither promote nor have a thorough knowledge of FHA's urban programs—notably Secs 220 and 221.

News continued on p 42
Their determined but divergent stands explain why Congress voted . . .

...no Omnibus Housing Act for 1958

For the first time in ten years, Congress has adopted no comprehensive housing law. Whether this will be more of a blessing than a curse remains to be seen. Many of the propositions that seemed likely to stay in the legislation involved needless new federal spending, loans or subsidies. But FHA spokesmen fear they will run out of insuring authority before Congress reconvenes, despite the $4 billion increase voted in June. Ordinarily, $4 billion would last easily a full year. But the lowest-era FHA down payments enacted as an anti-recession move in April have produced a big spurt in FHA business. How other major housing programs stand:

Fanny May will probably run out of money to buy FHA and VA loans (at par) on homes under $13,500 in the fall. Only $275 million of the $1 billion Congress voted in April remains unallocated. But the government mortgage agency has ample funds for all its other activities.

Public housing has a 35,000-unit authorization for this fiscal year—double the number of units FHA put under contract last fiscal year and comfortably more units than public housers actually started (25,460) during 1957.

Urban renewal can keep going until Congress reconvenes with $100 million the President has in reserve, plus $50 million in unallocated grants.

College housing loans face sharp curtailment (HHFA has less than $50 million left). But the industry will shed few tears for this program of subsidized loans at below-the-market interest rates.

Defeat of housing legislation reflects a growing feeling in Congress that the No 1 national problem is now inflation—not recession.

Faced with the unwelcome necessity of raising the national debt limit, Congressmen reacted against big public spending and lending. Capitol Hill observers also note a rising awareness of how the appropriation committee's control over money has been eroded by obligatory authority programs (like urban renewal, public housing, other loans) that give Congress no year-to-year check over outlays.

Accordingly, the House rejected its own version of the Senate-passed community facilities bill, an anti-recession measure which would have authorized up to $2 billion in loans for public works.

Third defeat for Rains

Rep Albert Rains (D, Ala) chairman of the House housing subcommittee, sliced the dollar authorizations in his bill from $2.4 billion to $975 million before bringing it to the House floor. But even this gesture toward economy failed to win enough support—a fact which gives Rains the dubious honor of having his housing bills in the last three sessions rejected by his own colleagues.

Will home building suffer as a result of not getting a housing bill this year? NAHB President Nels Severin warned direly while the bill was pending that no bill at all would be calamitous. Armed with telegraphic reports from 15 home builder associations, he told reporters house sales are way up and materials producers are rehiring to meet home building's needs, added: "Builders all over the US are making plans but unless the industry gets this bill they would not be inclined to go ahead."

Housing economists scoff at Severin's alarums. "Killing this bill won't make $10 worth of difference in the amount of construction put in place this year," says one. "Next year, there will just be a little less public housing."

What home building lost

The industry did lose a dozen semi-technical amendments which would have made FHA and VA work better. The key changes would have:

- Boosted the maximum insurable FHA mortgage from $20,000 (to $22,500 in the Senate bill and $27,500 in the House bill) and upped amortization to 35 years.
- Lifted the limit on FHA and VA mortgages Fanny May can buy from $15,000 to $20,000.
- Made builders eligible for the same high ratio FHA mortgages as owner-occupants on homes they take in trade.
- Increased mortgage limits on Sec 207 and 220 rental housing and 221 relocation housing.
- Killed the one-half per cent differential between the VA and FHA interest rates.
- Set up a new Sec 229 for aged housing, letting profit-seeking firms into the picture for the first time.

The 90% mortgage plan

Dead, too, is the US Savings & Loan League's controversial plan to have a new federal corporation co-insure the top 25% of otherwise 90% conventional mortgages.

Indeed, it was this plan which seemed to be the prime target in the Administration's fight to prevent passage of the House bill. While HHF Administrator Albert M Cole charged that the $2.4 billion House bill would be inflationary and bring higher costs, he reserved his sharpest criticism for the SKL plan which would cost the taxpayers nothing. He complained it would favor SKLs, "would protect the lender without affording adequate
protection to the consumer and would seriously undermine the mortgage operations of other lenders."

The US S & L League argued there is a real need for another high percentage loan plan. Rayburn was convinced, if Cole wasn't. He pledged his support to the end and included the 90% plan in the revised bill he brought to the House floor to its defeat.

What home building gained

Failure of Congress to agree on a bill did halt moves to put more government money into housing subsidies—a step which is always at the expense of the unsubsidized (ie price)."

Deal for the present is the Senate's big revamping of the public housing program which would have deprived PHA of budget control of local authorities and let them set rents high as possible while still "meeting low-income needs."

Stopped also are Senate and House efforts to butter up the big city mayors by big boosts in urban renewal funds. The Senate bill authorized $300 million a year for six years; the House bill $500 million for one year. The Administration asked $25 million a year for six years. Both houses ignored the President's proposal that the federal government gradually reduce its share of and write-down costs.

Par purchase continues

While the fate of the housing bill was still in doubt, the year-old legislative requirement that Fanny May pay par for mortgages bought under its special assistance programs expired. Both Senate and House bills would have extended it one year.

The Administration dislikes this kind of hidden subsidy. So it seemed probable on Aug 7 that FNMA would cut prices on its special assistance purchases despite a plea from NAHB to keep them as is.

Surprisingly, FNMA's directors did vote to continue par commitments. The logic: Cole, board chairman, realized that a cut in the special assistance prices might result in more pressure behind the stalled housing bill. But it appeared likely in mid-August that after Congress adjourns, the price will be cut.

The day by day story of housing bill's death

Here's how the 1958 housing bill died:

July 24: The House banking committee reported out its bill, sent it to the rules committee for clearance to the floor.

July 25: HHF-Administrator Albert M Cole called a press conference, angrily stamped the bill as "a $1.75 billion Christmas tree loaded with gifts for everyone in sight—with one exception ... the taxpayer who is going to have to pay for it." He hinted a Presidential veto was likely if the bill passed.

Aug 1: Rep Howard Smith (D, Va), chairman of the rules committee, let it be known he shared Cole's view. He refused to call his committee into session to consider it, went off to work on his farm.

Aug 6: NAHB President Nels Severin warned a press conference that failure of Congress to pass a bill "would have very far-reaching and detrimental effect on the home building industry." Industry lobbyists, with many pet provisions in the House bill, stepped up efforts to get the bill out of the rules committee.

Aug 12: Big city mayors called on Speaker Sam Rayburn, pleaded with him to force the bill out of committee. Their interest: federal grants for urban renewal. Rayburn said only that he would try.

Aug 14: As hope waned for any action, Senate Majority Leader Lyndon Johnson told newsmen Congress would not adjourn until a housing bill had been enacted.

Aug 15: Speaker Rayburn announced the housing bill would be taken up on the House floor under suspension of the rules. This meant it would require a two-thirds vote of those voting for passage and no amendments would be allowed. He said he would not recognize anyone to introduce a substitute bill, as happened in 1956 and 1957.

Aug 18: Rep Albert Rainis, chairman of the House housing subcommittee, watered down his bill cutting its dollar authorizations from $2.4 billion to $975 million in an effort to win more votes. But the ayes fell six short of the required two-thirds. For the bill: 251 (185 Democrats and 66 Republicans). Against: 134 (111 Republicans and 23 Democrats).

Rep Edgar W Hiestand (R, Calif) had a bare bones bill ready elsewhere to a new lending programs and extending present ones at about the same rates. The Administration announced it would accept this bill. But Rayburn refused to recognize Hiestand to introduce it.

Aug 19 to the end of the session: efforts continued in both the Senate and the House to work out a compromise bill and slip it through by tacking it onto another major piece of legislation. None succeeded.

Conduit tax bill for realty trusts killed in House-Senate conference

Supporters of conduit tax treatment for real estate trusts—chief among them NAREB and MBA—have contended that the device would produce millions of dollars of needed equity money for rental housing.

The technical amendments to the tax bill contain two provisions of help to builders:

1. The small business amendments provide that if a business has a bad year the loss can be carried back three years to offset income in those years. The old law allowed a carry-back of a 1958 loss to 1957 and 1956; now a small business can carry up to $50,000 of the loss back to 1955 as well. This would mean the small business can carry up to $26,000 at the 52% corporate tax rate.

2. The bill also provides that when the estate of a deceased businessman consists largely of an interest in a closely held business, the estate has up to 10 years to pay federal inheritance tax. This would overcome the necessity in many cases for liquidating a family business just to pay the estate taxes.

Senator attacks FHA bargain sales of repossessed apartment projects

FHA’s disposition program for repossessed apartment projects has come in for bitter criticism on the Senate floor.

At one point Sen Olin D Johnston (D, SC), even called the sales program a “national scandal.” His charge touched off a brief investigation by the Senate housing committee, which reported it could find nothing wrong.

Johnston charged that FHA was selling three 608 projects in South Carolina at ridiculously low prices. He also complained that advertisements of the sales were placed in four daily newspapers but not in any paper in the counties where the projects are located. He said he believed if they had been "properly advertised," much higher bids would have been received. The three projects: Cherokee Heights in Gaffney, S C, 100 units with an original mortgage of $426,000, sold to Christian D Padgett of Gaffney for $43,000; Droobside Court, Greenwood, S C, 60 units, with an original mortgage of $367,000, sold to Padgett for $20,000; Irene Apartments in Gaffney, 50 units, with an original mortgage of $239,109, sold to II M Arthur and L H Jennings Jr of Union, S C for $31,051.

FHA explained to banking committee investigators that it had acquired these properties in 1953, found that it had no better luck than the original owners in operating them at a profit. Under the ill-fated 608 program, FHA had not required the original operators to find long-range economic value in fixing loans.

Rather than take back a mortgage and remain involved, FHA recently has been selling more of the old 608s for cash. This has let some investors buy at a price so low they could cut rents in the projects to a level where the local market would support them.

But in cities where there is a strong rental housing market, FHA still takes back a mortgage—thus invariably gets a higher price.

As of March 21 FHA had taken over 613 projects (50,000 units) under all its rental housing programs—467 of them 608s. It had paid out $33,560,000 in debentures plus capitalized expenses. It had sold 289 projects ($20,412 units) for $134,873,953, a loss of $34,232,726.
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only the new 1959 Kelvinator Automatic Washer

WASHES CLOTHES CLEANER . . . EASIER
SAFER AND SAVES MONEY, TOO!

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Kelvinator Has the Modern Features Women Want Most . . .

- Automatic Lint Filter
- Separate Cycles for Full or Small Loads, Delicate or Normal Fabrics
- Wash-Wear Cycle
- Suds and Hot Water Saver
- Rinse Additive Dispenser
- "Magic Minute Dirt Loosener"

Division of American Motors Corp., Detroit 32, Mich.

AMERICAN MOTORS MEANS MORE FOR AMERICANS...LIVE BETTER ELECTRICALLY
HOUSING MARKET:

Housing's comeback plays big part in leading nation out of recession

"Recent statements by government officials and members of Congress have suggested that home building may be the bellwether industry which will lead us out of recession."—NAHB President Nels Severin, speaking on May 11.

Home building may not be leading the economy out of recession, but there is no longer any doubt that it is the most sturdy of several crutches.

Starts reached 111,000 in July (107,300 of them private), for a seasonally adjusted annual rate of 1.16 million, highest since January 1956.

No less an authority than the Committee for Economic Development concedes that home building is the economy's "ace in the hole." In charting the history of three recessions (see graph above) CED notes that housing has pulled out of this recession slower than in three previous economic downturns, but its present recovery is a potent influence on the upward trend of the entire economy.

FHA and VA applications indicate home building's recovery will continue through the fall.

FHA applications on new units totaled 37,856 in July, 31,771 of them single-family homes. This was down slightly from June but 72.8% over July, 1957. VA appraisal requests on new homes reached 28,510, up 0.4% from June and 105.1% from July 1957.

And to support these encouraging reports are several stories of fabulous sales success (see p 51) and many more signs that buyer confidence is returning. A University of Michigan survey of consumer attitudes shows an end to the slide in consumer confidence which hurt sales of all durable goods, including homes, for two years. The confidence indicators have turned up.

Builders have noticed it. Says one in Charlotte, NC: "The thing that really counts is that nobody's talking tight money anymore. That's what scared buyers off."

Home building is also a key factor in what is beginning to look like one of the nation's biggest construction booms.

Combined with big increases in public utilities and public works construction, home building helped push construction contracts in June to $3.8 billion, the highest figure ever reported in one month by F W Dodge. Contracts were 12% above the previous high set in May and 18% above June of 1957. Dodge found June contracts for residential building alone up 20% from June 1957.

**MARKET BRIEFS**

**What women want (cont)**

Interest continues strong in what women want in homes. Women's housing conferences have been held in Washington the past two years. This year there will be two more:

- *McCall's* magazine will sponsor its second conference Oct 7-9, when 100 delegates will discuss "Family Planning and Housing." They will be asked whether they plan to buy a new home or remodel during the next few years and what remodeling they would do.
- NAHB is joining with a new organization—United Industry Committee for Housing—which is supported by manufacturer groups—to sponsor another conference of 100 women Oct 14-16. It has the frank "primary aim to stimulate interest in home ownership." Delegates will be chosen from essay contests sponsored by NAHB locals to tie in with National Home Week (Sept 6-13). The 90,000 to 100,000 expected entrants must fill in questionnaires to be analyzed for a new consumer preference survey. Findings will be published later.

**National has biggest month**

National Homes' record-setting second quarter pace has carried over into the third quarter.

The company produced 2,650 units in July, the best single month in its history and its first $1 million month (in pre-tax earnings). And production is still trailing sales.

Biggest seller is still the low-cost Fairlane series, accounting for 65% of all sales.

**The HHFA story**

HHFA has decided to tell its story to the public with a movie.

A $32,000 contract has been awarded to Dynamic Films Inc of New York to produce a motion picture to:

1. Explain and portray how the government housing programs work.

2. Explain how they are geared to the community and to the free enterprise system.

3. Show how various housing aid programs work on the local level.

EHFA brass think the film will show local communities, and particularly business groups in little towns, how urban renewal works.

The Veterans Administration is also making a movie to tell the story of its work to the public—but it will cover all VA programs, not only loan guaranty on housing.

**Americans on the move**

Fortunately for the home building industry, the American people continue to move from one place to another in large numbers.

Census reports 31.8 million persons—one of every five Americans—moved from one home to another between April 1956 and April 1957. Two thirds of them stayed in the same county. Of the other third, half moved into another county and half moved to another state.

Proportion of mobile persons is highest in rural-nonfarm areas—21.7%—and lowest in the rural-farm areas—13.9%. Young adults—20 to 24-years-old—are the most mobile; 41% continued on p 47

*Sponsored by HHFA (HH&H, June '56) and McCall's magazine (News, Nov '57),
NEW LOW-COST BASEBOARD

gives economical hot water heat at no sacrifice in quality

Low and attractive, efficient and all new—Heatrim baseboard heating panels give builders true American-Standard hydronic* heating quality at a new low cost.

Heatrim is available in both 8” and 10¾” models with ¾” and 1” heating elements. This gives you a combination that is right for every home. Both models can be recessed easily to the depth of plaster. The flexible tubing can be snaked through any walls—won’t weaken construction. A white prime coat on the 8” model saves the cost of painting. Homebuyers are sold on baseboard heating. They like its modern, low, out-of-the-way design, its quiet, draft-free comfort.

For cost-cutting details, see your heating contractor or write AMERICAN-STANDARD, PLUMBING AND HEATING DIVISION, 40 W. 40th Street, New York 18, N. Y.

*Hydronics—the science of heating and cooling with water
moved in the test year. Nonwhites moved more than whites—22.2% vs 19%. But more of the nonwhite movement was of a short-distance type; 80% of the mobile nonwhites stayed in the same county vs 66% of the whites.

However a greater proportion of nonwhite movement was interstate, particularly among migrants to urban areas; 70% of the nonwhite vs 60% of the white.

**Cashing in on Sec 221**

A group of specialty contractors have organized to fix up old homes in Washington, D.C. under FHA Sec 221. As Workshop 221 Inc, they will offer a package deal to people who "wish to purchase a residence under 10,000 without a mortgage.

Sparkplug of the group is John Haas, executive secretary of the Metropolitan General Improvement Contractors which recently received from NERSICA, national frisby group, Haas organized Workshop 221 after hearing about the "neglected FHA goldmine" in Houses & Homes (July, News). Says he: "The market is good. About 3,500 units have been authorized [by HHPA] in Washington. Less than 30 have been completed."

**Processing jam worsens as money bill is vetoed**

FHA has been caught in a new processing jam just as it seemed on the verge of getting out from under the record flood of applications.

The problem: President Eisenhower vetoed the independent offices appropriation bill*, leaving FHA with no funds. FHA and the other offices involved in the bill have been allowed by Congressional resolution to continue operating and keep spending at the same rate as before but without overtime.

Commissioner Norman Mason promptly wired the 60 offices where overtime work had been authorized, ordering them to end it, regardless of the processing backlog.

The veto also stymied a $4.6 million supplemental appropriation for FHA, which seemed assured of quick passage by Congress. All but $100,000 of this money would be used to bolster the FHA field offices. The bill has been authorized by Congressional resolution to continue operating and keep spending at the same rate as before without overtime.

The limit of five applications at one time irked some builders who tried to buck the rule by getting commitments in the names of qualified buyers. (One got 10 loans this way.) But for now FHA means to keep CAP for small builders, will crack down on those who try to get round the five-home limit.

**A list of successes**

Big reason for CAP's quick success has been fast processing—as little as two days in some cases, typically one-to-two weeks. And delighted FHA officials point out it has:

- Brought in builders in small towns who were too far from a field office to bother with costly delays of FHA applications.
- Attracted small builders in bigger centers who found CAP's simplified procedures better suited to their operations.
- Interested lenders who did little or no FHA business before. One FHA official suggests S&L may get to like CAP so well they decide it makes their co-insurance plan unnecessary—if the interest rate stays competitive.
- Shown a way to cut through log jams which pile up in FHA offices when there is an unusual spurt in starts.
- Produced 5,020 commitments. Of these 707 were for new homes; 4,313 were for used homes; 1,100 have completed closing.

**Major trial in Denver**

Denver is a test case to see how CAP works in a big city. And builders, realtors, lenders and FHA are enthusiastic over the results. Says Charles F Warden, local FHA director: "Business is way ahead of last year; we feel the CAP program is actually extra business. It is encouraging new mortgages, bringing old ones back."

From April 16, when CAP started in Denver, to July 31, there were 2,584 applications in Colorado—1,836 from metropolitan Denver. Of these, 239 have completed closing. In the same ten-week period there were 3,268 regular FHA applications in the state. And Colorado accounted for 39% of all CAP commitments (1,499 out of 5,230).

Big volume is in used homes (2,225 of the first 2,584 applications). "It takes about half as long (2½ weeks) to close a deal as it does through the local FHA office," says Realtor Lane Jorgenson. "And we can iron out minor wrinkles immediately." Builders like CAP too. "We can get started on a house within one week where it would previously take at least a month," says Builder John Crawford. For lenders "it gives more responsibility and an opportunity to be more competitive with service," says Assistant Vice President Allen Bradley of Mortgage Investment Co.

*HEP's continues on p 19
Flintkote Siding helps you sell more homes...

**COLONIAL**

**DISTINCTIVE**—9½" X 32" Flintkote Flintwood Siding, applied with nailing strips, throws deep shadows under every course ... produces the heavy, rugged look homeowners like ... and buy. Flintkote A-C Siding chosen exclusively for these model homes in new 160-unit tract, Lakeside Park Homes, Glassboro, New Jersey.

**SPLIT LEVEL**

**HANDSOME**—Flintkote Flintwood Siding simulates natural graining. Textured pattern is embossed right in the siding. Available in a variety of rich colors, whites, pastels. Shown: 70F Super White, (top) 70F White, (right) 70F Lt. Brown.

**RANCH**

**ECONOMICAL**—The extra-long, 9½" X 32"—sidings provide greater coverage. Can be applied quickly and easily. For particulars and sales aids, write: The Flintkote Company, Building Materials Division, 30 Rockefeller Plaza, New York 20, N. Y.
Operative builders grab bigger share of 1-family house market, BLS finds

Operative builders are starting 80% of all the professionally-built one-family homes in the US—up from their proportionate share of the market should increase as the market itself expands.

This is the obvious conclusion to be drawn from a new report published by the Bureau of Labor Statistics in its official Construction Review. The report is based on figures gathered in BLS’ 1955 and 1956 first quarter studies of the characteristics of nonfarm housing compared to its 1949 study on the organization of the home building industry.*

In 1949, professional builders started 66% of all new one-family homes. Operative builders accounted for 62% of these starts. By 1955, professional builders had boosted their share of the market to 85%. Operative builders had grabbed 82% of this or 79% of all one-family starts.

Percent distribution of new private nonfarm one-family houses

<table>
<thead>
<tr>
<th>By Types of Builders</th>
<th>1949</th>
<th>1955</th>
<th>1956</th>
</tr>
</thead>
<tbody>
<tr>
<td>All builders</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Owner builders</td>
<td>35</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td>Professional builders</td>
<td>66</td>
<td>83</td>
<td>83</td>
</tr>
<tr>
<td>General contractors</td>
<td>16</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>Operative builders</td>
<td>41</td>
<td>70</td>
<td>67</td>
</tr>
<tr>
<td>Contractor builders</td>
<td>9</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Unknown</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

† Less than one-half of 1%.

Professional builders have become most dominant in metropolitan areas where seven out of ten new houses are built. Their share of all single-family net starts rose from 81% in 1949 to 86% in 1955. Of these total operative builders were responsible for 81% in 1949 and 86% in 1955.

The significant fact is that the operative builders’ share of the market has been highest in home building’s biggest years. Explains BLS: “The high proportion of houses constructed by all operative builders as a group in 1955 coincided with the period of peak volume of housing begun under the VA-guaranteed home-loan program and comparative lull volume under the FHA-insured mortgage program.”

BLS found that operative builders’ share of homes started by professional builders had slipped to 72% in October 1956 when FHA-VA starts were down. But extending this pattern to this summer’s FHA-VA boomlet.

What is a builder?

Here is BLS’s definition of terms used in its builders’ study:

Owner-builders: Those who build for other than commercial purposes, without the services of a general contractor but possibly with the aid of subcontractors.

Professional builders: Those who build for a living or a profit. There are two kinds:

General contractors: Those who build housing to order on someone else’s land and to another’s specifications. (Also called custom builders.)

Operative builders: Those who build housing on their land to their own specifications for unidentified future buyers or renters. (Also called merchant builders.)

(Percent distribution, met area, the proportion dropped from 19 to 14%.)

Operative builders were most dominant in the big $10,000 to $20,000 price range—starting 85% of all such professionally-built single-family houses in 1955-56. They also accounted for 83% of those under $10,000 and 65% of those over $20,000.

Owner-built houses are commonest at prices below $10,000 where the market is least enticing to producers. General contractors got their biggest share of starts at houses priced over $20,000.

BLS comments that operative building was not necessarily large scale—e.g. only 6% of operative builders started 25 or more houses in 1949. (But this 6% [3,000 builders] accounted for 65% of the professionally built houses that year.)

New study of Capehart program asked in House

The House appropriations committee has asked for a thorough reexamination of the Capehart military housing program.

Reason: the congressmen fear the government could be saddled with a huge mortgage burden on vacant Capehart units.

In an acridly worded report, the committee commented: “Defense officials seem oblivious to the fact that the rapidly changing concepts of the military posture of this country could easily result in these housing projects becoming empty in future years with the federal treasury building the responsibility for paying off the mortgages.” The report is due when Congress reconvenes Jan. 15.

PUBLIC HOUSING: PHA backs down in fight with Chicago authority

The Chicago Housing Authority has called the bluff on the Public Housing Administration and won.

Six months ago PHA accused CHA of wasting $800,000 a year through make-work, featherbedding and the low productivity of its maintenance crews; plus $200,000 more through inefficient management (June, News).

In late June PHA followed up this report with a demand that CHA cut $901,672 from its $12 million budget. The CHA board promptly met, angrily rejected the demand, accused PHA of “flagrant and unwarranted interference” and threatened a court battle.

PHA quietly sent Abner Silverman, ass't commissioner for management, to Chicago to work out a settlement. The upshot:

PHA withdrew its demand that CHA cut its budget.

CHA said it had laid out a deal with unions so that skilled men would no longer be doing jobs which could be done by an unskilled worker. Among the job changes: carpenters will no longer adjust curtain rods; plumbers have given up minor stoppage repairs; electricians have given up reading meters.

Says CHA Executive Director Alvin Rose: “We did not lay off anyone.”

Just two weeks before PHA retreated in Chicago, it made a similar sortie into Newark and accused the Newark Housing Authority of management problems. Specifically, PHA said NHA (among other things):

• Bought two cars which cost $4,000 more than two cars in the lowest price class.

• Permitted operating costs to exceed revenues on apartments by $42,000.

• Did not invest money in excess of 90-day needs, thus lost interest over 25 months totaling $26,000.

• Made arbitrary upward adjustments in insurance costs by $23,000.

• Permitted a 3½ hour work week.

New York raises income limits in public housing

Renters in some types of New York public housing projects can now earn more than $10,000 a year and still not be forced to move out.

The housing authority has raised the income limits 30 to 50% for admission and for continued occupancy in most of the projects it administers—including federally and state subsidized and city projects.

Reason, according to Authority Chairman William Reid: the authority wants to keep families with “drive and initiative” because they exert desirable influences on public housing projects. The old income limits forced many of them to move out “to slums or homes outside the city,” he says.

The new income limits let a family of seven stay in a federally-subsidized project with an income of up to $6,000 vs the old limit of $4,999. The limit for same size families in state-aided projects was increased from $6,490 to $7,800. In some city projects limits were raised from $6,099 to $9,936 (plus up to $130 exemption for pension payments) for families of five or more.

*The 1949 and 1955-56 studies differed in one respect: 1955-56 figures are derived from interviews with builders who started the houses covered in the study (37,000 units in 1955 and 28,500 in 1950). Tabulations show the builder’s role for a specific unit, though he may have built other housing. The 1949 survey covered each builder’s entire operations for the year.

News continued on p 51
NOW — just two basic units... a SINGLE SASH and a TWO-SASH... in 45 standard sizes... provide hundreds of wood window variations — countless more when combined with the new 4-Way Picture Units! This entire series comes toxic-treated and fully weather-stripped... carries an economical price tag... maintains the tradition of superior quality and craftsmanship which has made Qualitybilt woodwork the preferred choice of leading builders.

You’ll find that practically every window need can be met with the 4-Way Series... for you also have available a well-rounded selection of hardware, glass, and screen. Stocks are now established in most leading building centers. Contact your nearby Qualitybilt dealer for the complete story, or...

WRITE, wire, or phone us for your complete fact file on the new Qualitybilt 4-Way Window Series. Don’t delay — do it TODAY!
LOCAL MARKETS: VA no-downs spur huge sales successes in San Jose and Chicago

New house sales have been good this summer—in some cases phenomenal. A House & Home check shows sales have been good enough in nine out of 12 cities to push starts for the first half of the year ahead of the 1957 rate—despite 1958’s shaky start. And even in the three cities where starts were still behind 1957, early summer sales were reported good. NAHB says field reports indicate the big increase is in homes priced from $13,500 to $16,000.

San Francisco: Despite torrential rains that held up builders for weeks early in the year, housing starts in the nine-county Bay area are up an estimated 18% in the first half of 1958. The Bay Area Council estimates 18,030 starts this year, well over 1957 but still behind the 45,351 record of 1957. Best estimates are that there will be between 35,500 and 38,500 starts this year, well over 1957 but still behind the 45,351 record of 1955.

The phenomenon of the Bay Area is Builder Al Branden who opened his 10,000 home Tropicana Village in San Jose in mid-July. He sold 484 homes in one week, now has 800 under construction. He has six models, priced from $11,500 to $14,900.

Bay area builders have gone back heavily to the newest and most successful is George Arquilla, who opened his first split 18 months ago. While sales were off in Chicago, is also enjoying sales success. Builder George Arquilla, who opened his first split 18 months ago, has sold 250 of them at $18,000—90 of them this year. While sales were off in most other Chicago-area developments, the three-bedroom, one-bath split kept Arquilla’s sales at a 250-per-year rate.

In Chicago, the Alexander Construction Co of Colorado Springs sold 365 of these National Homes prefabs in one month.

Most notable success story in the area is that of Realtor-Builder Oliver L. Parks. Building National and Best prefabs in Colorado, he has sold 300 since the first of the year, 204 of them since mid-June. The Best prefab in St Johns Garden is being sold under 203 (1) for $8,250. The National model—the low priced Fairlane—is priced at $11,550 in nearby St Joseph Gardens.

Wichita: The remarkably accurate survey of builders plans made by the Wichita HBA indicates starts there will be up 15% in 1958—from 2,563 in 1957 to 3,009. Wichita builders estimated in January they would start 1,308 houses in the first half. Their reports in July show they actually started 1,362.

The survey covered 218 of the 270 known home builders. Details:

<table>
<thead>
<tr>
<th>Size</th>
<th>FIRST HALF</th>
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<tbody>
<tr>
<td></td>
<td>builders</td>
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<tr>
<td></td>
<td>homes</td>
<td>starts</td>
</tr>
<tr>
<td>1-6</td>
<td>60-100</td>
<td>10-200</td>
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<tr>
<td>6-10</td>
<td>80-150</td>
<td>35-50</td>
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<td>25</td>
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</table>

More builders are turning to FHA financing—59.2% of all units vs 45.4% 1956 and 24.9% conventional. And they will build more low priced homes. Details:

Air conditioning will be included with 53 of the 1,009 homes to be built this year with 68% of the number going into homes priced over $20,000.

Miami: Sales in the under $15,000 price range have popped up the Miami-Ft Lauderdale market after a slow start this year. But for the first half of 1958, as indicated by building permits, are still off from 10,034 to 8,073.

Miami-Mank Construction Co opened a 625 home tract at the end of June, got signed contracts on 125 within four weeks, selling both FHA and VA for $13,500 to $15,300. Green Thistle Construction Co has put up two models and opened a section of 200 FHA Sec 203 (1) homes, selling for $8,000. With only a directional sign and a small newspaper advertisement Owner Sam Rizzio took deposits on 120 in two weeks. He has tied up 1,000...
“We use TWINDOW in all our homes,
says builder WILLIAM H. PEARCE,
Pearce & Pearce Co., Inc., Buffalo, New York

In an interview with Mr. Pearce, whose company built 420 homes during 1957—in the broad range of prices from $17,000 to $30,000—he stated that: “We relate the advantages of TWINDOW to our prospects. We tell them that this insulating glass eliminates the cost of storm windows. In fact, the cost of TWINDOW, compared to the cost of storm windows and the trouble and expense of putting them up and taking them down, which so many people must employ a man to do, is actually less. We make this known to our customers, and it definitely adds to the sales appeal of our homes.

“All of the 420 homes we built during 1957 contain TWINDOW, and that in itself points up the value of this insulating glass. What’s more,
Insulating Glass 100% regardless of price range,

we sell our homes, which include TWindow, more easily than homes erected by other builders who do not use insulating glass."

Here's proof enough that TWindow makes the builder's selling task easier . . . helps him to sell more homes faster. And, as other builders have discovered, Mr. Pearce further states: "TWindow units are easier to install . . . safer to handle."

You are urged to send for our informative booklet on TWindow which is filled with valuable information. Why not write for it right now? Simply address Pittsburgh Plate Glass Company, Room 8272, 632 Fort Duquesne Blvd., Pittsburgh 22, Pennsylvania.

TWO TYPES OF TWINDOW

**TWINDOW—METAL EDGE**

This type is ideal for large windows and where maximum insulation is needed. It's made up of two panes of 1/4" clear-vision Plate Glass, with a 1/2" sealed air space between. Its stainless steel frame, a TWindow feature, eliminates bare edges . . . makes handling safe, quick and easy.

**TWINDOW—GLASS EDGE**

This type is just the thing for modern window wall construction. Having exceptional insulating properties, it is constructed of two panes of 5/16" PENNVERNON®—the quality window glass—with a 3/16" air space between. TWindow—glass edge units are available in popular sizes for a variety of window styles.

TWindow

. . . the windowpane with insulation built in

SEPTEMBER 1958
LOCAL MARKETS: $12,000 row house is Philadelphia's best seller

acres 25 miles north of Miami in Broward county, hopes to build and sell 1,000 203 (i)'s a year until the land is gone.

Builder Red Mock started a 176-home tract in Cutler Ridge, 25 miles south of Miami, in May, has sold 125 of them, all VA no-downs. Prices run from $12,925 for a three-bedroom, one bath to $14,800 for a three-two. Price includes range, refrigerator and washing machine.

Philadelphia: Row houses and duplexes are pacing a new housing sales and starts comeback in the five-county Philadelphia area. In the first half of the year starts hit 6,600 vs 6,000 in the first half of 1957.

Starts in nearby New Jersey counties were off a little from the rate of first half, 1957, but sales are picking up now. Says Alan Kessler, president of the Home Builders League of South Jersey: "For a while last winter, people were frightened, really frightened by all they heard and read about the recession. A lot of people forfeited down payments rather than go through with buying a house because they were afraid to take on any more obligations. But now we are not only making deals, but holding them. There's optimism now. It makes a big difference."

Philadelphia's acknowledged best seller is a row house built by David C. Pence and Ezra B. Whitman. In one month following an early summer opening they sold 242 houses, priced from $11,900 to $12,350 with FHA minimum down payment financing. The big factor: location. The building site in South Philadelphia is near established neighborhoods. Homes are selling especially well to Italian families who want to stay near their old homes.

Another top seller: a duplex being built by Joseph Cutler & Sons Co in northeast Philadelphia. Cutler sold 50 of the twins in two weeks for $11,500 each (the price has recently been raised $200) with FHA financing.

Memphis: Builders expect one-family starts this year to reach 5,300. This would make it the best year since 1955 when 7,750 homes were started. There were 4,197 single family starts in 1957, 4,560 in 1956.

At the end of the first half, the local home builders association reported 1,690 homes under construction vs 966 at the same time in 1956; 38% of the 1958 homes were pre-sold, only 20% of the 1957 units.

Charlotte: Home building has made a strong recovery. Starts for the first half of the year rose 47% from 1957—1,134 vs 770.

As of July 1 builders had 479 homes under construction, only 182 of them unsold. They planned 455 starts in the succeeding 90 days, had contracts signed on 172.

The $12,000 to $15,000 price range is the pace setter. Of those under construction July 1, 178 were in that bracket; 135 were in the $15,000 to $20,000 range and only 61 were in the $10,000 to $12,000 bracket.

VA is fueling the present resurgence: of 473 second quarter sales 220 were VAs. FHA accounted for 193; 54 were conventional and six were cash.

Builders believe the end of tight money has helped them more than anything else. Said one: "The thing that really counts is that nobody is pulling tight anymore. That's what scared buyers off."

Dallas: Starts for the first half of 1958 have rebounded 20% from first half, 1957—totaled 5,408 vs 4,518. June was the biggest month of the year with 1,011 starts.

An even more optimistic report comes from the Dallas Chamber of Commerce which found residential building contract awards for the first five months of the year up 40% from 1957; from $41.9 million to $59 million.

Significantly, few Dallas builders have gone back to building on speculation. Most, remembering 1955 when huge overhangs went unsold for a year or more, sell only from models. One exception: Tom Lively's Centex Construction Co which still builds 50 houses at a time, whether sold in advance or not.

Denver: With house sales steady but encouraging, builders are now predicting 1958 starts in the metropolitan area will be up 15% from 1957 to 9,400.

One sign of the times: a few builders are edging back into speculative building, after two years of selling from models only. Comments Ed Rice, executive vice president of the local HBA: "Some fellows will gamble when they see the market beginning to absorb all available new homes. Availability means a lot to some buyers. Some don't want to wait eight months to get into a house. And the longer you have to keep them dangling, the more chance there is that they might pull out of the contract."

Best market today: the $3,000 to $15,000 bracket, with a big swing to FHA financing.

Los Angeles: The nation's biggest home building market had a miserable first half. Starts on single family homes reached only 18,586, 27% below the 25,464 of 1957. Starts on multi-family units were up 4% from 20,861 to 21,859.

But builders and realtors alike expect a strong comeback in the second half, point to steadily increasing sales in July. And the gingerbread-covered "California Provincial," whose demise has been reported imminent for two years, is still going strong and leading the market.

One of the best sellers: Ross Cortese's $20,300 provincial model; 1,600 sq ft being sold both FHA and VA. Cortese has sold 300 homes in his big Rosemore development in Orange County since Jan 1, one-third of them his Plymouth model.

Though 100 homes in the big LA market is not a staggering figure in itself, big builders offer so many models in so many tracts, that 100 of any single house is considered an impressive half-year record.

New York City: Starts were up 41% over 1957 in the first six months. The figures:

<table>
<thead>
<tr>
<th></th>
<th>1958</th>
<th>1957</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single family</td>
<td>1,174</td>
<td>1,452</td>
</tr>
<tr>
<td>Multiple</td>
<td>11,160</td>
<td>7,315</td>
</tr>
<tr>
<td>Total</td>
<td>12,334</td>
<td>8,767</td>
</tr>
</tbody>
</table>

The increase was due to the big boom in apartment building which is now 90% of all New York starts (vs 83% last year). And there was a big spurt in public housing: 2,497 units were started this year vs 733 in the same period of 1957.

PROVINCIAL IS AN LA TOP SELLER

Long Island firm finds location outweighs price

Importance of location in home merchandising is pointed up on Long Island where All State Builders are offering the same home in four scattered sites.

The house carries four different prices; the closer to New York City the higher. Yet the highest priced house with its better location is the best seller. The lowest priced home, the farthest out, is the poorest seller:

<table>
<thead>
<tr>
<th>Location</th>
<th>Price</th>
<th>Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hicksville</td>
<td>$14,790</td>
<td>105</td>
</tr>
<tr>
<td>Commack</td>
<td>$13,790</td>
<td>85</td>
</tr>
<tr>
<td>West Islip</td>
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<td>5</td>
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<tr>
<td>Cutchogue</td>
<td>$12,990</td>
<td>10</td>
</tr>
</tbody>
</table>

The house itself has three bedrooms, one bath, paneled den, full basement and carport. Models were all opened early in the summer. They are being sold with either FHA or VA financing.

LOCATION OF ALL-STATE'S TRACTS

1,200 WILL BE BUILT ON FOUR SITES

News continued from p 51
MORTGAGE MARKET:

Money begins to tighten as bond market plunges; Fed fights inflation

Mortgage money is tightening, only eight months after it started easing. The most compelling reason for the sudden shift in the market is the dramatic plunge of government bond prices. Long term Treasury issues began slipping in April from the year's high mark, then plummeted sharply on a wave of selling in June and July (see graph at right).

On top of this, the Federal Reserve Board has served notice it is through taking steps to ease money. Now, the Fed seems much more concerned with stopping inflation, even if it means tightening money. It approved a hike in the rediscount rate of the San Francisco Federal Reserve Bank from 1 3/4 to 2%.

It also raised the cash margin requirement on the stock market from 50 to 70%.

New York's sensitive wholesale mortgage market promptly reflected this with a one-point boost in FHA and VA discounts.

In Houston, T J Bettes, largest US mortgage banking firm, cut its offering price to builders by one point. "Our action is based on our past experience," explained Executive Vice President Donald McGregor: "We think our lower price is indicative of what is happening to the market."

How much will money tighten and how much will it affect home building?

Economist Miles Coleen's answer: "Extent of this tightening will not be enough to seriously disrupt FHA operations. But VA will be in trouble."

His point: FHA can stand one or two points on present discounts without hurting builders too badly. But VAs, with their fixed 4 1/2% rate, are already being discounted four to six points. Two more points would choke-off the program again except for those VAs being sent to Fanny May at par under its special assistance program No 10 for homes under $13,500.

The shift in the market probably means many FHAs for which Fanny May issued commitments will actually be delivered.

Reason: builders have already paid Fanny May a 3/4 point non-refundable commitment fee. This means they would have to get an open market price of 99 1/2 to equal the Fanny May net of 98 3/4; an unlikely price in the West and South where Fanny May is used most.

This summer's turbulence in the bond market has brought the Fed in once to stabilize it—but chances are slim the Fed will move in again.

With a $12 billion federal deficit likely, an implicit threat of greater inflation, and with the economy apparently emerging from recession, individual investors have been shifting from bonds to common stocks. Speculators have deserted the bond market in droves.

Yields on long term issues gained 3/4 to 3/2% (to 3-3/2%) after the drop of 3/4 to 1 3/4% from October 1957, to April. Concurrently yields on Aaa-rated corporate issues rose from 3.61 to 3.85. Historically mortgages must have a one point yield advantage to compete favorably with corporate bonds. This has now shrunk to 3/2's of a point.

In this situation the Fed, which had not bought long term Treasuries for six years, came in and bought $1.09 billion. The Treasury itself bought back $589.5 million for government retirement and trust fund accounts.

These steps tended to stabilize the market but did not produce a price recovery. As ever, when bond prices sink, mortgage prices soon will follow.

MORTGAGE BRIEFS

Little price change found

FHA's Aug 1 survey of secondary market prices on 53/4% Sec 203 mortgages confirms that the market has settled firmly on a plateau.

National average, based on reports from 71 commercial insuring offices, is 99.2 vs 99.1 a month earlier and 97.2 last January. (Prices are based on a 25-year amortization with 10% down payment.)

Offering prices, FHA 203s

<table>
<thead>
<tr>
<th>Zone</th>
<th>August 1958</th>
<th>July 1958</th>
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<tbody>
<tr>
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<td>Range</td>
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<td>UnitedStates</td>
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S&L insurance bill dies

A bill forbidding any S&L to advertise deposit insurance unless written by a federal agency has been sidetracked after it appeared headed for quick passage.

Reason: the Senate housing subcommittee, which held hearings on the measure, found the bill would jeopardize successful state S&L insurance plans in Ohio and Massachusetts.

The bill was introduced by Sen J Glenn Beall (R, Mo) admittedly because there is virtually no S&L regulation in Maryland. He was upset over ads of the Family Savings and Loan Assn of Silver Springs and Baltimore. Family S&L advertises savings accounts insured commercially up to $10,000 by the American Savings and Loan Indemnity Co of Panama.

Testifying before the committee, Beall said: "My information at the time was that the insurance was of doubtful validity in that it was not backed by any reliable source of funds to be insurance in the true sense of that term."

The HLBB estimates there are 1,500 S&Ls not insured by the Federal S&L Insurance Corp, but 230 of these are in the Ohio and Mass.
L-O-F Glass Fibers' Home Insulation spells out TWO big benefits

MORE COMFORT and EXTRA PROFITS

L-O-F Glass Fibers' Home Insulation is THERMO-SENSITIVE. That means it's scientifically designed for maximum home comfort every day of the year.

In warm weather, it curbs daytime heat until the sun goes down. After that, it speeds up home cooling at night by losing heat to the outside more quickly than ordinary insulations. This same sensitivity works more efficiently with air conditioning systems—reduces power bills. Even without mechanical cooling, this Thermosensitive insulation improves home comfort all day long.

In cold weather, it responds faster to modern thermostatic controls. While "lazy" insulations lag behind, L-O-F Glass Fibers' Home Insulation smooths out the alternate hots and colds of room temperatures. And provides home buyers with major fuel savings that return the cost of the insulation many times over.

More and more home builders are finding that L-O-F Glass Fibers' Home Insulation is "Educated" to provide comfort features that not only help sell homes faster, but also offer extra profit possibilities through lower installation costs.

Available in standard widths and three thicknesses to meet usual requirements, L-O-F Glass Fibers' Home Insulation is delivered quickly from warehouses all over the country. For the name of your nearest distributor, write L-O-F Glass Fibers Company, Dept. 21-98, 1810 Madison Ave., Toledo 1, O.
MORTGAGE MARKET QUOTATIONS

(Sale by originating mortgagees, who retain servicing.) As reported to House & Home the week ending Aug. 8.

FHA 5 1/4 % (Sec 203) (b)

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SOURCES: Atlanta, Robert Thorpe, pres, Thorpe & Brooks Inc; Boston, Robert M. Morgan, vice pres, Boston Five Cents Savings Bank; Chicago, Maurice A. Pollock, exec vice pres, Draper & Kremer Inc; Cleveland, Jay P. Zook, pres, Jay P. Zook Inc; Denver, A C Bradley, exec vice pres, Mortgage Investments Co; Detroit, Harold Finney, exec vice pres, Mortgage Corporation; Houston, Donald McColgan, exec vice pres, T J Bettis Co; Jacksonvile, George Dickerson, Stockton, Whitley, Davis & Co; Los Angeles, David Northridge, vice pres, The Cotwell Co; Newark, William F Haas, vice pres, Franklin Capital Corp; New York, John Halperin, pres, J Halperin & Co; Oklahoma City, B B Bass, pres, American Mortgage & Investment Co; Philadelphia, W A Clarke & Co; St Louis, W C Rainford, pres, Mercantile Mortgage Co; San Francisco, M V O'Hearn, vice pres, Bankers Mortgage Co of Calif; Washington, DC, George W DePamphile, pres, Frederick W Berens Inc.

VA 4 3/4 %

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<th>FHA Conventional</th>
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NOW... Modernfold adds doors of wood to the fabulous line of fabric doors!

The Modernfold story is full of surprises! If it described only the research-proved superiority of Modernfold construction, this alone would be an unbeatable sales-point.

And now, Modernfold offers a greater selection of folding doors than anyone in the industry, by introducing doors of choice wood...in selected, matched veneers, laminated to a solid core.

Modernfold's famous fabric-covered doors give you a wonderful choice of weaves and patterns...all washable. The powerful double-strength steel inner frame is the essence of long-lasting service and shape-retaining good looks.

Whatever people want, Modernfold has: custom doors, stock doors, economy doors, and the new WOOD doors.

Modernfold's national ads appear in Better Homes and Gardens, and Time. But you can show customers, firsthand, the many plus-features that give people exactly what they want!

Your Modernfold Distributor is listed under "Doors" in the yellow pages.
Anti-featherbed controls accepted by unions in four midwest cities

Some significant gains in the fight against featherbedding have been registered in the spring-summer negotiations of 1958.

The advances are few—but what makes them particularly important is that they affect labor in some of the most notorious make-work areas in the US.

When the ten anti-featherbed commandments of the AFL-CIO Building Trades Dept were announced last January (March, News), building industry leaders generally felt the pronouncement was a publicity gimmick, would take years to filter down to the local level, if ever.

Instead they are finding evidence of genuine concern among some labor leaders about the time-honored union concept of more pay for less work. Comments President Ralph R Marks of the Chicago Roofing Contractors Assn: “Just to get unions to discuss contracts with anti-featherbed clauses is better than we have ever done before.” Says Contractor Carl Lomax of Granite City, Ill: “Most unions agree we’ve got to watch our costs to get jobs.” Some signs of progress:

- In Cleveland, after a seven-week strike, unions agreed to a six-point cost cutting program. It calls for: 1) a full day’s work for a day’s pay; 2) no featherbedding or restrictions on use of tools; 3) no coffee breaks; 4) no show-up time for bad weather; 5) no restrictions on amount of work in any period; 6) payment by check (if employer so desires). Contractors had asked three other restrictions which were dropped: exemption of foremen from collective bargaining; elimination of non-working stewards; abolishment of travel time. “Adoption of these points should bring an increase in productivity and a reduction in non-essential costs without working hardship on anyone,” says Vice President William J Hunt in of the Building Trades Employers Assn.

- Granite City, Ill, the “East Side” of St Louis, Mo, was the first area to adopt the AFL-CIO “ten commandments” in toto. The way had been paved when the local AGC chapter started to discuss an anti-featherbed program with unions last October. “When the building trades announced their ‘ten commandments’ last February we were very happy and scrapped our draft code,” says Contractor Lomax. Special separate anti-featherbed contracts have been signed with 12 of the 19 trades.

- In St Louis, unions would not sign a “ten commandment” pact but agreed to set up a committee with contractors to discuss ways to improve efficiency. “An informal day-to-day for-a-day’s-pay pact has been agreed already, and is being lived up to,” says Henry Till, local manager of AGC.

- Anti-featherbed pacts in St Louis area will not affect home builders immediately because they negotiate separately and contracts are not due for renewal till next year. But builders are cheerful about the change of labor’s attitude.

- Chicago plasterers and lathers signed a “new agreement to assist better employee-employer relations.” It provides: 1) no restrictions on production or on labor-saving devices; 2) adequate apprentice training; 3) no strikes or lockouts; 4) no unnecessary employee; 5) only a “reasonable profit” by contractors; 6) a full day’s work for a day’s pay—with no bonuses or unreasonable travel time; 7) no special conditions of employment. “I’m not interested in our guys getting something for nothing,” says President Irvin D Friedman of the Lathers’ Local.

- Roofers in Chicago struck rather than forego four featherbedding work rules in the contract. But they went back to work and agreed to keep discussions open, if necessary accept arbitration on whether to keep the rules. They require: 1) two men on any job; 2) pay for travel time; 3) one alleged redundant worker to stay on the ground; 4) a limit on hoist weights.

Mechanized plastering approved by Chicago unions

New lathing and plastering methods are helping meet drywall competition. Large sheets of drywall are helping to reduce labor costs, ease floor space, improve efficiency. “An informal day’s work pact has been agreed already,” says Contractor Carl Lomax of Granite City, Ill: “Most unions agree we’ve got to watch our costs to get jobs.” Some signs of progress:

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New lathing and plastering methods are helping meet drywall competition. Large sheets of lath up to 4’x12’ are power stapled to studs. Plaster is sprayed on in two coats, finished with a power trowel. The technique, approved by Chicago unions which recently signed anti-featherbed pacts (story col 1), cuts plastering time in half, saves up to 25% on costs.

Paint roller restrictions gain

Painters have won the right to impose contract restrictions on use of spray guns and rollers in California. But in doing so they may have opened the door to a competitive union.

The union’s right to specify work conditions, challenged by local painting contractors, was upheld by San Bernardino superior court judge Charles Judge. “If an employee is entitled to bargain collectively concerning with whom he shall work, he certainly has the right to bargain in like manner with respect to the kind of service he shall render for the price agreed.”

But the judge also ruled the union for insisting on “pick and shovel” methods when more advanced equipment is available.

The union had attempted unsuccessfully to have the case transferred to a federal court so its outcome would affect the whole country. It was turned down because of lack of federal jurisdiction.

One immediate effect of the court ruling: several contractors signed contracts minus tool restrictions with United Construction Workers.

UCW, an offshoot of John L Lewis’s United Mine Workers catchall District 50, is attempting a “quiet and systematic” movement into California building labor. Its only other foothold there: a contract signed with Fresno home builders after a six-month strike last December (Jan, News). It has organized home building spots in other states, plans to move in where established AFL locals are having trouble. All trades are in one local, which sets wage rates like an industrial plant union (by job classification instead of by trade). In San Bernardino UCW signed many AFL men: “With 300 out of work, they’ll take any job,” says Painting Contractor George Smith.

Conflict between the two unions could mean trouble for home builders if AFL men refuse to work beside UCW. Painting Contractor Frank A Callhoun, who uses UCW painters, was signed off by a general contractor when the job was pickedet by AFL trades.

More help from NLRB

Paint roller restrictions gain

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"You can't beat a PEASE HOME for sure, substantial profit"

"We've been building Pease Homes since 1946, because they always sell fast. The market may vary over the years, or from one location to another, but we can easily customize to meet the current demands, thanks to Pease flexibility," says Ed J. Schroeder & Sons, Toledo, Ohio.

Master builder Ed Schroeder, NAHB Director and President of the Toledo Home Builders Association, is proof in action that you can offer more value at lower cost with Pease Homes!

Customized Architectural Service is just one of the many ways we assist you for quick conversion of F.H.A. approved land to liquid profits. Our complete program also includes F.H.A. Processing and Financing Service... Model Home Financing and Personalized Model Home Merchandising and Promotion.

For full information, write or phone William Stricker, General Sales Manager, and arrange for a sales representative to call.

PEASE HOMES
and Building Materials

FOREST AVENUE
HAMILTON, OHIO
Costs begin to climb as surge in starts opens gate to inflation

The galloping ghost of inflation has returned to haunt home building. A new price spiral has already begun behind the spurt in starts. Key material prices have started up—dramatically. Two out of three construction workers signed pacts with wage increases. "And there is every indication that costs will continue to rise," says President Alexander Paulsen of Long Island Home Builders Institute.

"We've got a built-in inflation that will last a couple of years," says Col E H Boeckhi, Washington cost analyst.

"American families are more concerned about rising prices than anything else," warns US S&L League President Joseph Holzka. "If this concern ... is transformed into a buyer's rebellion, then the recovery from the recession may prove to be very short lived indeed."

The meaning to builders: watch your costs closer than ever.

The trend shows in key lumber prices. They are at their highest level in two years, and "are getting stronger almost by the minute," says one Oregon wholesaler.

Std & bar green fir studs sold for around $67M at Northwest mills in mid August (vs $62 a year ago). They had jumped $10 in a month. And orders climbed 40% above production through July, reports West Coast Lumbermen's Assn. Fir plywood sheeting, another key home building material, is fetching a steady $110-112M (3½ CD). Sanded plywood (2½ AD) rose another $4 to $76M in August, at a time when plywood prices usually start to drop.

Profits have dwindled

More upward pressure may come from distributors and dealers who complain their profits have dwindled to the lowest level since the depression of the 30s (can limiously low 2% of net sales, according to a 1954 survey for US Gypsum by Management Consultants Cresap, McCormick and Pagel). Many dealers who shied profits finer and finer in an effort to keep business last year now realize there is only one way to go—up—if they are to escape bankruptcy. "Prices have got so low there just isn't anything left to give," says Lumber Dealer Paul DeValle of Cuntion.

There are warnings in first half reports from manufacturers, many of whom openly admit they want to hike prices to improve profits (see p 67). "Our market surveys indicate a strong demand for the balance of the year, which should result in improved prices," says Board Chairman J J Harvey Jr of Flint-kote. Manufacturers say they need price increases because raw materials and labor have both gone up. They will probably be bolder about boosting prices because of the lead set by steel makers.

Steel makers raise prices

Steel, bellwether material of the whole economy, rose about $4.50 a ton last month. The increase followed what seemed little more than a token month's delay after the July 1 wage boost. It was a calculated risk in a year when steel production has limped along at around 50% capacity for many weeks. The Mid-East crisis and prospects of a new arms race may have had something to do with it. More likely it was the familiar inflationary spiral which never really stopped. "Any increases in steel and labor cannot be absorbed in present prices," explained an International Harvester spokesman blandly as his company, along with most other steel users, prepared to pass on the increase.

Labor costs up too

Builders' labor costs are up too. Most 1958 agreements call for increases. Wage rates in July averaged 4.4% higher than a year ago. And about half this year's pacts run two or three years—with built-in increases for the future.

MATERIALS BRIEFS

Low cost house barriers

NAHB is looking for new ways to crack what it considers the two main barriers to cheaper housing—unrealistic and conflicting local regulations, and a shortage of land with roads, sidewalks and utilities already in place.

A special committee under Miami Builder Perry E Willits, also chairman of NAHB's technical division, has been studying the problem since last spring, will report to NAHB directors at their San Antonio meeting next month that:

1. A comparative appraisal of a basic low cost house has been made by all local FHA and VA offices. The study, directed by FHA's head office, will be the first to really uncover local differences in costs and requirements—and what causes them. Appraisers were asked to mark up plans, note features not acceptable to FHA at local codes. FHA already admits the study will show up wrong interpretations of MPRs.

2. A New York City meeting was held late last month with lenders and legal experts to discuss wider use of land leases. Says Willits: "There are big areas that could name which could be developed for low cost homes this way. Many are part of a large estate and cannot be sold because of some legal angle." Leaseholding could lower monthly payments slightly, but its main use would be to open up parcels which might otherwise not be available for home building.

More gas air conditioning

Shipments of year-round gas air conditioners for homes in the first six months jumped a whopping 163% over the same period last year (3,436 units vs 1,305). Gas men say the increase was due to stepped up promotion, improved design and substantial price cuts. They hope to sell a total of 7,000 units this year (37 total: 2,467).

AIA product service

AIA says it has "convincing demonstration" that its proposed building products registry (April, News) will go ahead. Nearly 1,200 architects have pledged $30,000 in subscriptions to the service which would supply technical reports on product use, including "privileged communications" on failures.

AIA now will ask manufacturers to help finance the service at $25 per product line. It hopes to sign up more architects as "more ammunition to throw into the selling job to manufacturers."

Cement supply adequate

Expansion now underway by cement mills should end the recurring cement shortages that have plagued builders in the post World War 2 boom.

By the end of this year, cement makers will have boosted capacity 25% above 1955 levels, or a theoretical 300 million tons per year. By 1960 they expect to operate at around 90% capacity—considered ideal—instead of the 100% level they had to maintain through 1955-6.

MATERIALS & PRICES:

- Ice in lumber and wood products (from 116.4 to 116.8) was mainly responsible.

RESIDENTIAL BUILDING COSTS went up another 0.9 points to 280.1 in July. "You're still getting some labor increases and there was quite a strengthening in the price of lumber," says Col E H Boeckhi.

CONTINUED FROM P 68

65
HELPING BUILDERS

Sell Garages
FOR EXTRA PROFITS

Now is the time that builders welcome sparkling new ideas with which to stimulate garage and carport business.

To help builders sell this active market, Weyerhaeuser makes available through 4-Square Lumber Dealers 25 designs of modern garages and carports... complete with working drawings and material lists.

Builders enjoy selling these garages because they are practical, offer good choice of modern styling, and can be built quickly and economically.

Your Weyerhaeuser 4-Square Lumber Dealer will gladly make these plans available to you. He also can furnish Weyerhaeuser 4-Square Kiln-dried Lumber for framing and finishing. These garage designs will help you promote sales and increase your profits.

DESIGN NO. 2518
These designs emphasize the variety of designs you can show your prospects. Some garages have breezeways. All have extra space for storage.

DESIGN NO. 2520

DESIGN NO. 2523
Here you see two more of the 25 attractive garage and carport designs offered by Weyerhaeuser. In the stylings, one and two-car designs are featured.

25 Modern GARAGES AND CARPORTS

NEW GARAGE CATALOG: Your Weyerhaeuser 4-Square Lumber Dealer has a colorful new catalog, published especially for the garage and carport market, containing 25 practical designs. All garages include storage space, and many also have features such as workshops, porches and breezeways.

BLUEPRINTS AND MATERIALS LISTS are available for each garage design through your Weyerhaeuser Dealer. You save the time-consuming design work and material figuring that go into most garage jobs.

FULL LINE OF BUILDING MATERIALS: Your Weyerhaeuser Dealer offers a full line of dependable Weyerhaeuser 4-Square Kiln-dried Lumber products. He will be glad to help you with all your building needs.

Weyerhaeuser Sales Company
FIRST NATIONAL BANK BUILDING • ST. PAUL, MINNESOTA
Producers forget past year's gloom as housing spurt stops earnings slide

The 1957 slump in building materials sales and profits, which worsened in the first quarter of this year (April & May, News), has begun to level off. And producers are optimistic the housing upsurge will mean a better second half.

The improvement showed in some second quarter reports. Although business was off from last year, the lag was generally not so bad as in the first quarter. Several companies said their position would have been worse but for careful controls, like Libby-Owens-Ford's "vigorous efforts to adjust overhead expenses to current conditions."

First half earnings figures from 38 companies show 29% improved both sales and profits over 1957; 44.7% upped sales; and 39.5% had bigger profits. In a similar survey at the end of the first quarter only 9.5% showed improved both sales and profits; 28.6% upped sales; and 14.3% had bigger profits.

"Sales and earnings showed some improvement in the second quarter largely because of an improvement in home-appliance sales. The modest upward trend is encouraging," says President Joseph A. Grazier of American Standard.

First, for which housing is the main market, were particularly sensitive to the upturn in starts. National Gypsum operated at only 56% capacity in the first quarter, stepped it up to 70% by June. Explains an Owens-Corning-Fiberglas spokesman: "There seems no question that with 1 to 1.1 million sales there is insufficient business for manufacturing plants to be prosperous. With 1.3 million all plants are busy." (Starts have topped 1.3 million only twice—in 1950 and 1955.)

Increased orders and plant activity are bringing out cheerful second half forecasts. Yale & Towne's lock and hardware division reports "new orders at the highest level in many months." Nutone says "We have called back all employees laid off plus additional hires." And Owens-Corning-Fiberglas reports "Residential building materials plants are busy round the clock."

"I am hopeful that this higher rate...can be sustained," sums up Board Chairman Adrain R. Fisher of Johns-Manville. US Plywood looks for a "decided upturn" in 1959.

HOW THEY FARED
First half sales and earnings of some of the biggest producers, comparing this year with last:

| Company | Sales | Change | Sales | Net
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Lumber</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US Plywood</td>
<td>$203,242,100</td>
<td>7.7</td>
<td>$19,362,202</td>
<td>-7.4</td>
</tr>
<tr>
<td>Georgia Pacific</td>
<td>71,990,058</td>
<td>-2.1</td>
<td>5,400,283</td>
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<tr>
<td>Wallboard, Roofing, Tile</td>
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<td>Celotex</td>
<td>28,419,247</td>
<td>-7.7</td>
<td>7,050,353</td>
<td>-20</td>
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<tr>
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<tr>
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<td>National Gypsum</td>
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<td>Armstrong Cork</td>
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<tr>
<td>Cong Nairn</td>
<td>22,208,737</td>
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<td>-7.2</td>
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<tr>
<td>Certain-Teed</td>
<td>39,410,308</td>
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<td>32,266,997</td>
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<tr>
<td>Heating &amp; Plumbing</td>
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<td>Amer Std</td>
<td>63,571,224</td>
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<td>Lehigh Portland</td>
<td>32,755,212</td>
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<td>1,200,000</td>
<td>-7.2</td>
</tr>
<tr>
<td>Penn Dixie</td>
<td>19,631,481</td>
<td>12.9</td>
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<td>Lone Star</td>
<td>43,753,701</td>
<td>-26.5</td>
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<td>-13.1</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amer NHare</td>
<td>19,770,000</td>
<td>27.6</td>
<td>670,000</td>
<td>67</td>
</tr>
<tr>
<td>Yale &amp; Towne</td>
<td>58,609,532</td>
<td>-10.9</td>
<td>24,200,000</td>
<td>-24.2</td>
</tr>
</tbody>
</table>

Footnotes: a—yr ending 4/30/58; b—6 months to 5/31/58; c—9 months to 5/31/58; d—loss of $1,397,067.

CODES:
New Jersey gets a state residential code

New Jersey has just issued a building code manual for housing. And "nearly 80% of the state's municipalities say they want to use it" reports John S. Wright, executive vice president of the state housing association.

The new "rules for construction of one- and two-family dwellings" supplement an existing general building code, should be specially useful to smaller towns which have neither the need for a commercial building code nor the technical staff to administer it.

"This has taken us almost ten years of heartbreak work," says Builder Richard S. Hudson of Montclair, N.J., who was builder representative on the code committee. The code is a performance type, and the manual lists materials and techniques that comply with it. Examples: plywood sheathing (5/16" over 24" on 2" studs for walls, 3/8" for roofs) and drywall are allowed.

In 1950 Code Campaigner Hudson urged: "The building codes situation in the state is intolerable. Regardless of the merits of any individual code, there are too many of them." He added: "I am building the same house at Montclair for at least 5% less than it is costing in Livingston. Unnecessary requirements are simply waste, and our present codes are full of waste." Hudson urged a mandatory code, but did not get it. There was too strong a home rule sentiment.

Municipalities have been urged to adopt the code by the state department of conservation which is responsible for it. Said Code Coordinator A.R. Post in a notice to municipal clerks in the state: "The very simplicity of adopting the code by reference ordinance will result in the saving of thousands of dollars. There are many advantages. The real value will depend on its reception and use by public officials and private industry."

Plastic pipe approved

Plastic pipe for street-to-house water lines has been approved by the Cleveland building code. It is the first large city to do so. "As much as 75% less time may be involved in laying and connecting a service line than with metal tubing," says Sales Manager J.W. Owens of Republic Steel's pipe division. (Republic makes plastic as well as steel pipe.)

ASA home building code

ASA will hold a meeting Sept 9 of more than 100 interested groups to decide whether to go ahead with the job of coordinating the residential construction requirements of the three existing model codes* into one ASA standard, as proposed at a House & Home Round Table (H&H, June & July). If there is a consensus in favor of the idea ASA will go ahead and develop its standard, which the model codes could then incorporate intact, as they do other American Standards.

Meantime Consulting Engineer Arnold Kronstadt was hired by NAHB to make a comparative study of the three model codes. He confirmed what the Round Table said: there is no important difference in their construction requirements for one- and two-family houses.

* Building Officials Conference of America, International Conference of Building Officials, Southern Building Code Congress.

Davies house will have aluminum wall and roof panels

Retired Alcoa founder plans three aluminum houses

Arthur Vining Davis, 91-year-old founder and ex-chairman of the board of the Aluminum Co. of America, has decided to build three experimental aluminum houses of his own.

Davis, though still a big Alcoa stockholder, now holds no office in the company he headed for 29 years. For the past 10 years he has been living in Miami, investing millions of dollars in Florida land and business.

Unlike the Alcoa Carefree House of last year, which was basically a post and beam frame structure, the Davis houses will be nearly all aluminum. Walls and roof will be composed of 4' sandwich panels made by Panama Products Inc of Miami, one of the firms in which Davis has bought an interest. Pandab Engineering Consultant Charles Payne has designed an interlocking joint for the sandwich panel for quick installation and strength.

Work on the first house, designed by Giller, will be high—about $45,000 including air conditioning, which the model codes say is both practical and economically feasible.

News

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67
Here's how to install a TRUSCON Hollow Metal Door and Frame in just 15 minutes...

That's right! Complete the job in just 15 minutes. No special tools, just use a common carpenter's hammer and a screwdriver.

With Truscon Series 50 and Series 57 Steel Doors, there's no cutting, fitting, planing, sanding. Simply assemble frame; plumb it in the opening; nail anchor tabs to studs; set door in place; drop in hinge pins; and install lockset. You get a good-looking installation that fits—that can't swell or warp. Bonderized and prime coat finish permits on-the-job one-coat painting to match room decor.

Series 50 Steel Doors: 11/4" thick, are designed for use in homes and smaller buildings. Series 57: 13/4" thick, is an all-purpose exterior, interior steel door. Call your dealer and get immediate shipment out of Truscon's warehouse stocks.

7 FAST STEPS DO THE JOB

1. ASSEMBLE FRAME. Slip two jambs into header. Bend and clinch two tenons at each corner.

2. SET FRAME IN PLACE. Set frame in opening, plumb. Bend over stud anchors.

3. NAIL TO STUD. Nail bottom anchors first. Then, the rest. Recheck for trueness.

4. SET DOOR IN PLACE. First, apply hinge leaves (no mortise to take time). Then, set door in frame.

5. INSERT HINGE PINS. Simply drop pins in leaves, top down.

6. INSTALL LATCH AND STRIKE. Simply screw to prepared holes. No mortising.

7. INSTALL LOCKSET. No barrel hole to bore. No tedious measuring. You're done!
BEAUTIFUL AND WONDERFUL REPUBLIC STEEL KITCHENS. Stock cabinets, fully fabricated in a wide range of sizes, colors, and styles, make modular planning and installation easy. Republic's stock oven and range cabinets will accommodate brands of built-ins homeowners prefer. Full line of accessories give even the minimum kitchen that "custom look". Get the complete story from your Republic Steel Kitchens Distributor, or write today.

HANG REPUBLIC HOUSE-LONG "K" GUTTERS and cut installation time in half. New Republic 26 and 28 gage Galvanized Steel Gutters now are made as long as 32 feet. Hang them in one piece. Cut installation time. Ideal for long-roofed contemporaries. No need to measure, cut, and solder as with "old style" short gutters. No seams to detract from appearance, or to become potential points of failure. Sold through Republic Sheet Metal Distributors. Send for data.

REPUBLIC TERNEROOFING boosts building values and offers long-term economy. Properly applied and with occasional painting, it will last the life of the building. And a terne roof provides fire protection, blends well with all types of architecture, and, when painted a light color, provides reflective insulation. In addition to roofing applications, Republic Terne is ideal for termite shield use. Contact your nearest Republic office or mail coupon for complete information.

REPUBLIC STEEL CORPORATION
DEPT. HO-6124-C
1441 REPUBLIC BUILDING • CLEVELAND 1, OHIO

Please send additional information on the following:
Truscan Hollow Metal Doors □ Series 50 □ Series 57
□ Republic Steel Kitchens □ Republic Roofing Terne
□ Republic House-Long "K" Gutters

Name.________________________ Title.________________________
Company.________________________
Address.________________________
City.__________________ Zone.____ State.__________________
REMODELING:

Home Improvement Council forced to take recession-caused budget cut

Home Improvement Council has pulled in its horns and "learned to live with" a budget one quarter the size of what it hoped for.

"But," says Executive Director Don Moore, "we're very optimistic." HIC was set up a year ago to replace Operation Home Improvement as a national fix up promotion organization on a permanent basis. In the fall it laid down an ambitious $2 million program (Nov, News). "We downrated that to $1 million almost immediately," says Moore. "We got kicked in the teeth by the recession and had to exercise considerable conservative management and finally realized we should have about $300,000 to work with."

Main things to go were: 1) $750,000 for advertising (HTC has done no paid advertising), 2) $150,000 for market research, 3) $100,000 to train in technical know-how on fixup. Other promotional and administrative spending was chopped in half.

But HTC still has managed to do this much:
- Sign up 2,520 local members—mostly lumber dealers but including some fixup contractors too. HTC missed its original 10,000-member goal by a long way, but Moore blames lack of seed money for a proper recruiting drive.
- Charter 12 local chapters, with several more in the works.
- Give local members five kits of display materials.
- Pull 81,000 entries in a $125,000 contest in which home owners told in 25 words what their No. 1 fixup project was. A second contest, begun July 1, will give $50,000 in prizes for actual fixup jobs. Both were designed primarily to boost public interest in fixup, and build traffic through local members' stores, only source of entry blanks.
- Promote, jointly with Living for Young Homemakers magazine, an HTC demonstration remodeling house in 15 cities.
- Building materials producers still carry the big HIC load. As national members, 114 of them put up 85% of the budget (local members does just about cover actual cost of point-of-sale material they receive).
- Moore outspokenly decries "the apathy among the other hundreds who should be participating." But he doesn't expect many more national members to sign up. "We have to be realistic, we might even have a smaller budget next year," he admits.

Shady sales methods, bane of the fixup industry, have been slapped down in two recent cases:
- Holland Furnace Co was ordered by the Federal Trade Commission to stop alleged deception and scare tactics. Examiner James A Purcell charged Holland salesmen posed as government or utility inspectors, dismantled furnaces and refused to re-assemble them on the false grounds they were unsafe. Holland claimed the order was based on insufficient evidence and "unavoidable incidents experienced in every service industry."
- Five Detroit salesmen who got chimney repair jobs by persuading home owners rats were gnawing away the mortar (April, News) received sentences up to two years in jail. They staged fake inspections in which a supposedly mortar-eating white rat was pulled from the chimney, offered to fix the damage and remove the rats.

NON-WHITE HOUSING:

Pioneer builder of interracial housing starts organization to help integration

A national organization has just been formed to lend risk capital to builders of racially integrated housing developments.

Modern Community Developers, a New Jersey corporation, says it will lend up to one-third of the risk capital builders need to put up interracial projects. President Morris Milgram, himself a pioneer developer of integrated single-family tracts (H&H, Apr '55), says the group already has $193,000 in subscriptions with $30,000 paid-in stock capital. It will begin lending when $250,000 is subscribed.

The organization is shooting for $1.5 million capital through the sale of common stock (it got its SEC clearance Aug. 5). Milgram expects an average project to require between $25,000 and $50,000 seed money.

The development group, with offices at 84 Nassau St, Princeton (where Milgram is building his third racially integrated project), will demand security like land, mortgages or stock for its loans. "We also will require that builders have community support for their projects, and are building with sound architectural plans," Milgram says. Community Developers will also sell advice on sales and planning of integrated projects for a share of project profits before taxes. Advance word of the organization's formation has stirred interest by builders in Boston, Chicago, Grand Rapids, St Louis and Yellow Springs, Ohio, says Milgram.

Among other officers of the company is Frank Monteiro, vice pres, former associate executive director of the Natl Urban League. Directors include David Scull, co-chairman of the Baltimore Friends Social Order Committee and a director of Nationwide Insurance Co; Morton Grossman, Quincy, Mass and "unavoidable incidents experienced in every service industry."

CANADA:

Home building record likely as starts soar

Home building appears headed for its biggest year ever.

Government forecasters now expect 150,000 starts and a $1.8 billion outlay in 1958. Previous best year: 1955 (with 138,276 starts).

They upped an earlier forecast (Apr, News) 8% as starts soared (180,000 annual level at one point) during the first half.

The upsurge was sparked by: 1) the recession-counteracting program under which government money was made available for low cost homes through approved lender agents (12,557 million in the first six months) and 2) greatly stepped up NHA lending by private investors.

First half figures:

<table>
<thead>
<tr>
<th>Lender</th>
<th>Units</th>
<th>% Change FROM '57</th>
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<tr>
<td>Insurance Co</td>
<td>8,313</td>
<td>+31</td>
</tr>
<tr>
<td>Banks</td>
<td>12,338</td>
<td>+121</td>
</tr>
<tr>
<td>Trust &amp; Loans</td>
<td>2,103</td>
<td>+712</td>
</tr>
</tbody>
</table>

But lenders and builders are already worrying whether sales will keep up with starts. Says Vice President A H Lemmon of Canada Life Assurance Co: "The large volume coming to market... gives rise to doubts... in some localities. [Loan] companies are following a cautious approach."

Montreal Builder John Caron, chairman of the Canadian Construction Association's housing committee, warns: "There is not sufficient buying power."

Court denies builder's design copyright claim

A builder who successfully protected the copyright of his house design in 1957 was beaten when he tried to collect damages from another alleged plagiarist.

Last year Builder Lorne Hay of Sarnia, Ont sued Builder John Kukura for allegedly copying the design of Hay's split level house. Hay had copyrighted the design in 1956, had built about 35 models himself. He won the suit and was awarded $500 damages.

Other homes similar to Hay's were also being built in Sarnia and other Ontario cities. Some builders paid a $60 fee for the plan. But others, Hay decided, were plagiarizing. He filed several suits, including one against Builder A R Charge of Sarnia for $3,000.

NHBA became concerned at Hay's apparent enthusiasm for legal protection and asked for an explanation. Hay quit the association. NHBA promptly offered to pay Charge's legal costs ($5,000 to $15,000).

Charge's defense centered on two points: 1) his house and Hay's were both variations of a basic split level design. CMHC staff Architect Raymond Card testified that CMHC regulations leave "really very narrow limits within which to vary." 2) Hay's houses were remarkably like one shown in the Windsor, Ont parade of homes the year before Hay copyrighted his design. Hay had visited the Windsor house and shown interest in it.

Charge won his case. Said Justice J M King of the Ontario supreme court: "I cannot help feeling that there is an element of poetic justice in the outcome. If, for example, Callcott [builder of the Windsor house] had brought an action against the plaintiff, ... what more could he have done than ask the Court to believe he had developed the plans out of his own mind?"
William H Scheick, one of the best known men in building research, is quitting as executive director of Building Research Advisory Board and Building Research Institute to become research boss of Timber Engineering Co, research and engineering offshoot of the Natl Lumber Manufacturers’ Assn.

The switch, effective Sept 15, probably means a new emphasis on housing in Teco research which covers a wide range of lumber applications.

Scheick is not going to Teco with any set program to work on, but says he hopes to interest lumber producers in equipment for home building. Teco has long worried about their declining share of the home building market in favor of prefabricative materials, so they should welcome anything research can turn up to bolster the use of wood. A probable early project will be to take over development work for the Lumber Dealers Research Council which got bogged down at the University of Illinois Small Homes Council.

SHC, best known and most productive research center for home building in the US, was set up by Scheick in 1944 when he was professor of architecture at the University of Illinois. He ran it till 1949 when he left to become executive director of BRAB, a division of the Natl Academy of Sciences.

In 1951 he organized the Building Research Institute as a complementary and supporting organization to BRAB with industry backing. He built its membership from 37 supporting individuals in 1951 to 350 now (with 959 individual members).

BRAB works for government departments, is currently doing technical studies for FHA on: 1) warm air heating duct insulation, 2) new materials for sewer lines, 3) slab-on-floor construction, 4) plastic pipe, 5) double casing of wells, 6) soils.

BRI is best known for its technical conferences where industry experts discuss trends and developments. Upcoming examples: flooring (Sept 17-18), paints & coatings (Dec 3-4), acoustics (Jan 14-15). One of its latest and most ambitious projects: an 18-man committee to coordinate housing research, chaired by Leonard Haeger.

The committee has started a survey of current and recently completed research projects, and is working out a way to report work done by obscure experimental stations, much of which dies in dusty reports.

Scheick will replace Carl A Rishell who is retiring after 22 years at Teco. His successor at BRAB/BRI was still to be named.

Utah picks non-Bauhaus governor’s mansion

Utah has resolved its controversy over the design of a new mansion for the governor. The approved design is a rambling ranch house quite unlike the Bauhaus-type contemporary that started the whole dispute.

A year ago, Architect Georgius Cannon designed a flat-roofed, glass and masonry home which was approved by Gov George D Clyde but rejected by a majority of a committee of other state officials. Their chief complaint: the flat roof. (Aug ’57 News).

Cannon was told to try again. His second design, also contemporary but not Bauhaus, was accepted. But bids were taken twice and rejected both times because total cost would have been more than the $200,000 appropriated. A dismayed Cannon said he could compromise no further. He was paid off (about $7,000) and Architect William F Thomas was commissioned to do the job.

Thomas’ design (above) was quickly accepted, particularly after he assured the committee that the house can be built for $114,000. The bids approximate the estimate, work will begin this month with completion in 10 months.
**Ger-Pak—THE SHORT WAY TO SAY SUPERIOR POLYETHYLENE FILM**

Ger-Pak under concrete slabs

KEEPS BASEMENTS DRY!

Build extra value and lasting satisfaction into every home by ending the age-old problem of damp floors! GER-PAK Virgin Polyethylene Barrier Film is the barrier material that controls water-vapor transmission and will last the life of the building!

Lightweight, easy to handle and inexpensive, GER-PAK Film is specified by architects and used by builders across the country who want unmatched water-vapor protection in basements and side-walls as well as superior dust sealing between floors.

What's more, GER-PAK Film is ideal for protecting material and equipment from the weather... to close-in unfinished doors and windows... as painting drop cloths... plus dozens of on-the-job uses.

And GER-PAK Film offers the widest range of widths—from 10-inch for flashing all the way up to 40-foot. Available in CLEAR, BLACK and special OPAQUE white. Ask your dealer about GER-PAK Film today!

**DESIGNED TO MEET FHA REQUIREMENTS**

*CLIP AND MAIL NOW FOR FREE SAMPLES*

GER-PAK Virgin Polyethylene Film
Gering Products, Inc., Kenilworth, N. J.
Industry cheers for the Code Round Table program

The Round Table on obsolete building codes was certainly the most important Round Table ever held on behalf of the building industry. While I thoroughly agree with the report and realize that it will be of tremendous value in helping some communities emerge from the Dark Ages, the move has to come first from the builders, the persons most affected by bad codes. Until each builder assumes a crusading and progressive spirit, we cannot intelligently mend value in helping some communities.

The Round Table on obsolete building codes has to come first from the builders, the national Conference of Building Officials. The Round Table ever held on behalf of the building industry for your initiative in this field.

Your discussion and publicity will result in great benefit, not only to the building industry, but to the general public.

Keep up the splendid work.

Just what we need, right now. We have successfully in getting a Code Committee appointed by the Mayor and hope to make speed.

Thanks for the inspiration that naturally comes to the building industry for your initiative in this field.

ENRST G FRITSCH, chairman, NABH code committee

This was a "major breakthrough" and you deserve a medal for bringing it off!

M F GIGLITTO, manager, Structural Plastics Engineering, Monsanto Chemical Co

Your discussion and publicity will result in great benefit, not only to the building industry, but to the general public.

Keep up the splendid work.

GEORGE A FRANK, executive vice president, Westchester (NY) HBA

I would like to request 20 copies of the Round Table on building codes.

RAYMOND HAMES, executive vice president, Lumber Dealers Research Council

Congratulations!

We are having the same problem here in Tucson, so we need 12 copies of the Round Table Report.

SAM O WITT, president, Tucson HBA

I have read with great interest your "Building Code—enforced Waste."

We in northern Nevada are about to embark on a program of building code revision and compilation and find your article an indispensable guide in our activities.

In order to awaken our membership to the up-coming program, would you please forward to us at your earliest convenience 60 reprints of the above-mentioned article?

BOB ROBERTSON, executive secretary, Northern Nevada HBA

We intend to quote from your Round Table on restrictive codes in a forthcoming issue of our magazine. If you will send me a few reprints I shall be more than glad to deliver them by hand to the most important people in the area who are concerned with the code question.

JAMES W PEARSON, executive vice president, Metropolitan Washington HBA

As a director of NABH for the past ten years I know of the pressing need for enlightened code requirements. Your magazine is doing an outstanding service through "Round Table Discussions."

A D COLE

Please send 1000 reprints.

I H YACKESS, executive vice president, Builders Assn of Metropolitan Detroit

It appears to me that the industry must do a public relations job in connection with the local press to bring the "code facts" to public notice. The local associations must also applaud the efforts of the buyer's point of view, showing that the cost comes out of the buyer's pocket. When the politician realizes that he is being blamed for the higher cost, the action will result. At the present time the local officials have no knowledge of codes.

LAWRENCE W NELSON, executive vice president, Minneapolis HBA

Our members are heartily in accord with what you are trying to do. At last we have the kind of backing and thinking to accomplish something. If you have any suggestions for "grass roots" support that we can give now, let us have it.

GEORGE R PERKINS, executive vice president, Birmingham HBA

Will you kindly furnish us with 25 reprints? We plan to distribute them to our code committee and directors.

ROBERT P FLASH, executive vice president, Columbus HBA

We are gratified at the progress that House & Home is making in connection with a program that we hope will result in a standardized home building code.

S P PARIS, executive secretary, Metropolitan Pittsburgh HBA

Would it be possible to obtain or purchase approximately 200 reprints for distribution to my Board and city officials?

EDWARD R DIXON, executive vice president, Albuquerque Board of Realtors

We would appreciate receiving 6 copies of your Round Table.

EILEEN R CARSON

We are very much interested in exploring the possibility of holding a one-day session here on "Building Codes—Enforced Waste."

IRVING H BRINTON, executive secretary, Delaware HBA

letters continued on p 74
Home building in Alaska

In its August issue (p 46) HOUSE & HOME reported on Alaska's challenge to the US housing industry. This report was based, in part, on dozens of letters from H&H subscribers in Alaska. Many more letters—all in response to an invitation from the editors—were received after the August issue went to press. Published now on this page, these letters tell a first-hand story of home building in Alaska—its problems and its opportunities.—ED.

Home building as seen by a banker

The biggest problem has been the lack of sufficient capital to finance groups of houses. It would help if we had a ready market to buy the mortgages we handle as a servicing agency.

This has been difficult since almost all of the insurance companies and mortgage houses have thought of Alaska as an icy wilderness in which no real housing could possibly exist. In fact, one eastern insurance company quipped "We prefer not to have mortgages on frozen assets." Only one insurance company has sent a man up here to look over the Territory and with true vision of what the future held, recommended approval to purchase a block of FHA guaranteed mortgages each year. Though this amount has been relatively small, it has been regular and we have been able to depend on it.

The higher cost of living and the high cost of shipping materials to Alaska has caused the FHA guaranteed mortgage to be approximately $22,000. The majority of homes built recently have been of a larger size since the families have been staying here longer and are larger. The mortgages on those homes have ranged between $27,000 and $30,000.

The chief problem of all of the builders is the great delay in getting delivery of materials to Alaska. Many eastern suppliers have treated Alaska as a foreign country and shipped through their foreign department with much additional red tape and delay—all of which increased the cost to the local builder. Now that we are a state, we have already received evidence from some suppliers that we are not a foreign unit set out somewhere on the outskirts of the country.

Better homes are now possible

I have, just this year, gone into building homes for sale on a full time basis. I intend to build about three homes this year in the $35,000 bracket. The housing market at this time is quite active, and I feel that it will continue.

In the past two or three years an increasing number of people have demanded a more livable and permanent type home, and now with Statehood, I feel that many of the present problems will be alleviated making it easier for the builder to give people more of what they desire in a home.

Home building in the "banana belt!"

We lie in what is commonly referred to as the "banana belt of Alaska." The summer temperatures range in the seventies, and the long sunny days have a full eighteen hours of daylight at this particular time of the year.

The housing picture looks very favorable. The 1953 surplus of low priced dwellings has been absorbed, and existing construction is again demanding premium prices. Since the Statehood announcement, I am planning a new subdivision with complete development, including $25,000 to $35,000 homes in an area next to the new Alaska State College. The ground was broken for this institution only last month.

Speculative land purchases have increased tremendously this year, and acreage in the outlying areas of the city is rising accordingly. The oil activity on the Kenai Peninsula thirty miles to the southwest is more responsible for the impetus in the real estate market than is the Statehood announcement.

Statehood spurs new home starts

I am one of the smaller contractors in Anchorage and my volume of business is minor compared to many...

I have just contracted to build a home for a business man who now feels safe to proceed with confidence that Statehood will tend to stabilize our economy and improve business generally.

My chief business problems are: 1) an inadequate local stock of better building products required to build good homes, 2) higher shipping costs, 3) time lost in expediting of materials during short building season, 4) finance problem at reasonable rates for residence purchasers.

Young people like Alaska

The real change will come in the very wide interest of young people in Alaska as a place to live. We expect that younger people will be flooding into our cities, and hope that we can keep up with the demand for work and housing.

Statehood will raise standards

The one great benefit that is expected to be the result of statehood is that a better control of construction outside of incorporated areas will mean better housing in general for the residents, and will greatly facilitate our work.

R A DAVENNY
Fairbanks

FHA office is very efficient

Sales for this firm should be good again this year. We hit $2,000,000 in sales in 1957... The Anchorage population jumped 50% from 1950 to 1955, and we expect Statehood to even make a larger increase.

The FHA office here is very efficient. Commitments come through in a few days and go up to $30,000. Under a special assistance program, FNMA buys all single family FHA loans at no discount.

SEWELL F FAULKNER
Jack H White Co
Real Estate & Insurance
Anchorage

Substandard homes to be replaced

There is a big job to be done in replacing and improving our many substandard houses. Furthermore, the probable increase in population indicates increasing residential construction activity.

We anticipate a healthier economic climate under Statehood and residential financing will undoubtedly share the many benefits which will accrue.

G H THOMSON, assistant cashier
Alaska National Bank of Fairbanks

Young people like Alaska

The real change will come in the very wide interest of young people in Alaska as a place to live. We expect that younger people will be flooding into our cities, and hope that we can keep up with the demand for work and housing.

EDWIN B CRITTENDEN, AIA
Anchorage

Statehood will raise standards

The one great benefit that will eventually evolve because of statehood, is that a better control of construction outside of incorporated areas will mean better housing in general for the residents, and will greatly facilitate our work.

H W GRINDIE
Chief Architect FHA
Anchorage

Many trailer homes are being used

The housing shortage in Sitka is very acute as we are going through a boom period with the construction of a $55,000,000 pulp mill. Apartments rent from $55 to $190 per month. Houses are at a premium, selling upwards to $25,000. This is a lot of money for a home, as people working here cannot afford it.

There is not as much home building going on as one would expect in a boom town; this is due to so many trailer homes coming in. Some are for rent, others are for sale on a monthly payment plan.

CLARENCE R RANDS
Sitka

letters continued on p 80
Wood-Mosaic BLOCK FLOORS give
Trouble-Free Performance

This beautiful floor is prefinished at the factory with our newly developed "Diamond Lustre" finish, making it scuff-proof, water-proof and stain resistant. Abrasive tests prove wearing qualities to be 3 to 4 times greater than ordinary "on-the-job applied finishes." Maintenance is reduced to a minimum. Made of Appalachian Oak and precision milled to 9" x 9" with tongue and groove for perfect fit. Wood-Mosaic Block is bonded under enormous pressure that exceeds normal architectural specifications. Its 3-ply construction eliminates installation headaches and assures lifetime wear. It is quickly and easily laid with adhesive over suspended concrete, concrete slabs-on-grade or wood subfloors. Ease of installation means important time saving on each job.

Wood-Mosaic
LOUISVILLE 9, KENTUCKY
WOOD-MOSAIC CORPORATION OF CANADA LTD.
WOODSTOCK, ONTARIO
Maker of the World's Finest Hardwood Floors Since 1883
Briggs ideas that help sell more homes

A unique bathroom featuring the ultramodern, wide-shelf Chaucer lavatory

Simplicity that spells personal luxury ... contemporary textures that delight ... accented by the compatible color of handsome Briggs Beautyware in such harmonizing tones as Coral, Autumn Yellow, Sea Green, Sky Blue, Pearl Gray and Sandstone. Here's a bathroom filled with translatable ideas for your homes, including the enviable luxury of Briggs new, wide-shelf lavatory—more resting space than ever for cosmetics, shaving equipment. For striking bathrooms that will make your homes "stand out" against competition, build with Briggs Beautyware—America's smartest plumbing fixtures.

BRIGGS MANUFACTURING COMPANY  •  WARREN, MICH.

NEW! This vitreous china lavatory with revolutionary new fitting arrangement, featuring spray spout, may be built in vanity or installed on cabinet or legs.
This amazing new Armstrong Ceiling soaks up noise and gives your homes today's smart new look

Makes any room comfortably quiet. The tiny openings in the attractive textured surface of Armstrong Cushiontone absorb up to 75% of the noise that strikes it. Cushiontone is easy to install—goes up fast.

How many of your prospects are satisfied with plaster ceilings? A mere 7 per cent, says a consumer survey. The discerning 93 per cent prefer modern, noise-quieting ceilings and their added decorative appeal.

No wonder more and more builders are putting up Textured Cushiontone ceilings. For Cushiontone adds a look of luxury, and its rich, three-dimensional surface absorbs up to 75% of the noise that strikes it.

Wherever your prospects look, on network TV and in magazines, they're being pre-sold on the extra value of an Armstrong ceiling.

Plan to use Armstrong Textured Cushiontone in your model house. Skilled designers at the Armstrong Bureau of Interior Decoration will show you, without charge, how to color-harmonize rooms with the ceilings.

For more information about Armstrong ceilings and the free decorating service, write to Armstrong Cork Company, 3809 Sixth Street, Lancaster, Pennsylvania.
Won't somebody please
tell the boss about

KENNATRACK

ALL-STEEL POCKET FRAMES

They install easy and fast—with low unit cost!
One man can assemble the entire unit with only 4 screws. And, smart builders know, the real cost of anything in a house is the installed cost. Easier, faster pocket door installations, plus low unit cost of all-steel, warp-proof Kennaframes, mean lower installed cost... lower building costs!

It's patented—this all-steel frame eliminates warping and binding problems and enables one man to install a pocket door in minutes! The entire assembly consists of only two steel split-jamb members and a header with removable track and hangers installed. Simple horizontal and vertical adjustment features assure easy alignment, perfect plumb and fit every time! Smooth performance guaranteed for a housetime—with Kennatrack!

Now! 3 price ranges— for any budget! (Each one loaded with Kennatrack quality features)

Send for free catalog

For quiet and for quality

KENNATRACK®

SOUND-CONDITIONED GLIDING DOOR HARDWARE

Kennatrace Corporation, Elkhart, Indiana
A subsidiary of Ekco Products Company

©1958
Hillside houses

Your June story on hillside houses was very interesting. At the rate things are building up around San Francisco, it won't be long before everything will have to be on a 45° slope.

John Lord King, AIA
San Francisco

Your article will lend a great deal of strength to our efforts to sell home builders on better handling of difficult hillside lots. The opening paragraph making the principle applicable only for houses costing $25,000 or more is out of date. Today in Baltimore the basement area is being exposed to get more habitable cubage (hillside house principle) in low cost row housing and in semi-detached brick houses selling from $12,500. There are fully improved hillside houses with five bedrooms selling for $17,500.

Charles F. Powell
Chief Land Planner, FHA

Preview House reprints

Send 20 reprints of "25 New Product Ideas in this 1959 Preview House" (June, June) for distribution to key people in our sales force.

Department of Water & Power
City of Los Angeles

... interested in 500 copies

Hartford Electric Light Co

We would like a quotation on

1,000 copies...

Puget Sound
Power & Light Co

... send 100 copies of the heat pump reprint.

Iowa Electric Light & Power Co
Cedar Rapids.

We need at least 100 copies for distribution to key personnel.

... quote prices on an extra 500-700 copies to be sent to field personnel for selective distribution to builders, architects, dealers, and others.

... There is a possibility we will make an even broader distribution so please also quote prices on

2,000-2,500 copies...

Alabama Power Co
Birmingham.

... very much like 100 copies.

Missouri Power & Light Co
Jefferson City.

... 60 copies for an internal distribution.

West Penn Power Co
Greenburg, Pa.

... like very much 50 copies.

Jersey Central Power & Light Co
Asbury Park, N.J.

... 20 or 30 reprints to send to each district and division manager in our company.

Eastern Shore Public Service Co
Salisbury, Md.

We would like 50 reprints for internal distribution and your quantity prices also.

Duke Power Co
Charlotte, N.C.

... 100 copies of the heat pump reprint.

West Texas Utilities Co
Abilene, Tex.

Please send 250 copies to us.

Dallas Power & Light Co

... 100 copies for our sales people.

Louisiana Power & Light Co
New Orleans.

6 more copies... would like to see it in the hands of a few of my close business associates.

Atlantic City Electric Co
Atlantic City, N.J.

Could we have 40 copies...

Monongahela Power Co
Fairmont, W Va.

Reprints are still available. Prices range from 10¢ per copy to $87.50 per thousand. Write for further quotations.—ed

“Now Is the Time...”

... another hat "haymaker"—

all the way from the floor!

Clyde J. Verkerke
Design & Construction
Charlottesville.

... should be read by every builder in the country. It hits the nail right on the head. Keep up the good work.

George R. Perkins
Executive Vice President
Birmingham (Ala) FHA

I am especially concerned with the trade-up program and the fact that the mass market is in the trade-up field. Perhaps lower income families should buy existing or older houses:

1) Older houses are usually served by public transportation.

2) Minimum expense is necessary to establish lawns.

3) Higher income families can better afford the transportation and other added expense of living farther from their place of employment.

J. W. Underwood
The Underwood Co
Jackson, Miss.

“How to Sell!”

Congratulations, on the May issue. It is one of the best issues of its type I have ever seen and one of which you and your whole organization should be extremely proud.

Don Morris
Barber-Columbia Co
Overdoors Div.
Rockford, Ill.

The May issue is three hours of fine reading on merchandising. Thank you for doing a splendid job for the builder in a hard selling year.

William K. McDonald, builder
Indianapolis.

continued on p 84
Finished in beautiful Fruitwood with smooth, clear-span surfaces and concealed hardware. Simplicity of design blends with the most modern of today's interiors.

Kitchen Design by Greta Lederer

**AMERICA'S MOST MAGNIFICENT KITCHEN IN RICH SEASONED HARDWOOD**

Fruitwood! Fashion's newest expression in hardwood kitchen cabinetry...stocked in 144 ready-to-arrange coordinated units that give you immediate access to infinite one-of-a-kind kitchen combinations. Here is truly the ultimate in custom kitchen luxury...rich with the warmth and beauty that natural grain wood alone possesses, characterized by the utility, quality and conveniences that are normally achieved only through costly on-the-job construction. For a fraction of ordinary time and expense, you can pattern any kitchen to any variety of tastes simply by letting the combination of pre-built units provide the i-XL custom touch.

Builder or distributor, write immediately to i-XL Sales Dept., 620 N. Michigan, Chicago for further Information.

**620 NORTH MICHIGAN AVENUE • CHICAGO 11, ILLINOIS**

Factory in Goshen, Indiana
Seven steps instead of 22! Simply cut two load-bearing struts to fit header construction you use. Nail Strutwall to adjacent studs, tilt up with wall. You eliminate two thirds of all conventional framing, installing and finishing steps. Save hours and dollars on every house you build or design.

Saves materials, costs less installed! New Strutwall eliminates two long cripples at top, requires only two 2 x 6's instead of heavier headers in multiple openings. It also saves buying, cutting, fitting these other materials — plus waste and nails. Builders report a lower installed cost over even inferior conventional windows.

"New Andersen Strutwall gives me lower total installed cost, extra sales appeal, too!"

says Knoxville builder of quality homes
Fits tighter, looks better! Because all parts of the Strutwall are precision nailed or nailed and glued at the factory, you get the strongest, tightest possible joining of window and wall. Absence of separate casing gives cleaner, trimmer lines...more glass area. Result: True Andersen window beauty at the lowest possible cost.

In just seven hours, I can construct and roof a 42' x 28' shell using new Andersen Strutwalls,” reports R. H. Smith, Jr., Knoxville, Tennessee. “That’s a saving of four man-hours over what it used to take me with conventional windows.

“What’s more,” continues Mr. Smith, “I used to frame my rough openings at the shop and haul them all the way to the site. Now I save this shop time plus materials. My men can install new Strutwalls quickly and easily right on the job.

“Instead of winding up with some ordinary, low cost double hungs in my homes, Strutwalls give me all the beauty and sales appeal of Andersen Windows—at a lower total installed cost. And their extra sales appeal helps. I sold my first house exactly one hour after the walls were up!”

For complete information on the new Andersen Strutwalls, just telephone your local Andersen Dealer—or write directly to Andersen Corporation, Bayport, Minnesota.

Windowalls are sold by established lumber dealers throughout the United States and now in Canada.
Crossett Royal Oak floors are "warm" floors. They impart an atmosphere of cozy comfort and will last the life of a home. Superior manufacture of Crossett Royal Oak Flooring assures a new home owner extra valuation which helps secure easier financing. Architects, designers, and builders know that Crossett Royal Oak floors assure basic home appeal and create buyer satisfaction. To build homes with basic sales appeals, specify Crossett Royal Oak Flooring.

Letters

HLBB indictments

I read your article "Four Sai Men Indicted as HLBB Hits Self Dealing" (Apr. News) with a great deal of interest. To keep the record straight, according to our local newspapers, after two Miami grand juries had looked over the evidence without taking any action, the US District Attorney went to Tampa and obtained the indictments there.

Although Messrs. Meyer, Abess, and Becker did resign as directors of the Miami Beach Federal Savings and Loan Assn under pressure from representatives of the Federal Home Loan Bank Board, I am still a member of the board.

To the best of my knowledge, there have been no false entries on the books of the Miami Beach Federal. All the records of this association have always been open to the Federal Home Loan Bank examiners and we have never failed to comply with any suggestion or request from them.

Miami Beach Federal has never lost a dollar on any mortgage and we have never made any mortgage which was not adequately secured...

Members of the Federal Home Loan Bank Board are indeed "ever-reticent." On January 24, 1958 they called a special meeting of the Miami Beach Federal board of directors and read a supervisory report charging us with, among other things, unsafe and unsound management and failed to leave a copy of the report with us. I wrote to John Wyman, chief supervisor, Federal Home Loan Bank Board on March 5, asking for a written copy of the charges and he has not acknowledged receipt of my letter. We were denied the opportunity to even read the charges much less defend ourselves against them.

During 1957, Miami Beach Federal was very strong financially in a $40 billion industry and I believe that our association ranked with the first ten federal s & l's in the country comparing surplus to deposits. This does not appear to me to be unsafe or unsound management.

I fail to understand how or why the "supervisory agencies" such as the HLBB have gained such power over the businessmen of our country. I further do not understand why this power has been placed in the hands of men who have had little or, in most cases, no experience in the savings and loan business and who are certainly not qualified to criticize the management of one of the oldest and largest s & l associations in the country.

It seems obvious to me that members of the HLBB have deliberately withheld information regarding their rules and regulations so that they can take "supervisory action" and gain control of successful institutions throughout the country. I strongly object to their practice of changing the rules in the middle of the game without telling the players.

W. GEORGE KENNEDY, director
Miami Beach Federal Savings and Loan Association

HAB erred in reporting Reader Kennedy had resigned as a director of Miami Beach Federal S & L. The "Jacksonville indictments" were returned by the Tampa grand jury, but covered land deals in Jacksonville Beach.

The HLBB has long conducted its public business with a secrecy reminiscent of the mind-your-own-business attitude that got FHA into so much trouble in 1954.—ED.
Next Commissioner Mason plans to

UPGRADE FHA APPRAISAL METHODS TO RECOGNIZE AND ENCOURAGE QUALITY

1954 Round Table urged this action:
Perhaps the importance of Mr. Mason’s action can best be explained by quoting briefly from the 12-page report of an industry Round Table sponsored by House & Home early in 1954: (H&H, Mar ’54).

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

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

"In its appraisal policies and thinking FHA has not kept pace with the revolution in home building which FHA itself made possible; FHA has not kept pace with the revolution in architecture which offers home building its best hope of providing better living at less cost. FHA has discouraged builders from offering quality beyond the minimum property requirements by not giving adequate credit for its added cost, FHA has blocked progress toward better design by penalizing design change and innovation in its valuations. Today the odds are loaded against quality at every step in the FHA appraisal procedure..."

"Appraisals are the one critical housing problem the President’s Advisory Committee on Housing Policy did not try to solve. But unless faults in FHA appraisals are corrected, the success of all other solutions and all other programs will remain in doubt and jeopardy."

Now that FHA has liberalized its minimum income requirements and modernized its minimum property standards, Commissioner Norman Mason is tackling the most critical and most criticized of all FHA problems—the appraisal methods by which FHA determines the valuation and thereby, in nine cases out of ten, the price of the houses it insures.

To help him in his major reform, Mr Mason has invited a committee of civic and home building industry leaders to work on the problem with him. To each member of the committee he wrote:

"The time has come, I feel, when I need to take a fresh look at how the value of homes is affected by the use of quality products, by better land planning, by construction that reduces maintenance expense, and by design factors which improve desirability. To do this I need the help of informed people like yourself.

"So I am appointing a committee of civic and home building industry leaders to re-examine our valuation policies. Our objectives are to help all Americans have better homes to live in at prices they can afford."

To serve on this committee he named:

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<tr>
<th>Name</th>
<th>Title and Position</th>
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<tr>
<td>CLIFFORD J BACKSTRAND</td>
<td>President, Armstrong Cork Co</td>
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<tr>
<td>RICHARD BOOTH</td>
<td>Past Pres., Nat’l Assn Mutual Savings Banks</td>
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<tr>
<td>WATSON BOWES</td>
<td>Past President, American Institute Real Estate Appraisers</td>
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<tr>
<td>CHLOE GIFFORD</td>
<td>President, Gen Federation of Women’s Clubs</td>
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<tr>
<td>GEORGE GOLDSTEIN</td>
<td>Past President, American Institute of Real Estate Appraisers</td>
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<tr>
<td>JOSEPH GRAZIER</td>
<td>President, American-Standard</td>
</tr>
<tr>
<td>JOSEPH HOLLINGSWORTH</td>
<td>Lumber Dealer, Lowell, Mass</td>
</tr>
<tr>
<td>EARL J MORGAN</td>
<td>Vice Chairman, Committee on Investment &amp; Mortgage Lending, US Savings &amp; Loan League</td>
</tr>
<tr>
<td>W FRANKLIN MORRISON</td>
<td>President, National League of Insured Savings Assn</td>
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<tr>
<td>WALTER C NELSON</td>
<td>President-elect, Mortgage Bankers Assn</td>
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<tr>
<td>SYLVIA PORTER</td>
<td>Syndicated Financial Columnist</td>
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<tr>
<td>PERRY PRENTICE</td>
<td>Editor &amp; Publisher, HOUSE &amp; HOME</td>
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<td>C K RIEGER</td>
<td>Vice President, General Electric</td>
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<td>NORMAN SCHLOSSMAN, AIA</td>
<td>Immediate Past Chairman Housing &amp; Mortgage Lending Policy Committee, Life Insurance Assn</td>
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continued
THE REVOLUTION IN HOME BUILDING

In announcing his decision to restudy and upgrade FHA valuation methods and procedures, Commissioner Mason told a meeting of building industrialists and mortgage lenders:

Everywhere I go I see the proof of a housing revolution. But too few people seem to be thinking in terms of this revolution. Too few people seem to understand what is actually happening.

Just as we look back on the industrial revolution of the past century and date its beginning, I believe a later generation will look back to 1934 and say FHA started the Housing Revolution of the Twentieth Century.

Looking back is all right for historians. It is not all right for businessmen.

There are facts to be dealt with now. There are plans to be laid for the future. We must lay those plans in the terms of the Housing Revolution that started 24 years ago—was interrupted by a World War—and is now bounding ahead again.

Let's look at the facts of this revolution and the part FHA is playing in it.

1. FHA created a whole new market for home ownership

People who before could expect only relatively inadequate rental housing suddenly were given the opportunity to own a home of their own.

FHA-insured mortgages brought an upsurge in home ownership by featuring low down payments, long terms, and level monthly payments that included amortization, interest, taxes, and insurance.

Before 1934 home ownership was pretty well limited to the middle-aged group who had been able to save enough to make a husky down payment of 40% and sometimes more.

The nominal down payment and moderate carrying cost broadened the whole base of potential home owners, from the young married couple just starting out to the elderly folks living on a limited pension.

2. FHA created a uniform financing vehicle

Another revolutionary aspect of housing today is the standard mortgage form—endorsed by FHA—good in the secondary mortgage market any place in the United States. That wasn't easy—it took enabling legislation in state after state to get a standard mortgage.

There is no need to tell you what this has meant in equalizing the flow of money into housing. More than any other single factor this has made mass building operations possible. There were no mass builders when FHA started. Also, there were only a handful of mortgage bankers, because they did not have a national commodity to market.

3. FHA created building standards

FHA set up standards that had to be met in home construction if the mortgage was to be insured. Perhaps this is the least known contribution FHA has made to the Housing Revolution, for unfortunately, the industry did not make the most of it the way the lenders did in merchandizing the standard amortized mortgage.

Perhaps FHA itself has not made as much of it as we should. Perhaps we should do more to tell the public about the quality of insulation, equipment, labor saving devices, air conditioning, good design, and a score of other things that make for good living.

We should tell people more about quality

We must not underestimate the technical know-how of American home owners once their interest has been aroused. Look at the hobbies Americans have that are really technical—short wave radios, tying fishing flies, woodworking, and the like. It is part of our vernacular to say a man is "a bug" about sport cars or hi-fi, but if you said a man was "a bug" about housing, the reaction would be that an exterminator was needed.

If the standards for good housing were presented so everyone could understand them, wouldn't they have a popular appeal? The consumer is not going to spend his money for quality unless he really understands why it is quality. Nobody can blame him for that.

This spring FHA made a study of last year's typical home buyer under the FHA-insured mortgage plan. We found that the typical buyer was paying less for a home than we estimated his income could easily support.

Most American families, according to FHA's study, spend a little less than a fifth of their income on housing. We in FHA believe they can afford to spend more if they want to.

As I see it this country needs a well-rounded housing program—an orderly program of full production for the industry—and good housing for all American families. A well-rounded housing program does not mean just building low cost housing with minimum standards. Neither can it mean building only quality housing regardless of cost. Nor should it be taken for granted that we can have a complete housing program just because financing is readily available.

To meet the total market potential the housing industry must consider the whole broad area of consumers' needs,
In my opinion, the time has come when we should stop talking about the $12,000 house—or the $15,000—or the $20,000 house.

We need to talk about the kind of quality housing which people in different income brackets can afford—or are willing to make sacrifices for because it promises so much in happy living. It is not meeting a market to offer home buyers something they cannot afford.

In evaluating the well rounded housing market in America today, here are some facts about incomes that should not be overlooked:

20% of urban families are 25 to 34 years old and have a median annual income of about $5,200.
24% of the urban families are 35 to 49 year's old and have a median income of $5,700.
22% are 45 to 54 years old and have a median income of $6,100.
16% are 55 to 64 years old and have a median income of $5,300.
13% are 65 and over and have a median income of $3,100.

The Housing Revolution will go on. Its course can be set by people like you—but it will move on whether you act or not. If you lead wisely and direct its course, it will have greater accomplishments than if you sit idly by and watch.

FHA has just taken four long forward steps

FHA has just revised its Minimum Property Standards. A committee of American businessmen reviewed our requirements and made suggestions. Then the FHA staff carried out their recommendations. FHA recognizes the trend in the Housing Revolution toward more lasting quality in houses. We proved we recognize it by taking action to revise our minimum property requirements. We know these standards are still minimum in character. They are the starting point. We know, too, that many builders buy quality grades well above our minimums. They do not want buyers to become discontented as they see better quality housing being constructed in an adjoining subdivision.

Right now we are making plans for another industry advisory committee to meet on Sept 24 and help us review our valuation concepts in the light of increased desirability, land planning, quality products, and construction that reduces maintenance expenses.

FHA is also trying to smooth the way for trade-in financing

We have made a start. The industry needs floor financing for old houses along lines similar to used car financing. We need mobility. We need freedom to transfer title without excessive taxation and excessive expenses.

What is industry doing to exert its leadership in the Housing Revolution? What role can we expect you manufacturers to play?

Can we count on your developing the second-time buyer market as well as new shelter housing? Will you accept the principle that the way to sell new houses to millions of present home-owning families is exactly the same way that other industries sell their product to adequately transported car owners, adequately covered chemise wearers, adequately amused entertainment seekers; that is, to say, will you offer them something so much better and more desirable that they won't rest until they have upgraded themselves?

The average family just couldn't care less about the studying and plates, the concrete mix and mortar, the know-how and products that go into a house, any more than they care about the mechanics of air-cooled brakes, the technical difficulties of bending glass windshields, the formulation of enamel in their cars. For brakes, read SAFETY; for bent glass, read SWEEPING VISION; for enamel, read a RAINBOW of COLORS. Will you help your industry to develop "LIGHT and BRIGHT" as a synonym for windows; "UPKEEP GOES DOWN" to mean low-maintenance materials; "LIVING COMFORTABLY" to be associated with insulation, ventilation, air-conditioning; and "HOUSE POWER" as equivalent to adequate electrical capacity?

We all have plenty of realities; now we must seek vision

Can we assume that singly, or jointly, there will be carried out the kind of research, in new materials and new applications, to guaranty that the materials and products that go into tomorrow's house will be better and/or lower in cost than those on the market today? FHA is conducting a modest research program, but we think you in industry should actually be carrying it out instead of us. We have great trouble getting industry to even set standards for basic building materials.

Do you think in terms of new and simpler ways to incorporate your products into a house when you are planning their design and fabrication?

Do you think of how the sale of your product can best be financed by the home buyer? Have you considered the advantages to consumers of your product of a wider use of FHA insured financing? What it could mean in broader markets and better standards of quality and durability?

What are you doing to give the people who assemble your products into a house something that is above minimum standards—something that will make the customer's eyes sparkle and his hand reach out to sign a contract? If you know anything about the builders who assemble your materials—and you should—you know they are demanding items like this. That's what the American home buyer wants in the house he is going to buy.

And finally, will you give this industry the leadership that you have in such abundance. Will you provide the stability and responsibility that the manufacturers and lenders and other basic industries have long ago assumed as a duty.

The Housing Revolution moves on. Are you a part of it, or don't you care about the future of America?
FORECAST FOR '59 HOME BUILDING:
by Miles L Colean
Home Building's No. 1 Economist

The buyers are ready
The money is ready
It looks like the best year since '55

The graph at upper right tells it all: the downswing is off, the upswing is on; this year is turning out to be a good year for home building (see details p 84a); next year will be even better.

In 1959 private nonfarm starts should reach 1,155,000—about 83,000 more than this year. A probable 60,000 government-built units will hike the total to 1,215,000—some 181,000 short of 1951's postwar high and 113,000 short of 1955.

Of new private units, 970,000 will be single family houses. The balance: 35,000 units in two-family houses, 150,000 in apartments (buildings for three or more families).

Next year's dollar volume of new residential construction should hit about $14.6 billion—$13.75 billion for private building and $825 million for public.

Next year looks good on two major counts:
1. You can expect a comfortable supply of mortgage money (for the reasons why, see facing page).
2. You will be operating in what should be a favorable economic climate for home building. Incomes will be up. The recession will have run its course. The probable mood: optimistic—but not recklessly so.

At least five big current trends will carry into '59:
You can expect 1) a greater proportion of merchant built houses, 2) a slightly lower average price per unit, 3) more private apartment buildings, 4) more single-family houses in the public housing programs, and 5) more prefabs (see p 84f for the trends in detail).

What's more, prospects are also good for the long pull.
In the next three or four years, steady growth—but no boom—is likely. More families will be earning enough to buy new homes, and there should be no problem of surplus housing (see p 84g for what's ahead in the 1960s).
NONFARM HOUSING STARTS WILL KEEP RISING in 1959, and probably top this year by about 7%. Expected '59 total: 1,215,000 units, of which 1,155,000 will be private starts. Dollar volume will climb to around $14.6 billion. '46-'57 data: Bureau of Labor Statistics and US Depts of Labor and Commerce. '58 and '59 estimates for all graphs in this forecast are by M L Coale.

Here is why there should be enough money in 1959

The way it looks now, there should not be enough competition from other borrowers to make home loans—especially FHA mortgages—less attractive to lenders like banks, pension funds, and insurance companies.

Also, savings institutions—particularly S&Ls—are expanding their assets, should thus offer a healthy supply of funds for conventional mortgages.

FHA financing should cover roughly 275,000 single-family starts—55,000 more than this year and almost 119,000 more than in '57. That forecast is based on the assumption that the government will be wise enough to do two things: 1) not lower current FHA interest rates; 2) raise them whenever necessary to let home building compete for funds with other borrowers.

Right now FHA's ceiling is barely high enough to meet non-housing competition. This competition is not likely to slacken in '59, and there's a possibility it will increase in the second half of the year.

What about VA mortgages? They don't look like the big factor they once were—in '59 they probably won't account for more than 110,000 units. Their interest rate is low (4.4% ). They are still subject to heavy discounts in most parts of the country except where directly or indirectly financed by the government. But there is, of course, always a chance that Congress may sometime in 1959 pass legislation that will revive the important part VA once played in the mortgage market.

BIGGEST BOOST IN PRIVATE SINGLE-FAMILY STARTS will be in FHA-financed houses. But most of next year's financing will still be conventional. '46-'57 data: FHA, VA, Bureau of Labor Statistics.
Here are five important trends for 1959

Trend No. 1: merchant builders will get a larger share of the single-family house market

At least 80% of all professionally built, single-family houses will be merchant-built. At the same time, the number of custom-built houses by contractors and owners (acting as their own contractors) should be the same or a bit higher than in '57 and '58.

Why the swing back in favor of merchant builders? Simply because of the revival of VA and FHA activity. Merchant builders’ share of the total dropped in '56 and '57 because they were hard hit by the diversion of funds from insured and guaranteed mortgages.

Trend No. 2: private apartment building will keep up its comeback, should near its postwar peak

Next year’s total should hit 150,000 units—only about 10,000 short of the peak years ('49 and '50) under FHA’s Second 608. But there will be one big difference from '50: the roles of conventional and insured financing will be reversed—FHA was responsible for 71% of 1950 units, will do well to cover 15% in '59.

Here’s why apartment financing under FHA has taken a back seat: 1) FHA’s current statute, unlike 608, sets tight requirements for cost certification; 2) FHA’s interest rate is too low to attract funds for apartments; 3) much of today’s demand is for luxury apartments which may readily be financed conventionally.

Trend No. 3: the average price per housing unit will be slightly lower than this year

Despite rising costs, two factors will hold down the average price: 1) increased private apartment building—most apartment units are smaller and cost less than a house; 2) the widespread view among builders that people want more low priced houses.

But don’t expect this downtrend in the average price (it started in '58) to last. If a 24% fail in home building in two years ('55 to '57) can’t produce a real cost cut, it's doubtful that a two-year rise of the same size will do so. What’s more, there’s no proof that the public wants a stripped-down model. Builders, like automakers, have probably tended to over-gadget their products. But you can be pretty sure the public will demand as much comfort and quality as it can afford.

Up through '57, average price rose steadily because of 1) rising costs (particularly labor; 2) greater average size per unit, and 3) improving quality. Too, the '56-57 slump pinched hardest in the lower price bracket. This year the upward price trend was reversed by the spurt in merchant building and the weight of apartment building. But although materials prices have eased off slightly, overall costs have resisted recession—and actually climbed a fraction of a percent.

Trend No. 4: public housing will continue its swing to single-family dwellings

Roughly two-thirds of government-built housing will be for military personnel (mainly financed through FHA’s Title VIII). And the bulk of it will be made up of single-family dwellings. Already in '57 and this year, no more than one-third of public housing was in buildings of more than three units, and there were only a few two-family structures.

Military housing is pacing the trend to single-family dwellings. But some local housing authorities have also been experimenting with them.

Next year’s public housing volume will come to about 60,000 units. That’s 5,000 less than this year and reverses the sharp upswing that started in '57 and continued in '58.

Trend No. 5: home manufacturers will keep moving ahead, should mark up another good year

Prefabbers did surprisingly well during the recession. Despite serious financing problems, they shipped 94,000 units in '57, now count on boosting that total to 105,000 this year. Next year they should do still better. About 5% of prefab production is for government housing, mostly military.
Here is why business should stay good into the 1960s

You can look for steady business growth in the next three or four years. But don't expect it to be spectacular.

Why no boom? Because the net increase in families will be relatively small—around 900,000 a year. And the rate of increase will actually fall until a substantial pickup starts about 1964.

Biggest source of sales: more and more families will be able to afford a new house

These 1956 figures (latest available) from the Commerce Department tell the story:

- From '53 through '56, an average of 1,010,000 nonfarm families a year reached the $5,000-and-over income group. It takes a $5,000 income to buy a $12,000 to $18,000 house.
- In the same period, an average of 300,000 a year climbed into the $7,500-and-over bracket. A family with a $7,500 income can swing a house costing about $20,000.
- By the end of '56, 61% of nonfarm families had incomes over $5,000, and 28% had incomes over $7,500.

Did this rate of income growth keep up in '57 and the first half of '58? Probably not. But it is resuming now and should be in full force next year.

Another source of sales: home building has no problem of excess inventory

Even after two years of recession, vacancies have increased only slightly. This means the new expansion will begin in the kind of clean market other industries must envy.

Will the clean market stay that way? It looks like it. Here's why:

Every year from '50 through '56 about 475,000 dwelling units were removed from the market by disaster, demolition, abandonment, and change to other uses. Yet in those years the urban renewal program—one of two big causes of demolitions—was just getting under way. And the highway program—the other big cause—had hardly started. To keep both programs on schedule, total demolitions and withdrawals will have to hit 500,000 a year.

So a vacancy problem is not likely. Fact is, the problem may be to build enough homes to avoid delays in urban renewal and highway construction.

It all boils down to this: higher family incomes, a high rate of demolitions, and a low vacancy rate should offset the relatively low rate of family formations. Result:

There should be a steady market for 1.2 million—and possibly 1.3 million—units a year

But if this market is to be fully tapped:

1. The flow of mortgage credit must stay free of violent interruptions.
2. Builders must work to cut costs. Every cost increase limits sales. The public is able but not eager. It appreciates quality and understands a bargain.
3. Builders must sell vigorously. You are competing with every other producer of consumer goods. Your competition has been painfully learning the importance of selling. Unless you do the same, your product won't get what it should have—top priority in every consumer's desires.

continued
**Home building forecast continued**

### Here is what you can expect the rest of this year

Home building will wind up 1958 well ahead of 1957.

On a seasonally adjusted basis, every month starting with March tops the preceding month (graph below is not seasonally adjusted). And every month since April has been better than the same month last year.

You can expect a final total of 1,070,000 private starts—77,000 more than last year. That total will break down into 890,000 single-family houses, 35,000 units in two-family houses, and 135,000 in apartments.

The '58 upturn in building shows:
1. The housing market's underlying vigor in the face of recession.
2. The home building industry's resiliency in its response to favorable credit conditions.

As *House & Home* said a year ago:
1. Demand was stronger than current output indicated.
2. The '56-'57 fall-off was due, not to over-building, but to interest rate ceilings that put VA and FHA mortgages out of competition in a booming investment period.

You can count on especially big gains this year by two types of home construction—private apartments and government-built housing.

Apartments will jump 13% over last year compared with only 6% for single-family houses. This will be apartment building's second strong year following the slump caused by the cut-off of FHA's Section 608.

The end of 608 dropped apartment units from 159,200 in 1950 to 87,500 in '51. Volume sagged further to 83,500 in '52, rose to 94,000 in '53, sagged again to a post-608 low of 82,300 in '56. Then came the upturn. In 1957 apartment units shot up 45%—to 119,500—despite the decline in single-family construction.

Public housing will be up 33% over last year. Expected total: 65,000 units or 6% of all '58 housing. The big push stems mainly from the Capehart housing program. At least 60% of government-built units will be for military housing. The rest will be built by the federal government (in national parks and forests, for instance) and by state and local housing authorities with or without federal subsidy. Dollar volume of this year's public housing should run around $800 million.

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**PRIVATE SINGLE-FAMILY STARTS IN '58 WILL TOP '57** by more than 67,000 units. Month-by-month comparison shows how this year's starts, spurred by ample supply of mortgage money and easier terms, pulled ahead of last year in April and built up wide lead by July. Economist Coleman sees 1958 holding solid monthly edge for rest of year. Data for '57 through July '58: Bureau of Labor Statistics. /END
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92  To get you the best advice we asked the experts

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106  Plan to save time & money moving materials

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BUILD MORE VALUE INTO YOUR HOUSE
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140  Plan your houses to fit their sites
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If you still build like this, you will soon go broke—so...
This issue of HOUSE & HOME was developed in collaboration with the Research Institute of NAHB of which Builder Andrew Place is chairman and Ralph Johnson is research director. It was written in collaboration with Home Building's No. 1 construction expert, Dr James T Lendrum.

this issue is all about

How to plan and design and detail to build more and better for less

It is dedicated to the Architects of America

to update them on all the new economies and efficiencies of today's production house, to help them collaborate more knowingly with the builders and play a bigger part in providing better homes for millions of Americans, to help them serve the great and growing new market for their professional skills and talents in the $12 billion a year business of building houses for sale.

to the Builders of America

to help them cut their costs at least $1,000 a house by helping them share the savings other builders and their architects are working out, to help them squeeze every possible waste out and so put more quality and more sales appeal in, to help them price their product back into the market and so sell many more better homes.

to the Building Suppliers and Dealers of America

to give them a better understanding of the revolution that is fast changing home building into an assembly line industry, to give them a clearer picture of their best customers' methods and needs, and so help them sell more of the parts and sub-assemblies their customers want in the sizes they can use most efficiently.

to the Realtors of America

to help them sell more good new houses by giving them a better understanding of the values they have to sell and a better appreciation of how much better homes efficient builders build now than they built in "the good old days".

to the Appraisers and Lenders of America

to help them invest their money where long term value is best, to help them recognize waste and discourage it, to help them play a more dynamic part in raising the standard of housing by backing the builders who use today's best new methods to build better for less.

to the Home Buyers of America

to help them enjoy a better life by helping them get better homes to live in at prices more of them can afford to pay.
To get you this advice, we asked the experts—architects, builders and research men like...

Architect
RUFUS NIMS
See pp 123, 131

Builder
BOB FOX
See p 98

Builder
ERNIE ZERBLE
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Architect
ROYAL BARRY WILLS
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Architect
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Builder
EARL SMITH
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Builder
THEODORE PRATT
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Builder
AL BRANDEN
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Builder
W. W. HOLDEN
See pp 125, 136

Builder
THEODORE PRATT
See p 100

Builder
PHILIP WELL
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Builder
ED FISCHER
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Researcher
HARVEY FURGATH
See p 98

Researcher
DAN PALMER
See p 123

Researcher
B. GEORGE, SERN
See p 118

Builder
BOB SCHLEICHER
See p 135

Researcher
MORGAN YOST
See pp 111, 148C

Builder
ROB SCHLEICHER
See p 133

Researcher
RUDOLPH MATERN
See pp 138, 139

Builder
BOB SCHLEICHER
See p 135

Researcher
GLEN SHIELDS
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Builder
TOM LIFELY
See p 132

Researcher
BILL SCHUCK
See p 111

Researcher
LEN HAGER
See pp 118, 133

Builder
IKE JACOB
See p 96

Researcher
BYRON RADCLIFFE
See p 116

Researcher
GLEN SHIELDS
See p 147

Researcher
TOM LIFELY
See p 132

Researcher
BILL SCHUCK
See p 111

Electrician
CHARLES P. RUBE
See p 148D

Builder
ERNIE ZERBLE
See p 98

Builder
TOM LIFELY
See p 132

Builder
BILL UNDERWOOD
See pp 98, 99

Builder
ED FISCHER
See pp 126, 133, 136

Researcher
RUDARD JONES
See pp 102, 110

Researcher
BILL SCHEICK
See p 111

Researcher
GLEN SHIELDS
See p 147

Researcher
TOM LIFELY
See p 132

Researcher
BILL SCHUCK
See p 111
Design for sales begins with design for savings

“The best way to sell more houses is to offer more people more of the things most people want at a price more people can afford to pay.

“Most buyers want more of everything—more space, more storage, more baths, more appliances, more comfort, more warmth and color, more enjoyment of their land.

“The only way we can sell them all these things they want is to waste less money on things they do not want—things that add neither value nor quality nor comfort to their homes: in brief, to build better for less.”

John Dickerman, executive director
National Association of Home Builders
Like the gears of any smooth-running machine
Design and details for savings

must be all-of-a-piece design

It must mesh with your method of building. It must mesh with your method of buying. It must mesh with your labor and your scheduling. It must mesh to cut all your costs together—indirect costs and direct costs, labor costs, and material costs.

"Today's successful builder must know his costs backwards and forward and see all those costs, not as separate items, but as part of a finished whole," says Nels Severin, President of NAHB. That means, among other things:

He must know time means money and figure its cost in pennies. See page 96.
He must know the high cost of buying parts cheap if they do not fit. See page 100.
He must balance each direct saving against its possible indirect cost.
He must see every dollar spent as a way to save money somewhere else. He must balance each dollar saved against its possible cost somewhere else. For example:
He must know that what he does about basements or no basements can cut his first floor costs or double them. See page 132.
He must know that how he frames his roof will affect the cost of almost everything else. See page 114.

Details that cut costs for carpentry may add costs for plumbing or wiring. Details that save pennies for tilt-up may waste dollars with panels. Details that cost least for one-at-a-time may cost most for production building—and vice versa.

Too few fine custom-house architects understand this tight integration of time and money in the merchant builder's operation; too few understand his all-of-a-piece economies and his all-of-a-piece economics.

That's why big Builder Fritz Burns retained a young architect full time for six weeks just to stand around watching his construction crews work before the architect went to his drafting board to design homes for those crews to assemble. That's one big reason why Architect Royal Barry Wills told the AIA convention: "Most architects are quite unequipped even to consider this field." That's one big reason why NAHB Vice-President Martin Bartling says: "Ready-built home building takes a completely different design approach."

That's why all the advice from smart architects, builders, and engineers on the next 60 pages will focus on all-of-a-piece design—beginning with . . .
Fast Builder Powell gets off to a fast start—his four-man framing crew uses panels and trusses

Advice No. 1

Design to save time...

and you will save money, too

“The longer you take to build, the more it will cost you.” So says Clayton Powell of Savannah, “America’s fastest builder,” who turns bare slabs into finished houses on a regular schedule of 14 working days. “A fast schedule will save money for any builder, whether he builds 10, 20, or 100 houses a year.”

From coast to coast the fastest builders seem to get the lowest costs. In Phoenix, John Long’s schedule from finished slab is 35 days; in South Bend, Andy Place’s is 25 days; in Houston, Micky Norman’s is 17 days. In Dallas, Fox & Jacobs cut their schedule from 28 days to 18 days after they went to Savannah to study Powell’s savings. In Berea, Ohio, Bob Schmitt builds in 28 days from bare ground to move-in, even one-at-a-time houses. Bill Levitt is an outstanding exception: he takes as much as three months to finish a house.

No builder can build fast unless his architect picks every detail with speed and scheduling in mind. No builder can build fast unless he details his components to fit and brings his components to the site ready for fast erection with minimum crossing of trades.

Here are some of the ways Powell saves:

1. He saves on supervision. Building 80 houses a year, he never has more than four houses building at once, so one supervisor can easily keep on top of everything, prevent errors, and anticipate problems that would otherwise boost costs.

2. He saves on labor. Each trade is called back as seldom as possible. Each man has a regular assignment that keeps him busy full time. Everything fits, so it goes together in less manhours.

3. He saves on construction financing.

4. He ties up less capital.
to close in a house by the end of the first day. After that each day has a close schedule planned

11:30 AM Roof trusses are set on walls

2nd day: Carpenters move into house to build partitions. Four-man crew (two carpenters, two helpers) assembles prefabricated lumber—works smoothly in one big room created under roof trusses. Powell uses panels between house and attached garage but prefers pre-cut studs for other partitions.

2:30 PM Sheathing is nailed to trusses

3rd day: Electrician works inside (light area) while two carpenters and plumber are busy outside. Electrician wires house. Carpenters install prebuilt soffits and cornices. Plumber puts vent stack through roof. Three different trades are separated, do not interfere with each other.

4th day: While two carpenters continue outside jobs, heating contractor takes over inside (light area)—installs heat duct in furred-down area over bedroom corridor. Carpenters build forms for porch, walk and driveway. Powell schedules work to keep all men busy all the time.

5th day: Electrical inspector checks wiring inside house (light area) while two brick masons and two laborers work outside. Masons start to veneer house while laborers grade between forms for walks and driveways. Electrical inspector knows Powell follows tight schedule, always arrives on dot.

6th day: Four-man dry-wall crew starts work inside (light area) while two carpenters and two helpers work outside. Masons start to veneer house while laborers grade between forms for walks and driveways. Electrician wires house. Carpenters install prebuilt soffits and cornices. Plumber puts vent stack through roof. Three different trades are separated, do not interfere with each other.

7th day: Two dry-wall men continue work inside (light area) while two-man concrete-finishing crew begin work outside. Dry-wall crew starts taping joints. If all gypsum has not been hung, two more dry-wall men come in to finish job. Concrete finishers pour and smooth drive and walk.

8th day: Two dry-wall men are joined inside by tile setters. Dry-wall crew has finished bathroom, floor and door tile. Powell uses mastic instead of mortar to set tiles—says: "It's neater and faster, and joints don't crack if walls are straight and you use a good grout."

9th day: Two dry-wall men and two skilled carpenters work inside; two more carpenters work outside. Inside carpenters do not conflict with dry-wall crew but follow it through house—applying trim around windows and installing prehung doors. Outside carpenters hang garage door.

10th day: Two dry-wall men, two carpenters, heating contractor and plumber work inside without confusion. Dry-wall crew sands joints. Carpenters hang prefinished kitchen cabinets and install heat vents. Heating contractor installs furnace. Plumber installs fixtures.

11th day: Decorator, painter and electrician work inside. Painting time is cut down because painting and cabinets are prefinished and acoustic tile is often used on ceilings (this also saves day of dry-wall crew's time). Electrician hangs light fixtures and hooks up built-in appliances.

12th day: Painter and decorator work inside—have house to themselves and don't have to work around anyone. Powell, who hopes to cut his present 14-day schedule to 10 days, says: "An economical and satisfactory finished wall is the building industry's most important single need."

13th day: Flooring contractor works inside; two painters and two laborers work outside. Inside carpenters install base moldings and folding doors on closets. Outside carpenter hangs screens. Laborers wash windows, floors and sinks and burn debris to ready house for buyer.

14th day: Two carpenters and one laborer work inside; third carpenter and second laborer work outside. Inside carpenters install base moldings and folding doors on closets. Outside carpenter hangs screens. Laborers wash windows, floors and sinks and burn debris to ready house for buyer.

Three scheduling tips by Powell

1. Schedule everything. Don't start a house until you've listed all the materials that go into it and around it—from bricks to bathroom fixtures, from appliances to plants.

2. Be realistic. Make sure you really know how long it takes to do a job. If you ask the impossible, you'll only irk your workmen and subcontractors.

3. If a house falls behind, treat it as a "stepchild." It's easier to reschedule it than to try to force it back onto the original schedule. But be sure to find out why it's off schedule and correct the error. Example: fire a subcontractor who fails to perform as promised.

SEPTEMBER 1958
Advice No. 2

Don’t waste field labor wages making anything you can buy right

Anything and everything can be made better and cheaper in a shop than it can be made on the building site; most things can be made better and cheaper in a factory than they can be made in a shop.

If you find you can make your components in the field cheaper than you can buy them shop-fabricated, don’t get smug about your production economy. Get busy and find out what’s wrong with your buying and who is taking too long a mark-up on your order.

If your local dealer is not set up to meet your needs efficiently and economically, shop around for another dealer. Builder Bob Schmitt of Berea builds two miles from the Cleveland city line, but he buys his trusses and wall panels from a lumber dealer in Mansfield, 38 miles away.

Successful architects and builders all know that hand labor on the site can seldom compete with machines and jigs and assembly lines.

Especially small builders

The hand labor craftsmanship that gave distinction to many houses custom-built in earlier times has almost disappeared, because so few people today can afford to pay for it at today’s wages. Judges in the AIA-LIFE-HOUSE & HOME design competition deplored the poor quality of the site-labor products in this year’s entries, but they were unanimous in praising the precision and fine quality of the factory products used.

Many smart builders like Clayton Powell of Savannah, Micky Norman of Houston and Bill Underwood of Jackson, Miss, now prefer to be known as “home assemblers.” Just about the only builders who still stick to on-site fabrication are self-employed carpenters who would rather keep busy doing the work themselves than pay a factory to do it for them. If they really knew their costs many of these self-employed carpenters would find they are throwing in their own time for less than $2 an hour. So . . .
Buy your cabinets

This is not quite such a clear case, because shipping factory-made cabinets involves shipping a lot of air. But Bill Levitt in New Jersey finds he can buy better cabinets cheaper from Pittsburgh, and Bill Underwood in Alabama finds he can get better cabinets cheaper from Salem, Ohio.

Factory-made cabinets are almost always better, because factory finishes can be better controlled and factory tolerances are almost always more exact, so their doors and drawers fit better and work easier. Also, factory-made cabinets are usually better planned with good special features like metal bread drawers that few locally fabricated cabinets offer.

Some builders like Andy Place buy only the cabinet fronts, letting the drywall behind do double duty as cabinet back and just nail their shelves to the studs. This is cheaper, but not necessarily as good. The drywall will not take as much beating as a steel, wood, or composition board back, and home-made shelves are more apt to warp.

Buy your trusses

Buy whatever type of truss you can buy cheapest in your area—glue-nailed, grip plate, split ring, gang nailed, or all-nailed (if the all-nailed truss takes advantage of the added strength of threaded nails). All are good.

Few builders have anywhere near enough truss volume to keep a truss jig busy or to develop an efficient truss-assembly crew. Few builders have enough volume to justify buying their own grip plate press or maintain controlled temperature while glue-nailed trusses set. A lumber dealer can make trusses so fast on a jig that he can pay half his assembly labor cost out of what he can save buying short lengths from the mill for the web members.

Buy your wall panels

Your lumber dealer can save more than the cost of making them for you by buying the lumber pre-cut to short lengths (4' and 7'6'') $20 to $30 mbf cheaper.

Buy package fireplaces

Says Builder Andy Place: "I can buy and install a package fireplace and flue complete with marble surround for $350 that would cost me $700 to lay up with local labor. It looks just like any good conventionally built fireplace, and it needs no special foundation. (We also use a package chimney for our furnace and water heater even in the most expensive models.)"

Buy your doors pre-hung with the hardware installed

It takes a good carpenter at least an hour and often two or three hours to hang a door and drill and set the hardware. That will cost you $5 to $15 extra for direct labor if you pay your carpenter $3.30 per hour and figure hopefully that two-thirds of his time is productive. You can buy the same door pre-hung with all the hardware set for less than $5 extra—with a further saving on faster construction and more dependable scheduling.

Some door manufacturers like Ready Hung Door ship pre-hung from the factory; others like Curtis and Carr, Adams & Collier ask their jobbers or local warehouses to pre-hang their doors locally to save freight.

Buy your gable ends

They are the most expensive part of the exterior wall to build in place. Whoever makes your trusses can make them in the same jig (using nothing heavier than 2x4 members). Have him apply the sheathing and siding too.

Buy your windows pre-glazed

Fifteen years ago this was a hot question, but now everyone realizes that doing anything else wastes so much time that no sensible architect or builder would dream of assembling windows at the site.

Buy your closet fronts complete

See page 128.
Plan on a 4' module

to fit the parts you buy

Many builders waste half the money they try to save building with parts instead of pieces. They waste either by buying parts that are not dimensioned to fit together without costly on-site piecing; or else they dimension the house so the parts they buy won't fit its rooms.

For example, many builders dimension their rooms to fit the dimension lumber of their floor and ceiling joists so the rooms end up 11' 4" or 13' 4"—a dimension that will not work with anything else they buy. Seven years ago the NAHB asked the lumber manufacturers to coordinate lumber lengths to fit the other components, but so far the lumber manufacturers have taken no such action. Fortunately this is much less important now, for slabs and trusses do away with joists completely.

Almost all other components can be bought in sizes that will work with the 4' x 8' module. This module fits either the 16" or 24" rhythm of stud spacing; so does bat insulation. You can buy all kinds of sheathing and some kinds of siding (plywood, hardwood, sheet asbestos) to fit 4' x 8' exactly. Wall panels like LuReCo come in 4' widths; trusses are easiest to buy in spans that are even 2' modules. Now at last you can buy windows to fit the stud rhythm, and one enterprising window maker offers structural windows 4' wide incorporating a 1x4 stud on either side.

Inside the house floor-to-ceiling closet fronts can be bought in 2' modules; most storage walls come 2' x 4'; most kitchen cabinet and appliance widths conform to the 2' module and the 1' half module jointly recommended by NEMA and NAHB: acoustical ceilings come in 1' and 2' squares; and roll floor covering is made in even yard widths (mostly 12'). Outside the bathroom almost the only components that still do not fit an even-foot module (usually a 4' module) are doors and tiles.

The bathroom is still a special case because 2' is too narrow a wall space to allow for a fixture and 3' is too wide, so bathrooms are standardizing on a 32" module instead. Across the bath two 32" modules allow 60" for the standard tub plus 4' to make the wet wall thicker.
So if you want the full saving of building with parts instead of pieces, buy all your parts in sizes coordinated with the 4’ module and ask your architect to plan on the same module.

That means, among other things:

- Make the walls 8’ high, with a flat ceiling height of 8’ plus a tolerance.
- Buy your studs precut to 7’ 4” (for panels) or 7’ 6” (for tilt-up).
- Dimension the house itself on a 4’ module inside measurement. Dimension as many rooms as possible (except the bath) on a 4’ module and its even-foot fraction (biggest saving will come from hiding half your drywall joints behind partitions—see page 100).
- Determine your roof overhang to take your roof sheathing with cutting (but never less than 2’ with a low pitched roof).
- And then build to much closer tolerances. With tilt-up or panelised walls there is no reason for not trying to match the ¼” in 40’ tolerance to which the prefabricators work.

Don’t waste on cabinet sizes:
Framing a too small medicine cabinet into wet walls (usually non-bearing) costs almost enough extra to buy a big enough medicine cabinet. The easiest (thus the most economical) size to frame would just fit between studs 32” on center, with a 32” wide mirror. Height should be 24”.

Don’t waste flooring:
Too often builders size rooms to use the full length of 12’ or 14’ joists. That gives them an odd dimension of 11’ 4” or 13’ 4” that won’t fit carpets or any other component. Maximum economy with better floor coverings comes when one dimension is 12’; second best size is 9’.

Don’t waste drywall:
If your ceiling is more than 8’ high you must stretch 8’ drywall with an extra slice or cut a piece off 10’ drywall. If your room is 13’ 4” wide your 12’ drywall will need a 16” insert at one end. You get maximum drywall savings if you dimension your room to fit the drywall.
Plan bigger if you want to build cheaper

Everybody wants more space. From coast to coast the best sellers are houses that offer more space for the money.

Space is the cheapest thing you can add to a house. Builder Bob Schmitt of Berea adds space for only $3.37 per sq ft including 25% for overhead and profit (see next page).

So don't rob Peter to pay Paul

Don't sacrifice the space people want in order to save money for the labor-saving appliances they want.

Space is a bargain, and so are appliances: they cost much less to install while the house is being built, and FHA lets you sell a whole new $14,000 house complete with all the appliances for only a little bigger down payment and only a little bigger monthly payment than the appliances alone would cost a home owner to add to an existing house on short term credit.

So double the sales appeal of your house by offering a bargain in better space plus a bargain in appliances.

Under FHA's new credit directive, your prospects need no more income to buy the house fully equipped than they need to buy the space alone. FHA Commissioner Norman Mason believes home buyers should be able to buy the house complete.

Here are the words of his directive:

"No otherwise acceptable credit application for a house costing over $12,000 should be turned down just because of the inclusion of a complete kitchen. Long experience has shown that where appliances are not included in the house and financed through the mortgage the home buyer is likely to go right out and buy them on short term credit at a much higher monthly payment. So actually he is a better credit risk if appliances are sold as part of the house despite the fact that this requires slightly higher monthly payments on the mortgage."

That directive is the most important advance in FHA policy since 1937; not enough builders take advantage of it.

The smaller the house the more it costs per sq ft

So says Rudard Jones, director of the Small Homes Council. "That's one big reason why builders find it so hard to build good new houses for low income families. Making the house smaller takes value and comfort out of the house faster than it can take dollars out of the price.

"All your costs per sq ft come down as the floor area goes up—the perimeter wall cost, the foundation wall cost, the door and
window cost, the partition cost, the wiring cost, the plumbing cost. Even the slab and the roof costs come down, for once the concrete mixer is there it doesn't take much longer to pour a bigger slab, and once the roofers are up on the roof it won't take them much longer to lay a bigger roof."

For example:

When you double the size of an 8' x 12' room to 12' x 16', you add only 40% to its perimeter and you add much less than 40% to its perimeter costs, because you don't have to add any more corners (which are expensive), or any more doors (which cost much more than blank wall), or any more window openings (you just make the same window opening bigger).

Says the Small Homes Council: "Good livability requires at least 170 sq ft for the master bedroom.

And when you more than double the size of a small house by making it 32' x 40' instead of 24' x 28', thereby adding 688 sq ft to the original 672, here is how your costs per sq ft come down:

1. Doubling the house adds only 42% to the perimeter, only 42% to the foundation wall, only 41% to the gutter, and probably less than 40% to the interior partitions.
2. Doubling the house adds only three or four more doors, only two or three more window openings.
3. Doubling the house should add less than 50% to the heating cost, because heat loss and duct cost vary mostly with perimeter and because a bigger furnace costs less per Btu to install.
4. Doubling the house should add much less than 50% to the wiring bill even if the number of outlets is doubled, because the runs would be shorter and any-

Adding depth costs less than adding length

Here are Builder Bob Schmitt's comparative costs for making a 28' x 40' house 4' deep or 4' longer. Including 25% for overhead and profit, it costs him $3.37 per sq ft to make the house 4' deeper; $4.22 a sq ft to make it 4' longer.

Either way he figures his floor, ceiling, and roof costs at the same $1.67 a sq ft—22¢ for roofing, paper, and sheathing, 17¢ for ceiling drywall, 67¢ for the slab, 22¢ for the flooring, 5¢ for ceiling insulation, plus 25% for overhead and profit.

Either way he estimates the same 40¢ a sq ft for partitions, wiring, heating, etc.

Either way he adds 8' of perimeter, but perimeter along the eaves costs more per foot for overhang and spouting—$25.44 vs $19.05. So making the house 4' longer adds 112 sq ft for an added perimeter cost of $203.90, which is $1.73 a sq ft; making the house 4' deeper adds 160 sq ft for an added perimeter cost of $152.40, which is only 95¢ a sq ft.

Making the house longer takes two more 28' trusses at an added erected cost of $48; making the house deeper takes the same number of trusses, but the trusses and gable ends are all 4' longer and cost $56.43 more. So the truss and gable ends cost 35¢ a sq ft for the 160 sq ft added by making the house deeper; they cost 42¢ a sq ft for the 112 sq ft added by making the house deeper.

Here is the comparison in brief:

<table>
<thead>
<tr>
<th>Longer</th>
<th>Deeper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct costs of more floor, ceiling, roof</td>
<td>$1.67</td>
</tr>
<tr>
<td>Share of added wiring, heating, partition costs</td>
<td>.40</td>
</tr>
<tr>
<td>Share of added perimeter cost</td>
<td>1.73</td>
</tr>
<tr>
<td>Share of added truss and gable cost</td>
<td>.42</td>
</tr>
<tr>
<td></td>
<td>$4.22</td>
</tr>
</tbody>
</table>
Advice No. 5

Don’t use muscle power where you can use horsepower

Just because houses are assembled out in the open instead of being assembled in an assembly plant is no good reason for doing things by hand that could be done ten times easier with power equipment.

Too many subs still do things the hard way for fear lest cutting their costs would cut their bill and so cut their profits. But don’t let them waste their time and your money. Insist that they buy and use all the best new power equipment. If necessary, buy the tools yourself and lend them to your subs until they learn to want them. That’s what Bill Levitt did for some of his subs, and it saved him thousands of dollars.

Anything and everything from grading the site and digging the trenches to smoothing concrete and driving nails can be done cheaper and better with modern tools. So . . .
Tamp your soil base with
Mix your concrete in...
and finish it with

Cut your materials with

Drive fasteners with

Spray your paint with

Calk and tape your drywall with

Finish woodwork with

Carry your power to the job with

1. BULLDOZER
2. POSTHOLE AUGER
3. FRENCHER
4. BACK-HOE
5. HIGH-LIFT SHOVEL
6. FORKLIFT
7. TWO-STORY HOIST
8. POWER COMPACTOR
9. POWER MIXER
10. POWER TROWEL
11. RADIAL SAW
12. PANEL SAW
13. CIRCULAR HAND SAW
14. ROUTER
15. STAPLER
16. STUD DRIVER
17. POWER SCREWDRIVER
18. POWER NAILER
19. PAINT SPRAY
20. BULK CALKING GUN
21. TAPPING MACHINE
22. FLOOR SANDER
23. HAND SANDER
24. PORTABLE GENERATOR
Advice No. 6

Plan to save time and money moving materials

A good retail dealer can afford much better materials handling equipment than most builders, can earn much of his markup by scheduling deliveries just when the builder needs them and making deliveries just where the builder wants them. So ask your supplier to:

Unpack your roofing on the roof

Unload your bricks and blocks where your masons will use them

Don’t pay your helpers $3.00 an hour to carry them from the street by hand.

Unload your panels along the walls
Unload your trusses onto the walls

Unload your flooring, your drywall, your appliances, and your plumbing fixtures inside the house
Advice No. 7

Here is the best way to frame a loadbearing outside wall

1. Space your studs 24" oc

All model codes approve this wider spacing, and there is no excuse for any local code that requires studs 16" o.c. for one-story houses. Says Professor Albert George Henry Dietz of MIT: "Practically all small houses built today use too many studs. You can't say they are over-engineered, because they aren't engineered at all. They are just over-built."

Spacing your studs 24" o.c. will cut your stud lumber cost and your stud erection cost nearly 16. With fewer studs you will use fewer nails, so you will cut your labor cost for erecting drywall, insulation, sheathing and siding 16, and you will also save the cost of spotting too many nail heads to finish your drywall.

2. Don't waste cripples over windows

They are worse than useless under a double 2x6 header. If they performed any function at all they would transfer some of the roof load to the window. Your drywall needs no vertical backing there, for even the thinnest board would span the 6" or 8" between window and header.

3. Use a double 2x6 header not a double 2x4 plate

The new FHA standards approve the double 2x6 header to span any opening up to 5'6" in one-story houses. The double 2x6 ends any need of individual headers over ordinary windows and any need of jack studs to support them. With a double 2x6 header you can buy all your outside wall studs the same length—7'4" for panelized construction or 7'6" for tilt up.

The double 2x6 header will use 27 more board feet of lumber in a 40' bearing wall than a double 2x4 plate, but you will save the extra cost (less than $3) at least twice over in lumber alone for shorter studs, no jack studs, and no individual headers. And you will save it many times over in less labor wasted and less time consumed.
4. **For a wide opening in a bearing wall**
   **notch a deeper header for the opening**
   Notch a double 2x10 4' wider than the opening for 10', a double 2x12 for 12'. Notch one on the right, the other on the left, to get continuity on both sides with the double 2x6.

**OR 5. Continue the double 2x6**

... and reinforce it with a second double 2x6 across the opening, tying the two together with a continuous plywood web.

Either way you will need a jack stud on either side of the wide opening to carry the load. **OR ...**

6. **Use a steel Z-brace**
   It will support a deep header without notching. Builder Clayton Powell has found this the cheapest and best way.

7. **Buy windows sized to fit your stud pacing**
   Buy recessed windows 22 1/2", 30 1/2", or 46 1/4" wide to fit between studs 24", 32", or 48" oc (or 44 1/2" for LuReCo panels) with exterior trim that will bring the overall width out to the center of the studs and fit the other facing components. Buy front nailing windows 24", 32", and 48" wide. These widths are now available from several manufacturers as a result of Round Tables jointly sponsored by House & Home and the Research Institute of NAHB.

8. **Put a single stud between multiple windows**
   You need no more for intermediate support of a double 2x6 header, and the single stud will give you a narrow mullion.

9. **Group your windows**
   Each added opening in your wall runs up your costs; big windows cost much less per sq ft than small, and a narrow wall section between windows costs much more per sq ft than a larger unbroken area.

   This is one of the first lessons Frank Lloyd Wright began teaching sixty years ago. Some of his big houses have 50 windows, but only half a dozen window openings.

10. **Buy fixed glass for part of your windows**
   Says Ralph Johnson, research director of NAHB: "Fixed glass can save you as much as $100 a house. Most builders provide more openable windows than are needed for good ventilation."

11. **Frame your corners outside the 4' module**
   This will make extra work putting narrow pieces of sheathing and/or siding around the corner posts, but it will save money everywhere else by making all your wall components inside and out—drywall, bat insulation, sheathing and siding—conform to the rhythm of your studs.
Here is how to frame
a non-bearing gable end

Advice No. 8

1. Use a continuous single 2x4 plate
Use it the same way you use a double 2x6 header in a bearing wall. It carries no load, so the single 2x4 will span any opening—even a 12' window—without intermediate support. So it costs a good deal less to put a sliding glass wall or a garage door in the gable end. All the studs can be the same length (7'-4" for panels, 7'-6" for tilt-up, i.e., the same as in the load-bearing wall) and extra studs will be needed only for door bucks.

2. Drop your gable end truss down on the plate
This will drop it 4" below the other trusses, since these are supported on double 2x6 headers in the bearing walls. It will also drop it 4" below the rafters if you stick to conventional framing.

3. Rest a 4' wide ladder on the gable end
This ladder will support about a 2' overhang. It can be made of 2x4s on the same 4' jig as the wall panels. Space the cross bars 2' apart as nailers for the roof sheathing.

4. Ventilate your attic through the ladder
"This will save you money," says Rudard Jones, Director of the Small Homes Council, which worked out the system. It will also provide good ventilation without letting in any rain or snow for the only opening will be right under the eaves (where up-drafts are less) and it will face straight down. Leave most of underside of the eave open behind a screen.

This information was developed from "Gable Framing Using Ladder Panels on Roof Trusses." Instruction sheet #11, price $0.50, available from the Small Homes Council, Mumford House, University of Illinois, Urbana.
Advice No. 9

Design your walls for fewer layers

A few builders still put up their walls in as many as 16 separate operations for 16 separate layers. You can save many field labor dollars by designing your walls to combine or eliminate half these layers and so get a finished wall in 6 operations instead of 16. So . . .

1. Apply your paint in one outside layer and one inside layer
(See page 124).

2. Use drywall instead of lath and plaster
Drywall costs less almost everywhere now. It is actually better if it is applied right, because it is more uniform and cracks less. More important, it lets you install all your dry plaster in one day and finish it in two more, whereas wet plaster takes days or sometimes weeks to dry (depending on the weather) before it is ready for paint or paper.

"I got rid of wet plaster in all the houses I designed because of cracking," says Bill Scheel—speaking as an architect and not as Executive Director of BRAB. "I don't know how you can expect to get all that water out without trouble as the studs first swell with the moisture they pick up and then shrink again."

Says Architect Morgan Yost, Chairman of the AIA Home Building Committee: "We specify drywall because we get better quality control with no moisture problem and no materials ruined by moisture. Also if something isn't right we can remove and replace drywall much easier."

The one valid objection to drywall is nail popping. This can be overcome by getting dryer studs, by using shorter nails with a better grip, and by glue-nailing your drywall to the studs. (See page 119.)

3. Combine your vapor barrier with your drywall
Foil-backed gypsum board costs only 2¢ extra per sq ft or $18 for 900 sq ft on walls of a 32' x 40' house, or, alternatively . . .

4. Combine your vapor barrier with the insulation
Most insulation bats come with an approved vapor barrier on the inner face—either aluminum foil or asphalt. Foil-faced bats with 2" of insulation cost a builder about 6.35¢ per sq ft; asphalt-faced about 5.15¢ per sq ft. Neither combination will work unless extra care is taken to staple the edges tight to the studs.

5. Combine sheathing and insulation
For mild climates like San Francisco or Portland, 25/32" insulation board sheathing is all you need to keep the house warm in winter and cool in summer economically.

6. Don't waste building paper over solid sheathing or under panel siding
Only function of building paper is to stop wind and rain coming through a leaky, many-piece wall.

7. Don't waste diagonal bracing under sheathing or under plywood siding, either of which gives all the racking strength you need

8. Combine your sheathing and siding
Solid plywood panels (like Texture 1-11) or hardboard panels (as on last year's NAHB Research House) can do triple duty as sheathing, siding, and bracing. In houses with diagonal bracing and building paper, separate sheathing is necessary only for impact resistance behind asphalt cement shingles or panels or behind thin beveled wood siding.
Advice No. 10

Plan to do nothing on a ladder your men could do on the ground

For example: preassemble your gable ends and hoist them into place. Pre-paint your siding all but the last coat before you put it on the wall. Pre-nail your shakes to 16' nailing strips before lifting them to the roof. And give your men a platform to stand on when they work on the ceiling.
There are just two good ways to frame your walls 1) Panels, and 2) Tip Up

Panels use more lumber because of the double stud where two panels meet. (This can take up to 36 extra studs for a 32' x 40' house.) But panels are usually cheaper because:

1. Panels can be made in time when your framing carpenters might otherwise be idle, or they can be bought cheaper from a lumber dealer (see page 98).
2. Panels are made in a jig at bench level; but tip-up walls must be nailed together on the floor, where it is harder to work.
3. Doors and windows are easily shop-assembled in panels, but few carpenters like to pre-assemble them and tip up.
4. Tilting up a long wall requires more men even when wall jacks are used.
5. Panels get your house under roof a little faster.

The extra stud requires no more lumber if you can trust your carpenters and your dry wall crews to drive a nail into a 1 x 4. Panels with 1 x 4 end studs are quite strong enough, according to Ray Harrell, executive vice president of the Lumber Dealers Research Council.

If you use panels:

1. Put the sheathing, doors, and windows on in the jig.
2. Use standard 4' and 8' widths (and sometimes 2'). These widths can be used in almost any wall, so they can be mass produced with lumber bought from the mill pre-cut to size at savings up to $30 mbf. Panels less than 4' wide increase costs because you have to cut insulation board or plywood and you have more field joints. Panels more than 8' wide reduce flexibility, increase weight and handling problems and therefore are apt to be left more incomplete; ie, without windows or siding.
3. For vertical siding, use two 2x4 horizontal nailers instead of the center stud. (See p 108.)
4. Never anchor your partitions to the outside wall. Each will move independently—sometimes because the outside wall is a different material with a different rate of expansion, sometimes because the outside wall shrinks and expands more due to more exposure to changing temperatures and humidities, sometimes because the outside wall rests on the foundation, the partitions on a free-floating slab. So if you nail the partitions to the wall you are sure to cause unsightly cracks in the partition. Just fasten the partition top and bottom to ceiling and floor. Nail it into a slab with hardened steel nails.
5. Have your panels delivered on the slab to reduce your handling costs.

If you tilt up:

1. Buy all your materials pre-cut from a schedule and have it delivered to the site strapped and marked.
2. Give your carpenter foreman a template to nail to the plate so he won't have to measure to locate studs. Builder Earl Smith uses a steep strap painted one color for a stud, another color for a trimmer.
3. Insist that the sheathing, windows, and siding are all installed before the wall is tilted into place.
4. Use wall jacks to lift it and metal braces to hold it in place.
5. For interior partitions use 2 x 3 studs and a single top plate.
NAHB President Nels Severin says he saved $650 a house just by switching from conventional framing to truss construction. Builder Andy Place says trusses save him at least $800 on his 1,900 sq ft model.

Builder Bob Schmitt of Berea puts his saving much higher. Says he: "It is conservative to say that by taking the maximum advantage of the cost-saving techniques made possible with long trusses, a builder can save $1,500 per 1,200 sq ft house over an extended group of houses. The words 'extended group' are important because economies from minimum weather exposure, minimum delays, decreased building time, smaller under-construction inventories, etc, will not be apparent on a single house."

Nine builders out of ten still frame their roofs the old fashioned way and find it hard to believe the savings other builders credit to trusses. For this misunderstanding there are three possible reasons:

1. They may be paying too much to buy trusses outside

Builder Bob Schmitt, with a volume of less than 100 houses a year, buys standard 28' W glue nailed 4-in-12 trusses from his lumber dealer for $17.95; standard 32' trusses for $19.53; standard 34' trusses for $21.78 delivered. In Florida, where everybody uses trusses made of yellow pine, Florida Builders in St Petersburg sells 28' H brace trusses for $16.11 and 32' trusses using all 2x6s for $20.83. In Springfield, Ill., Fredenburg Lumber Co sells 28' 3-in-12 glue-nail trusses for $14.00. Dick Hughes in Texas charges out 24' glue-nailed trusses at $13.60.

2. They may not realize how cheap and easy trusses are to make and erect

Lumber for a standard 2x6 W truss costs $2 less than the joists and rafters it replaces (92 board feet vs 109); plywood for the gussets costs about $2 more, so the material cost is equal. Andy Place shop fabricates his own trusses in 10 man-minutes to cut the lumber and plywood and 10 man-minutes to assemble it in a jig, at a total labor cost of about $1. His erection time per truss is only 12 man-minutes. No builder can erect joists and rafters anywhere near that fast.
Here are Bob Schmitt’s trade secrets for maximum savings with trusses

1. Erect every other truss on the 4’ module line for a sheathing nailer, but
2. Move the intermediate truss an inch or two right or left as needed to provide a nailer for interior partitions and ceiling drywall.
3. Move a truss aside 2” for the 24” disappearing stair.
4. Erect and finish your ceiling and perimeter drywall while the house is still one big room. This lets you use less and longer drywall sections, with 25% less butt joints. It lets you hide half the joints behind your partitions and cuts your taping and finishing costs in half.
5. Finish your floor as one big room, after you apply your drywall but before you erect any partitions. “This will cut your labor costs 80% for cleaning and preparing the slab and for laying the floor.”

And here are some of Bob Schmitt’s $1500 savings

“$300 (average) from getting the house under cover the first day. “This lets me get the whole job finished faster and lets me schedule my crews better rain or shine and keep them busy full time without having too many houses under construction. It lets me offer steady employment and so get better crews.”

$200 on faster drywall erection and finishing.

$200 on faster laying and finishing of the hardwood floor.

$150 on thinner interior partitions and easier erection.

6. Frame your interior partitions on 2x3s.

7. Take advantage of your trusses to dimension your rooms to fit their components instead of fitting their joists (joist sizes almost never fit anything else). See page 100.

8. Take advantage of your trusses to make your houses deeper. With conventional roof framing most builders stick to a 28’ depth and divide their houses into two 14’ corridors to avoid paying for heavier joists and rafters. It is hard to fit an economical plan into the straitjacket of those corridors. It is hard to dimension the rooms to fit their components, and it is hard to get a really efficient mechanical layout. With a 32’ or 34’ depth and no fixed wall down the center an architect can plan a much more economical house.

9. Don’t partition the garage off from the house until last, “so you can drive your trucks right into the house and unload your materials and equipment right on the floor.”

$300 plus on plumbing, heating, and wiring, because the deeper plan permits a more economical mechanical layout.

$50 on a simpler slab, with no interior bearing walls that would require a thicker slab.

$100 on materials handling, “because I can unload the trucks inside the house.”

$200 for indirect savings due to better coordination, integration, and general efficiency.
This is the most economical new 32' truss

It was designed for Builder Andy Place by Byron Radcliff of Michigan State College. It is all 2x4s except the center of the bottom chord. The center 10' section is designed for a 25 lb floor load to permit attic storage. In tests this truss took a 109 lb roof load before breaking, i.e., twice the heaviest snow load for which trusses must be designed anywhere in this country. It uses only 73.1 board feet of lumber, 18.8 less than the 32' Small Homes Council all-2x6 W-truss (which was designed for spans up to 40') and the same amount of plywood for the gussets. It weighs only 148 lbs. Two carpenters cut and glue-nail it in 20 man minutes.
Here is how to roof an L-shaped truss house

1. L-shaped plans lend themselves readily to an interior wall where the two wings meet. Sometimes this bearing wall can run front to back through the house; more often it will run side to side across the L.

2. If you cannot get a bearing wall where you want it, span the narrower wing with a steel beam above the ceiling line and support a bobtail truss on a joist hanger. A glue-nailed girder might be cheaper, if carefully engineered.

3. Mask the intersection by setting a preassembled saddle on the sheathing. No matter what the roof pitch, you can frame this on 2x4 trusses each 4' shorter than the next, set 2' oc. The saddle will look better if it rests on the side of the wider and therefore higher of the intersecting roofs.

Here is how to keep your roofline low

Mitre either the top or the bottom chord at the edge of your truss. Otherwise your truss will lift your roof 4" or 6" higher than necessary. (The Radcliff truss shown on the opposite page is mitred).

Here is what to do with a small offset

Don't break the roofline. Use the same truss, but support it as shown.

Here is the best way to add a wide overhang

Preassemble a glue-nailed lookout. This will save the extra cost of long top chords and keep the trusses shorter and therefore easier to handle. Except on very low pitched roofs (2-in-12 or less) this is cheaper than letting the soffit follow the rake because the trusses are easier to handle without the overhang and carpenters waste too much time on ladders finishing the wall under the eaves.
Engineer to use less and better nails

It takes close to 65,000 ordinary wire nails to hold a small house together. The nails are cheap—perhaps $100 a house—but...

1. Carpenter labor is expensive: It costs a lot more than $100 a house to pay carpenters to drive those 65,000 nails. "Much of this labor cost can be saved by using threaded nails, which can be shorter and thinner and still hold much better," says Leonard Haeger, former Research Director of NAHB. "You can drive smaller nails faster and easier; you can drive them three nails a second in a nailing machine, and you can use a smaller nailing machine".

2. Cheap nails do not make good enough joints. "I shudder to think what some houses built with green lumber right after the war will cost to maintain as the nails work loose," warns Research Professor E George Stern of Virginia Polytechnic Institute, whose research for the Independent Nail & Packing Co is changing nailing from a trade to a science.

"With today's technology the joint need no longer be the weakest point. With threaded nails we can assemble wood, plywood, and hardboard into components stronger than the members. The nails have such holding power that the members will fail before the joint. Because of this:

"1. You can use thinner nails that are less likely to split the wood. For years the Forest Products Laboratory has urged the use of thinner and shorter nails to avoid splitting lumber, because split members in lumber connections are worse than useless. Thin nails can almost completely avoid split tongues in t & g materials. And thin nails permit the use of more nails per given joint area without weakening the wood—a great advantage for builders who use all-nailed trusses.

"2. You can use shorter nails, which pop less even in green lumber, because how much a nail backs out during seasoning varies with its length. In properly seasoned wood the short threaded nail completely eliminates popping. This is especially important for drywall and for roof sheathing, where a popped nail can damage the weather coating above and cause a leak.

"You can get the added joint strength needed to space studs 24" o.c instead of 16" o.c by end-nailing 3½" x 0.135" threaded nails instead of 3½" x 0.162" common nails. You can fasten flooring the 2½" x 0.101" annularly threaded sinker is five-and-a-half times as effective as the 2½" x 0.135" common wire nail."

"3. You can save the time you sometimes have to waste clinching common nails. The holding power of the threaded shank makes clinching superfluous.

"Newest development in engineered nailing is an extremely slender, hardened high carbon steel annularly or helically threaded spike in lengths up to 9". Two or three of these spikes can do a better and tighter job fastening corner posts to wall panels than the steel plate now required above each corner post in LuReCo construction—at one fifth the cost. "For maximum economy engineered nailing requires more different nails of different types than builders usually use."

These nails are now available from several makers. They cost more per pound but less per nail. Their use is approved by FHA, but you may have to justify the use of less and smaller nails than the present FHA nailing schedule calls for.

Here is a nailing table prepared by Architect Leonard Haeger showing some engineered nailing schedules accepted by most FHA offices:

<table>
<thead>
<tr>
<th>framing schedule</th>
<th>current FHA—common nails</th>
<th>engineered—threaded nails</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number or spacing</td>
<td>size, D.</td>
</tr>
<tr>
<td>joists to sill or girder, toe nail</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>1 x 6 subfloor to joists, face nail</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>1 x 8 subfloor to joists, face nail</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>sole plate to joists or header joint</td>
<td>16&quot; oc</td>
<td>16</td>
</tr>
<tr>
<td>stud to sole plate, toe nail*</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>stud to sole plate, toe nail*</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>stud to sole plate, end nail</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>top plate to studs, end nail</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>doubled studs*</td>
<td>24&quot; oc</td>
<td>16</td>
</tr>
<tr>
<td>doubled studs*</td>
<td>30&quot; oc</td>
<td>16</td>
</tr>
<tr>
<td>top plates, spike together</td>
<td>24&quot; oc</td>
<td>16</td>
</tr>
<tr>
<td>ceiling joists to plate, toe nail*</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>rafter to plate*</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>1&quot; x 8&quot; sheathing</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>plywood:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>subfloor to joists, edges</td>
<td>6&quot; oc</td>
<td>8</td>
</tr>
<tr>
<td>subfloor to joists, intermediate</td>
<td>6&quot; oc</td>
<td>8</td>
</tr>
<tr>
<td>roof sheathing to rafters, edges</td>
<td>6&quot; oc</td>
<td>2</td>
</tr>
<tr>
<td>roof sheathing, to rafters, intermediate</td>
<td>12&quot; oc</td>
<td>6</td>
</tr>
<tr>
<td>horizontal bevel siding</td>
<td>8</td>
<td>2½</td>
</tr>
</tbody>
</table>

* FHA requirements vary
Plan to use glue wherever you can

Advice No. 13

A good, glued joint can be the strongest, most lasting, most rigid connection you can make, and it is often cheaper than weaker joints.

Most architects and builders are so accustomed to using nails that they are slow to realize how much better many parts can be held together with glue. Modern chemistry has developed an adhesive for almost every need.

Most important new way to use glue is to fasten drywall to studs and ceiling joists (or trusses) (HOUSE & HOME Apr, '58). Developed and sponsored by US Gypsum, this method cuts the number of needed nails in half. You use only enough nails to hold the drywall tight against the framing lumber while the adhesive sets. One nail every 16” is enough on walls, one every 12” is enough on ceilings. This cuts the danger of nail popping, saves half the finishing labor now wasted hiding nails and nail holes. The glue is applied with a calking gun. (See photo)

Here are other important ways to use adhesives:

1. Use glue to set ceramic tile. Use 3M’s C-11. It is stronger than cement and much easier to spread, and it does double duty as waterproofing behind the tile.

2. Use glue in your roof trusses. The glue-nailed truss is the most rigid truss of all and one of the cheapest and strongest. Casein or phenolresorcinol are best. Both must be allowed to set overnight at room temperature.

3. Use glue to fasten a plywood subfloor to the joists. It cuts the chance of squeaks under a wood finish floor and it cuts the chance of nail popping under resilient flooring. Use phenolresorcinol.

4. Use glue to fasten exterior siding to the studs where the siding is to do double duty as sheathing: the less nails you have to drive through the siding the better. Use phenolresorcinol.

And of course

Use glue to fasten underlayment to a subfloor. Linoleum paste is cheapest. Any adhesive will do.

Use glue to laminate a second layer of drywall. Use drywall finishing cement.

Use glue to lay any flooring on concrete. Use whichever glue the flooring maker recommends.

Use glue to install plastic wall coverings or counter tops. Get the manufacturer’s advice about a contact adhesive.

Use glue to attach acoustical tile to walls and ceilings. Use 3M’s acoustical tile adhesive; it is thick like putty, helps level the ceiling.
Plan to use less brick to look like more

Home buyers like brick houses. In many parts of the country, especially the South, it is hard to sell them anything else.

No trade association has done more to develop new ways to use its material more economically than the brick industry through the Structural Clay Products Research Foundation. It has developed thicker bricks for thinner bearing walls, thinner bricks for brick veneer, bigger bricks for economy in laying-up, bricks with hand grips for faster bricklaying, brick veneer wall panels for looks and reinforced brick wall panels for structure.

If you want the sales appeal of a brick house at minimum cost, here are the things you should do:

1. If you use brick only as a veneer, use it as thin as you can. There is no point in putting on brick 4" thick, when you are just using it for eye appeal.

You can get a preassembled 4'x8' nail-on panel of brick (cement).

You can get a brick 3⁄4" thick to nail on and grout.
2. If you use brick structurally, use bricks thick enough so that one course is all you need. Cavity walls made sense before we had insulation; today they make no sense at all.

You can get load-bearing panels of precast reinforced brick masonry. These are 1'x8', with a channel down the inside face of each panel to anchor furring.

With these panels, five men can erect and grout 1200 sq ft of brick bearing wall in only 5½ hours.

You can get a brick that's 2-3/16" high, 11½" long, and 5½" wide, developed by SCPRF for quicker construction.

You can do as Builder Alan Brockbank of Salt Lake City did—work with your local brick company to develop a still bigger brick: 3½" x 11¾" x 5½". Brockbank figures his big bricks save him about $190 a house. Both Brockbank’s brick and that developed by SCPRF have a double row of holes for easier handling.

3. If you use brick for decoration, keep it in a rectangular panel. Masons can lay up the brick fast and cheap if they have no openings to work around.

Don’t hang brick lintels over doors and windows.

Don’t set bricks under windows unless you are running a band across the house at sill level.

4. And keep looking for new developments that will cut brick costs further.

There will be packaged brick. A new machine can wrap up to 100,000 bricks a day in easy-to-handle packages.

There will be lightweight brick. It will have the same strength, and probably the same shapes, but it should be 40-50% lighter and have better insulation value.

There will be glazed terra cotta panels, glazed facing tile panels, and common brick panels. You can use them both indoors and out.

And there will be a new way to tie bricks together, so a brick wall could resist hurricanes, blast, and tornadoes.
Use concrete block—
the cheapest way of all to build

Advice No. 15

See how concrete block adorns the Ennis House!
Says Frank Lloyd Wright:

"Concrete block was the cheapest and ugliest thing in the world. It lived mostly in the architectural gutter as an imitation of stone. But why shouldn’t it be fit for a new phase of our modern architecture? It might be permanent and beautiful. It would certainly be cheap. Why not see what could be done with it?

“So I decided to use the concrete block shell and fill it with steel rods. And I had found a simple way to produce a whole building that looks the way a machine would make it. The block was tough and light; imperishable and plastic; and machine-made, mechanically perfect, with no unnecessary lie about it anywhere.”

Concrete block started in the basement, where nobody cared much what it looked like so long as it was so cheap, but 40 years ago Frank Lloyd Wright spotted its plastic potential, added steel reinforcing, and began using it above ground to do double duty as both structure and ornament for some of the most beautiful and romantic houses ever built. (See photo opposite). Now many other top-flight architects like Paul Rudolph, Rufus Nims, Smith & Williams, and Alfred Browning Parker use it in fine houses, exposing the block outside and often inside, too. Says Parker: “The only real problem with block is getting your wiring and mechanics around the house within the walls.”

Concrete block can be used almost everywhere. Wright has used it as far north as Minnesota and as far east as Massachusetts. But up to now it has been used mostly in hot climates.

Concrete block is one big reason why Phoenix Builder John Long builds cheaper than any other builder in America. Says Long: “A one-thickness block wall costs about 12% less than studs, plus insulation, plus drywall, plus sheathing, plus siding.” In warm climates like southern Florida, Arizona, and parts of Texas few builders’ houses are made of anything else. Some builders like Long leave the inside surface exposed; in Florida, where dampness and heavy rains are constant problems, most builders like Tom Coogan and the Mackles find it cheaper and better to fur plaster the inside and stucco the outside than to buy better blocks, lay them more carefully, and waterproof them.

In dry southern California, where Wright built most of his concrete block palaces and where you might expect block to be even more practical than in wet Florida, concrete block is used mostly for decoration. Explains Architect Dan Palmer: “Concrete block has to be reinforced to stand up against earthquakes. If you’ve got a high wall, it acts like a giant cantilever. So block is used out here mostly as a veneer and for low walls—up to 6’.”

Now new techniques promise better block building

1. You can buy blocks with marble chip surfaces for 59¢ for 8"x4"x16" or 74¢ for 8"x8"x16".

2. You can buy blocks cheap (8¢ to 10¢ more per block) cast in almost any pattern. (Frank Lloyd Wright used patterned blocks 40 years ago, but the patterns cost more in those days.)

3. You can buy block cheap in many integral colors, or you can use new paints (oil, rubber and resin-emulsion) to color them in place.

4. You can buy insulating block that will keep out heat and cold (32¢ for 3¾"x7½"x20" block, 63¢ apiece for 3¾"x7½"x20" block)—lightweight blocks of foamed concrete. With a U factor of 0.11, they are equal to 2" batt insulation with wood siding and wood sheathing; or 1½" fiberglass insulation with wood siding over wood sheathing.

5. You can buy block in many sizes and shapes to get a more pleasing pattern than you get with the ordinary 8"x16" rectangle.

6. You can make block waterproof. New clear silicone paints cover the concrete with an invisible water repellent film at a cost of only 2¢ to 5¢ for enough material to cover 100 sq ft. These can be either brushed or sprayed-on. They will keep the house dry for three years at least and can be repeated do-it-yourself, or you can waterproof the block with two coats of cement-base paint that lets vapor escape but keeps rain out.

7. You can prevent surface cracks by laying wire mesh or steel between every second or third course.
Plan for less waste in painting

Advice No. 16

Painting most houses takes more on-site manhours than any other trade except carpentry, and carpenter manhours are being cut so fast by more efficient methods that painting may soon be home building’s No. 1 labor cost.

Most of these painting manhours are wasted doing work on the job that should be done in the factory, or doing work on a ladder that should be done on the ground, or doing work that should be done a completely different way.
Here are some ways to cut your on-site painting costs. If you take them all you will save hundreds of dollars per house and get your houses finished much faster:

1. **Buy everything you can pre-finished**
   Kitchen cabinets, doors and closet fronts, flooring, natural wood panels, decorative wallboard, some acoustical tile, and some insulated roof deck—these and other items can be bought requiring no field labor for painting and finishing.

2. **Buy materials that are easy to paint**
   Surfaced or overlaid plywoods and sidings are easy to paint; so are some species of lumber like redwood, cedar and Ponderosa pine, and the better grades of some other woods. Don’t waste hours of your painters’ time covering up knots and other defects in cheap lumber. It will cost you a lot less to buy better wood wherever it will show.

3. **Insist that everything you will have to paint is prime coated before delivery**
   If you can’t buy it preprimed, then prime coat it yourself as soon as you get it—preferably by dipping or spraying. Builder Al Branden, of Haywood, Calif, figures that he saves $75 a house this way.

4. **Don’t install anything on the outside of the house until it is ready for the final coat of paint**
   Builder W W Holden of Sunnyvale, Calif, has his siding painted on horses, partly to speed up his painters, partly to be sure bare spots won’t show when the boards shrink.

5. **Use one of the new paints**
   Paint chemistry has made more improvements since 1945 than in all previous time. Don’t let your painters mix their own paints—factory-controlled, ready-to-use paints are better. Don’t let your painters thin the paint. If necessary, weigh the paint to make sure they are not tampering with it.

But all these savings are small compared to what spray will save

All the new paints can be made for spraying, and new spray equipment promises to transform painting from the slowest and most wasteful building operation to the fastest and most efficient. Hot sprays dry almost instantaneously, with paint of such high viscosity that one sprayed-on coat will be thicker than three brushed on. Airless sprays minimize the need of masking, minimize clean-up time, minimize paint waste (which runs as high as 40% with some cold sprays). Even with cold sprays, Bill Levitt and Andy Place have painted an 8’ x 12’ room the equivalent of two coats in eight minutes.

Building is the only big industry left that still applies paint with a brush (and a too narrow brush at that). Every other big industry applies paint by spraying or dipping at a small fraction of what brush painting costs.

Instead of bargaining with the painters whether to pay them $3.70 an hour or $3.80 an hour to waste most of their time, builders should be working out a brand new deal to pay painters much higher wages to get the painting done much faster with today’s best new materials and equipment.

Spray painting is no job for the do-it-yourself amateurs who now apply 60% of the paint used in this country, so union painters are not always averse to spray painting in return for premium pay.
Plan carefully for air conditioning

“Within a few years any house without air conditioning will be obsolescent, so FHA wants to encourage builders to air condition all the new houses they build.” So says FHA Commissioner Norman Mason. (H&H, Jan ’58)

Almost everybody wants air conditioning, and air conditioning offers builders their one best way to dramatize how much better houses they can build today than 30 years ago. But the whole house has to be planned for air conditioning if the cost is to be kept low enough for everyone to afford it.

“With good planning a good builder should be able to air condition a 1,200 sq ft house for $600,” says Texas Builder Dick Hughes, past president of NAHB and No. 1 apostle of air conditioning. Fischer & Frichtel of St Louis put two tons of cooling in their houses for only $400; Fred Kemp of St Louis includes two tons as a standard item for $500; Andy Place in South Bend adds three tons in his 1,952 sq ft house for $825.

Most of these builders insert a summer cooling unit in their winter heating systems and size the ducts a little bigger. (You have to blow more air through the ducts for cooling; otherwise the cooling air would have to circulate too far below room temperature and you would get a cold zone around the register. But Kemp uses wet radiant heat in winter, puts a separate chilled air system in the ceiling for summer.) Now self-contained zone units are available at competitive costs, some of them designed for in-wall installation.

Good planning for air conditioning begins with planning a house that will be easy to keep cool (with or without air conditioning). There’s no use installing four tons of cooling if correct design could cut the cooling load to two tons. Insulation makers say a properly designed, properly insulated 1,200 sq ft house can be heated and cooled anywhere in the US for $128 a year.

Here are nine ways to cut the cost of cooling:

1. Put at least 2" of bat insulation
   (or its reflective equivalent)
   in walls and 6” in the ceiling

In cold-winter climates this adequate insulation will soon pay for itself in cheaper heating alone; it will save twice as much when summer cooling is added. The home buyer will save on fuel; the builder will save on a smaller furnace and a small conditioner.
2. Keep your attic cool

Most attics are so badly ventilated that they heat up to 140° or more. Even with the best insulation some of that heat is bound to get through the ceiling and put a needless load on the cooling system. The 4 sq ft vents most builders put in their gable ends are nowhere near big enough; for example the ventilator shown in gable end of picture above.

3. Use a light colored roof

Nearly 90% of the exterior heat load on a house comes from the hot sun shining down on its unshaded roof. A white roof will reflect 68% of that heat back; a dark roof will reflect back only 5% and give you a mighty hot attic.

4. Keep the sun off your glass areas

Even a four-ton compressor can't keep a small house cool if you let the sun shine long through a big window; 150 times as much sun heat comes through a sq ft of glass as comes through a sq ft of insulated wall at maximum conditions.

So put at least a 2' overhang and preferably more over all east, and west, and north windows (the summer sun is in the north) and provide special shading (with trees, trellises, fences, or otherwise) for all big windows facing west. Says Builder Dave Slipher: "Good-sized trees are the best and cheapest shading device. They cost least to buy; they cost nothing to maintain; and year by year their value increases as they grow." Inside Venetian blinds are not the answer; at best they will re-radiate only 35% of the heat. Once the heat comes through the glass the damage is done.

5. Build your house on a slab

Slab houses are easier to keep cool because the great mass of concrete acts like a fly wheel. The house can't heat up until the slab heats up too; and you can store up a big cooling reserve in the slab at night by running the cooling unit around the clock in extra hot weather.

Incidentally, it's always better to keep a slightly undersized cooling unit running longer and storing up cooling in the structure than it is to have an oversized unit stopping and starting, because humidity starts building up the minute a compressor stops running.

6. Blow your kitchen heat outdoors

A two-ton compressor can't cool a house as fast as a kitchen stove will heat it up. There is only one thing to do with kitchen heat. Turn on an exhaust fan to blow it out—and vent your oven right under the exhaust fan hood, to get rid of the oven heat too.

7. Offer double glazing as an option

It will cut winter heating bills enough to pay for itself quite quickly in cold climates; it will pay for itself faster by cutting cooling costs in summer too—but not enough people understand this saving yet.

8. Put an automatic closer on all the outside doors

Nobody can afford to cool all outdoors.

9. Vent the steam from shower, clothes washer

Electric compressors and gas absorption units do a fairly efficient job taking heat out of the air, but they are much less efficient taking moisture out. A water-soaked canvas shower curtain put such a load on the cooling unit of one Texas house that a two-ton compressor could not keep the rooms comfortable. A cooling unit must work harder to get rid of a pint of water in the air than it works to cool 6,000 cu ft of dry air 10°. It costs a lot less to blow steam out of the house with an exhaust fan than it costs to get rid of it with air conditioning.
Advice No. 18

Here are 11 low cost ways to add enough storage

Twelve years ago our best prospects were young veterans just out of service. They didn’t care much about storage space because they had very few belongings and very little money to buy things.

Today your best prospects are families in their middle thirties who have been on a buying spree for ten years. Two out of three new houses are sold to second-time buyers—people dissatisfied with where they have been living.

And more home owners are dissatisfied with the inadequate storage in their present homes than with any other fault. This is the No. 1 finding of the Home Improvement Council’s big consumer research early this year.

To give buyers the storage they want and need you don’t have to plan their garage as a two-car attic and you don’t have to dig them a $3,000 basement. You can provide most of the storage they need in space that you now waste. So . . .

1. Stop wasting the attic

Smart builders like Andy Place, Bob Schmitt, and Bob Gerholz, all fit 24” wide disappearing stairs between their trusses to make up to 400 sq ft of rough-floored attic space easy to reach and use. This attic storage is better than basement storage because it’s dryer. It is better than garage storage because it’s safer (and hides the mess). Total added cost for making it usable is less than $100 vs perhaps $3,000 for a basement. (Bob Schmitt gets 400 sq ft for $76—spends $26 for a disappearing stair installed, $40 for ¾” plywood flooring, $10 for labor to lay it.) Sometimes Schmitt puts in not one but two disappearing stairs, one in the garage, one in the bedroom hall, to make attic access even easier. But he warns: “Don’t make your stairs more than 24” wide. The narrow hole in the attic floor will keep your buyers from carrying anything up attic too heavy for your truss to carry.” (Trusses should be designed for 25 lbs per sq ft on their middle chord.)
2. Stop wasting the top of your closets

It costs less to put ceiling-high doors on your closets than to frame in conventional 6'8" doors that make the top 20" of the closet almost unusable. Best and cheapest way to build a good closet is just to close off one whole end of the room with ceiling-high, wall-to-wall doors. That gives you five sides of your closet for nothing. For the sixth side you can use 8' folding doors, hinged doors, or sliding doors, fastening their hardware directly to floor and ceiling. The top space these 8' doors make usable is no good for active storage, but it is the handiest place to put suitcases or to store summer things in winter and winter things in summer.

3. Stop wasting the bottom of your closets

Most families have few items that need more than 4' of vertical hanging space: men's coats need only 36"; men's trousers need only 48"; children's clothes need less than 36"; women's daytime dresses need only 48"; even long dresses need only 72" to hang straight or about half of that to hang folded once. But most builders go right on putting every clothes closet shelf in the house 66" above the floor with the clothes rod right under it, leaving the bottom 24" to 30" of the closet unused and almost unusable except for shoes on the floor. To stop this waste, either build in drawers at the bottom of some closets or drop most of your clothes poles 18" down and put some drawers and shelves at the maximum-convenience level above them.
4. Use cheap inside space for more bigger closets

Making a 40' house 4' deeper adds 64 sq ft of space more than 12' from a window. That's enough space to double the closet area most builders offer—and Builder Bob Schmitt figures this added area costs him only $3.37 a sq ft finished; i.e., less than finished space in the basement. (See page 133.) “Use some of this space for a McGee closet 4' square” advises Architect John Highland, past chairman of the AIA Home Building Committee.

5. Stop wasting the depth of your closets

Make all the shelves full depth; ceiling-high doors will make their whole area accessible. Most builders build linen closets deeper than the 14" FHA requires, but still provide shelves only 14" deep. For the cost of a single board they could almost double the linen storage they provide. FHA's suggested new MPS will probably ask for at least 9 sq ft of linen storage for 1 and 2 bedroom houses, and 12 sq ft for 3 and 4 bedroom houses.

8. Stop wasting the space above your clothes dryer

This is the best possible place for linen storage if your dryer is located in the bedroom area (as so many architects recommend). If the dryer backs up against a bathroom wall (as it often does to cut plumbing costs), put a back door to the shelves in the bathroom wall. (This convenience was one of the commonest requests at Women's Housing Congress.)

9. Stop wasting the top half of your outside storage

Most outside storage items stand less than 3' high. So if you build a big outside storage area like Bill Levitt's, double deck half of it and provide twice as much usable area for storing lawn furniture in winter. House Beautiful's Editor Elizabeth Gordon uses the garage area over the hood of her car to store summer furniture, screens, etc.
6. Stop building clothes closets too shallow

A 20" deep closet won't even hold a man's coat without crushing the sleeves. Make your closets at least 24" deep. And if your buyers are going to put hooks along the back, closets should be even deeper. Says Michigan Builder Bob Gerholz: "Planned, organized storage is a must for maximum salability. We give it top priority." And Phoenix Builder John Long adds: "There is an increasing demand for storage. We are providing more than ever."

7. Stop wasting the ends of your closets

Run your closet doors end to end. A 30" wide door on a 48" wide closet leaves 9" at each end that will be almost impossible to use. Says Portland Builder Frank Evans: "The more storage the better—not just more space, but more use-ability." And Dallas Architect Tom Scott Dean adds: "Esthetics notwithstanding, storage sells houses." And Builder Elwood J Turner, Jr. of Media, Pa, finds: "Better storage is an advantage in all price brackets."

10. Stop wasting the space above your cabinets

Under a flat ceiling, run the cabinet doors 44" high to make a closed-in shelf of the cabinet top. This will cost you very little more than furring down the ceiling as so many builders do. The extra shelf space created by these doors will provide dust-free storage for wedding presents and many other items used only once or twice a year.

11. Use pegboard to add storage to your walls

On at least a portion of the inside walls of your garage and storage room. It can be decorative, costs only a little more than drywall and turns walls into highly usable storage areas. "Storage for clothes and personal items has increased greatly," says Architect Rufus Nims. "It is not uncommon for storage to take 30% of the total space—sometimes even more."
Don’t kid yourself that basements are cheap

Advice No. 19

In the South not one house in five has a basement; in the West hardly one house in four.

But northeast of Kansas City three out of four new houses are still built with basements, because:

Reason No. 1—the Northeast is traditionally conservative about houses and slow to give up old ideas.

Reason No. 2—people still remember how many slab houses built right after the war had cold, wet floors.

Reason No. 3—builders think home buyers want them enough to pay for them. (But Bill Levitt builds without basements and sells far more houses than any builder in the East; Tom Lively, L&H Builders and Bob Alexander build without basements and sell more houses than most builders in Chicagoland.)

Reason No. 4—few builders offer adequate storage above ground. (But when Andy Place offered South Bend buyers the choice of 1,360 sq ft of basement or 672 sq ft above ground for $1,600 less, only one buyer in 7 took the basement.)

Reason No. 5—and this is the big reason—most builders think basements are cheap, because a bare basement costs only about $1 more a sq ft to subcontract than a slab. For example, Rochester Builder Frank Schanz subs his basements for $1.52 a sq ft for floor, blockwalls, waterproofing, back fill, and sash.
But listen to what the experts say

*Says Architect Leonard Haeger*, former Research Director of NAHB and former vice-president of Levitt & Sons: “Finished space in a basement under ground costs just as much as finished space on a second floor up in the air and sunlight, except perhaps for the added cost of the windows. It costs just as much for the flooring, just as much for the walls and ceiling, just as much for stairs, just as much for wiring, and more for plumbing.

“And if you don’t finish the basement, what good is it? It’s a bad place to wash and dry clothes. It’s a damp and inconvenient place for storage. It’s not a healthy place for children to play; and today you need only 6 sq ft for the furnace that used to take half the cellar.”

*Says Architect Frank Lloyd Wright*: “A basement is a noisome, gaseous, damp place. Eliminate it wherever possible, and provide its equivalent up on the ground level with modern equipment.”

*Says Builder Andy Place*: “Putting a good, unfinished basement under our 1,360 sq ft house costs us between $3,000 and $4,000. In fact, we have to charge $3,000 more for 1,360 sq ft with basement than we charge for the same house 208 sq ft bigger without basement.

“Basements make everything else cost more—more for sewers because of deeper lines, a lot more for plumbing, more for fireplaces because the foundation has to be deeper, more for heating, more for the garage and porch because of more reinforcing in the slab, a lot more for framing the first floor on ladders, and a lot more for messed-up scheduling.”

*Says Bob Schmitt of Berea*: “Any builder who thinks basements are cheap just does not know his indirect costs. I can add good space on grade for less money per sq ft than I could add a basement. Putting a basement under a 2,000 sq ft house would run up my costs $5,000, because nobody can schedule an efficient operation over a hole in the ground.”

*Says Builder Ed Fischer of St Louis*: “Basements take a lot longer. If it rains you have a big hole full of water; in winter you may have a frozen lake, and you can’t finish basements in the fall for winter building as you can slabs, because frost will get under the exposed foundations.”

*Says Builder Clayton Powell of Savannah*: “Basements are in no way cheap; from the builder’s point of view they are highly undesirable.”

*Says Builder Fred Kemp of St Louis*: “A basement is not cheap space at any price. There are many ways to spend dollars much more wisely.”

*Concludes Builder Andy Place*: “Adding a basement costs me as much as adding year-round air conditioning with full insulation, plus an extra bath, plus a family room, plus a dishwasher, plus a clothes washer, plus a garbage disposer, plus 400 sq ft of better storage space in the attic!”

In brief, the experts say:

**The best way to cut basement costs is just to cut out the basement!**

There is no other way to cut your costs $2,000 or $3,000 per house without cutting any real living value out of your product.

For two good ways to use basements to build better for less see page 140.
Slabs and crawl space are equally good—slabs average quite a bit cheaper

Advice No. 20

Slabs save Big Builder Bill Levitt $750 a house compared with crawl space. They save Strauss Bros in Omaha 49¢ a sq ft—$500 on a 1020 sq ft house. Most builders guess their slab saving is around $250.

Crawl space costs less only if you have to bring in a lot of fill to grade your house high enough.

Slabs got a bad name right after the war because so many builders built so many bad slabs before they learned to build good ones. But now builders know how to get just as dry a house on a slab and how to heat it just as well; in fact, it is safer to build on a slab if you are worried about water under the house, and better wherever bugs or termites are a problem.

Says San Francisco Architect Bob Anshen: “The only advantage of crawl space is that a great many people prefer hardwood flooring, and you get more resiliency when you lay hardwood over crawl space than if you lay it on a slab.”
If you build on a slab:

1. Use a grade beam to save $200

A grade beam is the cheapest foundation. It can be used all over the South and West where frost is no problem (unless bentonite or some other difficult soil requires a very special foundation). In the North and East most codes permit it only on posts extending below the frost line and only in well-drained soil where you don’t have to worry about frost-heave under the beam itself. For one or two houses builders may not find it worth the time and money to develop the necessary engineering data and soil analysis, but above ten houses it should begin to show real savings. Builders Bob Schleicher of Gary and Andy Place of South Bend, both building on sandy soil, both think their grade beams save them about $200 a house on 100-house tracts.

Grade beams are cheaper because: 1) they use less concrete (Andy Place’s beam is only 4” thick, extends only 4” below finished grade); 2) you can dig sixteen post holes with a power drill in less than an hour, which is a lot faster than you can trench a deep foundation, especially if you have to splay a spread footing at the bottom; 3) you can set just one exterior form and pour the beam at the same time as the slab (this is seldom wise without a grade beam. See 7 below).

Schleicher’s detail is shown at the lower right in the drawing above and on the front cover. Building with trusses, he spaces the posts under the grade beam 8’ or 9’ oc under the load bearing wall, 10½’ oc under the gable ends.

2. If you don’t use a grade beam, pour your foundations in a trench

In all but the sandiest soil, you can cut a sharp bank and save the cost of forming below grade.

3. Flare the bottom of your footings if necessary

On most soil and under most codes, the 8” thickness of the foundation wall is more than enough to support the walls of a small house. But where you need a wider footing, use a bell-bottomed ditcher to flare the bottom (see photos).

4. Above ground use re-usable forms . . .

Or 5. Use concrete masonry; one course is usually enough

Sometimes one is cheaper, sometimes the other. Laying block may bring in another trade. Either way, this is the time to correct any and all irregularities in grade level or dimension. Without accuracy you will lose most of the savings above the slab you could get from panelizing and pre-cutting.

6. Compact a deep fill with a mechanical tamper

“This is the most important slab advice,” says Research Director Ralph Johnson.

7. Put 4” of non-capillary fill under the slab

This is always safer, even if it is not always required. Coarse crushed rock or washed gravel are best. If you are sure the water table will never rise within 3’ of your slab you can use sand or sometimes omit the fill.

8. Use a moisture barrier easy to handle and hard to puncture

It should be elastic at any temperature and never brittle. It should come in wide widths and be resistant to normal foot traffic before the slab is poured. If you use plastic, use it a mil or two thicker than standard so as not to waste time patching punctures. (See photo opposite).

9. Don’t waste time sealing the joints

Lap each strip of your moisture barrier material 6” over the preceding strips. The weight of the concrete above it will then seal the joints.

10. Float your slab independently

Don’t rest its edges on the foundation wall. Let them rest on the underfloor fill, just as the center of the slab rests on the underfloor fill; otherwise you will build up unequal stresses in the slab, for the foundations may settle differently. This was the Building Research Advisory Board’s advice to FHA in 1955. It is still good advice.

Some builders try to cut costs by pouring slab and foundation walls in one pour. This may be cheaper, but it is seldom better. It requires more expensive waterproof insulation placed outside the foundations. And it can run up labor costs by requiring precision on rough work.

And above a slab never—repeat—never nail an interior partition to an outside wall. If you do, you will have big trouble with cracks as the partition moves with the slab, the wall with the foundation.

11. Don’t cut your insulation

Keep the inside of your foundation straight up and down, so you can set one piece of insulation full 2” width against the inner face, between foundation and slab. This is the most efficient place for the material and the easiest place to install it; just set the insulation in the trench when your foundation is poured part way up. Too many builders waste time putting in two pieces of insulation—one vertical and one horizontal, under the edge of the slab.

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12. Omit footings under non-bearing partitions

They carry no load, so they need no special support. With truss construction all your interior walls can be non-load-bearing and you can lay a single 4" slab from wall to wall (except in T- or L-shaped houses, where you may have one interior bearing wall).

13. Just thicken the slab to 8" under interior bearing walls...

Make the slope gradual, not a sharp break, and add two ½" reinforcing rods in the beam, which must be 16" wide.

If you build on crawl space:

1. Use re-usable forms

They will give you better concrete at lower cost—better because they are smoother and will not leak the cement grout, cheaper because they will cut your forming time. They can be set up so fast that one house a day is common.

2. Set your house low

There is no good reason why a crawl-space house should stick up out of the ground any higher than a slab house. Just pour a shelf in your foundation wall to support your joists. Then you can lower your plate to 8" above finished grade.

3. Plan for more piers

Don't detail a crawl space as you would a basement. Set your piers not more than 8' o.c. More piers let you use smaller, lighter, easier-to-handle, cheaper beams and floor joists. With a post hole digger piers are cheap. "My subcontractor has a machine that digs 60 in an hour," says Builder W W Holden of Sunnyvale, Calif. "Above ground. I use 6" x 4" beams and no joists at all because the 2" t & g spans 4'.

4. Use steel or reinforced concrete girders

Otherwise you will get an uneven floor, for wood girders will shrink ¼" to ½" (depending on their depth) under one end of the joists while the other end, resting on the foundation wall, stays at the original level.

14. Slope your foundation on the outside

Use a solid sill block beveled on the outside to reduce your wall thickness to 4", which is all you need to support an exterior wall (except when you are putting on masonry or brick veneer, in which case you can substitute a square cap block without changing the width of your foundation).

15. Use pipe screeds on metal supports

They are easier to set, they save wasting 2x4s, and they make less work finishing the slab after they are taken out.

16. Do a good finishing job with a power float

A little extra finishing time will save a lot more time laying the floor above; it will let you lay thinner vinyl asbestos flooring without the slab roughness showing through. Says Builder Ed Fischer of St Louis: "It took our floor finishers a little while to learn to do a perfect job, but now they do it right in the time it used to take them to do it wrong."

17. Heat the edge of the slab

Either hot water baseboards or perimeter warm air ducts will put the heat where you need it to avoid a cold slab around the outside walls.

5. Use a ground cover

A plastic or asphalt-impregnated ground cover will reduce moisture rise 90%. Buy it in rolls just a little wider than the pier spacing and notch around the piers. Don't seal, but lap the joints and let it run up the foundation wall 6". Without a good ground cover the house above will be damp (unless you build in Arizona or some other dry climate).

6. Install your insulation early

Install it below grade before you place your floor joists—it will never be so easy. Use cheap insulation 2' wide and just fasten it to the foundation wall with hardened nails. Buy this insulation 2' wide; this will still stop safely above the bottom of the crawl space. To insulate between the joists, cut wall insulation bats into small pieces and shove them between the ends.

7. Provide outside light and air

Daylight costs less than electric light. Use vents that can be screened in summer and closed in winter from the outside. Put them near the corners for better cross current ventilation to get rid of dampness.

8. Provide outside access

Don't mess up your floor framing for a little trap door. On some grades it may be smart to provide outside access for crawl space storage. A 2" concrete slab poured from excess ready mix and just screeded off will provide excellent extra bulk storage at minimum cost (if you have to worry about water you should not be building over crawl space anyhow).

9. Heat your crawl space

Close the vents in winter and provide a warm air supply line opening in the crawl space—or leave the pipe covering off the mains and returns on a hot water heating system. This will help give you a warm floor and a dry crawl space. Some builders use the crawl space as a plenum. This is good for heating but it will not work for cooling.
Advice No. 21

Design your houses to look bigger

Every school boy knows there are tricks that will make a line look longer or a rectangle seem larger.

For example,

this line AB
looks longer than
this line CD
but AB is actually shorter.

And this rectangle
looks larger than
this rectangle
but it is actually smaller.

Just so every builder should let his architect follow these simple rules to give more curb appeal to his houses by making them look longer and therefore bigger and more for the money:

Don't design a banana split

Don't use different materials in such a way that they split the front of your house into two or three smaller units. That just makes the house look smaller.

Instead, emphasize your horizontal lines

Emphasize your roof line with a big overhang of at least 2' and don't interrupt your roof line with little jogs.

Emphasize your window head line by lining up the heads of all your doors and windows.

Emphasize your middle line by running a moulding or belt course right around the house at sill level, or perhaps by using a different material, like brick veneer, below the sill line. (But let your architect break such a strong horizontal with some strong verticals like an impressive front door or your house will begin to look dizzy.)

Extend your horizontals beyond the end of the house

1. Always extend your roof overhang at least 2' beyond each end of the house. A house 40' long with a 44' roof will look a good deal bigger from the curb than a house that really is 44' long if the 44' house has only a 44' roof—but the extra 4' of roof will cost less than a fifth as much as adding 4' to the house itself.

2. Use fencing to extend the middle line at least 4' and preferably all the way to the property line on both sides.

Make your windows look horizontal

Combine your windows into longer units with panels between; better still, combine your windows in horizontal units so no panel is needed.

Make the roof big

Put the garage or carport under the same roof as the house.
Advice No. 22

Don't waste good money on designs like these

The shirt front. This is an unsuccessful attempt at making a house look like something it isn't. What I mean by "shirt front" is an expensive front with a switch to something less costly for the sides. A front of brick veneer, sides of vertical boards, for instance; or a front of wood shingles with clapboards at the sides. A shirt front is worst when the contrast between front and sides is greatest: a front of dark red brick and sides of light-colored asbestos shingles.

The whole concept is wrong. It assumes that a house is usually seen from the front. It isn't. It is usually seen from a corner, from an angle.

The too-high look. The higher a house is the shorter—and smaller it looks. Consequently, it's best to use a low-pitched roof. There should be wider overhangs at eaves, where the roof meets the walls. Have the highest possible grade level to your yard against the house. All these things help make it look longer, more horizontal, and therefore larger.

Ugly gables. Gables are fine if they are used judiciously. Too many gables or badly shaped ones can make a house very ugly.

The wrong new materials. Extremely valuable when they are properly used, new materials in the wrong places can spoil an exterior. Witness the house that has a front doorway of glass brick. All it needs to look like a barbershop is colored lights and a neon sign. Corrugated plastic, an attractive new material, is being misused in the same way—turning up in places where it doesn't belong. The moral is: Use new materials carefully, even if they are the latest rage.

Wrong chimneys. Most common of badly designed chimneys, is small and tall and not at the gable end of the house.
Here is some good advice
by Architect Rudolph A Matern, AIA
designer of thousands of built-for-sale houses,
as more than 4,000,000 families
saw it in McCall’s Magazine

Too bare an exterior. A house front shouldn’t look like a factory. Your front door should make visitors feel they are coming into a hospitable home.

Too much make-up. This can be as disastrous as too little. Some new houses combine brick, stone and shingles—the architect tried to appeal to every taste. Other kinds of over-decoration: too many paint colors or too many frills like exposed rafters, scalloping and different kinds of windows. Take a good look at your house and you may be surprised at how much you see that should come off.

Experimental exteriors. These are risky things for investments. Ultramodern can make a house very hard to sell.

The wrong roof color. The color of the roof is an important part of the total effect. Those bright blue roofs are the worst offenders. A white roof is an excellent choice. It’s nice looking and it reflects heat well. Black, gray and neutral shades are good roof colors. Brown and green are safe, but they may restrict your choice of colors for the rest of the house exterior.
Plan your houses to fit their site

A house that is right for a 100' lot seldom makes sense for a 50' lot; a house that is right for a flat lot may be all wrong for a hillside lot or even a gently sloping lot; a house that is right for the north side of the street is probably wrong for the south side.

That's why plan book houses often cost more to build than houses suited to the site by a local architect.

Plan a hillside house for a hillside site

That is one place where a basement makes sense, for it gives you a two-story house with both stories at ground level, either front or back. A hillside house is never cheap, but a hillside basement gives you prime space instead of a dark hole in the ground; it costs less than a below-grade basement on a level site; it often costs less than grading the lot for a one-level house.

Furthermore, the less you disturb a hillside grade the less trouble your buyer will have later with slides and erosion.

Plan one-story houses if you have enough land

You can't beat the one-story house for convenience and livability, and you can't beat it for construction economy. Except in the tradition-bound Northeast, few of the fine country houses custom-built on flat ground since 1940 have had more than one floor. A level lot 100' wide is big enough for almost any one-story house.

But a 70' by 120' lot with 10% minimum set back on each side is a very tight fit for 1,800 sq ft on one level unless the house is set back 40' from the sidewalk to make room for the garage in front (see drawing). And when you put a 40' set back in front of a house 32' deep, you won't have much space left for outdoor living and a garden in the privacy of the rear yard.

Likewise, 60' is very tight for 1,500 sq ft on one level.

Never build a detached house smaller than 1,200 sq ft on more than one level. A two-story house 24 x 24 is almost impossible to plan; its stairs will take up too much space; and anyhow, the house will look silly. A story-and-a-half house is the most expensive of all to build, the Small Homes Council found (H&H, Mar '58).
Build two stories if your lot is too narrow for a rambler

If you want to put 1,500 sq ft on a 60' lot or 1,800 sq ft on a 70' lot, the two-story house may be your best bet. What you save on buying less land may pay what it costs you extra to double-deck your construction.

But don't build two stories because you think they are cheaper: even for conventional construction the Small Homes Council found they cost more than any other layout except the story-and-a-half. You can't finish the ground floor as one big room; you waste space on the stairs; it always costs more to build on a ladder; and you shackle the plan to make the nighttime area upstairs the same size as the daytime area downstairs.

When builders like Bill Levitt find their two-story cost is less per sq ft, it is not because adding a second floor is the cheapest way to add space; it is because added space always costs less than basic space. Builder Bob Schmitt adds ground floor space at only $3.37 a sq ft. Levitt charges $5 a sq ft for 500 more sq ft in his two-story model. (See Page 102.)

One good way to build a two-story house is to use an above ground basement for the lower level, as in Carl Koch's Techbilt house.

Don't build splits unless . . .

1. your subs will absorb their higher cost for you, or
2. unless your buyers will pay more to get less.

A split costs an efficient production builder more per sq ft than any other floor plan, because no one has been able to devise an efficient way to build one. On a flat site they combine in one package everything that is wasteful in basement construction, crawl space construction, and two-story construction. They defy the economies of panelization, tilt-up, and one-big-room finishing. With few exceptions they are nailed together one stud, one joist, and one rafter at a time with interior bearing walls.

Builders can afford this inefficiency only in areas like Long Island, where builders have little to say about how their houses are built. On Long Island building details are entrusted to highly competitive subs who are hungry for business and bid on a sq ft basis whether the house lends itself to low cost construction or not.

On Long Island and in other subcontractor-dominated markets the split is a fairly good solution if you have to squeeze a slightly larger house and its garage onto a slightly too small lot. The split is no good for houses smaller than 1,250 sq ft and not much good for houses over 1,800 sq ft.

No efficient builder like John Long, Andy Place, Bob Schmitt, Mickey Norman, Dave Slipher, or Clayton Powell ever builds a split. Says Bill Levitt: "Split levels don't make sense for a volume builder. We never build them, because we can give better value in other ways."

Plan row houses for high priced lots

Never try to squeeze more than six detached houses onto an acre. Six houses to an acre cuts your lot size to about 50' x 100', which is already too small to justify wasting space between houses on side yards too narrow to be any good.

Two-story row houses 25' and 30' wide with one or two fenced patios per house can be planned to offer as much real enjoyment of the land 13 to the acre as detached houses six to the acre—especially if you reserve some of the land you save for neighborhood play areas big enough for games. (H&H, Oct '57)

Says Ross McKeever of the Urban Land Institute: "At the same density you can get more privacy with row houses on 30' lots than you can with little boxes set directly in the middle of 60' lots."
Plan your lots for
more enjoyment of the land

Cheapest space anyone can add to a house is outdoor space for outdoor living. It is as salable as it is cheap, for outdoor living is what most families move to the country to enjoy. With floor to ceiling windows, it can double the seeming space of small rooms indoors. And all it costs is a little money for paving, a little money for planting, a little money for fences, a little money for attractive outdoor lighting, and a little more thought.

Too many builders pass up this bargain in outdoor living and offer only the ten-times-as-expensive indoor living. Too many new houses make little more provision for outdoor living than a city apartment. Some houses don't even have a door opening directly to the lawn. They have a front door to the front walk, a side door to the garage, and a back door to the service yard to put out the garbage or hang out the wash—but no door through which people can walk out to enjoy their land.

“A house is not a home until it becomes part of its land”, says Architect Charles Goodman. “The land a family owns is just as important to its pattern of living as the house. A small part of this land is enclosed for protection from the weather. The greater part of the land stays open to the sky to be enjoyed as the weather permits. The houses we are building today are smaller than families actually need and so, because they cannot afford enough house, people have had to learn to live out of doors.

“Unless and until we concern ourselves more deeply with the land, we will be building houses but not homes. This concern with the land will be recognized and appreciated by the modern home buyer, who has been conditioned by the magazines he reads to expect more than straight rows of pedestrian houses perched on naked, uninteresting land. When he finds what he has been conditioned to look for, you will need no magic sales technique to sell him.”

Indoor-outdoor living is nothing new

Before the automobile age all nice houses had a covered porch for outdoor living, with rocking chairs, a swing and a hammock, and people spent half their waking hours there during the warm months. Usually it was a front porch, for in those days the front yard was still a pleasant place and neighbors visited from house to house. But now the street is a raceway for cars and delivery trucks, much of the front yard is a parking area, and the only place left for indoor-outdoor living is in privacy behind the house.
Here are 29 ways to get better plumbing and better bathrooms for less money

More builders and more architects get stuck on their plumbing and bathroom costs than on anything else they pay for.

Bathroom costs vary more from place to place and from builder to builder in the same place than any other costs. Builders who are both smart and lucky—builders like John Long, Andy Place and Dave Slipher—can add a second tiled 5' x 8' bath for less than $450 complete, including $150 for the raw space. Many other builders have to pay twice as much. This is not necessarily the plumber's fault.

One reason plumbing costs vary so much is that so many communities still have archaic plumbing codes. If your city has a bad plumbing code it would pay your local builders' association to challenge its wasteful requirements in excess of the up-to-date requirements of the National Plumbing Code. No local government has any authority to set up code requirements beyond what is necessary to protect the life, health, and safety of its citizens, so the courts often throw out code requirements that serve only to run up unnecessary costs by making unnecessary work for local subcontractors.

Another reason plumbing costs vary so widely is that some states permit restrictive local licensing practices to stifle competition among plumbers. Builder Dick Hughes pays $300 less in Texas than he pays in Oklahoma for identical plumbing in identical houses, because Texas has state licensing for plumbers and Oklahoma does not. But . . .

Biggest reason plumbing costs vary so widely is that few builders are ex-plumbers and few builders know enough about plumbing to work with their plumbers to get better plumbing for less money. Here are 29 ways builders and plumbers can help each other cut costs:

1. Make sure your plumber takes full advantage of special fittings

Bill Levitt and Andy Place both figure their simple precast plumbing trees save them $50 a bath. It will pay you to spend a long evening studying all the special fittings listed in such catalogs as the Alabama Pipe Co. You will find many single fittings that could take the place of three or four in your plumbing wall, and your plumber can buy them for a lot less money than it would cost him to make them.

*Developed with the help of the US Public Health Service, the American Public Health Association, the Housing & Home Finance Agency, the Department of Commerce, the National Association of Plumbing Contractors, and many others.
2. Buy your wet wall plumbing prefabricated

Your plumber can buy it factory-assembled to meet your local code requirements and all framed into the wall for less money than it would cost him to assemble it himself. He can buy it cheaper from APSCO, from LFI, and several other suppliers. Says Pensacola Builder John Collins, “Our plumber is saving us $75 per house by buying our plumbing pre-assembled.” If your plumber won’t do that...

3. Have your plumber prefabricate your wet wall plumbing in his shop

He can do it a lot cheaper there than he can do it in the field.

4. Plan your houses for short runs and compact plumbing

With the planning freedom you get from truss framing (see page 114) there is no good reason why your architect cannot develop a good plan that will keep all your plumbing close together for two baths, sink, washer-dryer, and water heater.

5. Line up your fixtures along one wall

Only an amateur or a millionaire would do anything else.

6. Put your bathrooms back to back

This should cut the rough plumbing costs for your second bath by more than 50%. It will give you shorter runs and let your plumber use cross-fittings to handle two fixtures from a single riser. (APSCO charges only 20% more for a double plumbing wall for two baths than for a single plumbing wall for a single bath.)

Back-to-back baths are easier to plan now that FHA permits inside baths. One inside bath has been approved since 1954; two inside baths are approved by the new FHA standards.
7. Keep your plumbing above the floor

Your plumber can work a lot better and faster there than he can work flat on his back in crawl space or on a ladder in the basement; he can do all his roughing-in the same day for a slab or crawl space house; and he can save the extra cost of burying an extra-expensive soil line under a slab. Builder Bob Schmitt figures his net saving on above-the-floor plumbing at $300 per house, even after paying $50 extra for two wall-hung toilets.

For above-the-floor plumbing you need an end-drain tub (see picture right) and a rear-discharge toilet, either pedestal-mounted (which costs little more than standard toilets) or wall-hung (which costs about 50% more).

8. Don't make your plumber do carpenter's work

Don't make him waste time cutting and notching studs to fit his rough plumbing in. Let him finish his rough plumbing first; then close the rough plumbing in between a double wall (the extra framing lumber will cost you only $3, and your carpenters can nail it together faster than your plumber can cut one pipe through a stud.) Never make the wet wall a bearing wall.

9. Use flexible tubing for your supply lines

Copper will save its cost twice over by requiring less fittings for bends; new plastic tubing will soon be on the market that will carry hot water as well as cold for a third the material price per foot of copper. (The NAHB Research Institute is using plastic pipes in its Knoxville research house, now being built.)

10. Connect all your fixtures to a water-supply manifold . . .

... one for the hot water system next to the heater, one for the cold. Then your plumber can run a separate 3/4" flexible-tube from the manifold to each fixture. Except on long runs this will save material; it will always save the plumbers' time, because each fixture needs only two easy connections—one at the fixture, one at the manifold.

New to most plumbers, this system is nonetheless approved by all up-to-date codes. In use it offers a further advantage in that there is much less pressure drop when another fixture is turned on.

11. Protect your tubs during construction

On some tracts two out of every hundred tubs have to be taken out and replaced before the house is finished because of some careless accident like dropping a hammer. This often costs $1.50 per tub. Builder Fritz Burns pays $3 a tub for a sprayed-on plastic cocoon. "If you can't use moth-balling," adds Builder Dave Slipper, "the second best idea is to fill the tub with water as soon as it is connected."

Be sure your plumber plugs all drains when they are installed, so construction debris can't block the system.

12. Let your plumber schedule for just two trips

One day for the rough plumbing before the partitions go in, one day for the fixtures and finished plumbing after the partitions are erected.

13. Buy only the best and best looking fixtures

Many builders who waste hundreds of dollars on inefficient rough plumbing hidden in the wall skimp to save $2 by putting a cheap undersized fixture out where it will show. This is without doubt the most penny wise, pound foolish of all economies. Fixtures are the least expensive part of a bath; even the best fixtures add up to only a third of its total cost.

So don't buy a lavatory too small to wash in (19" x 21" costs your plumber only $5 more than 17" x 17"). Insist on a long-lipped elongated toilet bowl (it costs your plumber only $10 more, would cost much less if more builders bought them).
14. Don't use oversized or overweight pipes
Use 3" drainage pipe; it is more than adequate and passes all up-to-date codes. It costs only half as much to buy as 4" and is much easier to install.
Use service weight cast-iron pipe. Buy above ground copper tubing only in the DWV weight; it is just as satisfactory as the M that went out 15 years ago.
But don't skimp on undersized supply lines. Run at least a 1" line to the street. In plastic it will probably cost less than the smaller service you use. Use nothing smaller than 1" between your meter and your manifold. The sizes most builders use are too small for today's much heavier water use, so they are noisy and wear out at their bends.

15. Use only two stop and waste valves
In all but the most elaborate layouts all you need is one for the cold water line and one for the hot.

16. Take advantage of new alternate materials
Plastic tubing is just as good for the service line from the main to the house. It can be unreeled in the trench like a hose, costs very much less per foot.
Plastic and impregnated fibres are quite okay and much cheaper for connections to sewer lines and septic tanks (except under the slab). They are also quite okay and much cheaper for above-the-water-line venting (from 30" above the floor to the roof).

17. Set your tub wall-to-wall across one end of the bathroom
And buy the tub enclosure ceiling high in one piece.

18. Don't try to beat the 5' x 8' bath for economy
Use standard 32" c to c spacing for the fixtures; it lets you buy standardized rough plumbing. It is also an outstanding example of the multi-use of space: the same 2½ x 5½ of floor does triple duty as standing room for three fixtures.

19. Don't waste time, space, and money compartmenting your baths
What home buyers want and need is more fixtures, and fixtures are the cheapest part of the bath.
When you compartment a bath you run up your partition costs and you often double your rough plumbing costs (because you lose most of your back-to-back plumbing savings), but you end up with no more fixtures to show for your money.

20. Locate your toilet between tub and lavatory
This is about $30 cheaper, for it is the only way to branch without any back venting or wet venting.

21. Use single-lever combination faucets
They take less time to install.

22. Use frost-proof hose bibs
Instead of running a separate water line with a stop and waste valve to each hose bib, run a short line from the nearest fixture supply to a frost-proof hose bib. You will need less pipe and less valves.

23. Try to vent your whole plumbing system on one stack
If you can group all your fixtures within an 8' radius, a single stack will meet the requirements of the National Plumbing Code and all other up-to-date codes. Additional stacks will cost at least $25 each (but don't accept a bad plan just to save this $25).

24. Run the window wall to wall
A wall-to-wall window across the 5' end of a bath should cost less than a narrower window with a fussy return on either side. Builder Joe Eichler has proven beyond doubt that eliminating the return makes a small bath seem much bigger.

25. Or perhaps you can just omit the window
Many of the best architects often do—like Marcel Breuer or Frank Lloyd Wright. You can get better ventilation rain or shine for less money with a small exhaust fan blowing out under the eaves.

26. Buy your recessed medicine cabinets 30½" wide
Then they will fit between the studs without blocking.

27. Cover the ceiling with paper-backed aluminum foil
This is one of the best new ideas introduced by National Homes this fall. It costs only about 60¢ a sq ft printed in attractive patterns and provides a waterproof covering that will outlast many coats of paint in a steamy bath.

28. Locate your water heater as close to the kitchen and bath as possible
This will save piping and it will help your buyer save fuel and water getting the water to run hot.

29. Don't waste good money on a house trap
If your plumbing code requires a "horizontal intercepting trap," get after your local government to change this archaic requirement at once. Says Glen Shields, sanitary engineer for the City of Detroit: "They are stinkers. When a water closet is flushed they emit a blast of sewer air that would make a sewer rat homesick. Research by the Bureau of Standards and the University of Iowa showed that a house trap develops the same kind of obstruction to flow as if the discharge end of the building sewer were submerged. Its omission permits better flow, fewer stoppages, and higher loading."
Don’t spend good money on anything less than a good kitchen

Advice No. 25

A bad kitchen costs just as much money as a good one. The woman who buys your house may not understand electronics or thermodynamics, but unless she is a very green bride she will know at a glance whether she will like the kitchen you offer her—whether it will be a pleasant place to work in and an easy place to work in, and whether it is conveniently located so she can answer the door, watch the children, and enjoy her guests. “The kitchen sells the house” is a truism.

Here are 16 recommendations based on the Cornell Kitchen Study:

1. Put the kitchen handy to the garage. Don’t make the housewife carry the food clear across the house every time she comes home from market.

2. Put the kitchen handy to the front door. Don’t make her drop her work and walk half the length of the house to answer the bell.

3. Put the kitchen where the housewife can keep an eye on the children at play. “It’s the most important place for the kitchen,” says Glenn Beyer.

4. Don’t make the kitchen a prison. Open it up so she can see and talk to her husband and her guests while she works. Or make it big enough—a real kitchen-family room—so she can have company right in the kitchen itself.
5. Don't make the kitchen smaller than 8'x12'. You won't have enough counter space, you won't have any room for informal eating (and most families like to eat their regular meals in the kitchen), and you won't even have a place for the housewife to sit down.

6. Don't make the work space in your kitchen much bigger than 8'x12'. The added floor space will just put counters and appliances farther apart and so make more steps for the housewife.

7. Install an acoustic ceiling. The kitchen is the noisiest room in the house. You can't get rid of china dishes or metal pans, so make it as quiet as you can with acoustic tile.

8. Put the exhaust fan 24" above the range and be sure to vent the oven right under the hood. The kitchen is the hottest room in the house—and the smelliest.

9. In an open kitchen, provide some sort of shutters or sliding panels between the work area and the family area so the kitchen can be closed off at times to hide the mess.

10. Plan your kitchen around these five work centers: refrigerator, sink, mix, range, and serve—and allow this much wall space for each: sink, 8'; mix, range, and serve, each 4'; refrigerator-oven, 6'. Some of the counter top space for some of these centers can do double duty, so the total wall space needed can be condensed from 26' to 20' if necessary. All countertops should be 36" high except the mix center, which should be 32".

11. Provide the same length of top and bottom storage at each center for the things used there. For example, your mix center is 4' long, so make the base and wall cabinets each 4' long too.

12. Place the refrigerator, sink, and range in a triangle, to save steps. There are three good kitchen plans. Which one you use depends on the room you're working with.

There's the U-shaped kitchen. This keeps the triangle compact and also keeps through traffic out of the work area.

There's the corridor-kitchen, with two facing rows of cabinets and appliances. The triangle is still compact, but through traffic may be a nuisance.

And there's the L-shaped kitchen. Cross traffic is not a problem, but the triangle is bigger and takes more steps. Worst plan you can use is the in-line kitchen. It strings all the appliances and cabinets out in one long row, wastes space and adds steps.

13. Put a good light under the wall cabinets to shine on the work surfaces, which need at least 40 ft-candles. This can be the least expensive light in the house, for all the fixture you need is a baffle along the cabinet edge to keep the light out of the housewife's eyes.
14. Provide intermediate shelves. Too many storage cabinets have only three shelves, set 12" from shelf to shelf. That wastes most of the height, for you need only 6" to 8" to stack a dozen plates. Intermediate shelving will give you more and more convenient shelf space.

15. Put facing counters and appliances at least 4' apart. This allows just about minimum clearance when the oven door is down or the dishwasher is pulled out. And you need at least 4' clearance for two people in the kitchen at the same time.

16. Use these standard cabinet dimensions:
Here are nine ways to cut the cost of a good kitchen

1. Dimension the space for your built-ins to the even 2' module and the even 1' half-module jointly recommended by NAHB and NEMA. Then your built-ins will run wall-to-wall with minimum time and money wasted to make them fit. Says Savannah Builder Clayton Powell, "This is a big advantage when you buy manufactured units."

2. Run your storage cabinets ceiling-high. "It costs less to put tall doors on your cabinets, so the top can do double duty as enclosed storage for little-used items, than it costs to full down the ceiling," says Houston Builder Mickey Norman. Says Glenn Beyer, director of the Cornell Kitchen Study: "Top storage for seldom used items is fine so long as you provide enough convenience-level storage for items in common use." Asks Architect Morgan Yost: Where else can you put those awful old wedding presents?"

3. Buy your kitchen windows 44" high, to line up at the top with the 84" height of other openings, to fit at the bottom right over the counter splashback 40" above the floor.

4. Back the sink up to the baths, to cut your plumbing costs by using the same wet wall. Don't knock yourself out to put the sink under the window. Women used to want it there so they could look out while they washed the dishes, but Glenn Beyer says, "That is not so important now that dishes are washed by machine: The dishwasher doesn't care about the view, so it is often better as well as cheaper to put the sink on the side wall and put the eating space or the mix center under the window." Caution: Don't back up the sink to the baths if you have to use a bad plan to do it, or you'll lose your dollar savings in wasted space, wasted materials, and lost buyer goodwill.

5. Set the sink trap 19" above the floor. That will allow space to install a garbage disposer, now or later.

6. Don't waste good resilient flooring under your base cabinets. Spend the money thus saved for a rubber cushion under vinyl asbestos flooring; the women who buy your houses will bless you every evening for the ease and rest the cushion will give their feet. And nothing less than vinyl asbestos will stand up under kitchen wear (heaviest in the house) plus kitchen grease and water.

7. "Don't waste money finishing the wall and ceiling behind your ceiling-high wall cabinets or your base cabinets," advises Sacramento Builder James Lewis. When cabinets fit wall to wall and floor to ceiling, all you need finish is the 16" between countertop and wall cabinets.

8. Locate your range and oven on the outside wall. That will cut the installation cost of an exhaust fan at least 50%-

9. Wire your appliances at countertop level. It will make a savings in your wiring—see page 148d.
Here are 20 ways to cut your costs for adequate wiring

Don't let your electrician waste his time and your money. Many builders could get adequate wiring (100 amp entry or better) for little more than they now pay for inadequate wiring (60 amp).

Don't let your electrician bid a flat price per outlet. Find an electrician who will work with you to detail a more economical wiring method and share his savings on this more efficient system with you.

1. Use less and heavier wire

A three-wire #12 circuit takes little if any more labor to install than the usual two-wire #14, but it carries nearly three times as much electricity (40 amps vs 15), so you need 60% less circuits and a lot less running feet of wire. Two three-wire #12 circuits will carry all the current most 1480 sq ft houses need outside the kitchen-utility area—with the added advantage of making 220-volt service available wherever it is needed (for example: to plug in a room cooler).

2. Get your circuits out of the ceiling

Nearly 80% of your living area outlets are down near the floor, so the most expensive place to run your wiring is through the ceiling, where you have to waste 8' of wire to drop down 8' to each base plug. The sensible place for your circuits is at baseboard level, making a split loop right around your house. Run a tap off the loop or a small (two-wire #12) separate circuit for your ceiling lights and interior base plugs. Use #14 wire only for switching.
3. Insist on pressure-lock devices

The old-fashioned screw-type devices are as obsolete as kerosene lamps, but nine electricians out of ten still waste time using them. Pressure-lock (push-in) connections can be made in one-fifth the time—and time means money when you are paying your electrician $3.70 an hour for his time and wasting at least half of it. Good pressure-lock devices cost no more than screw-type devices of equal quality.

4. Keep your heavy-wire circuits short

Run a three-wire #4 feeder to a rear load center if your kitchen-utility area is in the back of the house away from your service entry. (Three-wire #6 is enough if you are sure cooking will never be electrical). This will permit short branch circuits. At trade prices, 20' of three-wire #4 costs the electrician less than $8; an 8-circuit sub-panel costs him about $11.50.

Today not one rear kitchen house in 100 takes advantage of this wiring economy.

5. Buy your studs predrilled with a 1" hole 10" up from the bottom

Bigger and better holes can be drilled much faster in the shop, and your electrician can run his wire through a 1" hole faster and easier than he can run it through a 1/4" hole.

6. Cut and strip your wires simultaneously with this new combination tool

7. Get your interior partition wiring out of the wall

Surface raceways are the cheapest way to provide outlets in non-bearing partitions erected after the perimeter walls are finished (as they should be—see page 110). Reason: They can be installed and inspected at the same time as the finished wiring for the perimeter ring, whereas branches run through the partition studs would require an extra call from the electrician and an extra inspection.

Baseboard wiring (like Wiremold, Plugmold or Electrostrip) should cost no more if your electrician knows how to install it, uses the right tools to make corners fast, and gives you the benefit of his labor saving to offset his higher material cost. Even if your electrician's bid for baseboard wiring is a bit higher, it will cost you less if it eliminates inspection delays before you can finish interior partitions.

8. Use only non-metallic sheathed cable

It costs at least 15% less installed than armored cable or old fashioned knob-and-tube and it will save you a lot more than 15% under flexible conduit or rigid conduit. It is just as safe. It is approved by the National Electrical Code and all but the most archaic or racket-ridden local codes.
9. Make sure your appliances, furnace, etc, come factory wired for a single electrical connection

10. Give your buyers a break with a 150 amp entry box and a 2/0 wire service drop

The 150 amp steel cabinet costs your electrician less than $1 more than a 60 amp cabinet; the wire costs him less than $10 more than the #6 wire too often used. These two extras will save your buyer many times their cost the first time he adds a heavy-demand appliance.

11. Wire your appliances at counter-top level

No. 6 wire costs too much to waste it running up to the ceiling and down again.

For built-in kitchens the splash-board should be designed to do double-duty as a surface raceway big enough to hold several heavy wires. If this is not available, second choice is a separate surface raceway (trade price 41¢ a ft). Third choice is to run the wire through the studs 40" above the floor.

12. Put your outlets near the end of a wall space

They are less likely to be blocked behind furniture there.

13. Use aluminum for wires heavier than #6

For equal current-carrying capacity it costs only a quarter as much for the metal required.

14. Use only duplex or triplex base plugs

They actually cost less than single outlets.

15. Use a split-bus distribution panel

This will take five major appliance branch circuits and feeders off ahead of the main lighting disconnect. It saves money in three ways:

1. The split-bus costs less than any other device that can handle today's heavier loads (up to five heavy appliance branch circuits and ten single-pole general purpose branch circuits).
2. It ends the need for a single main switch or circuit breaker, saving its entire cost (which may be anywhere from $6 to $60.)
3. It is easier to make all the connections in one box.

16. Use outlet boxes slightly oversized

Don't let your electrician waste time cramming three No. 12 wires into a small box like this. The box shown above is 2½" deep. A box 3½" deep could have been wired much faster.

17. Don't let your electrician use "competitive" grade devices

Competitive receptacles cost only 9¢ less to buy (13¢ vs 22¢). They cost more to install (because they come only in the obsolete screw-type model). They won't stand up as long in service, because they don't make as good a contact. And it costs at least $2 for a service call-back to replace one.

18. Put time-delay fuses on all motor-appliance circuits

They cost only 5¢ more, and they will take without blowing the twice-as-heavy starting current of the motor.

19. Put your washer and dryer on the same circuit

Run a 3-wire #10 circuit (capacity 7200 watts) to the dryer and tap this circuit for a 2-wire No. 12 through a 15-amp fuse or breaker for the washer. The dryer uses 4500 watts; the washer only 700.

20. Make sure your electrician uses a ratchet screwdriver . . .

So one motion will do the work of ten. Few electricians do—though even with pressure lock devices they have hundreds of screws to tighten.
Be sure to see NEW WAYS TO BUILD BETTER

A monthly report on home building ideas, products, and techniques

Starting here

New products

Awning + jalousie makes a year-round window of the Rusco Twin Window. Awning serves as sunshade or storm window, jalousie as interior window. Awnings are glass or reinforced fiberglass in pale yellow, aquamarine, or off white. Screens are self-storing. Aluminium frame conceals hardware.

F C Russell Co, Columbiana, Ohio.

For details, check no. 1 on coupon, p 214

Double sliding windows combine with picture windows in sizes to 12' x 51" for winter protection and summer ventilation. Glass mounts in vinyl channel in weatherstripped aluminum sash. Sash moves on nylon slide. Fiberglass screens are permanently installed. All elements remove easily.

Fleet of America, Inc, Buffalo.

For details, check no. 2 on coupon, p 214

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page 164

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Harnischfeger adds a 1½-story . . .

Profit from a non-profit nursery . . .

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Curtis single-pane Silentite casement units—also available in many other sash styles.

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Curtis Silentite double-hung units used here with Curtis picture window—one of many styles.

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The Ballad of Builder Dan

Or How Zone Control Warms Up Houses and Prospects!

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More and more, where you find fine dwellings you find Bermico—as in this charming home designed and built by Stoneson Development Corporation of San Francisco. It won a Saturday Evening Post Blue Ribbon Award for the quality of its brand-name materials.

Bermico is tough cellulose fibre, thoroughly impregnated with coal tar pitch, that is naturally waterproof, root-proof and resistant to acids and alkalis. Convenient 8-foot lengths make Bermico easy to lay. Joints are quickly sealed with a few hammer taps.

For lasting service, use or specify Bermico® Sewer Pipe for house-to-septic tank and sewer connections, storm drains, down-spouts runoffs—Bermiseptic® Perforated Pipe for septic tank disposal beds—and Bermidrain® for foundation drainage.

Send for free copies of our 50¢ booklets—"How and Where To Install A Septic Tank System" and "What Every Homeowner Should Know About Foundation Drainage." Address Dept. KB-9.

BROWN COMPANY

General Sales Offices: 150 Causeway St., Boston 14, Mass.
Mills: Berlin, N. H.; Corvallis, Ore.
"my masons like KEYWALL best"

Galvanized Masonry Joint reinforcement

That's the conclusion of

The National Wax Company has 41,000 sq. ft. of floor space in its new headquarters in Skokie, Illinois. Ragnar-Benson engineers specified Keywall in every concrete masonry course outside and as a tie for the brick facing. Keywall was specified in every other course for interior walls.
When partition walls are to be built later, Keywall may be cut to extra length to serve as a wall tie. Then Keywall ends may be moved out of the way until needed. Smooth edges of Keywall won’t cut or tear hands.

Note how readily Keywall adjusts to variation in brick and masonry courses. Here it serves as tie between brick and block.

Joe Alberti, masonry superintendent, Ragnar Benson, Inc., Chicago Engineers-Builders

Mr. Alberti, as well as his masons, is enthusiastic about this new joint reinforcement. Ask one, Joe Wittye, for his opinion, “I’d use Keywall in my own home.” Then ask Ragnar Benson designers, “We’re specifying Keywall wherever masonry reinforcement is needed.”

You get the same enthusiastic agreement whenever you go on a job where Keywall was used. Architects have seen its superior ability to reduce shrinkage cracks. Its design assures full embedment and strong bond. Masons prefer to use Keywall. They use it as specified. Keywall takes little space on the scaffold. Unrolls in place on the wall. Cuts easily. Installation is fast—without waste. No wonder that on job after job, builders are switching to Keywall.

KEystone STEEL & WIRE COMPANY
Peoria 7, Illinois
Keycorner • Keybead • Keymesh • Keywall • Welded Wire Fabric • Nails • Non-Climbable Fence

Keywall is easy to apply. You roll out only as much as needed, cut without waste. Lapping Keywall gives uninterrupted reinforcement without adding to thickness of mortar joints.
Double Wardrobe in this bedroom. Wall-to-wall. Floor-to-ceiling 8 feet high.

Saves room in this small den. Large corner closet, 8 feet high.

All Around the House

**GLIDE-ALL**

_Sliding Doors_

FOR MORE CLOSET SPACE

THE SIMPLE, LOW-COST WAY!

**HOME Builders agree that closet space...and more of it...SELLS HOMES as readily as any other single feature. And the easiest, the least expensive and the most appealing way to add extra storage room and welcome wardrobe areas is with low cost Glide-All Sliding Doors.**

**SAVE CONSTRUCTION COSTS...** there are Glide-All doors for buildings of every type: 8-ft. floor-to-ceiling or 6-ft. 8-in. standard heights.

**QUICK AND EASY TO INSTALL...** top track is simply mounted on ceiling with screws. Aluminum threshold is screwed to floor. Doors are positioned in upper track and engaged in the threshold.

**WOMEN ENTHUSE OVER THEIR DECORATIVE POSSIBILITIES...** Glide-All doors are available with flush or recessed panels, can be painted, papered, lacquered, varnished or waxed in natural finish.

Write today for new, low price schedules and specifications bulletin.

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Write to Plant nearest you

CHICAGO, 3500 Oakton St., Shokie, III.

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LAUREL, Miss., P.O. Box 673

SANTA CLARA, Calif., 1020 Bayshore Blvd.

Also Available in Canada
FOUNDATIONS AND BACK-UP
Feature-packed block is ideal for foundations and back-up. Here’s why: Extreme durability. Minimum of moisture absorption. Full protection against vermin and rodents. Block even acts as its own insulator—providing indoor comfort for warm winters and cool summers. Fire-safe, too!

BLOCK
begins and ends with Quality

With block go permanence, dignity and economy—modern day musts for smart homes, shops, schools, churches, industrial and municipal buildings. Low initial and in-place costs of block are marked contrasts to other leading construction materials. Block is available everywhere for prompt delivery. Consult your local NCMA member on any phase of modern block construction.

National Concrete Masonry Association • 38 South Dearborn • Chicago

EXTERIOR AND INTERIOR WALLS
Economical block requires almost no maintenance...age can only enhance its natural beauty. Block’s versatility offers a myriad of personalized wall patterns, all fashioned in distinctive good taste. Further, block is fast and easy to lay up.

SPECIAL ACCENTS
Boundless block—inexhaustible in its utility—builds attractive windbreaking fences to withstand severest weather conditions, builds handsome patios matching the rugged activity of outdoor living...privacy partitions...carports...you name it, you can build it with concrete masonry.
Air Conditioning Designed for Builders...

New General Electric

INSIDE, the new General Electric Built-in Thinline is covered with a panel that can be painted or papered to match interior decoration. It blends in with room decor! Controls are hidden away from view, yet are easy to reach when needed.

OUTSIDE, the Built-in Thinline has a "no see-through" aluminum grille. It can be painted to match exterior. From street, it has a neat, Built-in look.

Designed for home builders—the Built-in Thinline's aluminum case is exactly as high as two building blocks with mortar, six courses of standard brick or five courses of jumbo brick. Case fits between studs.

See how easy it is to install the new General Electric Built-in Thinline:

You workmen install case during construction. Inside and outside panels protect the case until building is finished.

Slide the unit into the case later. It's compact and easy to handle, thanks to exclusive Spine-Fin cooling system and new compressor.

Add the inside panel, connect it and the new Built-in Thinline is ready to run. So neat you'd hardly notice it's in the room.

Outside louvers can be painted to match exterior. Makes the new General Electric Built-in Thinline blend with the finished house.
to cut on-site costs, save space!

Built-in Thinline

Cuts on-site costs because it needs no special ductwork or plumbing. Takes up no space because it’s part of the wall. Lets you air condition zone by zone—as little or as much of the house as you want. General Electric’s new Built-in Thinline Air Conditioner blends gracefully with any home design—inside and out.

Don’t decide on any air conditioning system for the homes you build until you’ve seen the newest system of them all—the new General Electric Built-in Thinline. Consider its many advantages . . .

Cuts on-site costs—You don’t need a skilled workman to install it. You not only save those hours of skilled and high-paid work by specialists, but you also save the cost of duct and plumbing materials. Its aluminum case is exactly as high as two building blocks with mortar, six courses of standard brick or five courses of jumbo brick.

Takes up no space because it’s part of the wall! The louvered grille can be painted to match the house exterior. And you hardly know it’s inside the room, because the inside panel can be painted or papered to match the décor. It fits almost flush inside and out.

Flexible—you can air condition zone by zone—because the new General Electric Built-in Thinline packs up to 10,000 BTU’s*—more than enough to cool a room in an average-sized house. A few can often take care of a whole house!

So you can air condition as little or as much as you want—and still have the sales appeal of air conditioning.

Economical—not only in labor and materials, but also in initial cost, too! And the new General Electric Built-in Thinline system costs less than most central systems.

Order now! Construction cases are ready for shipment right now. Your General Electric distributor has full details on the one air conditioning system designed specifically to answer builder needs.

General Electric Co., Appliance Park, Louisville 1, Kentucky.

*Cooling capacities are tested and rated in compliance with ARI Standard 110-58 and are stated in British Thermal Units.

BUY NOW FOR EXTRA VALUES!

Progress Is Our Most Important Product

GENERAL ELECTRIC

Send for FREE BOOKLET

Get the whole story. How you can save air conditioning dollars—and still give your home buyers the best in home cooling.

See your General Electric distributor, or SEND TODAY for your FREE booklet “Building and Air Conditioning with General Electric” which fully explains General Electric’s modern concept for home air conditioning.

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General Electric Company Dept. 2A, Appliance Park Louisville 1, Kentucky

Please send me my free copy of “Building and Air Conditioning with General Electric.” □

Also send name of local distributor. □

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ARCHITECT

OTHER
A look ahead at a new kind of heating and cooling

Imagine a system that can heat and cool your house without any moving parts.

Imagine a system that is all-electric and uses a lot less electricity to deliver (or remove) a lot more Btu's per hour than any system used today.

Imagine a system that takes a fraction of the space needed by any system used now and can even fit within a 2" wall.

Using brand-new engineering and a century-old scientific principle, Westinghouse engineers have brought just such a system a big step closer to the market. The breakthrough comes in the form of a hostess cart and a baby bottle warmer—both experimental—just shown by Westinghouse.

The principle of these two units (plus room heater/air conditioners and other appliances to come) is a simple one. In 1834, Jean Charles Peltier discovered that if two wires of different metals were connected with two terminals (see 1 in drawing below) and a current were passed through the wires, one terminal would get hot and the other terminal would get cool. Reversing the current reversed the effect, heated and cooled the opposite terminals.

Westinghouse's new "thermoelectric heating/cooling" works just the same way. Engineers simply "straightened out" the circuit (see 2 in drawing), replaced the dissimilar metals with dissimilar semiconductors (which get hotter and colder than any known metals for the same electrical input), used plates instead of point connections to increase the area heated and/or cooled. To further increase the area, they connected units in series, and to accommodate the thickness of an insulating panel between the hot side and the cold side, they extended the semiconductors with lengths of ordinary conductor (like copper) fitted with fins (see drawing above).

Here's how the system would heat or cool a room:

For cooling, d-c current would be run through the system in the direction that causes the interior plates to get cold, the exterior fins to get hot. Heat from the room would flow to the cold plates and, in effect, be transported by "electron flow" to the hot fins outside, where it would be blown away.

To heat a room, the current would be reversed, reversing the effect. Heat (this time from the cold outside air) would be transported in through the wall to the hot plates inside.

What about the efficiency of this system?

It's good, will increase. Today, Westinghouse engineers say, thermoelectric systems cool more efficiently than a household refrigerator; heat more efficiently than resistance heaters or conventional air-to-air heat pumps at low temperatures. They will also operate effectively at lower outdoor temperatures than air-to-air heat pumps. Further, Westinghouse engineers point out, these and other conventional systems are now at close to top efficiency, whereas thermoelectric heating/cooling "is just getting started"—and they see no mechanical limit to efficiency of thermoelectric units.

The principle of operation is dramatized in the experimental hostess cart—the hot side of the unit (top, in photo) warms an oven, the cold side chills a refrigerator. The baby bottle warmer keeps the bottle warm until feeding time, then (by reversing the current) warms it. Engineers are working on many more products—refrigerators, freezers, ovens, room heaters/air conditioners and other "conventional" appliances that work on the new principle; other totally new products like decentralized food cooling drawers that can be spaced around the kitchen, living room, and patio wherever they're needed, and cooling drawers for furs in the bedroom. Look for the first of these products to hit the market next year, says Westinghouse.
For character and texture

... for delicacy and interest of grain pattern, for warmth and beauty of color, the architect and interior designer have learned to rely on California redwood. And for uniformly superior quality, they have learned to specify Certified Kiln Dried Redwood, identified by the trademark CRA, and milled to exacting standards by the member mills of the
What the leaders are doing

This four-bedroom model at $13,100 sells fast for NAHB's president

Nels Severin is finding that one sure way to boost sales is to offer more house for less money. For example, see above and left. This four-bedroom, two-bath, family-room house has 1,353 sq ft, sells for less than $10 a sq ft with land.

It is one of four under $10 a sq ft models built by Severin in association with Builder Jim Blackwell in Old Orchard, a 47-house development in San Bernadino. The houses have been selling so fast that Severin has started another 51 houses in nearby Riverside.

The other three houses designed by Los Angeles Architect William Bray are a 1,281 sq ft, three-bedroom, family-room model at $12,650; a 1,200 sq ft, three-bedroom plus den model at $12,650; and a 1,128 sq ft three-bedroom model at $11,650. All have two baths, center-hall entries, two-car garages.

Here's one way to bring sun into a bathroom

This combination of a skylight and a strip of windows high on the wall gives a bathroom plenty of daylight and still keeps it private.

Fischer & Frichtel, St Louis builders, who tried the idea in one of their models, found buyers like it. Some buyers decorate the bathroom with plants along the window ledge.

The glass is fixed. A galvanized rain-stop (see sketch) keeps water from running down the roof onto the skylight.

continued on p 168
Typical Ervin H. Boessling Home in Houston (Texas) suburban area. Homes in $20,000 to $25,000 price range are located in attractive oak grove. Consoweld laminated plastic is used extensively in kitchens and baths.

Houston builder sells more homes
with Consoweld kitchens and baths

One glance at the colorful Consoweld kitchens of the Ervin H. Boessling Homes in Spring Branch, Texas, turned many "lookers" into "buyers." Plenty of room, and plenty of work space . . . all of it surfaced with bright, durable, functional, easy-cleaning Consoweld.

Luxury bath alone closed many a deal

Marble-smooth Consoweld brings dramatic color and convenience to the shower stall—wipes clean instantly with a damp cloth. And the matching vanity provides ample surface area for toiletries; stands up against stains, scratches, boiling water, alcohol, grease and cigarette burns.

Consoweld adds selling power to any home

New or remodeled. Ease and speed of installation, variety of use, and the wide selection of styles and colors permit you to add sales-building individuality to every job . . . and at low cost! No small pieces to fall off. No mortar lines to clean. No call-backs. Complete customer satisfaction.

Learn how you can use Consoweld in your homes and commercial buildings. Use the coupon and send for the free Builder Information Kit.

Consoweld shower stall and vanity in bath will always look new, never need refinishing. Vanity is Consoweld 6 in "Marble" pattern to match shower stall. For shower walls like this, builders use Consoweld 10 (1/10" thick), which is applied directly over gypsum board without plywood undersurfacing.

Consoweld adds selling power to any home

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What the leaders are doing

continued from p 166

Let prospects see some good-sized trees when they first drive into your tract

The rear lots in Builder Burt Duenke's Harwood Hills subdivision (St. Louis) are heavily wooded. But the front lots, near the entrance, are not.

Duenke knew prospects for his higher-priced ($25,000 and up) houses on the rear lots were tree-conscious. He was a little worried that these prospects would be disappointed when they drove through the unwooded front section (where houses had already been built and sold). So, at no cost to the owners, he lined the street leading into the subdivision (above) with 3 to 5 in. diameter trees. Says Duenke: "These trees help people to feel at home right away—a good beginning for a sale."

To make sure the trees stay healthy, Duenke asks all buyers to: 1) build dikes around the base of each tree to keep water from running off; 2) mulch to a depth of 4” to 5”; 3) water weekly as soon as new foliage appears; 4) water twice weekly during hot months.

Why it makes sense to run a non-profit nursery

Giving homeowners and their families a chance to browse and buy in a non-profit nursery is one way American Housing Guild gets landscaping in fast at its San Diego subdivision.

"By providing the most needed nursery items at cost, we give buyers a chance to stretch their landscaping dollars. The farther the dollars go, the better landscaped the houses," says Herb Seltzer, AHG sales manager.

The nursery is open every Saturday, sells only to AHG home buyers. It stocks items like peat moss, shrubs, ground covers, fertilizers, hoses, and soakers. In five Saturdays, sales jumped from $160 on first day to $350 on the fifth. AHG sells $13-$16,000 houses under VA and FHA. (FHA requires no planting and VA requires lawn seed only.)

Route prospects past a school if there is a new one near your tract. That's another way (see above) to sell prospects on your neighborhood.

The approach to one of Kirkman & Koury's subdivisions (in Greensboro, NC) was unattractive, so K&K built a new entry road past the new elementary school shown above. "We wanted visitors to see the school even before they see our houses," says Joe Koury. "People buy the neighborhood first."
"EVERYTHING HINGES ON HAGER!"

C. Hager & Sons Hinge Mfg. Co. • 139 Victor Street • St. Louis 4, Mo.
Founded 1849—Every Hager Hinge Swings on 100 Years of Experience
What the leaders are doing

continued from p 168

This prefab Cape Cod has room for expansion

It is the first more-than-one-story house Harnischfeger Homes (Port Washington, Wis) has produced in 20 years. The house was designed by Architect L Morgan Yost for families who want 1) four bedrooms right now or 2) only two bedrooms now and space for future expansion on the second floor. There are 792 sq ft on the first floor and 453 sq ft upstairs.

Builder Roy Skogman, who introduced the house in Cedar Rapids, made 18 sales in the first two weeks. His prices (including land): $13,900 with an unfinished second floor and no garage, $16,450 with two bedrooms and bath upstairs, and a garage.

The house is more completely prefabricated than any previous Harnischfeger model. The package includes: house-length wall panels—fully sheathed, with foilbacked gypsum glued and nailed to 2x4 studs, and windows and doors glazed and in place; interior partitions with 2x3 studs; a panelized dormer (at rear), panelized gable ends; window screens; a factory-built stairway. Optional package items are wood or metal kitchen cabinets and a variety of siding materials. If the house is to be erected on a slab instead of a basement, space for the basement stairway can be used for a first-floor washer and dryer.

Sales Boosters

"Exclusiveness sells houses. We put a sign between the sales office and the furnished models that reads: "Only 118 select families will be able to claim the Dover Bay address. Will you be one of them?" We feel sure the sign helped make Dover Bay a sellout."—Hal Gootrad, Cleveland

"Rising local taxes worry a lot of prospects. To calm their fears, we guarantee tax stability for three years to buyers in Scarsdale Park. On our $32,000 to $36,000 houses, we figure buyers will pay taxes of $900 a year, or $2,700 over the three-year period. Any taxation over this sum will be paid by our firm."—Amicus Most, New Rochelle, NY

"Direct mail to renters has been selling a lot of houses for us. We mail to every renter close to any of our five subdivisions. A good way to time a big direct mail campaign like this is to watch occupancy figures. We found that rental occupancy was down to about 75% in the first quarter of 1957, but rose to almost 100% in the first quarter of 1958. We knew that high interest rates and tight money had been keeping renters out of the housing market. So we used this jingle: 'Whether you rent or whether you buy, you pay for the house you occupy. Now is the time to own your own home.'"—Joe Koury, Kirkman & Koury, Greensboro, NC.

"We fasten an up-to-date map of St Louis to the sales brochures we leave with the personnel managers of big corporations like McDonnell Aircraft and Monsanto Chemical. We figure this added helpful touch gives us an edge when the brochure is given to company newcomers. The maps, which retail for $1.00, cost us about 55 cents. Naturally, we mark our subdivisions clearly."—Fischer & Frichiel, St Louis

"We use them along boulevards and in garden courts. We had an artist design them, and a local firm cast them."—Burt Duenke, St Louis

END
In the finest bathrooms you'll find Hall-Mack accessories.

Wherever you are—in tract homes or custom-built luxury homes—you'll find Hall-Mack accessories in the bathrooms. One reason is that architects, contractors, and builders rely on the beautiful utility of these world-famous accessories. Another reason is that customers are pleased and like their quality and convenience. Crafted from original ideas and designed in a wide range of styles to suit your needs and tastes...for modernizing or building...these gleaming fixtures are a solid first choice.

No wonder folks from Cape Cod to Carmel are asking for Hall-Mack, the world's finest bathroom accessories.

For finer bathrooms everywhere, rely on Hall-Mack bathroom accessories in sparkling chrome!

New chrome plated
Shower Recess Unit—handy, safe spot for shampoo bottles, etc.

New chrome Towel Ladder gives extra towel space so often needed.

Sold by leading plumbing, tile, and hardware dealers everywhere.

Hall-Mack's new Concealed built-in-the-wall Scale is just plain handy and convenient.

HALL-MACK COMPANY
Division of TEXTRON INC.
1380 West Washington Blvd., Los Angeles 7, Calif.

Please send your FREE color booklet of new bathroom ideas.

NAME
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CITY ZONE STATE

SEPTEMBER 1958

171
New products

New woodgrained vinyls—figured walnut, American walnut, oriental walnut, oak—have been added to Bolta's coordinated lines of wall covering, countertopping and flooring. New material combines the look of natural grain with the tough wear-resistant qualities of vinyl plastics. A new merchandising package includes Bolta-Wall, Bolta-Top and Bolta-Floor.

General Tire & Rubber, Akron.
For details, check no. 7 on coupon, p 214

Slip-proof floors can be resilient, long lasting. Scotch-Tred, by 3Ms, is a 50-mil plastic film topped with non-skid particles and backed with pressure-sensitive adhesive. Scotch-Tred conforms to contours, is non-marring, spark-proof and flame-resistant, resistant to most chemicals and solvents. Comes in 96' rolls, 4", 6", 12", 18", 24", and 36" wide; in ¾" x 24" strips and 9" x 9" tiles, or in custom shapes to order. Colors are beige, black, and gray.
Minnesota Mining & Mfg, St Paul.
For details, check no. 4 on coupon, p 214

New—for walls, windows, floors

Stainproof wall covering—called Fabrique by its makers, Birge & Co—is a vinyl-impregnated, nonwoven textile printed in a wide variety of colors and patterns. It is proof against almost all household stains—alcohol, lipstick, ink, grease, crayon, etc. It can be applied with any wallpaper adhesive, can be butted without overlap. Rolls 21' x 20½" are $3.20 to $3.85.
Birge Co, Buffalo 5.
For details, check no. 5 on coupon, p 214

Textured louver blinds are made by impregnating drapery materials. The new blind slats have a semi-textured weave and are translucent enough to admit a filtered light. Blinds come in four weaves and four stock colors with others available on special order. They are colorfast, stretch and shrink proof, resistant to dirt, and completely washable.
Vertical Blind Corp, Los Angeles 25.
For details, check no. 6 on coupon, p 214

Color in metal trim for countertops and built-ins is supplied with new plastic inserts for Chromedge extruded aluminum mouldings. The color—in a wide range of decorator tones—is in a plastic strip which snaps into the metal wall strips and cap edging. The plastic is corrugated for texture, comes in ¾" and ½" widths in 12' rolls at 3½¢ and 6½¢ a foot.
B&T Metals Co, Columbus, Ohio.
For details, check no. 8 on coupon, p 214

Foam-backed carpet has been specially developed for builders by Luxor Carpet Co in its new Jacq line of 100% nylon carpeting. The pile is a low loop that offers long wear and easy cleaning. It is bonded to a latex foam backing (see inset) that is moth and mildew proof and can be applied directly to concrete slabs. Carpeting comes in five colors in 54" wide rolls.
Luxor Carpet Co, Akron 10.
For details, check no. 9 on coupon, p 214

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HOUSE & HOME
CEDAR SHAKE WALLS

stop the traffic...

...start the sale

Until a prospect stops, there can be no sale. That is why quality—unmistakable exterior quality—is vital to successful home merchandising. Cedar shake walls, with their clean-cut textures and dramatic shadow accents, put quality right out front. Out where it shows. Out where it sells. That is why genuine red cedar is the dominant wall material in so many modern communities.

RED CEDAR SHINGLE BUREAU
5510 White Building, Seattle 1, Washington
550 Burrard Street, Vancouver 1, B.C.

Your Best “Outside Salesman” Is Cedar
New products

Char-Glo unit is gas-fired, and cooks over glowing ceramic "coals." Two models are offered: insulated Starcastle is made to fit wood cabinets; Starfire must be installed in masonry. Both have automatic pilot lights. Cooking grill tilts back to control flare-up. Either unit fits a space 27" long, 25" wide, 16" deep. Tested and approved by AGA.

For details, check no. 10 on coupon, p 214

Christiansen Co, Los Angeles 21.

Donley charcoal unit supplements company's outdoor barbecues. Built in modular sizes to fit countertops, the unit has chrome handles and top frame, nickel-plated grill. Fire pan raises or lowers to adjust heat, swings out to ease firemaking, or removes for cleaning. All-steel unit fits into metal cabinets or masonry. Exhaust hood recommended.

Donley Brothers, Cleveland.

For details, check no. 11 on coupon, p 214

New Majestic cooks with gas and radiant ceramic Char-Roks. Grate is castiron, frame heavy-gauge steel, grill chrome, and top rim stainless steel. 25,000 Btu burner is pilot controlled. Unit is fully insulated by 1" firebrick and thick asbestos millboard with aluminized steel liner. In masonry, unit omits back and end panels. Other models and accessories also available.

Majestic Co, Huntington, Ind.

For details, check no. 12 on coupon, p 214

Adjustafire charcoal unit is designed to be built in, inside or out, for broiling or rotisserie cooking. Unit comes in three sizes, with or without spit, in matte black or bronze hammertone enamel. Grill is copper-nickel-chrome plated. Firebox is adjustable to control heat. No special installation is needed to fit unit to masonry or fireplace-type openings.

Burr-Southern Corp, Pasadena.

For details, check no. 13 on coupon, p 214

Superior Feastmaster CT-400 is one of three new charcoal-fired barbecues by this maker. CT-400 is front-mounting for indoor-outdoor use, CT-500 is drop-in type, OD-300 is for outdoor use only. Indoor-outdoor units have crank-adjusted fire grates. All are all-steel construction, have 15¾" x 24" plated grills, fit a simple masonry shell. Black or copperplate.

Superior Fireplace, Fullerton, Calif.

For details, check no. 14 on coupon, p 214

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HOUSE & HOME
"We had to be sold on saving money!"

"We had never used Gold Bond Permaboard Flat Sheets on a home as expensive as this," says Mr. Howard Lange, "but the customer specified Permaboard by name. As it turned out, we're sure glad he did. The 4 x 8 sheets went up faster than anything we've ever handled before... saved us a lot of money. Not only that, but this board and batten type construction blends beautifully with the stone front. We used Permaboard for the soffits too, and you can bet we're going to continue to use it in the future now that we've seen how attractive, practical and economical it is."

For more ideas on the uses of Gold Bond® Asbestos Cement Permaboard or Pliaboard, write Dept. HH-98, National Gypsum Company, Buffalo 2, New York.
New products

To sheathe garage walls National Gypsum is introducing an aluminized gypsum sheathing. Silver-Glo sheathing is a 0.5" thick t&g panel with a fireproof asphalt-treated gypsum core wrapped in water-repellent building paper. Reflective aluminum-coated exterior paper serves as final finish for garage interior. 2' width of 7'2" and 8' panels fits common 2' garage stud spacing.

National Gypsum, Buffalo 2.
For details, check no. 15 on coupon, p 214

For textured exteriors, Snellstrom grooved plywood comes in Texture 1-11 or with grooves at 2", 4", or 8" regular or random spacing. 0.375" plywood has 0.375" grooves 5/16" deep with 3/16" x 5/16" shiplap. Face has small knots and natural character but no patches. Standard widths 16", 32", and 48"; standard length 8', but 6', 7', and 10' lengths are available.

Snellstrom Forest Prod. Eugene, Ore.
For details, check no. 16 on coupon, p 214

New sheet materials do special jobs

For decorative walls, hardboard, in perforated and smooth panels, V-plank or V-square, is now finished in blond Driftwood tone. Panels are 4' x 8' in 0.25" or 0.38" thickness. Baked-on finish gives a scuff-resistant surface suited to recreation areas or children's rooms. Annular nails in matching color are available so that installation can be the final finish job.

Evans Products Co, Corvallis, Ore.
For details, check no. 17 on coupon, p 214

To get matched panels selected 1" pecky boards of incense cedar are laminated between other cedar boards to 3" thickness, then sawn lengthwise through pecky layer. Backing is planed to give 0.375" thick panel; face is sanded to remove fungus. Lam-Loc panels are 8", 10", or 12" wide to 16' long with t&g or straight sawn edge, can be stained, painted, or natural finished.

Ed Fountain Lumber, Los Angeles.
For details, check no. 18 on coupon, p 214

For permanently flat walls, Johns Manville has developed Micro-Flexboard, a precision-formed asbestos cement sheet, as a base for metal or plastic laminates or commercial and decorative finishes. Stock boards are 4'x8', 4'x10', 4'x12' and 0.38", 3/16", and 0.5" thick; unsanded for heavy laminates, belt-sanded for thin skins, drum sanded for high-gloss enamels.

Johns Manville, New York City 16.
For details, check no. 19 on coupon, p 214

continued on p 178
National Gypsum believes life's happiest investment is a new home. We have promoted and advertised home ownership to the American public since 1928—longer and more consistently than any company in the building industry. In the September 13th issue of the Saturday Evening Post you will see the latest advertisement in this continuing campaign. National Gypsum Company, Buffalo 2, New York.
New products

Latest fixtures from Crane include a new oval lavatory that fits an 18” space, a one-hand lavatory faucet, and a new tank-in-the-wall suspended closet. The nearly round lavatory styled by Henry Dreyfuss is available in seven colors and white, has concealed front over-flow and new Singl-ese faucet. The new faucet has stainless steel operating parts, seals with—not against—water pressure. The Walsun off-the-floor closet fits 2 x 6 studding 24" oc. The steel tank is 22" high, 8½" wide, 5¾" deep, is insulated to prevent condensation, and equipped with a new flapper valve and diaphragm float valve. The bowl hangs from a new carrier held to the studs by a tie-bar and supported by a sole plate within the wall.
Crane Co. Chicago.
For details, check no. 20 on coupon, p 214

Here are new fixtures and fittings for baths

One-piece hanger holds new Kohler wall-hung lavatories to simplify rough-in job and speed installation. Slotted holes at each end of heavy-gauge steel hanger allow precise leveling. Other holes are spaced to assure firm mounting in frame, concrete, tile, or block walls. With this new rust-resistant hanger only two threaded fasteners are necessary to hold the lavatory.
Kohler Co. Kohler, Wis.
For details, check no. 21 on coupon, p 214

Wall-hung dryer handles wet towels, lingerie, or other light laundry, can be flush or recess mounted in a space no bigger than that needed for a medicine cabinet. Drying is done by 325-w element and 4" suction fan operating off 110-v circuit, automatic timed at slightly higher cost. Three swing-out hangers hold clothes. Installation calls for 30½" x 14½" x 3½" rough opening.
Louver Mfg Co, Minneapolis.
For details, check no. 22 on coupon, p 214

continued on p 181
"I find it's good business to make full HOUSEPOWER a feature of every home we build," R. L. Hannibal of Marshall-Hannibal Co., Omaha, Nebr., reports. "It's a terrific sales clincher to show prospects exactly how and where certified wiring provides full HOUSEPOWER in a Marshall-Hannibal built home."

"The HOUSEPOWER Rating Sheet is one of my major sales helps," declares Leon N. Weiner of Franklin Builders Homes, Inc., Wilmington, Delaware. "It goes without saying, then, that full HOUSEPOWER is specified in every home we build. We place a Rating Sheet on the service panel of all our sample homes."

John Georgetti, Rutland, Vt., builder, states: "I put full HOUSEPOWER in every home I build—and put HOUSEPOWER in every sales pitch too. It works. Prospects realize the quality of the home when it's pointed out that the home has a convenient, expandable wiring system. Women, especially, like this."

"Full HOUSEPOWER homes are better—sell better!"

It's as simple as this: More and more home buyers know that full HOUSEPOWER provides for the carefree electrical living they want. Result: Prospects are insisting on full HOUSEPOWER before they buy. And more and more builders report that they specify full HOUSEPOWER in every home they build. They've found that full HOUSEPOWER homes sell faster, mean more satisfied customers.

The multimillion dollar HOUSEPOWER program continues to sell your customers on the increased value of homes wired for full HOUSEPOWER. So why not build buyer confidence by assuring your prospects right off that yours is a full HOUSEPOWER home? Use the convenient HOUSEPOWER Rating Sheet to show your customers how comfort and convenience are built into your homes!

There are other profit-building sales aids too. For full information contact your local Wiring Bureau, electrical contractor or electric utility. Or we'll be happy to send details to you by mail. Write: National Wiring Bureau, 155 East 44th Street, New York 17, N. Y.

A home with full HOUSEPOWER can easily be stepped-up to qualify for a Live Better Electrically medallion.
In a nationwide home-building merchandising program, 314 out of 380 of the country's leading builders specified Johns-Manville SPINTEX home insulation for homes they are now building. These builders chose SPINTEX because they know it has great home-buyer appeal and will help them sell and merchandise their homes.

In a recent survey, homeowners voted 7 to 1 in favor of Johns-Manville as the manufacturer of insulation in which they would have the greatest confidence. Home prospects know that Johns-Manville SPINTEX home insulation keeps homes warmer in winter and cooler in summer. They also know that it reduces heating bills and cuts air-conditioning operating costs.

SPINTEX is a vastly improved home insulation, manufactured by the revolutionary Johns-Manville spinning process which produces finer fibers for greater efficiency.

Johns-Manville SPINTEX home insulation comes in various thicknesses up to 6 inches, and in blankets or batt form. Blankets are available either Kraft paper-wrapped or aluminum-wrapped. Batts and blankets are light in weight... easy to handle... cut clean and sharp. These ideal characteristics make for better, faster, labor-saving application.

We'll be glad to send you a copy of our new booklet, "Comfort And Its Control In Light Construction." Write to: Johns-Manville, Box 111, New York 16, New York. In Canada, Port Credit, Ontario.
New products

ONE-PIECE SHOWER STALL

One-piece shower stall is fiberglass-reinforced plastic, has no joints at ceiling, floor, or wall corners, is completely leak-proof. Even seat and soap dish are cast in single continuous surface. Available with three walls in three sizes—32" x 32", 36" x 36", 48" x 32"—or two walls in two sizes—32" x 32" and 40" x 40"—all 80" high. Price $115 to $145.
National Fiberglass Corp., Gilroy, Calif.
For details, check no. 2 on coupon, p 214

NEW IDEAS TO USE IN YOUR SHOWER

FLEXIBLE SHOWER HEAD
can be added touch in a family bath. Coiled metal hose brings shower down to child size or helps adults keep water out of eyes and hair. Flex-arm is chrome plated with flexible waterproof liner, fits standard ½” threaded pipe. Can be installed as easily in remodeling as in new construction. Shower arm retails at $8.95, is available to the trade at $5.97.
Shur-Lock Home Prod., Kalama, Wash.
For details, check no. 24 on coupon, p 214

NEW ONE-HAND CONTROL
for tub or shower uses the same single piston principle as Moen kitchen and lavatory faucets. One motion controls both flow rate and temperature of bath water. Single piston seals with, not against, water pressure to give positive closure, and has stainless steel working parts and Neoprene O ring to provide no-leak, no-drip operation.
Moen Faucet Co., Elyria, Ohio.
For details, check no. 25 on coupon, p 214

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GIVES YOUR HOMES THE STRONG MERCHANDISING ADVANTAGE OF EDWARDS PROVEN ZONE-CONTROL HEATING SYSTEM.

- Edwards Zone-Control Heating System costs as low as $25.00* per zone more than non-zone systems. *(average installation)
- Zoned heat gives you a strong merchandising advantage...helps you sell homes faster.
- A complete installation package can be installed in just 1 day by 2 men.
- Edwards Zone-Control Heating System, proven through thousands of installations, can give you up to 6 zones, yet uses only one pump, due to Edwards' positive-action motorized valve system.
- Complete package weighs under 400 lbs.
- 20 year guarantee.
- Brings quality zone-control baseboard heating prices within reach of lower priced development housings as well as custom built homes.

Write, wire or phone for complete information and brochures.

**EDWARDS ENGINEERING CORPORATION**
300 Alexander Ave., Pompton Plains, N. J.
Telephone: Terhune 5-2808 or Terhune 5-3352

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**Put Broan Range Hoods in your kitchen picture**

Premium in Everything — but price

If you'd like solid ammunition to outsell your competition, if you're interested in easy, fast-running installations to hold down cost, if you're concerned about the right price in making a bid — take a look at the great advantages Broan hoods provide:

- a fresh new look in styling ... with contour corners that allow adjacent cabinets to open fully
- removable, reversible top plate with rectangular and circular knockouts — a Broan origination — to save time and work in installation
- heliarc welded seams eliminate trim strips that collect grease
- push-button controls — out-in-front and eye-high — factory installed and wired
- concealed counter lighting; no shadows, no glare
- adaptable to 3 exhaust systems — a great performing twin blower, a 10" ceiling fan or an 8" ceiling fan

All of these plus values come your way without any premium in price. So check into Broan as hundreds of alert contractors already have. Write today for the name of the distributor in your area and for a fully illustrated specification bulletin.

**Broan MANUFACTURING CO., INC.**
924 W. State St.
Hartford, Wis.
Near Milwaukee

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HOUSE & HOME
**New products**

**LIGHT OPEN SHELVES** look good enough to use in den or living room.

**Here's a new system of flexible shelving**

Lundia system of prefabricated adjustable shelving, designed in Sweden, now made in the US, can be used decoratively in living areas of your house, or for inexpensive storage in your house or shop. These shelves can be installed, changed, or dismantled quickly without special tools, can be varied to meet any custom need within a 1" module. They are durable, will support up to 500 lb per shelf. Shelves can be open or closed, clear or divided; come in unfinished lodgepole pine, unfinished or sealed and lacquered select fir. Depths: 12", 18", 24", 30"; lengths: 36", 42", 48"; heights: 36", 72", 84", 96", 108".

Swain & Myers, Inc, Decatur, Ill.

For details, check no. 26 on coupon, p 214

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*Drew Barron says:*

“Our High-Test Wood Window unit line has been balanced with UNIQUE SASH BALANCES for over 20 years... a positive indication of customer satisfaction.”

“Now... added to our wood window line is the new UNIQUE balanced UNI-flex, full-jamb weatherstrip unit. Successfully tested for air infiltration by the Robert W. Hunt Co., Engineers, Chicago and awarded the A.W.W.I. Seal of approval. Another UNIQUE product we are completely sold on.”

“The Allen Metal Window Units are UNIQUE balanced... again we rely on UNIQUE SASH BALANCES for the best possible materials to satisfy our customers.”

**UNIQUE BALANCE COMPANY**
41Magee Avenue, Stamford, Connecticut
New products

Paint selection!
Color styling
Merchandising
You get them all in

Luminall® Paints
Builder-Architect Package

Paint selection
Big 12-page "Paintcyclopedia"—a veritable catalog of information covering all interior and exterior painting. All construction, including masonry, wood, aggregate block, plaster and acoustical tile. A complete "how-to-paint-it" for everything from the side of a home to a concrete swimming pool! Includes 74 product glossary.

Color styling
A handy pak of the loveliest color cards imaginable plus a big color book to help you select colors for all interiors, exteriors too! Or Luminall’s expert color stylists will do the whole job for you free. Check and mail coupon below for special color service!

Merchandising
A tremendous array of merchandising display helps styled from Luminall’s massive 1958 consumer advertising campaign in LIFE, Better Homes & Gardens, House Beautiful, Woman’s Day and leading magazines. Luminall, a great nationally advertised brand helps sell your homes faster. Check coupon for details.

Clipping Coupon to Business Letterhead
Luminall Paints, Dept. T25, Chicago 9, Illinois
Please send full details on:
☐ "Paintcyclopedia"
☐ Handy Color Card Pak and Color Book
☐ Builder-Architect Color Service
☐ Super Merchandising Service

Name
Firm
Address
City
Zone State

Luminall Paints
Chicago 9 • Newark 5 • Los Angeles 1 • Dallas 7

One anchor does most jobs of joining 2” lumber in butt, right-angle, or acute-angle joints as shown above, takes loads of 300 to 900 lbs. Strong-Tie anchor is 18-gauge galvanized steel, 4¾” long with 1½” sides. Eleven-gauge nails 1¼” long are included. Packed 100 a carton, weight 30 lb. Simpson Co, Oakland, Calif.

For details, check no. 27 on coupon, p 214

Two new all-purpose framing anchors

Single all-purpose anchor from Teco also gives strong nailed connections with 2” lumber without special fitting. It eliminates toe-nailing, strap hangers, notching, has special projection to help locate anchor. 18-gauge Du-Al-Clips for right or left hand come complete with special nails.

Timber Engineering Co, Washington, DC.

For details, check no. 28 on coupon, p 214

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House & Home
Are the bathrooms in your model homes making sales easier?

CRANE fixtures add the look of quality to your entire house...at no extra cost

Our builder friends tell us: "The bathroom is second only to the kitchen when a woman shops for a home." (And you can bet she's influenced by a look of quality—or lack of it.)

Why not let your bathrooms work harder for you by using Crane—the preferred plumbing.

An attractive Crane bathroom gives people the same feeling of satisfaction they get from owning fine silver or china...or even a fine car.

Yet Crane, for all its beauty, doesn't cost any more. The fixtures just look that way because they're so attractively styled by designer Henry Dreyfuss. And, because each piece is hand-finished to give a lifetime of satisfaction.

Get in touch with your Crane Builder Representative. He'll be glad to tell you about the full line of Crane fixtures...cast iron, vitreous china, steel, and exclusive Crane Duraclay. Plus many new ideas and sales aids to make your selling job easier.

CRANE CO. 836 South Michigan Avenue, Chicago 5 - VALVES - FITTINGS - PIPE - PLUMBING - KITCHENS - HEATING - AIR CONDITIONING
New products

ANODIZED ALUMINUM

Weatherstrip and Sash Balance Combination with Flocked Springs

NO CORROSION...
No Stain . . . No Blackoff
No Surface Blemish . .
No Discoloration

Preassembled for Drop-In Installation

ALLMETALITE

ALLMETALITE (ANODIZED) aluminum alloy is another factor in Allmetal's march, since 1915, toward maintaining and improving the quality of its products.

This special electro chemical process develops on the aluminum alloy surface a pre-hardened, pre-oxidized coating that will not chip, peel or blister. Finally the oxide coating, being porous, is sealed in by a special lubricant. The combination of aluminum oxide and special lubricant provide a strip that is free from discoloration, stain and surface blemish. And the silver sheen surface will, with minimum maintenance, not change nor lose its lustre.

In addition—ALLMETALITE Balance Strip is free from the stain of black-off, the hazard of salt spray and is resistant to abrasion from windblown sand.

Ready-to-install preassembled balance strips—completely weatherstripped and fitted with silent flocked springs are modest in price and abundant in value when formed from ALLMETALITE—anodized aluminum. Additional information will be sent immediately upon request.

MILLWORK JOBBERS—Call or write for details, Phone: UNiversity 9-9300
LUMBER DEALERS—Ask your jobber for window units equipped with ALLMETALITE

ALLMETAL is our trade name for aluminum anodized by the ALLMETAL continuous coil process. We invite your inquiry for the anodizing of aluminum coil stock.

ALLMETAL Weatherstrip Company
1917 Ridge Avenue Evanston, Illinois

Thermador refrigerator-freezer is rated at 14.2 cu ft total capacity: 10.2 cu ft of refrigerator space, 4 cu ft in freezer. Unit is completely self contained; when built in, it needs no vent, flues, or extra bracing. Full length louvers allow air circulation. Comes in left or right hand models in stainless steel or five colors—white, turquoise, yellow, pink or copper. Suggested price: $799.95.

Thermador, Los Angeles.
For details, check no. 29 on coupon, p 214

Two big new built-ins

Chambers' big built-in is rated at 17.3 cu ft of which 10.8 cu ft at top is refrigerator space, 6.5 cu ft below is freezer. Refrigerator and freezer have separate condensers, accessible from the front. The unit can be built into a space 7' x 3' x 2'. Stock finishes are antique copper and stainless steel, but unit is also available prime coated for custom color matching.

Chambers Built-Ins, Chicago.
For details, check no. 30 on coupon, p 214

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Make Your Homes More Salable — Even over Low Water Tables

Insist on RED JACKET "Submerga" Pumps

Home buyers want plenty of water and plenty of pressure. They want it not only for household use but also for lawn sprinkling, gardening and car washing. Successful home builders also know that such water consuming appliances as automatic washers, dishwashers, and garbage disposal units, as well as extra bathroom facilities, make homes easier to sell. With a Red Jacket pump in the water system home builders can be sure there is plenty of water at enough pressure to make these sale producing appliances work properly and satisfy buyer’s demands.

Pumps from depths to 1000 feet — Red Jacket "Submerga" pumps are valuable to home builders who encounter low water tables. There are 48 models in five series that give capacities to 100 gallons per minute. They operate deep in the well and push the water to the owner's water system from depths to 1,000 feet. Red Jacket has over 10 years field experience behind them with "Submerga" pumps and is one of the pioneers of submersible pumps for home water systems.

Capacities to serve more than one home — Red Jacket "Submerga" Big-Flo Pumps offer builders important savings. They have rated capacities of 45 and 70 Gallons Per Minute so they can handle the water needs of several homes to reduce drilling costs. All models are noiseless since they are out of the house and deep in the well. They are completely lubrication free and none of the models need pump house or pit.

Nation-wide service backing — Any good product needs adequate service backing and Red Jacket has backed their superior product with service facilities unequalled by any other pump manufacturer. There are well over 100 Service Stations located throughout the United States, Canada and Alaska. All are reliable, established firms that have complete stocks of parts and are equipped and trained to give quality service to Red Jacket "Submerga" pump owners.

The Red Jacket "Submerga" pumps and the Red Jacket line of Jet Pumps are sold through a nationwide distributor organization who can recommend the proper size and type of pump for every installation. This distributor organization as well as the service facilities protect the Home Builder's business reputation by providing buyer-satisfying water systems.

RED JACKET MANUFACTURING CO.
Davenport, Iowa

RED JACKET MANUFACTURING CO., Dept. HH-9
Davenport, Iowa

Gentlemen:
Please send me complete information about your:
Jet Pumps Submersible Pumps

Name ____________________________
Company _________________________
Address __________________________
City ______ State ______

SEPTEMBER 1958

ALUMINUM AWNING WINDOWS

Vampco’s Tru-Seal “Full View” Aluminum Awning Windows are the very last word for modern residential construction and are also widely used in commercial and institutional buildings. They can be used as separate units, flanks for picture windows or combined with panels to form either curtain or window walls.

Made of the finest quality tempered aluminum extrusions, Vampco Tru-Seal windows have the trim, narrow lines that are so essential to meet current architectural trends. Their operative mechanism and micro-adjustment are exclusive patented features. Controlled ventilation . . . complete weatherstripping . . . easy washing from the inside . . . lifetime screens and storm sash interchangeable from the inside . . . low initial and maintenance costs are among the many outstanding advantages that Vampco Tru-Seal awning windows provide.

Vampco Tru-Seal Awning Windows exceed Aluminum Window Manufacturers' tests A-A1 and A-A2 and are accepted for residential and commercial buildings by F.H.A. Available in 54 standard sizes . . . special sizes to fit any opening at moderate cost.

The Vampco line also includes aluminum casement, intermediate projected, glass block and basement windows. For complete details, mail coupon below, today.

VALLEY METAL PRODUCTS CO.
PLAINWELL, MICHIGAN

SUBSIDIARY OF MUELLER BRASS CO.
PORT HURON, MICHIGAN

A NAME THAT MEANS THE VERY FINEST IN LIFELONG ALUMINUM WINDOWS

See Complete File in Your Current Sweet's Catalog

VALLEY METAL PRODUCTS CO.
Dept. HH-9, PLAINWELL, MICH.

Send Light Construction Aluminum Window Catalog.
Send 56-page Industrial-Institutional Window Catalog.
Send Curtain Wall Catalog.

NAME ____________________________
COMPANY _________________________
ADDRESS __________________________
CITY ______ ZONE ______ STATE ______
New products

BARCLITE...
GOING IN EVERYWHERE!

Barclite is getting the big build-up inside homes everywhere! Inside ... dramatic room dividers, movable walls, partitions, dropped ceilings. Outside ... roofing, glazing, siding, carports, patios, awnings, and more! Economical ... lightweight, easier to handle, faster installation, easier to live with, no painting, no polishing. Translucent ... keeps sun's glare out, exclusive Infrablok® keeps panels cooler longer, diffuses light yet assures privacy. Shatterproof, 14 colors, new decorative panels too. Write for free samples and consultation services for your specific needs.

BARCLITE CORPORATION OF AMERICA
Dept. HH-9, Barclay Building, N. Y. 51, N. Y.
*an affiliate of Barclay Manufacturing Company, Inc.

No other standard fiber glass panel has earned all these seals!

Low cost greenhouse is prefabricated of aluminum in free-standing or lean-to models for quick and easy erection. Features include weatherproof, rustproof, and insectproof construction; curved eaves; automatic ventilation for 12-month-a-year protection of plants, flowers, and cuttings. Economet retail prices from $186. Metropolitan Greenhouse Mfg. Bklyn. For details, check no. 31 on coupon, p 214

Entrance door components for community service buildings, shopping centers, motels, etc, are now being made in stock and custom models by Valley Metal Products. The line will include doors, frames, side lights, and transoms, all made from Vamco's own aluminum extrusions, which can be assembled in package units to fit the job. Valley Metal Products, Plainwell, Mich. For details, check no. 32 on coupon, p 214

Disposable plastic gloves come in rolls of 12 to 1000 at a cost in 1000 lots of about 3¢ a glove. Handgards are heat sealed 1¼ mil polyethylene and are resistant to paints, acids, solvents, mastics, and other staining and irritating materials. The gloves are thin enough to give more sensitive feel than rubber gloves and do not pucker like rubber. Flare at wrist ventilates standard gloves; heavier grade also has perforated backs. Plasticsmith, Inc, Concord, Calif. For details, check no. 33 on coupon, p 214
Now Barrett has developed one of the most storm-resistant shingle designs in the industry. It's the Barrett "Storm King" Shingle, with wide bands of adhesive which seal the butt end firmly down. The result is a shingle roof virtually welded into a continuous asphalt shield. Thoroughly sealed by solar heat, these shingles defy the efforts of vigorous winds to creep under them. Stormproof your residential specifications by calling for Barrett "Storm King" Shingles.

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BARRETT DIVISION
40 Rector Street, New York 6, N. Y.
REVOLUTIONARY NEW HARDWOOD PARQUET

Adds 6 sales advantages to your homes!

Illustrated: Harris Par Oak BondWood with Walnut divider strips.

FOR INSTALLATION OVER CONCRETE OR WOOD

Square Joints — no beveled edges • Different Pattern — grain direction changes every 4 1/2" • Easily Repaired — individually replaceable slats • Tighter Fit — unique construction makes for less contraction and expansion.

Add all these exclusive sales advantages together and you have HARRIS BondWood—America’s newest and most exciting flooring! Entirely new in concept — sales features found in no other parquet to add sales excitement to your homes from the floor up! Write for free color brochure today. See our catalog in Sweets’.

HARRIS
Quality Flooring since 1898.

BondWood

Swiss in origin. Exclusively manufactured in U. S. by Harris Manufacturing Company, Johnson City, Tennessee

Glass fire screens are discounted by Thermo-Rite to builders who will display them in their model homes. The screens have heat-tempered glass set in brass frames, seal off smoke and drafts from the fire box. Damper is integral with the base. Standard models range in size from 24" to 50" wide, 22" to 33" high; in retail price from about $70 to $95. Models with two and three sides also available.

For details, check no. 34 on coupon, p 214

Aluminum roof jack gives 50 sq in. of free area, enough to handle any kitchen ventilating fan. It can be used with ducts 10" x 10" or 10" in diameter. Base is one piece with turned-up flange to prevent leakage. Water deflecting shield keeps out wind-driven rain. Aluminum damper prevents backdrafts. Profile is low—7/8"—to blend with roof line.

Leigh Building Products, Coopersville, Mich.
For details, check no. 35 on coupon, p 214

Budget glass door from Ador has decorative hardware, optional single or double glazing. Door has top-hung full-frame screens, adjustable nylon sheaves, sloping threshold complete with stucco trim. Lights take 3/16" or ½" single or ¾" double glass in vinyl glazing bead. Door handle includes flip latch or can take a low cost keyed lock. Doors are 69" high, 5'10½" or 7'10½" wide.

Ador Sales, Fullerton, Calif.
For details, check no. 36 on coupon, p 214
New products

Electronic storm warning can spot a tornado 40 miles away, sound a warning beep an hour before it hits. Severity of electrical discharge in the area is shown on a 1 to 10 scale on the face of the device. As a tornado forms, the needle rises until (at about 8) a beep sounds loud enough to wake a sleeper, at 10 a loud steady tone takes over. The device is also a high quality six-tube AM radio, usable whether or not the alarm is on. Sferics, Inc, San Antonio.

For details, check no. 37 on coupon, p 214

Foam insulation snaps on for quick and easy installation. Urethane foam insulates between -200F and +250F, is best for refrigeration or low-pressure steam. Urethane is clean and safe to handle, weighs only 3 lb per cu ft, has a K factor of 0.29. Product has a factory-applied moisture barrier, and can be further weatherproofed. Also comes in special preforms or in flat blankets. Allied Chemical, New York City.

For details, check no. 38 on coupon, p 214

Cellular rubber insulation comes in 5’ lengths to slip on pipe or to be slit and glued on. The soft flexible tubing may be had in wall thicknesses of 3/16”, ¼”, ⅜”, and ½” for standard pipe diameters from ¾” to 4½”. Rubatex is light, durable, fire resistant, proof against UV light, water, vermin, and rot. Great American Ind, Bedford, Va.

For details, check no. 39 on coupon, p 214

They may look alike, but...

There’s only one ORANGEBURG® Brand!

Like black cats, all bituminous pipe may look alike... but there’s only one genuine Orangeburg.

It’s the quality not the color that has made Orangeburg THE brand name in bituminous pipe.

Be sure you deliver Orangeburg quality on every job you install. It’s your assurance of satisfied customers.

Experience shows that famous brands are the best, year after year, because they give you highest quality. Whenever you buy Orangeburg make sure you get the genuine. Look for the name “Orangeburg” on pipe and fittings.

ORANGEBURG MANUFACTURING CO., INC., Orangeburg, N.Y., Newark, Calif.

continued on p 194

SEPTEMBER 1958

191
Laugh at the weather! Dense, hard and strong, Masonite panels defy extremes in temperature and humidity.

Still leading the siding revolution...
Still giving you extra selling power!

MASONITE exterior panels

Six years old and winning new friends every day! Masonite's line of revolutionary new siding products is still giving builders new ways to make homes more attractive, with lowered costs...still giving home owners better-looking, longer-lasting exterior walls.

Today you can get any architectural effect you're looking for, through one or a combination of Masonite® exterior panels. All are super-resistant to wind and moisture, heat and cold. All are super-strong, to resist bumping and scraping. All are free from knots and grain, cracking or splintering; every inch is usable; waste is held to the minimum. And all present a surface that's easy to finish, that holds paint for extra years.

Here, in brief, are the revolution-makers:
1. Shadowvent® Siding. Unique mounting strip supports panels, hides all nails, speeds application.
2. Ridgeline®. Striated texture. Can be stained or painted. In panels, lap siding or shingles.
3. Panelgroove®. Smooth-surfaced 4' panels with grooves in regular or random spacing.
4. Ridgegroove®. 4' panels combining textures of Ridgeline and Panelgroove.
5. Tempered Preswood®. 4' panels for panel and batten applications.
6. Lap Siding. Panels up to 16' long; 12", 16" or 24" wide. With or without wood Shadowline strip.

Give your houses the cost-cutting, strength-building advantages of these revolutionary siding materials. They're available with factory-applied prime coat. Your local lumber dealer stocks Masonite Exterior Products.

GIVE IT THE HAMMER TEST!
Place a section of Masonite siding on a flat surface. Hit it with your hammer—hard! Notice the results. Where else can you get a panel with such impact resistance? Grainless, it won't dent or crack; mistakes in hammering cause no problem. Here's a feature you can demonstrate.
Masonite panels and siding cut, fit easily with minimum waste.

Faster finishing. Many Masonite panels available in Primacote® for better, quicker finishes.

Mix 'em and match 'em. A wide variety of designs heighten appeal, accent featured areas.
A COMPLETE SERIES OF
QUALITY ROLLING GLASS DOORS

UNCONDITIONALLY GUARANTEED
FOR TWELVE YEARS!

Decorator handles and unequaled PermaSatin heavy aluminite finish for gracefulness and eye-appeal. The exclusive AP (All Points) Weatherseal that insulates like a refrigerator door assures year-round climate control.

Full Freight Allowed on 8 or more units

Vue-Lume Bon Air
FIXED-SLIDER SERIES
12 Standard widths from 6' to 24', and 2 standard heights; 6'10" and 8'. In OX/X0, OX0, and OXX0 models.

Vue-Lume DeVille
MULTI-SLIDER SERIES
12 Standard widths from 6' to 24', and 2 standard heights; 6'10" and 8'. Two, three, four or more tracks. POCKET MODELS IN ALL SIZES.

Vue-Lume Del Rio
FOR DUAL GLAZING
6 Standard widths from 6' to 20' in Standard 6/10" height. Special sizes and arrangements as requested. Accommodated 1" insulated glass.

Package pool goes in fast. Heck Bros of Indianapolis used the materials in the lower photo to make the pool above in just under nine working hours—35 man hours—of which half was spent excavating and grading the hole. The Buster Crabbe Pool is made of prefabricated, chemically impregnated panels, bolted together at the site, and lined with vinyl. The one above is 16' x 32', with a 7½' deep diving end, cost just under $2,000 to buy and install; the 30' x 20' patio and accessories boosted total to $3,800.

Cascade Pools, Inc, Trenton, NJ. For details, check no. 40 on coupon, p 214

New safe contact cement from 3M’s Midcontinent division is flameproof and odorless, bonds plastic laminates, plywood panels, wallboard, wood veneer, plaster, and canvas. Roltite is soluble in soapy water for easy clean-up while still wet but is water resistant when dry. It is also resistant to oxidation, oils, greases, and most household chemicals. It can be rolled, brushed, or sprayed.

Midcontinent Adhesive. Grove City, Ohio. For details, check no. 41 on coupon, p 214

Cabinets of steel and plastic look like wood. Marlboro maple units are made of heavy gauge steel but are finished inside and out with woodgrain melamine laminates. Cupboard model fits a 24" base cabinet, has spice shelf and double laminated doors. China cabinet fits a 30" base, has sliding glass doors, chrome cup rack, 2-way electrical outlet, spice rack.

Maine Mfg Co, Nashua, NH. For details, check no. 42 on coupon, p 214

continued on p 196

HOUSE & HOME
The modern sliding doors that by-pass each other or slide into their own recessed pocket are a neat, efficient and space saving innovation for the home, the office or the factory. Ideal for clothes closets, supply and storage cabinets or for room dividers.

Either one of the above two hanger styles and the specially designed No. 180 Rail will serve every thickness of door from ¾ inch to 1¾ inch. Rail is hot galvanized to prevent rust and is available in 44-inch, 56-inch, 60-inch, 68-inch and 92-inch lengths. Rail is adjustable. For further detailed information send for illustrated brochure.
Your gas installations can't boomerang...

with this seal!

Gas vent failures can "boomerang" back to harm your quality reputation as a builder when polluted, stale air and condensation damage appear in the homes you've sold.

The Metalbestos "Safety Seal" is your protection against gas vent failures and customer complaints...because it means that an all-Metalbestos vent has been installed according to the scientifically developed Metalbestos "Safety System" Gas Vent Tables.


Stocked by principal distributors in major cities. Factory warehouses in Akron, Atlanta, Dallas, Des Moines, Chicago, New Orleans, Los Angeles, Woodbridge, N.J.

Recessed wall heaters from Circle-Air are electric convection units of 500 to 3,000 w with outputs up to 10,000 Btu. By mounting "black-heat" elements back to back within a double-walled heating compartment, company claims to get equal Btus from a unit 50% smaller than the industry standard as well as more usable Btus per kilowatt. Thermostat controlled. UL approved.

Circle-Air Industries, Brooklyn.
For details, check no. 43 on coupon, p 214

20 TVs on one antenna are claimed for the new Wizard 300 TV-FM coupler designed for row houses, motels, apartments, etc., or for multiple outlets in a single house. Electromagnetic coupler simply slips on antenna lead, requires no direct electric or mechanical connection. Makers claim this type of coupler does not reduce the signal delivered to each set, receives as clear a picture as a separate antenna.

Charles Engineering, Los Angeles.
For details, check no. 44 on coupon, p 214

Plug-in perimeter heaters can be assembled to make any length of baseboard heater desired. Units include a thermostat or starter section, heater sections (as needed), inside corner sections. Current connects through thermostat section. Tandem 500 units draw low wattage per foot—143 w—and have low surface temperature—113°F—to be safe for small children. Completely pre-wired.

Meier Electric & Machine, Indianapolis.
For details, check no. 45 on coupon, p 214
What this *SCHLAGE* entranceway tells prospects about your homes

Your selection of Schlage hardware is a silent testimonial to you.

Your appreciation of Schlage styling and craftsmanship elevates you above the crowd, a builder who uses the finest materials.

Your application of the striking Schlage five-inch backset and escutcheons marks you as a modern builder, a man who knows how to appeal to decorating-conscious women.

For our part, we are helping the public to appreciate the dependability and integrity of Schlage locks — and the builders who use them — with full-page, full-color national advertising in magazines like Better Homes & Gardens. Let us help you merchandise and sell your homes. Contact your Schlage representative for details or write Dept. BA-9, P. O. Box 3324, San Francisco 19. Schlage Lock Company...San Francisco...New York...Vancouver, B.C.
NOW! Leviton adds back and side wired devices to the specification (5000) grade line!

LOOP IT OR DO IT THE EASY WAY! Leviton back-and-side wired devices give you a connection that is not only easy to make, but time-saving, too! Loop it, or clamp it for back-wiring. Either way you are assured the right kind of power to carry heavy duty loads. Here is the utmost in performance at minimum cost...with absolutely no compromise in quality!

Just Check These Features:
- All devices have double-wiping phosphor bronze contacts.
- Plaster ears—wide and break-off types.
- Grounding Screws on all U-Ground devices.
- Entire assembly solid-riveted for permanence.
- Heavily sectioned molded phenolic bases.
- Full underslung straps, completely rust-proofed.
- Easy back-wired installation for up to No. 10 wire.
- Strip gauge for obtaining maximum clamping.
- Individually packed with mounting screws attached to straps.

All back-and-side wired devices in brown and ivory.

Budget priced disposer is newest National continuous-feed model, is designed for simple installation. New thick rubber ring between sink and disposer holds machine without vibration. Splitting construction lets top housing swivel from motor unit during installation. Electrical outlet and cable connector are built in, complete with pigtail. Unit has new stainless alloy blades, ½ hp motor.

Flood protection during heavy rains is provided by this Eveready unit inserted in main house waste line. When sewer backs up, valve shuts off lower compartment in picture above, preventing sewage from entering house system. But high pressure pump (it will move 3,300 gal per minute against a 10' head) forces household wastes into flooded sewer so plumbing can continue to be used while flood conditions last. Control shows if unit is on.

Sure-fit tank ball has a long tapered stem to guide the valve into valve seat. Ball is one-piece polystyrene. Neoprene foam gasket assures full closure even with an eroded valve seat. Bronze swivel lets valve ball move freely and seat true even if lift wire is off center. Ball fits any toilet, can be installed in seconds. Price retail, $1.49.

Budget priced disposer is newest National continuous-feed model, is designed for simple installation. New thick rubber ring between sink and disposer holds machine without vibration. Splitting construction lets top housing swivel from motor unit during installation. Electrical outlet and cable connector are built in, complete with pigtail. Unit has new stainless alloy blades, ½ hp motor.
CORBIN
hand crafted locksets

Something really different in door decor that puts individuality into every home you build! Sculptured, petal-like roses with an exquisitely feminine touch . . . hand-painted ceramic knobs blended perfectly with rich, harmonizing metals . . . knobs in rarewoods, each hand-turned for truly unique grain effects. All these locksets reflect the skillful use of modern decorator materials and hand-crafted artistry by Corbin. Each is an individual creation from the Defender lock line — at a modest price. See them now at your Corbin dealer. Or write direct for details. P & F


GOOD BUILDINGS DESERVE CORBIN HARDWARE
New products

Flexible duct liner provides thermal and sound insulation for hot or cold air ducts without reducing air flow. Fiberglas mat-faced liner has friction coefficient of only .017 to .020, making it unnecessary to correct for head loss by oversizing ducts. The liner can be used efficiently with air velocities up to 4,000 fpm. Liner comes ½" or 1" thick, 24", 36", or 48" wide, in 100' and 200' rolls.

Owens-Corning, Toledo.

For details, check no. 49 on coupon, p 214

New ventilating line by Leigh Products includes wall (above) and ceiling kitchen exhaust fans, fan and fan-light bath combinations, single and double blower range hoods. Multi-position fans can be installed flat or vertical with Leigh extension ducts, all have 9-blade fans, easily demounted motor and fan assembly. All are designed for easy installation.

Leigh Building Products, Cooperville, Mich.

For details, check no. 50 on coupon, p 214

Dual purpose blower works with both heating and cooling phases of year-round conditioning systems. Du-Air is controlled by wall thermostat, switches automatically from heating to cooling and back as demand changes. Eliminates need for pulley changes, separate fans, two-speed fans, motor-operated dampers. Low-voltage controls draw only 24 volts. Four Du-Air models are available.

Morrison Products, Cleveland.

For details, check no. 51 on coupon, p 214

from Insular...

Philippine Mahogany surfaced lumber that can be finished without preparatory sanding

Since Ilco is solid hardwood—not plywood or veneer—each piece has its own pleasing growth characteristics, grain patterns, highlights and shadows, each is one of Nature's signed originals.

Ease of finishing — When you specify Ilco Philippine Mahogany, you eliminate a costly step in the finishing process. Because of superior milling, Ilco's remarkably smooth surfaced lumber requires no sanding. And this superb solid hardwood takes all types of finishes easily.

Scientifically kiln-dried, then graded — All Ilco lumber is scientifically dried in the company's own kilns at the Orient's largest and most modern mill. Kiln drying increases fiber strength, substantially improves stiffness, hardness, as well as bending and compressive strengths, and causes the wood to be more easily worked. Grading after drying assures full count and finest quality.

Widest selection — Ilco, oldest and largest Philippine lumber exporter, has the widest selection of milled products. Choose from three types of paneling and an extensive variety of moldings. And remember, it's most important to insist on fine Ilco moldings, for no other can so subtly complement Ilco paneling's warm beauty.

PANELING • SIDING • MOLDING • FLOORING • TRIM • ROUGH AND SURFACED LUMBER

Order from the distributor nearest you

UNITED STATES

ALABAMA—Montgomery
- Birmingham
Griffith-Coker Lumber Company, Inc.
CALIFORNIA—San Francisco
Davis Hardwood Company
Los Angeles
Mahogany Importing Company
COLORADO—Denver
Frank Paxton Lumber Company
ILLINOIS—Chicago
Frank Paxton Lumber Company
Columbia Hardwood Lumber Company
INDIANA—New Albany
Chester B. Stem, Inc.
IOWA—Des Moines
Frank Paxton Lumber Company
LOUISIANA—New Orleans
Dixie Lumber Company

MASSACHUSETTS—Charlestown
Windham-Camirk Lumber Company
- Portland
Missouri—Kansas City
Frank Paxton Lumber Company
NEW MEXICO—Albuquerque
Frank Paxton Lumber Company
NEW JERSEY—Camden
Du Bell Lumber Sales Company
NEW YORK—Brooklyn
Anchor Sales Corporation
- Eden (P.O. Box 478)
Griffith-Coker Lumber Company, Inc.
- Greensboro
Brown-Bledsoe Lumber Company
- Greensboro
Brown-Bledsoo Lumber Company
- Pittsburgh
Germain Lumber Corporation

TEXAS—Fort Worth
Frank Paxton Lumber Company
WASHINGTON—Seattle
Matthews Hardwoods, Inc.

CANADA

ALBERTA—Edmonton
Fyfe Smith Hardwood, Ltd.
- Calgary
Fyfe Smith Hardwood, Ltd.
BRITISH COLUMBIA—Vancouver
J. Fyfe Smith Co., Ltd.
ONTARIO—Toronto
Robert Bury & Co. (Canada) Ltd.
QUEBEC—Montreal
Robert Bury & Co. (Canada) Ltd.

HAWAII

HONOLULU
American Factors, Limited
Shuman Hardwood Lumber Company

If none of these distributors is near you, write us direct

INSULAR LUMBER SALES CORPORATION
1405 Locust Street, Philadelphia 2, Pa.
FARLITE DECORATIVE PLASTICS ease your house selling problems. No other surface offers such crisp, clean, sparkling beauty and durability. Use it for countertops, for walls in bathrooms, playrooms, nurseries, entrance halls, etc. Select from woodgrains, marble, or over a hundred other wonderful patterns and color combinations ... in sheets, built-up panels, or new 5/32" Farlbord. Farlite high-pressure laminates clean with a damp cloth ... resist scratches, stains, heat, fruit acids.

FOR KITCHEN COUNTERTOPS
Crisp, clear, glass-smooth Farlite resists stains, heat, fading ... stays beautiful and carefree without attention for years!

FOR WALL SURFACING
Lasting beauty that never needs refinishing ... and there's a pattern and color just right to suit any decorating theme!

Write today for the latest details on using Farlite in your building plans!

PLASTICS DIVISION
FARLEY & LOETSCHER MFG. CO.
DUBUQUE, IOWA

REDUCE AIR CONDITIONING EXPENSE WITH
Bondable, Low Cost, Whitest White

CRYSTALITE
Highly Reflective Marble

WHITE ROOFING AGGREGATE
Sparkling white Crystalite makes a beautiful built-up roof ... and it's approved for bonding by leading roofing material manufacturers. Crystalite is a hard, nonporous limestone marble. It will not crumble, deteriorate or change color. Because of its heat reflective properties, air conditioning expense is greatly reduced. Crystalite looks expensive yet costs very little more than the cheapest aggregates, and saves on handling expense. It is clean, dry and ready to use.

Write for Complete Information, Samples and Prices
BLACK WHITE LIMESTONE CO.
Front and Eighth Street, Quincy, Illinois
Designed and engineered by McQuay, and suitable for all fuels, (Type A) this new package chimney has a 7" stainless steel flue with aluminized steel interliner and outer casing. The interliner is supported by the exclusive McQuay stainless steel tension spring spacers for strength, rigidity and durability.

This McQuay thermo siphon design permits quick drafts and even temperatures from top to bottom for peak efficiency. There is nothing to deteriorate, nothing to collect soot. Roof housing is large, measuring 16" x 20" with a 20" x 24" cap.

For the best results, and for greatest economy, recommend and use this McQuay package chimney on every job. Territories are now being assigned. Write McQuay, Inc., 1608 Broadway Street N.E., Minneapolis, Minnesota.

Meets the Original and More Severe Underwriters' Laboratories Standards 103, March, 1956

ECONOMY—Costs from one-third to one-half as much as brick installed. All pre-assembly has been done to eliminate costly on-the-job time and labor.

SAFETY—Listed under the re-examination service of Underwriters' Laboratories, Inc., and on the approved list of F.H.A. and V.A.

QUICK AND EASY INSTALLATION—Average installation time is less than one hour after openings are prepared.

LONGEST SERVICE LIFE—Flue is of stainless steel to permanently withstand effects of combustion gases. Starter box and starter sections are in one unit. Standard 24", 18" and 12" sections give any desired length.

LIGHT WEIGHT—Load on support joists is only 9 pounds per foot of chimney length.

SHIPPED COMPLETE—with easy-to-follow instructions for installing. Units are individually packaged.

Do you need air conditioning?
The ARI has spelled out how much the US needs it in a new 26-page booklet treating the need for air conditioning in industry, business, health, defense, home. The booklet is distributed free to ARI members, government departments, libraries, and is available to the general public for 75¢.

Air-Conditioning & Refrigeration Institute, Washington, DC.

For copy, write direct to the institute

Where to use epoxy resins
Shell Chemical Corp, a leading producer of epoxies, tells of many new uses for this strong bonding adhesive and encapsulating medium in a 24-page booklet, "New Horizons for Epon Resins." Most of the uses discussed are not directly applicable to home building but do suggest the wide range of uses for these new glues.

Shell Chemical Corp, New York City.

For copy, check no. 53 on coupon, p 214

"Family proof" plywood paneling
That is what Georgia-Pacific calls the new hard finished plywood described and shown in a new 12-page four-color booklet. Photos show colors and typical uses.

Georgia-Pacific, Portland, Ore.

For copy, check no. 54 on coupon, p 214

Dow tells latex paint story
Dow Chemical, major producer of synthetic latexes for the paint industry, has just issued a 20-page account telling "Why and Where to Specify Latex Paint." This booklet, for the first time, tells architects and builders what latex is, how it should be used in paint, how it performs on interior walls, what latex colors look like, what it performs an exterior walls, types of finishes, where and where not to use it, how to work with it. The booklet ends with a highly informative glossary of painting terms.

Dow Chemical, Midland, Mich.

For copy, check no. 55 on coupon, p 214

How to keep air dry
"Facts about Dehumidification" gives a lot of question and answer information about moisture control; what the problems are and what type and size of dehumidifier to use. Six-page pamphlet covers both home and shop dampness control.

Abbeon Supply Co, Jamaica, NY.

For copy, check no. 56 on coupon, p 214

25 home decorating ideas
A large format four-color brochure from US Plywood tells how to use Westinghouse's plastic laminate Micarta. Suggestions include ideas for kitchens, baths, and living areas. Tips for use on furniture, too.

US Plywood, New York City.

For copy, check no. 57 on coupon, p 214

continued on p 204
Home buyers appreciate the first impression they receive from a doorway made distinctive with figured glass. Note how this simple use of Mississippi Broadlite adds a touch of luxury that sells on sight. Greet your prospects with glamour and gain sales. Use translucent, light diffusing glass by Mississippi to add eye appeal that pays off in greater buy appeal.

Glass does so much to any home to make it more attractive... floods interiors with flattering “borrowed light”... makes rooms seem larger, friendlier, more desirable.

Give your homes the extra sales appeal that only glass can add. Buyers want that “different look.” See your nearby Mississippi Glass distributor and select from a wide range of patterns and surface finishes that can enhance your homes.

WRITE TODAY FOR FREE CATALOG.
ADDRESS DEPARTMENT 9.

MISSISSIPPI GLASS COMPANY
88 Angelica St. • St. Louis 7, Missouri
NEW YORK • CHICAGO • FULLERTON, CALIFORNIA

The finishing touches that make sales!

Adjustable Shelf Hardware

Open wall or built-in shelves have a tremendous appeal to today’s home-buyers. With sturdy, attractive, low-cost K-V adjustable shelf hardware, they can be installed quickly, easily and economically. Adjustable shelf hardware is another quality K-V product that adds those finishing touches that help make sales.

FOR BUILT-IN SHELVES
Perfect for built-in shelves constructed to last the lifetime of a house. Can be mounted on surface or flush. Shelves can be quickly adjusted, easily aligned. No. 255 standards come in 24 inch to 144 inch lengths.
No. 255 Standard, No. 256 Support

FOR OPEN WALL SHELVES
These sturdy standbys are available in satin anachrome or brushed brass finish. They add smartness to any room and provide excellent storage space on open walls. Standards available in 18 inch to 144 inch lengths; brackets in 4 inch to 20 inch lengths.
No. 80 Standard, No. 180 Bracket

FOR EXTRA HEAVY DUTY
Best on the market for heavy-duty installations. Recommended for heavy storage in homes or for paint, hardware or grocery stores or for hangrod installations. Standards available in lengths of 36 to 144 inches, brackets from 12 to 24 inches.
No. 87 extra heavy-duty standard No. 187 extra heavy-duty bracket

KNAPE & VOGT MFG. CO.
Grand Rapids, Michigan
compare

with any other type of vapor seal on the market!

ONLY 'PM' OFFERS ALL OF THE FEATURES NECESSARY TO PROVIDE A TRUE, IMPERMEABLE VAPOR SEAL AGAINST MOISTURE MIGRATION.

We sincerely advise and invite your comparison of "PM" against all other "so-called" vapor barrier products on the market... before you specify or install your next vapor seal be sure it meets these Sealight standards of quality: permeance rating of only .0066... resistant to rot, mold and termites... strong enough to resist puncturing... expandable... quickly, easily installed... only "PREMOULDED MEMBRANE" meets them all. "PM" is actually the most economical vapor seal on the market when you consider the reduced maintenance and redecorating costs realized through the complete elimination of moisture migration into the structure. COMPARE the permeance ratings... as you can see by the chart below, "PREMOULDED MEMBRANE" is over 16 times more impermeable than the next ranking material.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>WATER VAPOR TRANSMISSION (in &quot;perms&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREMOULDED MEMBRANE</td>
<td>.0066</td>
</tr>
<tr>
<td>Polyethylene Film (0.04 in. thick)</td>
<td>.097</td>
</tr>
<tr>
<td>55 pound roll roofing</td>
<td>.030</td>
</tr>
<tr>
<td>Duplex paper (coated both sides</td>
<td></td>
</tr>
<tr>
<td>reflectors material, reinforced)</td>
<td>.304</td>
</tr>
</tbody>
</table>

"PERMS"—grams per square foot per hour per inch of mercury difference in vapor pressure at standard test conditions.

*PMEMBRANE...the industry’s only TRUE, impermeable vapor seal.

WRITE TODAY for complete information... request the "PM" Design Manual and series of "Tech-Tips."

W. R. MEADOWS, INC.  
10 KIMBALL ST.  •  ELGIN, ILLINOIS

publications

How to sell your floors
A new edition of Armstrong Cork’s 48-page “How to Sell Homes Faster” is now available. The new edition tells about the latest advances in resilient flooring, how to specify flooring, how to merchandize it, how types differ. It includes four-color photos of Armstrong-floored rooms and a complete color file of Armstrong resilient floorings.

Armstrong Cork, Lancaster, Pa.
For copy, check no. 58 on coupon, p 214

All about Arcadia windows
New 32-page catalog contains illustrations, standards, options, and complete architectural specifications for company’s steel and aluminum sliding glass doors, windows, and window walls. New 102 and 104 series doors are featured.

Arcadia Metal Prods., Fullerton, Calif.
For copy, check no. 59 on coupon, p 214

Government adhesive specs
3Ms has collected all government specifications for adhesives, couters, and sealers in a 23-page catalog which lists 3M products that fill the requirements. The list covers uses from sealing cardboard boxes to assembling airplanes.

Minnesota Mining & Mfg., Detroit
For copy, check no. 60 on coupon, p 214

Brochure shows cedar houses
Latest pamphlet from the Western Red Cedar Assn shows houses designed by John Ridley, George Fred Keck & William Keck, Brown & Healey, and a suburban office building by Wayne A Littlejohn. All use cedar beveled or Tee-Gee siding. Pamphlet also includes specification data on these sidings.

Western Red Cedar Lumber Assn, Seattle.
For copy, check no. 61 on coupon, p 214

Quick check on insulation
A new illustrated chart gives U, C, and R factors for 75 thicknesses and types of insulation and various heat flow conditions. It also gives costs per sq ft to meet the heat factors. Insulation specifications of private and government agencies are also given.

Infra Insulation, New York City.
For copy, check no. 62 on coupon, p 214

How fireproof are houses?
Technical bulletin no. 8 of the Metal Lath Manufacturers Assn gives fire ratings for structural elements, floors, partitions, roofs for almost every accepted method of construction.

Metal Lath Manufacturers, Cleveland.
For copy, check no. 63 on coupon, p 214

continued on p 206
NEW FHA FUNDS
BOOSTING BUILDING

Save up to $84 per house with Chase® Copper Tube!

New FHA funds—$1.8 Billion—have given home building a much-needed shot in the arm. Already, thousands of new starts have been made. And the sales are going to the builder who makes the most available for the buyers' dollar, in quality, liveability and comfort.

Take plumbing for example. American-made Copper Tube by Chase is the top quality line—the most wanted material for a home's lifelines handling water supply, drainage and heating and cooling. You can offer LIFELINES® of Chase Copper Tube in every home you build—and save dollars from your building costs, too!

But act now—while the building season's at its height. There's no excuse for using anything less than the best—Chase LIFELINES®—in every home you build and sell!

Talk it over with your nearest Chase Plumbing Contractor today. See your nearest Chase District Office for help. Or write direct to Chase Headquarters.

DON'T TAKE OUR WORD FOR IT! You can have actual, dollars-and-cents proof from your nearest Chase Representative! He can give you comparative cost estimates for a complete copper tube plumbing and drainage system in a typical 6 room house, and a typical 7½ room 2-bath home—down to the last Tee. And you'll see that copper actually costs less today to install than any rustable pipe!

LIFELINES® of Chase Copper Tube cost less installed... Ask for proof today!

FREE! Detailed analysis of typical costs of LIFELINES® by Chase. Yours for the asking! Write Chase, at Waterbury, Conn.

Chase
BRASS & COPPER CO.
WATERBURY 20, CONN.
Subsidiary of
Kennecott Copper Corporation

The Nation's Headquarters for Brass, Copper and Stainless Steel
Atlanta Baltimore Boston Charlotte Chicago Cincinnati Cleveland Dallas Denver Detroit Grand Rapids Houston Indianapolis Kansas City, Mo. Los Angeles Milwaukee Minneapolis Newark New Orleans New York (Maspeth, L. I.) Philadelphia Pittsburgh Providence Rochester St. Louis San Francisco Seattle Waterbury

SEPTEMBER 1958
After 20,000 visitors thronged the Saint Paul Home Builders association model home, the executive secretary commented: "We received many excellent comments on the Rilco beams and wood deck used. All seemed to think it was a refreshing idea."

The designer agreed: "Only laminated beams were considered because we could not afford to have an unsightly beam in a house of this type nor could we take a chance on a timber beam checking and sagging. The laminated beams are considerably less in size for the same loading as a timber beam."

"We have always been well pleased with Rilco laminated products because they come to the jobsite in excellent condition, wrapped, ready for finish. With standard sizes you can expedite a job and have it closed-in shortly after the foundation is up."

Rilco laminated wood members are available in standard sizes, ready for immediate delivery, arriving at the jobsite ready for fast erection. And regular crews handle Rilco erection easily.

Homeowners like the low first cost, warm beauty which only wood offers plus minimum maintenance for Rilco beams mellow with age. For complete information contact your nearest Rilco office — no obligation, of course.

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**Publications**

**How to specify lighting**

New edition of Westinghouse's "Lighting Handbook" is now available. This 250-page manual is a comprehensive coverage of modern lighting practices. It includes: the electro-magnetic spectrum, distribution and light measurement, new light sources, co-efficients of utilization and maintenance factors, footcandle tables, etc. It also includes chapters on interior wiring, school and office lighting, store lighting, industrial and architectural lighting, floodlighting, street and sign lighting, germicidal and sun lamps, lighting costs. $3.

Westinghouse, Bloomfield, NJ.

For copy, write direct to the manufacturer

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**Guide to wood cabinetry**

This trade association publication gives the basic information about cabinets for all parts of the house. It includes a discussion of the kinds of woods used, structure and design details, and illustrations of the specialized cabinetry for each area. Specifications for standard, medium, and premium grade, finishing specs, and a suggested specification form complete the booklet. $2.

Southern Calif Assn of Cabinet Manufacturers, Los Angeles.

For copy, write direct to the manufacturer

**How to specify aluminum windows**

Complete technical data is included in Vampco's "Aluminum Windows for Light Construction." Line covers casement, glass block, basement, awning windows in all sizes. Operator and hanging details are shown in working drawings.

Valley Metal Prods Co, Plainwell, Mich.

For copy, check no. 64 on coupon, p 214

**Film shows roof-deck design**

A new color movie from the Perlite Institute shows numerous examples of concrete roof decks in current architecture, as well as construction details of decks made over formboard systems, steel decking, paper-backed wire mesh, and metal lath.

Perlite Institute, New York City.

For showing, write direct to the institute

**Pine for roofs and floors**

Southern Pine Assn's bulletin no. 11 gives the basic design and technical information on the use of wood roof decking and heavy timber flooring. It is planned to help architects and builders specify roof decking in plank and beam construction in residential and commercial building, heavy flooring in industrial building. It includes a breakdown of insulation values, a grade-use guide, and tabulated data on suitable southern pine grades.

Southern Pine Assn, New Orleans.

For copy, check no. 65 on coupon, p 214

continued on p 208

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**Rilco beams and deck very well received**

—says executive secretary, Saint Paul Home Builders Association

**Rilco laminated products, inc.**

W 843 First National Bank Building
Saint Paul 1, Minnesota

District Offices: Newark, N. J., Fort Wayne, Ind., Tacoma, Wash.
NOW...INSTALL NATIONAL LOCKSET WITH 5" BACKSET AT NO ADDITIONAL COST

NOW order NATIONAL LOCKset with 5" backset . . . at the regular 2½" backset price. Save $1.20 on every 5" lockset you buy! Place an ample order for your summer and fall requirements. This special, limited offer expires October 15, 1958.

Decorative trim on interior doors increases the value of the homes you build

NATIONAL LOCKset enables you to install auxiliary trim on interior doors . . . at no premium lockset price, other than cost of the decorative escutcheon. Here's a real opportunity to add more beauty, value and "sell-ability" throughout the homes you build. See your dealer who handles Medalist hardware NOW. Install it with pride.

SPECIAL OFFER . . .

Ask your dealer about special offer on combination 2½" — 5" backset jig.

TIME IS LIMITED

SEPTEMBER 1958
"I think the only effective photograph that can be made of architecture is three dimensional."

"In the kind of architecture I represent, it's the third dimension—depth—that gives it quality and effect. And stereo photography is the only way you can get that third dimension," says world-famous architect Frank Lloyd Wright.

"Now it is possible to get a photograph of a building that gives you a feeling of being in that building."

Realism of Realist stereo—a strong sales aid. Regardless of what phase of construction you are in, Realist stereo can be a valuable sales tool.

The natural colors and depth of Realist stereo slides show buildings, remodeling or decorating handicap with life-like realism—hold the undivided attention of prospective client or buyer.

A Realist stereo camera and hand viewer are all the equipment you need to put this effective sales aid to work for you.

To learn how Realist stereo can help you sell faster and with greater ease, fill in and mail the coupon below, today.

Slide duplicating—Realist, Inc. makes duplicate stereo and 35 mm. slides with amazing accuracy. Order 1 slide or 1,000 with the assurance each will be a clear-cut copy of the original. Mounted in cardboard, ready for viewing. New low prices to industry. Fast delivery.
now an aluminum window

DESIGNED FOR AIR-CONDITIONED HOMES

PROVEN 66% BETTER THAN RECOGNIZED AIR INFILTRATION STANDARDS

To gain real savings in air conditioning and heating operations you want to use a truly weather-tight window. All Watson windows feature thick wool pile weather-stripping, vinyl glazing and rugged aluminum design which make them 66% better than recognized standards as proven by actual air infiltration tests by a Texas College. Precision engineered of troublefree aluminum . . . adapted to brick, frame or masonry construction . . . come glazed and ready to install—Watson windows, in a variety of styles and sizes, are guaranteed 5 years. See SWEETS or write today for complete catalog!

Watson RUGGED ALUMINUM

WINDOWS
W. M. PRODUCTS CO.
5425 Blossom, Houston 7, Texas

ELECTRIC PLANT NEWS

New Onan Diesel Electric Plant

3,000 watts

Lower fuel cost, less maintenance, longer life, cut power generation costs with the Onan 3DSL, to half that of small gasoline-powered electric plants! This new unit gives you unmatchted economy and season after season of service.

Lighter weight and compact

The new 3DSL is powered by an Onan single-cylinder, air-cooled full-Diesel engine. Available in all standard A. C. voltages. Vacu-Flo cooling, permitting enclosed installations, is standard. The 3DSL has a new mounted muffler, more efficient dry-type air filter, new geared crank, and it’s hooded for protection on the job. Smoother running, lighter weight, and compact.

New lower price makes it an even bigger value . . . allows you to “go Diesel” for more power generation needs. Onan A.C. gasoline-powered plants: Air-cooled. 500 to 10,000 watts. Water-cooled, 10 to 150 KW.

D. W. ONAN & SONS INC.
354A University Ave. S.E., Minneapolis 14, Minnesota

Vikon offers profit and customer satisfaction with metal wall tiles in 6 durable types. They are easy and economical to install and available in many colors and sizes. Their outstanding beauty will last indefinitely.

WRITE TODAY for our complete catalogue. Dealer inquiries are invited.

VIKON TILE CORPORATION
Washington, N. J.

PORCELAIN ON ALUMINUM • ENAMELED CHROMATIZED STEEL
ENAMELED ALUMINUM • STAINLESS STEEL
COPPER • BRASS
THE COATING IS MOST IMPORTANT

Yes, you can get burned a-plenty if the coating isn't right. Wise builders don't gamble with the trickeries of weather — they safeguard against a blistering sun or blustery blizzard by installing insulations faced with REFLECT-O-RAY. Coated with millions of sparkling aluminum flakes, it protects as it reflects — bouncing summer's sun back towards its source and arresting the escape of winter's household heat. No stopped-up circulation either, for REFLECT-O-RAY just breathes continuously to prevent any damaging condensation build-up. Stop playing havoc with home owners' comfort — Install insulations faced with climate soothing REFLECT-O-RAY, so he'll live indoors contentedly. Ask your dealer for the brand names trade-marked below.

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REFLECT-O-RAY is an Aluminum Pigmented product of THE APPLETON COATED PAPER COMPANY
APPLETON, WISCONSIN

Publications

How to use walnut
A 16-page four color display of the architectural use of walnut has recently been released by the manufacturers' association. Home uses shown include dens, living rooms, kitchens, family rooms, for floors and walls.
American Walnut Manufacturers' Assn, Chicago.
For copy, check no. 73 on coupon, p 214

How to apply asbestos-cement
This 12-page booklet tells how to apply, cut, handle, and store flat asbestos-cement sheets, includes discussion of available types and designs, accessory and materials, special tools, job planning and preparation. Illustrated with detail drawings.
Asbestos-Cement Prods, New York City.
For copy, check no. 74 on coupon, p 214

... and how to paint it
A second booklet by the asbestos-cement trade association gives detailed instructions for painting the product: how to prepare the surface, how to pick a paint, special handling of a-c siding, shingles, flat and corrugated sheets.
Asbestos-Cement Prods, New York City.
For copy, check no. 75 on coupon, p 214

Technical data on copper plumbing
Nibco, Inc has just issued a 36-page catalog of copper drainage fittings for DWV and types L, M, and K copper pipe. The catalog shows a properly designed drainage system, two basic types of systems, three trap types. Also included: step by step installation, cost and time comparisons, glossary of plumbing terms, and tables and charts to guide spec writing.
Nibco, Inc, Elkhart, Ind.
For copy, check no. 76 on coupon, p 214

K&M's panels and pipes
"The House that A-C Built" shows how various forms of asbestos-cement panels were used in a modern, medium-priced house in Pennsylvania. The second folder describes a new K&M fluid-tight sewer pipe coupling.
Keasbey & Mattison, Ambler, Pa.
For copy, check no. 77 on coupon, p 214

Why buy nylon carpeting
Industrial Rayon Corp answers this question in a 16-page booklet aimed at educating your customers. The booklet shows comparative wear in cross section photos and in the results of tests for texture retention, crush recovery, cleanability, and other characteristics.
Industrial Rayon Corp, New York City.
For copy, check no. 78 on coupon, p 214

Everything but the pool itself
That's what is included in the 52-page catalog of Modern Swimming Pool Co: appliances, brushes, chemicals, chlorinator, cleaners, couplings, covers, diving boards, filters, fittings, ladders, lifeguard chairs, observation windows, pumps, rails, testing equipment, underwater lights, vacuum cleaners. There is also a supplement on the care and maintenance of pools.
For copy, check no. 79 on coupon, p 214

continued on p 212
Ever since we introduced our budget-priced Westchester door for one-car garages, builders everywhere have asked for a similar model to fit two-car openings. So here it is ... a good looking, fine quality door, and a value we think can’t be beat.

In this new door you get the popular Westchester design ... the same carefully engineered construction. You get even heavier, stronger corner brackets and edge hinges ... angle iron reinforcement of horizontal tracks ... three steel stiffeners attached to sections.

And, of course, such famous Ro-Way features as Taper-Tite track and Seal-A-Matic hinges for instant opening, tight closing ... four Power-Metered extension springs for easy action ... ball bearing rollers for quiet operation ... Parkerized and painted hardware for double rust prevention ... Ro-Way quality construction throughout.

And all this at exceptionally low cost. See your nearest Ro-Way distributor for full details.


ROWE MANUFACTURING CO., 1195 HOLTON ST., GALESBURG, ILL.
Symbol of elegance in fast-selling, fine homes

The flexibility and classic beauty of Revco Bilt-Ins open new horizons in design. Distinctive finishes include stainless steel, copper-glo, 28 custom colors and matching wood panel doors. Standard 3-foot modular refrigerators and freezers may be built in almost anywhere . . . singly or in combination, over and under or side by side,. In any arrangement, Revco units are the easiest built-Ins to install! Leading kitchen manufacturers prefabricate cabinets for Revco Bilt-Ins, or cabinets may be custom built to specifications furnished. These are the reasons why Revco is the unquestioned manufacturer prefabricate cabinets for Revco Bilt-Ins to install! Leading kitchen manufacturers prefabricate cabinets for Revco Bilt-Ins, or cabinets may be custom built to specifications furnished. These are the reasons why Revco is the unquestioned leader in the built-in refrigeration field.

NOW! Years ahead

The new Revco Gourmet refrigerator achieves exclusive cooling efficiency. Chilled, purified air gently circulates throughout the entire food compartment. Constant temperature is maintained automatically and is precisely controlled at settings from 32 to 45 degrees, to preserve foods at their peak of flavor and freshness.

Publications

Wall chart converts measurements
A reference table for quickly converting from one scale of measurement to another is yours for the asking from Precision Equipment Co. Not only does it relate the English to the metric system but gives such uncommon conversions as: atmospheres to kgs sq cm, cm per sec to mph, cu ft to liters, microns to meters, quintsal to pounds, etc.

Precision Equipment Co, Chicago.
For copy, check no. 80 on coupon, p 214

Data on earth moving equipment
Recent releases from Ottawa Steel detail the specifications of new truck and tractor mounted back hoes and front end loaders. Truck mounted hoe goes on or off Chevrolet chassis in 5 minutes. Tractor mounted equipment fits most wheeled or crawler models.
Young Spring & Wire, Ottawa, Kans.
For copy, check no. 81 on coupon, p 214

Prescolite lighting fixtures
Construction details and installation data are included in the new 36-page Prescolite catalog. Recessed and surface mounted built-in fixtures get major attention though booklet also includes portable and pin-up types, exit and aisle lights, etc.
Prescolite, Berkeley, Calif.
For copy, check no. 82 on coupon, p 214

Specs for metal doors, windows
Lupton's new 35-page 1958 catalog includes technical data on their steel and aluminum windows and doors for residential, commercial, and industrial use. Scale drawings show construction and installation details.
For copy, check no. 83 on coupon, p 214

Data on Case power equipment
Eight new publications tell the story of J 1 Case trenching, loading, and dozing machines plus a large selection of specialized attachments and a new 5-ton tilt-bed trailer that is offered at a saving with purchase of a new Case machine.
J 1 Case Co, Racine, Wis.
For copy, check no. 84 on coupon, p 214

How to use corrugated Transite
J-M has a new 32-page booklet listing all the properties and characteristics of its corrugated asbestos-cement board; showing how it can be handled, worked, installed; how it can be used with various building methods and combined with various building materials. Illustrated with photographs and detail drawings.
Johns-Manville, New York City.
For copy, check no. 85 on coupon, p 214

To sell central air conditioning
Minneapolis-Honeywell has prepared a 24-page pamphlet of questions and answers on built-in air conditioning systems in cooperation with Armstrong Furnace Co. The booklet is aimed at the consumer to help builders sell more year-round conditioning. Besides selling the advantages, the booklet discusses sizes, types, costs, and temperature controls.
Armstrong Furnace Co, Columbus.
For copy, check no. 86 on coupon, p 214

continued on p 214

REVCO
Bilt-In Refrigeration

Wolmanized Lumber

Symbol of elegance in fast-selling, fine homes

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Armstrong Furnace Co, Columbus.
For copy, check no. 86 on coupon, p 214

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The exclusive Ruberoid Wind Warranty covers every Lok-Tab asphalt shingle against blow-offs—even in hurricanes and cyclones! Each shingle is secured by a hidden lock from the moment it is put on. And you get a written warranty against wind damage on every house you build. Lok-Tabs reduce building costs, too: fewer shingles per square . . . fewer nails . . . self-aligning . . . less labor. Ask your Ruberoid dealer about Lok-Tabs. For more information, ask for LOK-TAB Folder # 1364. Write The Ruberoid Co., 500 Fifth Avenue, New York 36, N. Y.
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Protect, Preserve, Beautify

• For shingles, siding and clapboards, ideal for any type of wood.
• Cost $1/2 as much as paint . . . wear equally well.
• No priming or thinning . . . no scraping or sanding.
• Will not crack, peel, or blister.
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• 18 Appealing colors.

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Please send color card on Cabot's Ranch House Hues — including complete Architectural Specifications.

SAMUEL CABOT INC.

Polystyrene insulation

How to use Uni-Crest, a new foamed styrene insulation, is detailed in a new publication in folder form by its maker, United Cork Co. The heavy paper folder tells the general story of the material: specifications inserts give the technical data needed for its efficient use.

For copy, check no. 87 on coupon below

Data on lightweight concrete

New data from Zonolite tells how to use this lightweight insulating concrete over asbestos-cement formboards, insulating and acoustical formboards, fiberglass formboards, paper-backed wire lath, structural concrete decks (1:6 and 1:8 mixes), vented galvanized steel decks (1:6 and 1:8 mixes), and as precast roof deck.

Zonolite Co, Chicago.

For copy, check no. 88 on coupon below

Want more information?
The numbers below are keyed to the items described on the New Products and Publications pages. Check the ones that interest you and mail the coupon to:

House & Home
Room 1021A, 9 Rockefeller Plaza, New York 20, N. Y.

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1. Husse Twin Window
2. Flexlite double sliding windows
6. Textured blinds from Vertical Blind Corp.
4. Scotch-Tred EM®
5. Vinyl-sided window wall covering
10. Gu-fried Chex-Glo barbecues
11. Donley's indoor charcoal barbecue
12. Majestic gas barbecue
13. Adjustable barbecue
14. Feastmaster barbecue by Superior
15. National Groom's garage shopping
23. Steelotted textured plywood
24. Crane decorative hardboard
25. Lam-Lee pressy cedar panels
29. Johns-Manville Micro-Flexboard
290. Crane bathroom fixtures
32. Kohler lavatory hanger
34. Loewy's Bath-a-dry
35. National Fiberglass shower stall
37. Flex-arm rolled shower head
38. Mose one-hand shower control
40. Lurida prefabricated shelving
47. Strong-Tile framing anchor
50. Teal framing anchor
51. Thermor refrigerator-freezer
52. Chambers refrigerator-freezer
56. Metropolitan's prefab greenhouse
60. Vapors entrance door components
61. Hardwood disposable gloves
62. Thermo-Rite firescreen
63. Leigh aluminum roof jack
64. Adler budget glass door
65. Neve heat economizer warning
66. Allied urethane foam insulation
67. Bulbform pipe insulation
68. Casey's packaging pool
69. Bottle contact cement
70. Maine tile cabinets
72. Circle-Air wall heaters
73. Wizard XV omelectric
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PUBLICATIONS

53. Uses for epoxy resins
54. Georgia-Pacific plywood paneling
55. Where to specify latex paint
17. Facts about dehumidification
57. Decorating with Mirrors
58. "How to sell homes faster"
59. Arcadia window catalog
60. Government specs for adhesives
61. Cedar house brochure
62. Insulation factor chart
63. Fire ratings for structural elements
64. "Aluminum windows for light construction"
65. Pine for roofs and floors
66. Bath Maid vaniry catalog
67. Removal switching manual
68. Touch-Plate system brochure
69. Moe Light booklet
70. Kohler bathroom colors
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72. Jay lighting catalog
73. How to use radiant heat
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Now...for the first time...a complete program for SELLING homes through decorative lighting! Based on dramatic lighting plans, includes fascinating “C.I.L.” booklets for prospects...job signs...“C.I.L. Owner’s Certificates”...newspaper ad mats and publicity...everything to help make your homes irresistible. Also qualifies for “Medallion Home” lighting. Send TODAY for full details!

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Executive Offices: 410 S. Third St., Louisville 2, Ky., Leaders in Creative Lighting

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I want to learn about anything really NEW in selling homes! Send me full information about your Certified Inspiration Lighting program. No obligation.

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BUILDERS' CHOICE

A visible quality extra, Ceilings of Hush-Tone Tile by Celotex are being featured more and more by leading builders everywhere.

"Beauty with the added SELL of Quiet" is the reason. Choose from two exclusive finishes: True White or color-flecked Fiesta. The patented Linear Random perforation pattern makes Hush-Tone Tile repaintable without loss of sound-absorption efficiency . . . these perforations won't clog!

Helps sell homes. All the selling power of the pre-sold CELOTEX brand name goes to work for you . . . speeds decisions, helps close sales . . . when you can say:

“SOUND-QUIETING CEILINGS BY CELOTEX!”
PAT COLANTONE, Celantone Bros. Construction Co., Youngstown, Ohio: "I put a Fiesta ceiling in the recreation room of our model home. The realtor used this room as a major point in his sales talk. No doubt about it, there’s sell in that Celotex name. He sold the model and four others to be started immediately!"

HOWARD E. MOHR, JR., Mohr Homes, Campbell, California: "For the quality-built ranch homes in our Dry Creek Ranch development, HUSH-TONE gives us two exciting new talking points. Prospects notice the way it puts a hush on noise. The Fiesta pattern fits in perfectly with most any decorating scheme. Just right for our casual, Western family-style living!"

"Prospects LIKE it!" That’s why it pays to feature HUSH-TONE Ceiling Tile by Celotex

Nationally advertised in Life, Saturday Evening Post, Better Homes & Gardens, Living, American Home.

TV and Radio Stars Hal March, Steve Allen, and Don McNeill are featured in Celotex advertising . . . recommending Hush-Tone Tile to your home-buyer prospects.

Fiesta HUSH-TONE Tile in living/dining area of Mohr-built home, Campbell, California
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Dur-O-wal is custom-fabricated to lay flat and tight in the mortar bed. It is the recognized standard of quality, preferred for its unexcelled performance.

CLASS A MORTAR

<table>
<thead>
<tr>
<th>Mortar - Class A</th>
<th>15.0</th>
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</thead>
<tbody>
<tr>
<td>ASTM Standard C-270-52T. 8x8x16 - Haydite Block Av. Comp. Str. 1275 psi</td>
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Tests Conducted by Toledo University Research Foundation SEPTEMBER 1958

Rigid Backbone of Steel For Every Masonry Wall


Weights per thousand feet - Extra Heavy Dur-O-wal 257 pounds; Standard Dur-O-wal 187 pounds; Rolled Netting Type 113 pounds; Deep Weld Ladder Type 139 pounds.
COMPETITIVELY PRICED
for
NATIONALLY ADVERTISED
ShoweRite®
GLASS BATHTUB ENCLOSURES AND
SHOWER DOORS

**PACER**
Suggested Retail Price
$54.95

Highly styled! Promotional pricing! Two towel bars, nylon bearings and hammered frosted glass makes this an outstanding retail value. For 4½ or 5 foot recessed tubs.

**SHOWERITE STANDARD**
Suggested Retail Price
$69.95

Consistently the best selling bathtub enclosure in America! Choice of hammered frosted or fluted glass. Contains two towel bars, nylon bearings. For 4½ or 5 foot recessed tubs.

**TRIPLEX**
Suggested Retail Price
$94.95

Ideal enclosure for bathing children. Three sliding panels afford more room... make cleaning easier. Features two towel bars. For 4½ or 5 foot recessed tubs.

"We use MALTA wood windows for faster construction...faster sales!"

MALTA wood windows

**NEW MALT-A-MAGIC**
precision-balanced window
features a concealed balance system that permits finger-tip raising or lowering of sash. Upper and lower sash can be instantly removed and balance mechanism disengaged and re-engaged automatically. Malt-A-Magic is the answer to a better, more convenient double-hung window at an economical price. Full range of sizes and sash light variations.

There's a MALTA window for every home style...every window opening!

For complete details and specifications on all Malta window units and picture window combinations, contact your lumber or millwork dealer or write direct to Malta.

Supreme Quality Since 1901

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versatile awning or hopper window
Malt-A-Vent
friction-pressure double-hung window
Malt-A-Glide
horizontally sliding window
Malt-A-Matic
town and country double awning window

Member Ponderosa Pine Woodwork Assn. and N.W.M.A.

As a builder, you'll appreciate the speedy, economical way Malta wood windows can be installed in any wall construction. Costly cutting and fitting has been eliminated... finish time is cut to a minimum. And, the result... beautiful, practical windows that add charm and convenience to any home for faster, more profitable home sales. For quality... distinction... economy, build with MALTA wood windows.

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write for fully illustrated brochure of complete line

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Dept. HH1105

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City Zone State

"We use MALTA wood windows for faster construction...faster sales!"

THE MalTA
MFG. CO.
Malt, Ohio

Member Ponderosa Pine Woodwork Assn. and N.W.M.A.

HOUSE & HOME
This Entrance Hall is a Real Sales Feature!

It's cheery and charming with walls and floors of American-Olean's new Crystalline Glazed Tiles. They have a rich textured surface as decorative as it is rugged. On floors, they'll last a housetime without waxing, scrubbing or replacement.

Architects and builders are using Crystalline Glazes and Scored Tiles to create new and different decorative effects not possible with other materials.

Crystalline Glazed Tile is made in thirteen new colors, as well as in four Scored Tile designs—permitting hundreds of different patterns and color combinations. Send for full color booklets which give complete information.
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BY ANDES & ROBERTS CONSTRUCTION COMPANY

In Independence, Missouri, this National Homes builder-dealer keeps right on winning sales with National Homes "Fairlane" Series. The company actually sold more National homes in the 90 days than they were able to sell in two years of conventional building!

Builder-Dealers Everywhere Enjoy Same Success!

In Groton, Conn.: Harry D. Williams II sold out his 38 lot subdivision over a single weekend, featuring the tremendously popular "Fairlane."

In Columbus, Ohio: Alan Ortlip, Mars Construction Company, sold 178 "Fairlanes" in just 21 days.

In Franklin, Indiana: Johnson County Homes, Inc., sold out a 46-lot addition of "Fairlanes" in only two weekends.

The "Fairlane" Series is homebuilding's greatest success story... quality homes offering the utmost in livability... at the right price and on the right terms!

The "Faircase" -- Popular model in the "Fairlane" Series of Colonial-styled National homes.

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If you want to double or even triple your present volume and profit... have a quick turnover of invested capital... insure your success in the homebuilding field—then we invite you to contact us immediately. As a National Homes builder-dealer, you'll have other important advantages. More sales, faster completion, less risk. You'll have financing available, lower overhead, and the industry's best merchandising program. Write to George A. Cowen, Jr., Vice President for Sales, National Homes Corporation, Lafayette, Indiana.

Plants at Lafayette, Indiana; Horseheads, New York; Tyler, Texas