IN SECONDS, you can reproduce any drawing as any one of a variety of Ozalid prints.

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Valuable drafting time is saved with Ozalid. Instead of altering your original . . . you can make your changes or additions on a translucent Ozalid print. New products—like Ozalid Strip Film—with a transparent adhesive base—can be used to transfer title blocks or sections from one drawing or translucent Master to another.

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JULY 1948
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THROUGH FIXTURE AXIS

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The best guide in applying wrought iron is a knowledge of its character and properties. The complete story is presented in the booklet, "The ABC's of Wrought Iron". Ask for a copy.


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ELECTRIC FURNACE QUALITY ALLOY AND STAINLESS STEEL PRODUCTS
ARCHITECTURAL RECORD

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COVER: Flight Bar, La Guardia Airport; Lester C. Tichy, Architect. Photo by Ben Schnall

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THE RECORD REPORTS

House Still Tangled on T-E-W Bill • New Data Released by Joint Committee • Consumer Buying Plans Studied • States and Cities Aid Housing

While the House Banking Committee hearings on the Senate’s comprehensive housing bill still were in progress, federal statisticians, holding their stop watches on new home building, saw a healthy 1948 record in the offfing. Even as they tallied up April “starts,” they uncovered a new high—more dwelling units launched under FHA inspection than even last October’s peak.

Their boom predictions for the year took no account of the housing bill itself: they knew that, whether or not the measure became law, it would have little effect on 1948 construction.

Economic Role Stressed

In the midst of the House Banking Committee hearings on the bill came an analysis from the Congressional Joint Committee on the Economic Report which commented pointedly upon housing as a part of the over-all economic scene. Said the joint group:

“We recommend that the government do everything possible to stimulate research, to improve industry methods, to enact reasonable building codes, to eliminate monopoly controls in the material field, and to reduce labor union restrictions on housing. Furthermore, we recommend that government credit policies be so varied from time to time as to maintain as level a rate of construction as possible.”

The Committee expressed favor for grants to local governments for urban redevelopment. It stated, however, that FHA mortgage insurance policies have been too liberal.

A.I.A. Supports Bill

Presenting their statement in support of the T-E-W bill before Congress, the American Institute of Architects urged amendment of the Senate-passed version on several counts. A.I.A.’s case was written by Louis Justement, prominent Washington architect and chairman of the Urban Planning Committee. Recommendations were made for implementing the bill as it went over to the House, for giving it greater flexibility “in experimental use of its loan provisions.” At the same time it was made clear that A.I.A. approval of the legislation was not conditioned on adoption of the changes offered. Institute suggestions:

1. Authorize the Federal Housing Administrator to begin experiments with changed financing procedures. Set aside $50 million for financing housing projects in this test. Results would serve as a pattern for a future housing program.

2. Bring the mortgage insurance provisions under Title II into line with realities of housing and building costs. Increase per-house cost limitations by at least 10 percent.

3. Separate the administration of federal aid for urban redevelopment from the administration of the Housing Act. (A.I.A. objected to seeing the administration of this important function—slum clearance and urban redevelopment—made subordinate to housing.)

4. Resume public housing for low-income families, do not leave them to the “filtering down” process. "It would be inhuman," said Mr. Justement, "to completely ignore the housing needs of the low-income families for four or five years until vacancies approached normal. In the meantime, therefore, we favor an immediate resumption of public housing, on a substantial scale, as envisaged in this bill."

5. Raise cost limitations in the public housing section by at least 50 percent. Construction costs have gone up over 100 percent since the Housing Act was passed 10 years ago.

6. Increase reliance on Local Housing Authorities for initiation, planning, design and management of housing projects. Restrict the Public Housing Administrator increasingly to the single function of extending federal financial assistance to these local authorities.

House Stresses Basic Issues

The House hearings simmered down to these basic issues:

1. Should the federal government assume the responsibility of financing housing?

2. Were states and municipalities in a financial position to handle their own housing problems?

3. If the federal government should enter the housing business as prescribed by T-E-W, how far should it plunge?

Chairman Wolcott frequently reminded the committee members that these were the decisions facing them.

Further Findings Released

As the life of the Joint Housing Committee was extended to complete its data and reports, additional findings and analysis came to light. For instance, there is a recommendation to require certain minimum standards in residences and to provide legislation to see that such requirements are carried out where federal funds are relied on to finance or insure home building.

A new section in the Federal Fair Trade Act is proposed to require that builders "provide the buyer with a bill of particulars setting forth the manner of construction and materials used." In case of a violation, the matter could be referred to the Federal Trade Commission just as in mislabeling of other products.

Among other proposals:

Withhold loans or insurance on homes unless constructed under the industry engineered plan;

(Continued on page 10)

—Drawn for the RECORD by Alan Dunn
Another example of the wide application of Lupton Metal Windows is shown in this physician's office and home. Here, Lupton Metal Casements provide all the benefits of modern window construction. With Lupton Casements, air flow is easily controlled by attractive Roto-operators located at the sill. Extended hinges permit cleaning all glass from inside the room. Neat, metal frame screens or glass insulating panels can be easily attached on the inside of the window. There is a Lupton Metal Window for every type building—industrial, commercial, residential. Write for our catalog or see it in Sweet's.

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WRITE FOR COMPLETE LITERATURE
Amend existing financial rules to stimulate purchases of low-cost prefabricated homes;

Approve no loans or insurance until municipalities adopt uniform performance type of building codes and amend their license and permit regulations so that they no longer penalize industrialized housing.

This pointed conclusion is made on plumbing: "There are apparently many things in the plumbing supply industry which need correction. The inquiry should be reopened and every factor of this tightly held branch of the construction industry gone into from the several aspects of productivity, distribution, prices, and profits."

More Information Urged

Authority and funds to gather and supply data regularly should be provided the various federal agencies, says this analysis of testimony and studies made for the Committee by its staff. Specifically:

FHFA should report monthly on the financing of housing.
The Census Bureau should report fully on all phases of housing in the 1950 census and each 10 years thereafter.

Commerce Department should complete this year or next the research into development of a uniform plumbing code, should develop a uniform heating code, and make a cost-reduction study to include, among other things, improvements in distribution of building materials and equipment.

Report Made on Surplus

The story of surplus domestic real property in the years following the war has been told by the Senate Committee on Expenditures in Executive Departments as a result of its investigation of surplus disposal. This property, which originally cost $9.2 billion, constituted 23 per cent of our total domestic surpluses of war-acquired goods. It consisted of plants, airfields, shipyards, military and naval training bases, etc.

The bulk of the property was made up chiefly of industrial plants to increase the output of aluminum, steel, magnesium, and other war goods. A total of 1257 war plants, costing $5.5 billion, have been declared surplus, of which 770 have been disposed of. The government realized 39 per cent of the acquisition cost. Disposal of the war plants had been one of the slowest and most difficult phases of the surplus program. Over one half of the total value of the remaining undisposed-of surplus is real property.

Consumer Buying Plans Studied

In a survey taken during the first 10 weeks this year the Federal Reserve Board found that consumers expressed intentions to maintain buying of houses, automobiles, and other durable goods at approximately the high levels of 1947.
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JULY 1948

11
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MOBILE PAPER MILL CO.
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We are concentrating on production of this single industrial product. Stocks are now ample to make some immediate shipments. Free Engineering Service, available upon request, shows how Asbestone can be adapted to your needs.

THE RECORD REPORTS

(Continued from page 10)

This finding is from the third annual determination of the financial position of consumers and makes available the status, buying plans and general outlook of consumer spending units.

However, the Board points out that total prospective demand for houses was somewhat lower in early 1948 than in the previous year and still lower than intentions to buy in 1946, with the decline most marked in the case of incomes below $2000. Still, buying plans for new houses were larger than the estimated number of completions of new houses for owner-occupancy in 1948. More than a million said they would or probably would buy new houses, and almost half were willing to pay more than $75,000.

About three-fourths of the 1948 demand came from those who did not own homes. Not quite one-fourth were present home owners. Veterans of World War II continued to be important prospects, although the difference between veteran and non-veteran in total intentions was found to be narrowing.

The Reserve Board reported that about 2.2 million consumers bought new or existing houses in 1947, spending roughly $15 billion. About 40 per cent of the buyers were World War II veterans; 9 per cent of veteran consumers bought, compared to 4 per cent of non-veteran.

States Aid Housing

Nine states now have enacted laws for state-financed aid to home building, in all but two cases specifically for veterans' temporary or permanent housing. A breakdown of the information gathered by the National Association of Housing Officials shows that New York ranks first in accomplishment and volume of work scheduled. It had nine low-rent public housing developments completed and occupied on Feb. 1, 1948; 10 others under construction, and 20 in the planning stage. New Jersey provides $41 million for aid to municipalities and colleges for veterans' housing, and Connecticut $5.5 million with a $15 million guarantee of local bonds. Other states include Illinois, Massachusetts, Wisconsin, New Hampshire, California and Ohio.

Ten cities have set up programs in which neither state nor federal aid is involved, the association finds. Some are for direct construction or financing of redevelopment; others give tax concessions or donate sites. Included are Chicago, Detroit, Indianapolis, Milwaukee, Minneapolis, New York City, Providence, Rochester, St. Louis and Yonkers (New York).

(Continued on page 14)
It’s good Electrical Practice...

to install a Trumbull Fuse Puller Switch, the residential panel for main, range and lighting circuit protection, with terminals for water heater connection.

There’s plenty of wiring room. With top, bottom and side gutters entirely open, and the switch interior removable (simply by loosening one screw), Trumbull Fuse Puller service equipment is easy to wire. Easy to buy, too—the combination of circuits in each device represents a considerable saving compared with the cost of the same circuits purchased separately.

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THE RECORD REPORTS

(Continued from page 12)

Eight cities provide for planning of redevelopment: Baltimore, Minneapolis, Philadelphia, Pittsburgh, Providence, Richmond (Calif.), St. Louis and San Francisco. Five have set up special housing offices or agencies; Dearborn, Denver, New Orleans, San Jose and Toledo.

Synthetic Fuel Plants

In addition to synthetic liquid fuel demonstration plants for extraction of oil from coal and oil shale as a means of helping out the national oil shortage, Congress this year took up legislation to stimulate construction by private industry of commercial-sized plants in this field. Under the bill, RFC is authorized to loan up to $250,000,000 for this purpose; it can provide aid for "as many plants as are required to furnish an adequate basis upon which to develop a rapidly expandable and technologically advanced synthetic liquid fuel industry."

If private industry fails to build the plants, RFC is given power to build and operate the plants under contracts with private industry.

Other Federal Developments

Other activities in the National Capital of interest to construction include:
1. New laws this year provide for a $25 million building for the General Accounting Office in Washington and for a courthouse to accommodate the U. S. Court of Appeals and the U. S. District Court in the District of Columbia.
2. Other legislation would set $250,000 as the minimum on the annual construction allotment for any state under the Hospital Construction Act. This would affect Wyoming, Nevada, Delaware, Vermont, Montana, Alaska and Hawaii. Another bill would continue as eligible under the act those states which had failed to enact required measures in time and would make them eligible upon such enactment.
3. The Veterans Administration has warned veterans, builders and lenders against making or accepting so-called "side payments" in the sale of home properties through GI loans, pointing out that such payments are a direct violation of law and subject offenders to prosecution.

ON THE CALENDAR

Rolling Steel Doors

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Vertically opening Rolling Steel Doors offer many operating advantages in addition to providing greater protection and longer life. In Mahon Rolling Steel Doors you get all of these advantages plus a greater door value . . . this is immediately apparent if you check the details of construction, and the materials employed, against any other door of this type. You will find that Mahon Rolling Steel Doors are designed and built to give trouble-free service for a longer period of time. See Mahon Insert in Sweet’s File for complete information, details and specifications.

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One of Two Mahon Rolling Steel Doors Selected for Two Openings 30’ x 30’ in the General Electric Test Cell Building, Lynn, Mass. Turner Construction Company, General Contractors.
It’s an easy matter to define the "comfort zone" in a plant. It’s that eight or ten feet above the floor that must be heated for employee comfort. But it’s quite another matter to heat it economically and effectively when thirty feet of air space extend above it to the roof.

Such a problem faced the Minweld Steel Company in its new fabricating plant in Pittsburgh—and a Dravo Counterfo Heater solved it for them.

This powerful unit discharges warm air above the heads of the workers, circulates it through the working area, and returns it without drafts to the base of the heater for reheating and recirculating. This method maintains uniform heat throughout the 6,500 square foot working area—even though two 19-foot square truck doors open at each end, and metal-siding walls are broken by an abundance of windows.

Installation of the self-contained Dravo Counterfo Heater required only a fuel line, a power line and a small venting stack—no boiler room or piping. Ductwork, too, is unnecessary because capacity is ample to blanket a radius of 250 feet completely and evenly with warm air. The unit is entirely automatic ... it is shut off at night—and at 6 A.M. the watchman simply flips a switch and the plant is warm fifteen minutes later.

Bulletin IU-516 contains valuable information about the Dravo Counterfo Heater which you can apply to your own heating problems. Write for it, Heating Section, Dravo Corporation, Dravo Building, Pittsburgh 22, Pa.

Dravo also manufactures the DRAMO CRANE CAB COOLER for air conditioning hot-metal crane cabs

THE RECORD REPORTS

(Continued from page 14)

July 6-10: 2nd International Store Modernization Show, Grand Central Palace, New York City.

July 21-23: Summer Convention, American Society of Civil Engineers, Olympic Hotel, Seattle, Wash.

Aug. 2-27: 2nd Annual Silversmithing Workshop Conference for teachers, Rhode Island School of Design, Providence, R. I.

Aug. 4-8: 2nd Annual Pacific Northwest Arts and Crafts Fair, Bellevue, Wash.


ARCHITECTS, CONTRACTORS
FORM JOINT COMMITTEE

The American Institute of Architects and The Associated General Contractors of America have established a joint committee to consider problems in building construction which are of mutual concern to architects, contractors and the public. The committee will be known as the National Joint Cooperative Committee of the A.I.A. and the A.G.C.

The two associations have worked together for a number of years on such matters as standard contract provisions, simplified specifications and recommended bidding practices. Recently they developed and published jointly "A Suggested Guide to Bidding Procedure," which establishes standards for obtaining bids that eliminate waste and misunderstanding that might lead to unexpected costs for the owner.

A.I.A. members of the joint committee are; James R. Edmunds, Jr., of Baltimore, Md., a past president of the Institute, (co-chairman); Edward G. Conrad, Cleveland, Ohio; and Harry B. Tour, Knoxville, Tenn. All three men are members of the A.I.A. Committee on Industrial Relations, of which Mr. Edmunds is chairman.

Members of the A.G.C. designated as joint committee members are; Walter L. Couse, Detroit, Mich., a past chairman of the Building Contractors' Division of the A.G.C. (co-chairman); A. L. Atherton, Seattle, Wash., present chairman of the A.G.C. Building Contractors' Division; and William Murrhead, Durham, N.C., a past president and present secretary-treasurer of the A.G.C.


(More continued on page 158)
Build a stairway of Cork in your dream house.

"I've found my cork staircase an exciting step forward in comfortable living," says Ralph Pomerance, prominent New York Architect.

Going to build your dream house soon? Or remodel your present one? Then a Cork Staircase should also head your list of "musts." Cork's the staircase that's quiet...that'll last for years and keep its youth. Your architect or contractor can tell you about them, and, of course, will recommend Corinco Cork Staircases. In case you want to think about Cork Staircases on your own, mail us the coupon below for our free folder called "Stairway of the Stars." Keep it in your home planning portfolio.

CORK INSULATION CO., 155 E. 44th St., New York 17, N.Y.

Gentlemen: Dept. R7

I am interested in learning more about CORINCO Cork Staircases. Please send me, free of charge, and without obligation, your booklet, "Stairway of the Stars."

Name ____________________________
Street __________________________
City ____________________________ State __________________________
Write today for information and prices on Michaels Adjustable Astragals. Made of extruded bronze, aluminum or nickel, they are simple, practical, rugged, easily installed and adjusted, and available in several styles. Two are shown above. Type A (top illustration) may be applied to either wood or hollow metal bevel doors. Also used as a stop bead. Type E (lower illustration) is for bullnose hollow metal or wood double doors. Both types may be used at the bottom of doors. Michaels Astragals help keep doors closed tightly... eliminate drafts and air currents... keep out dirt and dust. Write for details. Astragals are only one of many items in the Michaels line. So whatever building product you need, if it's made of metal, we may have it or can make it.

**MICHAELS PRODUCTS**
- Astragals (adjustable)
- Stair Railings (cast and wrought)
- Wrought and Cast Radiator Grilles
- Grilles and Wickets
- Kick and Push Plates
- Push Bars
- Cast Thresholds
- Extruded Thresholds
- MI-CO Parking Meters
- Museum Trophy Cases

The **MICHAELS ART BRONZE COMPANY, 234 Scott St., Covington, Ky.**

Member of the National Association of Ornamental Nonferrous Metals Manufacturers

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**NEWS FROM CANADA**

*By John Caulfield Smith*

Number 12 in the series of London Chapter small home designs. Key to plans below: 1, living room; 2, dining room; 3, kitchen; 4-6, bedrooms; 7, bathroom; 8 closet

---

**London Chapter Houses**

A valuable public service has been performed by the London Chapter, Ontario Association of Architects. Without thought of personal gain, its members have prepared a series of house designs to meet a wide range of family needs. In doing so they assist persons who, possibly for financial reasons, would not ordinarily consult an architect, and help achieve a high standard of residential design in their community.

Sketch designs and descriptions have been published in the London Free Press, and residents may obtain three sets of plans and specifications for any house from the London City Hall. The nominal sum of $10 is charged to cover blueprinting costs. While the service provided by the Chapter is intended to be purely local in scope, chapter members hope the example set will be followed by architects in other communities.

---

**Foreclosure Era Ahead?**

Criticism of current government home loan policies has been voiced by R. H. Reid, president of the Dominion Mortgage & Investment Association. The Association’s membership is composed of over 50 loan, trust and insurance companies, whose billions of dollars of assets form a pool of mortgage money on which Canadians are drawing extensively.

In addressing the annual meeting of (Continued on page 20)
YOU'LL FIND ALL THE REQUIREMENTS for safety and dependability in the improved ® Shutlbrak Switch. It’s a high quality, heavy duty industrial switch that is ideal for motor control, service entrance or for any job requiring an operating switch that is safe and sound.

This safety type ® Shutlbrak Enclosed Switch has the popular safety feature of interlocking fuse doors. The fuse compartment doors automatically lock when the current is "on"... fuses being accessible only when the switch is "off." (An intermediate position of the operating handle permits access by an authorized person.)

Embodying the latest in design and construction, the ® Shutlbrak Switch gives long-lasting, economical service... principally because of its split-second speed of operation; its new shuttle mechanism that gives quick make and break connections; heavily silvered copper contacts that roll under pressure and actually improve with use; and new clamp-type fuseholders and solderless pressure connectors that assure years of trouble-free service.

Add up all of these features and it's easy to see why the ® Shutlbrak Switch is dubbed safe and sound.

Capacities: 30 to 1200 amps, 250 volts AC or DC; and 575 volts AC in 2, 3 and 4 poles. See your ® Representative for more details or write for Bulletin No. 501.

Frank Adam Electric Co.
ST. LOUIS 13, MISSOURI

Makers of BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER
Riveted for Safety

Bowstring Trusses by

RIVETING in truss fabrication means positive security and above all simplicity in the finer phases of steel construction.

The Bowstring Truss, a truly original Mesker development, provides greater strength and flexibility to meet every requirement of industrial or commercial construction, wherever clear floor space is required.

The Mesker Bowstring Truss design eliminates columns. Greater floor space and the resulting finer appearances are but another feature of Mesker design. Mesker in truss fabrication, means safety, means better and standardized construction.

Mesker Steel prefabricated products are superior in every field — a true fact you expect from one of the oldest fabricators in the country.

WRITE TODAY FOR CATALOG AND FREE DESIGN INFORMATION

GEO. L. MESKER STEEL CORP. EVANSVILLE 8, INDIANA

NEWS FROM CANADA

(Continued from page 18)

the Association, Mr. Reid said: "From an immediate political standpoint, it is very attractive to governments to encourage and facilitate increased home ownership through easement in purchase terms. From past experience, the lending institutions know the almost certain consequences all too well. It appears inevitable that, at some period in the not too distant future, there will be a substantial decline in the real estate market. All too little consideration is being given by government authorities to the repercussions that will follow when slender equities disappear and indebtedness exceeds the market value of the home owners' property."

It may be that Mr. Reid had the government of Ontario particularly in mind. To reduce the size of down payments on newly built houses it recently made second mortgage financing available on very easy terms. Loans may be made for not more than half the required down payment, and may not exceed $1250. They bear 3¾ per cent interest, in contrast to the 5 to 10 per cent charged on second mortgages obtained through normal channels.

Rental Insurance Offered

Canada built only half the rental housing it required in 1947. Allowance of double depreciation for income tax purposes on this type of accommodation was insufficient inducement to augment its supply. Accordingly, the Central Mortgage & Housing Corporation has taken a new tack.

The Corporation — the Dominion Government agency in the shelter field — proposes to introduce rental insurance. In amendments to the National Housing Act it seeks to guarantee investors against loss on new rental housing and to encourage lending institutions to make generous loans on such projects.

To qualify for rental insurance, a project must contain eight or more dwelling units averaging at least 1½ bedrooms apiece. If the owner agrees to accept an approved rental for the first three years following completion, the Corporation will issue a contract for 85 per cent of the approved rental. The premium rate and policy period are yet to be established. What is guaranteed is an income large enough to pay carrying charges plus a 2 per cent return on the investment.

To show how the scheme would work, take the case of a 1½-bedroom suite in a new apartment house. On agreeing to accept a rental of $80 per month (maximum allowable on a fully serviced basis),
A Mechanical BRAIN that precisely controls admission of heat to continuously circulating water—in amounts to exactly offset heat losses

That is what heating engineers sought to do for years—that is exactly what Hoffman's Series 90 Controller adds to any hot water heating system—having either panels, baseboards or radiators. The Series 90 Controller is sensational in its automatic maintenance of even room temperature . . . in its ability to conserve fuel by completely eliminating wasteful over-heating, such as occurs in the ordinary intermittent type operation. These features and advantages of Hoffman Controls are an asset you should use in closing contracts for new radiant heating projects and remodeling jobs. Zoning of apartments or sections of large residences to suit personal preference or functional activities of the building may be obtained with Series 90 Systems. The diagram at left shows the basic operating principle of this system. Thousands of installations now in operation acclaim its merits.

HOW THE HOFFMAN SERIES 90 SYSTEM COMBINES CONTINUOUS CIRCULATION WITH WATER TEMPERATURE CONTROL

When the Control Valve is closed, continuously circulating water by-passes the boiler without withdrawing heat. When water has lost heat, as noted by the Water Temperature Bulb, the Comfort Controller slowly opens the Control Valve, permitting hot water from the boiler to enter the circulating stream. When sufficient hot water has been admitted to restore the proper temperature to the circulating water, the Valve is closed by the Controller. This cycle repeats automatically in anticipation of weather changes.

HOFFMAN SPECIALTY COMPANY, Dept. AR7, 1001 York St., Indianapolis 7, Ind.
Otis engineers, who were working on electronics before World War II, have applied the magic of this new science to improve Signal Control operation. As a result, you can now summon an elevator by simply touching a plastic arrow in the landing fixture.

The instant your finger contacts a ‘touch button’ a directional arrow lights up. The light shows that your call has been registered. As the elevator approaches your floor the overhead lantern also lights up. Both lights remain aglow until the car has stopped, you have entered, and the doors have closed. It’s all controlled electronically.

Otis Electronic Signal Control gives you continuous and visible evidence that it has received and remembered your call—evidence that is pleasantly and attractively reassuring.

Otis Elevator Company. Offices in all principal cities.
The first installation of Otis Electronic Signal Control can be seen in the Universal Pictures Building, 445 Park Avenue, New York City. It operates the four local and four express elevators that serve 21 floors and a penthouse. Otis Electronic Signal Control is applicable to all elevators. But for the immediate present, it will be confined to large buildings where elevators travel at speeds of 500 feet per minute or more.

ELECTRONIC SIGNAL CONTROL
ELEVATORS

THIS TIME WITH THE MAGIC OF MODERN ELECTRONICS

JULY 1948
Oil heat most desirable for apartments, too!

As the designer of many of New York's finest apartment buildings, Mr. Pelham sets high standards for heating performance—and finds he can always achieve the results he desires with oil burners. Modern oil heating contributes to cleanliness, good health and the comfort of the building occupants as well as to substantial economies in operating costs.

An ever-growing number of other prominent architects and engineers voices the same opinion—and chooses oil heat for greater efficiency, to end ash and noise nuisance, for automatically adjusting heat delivered to fluctuating demand without waste, for relieving employee man hours for other duties.

And in oil heating, Petro can be relied on to make such benefits a certainty. Its reliability is backed by the resources of the country's largest, oldest, exclusive manufacturer of oil heating equipment. With its thermal viscosity control, a Petro automatically burns lowest-cost oils at high combustion efficiency. We invite you to consult Petro on every oil heat requirement.

One of New York's outstanding architects, George Fred Pelham, 2nd, is the designer of many of the city's finest apartment houses. In 1941, he was awarded the A.I.A. medal for fireproof apartment structures. Based on long experience with the use of oil heating in hundreds of buildings, Mr. Pelham makes these observations:

"I have found oil burners to be the most desirable method of heating modern apartment houses. The elimination of ash handling alone results in increased cleanliness and a substantial reduction in employee man hours. I have found this method of heating to be the most satisfactory in performance for both the tenants and my clients."

INDUSTRIAL MODELS: No. 5 or No. 6 fuel oil; manual, semi-automatic or automatic operation; 8 sizes to 450 bhp. Thermal Viscosity preheating.

DOMESTIC MODELS: No. 3 or lighter oils; "conversion" and combination-unit types, 7 sizes. Patented "Tubular Atomization."

FULL DATA on Petro Industrial Burners are in catalog files of Sweet's and Domestic Engineering. Details on Petro Domestic Burners available in separate catalog. Copy of either sent gladly on request.

PETRO

cuts steam costs

PETROLEUM HEAT AND POWER CO. • Makers of Good Oil Burning Equipment Since 1903 • Stamford, Connecticut

ARCHITECTURAL RECORD
Fit for a Princess!

for the Extra Something that sets a home apart
Specify STANLEY Cabinet Hardware!

There's a style and finish to Stanley Cabinet Hardware that sets it apart as something special right from the start. Nationally known industrial designers styled it. Stanley engineers spent years of research and testing to perfect it.

The result: a line of cabinet hardware that is smoother working, longer lasting and easier to install . . . and by all odds the most beautiful.

Stanley Cabinet Hardware is a little extra touch that can add a great deal to the homes you build. Specify it. A descriptive folder showing the complete line gives full details. The Stanley Works, Cabinet Hardware Department, New Britain, Conn.

STANLEY


HARDWARE - HAND TOOLS - ELECTRIC TOOLS
CONSTRUCTION COST INDEXES

— Labor and Materials

United States average 1926—1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corporation, from data compiled by E. H. Boeckh & Associates, Inc.

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<thead>
<tr>
<th>NEW YORK</th>
<th>ATLANTA</th>
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<tr>
<td></td>
<td>136.1</td>
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<td>123.8</td>
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<td>Apr. 1948</td>
<td>123.8</td>
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<tr>
<td>% increase over 1939</td>
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<tr>
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<td>118.1</td>
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<td>118.6</td>
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<td>108.9</td>
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<td>223.6</td>
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<tr>
<td>% increase over 1939</td>
<td>103.1</td>
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Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs. These index numbers will appear whenever changes are significant.

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926-29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.: index for city A = 110
index for city B = 95
(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

\[
\frac{110-95}{95} = 0.158
\]

Conversely: costs in B are approximately 14 per cent lower than in A.

\[
\frac{110-95}{110} = 0.136
\]
History will be made under a roof of ANACONDA COPPER

PARTY DELEGATES assembled in the huge Philadelphia Municipal Auditorium will select their candidates for the nation's highest office. Hon. Bernard A. Samuel, Mayor of Philadelphia, will welcome the delegates to the first of the national conventions which opens here on June 21st.

This spring more than 100,000 pounds of Anaconda Copper were used in reroofing the barrel vault type roof which covers this vast amphitheatre. The proven durability of copper, its fabricating qualities, corrosion resistance, appearance and low maintenance costs, combined to give this time-tested metal preference over all other materials considered.

Design and supervision of this tremendous roofing job were in the hands of Joseph A. Roleter, Director of City Architecture, and Thomas Buckley, Director of Public Works. The J. Edward Link Sheet Metal Works of Philadelphia and Washington were the contractors.

Early April view showing 50 percent completion of 80,000 sq. ft. copper roof. Crown of flat-locked soldered seam construction using 18" x 24" x 20 oz. squares. Batten seam construction at sides with battens on 2' centers. Roofing pans formed from sheets 26' x 96' x 16 oz.
PRESTIDGEITATION


For once here is a volume which amply lives up to its jacket blurb. Described therein by B. Kenneth Johnstone, head of the Carnegie Institute of Technology Department of Architecture, as "an amazing document ... an encyclopedia of home building ... the book to end all books in this field," it is close to being exactly that. And, as a matter of fact, that is just what the authors meant it to be.

Messrs. Hawkins and Abbe have written primarily for actual and potential home owners, secondarily for landlords and builders. They have, therefore, kept their text as non-technical as possible, but they have nonetheless gone quite thoroughly into the "anatomy of houses." Separate chapters deal with masonry work, foundations, house framing, roofs, floors, painting and papering, insulation, heating, plumbing, etc.

All of this, of course, is background to the chapters on remodeling, illustrated with before-and-after views and plans of actual remodelings, this section is the one most likely to be of interest to the architect. It includes a concise chapter on "How to Judge a House for Remodeling," and a number of simple but sound schemes for enlarging, modernizing, and so on. Here, too, is a handy spread of diagrams indicating the floor area required by typical household furniture and equipment.

This is a book which an architect might well like to have on his shelf for the client whose ideas are either nebulous or impractical — or both.

ARCHITECTURE IN 1947


The New International 1948 Year Book is, as the title might not imply, a coverage of 1947 in the form of a detailed, documentary account of events, discoveries, situations and topics of major and minor importance of that year. There is practically no subject, idea, institution, place or thing that has not been reviewed in its relation to 1947.

Of chief interest here is the summary of 1947 trends and developments in architecture, lucidly and comprehensively traced through their widely divergent 1947 paths by Douglas Haskell, Senior Associate Editor of Architectural Record. The article is subdivided into Residential, Prefabrication, Commercial, Public Buildings, City Planning, and Other Countries. "Other Countries" here means other than the United States since most of the preceding topic headings deal with the United States architectural scene during 1947. A remark under City Planning illustrates the fact that in that realm there is much talk and little do: "Actual city planning achievement was virtually nil, under the prevailing temper of land-grabbing and quick profitable parcel sales." A fine tribute is paid to Le Corbusier-influenced contemporary Brazilian architecture and also to the work being done by its Latin neighbor Argentina. Some of the architectural activity in Great Britain, France and the U.S.S.R. is also discussed.

ENGLISH VISTA


In these three small books, the latest additions to the "Vision of England" series, the authors have captured atmosphere of a very real sort in their rambling explorations of the byways, villages, valleys and moors for which rural England is justly famous.

The book devoted to Derbyshire contains many interesting references to local architecture and landmarks: "Kelston Hall is an outstanding example of the work of the Adam brothers and ranks high among the mansions of its type, but Derbyshire is perhaps more noted for its many smaller, more intimate houses, particularly those dating from Elizabethan and Jacobean days, whose charm is often enhanced by the sudden surprise of their appearance." From the Sussex book also come interesting architectural commentaries. In reference to the town of Lewes: "Here is the top of that section of the High Street known as School Hill, which is compact of fine, restrained, gracious buildings. School Hill House has great scale and dignity, and all the way down to the river there are many excellent variations on the Georgian theme: here a pair of front doors under one entablature; there an elevation based on the bay-window motif. Some are of brick and some of stone; colour and texture and scale all vary, but never too violently; all this architecture speaks the same language with slightly different accents, none of them jarring."

Each of the three books follows the same pattern of describing the character of its county in fine detail. Never assuming the attitude of a guide book, they lead the reader through crooked lanes and streets, by the rivers and streams, and carry him from mountainside to quayside while unfolding their narrative of native customs, historical incidents and folklore. These three books should prove interesting especially to those in whom they will arouse pleasant memories of past visits and associations.

INTERIORS TO FIT


Recently brought out by Whitney Publications, Inc., publishers of Interiors, Anatomy For Interior Designers is a compilation and enlargement of the articles that appeared originally as a series in Interiors. It is intended to be a readable and handy reference for interior designers, and is not, as it might appear at first glance, simply a restatement of sections of Graphic Standards, but instead, devotes its text only to that portion of interior design which is related to the care and comfort of the human body.

The book is largely diagrammatic, but the diagrams are enhanced by amusing Nino Repetto illustrations, and witty running commentaries. The basic theme is that the proportions of the human body are the basis of all design, and this theme is developed in a series of separate chapters: "Basic Measurements," which describes with diagrams the capabilities and limitations of the human anatomy; and chapters on individual rooms in the office and home.

Part 2 is entitled "How To Talk To A Client." In order to be of any real value to designers, such a topic would require lengthy treatment with countless variations, since no two clients are alike, and no two designers either. Part 2 in this case is more apt to be a rather diverting addendum to the factual contents of Part 1. Anatomy For Interior Designers is a light, but handy reference on a specialized phase of interior design.

TECHNICAL BOOKS

STRESS ANALYSIS

Stress Analysis and Design of Elementary Structures. By James H. Cassel, 2nd Ed. John Wiley & Sons, Inc. (440 Fourth Ave., New York 16), 1948. 6 by 9 in. xii + 420 pp., illus. $5.00.

In this second edition of Professor Cassel's book, Part I of the first edition has been retained intact except for a revision of Chapter 2 on live loads that (Continued on page 30)
Check those TWO SERVICES again! Insulite builds, Insulite insulates at one and the same time. That's why architects call Insulite the double-duty building material. Specify double-duty Insulite and give your clients more for their building money.
Oak Floors RESPOND TO CHANGING STYLE TRENDS

With beauty, durability and long-time economy as obvious advantages, an important quality of oak flooring is lately becoming more and more appreciated—that is, adaptability to meet changing style trends.

Actually oak floors welcome new ideas to make homes more attractive and more livable. Changes in furnishings, wallpaper, paint or rugs blend harmoniously into the basic beauty of natural oak grain and texture.

Oak floors prove their superiority as a base for wall-to-wall carpets too. Carpets lie smooth and firm. They look better and clean more easily. At any time, when carpets become too worn for further service, oak floors can be depended upon for their original, lasting beauty.

For any season, for any style, oak floors provide the basis for lasting charm and hospitality.

REQUERED READING
(Continued from page 30)

brings it up to date with the most recent standards. Part II, which deals with the design of simple structures, has been completely revised also for the purpose of bringing it abreast with the latest specifications. An entirely new chapter devoted to light-gage steel construction has been incorporated into the book. To enhance the classroom value of the book, data for problems have been added at the end of each chapter.

LIMIT DESIGN


By another member of the University of Michigan faculty Theory of Limit Design also is essentially a textbook. In it the author states via text, formulae and data the fundamental principles of limit design. In the words of Professor Van Den Broek: "The theory of limit design presupposes ductile or semiductile stress distribution. In it, the emphasis is shifted from permissible safe stress to permissible safe deformations. This theory is the subject of this book."


ABBREVIATIONS

Scientific and Technical Abbreviations, Signs and Symbols. By O. T. Zimmerman and Irvin Larine. Industrial Research Service (Dover, N. H.), 1948. 5¼ by 8½ in. xii + 476 pp., illus. $7.50.

This book is one of the most comprehensive compilations yet published of abbreviations, signs and symbols used in almost every field. Not only is such a reference valuable directly to architects, engineers and builders in their own fields, but it also contains much information which will be of more general interest to them.

Some of the major groupings consist of signs and symbols used in engineering, mathematics, chemistry, thermodynamics, acoustics, aeronautics, radio, electronics, hydrography, topography, railways, astronomy, mechanical drawing, materials of construction, communications, humidity, and radiation. Scientific and Technical Abbreviations, Signs and Symbols is highly recommended since it is almost unprecedented as a work of its kind.
French, Shriner & Urner chose METLWALS

for beauty, movability, durability

METLWAL Partitions and Paneling have a lot to offer! METLWALs alone combine distinctive beauty—simple construction—easy maintenance—and rapid installation. They're factory-finished in rich wood grain reproductions or baked enamel...will not reflect harsh, metallic light...will not chip, crack or craze...are Bonderized against rust.

METLWALs are installed in four easy steps by erection crews: (1) attach floor and ceiling channels; (2) insert studs in channels; (3) snap on panels; (4) slip on base. One man can handle a full-size panel. All parts and panels can be cut on the job. No need for plaster in new construction. No filler boards or patchwork. Only a few standard parts from warehouse stock. And Martin-Parry's modern production facilities, in our huge new Toledo plant (one wing shown below), insure uniform panels for interchangeability...long-wearing installations that hold maintenance costs to a new low!

Write today for your copy of our latest catalog A7, containing METLWAL specifications, drawings and installation photographs. See how METLWAL can help you plan beautiful interiors. Address: Martin-Parry Corporation, Toledo 1, Ohio. Plants: Toledo, Ohio; York, Pa.
Douglas Fir Doors marked "A"
Meet these Industry-Approved Standards:

GRADE A — Recommended for Paint or Enamel Finish
To be Factory Resin-Sealed

STILES, RAILS, AND MULLIONS.—This stock shall be heartwood, all vertical grain old growth Douglas fir, Sitka spruce, or Western hemlock, the faces of which must be clear, with the exception that small, inconspicuous, and neatly repaired pitch seams are permissible. Characteristic sound dark streaks are permitted in hemlock. Glued-up rails are permissible in widths over 4½ inches. A moisture-resistant glue shall be used. Mixing of woods is not permitted.

PANELS—FLAT VENEERED.—The standard thickness of 3-ply flat veneered panels shall be ¼ inch after sanding. Each face shall be of a yellownish or pinkish color or a blend of the two, and shall be from smoothly cut veneer, free from knots, splits, pitch pockets, and other open defects. Small streaks and spots of other colors are permissible, provided that they in no manner make the panel unusable for the purpose intended. Shims that occur only at the end of panels and inconspicuous well-matched patches shall be admitted.

PANELS—SOLID RAISED.—The standard thickness of solid raised panels shall be not more than 9/16 inch before sanding and not less than 7/16 inch after sanding. They shall be either all vertical or all slash grain in any one door, and shall conform to the grade of the stiles and rails.
Clay tile sails the seven seas...

In postwar cruise ships like the Alcoa Cavalier and her sister ships,
genuine clay tile contributes to the luxury appointments which provide
comfort and convenience for pleasure-seeking passengers.

When marine architects designed these cruise ships they considered the special seagoing conditions imposed
upon a shipboard swimming pool. A roll of the ship shifts the weight of the water and brings changes in pressure
upon its sides. Sun and sea create extreme exposure conditions.

Genuine clay tile was selected because it bonds together strongly, resists warping,
chipping, cracking, corrosion, the effects of heat and cold
and the constant “working” of the ship’s structure.

The Modern Style is
Here’s why the modern style

Clay tile provides...

**DURABILITY**

In Pine Bluff, Arkansas, and other locations, J. C. Penney Company believes in putting its “best foot forward” by using clay tile on its store exteriors. When undertaking any type of new construction or modernization, remember that durability and low maintenance costs are vitally important. Experienced merchants prefer weather-resistant, colorfast clay tile which provides permanent beauty and charm... let clay tile be a silent salesman to make passers buy.

Clay tile provides...

**SALES APPEAL**

In new Dr. Pepper bottling plants in North Carolina, the extensive use of wide windows and glistening clay tile brightens the interiors and invites visitors who see on every hand the accent on cleanliness.

Floor cleaning, always a problem in bottling plants, is simplified here because the quarry tile floors can be washed in a jiffy.

The tile floors in the syrup laboratory and water purifying room appeal to the public’s desire for sanitary conditions. Here is further proof that clean plants can help sell the product.
CLAY TILE PROVIDES...

ECONOMY

Hospitals are faced with the twin problems of keeping patients happy and maintenance budgets low. The use of genuine clay tile for floors, walls and corridors meets both requirements. In the Swedish Hospital, Seattle, Washington, and in various VA hospitals, clean clay tile gives patients confidence that sanitary conditions prevail. The maintenance load is greatly reduced because clay tile is so easy to keep clean. Tile walls never need repainting.

CLAY TILE PROVIDES...

MODERN DESIGN

In "Mr. Blandings Builds His Dream House," Cary Grant selects genuine clay tile for bathroom walls and floor... nationwide, the modern style is clay tile because the varied sizes, shapes and color combinations of tile make it adaptable for any type of design. Also tile's baked-in beauty is permanently pleasing and distinctive. Today every home can have clay tile because the installation cost is surprisingly low. Since clay tile is easy as china to clean, modern homemakers have less heavy housework.
FACTS ABOUT GENUINE CLAY TILE

What it is: Made from clay and/or other ceramic materials, tile is burned at a high temperature to make it durable.

Types: Clay tile is of two general types—glazed and unglazed. Glazed tile has a glass-like finish which may be clear, opaque, white, black, colored or polychrome. It may have a smooth, mottled, veined or rippled effect. A glazed finish may be "bright," "semi-matte," or "matte."

Unglazed tile has no glaze on its surface. The same ingredients are used throughout the entire tile as appear on its face.

Sizes: The sizes range from small "dots" 11/32" square to 9" square. Thicknesses vary from 5/32" to 1 1/2". The most common sizes bear a geometric relationship to a 6" square, as shown in diagram at right.

Shapes: Wall surfaces require trim shapes, many of which have been standardize by the industry in cooperation with the National Bureau of Standards. A chart is available illustrating and identifying the most popular shapes throughout the industry. To obtain chart use coupon below.

Standards: The National Bureau of Standards has recommended practice for grading, labeling and certification. These recommendations are widely followed by the tile industry.

How to get more information about tile

Contact your local tile contractor

Good tile installations are the result of proper planning and skilled workmanship. Your nearby tile contractor and dealer offers an extensive background in using real clay tile. Many of these contractors have their own showrooms and are qualified to assist in design and selection.

For the name and address of the nearest clay tile contractor, consult the classified section of your telephone directory. Phone him for information.

THE TILE COUNCIL OF AMERICA

ROOM 3401: 10 EAST 40th STREET
NEW YORK 16, NEW YORK

ROOM 320: 639 SOUTH SPRING STREET
LOS ANGELES, CALIFORNIA

The Tile Council of America was formed in January 1945 to provide a central source of information about floor and wall tile, and to sponsor research and development projects designed to increase the usefulness of tile in all types of private and public building.

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Carlyle Tile Company
Ironton, Ohio

General Tile Corporation
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Murray Tile Company, Inc.
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Pacific Clay Products
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JULY 1948
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JULY 1948
Old St. Louis Courthouse Dome

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A new roof of Revere Copper was recently installed on the Italianate dome atop the old St. Louis Courthouse, now the museum of the Jefferson National Expansion Memorial. The new roof is part of a large restoration program that will preserve this handsome, historically-rich building for future generations.

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FENCRAFT COMBINATION WINDOW—generous fresh-air ventilation. Swing leaves deflect breezes into the room. In-tilting sill vent protects against drafts. Both sides easily and safely washed from inside.

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Detroit Steel Products Company, Dept. AR-7, 2232 East Grand Blvd., Detroit 11, Michigan

Please send me data on types and sizes of the new Fencraft family of Fenestra Windows.

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JULY 1948
Where Should This Floor Be Used?

*Is it the solution to all flooring problems?*

Asphalt tile is made in a variety of types—standard, greaseproof, industrial, conductive, and greaseproof conductive. It can be used in many different areas, including basements. During the war years, when other flooring materials were in short supply, asphalt tile was used for virtually every type of installation. This widespread emergency usage may have resulted in the belief among some architects as well as the general public that asphalt tile solves all flooring problems. However, this is not the case. Although asphalt tile performs satisfactorily below grade, on grade, and above grade, it is not a "cure-all." While it has many advantages, it also has limitations that, in many instances, make other types of resilient flooring materials a more logical choice.

*What are its advantages?*

The outstanding advantage of asphalt tile is its ability to withstand the effects of alkaline moisture that's always present when concrete subfloors are in contact with the ground. In Armstrong's Asphalt Tile, color pigments as well as binders and fillers are alkali resistant. The low cost of asphalt tile, combined with its unusual durability and beauty, is also in its favor. The toughness and flexibility of the Armstrong product make it practical to install 1/8" gauge over wood subfloors. The variety of plain and marbleized colors provides unlimited design opportunities.
**What are its limitations?**

Asphalt tile is the hardest of all the resilient flooring materials. Less quiet underfoot than linoleum, Linotile®, rubber tile, or cork tile, it is more than 90% quieter than hardwood. In contrast to its relative hardness, asphalt tile has less resistance to indentation than other types of resilient floors. A thermoplastic material, it softens under heat. However, indentation from furniture loads is overcome by the use of furniture rests.

**How does it compare on a cost basis?**

There are four price groups—A, B, C, and D, according to color—with the lightest colors being the most expensive. The lighter colors in the 1/8" gauge of the C and D groups are comparable in price to light gauge linoleum. Colors in the A and B groups cost less than linoleum of any gauge. All asphalt tile colors are priced well below Linotile, rubber tile, and cork tile. Some of the darker shades of asphalt tile are almost as inexpensive as felt-base floor covering.

**How does one type differ from another?**

Specialized types of asphalt tile make this flooring suitable for industrial as well as for commercial and residential installations. Basically the same, each type has specific characteristics as outlined below.

**Standard**

For general residential and commercial installations. Recommended for basements, grade level, and suspended floors. Grease, oils, and fats cause standard asphalt tile to soften and disintegrate. Twenty-five plain and marbled colors in the Armstrong Line.

**Greaseproof**

Similar in general characteristics to standard asphalt tile. Contains special ingredients which make it resistant to ordinary greases, oils, and fats. Recommended for installation in kitchens, restaurants, meat stores, filling stations, and similar places where grease and oil conditions exist. Colors match standard asphalt tile.

**Industrial**

Contains special binders that give industrial asphalt tile high tensile strength and traction. It’s a tough, long-wearing floor that’s both non-dusting and non-sparking. Recommended for factories, shipping rooms, ramps, freight elevators, and other industrial areas where resilient flooring is an advantage. Can be used for grade level and suspended floors. Not recommended for installation below grade. Available in plain black only. Matte finish prevents glare.

**Conductive**

Possesses exceptionally low electrical resistance. It aids in dissipating static electricity. It is also non-sparking. Conductive asphalt tile provides added protection against explosions in hospital operating rooms, powder plants, and wherever the generation of static electricity presents a hazard. Available in plain black only.

**Greaseproof Conductive**

Same characteristics as conductive asphalt tile but with the added ability to resist the harmful effects of grease and oil. For use in manufacturing areas where grease conditions as well as danger from explosion through static electricity are problems.

**What sizes and gauges are available?**

Armstrong’s Standard and Greaseproof Asphalt Tile are 9”x9”—3/16” and 5/16” thick. For borders, 18”x24” size is also available in a number of colors. Feature strips, 24” long, are available in widths from 1” to 41/2” in multiples of 1/2”. Industrial, conductive, and greaseproof conductive asphalt tile are made in 18”x24” size and 3/16” and 5/16” gauges. For samples and literature on Armstrong’s Asphalt Tile or other types of Armstrong’s Resilient Floors, write to any Armstrong district office or directly to Armstrong Cork Company, Floor Div., 2407 State St., Lancaster, Pennsylvania.
Only completely-protected conductors assure longest-lived wires and cables

... and only Okolite-Okoprene cables possess these 9 "factors of protection"

1. Conductors are coated with corrosion-resistant Okoloy, a lead alloy that outlasts tinning 2 to 1.
2. Internal corona cutting is eliminated and dielectric strength increased by Semicon Tape applied over the conductor on all Okolite-Okoprene cables operating at over 2000 volts.
3. Moisture-resisting, high-voltage Okolite, an oil-base insulation proved in over 20 years of service, is made with Up-River Fine Para, the best grade of natural rubber. Approved as Type RWSN by Underwriters' Laboratories.
4. The Okoprene covering, a pioneering development of the Okonite laboratories, has established its stability and permanence on millions of feet of cable installed since 1935 under the most severe conditions.
5. Both insulation and jacket are applied together in a single operation by the strip-process and uniformly vulcanized in a continuous metal mold to give the best and most dependable bond.
6. Insulation and covering receive but a single vulcanizing "cure" thus eliminating the life-shortening effects of double vulcanization.

With today's installation costs*
only the longest-lived will be economical

*The lifetime cost of a cable rather than its first cost is the only true measure. Okonite wires and cables, built to stand up better and longer, can offset high installation costs.

7. Thickness of both insulation and jacket are accurately controlled by the Okonite strip-insulating process.
8. In addition to a. c. tests, every Okolite-Okoprene cable is subjected to high-voltage d. c. tests more severe than used by any other cable manufacturer.
9. Okolite-Okoprene cables have the longest and most extensive service record.

Okolite-Okoprene's electrical operating advantages, installation advantages and design advantages are given along with dimensional data in illustrated, information-crammed Bulletin AR1037. For a copy, please address The Okonite Company, Passaic, New Jersey.

Okonite insulated wires and cables

The best cable is your best policy
LESS FRICTION AND TURBULENCE LOSS IN "VOLUTE" COMPRESSOR DESIGN

The use of "volutes" in the design of the centrifugal compressor which forms a part of the Worthington Centrifugal Refrigeration System provides greater efficiency because the smooth, obstruction-free gas passages reduce friction and turbulence loss.

An exclusively "Worthington" arrangement of the volute passages results in virtual elimination of radial thrust. In the first compression stage, a double volute balances any normally-developing radial thrust; in the second and third stages, the volutes are offset 180 deg. to counterbalance the radial thrusts.

Similarly, the arrangement of impellers is such that the axial thrust produced by the third-stage impeller substantially counterbalances that developed by the first- and second-stage impellers.

Other features include:
Auxiliary motor-driven oil pump
Provides pressure in bearings and shaft seal before starting and stopping.

Wheels are cast, rather than fabricated, for shaping to proper hydraulic design.

Write us for Bulletin C-1100-B14, giving further information. Worthington Pump and Machinery Corporation, Harrison, N.J. Specialists in air conditioning and refrigeration for more than 50 years.

Worthington at Firestone
The Research Laboratory in the huge Firestone Tire and Rubber Company at Akron, Ohio, is air-conditioned by Worthington equipment.

Windowless Store—Worthington Air
A 540-ton Worthington Centrifugal Refrigeration Machine, mounted on a structural steel base in a rooftop penthouse, provides year-round air conditioning for Burdine's Department Store at Fort Lauderdale, Florida.

Balanced Air—For Small or Large Installation
Whether it's a 540-ton centrifugal machine for a big building like Burdine's, or a 3-ton packaged unit for a corner drug store, the same fact holds true. Because Worthington makes all the vital "innards" of air conditioning and refrigeration systems, the customer gets a completely-integrated—not just assembled—system. And that means more efficient, more economical operation—more worth in Worthington. See your nearby Worthington distributor (in the Classified Telephone Book) for details. A.B.32
none of this with a Briggs bathtub—it's leakproof!

No dripping ceilings under Briggs Beautyware bathrooms! These revolutionary die-formed steel fixtures take care of this problem—and untie every other knot in the business! Briggs bathtubs are lighter—(only 110 pounds), and stronger. Briggs tubs are safer—thanks to the patented Safety-Bottom, the helpful hand grip. Briggs tubs give you uniform quality: every tub is furnished in stainproof (acid-resistant) porcelain enameled. Briggs fixtures fit exactly—because of their close tolerance engineering. Yet with all these extras, Briggs fixtures are modestly priced! Write now for new catalog featuring Briggs plumbing fixtures and Briggs brass. Briggs Manufacturing Company, 3031G Miller Avenue, Detroit 11, Michigan.

BRIGGS Beautyware

Briggs solves the danger of leaks at tub-wall line—with an integral lip flange. This provides a perfect flashing—a permanent water seal—tub to walls.
How to Play SAFE... with insulation

**Ferro-Therm**
STEEL INSULATION
Fully Protected by U.S. and Foreign Patents Issued and Pending

Shield of Protection for the Modern Building

**BEFORE** installing insulation, you want to know how well it provides protection from heat or cold.

But do you ask these questions — equally important: Is it safe from moisture? Is it safe from fire? Is it safe from deterioration?

Architects and builders are playing safe by installing Ferro-Therm — the all-steel reflective insulation. Ferro-Therm not only reflects 90-95% of all radiant heat — the acme of efficient control of temperature —

It reduces the danger of rot to framing members because it does not absorb moisture...

It acts as a definite fire barrier because it is all steel and is stapled securely in place...

It will not deteriorate because it is a sheet of steel which has a protective alloy coating.

Get the lasting protection of Ferro-Therm — and the safety features that only steel insulation can provide — in cold storage and fur storage plants, all-weather rooms, warehouses, locker plants, test chambers, multiple dwellings and prefabricated structures. Made from 38-gauge steel — thin, light, easy to install. Mail the coupon now for details.

American Flange & Manufacturing Co., Inc.,
Ferro-Therm Division, Dept. AR-7, 30 Rockefeller Plaza,
New York 20, N. Y.

Please send me, without obligation, complete information on Ferro-Therm Steel Insulation — [ ] commercial; [ ] residential.

I am an [ ] Architect; [ ] Builder; [ ] Contractor.

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Firm......................................................................

Street....................................................................

City.................................................................State...........................................
SUPER-CLEAN AIR proves sound Insurance for New England Mutual!

AAF Electro-Matics Give Complete Coverage Against Damaging Dirt, Dust and Smoke

THE New England Mutual Life Insurance Co. of Boston, Mass.—the first mutual life insurance company chartered in America—has purchased insurance against the damaging effects of dust, soot and smoke. AAF Electro-Matic* Precipitators, having a capacity of 190,000 C.F.M., are installed as part of their modern air conditioning system.

Building interiors, costly office equipment, priceless records and every employee from the president to the office boy—all are completely "covered" with super-clean air. It's a sound investment that pays off in lower maintenance costs and improved working conditions.

Your clients need AAF "insurance", too! Dirt and smoke are the source of many product and personnel problems. And remember, every air filtration requirement is different. That's why AAF, with the only complete line of air filters, its expert technical staff, can best fulfill your needs. For complete information, contact your local AAF representative or write direct to—

AMERICAN AIR FILTER COMPANY, INC.
389 Central Ave., Louisville 8, Ky.
In Canada: Darling Bros., Ltd., Montreal, P. Q.

*Automatic Electronic Precipitators
This is the Wakefield Commodore

... an Economical Incandescent Luminaire for Classrooms, Offices and Drafting Rooms

The Wakefield Commodore is being used with marked success in one of the experimental rooms of Rosedale School in Austin, Texas, where the concept of the coordinated classroom as the answer to good lighting was developed. When the elements of decoration, daylight control and seating were brought into balance, it was shown that the luminous indirect Commodore unit provides a quality and a quantity of illumination contributing remarkably to an environment in which seeing is relatively effortless.

Of particular interest is the fact that Commodores are economical to install and maintain. And they are adaptable to practically any lighting requirement since they are manufactured in a complete series for wattages from 200W to 1000W, with all hangers and reflectors uniformly styled. The white molded Plaskon reflectors are made in diameters from 15 to 26 inches, varying in wall thickness to insure uniformity of brightness throughout any installation. The hangers are aluminum, finished in satin aluminum.

For complete data on the Wakefield Commodore, write for Catalog 48A. The F. W. Wakefield Brass Company, Vermillion, Ohio.

Wakefield Over-ALL Lighting
FOR OFFICE · DRAFTING ROOM · STORE AND SCHOOL

JULY 1948
Small homes offer big value

They're Radiant Heated with National STEEL Pipe!

National Steel Pipe was used for the heating coils of a large number of these houses because of its low cost, proved dependability, and ease of installation.

Small home buyers are getting real value in Prairie Village, Kansas City. These Shackelford Homes offer a gas fired radiant heating system built with National Steel Pipe.

Prospective owners are looking forward to the comfort of warm, draft-free floors, and uniform heat throughout the house. Furthermore, they anticipate low operating cost of the radiant heating system.

National Steel Pipe is ideal for radiant heating systems just as it is ideal for other types of hot water or steam heating systems. It is low in first cost, easy to bend and easy to weld. It expands at the same rate as concrete and plaster and acts as a reinforcer for the floor. National, the largest selling pipe in the world for heating purposes, offers the additional advantages of the Scale Free and Spellerizing processes. This means that the pipe interior is clean, smooth, free from mill scale, with minimum frictional resistance.

Write for free 48-page book, “Radiant Heating with National Pipe”. It brings you practical information as a basis for planning and installing an efficient steel pipe radiant heating system. Address National Tube Company, Frick Building, Pittsburgh 19, Pennsylvania.

National Tube Company, Pittsburgh, PA.
Columbia Steel Company, San Francisco,
Pacific Coast Distributors
United States Steel Export Company, New York

National Steel Pipe
United States Steel

ARCHITECTURAL RECORD
ONLY Olsonite SEATS Have All These Selling Features!

- Whether White, Black, Color or Pearlescent, It Is the Same Solid Olsonite Throughout...
- Complete line of Models and Colors
- When Installed, No Metal Fastenings Show—Brass Metal-Hinge Posts are Smartly Olsonite Covered...
- Exclusive New, Patented Olsonite Hinge Design.
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- Scientifically Designed in Both Proportion and Contour with Smooth Curves and Edges...
- Beautiful, Lustrous, Olsonite ALL THE WAY THROUGH!

Lowest-Priced Seat of This Quality on the Market—and Guaranteed a Lifetime!

Olsonite Seats are far superior to ordinary wood, rubber, sheet-covered, or plastic-coated seats... and are far greater values! They won't crack, chip, peel, stain, or lose luster! Non-inflammable! No exposed metal. (Sold only through authorized plumbing and heating jobbers to Master Plumbers.) Contact your local jobber today. For full information write Olsonite Plastics Division.
The new Chicago office and plant building of “Power House” Candy Bars (Walter H. Johnson Candy Co.) features Insulux Glass Block to direct daylight deep into interior. Note clear windows for vision and ventilation. Bruce A. Gordon Co., Engineers; S. N. Nielsen, General Contractor; Frank Miller & Sons Fireproofing Co., glass block installation.

Notes on bending light

A new approach to daylight control in offices, laboratories, precision manufacturing plants and classrooms lies open.

Insulux Glass Block No. 351 actually bends light rays. Light is thus directed to ceiling for even distribution deep into the room.

Combined with Insulux Block No. 350 (pattern spreads light evenly through horizontal plane) brightness contrasts are sharply reduced, and light is more evenly distributed throughout the room.

American Structural Products Company is a wholly owned subsidiary of the Owens-Illinois Glass Company. It has taken over the manufacture and sale of Insulux Glass Block and other Owens-Illinois structural products. For data on Insulux write Dept. E.8, American Structural Products Company, P. O. Box 1035, Toledo 1, Ohio.
There are many reasons for the trend to install **Salter Masterpiece Fixtures**

The home owner, plumber, builder and dealer all welcome the extra quality and particularly the exclusive operating features of Salter Masterpiece Fixtures. Typical of this acceptance is the interest and demand for Salter fixtures with revolutionary Feather-Touch valves which eliminate valve seat washers, seats, etc. plus the usual dripping that eventually develops with ordinary valves. Actual tests reveal Salter Feather-Touch valves operate like new even after an equivalent of over 20 years service. In addition to the lavatory fixtures illustrated, the Salter Masterpiece Line includes equally distinctive brass plumbing trim for the bathroom, kitchen and laundry...as well as the valves necessary for the basic installation. Start specifying Salter Masterpiece Fixtures...Your clients are certain to welcome their “feather-touch” operation and drip-proof service. Catalog upon request.

**H. B. Salter MFG. CO., Marysville, Ohio**

and Division THE GLAUBER BRASS MFG. CO., Kinzua, Ohio

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Salter Masterpiece Fixtures are nationally advertised in all the leading Home Magazines
Weigh all the advantages

York's Engineering Assistance backs up York's Outstanding Equipment

Experience and practical technical assistance unequalled elsewhere are available to you as a York customer . . . wherever you may be.

In the Southwest District, for example, Manager Edwards located in Houston, assisted by ten York-trained sales engineers, is at the service of York customers in this district. The highly practical, up-to-the-minute assistance and advice of these gentlemen are available to you at all times, whether you are planning, purchasing, installing or operating refrigeration or air conditioning systems or equipment.

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Look for

BALANSEAL...
another exclusive York feature in the V/W Compressor

The shaft of the famous V/W, "the compressor that never wears out" is effectively sealed without springs and without packing.

Through the use of the exclusive York "Balanseal", closure is secured with a minimum of friction and power loss by an arrangement of flexible, tempered steel discs that compensate for both internal crankcase pressure and external atmospheric pressure. "Balanseals" operate under a continuous oil head and combine high efficiency with striking simplicity.

"Balanseals", plus vibration-free design, plus the use of cylinder liners that permit replacement of all parts subject to wear, make the York V/W the obvious choice of all compressors in their capacity range.

York Corporation, York, Pa.

YORK Refrigeration and Air Conditioning

HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

70

ARCHITECTURAL RECORD
Expediency May Invite Premature Obsolescence in a Toilet Room Environment

Sanymetal®

"PORCENA"
(Porcelain on Steel) TOILET COMPARTMENTS

posess the natural structural strength of steel, not one sheet, but two 16-gage sheets securely bonded on opposite sides of dense insulating core, strengthened by porcelain enamel (four layers on each sheet) which provides a non-porous, flint-hard, glass-smooth surface that is positively impervious to odors, acids and moisture.

- Toilet compartments usually dominate the toilet room, influencing the environment of the one room that is important to everyone occupying the building. Toilet compartments sometimes become outmoded quickly by changes in design and materials. Sanymetal "PORCENA" (Porcelain on Steel) Toilet Compartments provide a generous measure of protection against premature obsolescence because of their modernity and beauty, fadeless color combinations, utmost sanitation, and a correct combination of the hardness of glass with the structural strength of steel, which assures years more of unvarying service.

Fabricated of the ageless, fadeless material—"PORCENA" (Porcelain on Steel)—Sanymetal "PORCENA" Toilet Compartments are available in a wide range of beautiful, never-fade colors imbedded deep into a glass-smooth, flint-hard, non-porous surface that is moisture and rust-proof, does not absorb odors, and is impervious to ordinary acids, oils and grease. The glistening porcelain finish discourages defacement; is easily cleaned, and the brilliancy of the surface renewed by wiping with a damp cloth.

Ask the Sanymetal Representative in your vicinity (see "Partitions" in phone book) for helpful suggestions on planning modern toilet room environments. Refer to Sanymetal Catalog 19-B6 in Sweet's Architectural File for 1948 or write for file copy of Catalog 85.

THE SANYMETAL PRODUCTS COMPANY, INC.
1689 URBANA ROAD • CLEVELAND 12, OHIO

Sanymetal Catalog 85 illustrates several typical toilet room environments as well as shower stall and dressing room suggestions.

Sanymetal®

TOILET COMPARTMENTS,
SHOWER STALLS AND
DRESSING ROOMS

One way to gain
10 EXTRA FEET
without adding an inch to your building!

Only One More Loading Platform has often Meant
Thousands of Dollars in Extra Profits

Seems simple? You'd be surprised how many shippers have found that cutting through a wall—and extending the platform—speeded up "goods in transit." In many cases, space formerly given over to storage was no longer needed!

Slow movement of goods, in or out of your plant, can gradually throttle production. If production is slowed, manufacturing costs increase all along the line. The wisest thing you can do—right now—is take a look around. Make a thorough check of your shipping platforms...time loss...congested areas. Take into account your shipping needs, not for today...but two, four, or even six years from today!

Remodeling Might Be the Answer
Slight remodeling may do the job. Call in your traffic manager and your architect.

Drastic savings in both TIME and MONEY are the result of careful planning...and will continue to pay off on the black side of your ledger for years to come!

GOODS CAN'T MOVE FASTER THAN THEY'RE LOADED
ALBERT F. Dagit, partner in one of America's oldest architectural firms, says—"We have been using CASTELL DRAWING PENCILS since we can remember!"

The one and only CASTELL DRAWING PENCIL, milled according to the secret micrometric process of the 187-year-old House of A. W. Faber—again available in all 18 incomparable tones of black... 7B to 9H.

Still sold at the old pre-war price of 15c each... less in quantity!

Mr. H. D. Bittman
A. W. Faber-Castell Pencil Co., Inc.
44 Dickerson Street
Newark, N. J.

Dear Mr. Bittman,

Our firm has been established since 1888 and this year marks our 60th anniversary. We have been using the Castell Pencils in the office since we can remember. During the war we missed the high quality to be found in Castell Pencils and we are delighted to have them once again.

Among the buildings we have designed are the following: Co-Cathedral of Christ the King, Atlanta, Ga., Library, Chemical Engineering Building, W. S. Navy Science and Training Building at Villanova College, Villanova, Penna., Little Flower Catholic High School for Girls, Philadelphia, Penna., which forms the background for the photograph, the Chapel at the Motherhouse of the Sisters of St. Cyril and Methodius, Darvillu, Penna., Chapel at the Academy of the Assumption, Miami, Fla., and St. Ann's Church, Washington, D. C.

With kind regards we remain,
Very truly yours,
HENRY D. DAGIT AND SONS

ALBERT F. Dagit, M.A.

Professional men of stature need no urging... youngsters coming up would do well to acquire the CASTELL habit, because it is THE DRAWING PENCIL OF THE MASTERS!
Pride in the product is a tradition at Roddis—passed down through generations of craftsmen. This three-generation Roddis family is but one of many who make craftsmanship a hereditary tradition at Roddis.

You can see it in Roddiscraft quality hardwood flush doors and plywood — they bear the stamp of the fine craftsman in their perfectly matched faces — their beautifully belt-sanded finish — their true, clean edges.

In working with wood, craftsmanship is the key to quality. Roddiscraft quality, known for more than half a century, is the product of generations of craftsmen.
Now T-rated for 10 amperes, 125 volts

SINGLE POLE, DOUBLE POLE, 3 WAY, 4 WAY

Helps you to sell good wiring

Underwriters' Laboratories, Inc., approval means proved reliability

Silent operation — long life

Conventional blades and springs eliminated

Narrow bodies make wiring easy

Ideal for homes, offices, hotels, institutions

Ask your General Electric merchandise distributor to show you the new G-E mercury switch, or write for complete information to Section D7-75, General Electric Company, Bridgeport 2, Connecticut.

GENERAL ELECTRIC
IT'S THE COMBINATION

The fine quality of Von Duprin Panic Exit Devices is the logical result of applying the right tools, men, experience and skill to their making.

From this combination of tools and men and know-how comes the precision of Von Duprin parts, their rugged character, the silky smoothness of their action, their astonishing length of life. And these same factors are responsible for the assurance which Von Duprins bring — assurance of safe, quick exit . . . always!

VON DUPRIN DIVISION, VONNEGUT HARDWARE CO., INDIANAPOLIS, IND.
A building is known for FACILITIES, NOT FACADE

Q-Floors offer the architect a means of meeting increased, and still increasing, mechanical demands within a building.

A facade can be soon outmoded. But if every electrical demand can be satisfied promptly, the years can not obsolete the building as a working mechanism. Q-Floors are steel. The cells are crossed over with headers which carry the wires of every kind of electrical service.

An electrical outlet can be established on any six-inch area of Q-Floor. No need to locate outlets, or even partitions, until tenants are in. For an outlet, an electrician drills a small hole, pulls the wires and installs the fitting... all done in a matter of minutes without fuss, muss, or trenches.

Note the composite drawing. Steel Q-Floor is shown with suspended ceiling and a condensed visualization of mechanical equipment (no preset inserts) needed in a modern building. For such a job, a solid, monolithic floor is as active as a tombstone.

Aside from the electrical availability, Q-Floor has the value of reducing construction time 20 to 30%. It comes pre-cut and eliminates much of the unpredictable factors of field construction. This time-saving is money-saving for your client. Also, you can estimate an earlier finish date—which is to say, an earlier revenue date for your client.

As for delivery of steel—remember, you must allow time for demolition and excavation. By then the steel will be ready.

The price of Q-Floors is right in line—less than the carpet that covers them. Think of a floor as the source of flexibility for the whole building. It has been specified for the largest postwar buildings in this country and the British Empire, because it keeps a building modern—regardless of the passing years. See Q-Floor fittings at any General Electric construction materials distributor’s.

H. H. ROBERTSON COMPANY
2404 Farmers Bank Building
Pittsburgh 22, Pennsylvania

Offices in 50 Principal Cities
World-Wide Building Service
1,856 Thermopane units in Harkness Memorial Hospital, New York, insulate glass areas. Thermopane-enclosed entrance keeps the daylighted lobby warmer in winter, cooler in summer. Architects: Voorhees, Walker, Foley and Smith, New York City. Glass installed by David Shuldin, Inc., Brooklyn.

Complete Insulation includes WINDOWS

Windows form a large proportion of the exterior walls of hospitals. For maximum protection, they must be insulated, too.

Hospital planning boards are specifying windows of Thermopane— the insulating windowpane that makes single glazing out of date. It reduces heat loss through glass and downdrafts at windows, saves fuel and lessens the load on air-conditioning systems... important factors in these days of rising costs. It deadens outside noise, permitting patients to get more undisturbed rest.

Because it keeps moisture from forming on the glass surface, Thermopane helps maintain the correct humidity required in hospital rooms.

Thermopane is composed of two or more panes of glass separated by dehydrated air and fabricated into a unit with L.O.F's Bondermetic Seal*. This metal-to-glass seal keeps dirt and moisture from entering the insulating air space. Thermopane units can be installed in fixed or opening sash... may be used in new construction or modernization.

You should be familiar with Thermopane... know the full value of insulating efficiency for large glass areas in all climates. For complete information, write for Don Graf's Technical Sheets on Thermopane. Libbey-Owens-Ford Glass Company, 2278 Nicholas Building, Toledo 3, Ohio.

*O

LIBBEY·OWENS·FORD
a Great Name in GLASS

ONLY LIBBEY·OWENS·FORD makes Thermopane

ARCHITECTURAL RECORD
Economical! Superior! and best of all Readily available!

CHASE COPPER TUBE FOR SOIL, WASTE AND VENT LINES!

MANY of the nation's leading builders of low-cost and high-cost homes use Chase Copper Tube. View shows trim, compact features of a typical copper tube waste and vent line installation.

FAST . . . economical installation has made Chase Copper Tube for soil, waste and vent lines a favorite with builders coast-to-coast! Here's why: You reduce many connections because Chase tube is available in 20 foot lengths. Its light weight makes pre-cutting and pre-assembly possible . . . makes maneuvering and handling quicker!

Find out more about the quality features . . . the economy features—the availability—of Chase Copper Tube for soil, waste and vent lines. Send for literature. Write Dept. AR78.

FREE! Booklet illustrating actual installations of Chase Copper Tube in homes across the country.

Chase THE NATION'S HEADQUARTERS FOR BRASS & COPPER

WATERBURY 91, CONNECTICUT SUBSIDIARY OF KENNECOTT COPPER CORPORATION

THIS IS THE CHASE NETWORK . . . handles way to buy brass

ALBANY ATLANTA BOSTON BOSTON CHICAGO CINCINNATI CLEVELAND DETROIT HOUSTON INDIANAPOLIS KANSAS CITY, MO. LOS ANGELES MILWAUKEE MINNEAPOLIS
NEWARK NEW ORLEANS NEW YORK PHILADELPHIA PITTSBURGH PROVIDENCE ROCHESTER ST. LOUIS, SAN FRANCISCO SEATTLE WATERBURY (SUBSIDIARY, Sales Office Only)

JULY 1948
For Permanence at Low Cost...
Specify UPSON DUBL-THIK Fibre Tile

No visible face nailing! Amazing Upson Floating Fastener provides for normal structural movement of studs and joists.

5 plys of tightly compressed wood fibers. Laminated to full ¼" thickness for strength and rigidity.

Comes with specially treated smooth, fuzzless surface. Ready for enameling in any color customer likes.

It is being used in increasing quantities!
Upson Dubl-Thik Fibre Tile meets the demand for rich color, enduring tile-like beauty and easily washable surface in bath and kitchen.

No visible face nailing to mar its beauty. Thick, sturdy and strong with specially prepared smooth fuzzless surface. Two coats of enamel gives effect of charm and refinement.

Can be applied direct to studs in new construction or to furring strips over old walls. Installed and painted, costs less than tile or most tile-like materials. For further details, see Sweets or mail the coupon.

Easily Identified By The Famous BLUE Center

THE UPSON COMPANY, 47 Upson Point, Lockport, New York
Send me literature on Upson Dubl-Thik Fibre Tile and Direction Sheets.

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CITY
STATE
Available from warehouse stocks

CECO STEEL WINDOWS
and Metal Frame Screens

COMMERCIAL PROJECTED WINDOWS
For use in Commercial and Industrial buildings. Easy to screen—Ceco metal frame screens give perfect insect protection. Full range of standard types and sizes.

RESIDENCE CASEMENTS
Controlled ventilation is built-in! More sunlight because frames are slenderer. Tighter weatherseal, too! Easy to wash the outside from inside. And easy to open and close—no warping. Plus inside application of screens—no risky ladders to climb!

HORIZONTALLY PIVOTED WINDOWS
Used in Industrial and Commercial buildings when slight economy is desired. Expertly made to high standards. Full range of standard types and sizes.

Yes, you can have immediate delivery of these and other Ceco steel windows and screens. Send coupon for full information.

CECO STEEL PRODUCTS CORPORATION
GENERAL OFFICES: 5601 West 26th Street
Chicago 50, Illinois
Offices, warehouses and fabricating plants in principal cities
Other typical products—Steelforms, Steel Joists, Roof Deck

In construction products CECO ENGINEERING makes the big difference

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JULY 1948
In a Floor of Distinction
Safety plus Wear-resistance

The slipping hazard has not been accepted—it has been banished here in this distinctive floor in the lobby of the civic auditorium at Grand Rapids, Michigan. Not a minimum of attractiveness has been subtracted from the precast art marble treads in this floor by adding the measure of safety with the inclusion of ALUNDUM® Terrazzo Aggregate. For this is the measure which adds permanent non-slip protection—unimpaired by water or other liquids and extreme resistance to wear even under heavy traffic.

Norton non-slip floors are made of hard, tough ALUNDUM® (aluminum oxide) abrasive and they are available in four distinct forms:

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If public recognition were the chief, or even a major, source of soul-satisfaction to the average architect his ego would starve to death. The fact is that the public neither knows nor cares who designs its buildings and the average man has no idea who is or was responsible for the convenience, safety, and beauty (if any) of his house, office, theater, or church. There are exceptions that prove the rule, individuals or firms that appreciate the publicity value of a striking, radical, or weird design and can (and do) point with pride to the name of the great if eccentric innovator. But by and large architecture is, and probably will continue to be, an anonymous profession.

Time was, and not so long ago, that buildings bore the name of the architect or firm on the cornerstones, a custom it would be well to revive and foster. It might serve to remind the passerby that there is such a profession as architecture. And it is to be hoped that he would be able to recognize the superiority of the architect-designed building.

When a building project is first announced in the newspapers one learns much about the owners, promoters, mortgagors and realtors involved (including their names), but the descriptive caption of the accompanying perspective merely winds up with "... from the architects' sketch." Architects anonymous again! This can be corrected by local architectural organizations — and by a copyright notice on the drawing. Two dollars for a copyright. Magazines are usually glad to give credit where credit is due — to the architect — and thus render a real service to the profession and to the public.

There is another aspect of anonymity, too. Building projects are labeled, if at all, with the name of the firm responsible. The name of the architectural designer within the firm, whether partner or employee is seldom known outside the organization. This is especially true in the larger architectural firms and is probably inevitable, for the firm is legally, morally, and esthetically responsible for the designs. So the designer must remain anonymous until he becomes a partner or hangs out his own shingle.

But there is another way out, or up — via competitions. Through them the designer may gain professional recognition for his personal ability, see his own name on his own design. And even if he fails to win first place he has the satisfaction of producing "on his own." The architectural designer's greatest compensation is his joy in working out his own creations, and the satisfaction of a job well done — whether the world knows it or not. Yet a little more recognition by others would help. One doesn’t want to be an architect anonymous always and a competition may well be the stepping stone to both fame and fortune. Let's have more of them!
So bold is the concept of this stadium, held by frames in the shape of a capital C or a standing sickle, that the editors obtained the approving opinion of New York engineers to anticipate possible objections.

The South American architects declare that the North American tendency to find such structures "impractical" or "not quite safe" arises in reality from an Anglo-Saxon timidity in the face of bold plastic invention. Quite clearly the architects and engineers who devised this stadium were enjoying a game themselves.

The opportunity came in 1946 when Cartagena was chosen as host city to the Ninth Amateur Baseball World Series. By February of 1947 plans had not yet been started, and the Department of National Buildings of the Ministry of Public Works took over. This would be called a "bureaucratic body" here; but it proceeded with exemplary speed. It employed Colombian architects trained at Harvard and Yale, and Colombian engineers not trained there; and by May 10 construction had begun. The department had the big advantage of being its own authority on codes. By the end of 160 days ball was being played before 18,000 spectators.
ARCHITECTS
Gabriel Salano
Jorge Gaitán
Alvaro Ortega
Edgar Burbano

STRUCTURAL ENGINEER
Guillermo González

CONSTRUCTING ENGINEERS
Alfonso Mejía
Mario Barahona
Julio Noel Montenegro

COORDINATOR
Carlos Santacruz

JULY 1948
The framing system for the Colombian stadium is seen on the opposite page. Seats form a series of Z-beams (upper drawing) spanning the 35 ft. (10.75 meters) between vertical supports. These curved vertical frames of parabolic section are each supported on two columns. The canopy is a membrane of reinforced concrete just over 1½ in. thick (4 cm.) formed in curved panels between arched ribs. Concrete was preferred over steel because of the proximity to the Caribbean Sea and the action of salt air.

(Fully detailed drawings showing the dimensions of longitudinal reinforcing in the vertical frames will be supplied to those requesting them of ARCHITECTURAL RECORD)
Here may be seen the powerful reinforcing bars which take the tensional stress of C-curved vertical frames. Note also the preparation for coffering the thin canopy membrane, which is seen in view below.
At the rear of the magnificently cantilevered canopy, and just above the top seats, it was necessary to leave large openings for the free passage of wind. This also operates to create a pleasant air movement under normal conditions in the hot climate of Colombia. Due to the poor soil conditions and the wide overhang, concrete of a strength of 3000 psi was used in the canopy membrane and 2000 psi in the footings. Construction involved moving some 69,000 yards of earth, providing 43,000 sq. ft. of paved access road surface and 54,000 sq. ft. of parking area and finally placing 6550 linear feet of drainage tile.
ARCHITECT'S OFFICE AND HOME COMBINED

Igor B. Polevitzky, Architect

Miami, Florida
Opposite: the plans show the scheme of integration-plus-segregation. Opposite, below: the ground floor offices are completely shielded from the street by corrugated glass panels, illuminated by a recessed cove light which also provides general illumination. Right: Mr. Polewitzky's private office is furnished in natural striated plywood. The floor is of cork squares. Below: the entrance and reception room showing sound-proof ceiling, washable fabric on walls, asphalt tile floors.

Convenience and economy, plus the current housing shortage, influenced the decision to build the office and home under one roof in the expanding downtown area of Miami. Economy, both of first cost and in maintenance, indicated a plan almost square, but bisected by a 6-ft. stair. This assures functional segregation and privacy between the office and the residential portion of the building. The office space is flexible enough to provide facilities for a staff of from three to twenty, depending upon the amount of work in progress. North light was desirable for office and drafting areas, leaving the southern exposure for the living quarters. The building is constructed of concrete and concrete-block exterior walls, bar joist and concrete floor slab and roof construction, with a light-weight steel frame for the stair system forming the interior joist support. There are two separate air conditioning systems, one for the office area, one for the residential. In the workshop the air conditioning operates in connection with either system so that it can be used with the office in the daytime, and with the house (as a hobby room) at night. The workshop is an essential part of the establishment as it is used for photographic work, solar studies, model building, hobbies, etc. — a convenient and useful space which is usually lacking in the average office. It is compact, and well equipped (see photo next page).
The workshop is well equipped for many necessary and desirable activities, from reproducing drawings, tracings and specifications to accurate studies of effects of sunlight and shadow on scale models. Below: the drafting room looking toward the flat topped control desk under which are the flat files for drawings of all work in progress, with a telephone close at hand.

A corner of the conference room. The cabinet wall is of striated plywood, arranged with sliding panels, and the dark wall serves as a background to emphasize presentation drawings. Floors throughout are of asphalt tile except in Mr. Polsky's private office and the bathrooms.
ARCHITECT'S OFFICE IN A RURAL SETTING

J. Clarence Felciano, Architect, Santa Rosa, California

Believing, at least to a certain extent, in the adage which has it that "better mousetraps" produce beaten paths to even a distant door, California architect Felciano moved his office into the hills some two miles from his former location in the center of town. He had a number of valid reasons for doing so: 75 per cent of his clients were from outside Santa Rosa, some of them from as much as 260 miles north and 100 miles south of the city; he could design his offices to suit his needs, and expand them as might be required; owning rather than renting would stabilize his overhead; the atmosphere of a wooded country area would be more conducive to good work than that of a congested and noisy midtown location; the parking problem in downtown Santa Rosa was already so acute that a client would spend at least as much time finding a place to park in that vicinity as he would driving the additional distance to the new location. The move has proved a wise one — clients, office personnel, even building material salesmen, are unanimously enthusiastic.
Above, left: workshop is well equipped for rapid and accurate model making, and can double as a drafting room during peak activities. For such a peak period the temporary flexible lighting device was improvised. Above, right: a portion of the drafting room, showing the flood of excellent north light available in spite of the lush verdure of the surrounding woods. Below: the exterior is Redwood siding, stained a soft brown; trim is terra cotta.
Left: a section through the studio window of the drafting room, showing the protecting overhang, the sloping windows, and the control of louvered ventilation. (Photo on page 97 shows drafting room window from the outside.) Above: a corner of Mr. Feliciano's own office. Below: the reception room as seen from behind the receptionist's desk.
ARCHITECT’S OFFICE IN LIMITED SPACE

David J. Abrahams & Associates, Architects, Boston, Massachusetts
In contrast to the two especially designed offices shown on the preceding pages, here is an architect's suite created by skillful remodeling in the heart of Boston. Despite limited space and legal requirements dictating twin stairs, the offices are both efficient and attractive.

The reception room, entered directly from the elevator lobby, is in a controlling central position. Artificially lighted except for such daylight as is borrowed from the drafting room, it is brightened by a yellow ceiling; desk and counter tops, doors and chair wall in terra cotta. Counter front, secretary's desk, and dados are light gray. The mural-like building outlines painted over the gray working-drawing background are in terra cotta, gray, yellow and green.

Drafting room walls are painted a light "eye-rest" green, with slightly darker trim. The conference room is finished in sand color relieved by one wall and a dado of gray-green. Cabinets and trim are bleached mahogany, chairs a light coffee-color leather.

Mr. Abrahams' private office (right and top, opposite page) is finished and furnished in bleached mahogany. The asphalt tile floor is yellow ochre with a desk rectangle of reddish brown. Two walls are papered in brown and the window walls are light green. The coral leather upholstery is recalled in the coral and brown figuring of the light beige drapery. Bookcase recesses are also coral, chair webbing is gray-green.
MODULAR LIBRARY UNDER CONSTRUCTION

The State College of Washington, Pullman, Washington

John W. Maloney, Architect

Under construction since March, scheduled for completion late 1950, this 1,200,000-volume library, of 2½ million gross cubic feet, 208,000 square feet, will provide work space for 2,200 readers, partly undergraduates, partly advanced students using divisional libraries. One of 14 institutions collaborating on the "Cooperative Committee on College Library Building Plans," the State College of Washington will pay a basic figure of $2,382,390, or $2,620,197 with alternates, at a rate between 98 cents and $1.08 per cubic foot, for what is reported to be the first important "modular library" under construction. Since the budget was set at $2,500,000, the estimate was close. General construction will account for 74.7 per cent; mechanical equipment, 14.8 per cent; electrical, 10.5 per cent of the total (6.9 per cent representing lighting fixtures) — all this exclusive of architects' fees.

Special features of the library will be its profusion of seminar rooms and faculty research rooms, its closed study carrels, the modular flexibility of its stacks, the vacuum cleaning system, and planned provision for audio-visual education of elaborate character.

Structure is a reinforced concrete modular frame, brick veneer, limestone combined with rainbow granite trim, aluminum windows. Interior walls are granite-faced in lobby, plaster elsewhere; permanent partitions pumice stone or concrete, expansible partitions, frame. Ceilings are being faced with acoustic cement in special areas, acoustic tile in general areas; flooring asphalt tile except for terrazzo in circulation areas. Lighting is by continuous shallow fluorescent troughers with eggcrate baffles, except for indirect lighting in first-floor public corridor and lounges. Heating of two-pipe gravity low pressure type is by convectors in exterior walls; filtered forced air ventilation is supplied through ceiling diffusers by means of soundproof ducts.
Call systems include intercommunication telephones, clock and program chime paging, audio frequency, pilot light signals for pneumatic tube system and annunciator for circulation desk. Underfloor ducts and raceways are fitted to the modular plan. Elevators and dumbwaiters are supplied for service, public, and books; a kitchen for serving the lecture lounge and another for the staff lounge, which is located on the second floor.

The climate of Washington is such that cooling and humidity control are not required; in this climate it has been found that mildew and bugs readily dry up, eliminating a prominent maintenance worry. A vacuum cleaning system is provided and the cleaning problem is further relieved by the ventilation design. Elec-
trostatic filters on continuous chains initially remove foreign particles from the air and are self-cleaning through an oil bath. The supply air is tempered, automatically controlled, and any desired proportion of return air may be recirculated with fresh air. Convectors built into exterior exposed walls forms the other half of the split system. Non-structural intermediate piers conceal heating supply lines and give exterior the appearance of half-spans. These also aid modular planning, and give space for such things as telephone outlets, alternating "house" and outside.

Top librarians have given this library high praise.
Basement floor (opposite page) has elaborate audio-visual department. On main floor (this page) note exhibition-lecture room, to right of entrance, set off by corrugated-glass sliding doors in nickel-silver frames. Catalog room (top view) covering all books in total library adjoins ample circulation desk (middle view) capable of supplying any book to comfortable waiting room (call numbers are flashed on board immediately adjoining circulation desk). Library work space is to rear. First floor is efficient reception center and nerve center of the building.
In general plan, the first floor (previous page) serves the general college library (50,000 volumes); upper floors carry divisional libraries. Second floor serves social sciences, also carries administration offices, staff lounge. Third floor serves science, including agriculture, technology. Music room carries books, journals, scores, some 12,000 recordings. Radio and record-playing connections extend to seminars throughout building. Fourth floor carries humanities, collections, twelve private offices intended primarily for faculty research. Probable extension will ultimately yield an L-shaped building. The impact of all elements is one of clarity and order.
DETAILS OF MODULAR CONSTRUCTION

Each of the bays illustrated to the right of this page is a full modular unit. Students are permitted free access to reference material; research and study carrels (study booths) are of both the open and closed type. Reading areas, as seen in the second view, are frequently arranged next to stacks where browsing is encouraged. Low stacks may be used to separate large reading areas into small groups.

The floor-to-floor height of the structural module is 11 ft. 6 in., of which 9 ft. 3 in. is the clear continuous ceiling height. A uniform finished column size of 18 by 18 in. is maintained throughout, permitting stack ranges to align to columns and giving a clear space between columns of 21 ft., which works well for standard 3-ft. stack sections and aisles. The 22-ft. 6-in. square module is comprised of five ranges spaced at 4 ft. 5 in. on centers. It is possible to use any desired plan arrangement in either direction. Only one special 18-in. length of compartment is required to fill in column depths at ranges, but the number of repeats constitutes a production run so as to make them practically a standard. They are rarely required at peripheral walls.

THIRD FLOOR
VENTILATION AND ILLUMINATION

The structural floor system is designed to provide space for duct work between beams. The suspended ceiling covers beams and ducts, providing a level and uninterrupted surface at window-head level. Combined supply- and return air diffuser heads are placed at the module quarter-points. Slimline fluorescent fixtures are mounted in pairs, continuous except for 6-in. spacers where partitions may occur in the course of future rearrangement.

MODULE PLAN

A true composite plan to illustrate unit arrangements that are possible would be confusing. The stacks, carrels, reading areas, offices, seminar, study and special purpose rooms are integrated with utilities and services for efficient flexibility. The hazard of needless multiplication in unchanging areas was considered worth taking.

FOURTH FLOOR
STACKS AND LIGHTS

Standard stack arrangement is in ranges of five to every modular unit of 22 ft. 6 in., leaving 3-ft. aisles for foot traffic.

The placing of continuous illumination at right angles to these ranges should register 30 footcandles of illumination at top shelves and 18 footcandles at bottom shelves, as found in mock-up tests. This is more efficient than results that were obtained with lights parallel to ranges.

OFFICES AND DESK LIGHTING

Quarter-modules, halves, or L-shaped areas are easily formed by subdividing the full modular area on quarter-lines. Spacers introduced at these lines in the lighting runs make possible dry-wall construction. Suspended ceilings are finished with screwed-on acoustical tile permitting removal for further installations. Incidentally, there are no desk lighting fixtures, since the depreciated value of illumination received from the ceiling is ample at a full 50 footcandles at reading level at the desk top.
ARIZONA HOUSE PLANNED FOR ENTERTAINMENT

HOUSE FOR HAROLD RAPPAPORT

TUCSON, ARIZONA
Prime considerations in the design of this Arizona residence were the owner's extensive collection of records and his liking for the entertainment of many friends at one time. The former was met with an integrated, built-in music unit including a large record cabinet and all the latest type of sound reproducing equipment; the latter resulted in free use of sliding doors to permit opening the living-dining room, kitchen and guest room into a hospitable entertainment unit. A built-in bar with sliding doors separates the kitchen and dining area.

Present requirements of the bachelor owner were satisfied with only one guest room, but provision was made in the plans for the future addition of another bedroom, housekeeper's quarters, and car shelter. A swimming pool and garden wall also will be added later.

William and Sylvia Wilde, Design Consultants; William Wilde, Architect

Opposite page: the large windows are well sheltered from the summer sun, but the sloped ceiling will let the winter sun penetrate deeply. Above: the living room has sliding doors leading to an open terrace and barbecue. Below: the dining area is separated from the kitchen by a bar with sliding doors (shown closed). Chuck Abbott Photos
Right: living room, guest room and master bedroom all open directly to the terrace on the north, or rear, side of the house. Service porch and entrance are beyond the living room porch at extreme right of photo

Larry Monahan Photos

Above and below: two views of the master bedroom. The built-in bed of Mexican walnut forms one unit with a writing desk, book shelves and storage cabinets. Opposite page: the living room as seen from the terrace

Chuck Abbott Photo
Entrance hall, looking toward the master bedroom. Just beyond the built-in record cabinet at left is the furnace room; beyond that the sliding doors of the guest room.

The window treatment on the front (south) side of the house, shown in the photograph and detailed drawing below, is designed both to control and to make full use of the Arizona sun.
Above: another view of the dining area, showing the large window to the west, the bar, and the compact kitchen with the service entrance beyond. Below: a corner of the guest room and, in background, continuation of the wall shown above.
"COMFORT AND BACKGROUND WITHOUT EXCESSIVE COST"

HOUSE FOR DR. RUDOLPH von URBAN, CARmel, CALIFORNIA

The design problem here was many faceted: "on a steep lot, to create a feeling of indoor-outdoor living; to employ a combination of sophisticated and rustic materials, with all major furniture built in; allowance for future expansion on the lower level; abundance of storage space; easy handling and feeding of large, informal groups indoors, on deck or lower terrace; covered access from garage; comfort and background without excessive cost."

Exterior walls are resawn redwood shiplap and stabilized adobe veneer. Floors are random width redwood plank, with brick tile, laid flat and waxed in the kitchen. Interior wall coverings are redwood plywood and knotty white pine. The house is heated by a gas forced air furnace and electric wall heaters.
Left: main entrance is hidden from street by careful planting

Right: living room, looking toward back of lot. Below: the living room has a built-in couch backed by a low partition dividing living and dining areas; door leads to kitchen

George H. Woolsey

Architect
The larger of the two bedrooms is almost starkly simple, but is rich in storage space. Most of the furniture is built in

Left: looking along the gallery past living room windows to master bedroom

Below: left, living room from kitchen door, showing service port and counter; right, kitchen has brick tile floor and ample storage room
A simplified diagram of a restaurant would show a box with two open ends: one end would be the food-intake; the other would attract the customers. If the restaurant is planned well, food and customer — both properly prepared — will meet in the middle.

The intake of food and its preparation is a complex technical process, but it no longer holds many mysteries that can’t be solved by clear thinking and fluent organization. The intake of customers, on the other hand, is almost a fine art, involving not only the best planning ability but also a smattering of showmanship and psychology. In the motor-city of Los Angeles, for example, “Mine Host” may virtually have to pry his customers off the fast concrete expressways which crisscross Southern California. He therefore sets up enormous neon-lighted billboard-facades, and his architect might as well become reconciled to them.

Supposing, however, that you have your customer where you want him, the next step is to decide exactly what you want to do with him. Some downtown cafeterias, for instance, try to get a complete rush-hour turnover of customers every 20 minutes; they will, therefore, be designed specifically to discourage loungers. Other restaurants, especially those that serve drinks, will try to hold their customers as long as they can; their atmosphere, therefore, is going to be calculated to soothe, comfort and detain. Some eating places, along highways and so on, don’t depend upon “repeat” customers, while others count upon at least 50 per cent of their business to come from steady patrons.

How does one make “atmosphere”? The answer, according to one experienced restaurant designer, is to control everything from the lettering on your facade to the lettering on the customer’s check. The first thing to decide is exactly what atmosphere the owner wants. Does he plan to attract a Hollywood, or a Colonial Dame? Does he propose to feed people waiting to board a Constellation, or to provide relaxation for a Board of Directors in a Downtown Club? Is he asking you to design a fluorescently brilliant cafeteria, or is he planning to serve home-cooked meals under home-like filament lamps? And, finally, where does he plan to build? Among semi-tropical California plant-life, or in the slick, brassy surroundings of Chicago’s Loop? The answers to these questions will go to determine your atmosphere.

Lighting, especially, is one aspect of restaurant design that can’t be overemphasized. When a Hollywood restaurant has its “Premiere,” vast batteries of searchlights may be called into action to make the Battle of Britain look, by comparison, like a mild argument among friends; whereas an intimate little restaurant near Rockefeller Center may deliberately try to put up an almost shy front, dimly lit, to make its patrons feel that they have hit on something out of the ordinary and special. This same psychological approach can be used effectively in designing interior lighting: light that glosses over a woman’s vital statistics may do a great deal to boost a restaurant’s returns; while pinpoint spots that turn each table into an intimate little island may do the same and more.

Let’s assume that all these factors have been considered and that the customer is happy and content. There still remains the primary question of a good plan. Apart from such obvious “musts” as interrupted circulation between kitchen and dining areas, easy control and plenty of space at the entrance, and comfortable table layout (all covered in detail in Building Types Study No. 127, July, 1947), we must deal with the all-important problem of fluent kitchen planning. Unless it is solved efficiently, your restaurant won’t operate at a profit.

Kitchen areas generally fall into four groups: the receiving and storage area, the food preparation area, the pick-up area, the dishwashing area. In addition, there must be certain facilities for the restaurant staff — very important if you want it to give good service.

Kitchen equipment, materials and finishes used should be carefully selected, preferably with the help of a kitchen specialist. Materials and finishes must be chosen for cleanliness and hard wear, and floors must also be slipproof. Fire-resistance is a special consideration near the ranges, which will have hoods large enough to prevent the spread of fires, and must be supported on non-inflammable floors insulated with air spaces. Finally, and most importantly, the ventilating system of the kitchen as well as that of the entire restaurant must be perfect; occasionally two entirely separate systems are used for kitchen and dining areas.

From here on every restaurant owner and his architect are on their own. Their ability to solve each problem in its special setting will be the measure of their success.
AN EATING PLACE FOR MOTORIZED DINERS

Welch's Restaurant, Long Beach, Calif.

L. M. Saunders, Designer
In some parts of the country, where eating out has become almost impossible without a car, restaurants must do two things they don’t necessarily have to do elsewhere: they must attract the attention of relatively fast-moving motorists, and they must provide parking space for at least as many cars as they have tables.

Welch’s in Long Beach does both of these things well. Few motorists could avoid spotting the fluted, cactus-green rotunda at the corner of San Antonio Drive and Atlantic Avenue. And once they have turned into the wide driveway they will find ample parking space.

It is interesting to note that even with a somewhat inflexible plan can go a rather free and elegant exterior, replete with long roof overhang, floor-to-ceiling windows of a single sheet of glass, free-standing lally column supports, and a pleasant integration of out- and indoor planting. The fact that the acceptance of such details is sometimes only skin-deep (as in this case) does not detract from the pleasing notion that practical businessmen—such as restaurant owners—seem to have discovered that good design pays. It may not be long before they discover that it pays in the plan too.
The Garden Room, perhaps the most successful part of this restaurant, has a spacious informality. Serpentine walls, originally used in America by Jefferson, have recently become popular again since Richard Neutra used them effectively in his Nesbit House.

The planning of the kitchen-dining relationship is generally sound, but the distance from the kitchen to the customer could have been shortened if the designer had been willing to give up the axial and symmetrical patterns underlying his plan. The overall architectural effect achieved in this room is nevertheless pleasant.

Maynard L. Parker Photos
The kitchen is carefully planned. To the left, close to the waiters' return door, is the dishwashing area. Opposite it is the pick-up counter for orders prepared on the range at the extreme right. Refrigerator and meat-preparation are in the rear.

The restaurant is jointly owned by a group of Navy officers who, presumably being fluent in Chinese, have inscribed the cocktail bar (left) with the rather gloomy motto: "Enjoy yourself, for it is later than you think!" The Dining Room (below) immediately adjoins the Garden Room. To the right is a large, terra-cotta colored "Salad Bowl"
A long ramp serves as a pleasant waiting area and leads up from the main entrance at the driveway. The circular archway (allegedly Chinese) frames the aquarium-like seafood bar at the center of the building.

The North Dining Room (below) reaches out from the central "Salad Bowl." It adjoins the Leather Room (lower right), which is more subdued in character than the opposite Garden Room. Its long tables are ingeniously designed to pivot on a fixed pedestal and swing out, so that diners can walk around to their seats rather than slide in sideways. The Leather Room overlooks the entrance ramp.
Some of the special requirements discussed with reference to Welch’s Restaurant (p. 120) apply to this case as well. But in addition to providing an attractive, attention-getting design, Gwinn’s architects have succeeded in creating a dual-function restaurant: one part of it is a drive-in, the other a conventional eating place.
The plan of the kitchen shows excellent organization. Its various areas are carefully segregated and yet related in a very apparent flow-pattern. Food storage, food cleaning and refrigeration are grouped around the service entrance. The dishwashing area is located within easy access from either the drive-in or the restaurant proper. Food preparation is carried on centrally, so that both the restaurant counter and the drive-in counter can be supplied. And the ample employee facilities show understanding of the importance of a good staff.

To architects and laymen alike the success of the exterior treatment of Gwinn's will be obvious. The horizontal motif of overlapping roof planes, the finely detailed expanse of glass, and the restrained but effective "billboard" all produce in this restaurant an admirably high standard.

The drive-in service opens out to the rear of the building, where there are also ample parking facilities. A small soda-fountain type of counter is used to cater especially to drive-in patrons. A weakness of the plan seems to lie in the unnecessarily complicated access from the parking lot to the main restaurant.
The egg-crate pattern of the free-standing canopy—obviously a device dear to the architects' hearts—extends clear back into the main restaurant. Its chief function seems to be to create a decorative accent, and as such it may, or may not, appeal to the onlooker. A further questionable detail is the alignment of the Roman brick, which, like the canopy, primarily contributes a decorative feature. Food preparation center (left) shows only a small portion of the elaborate kitchen.

It is a little disappointing to find, behind so elegant and successful an exterior, an interior treatment that shows a lack of sensitive detailing. However, since most restaurant equipment is standard (and not always of the best design), the expense incurred in designing special fixtures might not be justified by the economics of restaurant operation.
A LIGHTING EFFECT FOR EVERY MOOD

Henrici's Restaurant, Merchandise Mart, Chicago

James F. Eppenstein & Raymond Schwab, Architects

Off the arcade in Chicago's Merchandise Mart, Henrici's Restaurant presents an unexpected vision of glamour. Designed around a colorful mural by Felix Ruvalo and an intricate lighting system that changes in intensity for luncheon, cocktails and dinner, this elegant little retreat is said to wow the customers.

While there is nothing revolutionary about the plan (which has clearly been dictated by existing conditions), colors and lighting raise some interesting points. Throughout the restaurant various shades of green predominate. While the mural may seem aggressively restless, its color scheme has been recalled in the furnishings and thus subordinated to the overall architectural effect. The lighting system uses pin-hole spots, recessed ceiling fixtures and theater-type dimmers.
Among the lighting tricks used in Henrici's is a trough that illuminates the rich wall draperies woven with a glittering gold thread. At lunch time the overall lighting will be of high intensity; for afternoon cocktails the intensity is reduced until, at dinner time, a dim, intimate lighting prevails. The plant island to the right has its own spot illumination.

A view from the Arcade shows the large, clean frame of the doors, set into a curved glass wall that permits clear vision of the interior. The recessed box lighting in the ceiling seems to detract somewhat from the tranquil, overall effect. Exterior is of Italian traventine marble.
Ruvalo's luminescent mural is stressed by "black light" to become the dominant feature of the restaurant. The lighting of the bartenders' work area is below customer eye-level to cut out unpleasant glare. In the rear, at the turn of the long curve, there is a service hatch for outside supplies.
EFFICIENTLY PLANNED FOR SOCIABILITY

Downtown Club, Dallas, Texas  George Foster Harrell, Architect
The downtown club of Dallas adjoins the tall Texas Bank Building, from whose second floor lobby it can be entered. Designed as a private luncheon club, it was given a quiet, restful atmosphere through designer-control of such incidental details as the silverware and the china, as well as of the plan and the complete interior.

The central feature of the Downtown Club is its two-story Main Dining Room (opposite) with the five-pointed Texas star implacably in the ceiling. Grouped around the Main Dining Room are a Lounge, Private Dining Room, Card Room (on the mezzanine level) and the kitchen and work areas. The latter, especially, show careful attention to efficient planning. Staff facilities are on the mezzanine also, with spiral stair.

The Private Dining Room (right) can be sub-divided by a folding screen into two smaller areas for more intimate parties. It is within easy reach of the kitchen area. Note the air conditioning grilles at the ceiling — part of the year-round system designed for this Club.
NANTUCKET AT RADIO CITY

Gloucester House, West 51st Street, New York City

Francis Keally, Architect

Although New York City never, in our recollection, possessed a restaurant built in the shape of an oversized concrete hat, it does boast a seafood place designed to resemble an aquarium and another with swaying portholes intended, evidently, to test the seaworthiness of its customers at critical dietetic moments. Gloucester House, by comparison, is a staid and conservative Inn. While some architects might question the validity of constructing a Nantucket seafood place at the foot of the steel and glass towers of Radio City, there are probably good and sufficient business reasons for doing just that. The architect and the owner, at any rate, assured themselves of the validity of this approach after several weeks of detailed research, observation and investigation of the restaurant situation within a radius of ten city blocks of the proposed site. What they saw convinced them that their approach was right.

As an example of restaurant-design procedure, Gloucester House is extremely interesting. Not only was the architect called in to help decide the design, character and name of the restaurant, but he also controlled to a high degree such apparent incidentals as the layout of the menu cards and of the customers’ checks, and helped style the waitresses’ uniforms. Whether he helped select the waitresses as well we do not know. In any case, the result of such total architect-control is a very pleasing unity that pervades the entire design of this seafood restaurant.
Existing conditions have helped to divide this restaurant into several intimate dining rooms. The efficient, handsomely tiled kitchen is visible to the customers. Lighting throughout uses filament lamps set into chandeliers constructed of cork floats (which should give a good account of themselves in a typhoon).

The white and blue of seascapes forms the basic color scheme. Leaded window-panes, neat Colonial trim, fish-net covered ceilings and recurring marine symbols (such as the lobster pattern) help create the desired atmosphere with economy and good taste.
A BEACH CLUB TO SELL A VIEW

Ariston Restaurant, Mar del Plata, Argentina

Marcel Breuer, Carlos Coire and Eduardo F. Catalano, Architects

When Marcel Breuer recently lectured at the University of Buenos Aires, two young Argentine architects, who had been instrumental in getting him invited to the University, asked him to associate on the design of a small drink-and-dance club to be constructed at the bathing resort of Mar del Plata for the purpose, primarily, of promoting the sale of plots in a nearby real estate development. This club was to be a small social center for that development— but for a start it was intended to serve as a kind of advertising booth as well, sufficiently attractive to bring in potential land buyers.

Located a little way inland from the bathing beach, the club was constructed in a setting of undulating dunes, just high enough to block the view of the ocean, unless one's eye-level were raised. Hence the stilts. The plan shows all of Mr. Breuer's clarity of organization and his painter-like appreciation of texture and form. Linked by a long field-stone wall, the two separate wings of the building contain, respectively, the staff
quarters and the club proper. The latter is entered on the ground level through a lobby which serves as a display and advertising area for the real estate development. An elegant spiral stair leads from this lobby to the clubroom above. Since the restaurant serves only refreshments, a small counter-type bar in one corner is all that is required.

The four-pronged plan permits each table to have window-location, and gives each window seat an arc of vision of almost 180 degrees. The playful, free-shaped clubroom is sandwiched between two two-way r.c.
slabs, the roof slab having been reversed (with the girders projecting at the top) to produce a flat, uninterrupted ceiling surface inside. Since snow-loads need not be considered in Argentina, the roof slab can be thinner than U.S. building codes would permit. In addition, workmanship is good and inexpensive, which means that factors of safety need not be too high. The concrete employed contains basalt and mica aggregates that give it a gray, granite-like quality. The exposed underside of the ceiling slab has been given a hand-chiselled pattern, but was left otherwise unfinished. The rectangular dance floor has a parquet surface; the rest of the floor is of red tile.

The small-scale window pattern is indicative of the high cost of glass in Argentina. The exterior walls—which carry no weight and were, therefore, treated as separate entities—consist of simple stud frame partitions covered with narrow, vertical t. & g. siding. Window frames are also of wood. At certain intervals louver-type vents alternate with the window sash. With a healthy breeze from the ocean only a few hundred feet away, this is all the ventilation that is needed.
The plan is simple, consisting of three separate elements: a stand-up counter, an open food preparation area, and an ample storage room. The splayed partition helps to enlarge the public part of the Flight Bar.

**A SNACK BETWEEN LANDING AND TAKE-OFF**

**FLIGHT BAR, LA GUARDIA AIRPORT**

In this sleek, aluminum-finished Flight-Bar at New York's La Guardia Airport, Lester Tichy has projected his successful railroad design ideas into the business of air travel. Against the heavy, rather sterile formalism of the International Terminal Building, this bright and cheerful snack bar stands out well — as clearly a part of the air age as any transatlantic Clipper circling overhead. Designed to be completely demountable, the building's footing can be cut immediately below the two wide flange sections upon which it rests, and the whole structure may then be loaded upon trucks and moved to a new location. Thus the Flight Bar is in reality almost airborne: the airplane wing type of roof, the tall mast with its fin symbolizing air currents, and the finely polished aluminum detail are all designed to emphasize its modern character.

**Lester C. Tichy**

**Architect**

**JULY 1948**
The storage room is encased in a corrugated asbestos-cement wall, while the Flight Bar itself has aluminum siding up to a low sill height, then large sheets of glass topped by continuous strips of aluminum louvers. Note the free-shaped push panel at the door.

Since it is not strictly part of the International Terminal, the Flight Bar must compete with the heavy façade of the Main Building. It does this without being offensive. Its roof-line, for example, follows the general level of the Main Building's entrance canopy, and its slanted edge points in the direction of the main traffic flow. The Flight Bar was designed for the Port of New York Authority, with whose kind permission it is published here.
LIGHTWEIGHT AGGREGATES WIN NEW ATTENTION

Weight-saving and insulating properties newly investigated for wide variety of concrete work

Lightweight aggregates have been much in the news lately, even breaking out of the confines of technical circles. They have acquired the glamorous flavor of technology, and so have appeared in general publications.

Really they are very old; lightweight aggregates have been known for as much as 50 years. What is new about them is merely success. Known most widely in certain unglamorous uses, like concrete blocks, they have recently won increasing attention in virtually all types of concrete work. In short, their oldtime virtues are suddenly being more widely appreciated. More literally, these virtues are probably a result of better manufacturing processes and control.

The West Coast seems the locale of most of the current excitement. This might be due to a natural progressiveness of the West, or perhaps to the simple fact that most of the natural deposits of lightweight aggregates are in that part of the country. Be that as it may, there are plenty of factors contributing to the current interest in light concrete.

During the war engineers began to develop a more "material conscious" attitude. Because of the high cost and scarcity of building materials for postwar construction, the trend has been toward lighter, insulating walls, floors, ceilings and roofs. Developments such as precast slabs, cast-in-place building sections and fireproof concrete for structural steel have greatly stimulated the use of lightweight aggregates. In addition the ability to save structural steel by reducing dead load has been demonstrated in several skyscrapers, some of which were described in a recent article in the Wall Street Journal.

Finally, there is now beginning a considerable amount of research work. The Housing and Home Finance Agency conducted a manufacturer's survey in 1946 to get information on commercial sizes, weights and tests. They are now sponsoring a comprehensive test program with the idea of developing impartial engineering data to be used for concrete design.

In Los Angeles the use of lightweight aggregates in 13-story General Petroleum Building (Architectural Record, Oct., 1947) will cut the total weight by 13,100 tons, including a saving of 1,200 tons of structural steel. The structural frame system uses lightweight concrete for all floors above the first. In spite of the $61,000 higher concrete cost, the saving in structural steel alone is reported to be $180,000.

Vermiculite concrete and plaster were used in the Mercantile National Bank Building, Dallas, Texas (Architectural Record, July, 1944) for fireproofing steel framework and ceilings and as fill for cellular steel floors. The dead load was reduced by 15,634 tons, resulting in a saving of 1,880 tons of steel (Walter W. Ahlschlager, Architect).

Lightweight concrete has permitted increasing the height of existing buildings which might not have been possible otherwise. An example is the Sears, Roebuck & Co. building in Los Angeles. The original building, built in 1929, and an addition, built in 1940, were both designed for three additional floors. When the company wanted to increase the height of their plant, they found that it did not have enough earthquake resistance; after the earthquake in 1931, the building code was changed three times, increasing the requirements for lateral strength. Engineers solved the problem by using lightweight concrete and by devising a system of roller bearings for the original section to protect it from lateral strain.

ADVANTAGES

Advantages resulting from the use of lightweight aggregates are:

1. Reduction of dead load saves structural steel, reduces bearing on foundations and cuts cost of concrete forms.
2. High insulating value is provided by numerous dead air spaces.
3. Rough texture of surfaces have good acoustical properties.

Use of lightweight aggregates in the 13-story General Petroleum Building in Los Angeles will cut the weight by 13,100 tons including a saving of 1,200 tons of structural steel. All concrete above the first floor is lightweight concrete, using pumice, rocklite or similar aggregates. Architects are Walter Wurdemann and Welton Becket.

Use of lightweight aggregates in the 13-story General Petroleum Building in Los Angeles will cut the weight by 13,100 tons including a saving of 1,200 tons of structural steel. All concrete above the first floor is lightweight concrete, using pumice, rocklite or similar aggregates. Architects are Walter Wurdemann and Welton Becket.
4. Lightweight allows more distant market and easier handling of precast slabs and blocks.

5. Lightweight plaster has less tendency to crack and its heat resistance makes it a good material for fireproofing structural steel.

**DISADVANTAGES**

The major disadvantages of lightweight aggregates are a result, paradoxically, of the physical qualities which make them weight-saving and good insulators.

Porosity of most aggregates requires changes in the usual formulas for water and slump and closer supervision of mixing. Very light aggregates have a tendency to float out of the mortar and some coarse-aggregate concrete mixtures require the addition of a fine aggregate like sand to prevent harsh working and serious bleeding.

As aggregates get lighter they become structurally weaker so that in order to maintain high strength the strength of the matrix must be modified by adding more cement. More cement is needed, also, to "wet" the greater aggregate surface area, due to the irregularity of the particles. Each application, however, has its own requisites which call for a compromise on strength, weight-saving and insulation.

The cost of raw aggregates is higher than for gravel, rock and sand because of small production facilities and the additional processing that is sometimes necessary.

**AGGREGATE QUALIFICATIONS**

According to Stuart H. Ingram*, a Pasadena, Calif., mining engineer, a lightweight aggregate, in order to hold a marketing position, should have these qualifications:

1. Be well graded as to size.
2. Have minimum number of voids to be filled with mortar.
3. Individual pieces should have compressive strength.
4. Must be firm enough to withstand handling without size breakdown.
5. Particles must bond well with cement and be inert chemically both with respect to reactions of cement and to steel reinforcing.
6. Must be unaffected by weathering or damage caused by time, moisture, temperature, and load.
7. Should be as light as possible without impairing other qualities, but to make weight saving worthwhile, the resulting concrete should not weigh more than 75 per cent of the weight of ordinary concrete. Since the aggregate

comprises about 50 per cent of the usual Mixes, its weight should not be more than 50 per cent of that of rock or gravel aggregates for the same volume. Grade rock, gravel aggregates weigh a little less than 100 lb. per cu. ft., thus a good lightweight aggregate should weigh less than 50 lb. per cu. ft.

Lightweight aggregates can be divided into four general classifications

1. Aggregates of volcanic origin.
2. Micaceous minerals.
3. Expanded clays and shales.

**VOLCANIC AGGREGATES**

Members of the volcanic group are pumice, pumicite, vesicular glass and perlite. Pumice and its volcanic relatives are siliceous minerals quite similar in chemical composition but different in physical properties, manner of formation and mode of occurrence.

**Pumice**

Pumice is formed when lava is ejected from the core and flows. When gases are released during solidification, they form a glassy froth, honeycombed with elongated, parallel cavities. Pumice, weighing from 25 to 60 lb. per cu. ft. when dry and graded, is well qualified as a lightweight aggregate. It is hard enough to be handled and mixed without excessive breakdown. An undesirable feature of many pumices, however, is their water absorption. Bad effects of absorption can be mitigated by wetting the aggregate before it is mixed with cement. If an exchange of water occurs between the aggregate and mortar after the concrete has been laid, loss of strength may result. Based on experience during the war with concrete ships, engineers believe that some absorbed water may be advantageous by preventing rapid drying which contributes to serious cracking. Pumice varies in color from white-gray to yellow, red, brown or even black. There are deposits near Bishop and Inyokern, Calif., Bend, Oregon and Santa Fe, N. M. with a reported annual capacity of 356,000 tons.

Natural pumice is used in southern Italy between asphalt coatings to insulate floors and roofs. In Germany it has been used to manufacture slabs, hollow blocks and tile flooring. Claimed advantages are lightness, high insulation quality, incombusibility and a surface texture to which plaster readily adheres.

**Pumicite**

Pumicite is an accumulation of finely divided particles blown from volcanos and classified to some extent by the wind. The light particles are highly irregular in shape, contain a high percentage of voids and are usually soft and friable. Pumicite, volcanic ash and tuff (mixture of pumice and pumicite) have been used as a cement admixture, but no uses as a lightweight aggregate have been reported.

**Vesicular Glass**

Vesicular glass is similar to, but has larger pores than pumice. As pores become larger, there is usually more continuity between holes or less sealed off porosity, yielding poor aggregate. When vesicular glass can be mined and then sawed into blocks or other shapes, it is said to make an excellent lightweight construction material.

**Perlite**

Near the volcanic core than the foregoing materials are the massive glasses such as perlite, obsidian and pitchstone. They expand greatly when subjected to properly controlled heat because of entrapped pockets of gas. Some varieties have a foam-like expansion while others distinctly "explode." The foam types contain innumerable tiny bubbles, each with an extremely thin outer wall. Some particles may be easily crushed and powdered.

Perlite is composed of stable silicates, is inert and thus durable for use as a lightweight aggregate or for insulation. Its latitude of use as a lightweight aggregate depends on how physical properties other than lightness are controlled in the plant. Besides its friability, two other disadvantages of perlite as an aggregate are its small particle size and extreme lightness. The small particle size gives a large surface area to be "wetted" by the mortar, requiring more cement; the extreme lightness increases the tendency to float out of the mortar.

After expansion, perlite has an average weight of 8 to 16 lb. per cu. ft. and would probably be useful where maximum strength is not required, as in precast slabs and blocks and in floor fill, fireproofing and plaster.

**MICACEOUS MINERAL**

Vermiculite is a micaceous mineral which expands on application of heat to as much as 30 times its original volume. Dried, ground ore is subjected to about 1,850 degrees heat for four to eight seconds, after which it weighs only 6 to 12 lb. per cu. ft.

Vermiculite was first marketed from a Colorado deposit in 1915. It is also mined in North Carolina, but the most extensively worked deposit is near Libby, Montana. The raw ore is shipped

to plants in various parts of the country where it is expanded and marketed.

Until 1940, the chief use was as a loose-fill insulation, but more recently it has been used as an aggregate in concrete for fireproofing steel, for floor and roof fill, and for acoustic and fireproof plaster.

**CLAY, SHALE AGGREGATE**

Lightweight aggregates from clays and shales require heating the material in a kiln to a temperature near its fusion point. The material softens and coalesces to a sticky mass; escaping gases are trapped, forming cellular structures and expanding the volume of the material about 50 per cent.

The crushing and firing operations are varied with different processes. In some the material is fired to a clinker, then crushed and the process is often reversed with the crushing operation first. One of the best aggregates is said to result from a double-firing process where the clay or shale is first crushed and fired, the resulting porosity being sealed by dusting with a fine siliceous material and refraining almost to fusion.

**Airox**

Produced from oil-bearing shales and impure diatomites (siliceous shells), Airox utilizes the double-firing process. An outer covering seals the porosity, and the resultant product resembles gravel in appearance. The pieces are round and smooth with sizes from pea gravel up to 1 in. or 1 1/4 in.

**Rocklite**

Reported as one of the best aggregates of the clay-shale type, Rocklite uses a fine, compact, uniform blue shale. The shale is crushed to three different sizes; each is fired separately in the kiln at a temperature of 2000 degrees. The pieces puff up when heated and are discharged with a tight skin that seals their porosity. When placed in water, the pieces will float for days.

Rocklite varies in weight from 40 to 50 lb. per cu. ft., has high strength and is resistant to damage by handling. A monolith near Ventura, Calif., contains the blue shale used, and deposits are believed to exist in many parts of the country.

**Diatomite**

Diatomite in the pure state is composed of deposits of siliceous shells of microscopic aquatic plants (diatoms). Pure diatomite weighs about 28 lb. per cu. ft., but mixtures of clay, sand and gravel increases the weight. The pure deposits are used principally for insulation and filter media where they get higher prices than possible with aggregate. It is a matter of conjecture whether impure diatomites could be processed with the double firing method to produce a good aggregate. Pure diatomite is light and chemically inert, but soft and friable. Large deposits are found in California, Oregon, Nevada, Washington, Maryland and Florida.

**BY-PRODUCT AGGREGATES**

**Expanded Slag**

Expanded or "foamed" slags are made by treating molten blast furnace slag with controlled quantities of water or steam. Some slags are expanded in pits in the ground; others are made in machines. Close control of water or steam is very important because too much granulates the slag, yielding soft, friable particles; too little gives a heavy aggregate. Excellent aggregates can be obtained by regulating the shape, porosity and thickness of outer skin.

Foamed slag has been used in Germany for many years in precast blocks, cast-in-place walls of houses and for panel filling of steel-framed buildings.

**Cinders**

Cinders, resulting from the combustion of coal, are composed of the ash components of the coal along with various quantities of unburned or partially burned combustible matter. Some cinder aggregates containing combustible matter have caused deleterious expansion of concrete in which they have been used. Cinders containing a minimum amount of combustible material are satisfactory for use in concrete but are not particularly weight saving. Lightweight cinders often have unsound physical and chemical properties.

**Fibers**

Comprehensive laboratory tests were conducted at the University of Michigan on waste industrial and farm fibers for use with a binder of Portland cement and a chemical admix to be formed by machine into fire and weather resisting boards, insulative panels and floor, roof coverings. The research was done by Corwin D. Wilson at the request of the National Housing Agency with funds provided by the Office of Production Research and Development of the War Production Board.

Approximately 8,000 specimens from 225 different materials showed that a large number of farm, forest, industrial and home wastes might be used in such compositions. A solidified "foam" was developed weighing less than cork. Many of the compositions were found crack- and fire-resistant and suited to machine fabrication.

Besides uses for building board and panels, laboratory tests disclosed that many fibers were suitable for use as shingles and for more dense fibers in floor tile, water pipe and other commercial products requiring a strong, cheap, rigidly-setting plastic composition.

Mixes were found in the weight range of 70 to 80 lb. per cu. ft. to have compressive strengths of 3000 to 4000 psi and tensile strengths of 600 to 750 psi. In the weight range of 40 to 50 lb. per cu. ft. compressive strengths were about 2000 psi with tensile strength of 600 psi.

Thermal conductivities were low and the alkalinity of matrices used was believed high enough to prevent destruction by rats and termites.

Best mixtures were obtained by using mixtures of fine and coarse fibers with high early strength cement and an admix which apparently caused the cement matrix to grip the fibers more closely than otherwise possible.

**FUTURE RESEARCH**

Housing and Home Finance Agency is sponsoring a research program on monolithic concrete utilizing lightweight aggregate, believing that the lack of reliable engineering data concerning these materials has limited their wider use in house construction.

Research work is being conducted with preliminary tests to determine density, strength and insulation properties followed by structural tests. The test program was initiated with the aim of developing engineering data which will make possible the application of rational analysis to lightweight concrete structures.

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<th>Weight of Aggregate and Concrete by Type of Aggregate</th>
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Table from HHFA Survey, "Lightweight Aggregates for Concretes."
INDOOR-OUTDOOR PLANTING BEDS

By Henry B. Aul, Landscape Architect

Indoor planting beds have been enlivening more and more of the contemporary house plans. As one who has long plowed this particular furrow, I must begin by expressing hearty approval for the idea of bringing the garden inside. It is certainly a logical concomitant of bringing the view inside, of integrating indoor and outdoor living, of making the house a natural outgrowth of its site.

If, at the same time, some of the plans have a slightly experimental look, there is nothing to be deplored in that. The problems of indoor planting, both architectural and floricultural, are not so involved that the basic idea need suffer from improper handling.

Purposes of Planting

Indoor planting beds might be employed in a great many different varieties, for many different purposes. Flower beds that seem to extend from the outdoors right through a glass wall into the house establish a strong tie between the house and its site. Or, where windows are large and give an unobstructed view of the garden or landscape, the outdoor-indoor planting frames the view, or furnishes the foreground for it.

On the other hand, a window that overlooks a not too desirable view can be made a center of attraction not only with plantings about its base, but also with a tracery of vines across its face that will screen the less attractive scene outdoors.

Windows away from the garden side of the house, in the kitchen, bedrooms or hobby room, can be equipped to support plant growth, and thus introduce foliage and flowers in all parts of the house.

The entrance, regardless of its exposure, can be made a more cheerful spot to welcome guests.

Frequently it is possible to arrange indoor plantings which will form a partial screen or partition to separate one room from another.

Plants in the outdoor-indoor bed are staged where they are brought into unmistakable prominence. They are close at hand for the pleasure of the gardener and others and are convenient to work among. Since in most instances the planting is connected with large window areas, it is an assured way to have and enjoy plants in the house throughout the year.

Principles of Planting

To gain the closest tie between the outdoor and indoor plantings, it is best to have the plants arranged at approximately the same level throughout; and, if there is a curb or coping around the planting bed, have it contiguous. This means that the curb may be only a few inches above the floor and, depending on the distance of the terrace or porch below the floor level, will be six or more inches high around the outdoor planting.

In locations where, due to the exposure or the shelter of a porch roof or roof overhang, surface drainage is not a problem, it may be desirable to have the house floor and terrace floor at the same level, and the planting set into or raised above the floor level the same distance indoors and out.

Different growing conditions indoors and outdoors preclude the possibility

An indoor-outdoor, floor-level planting bed combined with a trellis for potted vines, to form a partition of plants between living and dining rooms. Flowers in pots can be enjoyed from either side, or from the terrace. Flowers may be changed with the seasons, or according to conditions of bloom. Upper sash provide ventilation. Roof overhang plus skat roller shades control sunlight around planting.
of using identical plant materials to gain exact continuity between the two areas. Besides, the seasonable change in weather in most parts of the country would upset such a planting plan, even if it were desirable. Considering the value of variety in most plantings and to most plantmen, the idea is not practical.

Bench or table height plantings raised 24 to 30 inches above the floor can be continued from indoors out or vice-versa, just the same as floor level plantings. The bench-high planting has the advantage of bringing the plants up where they may be worked among conveniently and inspected and admired close at hand. The plant bench can be combined with a work bench in a hobby room or kitchen or between the indoor planting and a sheltered terrace work space that would please all gardeners.

Planning the Planting

It might seem that the easiest method to handle plants, both indoors and out, would be to set them directly in large pockets or beds of soil. It is possible to do this where the floor of the house is a concrete slab on the ground or close to the ground. But for the most satisfactory management of plants indoors, they should be grown and kept in pots. The pots are easily arranged or re-arranged in the planting bed according to their condition, size and appearance.

In pots, they can be shifted or turned to give them light on all sides, removed for treatment against disease or insect injury, for feeding and other handling. It is a method well worth considering for the terrace or other outdoor portions of the planting.

Indoors, the pots are placed on a one-to two-inch drainage base of fine washed gravel in the bottom of a lead, zinc or copper pan built to the shape of the planting bed. The metal pan forms an assured moisture barrier between the plants and the floor or walls.

An alternate plan is to fill the pan with peat moss or expanded mica in which to plunge and conceal the pots. This would be the method to follow when using potted plants outdoors. Of course, no metal pan is needed outdoors. For indoor beds, these pans should be from eight to ten inches deep and of a size that will permit removing them for cleaning once or twice a year.

Moisture Control

Except in unusually large installations, there seems to be little need to consider facilities for draining the pan-lined indoor planting bed. Where neces-

Living porch planting bed in a corner sheltered from wind by glass screen. Soil bed might be heated by electric cable on a sub-soil thermostat. Plants may be grown directly in soil, or in pots on a layer of gravel.

The entrance is a most logical place to gain the invitation of plants. Plants outdoors might be dwarf evergreens or ground covers. Plants indoors might be in a bed of soil, or might be in pots on shelves to screen hall.
sary, a small sized pipe or copper tube can be led from the bottom of the pan to the basement drain, crawl space or through a weep hole in the outside wall.

Outdoor beds, filled with a 10- to 12-inch top layer of loam, humus and sand, are given a drainage base of coarse cinders or gravel with one or more lines of four-inch open joint land tile led off to a storm sewer or dry well. The surface of the bed is kept below the coping and adjacent window sills, and is pitched away from windows and house wall at least one quarter inch to each running foot. Outdoor beds are surface mulched with peat moss or expanded mica to reduce mud splash on walls or windows, and to retain moisture in the soil around the plants.

Planting beds, set in flagstone, tile or other masonry floors, present little danger of moisture damage, and so may or need not be curbed, depending on the requirements of the design. On the other hand, plantings in proximity to wood framing, flooring and trim need to be separated from them by the metal pan liner and a curb of brick, stone, tile or slate, redwood, cypress or other moisture resistant wood. The curbing generally conceals the upper edge of the pan and the concrete base or framework of wood in which the pan is set. The top of the curb is a handy place to display small potted plants for special attention.

Windows connected with indoor-outdoor planting should, in most cases, be set in metal sash. They can be double glazed or single glazed with provision for winter storm sash. This will reduce perceptibly the amount of condensation and ice that forms during winter weather. Bottom sash should preferably be fixed with top louver or movable sash to provide top ventilation not unlike that in a greenhouse. Movable sash at the sides of the planting, and doors nearby, will aid general ventilation. Under certain conditions ceiling vents to exhaust fans are used.

**Sun Control**

Provision must be made to shade windows exposed to full or nearly full sunlight. The roof over a covered terrace or porch and the properly designed roof overhang or sun visor of the solar house furnish adequate shade. They also lessen the problem of splash and surface drainage around outdoor planting beds. Louver-type insect screens, slat, roller shades, venetian blinds, slat and canvas awnings are other methods of shading the window. Most plantings do not crowd the window on the inside so closely that draw curtains cannot be used. They are particularly attractive, not only for shade but to shut out the night and make a colorful background for the indoor planting at that time.

In some indoor plantings, not shade but the problem of sufficient light is uppermost. This is solved with flood or other types of incandescent lamps placed above the planting and turned on regularly when natural light is lacking.

 Adequate heat is generally available from the regular house system. Water splashed over the gravel drainage material on which the pots are placed contributes humidity to counteract too much heat. Special plantings in sheltered porch or terrace floors can be kept going a good portion of the year with an electric heating cable such as is used to heat the soil in garden hot beds.

A bay window can easily be transformed into a small conservatory, with either soil-filled elevated beds or metal pans for pots. If door leads to terrace or garden, the indoor beds might be continued as raised beds outside. Outswinging casements ventilate the bay, venetian blinds shade it, and full-length curtains can be pulled across the whole opening at night. Beds might be heated by an electric cable.

For Construction Details see:

**TIME-SAVER STANDARDS:**

pp. 153 and 155
COMMUNITY HOMES EXHIBIT

Featured in the four demonstration homes of the Community Homes Exhibit in Hartford, Conn., is the design of electrical appliances, lighting and wiring devices as an integral part of the structure.

The homes, designed to meet the living needs of families in four different income groups, are called Thrift, Budget, Ideal and DeLuxe. Each represents a different degree of electrical living which includes basic wiring, wiring devices, switches, lighting, and kitchen and laundry planning and were developed as the result of research by the Home Economics Institute and Better Homes Bureau of Westinghouse.

Electrical appliances in the Thrift home include a seven-cubic-foot standard refrigerator, economy-style one oven range, kitchen ventilating fan, automatic clothes washer, ironer and electric water heater. A broken "L" type of layout is used to leave ample dining space in the 10 ft. by 12 ft. kitchen. A total of 50 electrical outlets including switches, lights and convenience outlets are part of the wiring system. The house is lighted entirely by incandescent lamps other than two kitchen cabinets which are equipped with fluorescent lamps.

A special feature of the Budget house is an installation of Sterilamps in the forced air heating system which are used to kill airborne bacteria. Another feature is the auxiliary heating in the bathroom provided by a built-in electric heater. Kitchen work areas are illuminated by fluorescent lighting. There are a total of 87 electrical outlets.

In addition to larger kitchen equipment and a garbage disposer, the Ideal house makes wider use of fluorescent lighting. The dining room is lighted by fluorescent units concealed in coves on opposite walls of the room and the dining table is highlighted by a recessed unit in the ceiling. Fluorescent lighting is also used in the laundry, over the kitchen work counter, in the bath and over the work bench in the basement. Three-way switches are provided for convenience; 123 outlets are used.

Electrical equipment installed in the DeLuxe home now used in the others are an automatic clothes dryer, home freezer located in the basement, Precipitron air cleaner, a sulnamp permanently installed over the bathroom mirror, almost exclusive use of fluorescent lights and mercury "silent" switches used throughout. Auxiliary electric heating is provided in the bathroom and dressing room. The house contains a total of 163 electric outlets.

The houses in the exhibit are equipped with automatic circuit breakers located conveniently throughout the house in place of the single fuse box commonly located in the basement.

Royal Barry Wills designed each of the new homes to fit the surrounding locale. Carr and Cunningham served as coordinating architects. Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh 30, Pa.

Floor plan of "Ideal" house; electrical system is integrated with the structure.

Easy chair designed by Eero Saarinen and a daybed by Richard Stein displayed in Hans Knoll's New York City showroom provide for more complete relaxation and comfort.

FURNITURE FOR RELAXATION

Currently on display in Hans Knoll's New York City showroom are three pieces of contemporary furniture which emphasize the trend of designing for relaxation and comfort. An easy chair by Eero Saarinen and a daybed by Richard Stein are among the new models being shown, and also a "Hardoy" chair, which is a revival of the piece originally designed in Italy for use in hot climates.

The Saarinen chair, No. 70, has an inner frame of plastic covered with Restfoam; the two loose cushions are filled with down. The outer metal frame has a baked enamel finish.

The daybed utilizes a cam mechanism which allows the seat to be in a sloping position for comfort when used as a sofa and raises the seat to a level position when the back is lowered to transform it into a bed.


COLORED CONCRETE

A carbon black dispersion for darkening air entrained concrete has been developed which is said to eliminate scaling that sometimes occurs when ordinary dispersions are used.

The new compound, added directly to the concrete mix, is especially applicable for decorative treatment of sidewalks and for eliminating glare from sidewalks and highways. Shades from light gray to black can be obtained by varying the quantity of coloring agent used. A. C. Horn Co., Inc., 43-36 10th St., Long Island City 1, N. Y.

(Continued on page 178)
MANUFACTURERS' LITERATURE

Lighting

Plan-O-Lite Layouts. Portfolio of layouts and engineering data for eight actual installations of Frink Lighting equipment, all in blueprint form. Photographs of the installations are included plus a discussion of the lighting problem and the solution for each. The Frink Corp., Bridge Plaza North, Long Island City 1, N. Y.*

Commercial Lighting Units by Colover, the Generalliner. Catalog describing a newly designed fixture for use with Colovolt cold cathode lamps. A portion of the literature gives lighting application data including room index and utilization. 4 pp., illus. General Lumin escent Corp., 732 S. Federal St., Chicago 5, Ill.

Mitchell Pocket Catalog No. 325. Presents complete line of commercial, industrial, and residential lighting fixtures in condensed form. Complete specifications, price information and accessories are shown. 28 pp., illus. Mitchell Mfg. Co., Dept. P. R., 2525 Clybourn Ave., Chicago 14, Ill.

Vibration Control

Armstrong's Vibrocraft. Describes the use of Standard and Heavy Density Vibrocraft for economical vibration control. Featured are drawings of application methods developed to isolate machines effectively under different installation conditions. Complete specifications are listed. 4 pp., illus. The Korfund Co., 48-65 32nd Place, Long Island City 1, N. Y.

Washrooms

Scott Washroom Advisory Service. Detailed plans for washrooms, locker rooms, shower rooms and lounge facilities comprise this booklet showing designs for efficiency, ease of maintenance and service. Plans were prepared by James S. Hatfield, A.I.A., consultant to the Scott Company, 40 pp., illus., Scott Paper Co., Chester, Pa.*

Trussed Rafters

(1) Tejo Trussed Rafters, (2) For Section 608 FHA Insured Apartments Use Clear Span, All-Wood Tejo Trussed Rafters. Booklets describe use of wooden rafters for fast construction and added strength. Rafters are said to transfer roof, ceiling loads to outside walls, eliminating need for interior bearing walls. Timber Engineering Co., 1319 18th St., N. W., Washington, D. C.

Marble

Marble Forecast 1948-1949. Booklet describes varieties, colors and classifications of foreign and domestic marbles that are available for immediate installation. Listed are member companies of the Marble Institute which can provide information, samples, service and estimates on marble. 8 pp., illus. R. Shawhan, R. A., Managing Director, Marble Institute of America Inc., 108 Forster Ave., Mount Vernon, N. Y.

Heating Controls

Sarcor Therm Weather Control for Hot Water and Radiant Heating. Included in this bulletin is a semi-technical discussion of "Comfort Control for Hot Water and Radiant Heating" together with typical installation diagrams of heating systems using the various types of Sarcor therm controls. A graph is given for sizing the Sarcor therm valve. Other accessories are shown and specifications are listed. 20 pp., illus., Sarcor Therm Controls Inc., Suite 2022, Empire State Bldg., New York 1, N. Y.

Steel Windows and Doors

Bayley Windows, Doors, Operators in the New Modular Sizes. Modular design for windows is explained. Special features are shown and diagrams given for architectural projected windows, commercial projected windows, pivoted windows, guard windows, psychiatric windows, window operators and industrial doors. 36 pp., illus., The William C. Bayley Co., Springfield 99, Ohio.

Unit Heaters

Verti-Flow Unit Heaters. Catalog describing new line of circular overhead unit heaters with diagrams and performance data. 16 pp., illus. Young Radiator Co., Racine, Wis.*

Mercury Switches

Mercury Switch Manual. Shows how switches are designed and made and how they are used for many switching operations where space requirements, dirt-free and frequent operation are said to make the mercury switches better suited than mechanical or electrical switches. A chart showing the best methods of selecting switches for specific electrical applications is given. Specifications are listed for more than 60 different types. Specialties Division, Minneapolis Honeywell Regulator Co., Minneapolis, Minn.*

Boilers

International Water Tube Steel Heating Boilers, Type C. Construction details, method of operation and specifications are given for oil, gas or coal fired boilers. These boilers are designed for apartment buildings, office buildings, hotels, industrial plants and for low pressure process steam requirements. 8 pp., illus. The International Boiler Works Co., East Stroudsburg, Pa.*

Air Filters

Bulletin SIF. Describes complete line of Staynew dry-type intake air filters for all types of air compressors, diesel and gas engines, blowers, motors and generators. The various filters included are silencer models, regular dry-type and breather filters. 8 pp., illus., Dol linger Corp., Rochester 3, N. Y.

Paints

How to Choose and Use Paint. Booklet describes types of paints required for various surfaces, preparation of surfaces before painting and step-by-step instructions for applying paint. A handy chart shows the amount of paint required for a given job. A convenient indexing arrangement is provided for quick selection of sections of the booklet dealing with preparation and painting interior and exterior building surfaces, furniture etc. 20 pp., M. J. Merkin Paint Co., Inc., 1441 Broadway, New York 18, N. Y.*

Devoe Painting Guide. Separate, well indexed, sections of this guide deal with proper use of paint for finishing interior and exterior surfaces of wood, masonry, metal and compositions such as asphalt and cork. An estimating procedure is included and many helpful tips are given in the miscellaneous section. 40 pp., illus., Devoe & Raynolds Co., Inc., 44 St. & 1st Ave., New York 17, N. Y.* 50 cents.

Counter, Sink Tops

Sherburne Counter & Sink Tops. Data on standard and custom-built counter and sink tops includes methods of measuring and ordering as well as installation hints. Descriptions and specifications, along with drawings, are presented for these coverings available in either linoleum or decorative plastic work surfaces. Technical Appliance Corp., Sherburne, N. Y.

Electrical Distribution

Busduct Engineering Data (Bulletin No. 101). Pictures various industrial applications of Busduct feeder systems together with charts and diagrams which give voltage drop and other pertinent engineering data. Specifications and electrical ratings are covered. 32 pp., illus., Frank Adam Electric Co., P. O. Box 357, St. Louis, Mo.*

*Other product information is Swain's File 1948.

(Continued on page 190)
three mistaken ideas about Sound Conditioning...

**mistake #1**
THAT SOUND CONDITIONING IS EXPENSIVE...
The fact is: The cost of Acousti-Celotex treatment in many installations hardly exceeds the budget for the finish coats of plaster and paint that it can replace. And where a suspended ceiling may be specified, Acousti-Celotex sound conditioning can often be added for only a few cents more a square foot.

**mistake #2**
THAT SOUND CONDITIONING IS A LUXURY...
The fact is: Letters and figures from thousands of different applications show that, far from being a luxury, Acousti-Celotex sound conditioning is a sound investment...because it increases output, cuts down errors, and reduces employee turnover.

**mistake #3**
THAT THE USE OF SOUND CONDITIONING IS LIMITED TO SPECIFIC AREAS...
The fact is: More and more architects are specifying overall use of Acousti-Celotex sound conditioning for truly modern buildings—offices, hospitals, schools, banks, and other structures. Incidentally, more sound conditioning has been done with Acousti-Celotex products than with any other material.

YOU ARE INVITED to submit your acoustical problems to a trained sound technician—your nearest distributor of Acousti-Celotex products. He brings you a judgment enriched by the accumulated experience of a quarter century in sound conditioning...and the proved performance of Acousti-Celotex in more than 200,000 installations. Look for him in your classified phone directory, or drop us a line saying when you would like to see him. In the meantime, you'll find Acousti-Celotex products listed in Sweet's File, Section 17-A3.

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But that's not all! The new Smith-Mills 1500 is economical, efficient, simple in operation, good looking — all in all a clever package, typical of the modern H. B. Smith Company.

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INDOOR-OUTDOOR PLANTING BEDS. Construction Details

By Henry B. Aul, Landscape Architect

(Continued from page 148)

(Continued on page 155)
Day-Brite Fluorescent Lighting Fixtures are engineered to attract more shoppers inside the stores you design with planned lighting. These fixtures eliminate deep shadows and sharp contrasts, assure proper intensity and even distribution of light, are easy to install and easy to maintain. For detailed information ask for Bulletin 10-B-3.

The VIZ-AID
for surface or suspension mounting... unit or continuous installations. Designed for two 40- or two 100-watt lamps, U.S. Patent Nos. D-138990, D-143641 and 2411952.

DAY-BRITE LIGHTING, INC., 5465 Bulwer Ave., St. Louis 7, Mo.
Nationally distributed through leading electrical supply houses.
In Canada: address all inquiries to Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.

IT'S EASY TO SEE WHEN IT'S
DAY-BRITE Lighting
INDOOR-OUTDOOR PLANTING BEDS, Construction Details

By Henry B. Aul, Landscape Architect

(Continued from page 153)

For the client who takes his hobbies seriously, the potting bench outside may be combined with a bench-height plant display in a hobby room inside. Work bench outside is brick topped, and sheltered by roof overhang. Shelves above provide display space for plants and brighten up the prosaic potting bench. Top sash and end casement open to provide ventilation inside.
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THE RECORD REPORTS

(Continued from page 16)

HOUSING INSTITUTE HOLDS FIRST CONFERENCE

The newly organized Institute Of Housing Studies, sponsored by the New York State Division of Housing, in collaboration with the New York Chapter of the A.I.A., the New York State Association of Architects, the Association of Engineering Colleges of New York State, the New York State Society of Professional Engineers, and several other groups of planners, held its first conference at the Hotel Pennsylvania, New York, on June 2, 3, and 4. One of the main topics under discussion was “Reducing The Cost Of The Small Home,” as a partial answer to the housing shortage.

From an overall standpoint, the main factors brought out by the discussion that contribute to maintaining the high cost of the small home are lack of standardization of materials and building techniques, inconsistencies in zoning and out-of-date building codes, labor union restrictions and feather bedding, and the backwardness of design and construction in general. It was also suggested that home financing and insurance be improved.

It is the opinion of Professor Olindo Grossi of Pratt Institute that good design standards in small houses would be a cost cutter, and that the persistence of traditional forms and construction in the so-called low-cost home increase costs unnecessarily. Professor Ralph Winslow of Rensselaer Polytechnic Institute brought out the point that more simplified materials are needed and that expensive non-standard, non-minimum details, fixtures and equipment should not be promulgated as being a part of the would be low-cost house. Apropos of this statement, Professor M. C. Gianinni of New York University believes that the public has been deceived by attractive advertising into believing that luxury items such as automatic heating, tile baths, fireplaces, porches, and expensive mechanical equipment should be included in a minimum cost home. Professor Gianinni thinks that the public should be “de-educated” to know just how few gadgets really can be included in a low-cost house. Another important point that relates the cost of a small house to its real estate or subdivision improvements was discussed by O. Kline Fulmer, architect, of New York City. Mr. Fulmer believes that land planners and developers should analyze the real needs for street widths and paving, and that sidewalks should be kept to the minimum and used only where necessary; that the cost of im-

(Continued on page 160)
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For over fifty years the MFMA trademark has been a guarantee as to grade, mill-work, kiln drying and matching. Write our Research Department for assistance when you have floor construction and finish problems. See Sweet's, Section 13f/5 for Catalogue data.

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The outdoors comes in...to this conservatory kitchen. A gay blend of efficiency and charm, the room focuses on the new Crane summertime sink.
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DON'T MISS — Wright-on-Top, the new compression base for all type floors. Always beautiful—will not stain or mar.

FIFTH AVENUE COOPERATIVE

Another new steel and brick apartment building will arise this summer at 870 Fifth Ave. (Northwest corner of 66th St.) facing the east side of Central Park. The site is the former location of the Harry Payne Whitney mansion built in 1888, and is in one of the most distinguished residential sections on Manhattan Island.

The building, designed by William I. Hohauser, Architect, of New York, will contain 95 apartments ranging in size from 3 to 7 rooms, and will be available in both simplex and duplex arrangements. Many will have set-back terraces. According to J. M. Simon, president of Simon Bros., builders and owners, the apartments will be sold to residents of New York State on a cooperative basis.

Louis Sullivan Exhibit

A current exhibition at the Museum of Modern Art, New York City, entitled "The Masterpieces of Louis Sullivan," is small by the exigencies of exhibition space and available material, but well chosen. A sequel to last year's "The Masterpieces of H. H. Richardson," it presents in a pictorially effective way seven outstanding examples of Sullivan's work: the Tower, Auditorium Building, Chicago; the Wainwright Bldg., St. Louis; the Guaranty Bldg., Buffalo; the Gage Bldg., Chicago; the Schlesinger and Mayer Department Store, Chicago; the Martin Ryerson Tomb, Chicago; and an interior detail photograph of McVicker's Theater, Chicago. The exhibit closes on July 25.

(Continued from page 160)
You can do anything with PLASTER

Plaster, the truly plastic interior finish, will do anything an architect wishes to give expression to his wall and ceiling design. Whether you plan a plain, curving or ornamental surface—the underside of a curving staircase, for instance, or a ceiling recessed for indirect lighting—plaster should be a part of your plan. Even at today's costs, plaster is among the least expensive wall and ceiling materials. Plaster is enduring, fire-retardant, resistant to the transmission of noise. It can be applied over many different bases, to obtain the results required by a given building code or function. Plaster can solve almost any wall and ceiling construction problem—or design problem. Plaster... lath and plaster. USG METAL LATH and RED TOP Gypsum Plaster.

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ADAPTABLE • FIRE-RESISTANT
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For Building • For Industry
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JULY 1948
Four houses in one, and one answer to the low-income housing problem: the "Quaternian House," developed by Marie Frommer, Architect, from an idea by Stephen Leeman

KITCHEN PLAN NO. 45: Forty-fifth in a series of successful mass-feeding installations.

LP Gas and a "Specialized Cooking Tool" layout make this cleverly designed kitchen at the BYNDEWOOD Y.M.C.A. Summer Camp, Wernersville, Pa., an efficient mass-feeding unit.

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COOKING EQUIPMENT USED:
(a) 1 — No. 959 Blodgett Gas-Fired Baking and Roasting Oven
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(c) 1 — 40 gallon gas-fired stock kettle
(d) 1 — Gas-fired toaster
(Gas-fired water heating and hot water booster)


The heart of this "Specialized Cooking Tool" kitchen plan, designed to feed 700 robust youngsters at each meal, is the versatile No. 959 Blodgett Gas-fired Baking and roasting oven. It has two sections, one with two 42" x 32" x 7" compartments, and one with a 42" x 32" x 12" compartment. This unit is used for baking of desserts and pastries, and for the preparation of vegetables, meats and fish.

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NOVEL HOUSE PLAN

An interesting solution to the low income housing problem is the "Quaternian House," originated by Stephen Leeman and developed by Marie Frommer, architect, of New York. The plans have been copyrighted.

The basic idea of the Quaternian House is to group four complete bungalows around a center section called the Quarterage, which will be used communally by the four families. The advantages which would result from such a scheme, say the proposers of the plan, would include:

1. Lower first cost and maintenance costs, made possible by concentration of furnace, laundry, toolshed, etc., for the four houses in the center section, by arrangement of bathrooms and kitchens around the center section, and by the elimination of one outside wall for each of the four houses.

2. Availability of the Quarterage as a playroom for the children during the day (all kitchens overlook the area, so that one person can supervise all the children), and as a night nursery with bunks for the children to permit one baby sitter to take care of the children.

(Continued on page 166)
*a new idea

that is ten years old!

First introduced by John J. Nesbitt, Inc., in 1938, as the "answer to the orange-crate craze" (the resort of teachers to makeshift storage facilities in their classrooms). Installed that year in the Barlow School, Plainfield, N. J., and in many others since then. It is called THE NESBITT PACKAGE. Components: (1) The Nesbitt Syncretizer unit ventilator with air-stream minimum temperature control (introduced by Nesbitt in 1932); (2) Nesbitt integrated steel shelving and cabinets for modern storage requirements, utilizing the spare window space; (3) Nesbitt Convector, where desired, for additional heating capacity.

Health, comfort, utility, and good design are all combined in this proved idea for new and remodeled schoolrooms. Choose this modern convenience on the basis of its most important component—the unit ventilator. No other unit operates as economically as the Nesbitt Syncretizer. Nesbitt's neat cabinets give you extra storage space and the one-piece linoleum top. Specify the NESBITT PACKAGE.

Send for Publication 249

THE NESBITT PACKAGE

Made by John J. Nesbitt, Inc., Philadelphia 36, Pa., and Sold by Nesbitts and American Blower Corporation

THE NESBITT PACKAGE, first advertised in 1938, is ten years ahead in proved worth and acceptance.
of all four families at once. The Quar- terage also will provide extra space for special events—for individual parties, for gatherings of the four families, etc.

3. More light and air for each of the four houses as they do not obstruct each other. A lot of the equivalent of four small plots would be used for the Quaterage House, to be utilized jointly by the four families, giving each the advantages of a larger area.

Each of the four wings contains a large living-dining room, three bedrooms (any one of which could be used for other purposes such as study or studio), kitchen and bath. Each kitchen opens onto its own patio work area.

AT THE COLLEGES

Apartments for Illinois Tech

Construction of a new 10 story building for the student housing program at the Illinois Institute of Technology was announced recently when contracts were awarded. It is to be located on the west side of Michigan Ave. between 31st and 32nd Streets, Chicago. Completion of this latest project in the $15,000,000 development program for Illinois Tech is scheduled for June, 1949. Architects are Skidmore, Owings and Merrill, of Chicago.

The new structure will contain 65 two-room units consisting of a combined living room and bedroom, kitchenette and bath, and 58 three-room units consisting of a living room, bedroom, kitchenette and bath. Both two-room and three-room units will be available to married students at Illinois Tech.

Thesis on Airport Hotel

From Iowa State College comes a most interesting study of airport hotel needs, prepared by Arthur E. Burton as his thesis for the degree of Master of Science in Architectural Engineering.

Entitled "A Proposed Development of Hotel Facilities for Airline Passengers and Airport Personnel at a Typical Class IV Airport in the Midwest," the paper is of interest because it presents a thorough job of research into a new building type. Not much consideration has been given heretofore to the special needs of airport hotels.

There is, perhaps, some over-emphasis in Mr. Burton's study on statistics, with a corresponding neglect of the human element. Not all airport employees would want to live at the airport even though good quarters were provided for them, and at least some hold-over passengers would prefer to make the trip to an in-town hotel, no matter how comfortable the airport hotel might be. On the whole, however, Mr. Burton has prepared a good basic analysis of airport hotel needs, and has pointed the way to further study on the subject.

Fellowship Awarded

The College of Architecture and Design at the University of Michigan has announced that John Henry Bickel, III, of Louisville, Ky., was the winner of the George G. Booth Traveling Fellowship Competition for 1948. Mr. Bickel plans to travel in Europe.

(Continued on page 168)
The NATIONAL Family—
MODERN HEATING FOR MODERN BUILDINGS

The NATIONAL line fills every heating requirement for any type of installation, from small homes to largest commercial buildings. It is backed by over fifty years of nationwide acceptance. Specify modern NATIONAL heating equipment with complete confidence.

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For complete information call your nearest NRC district office or write to The National Radiator Company, 221 Central Avenue, Johnstown, Pa.
Van starts second century

- As Van starts its second century of service to hotels, its experience has earned for it authority in its field of kitchen engineering and equipment...respected by architects, operators, food service staffs of leading hotels.

- When planning new projects, revisions or extensions to existing food service, owners and architects have found that it pays to call in Van.

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Competition Winners Announced

The Association of the Alumni of the American Academy in Rome has announced the winners of two prizes in its 21st annual collaborative competition sponsored by the Association for students of architecture, landscape architecture, painting and sculpture in the colleges and art schools of the United States.

The problem was to design a showroom and plant for a leading manufacturer of perfumes and cosmetics. Located in the country on a main highway outside a large city, and surrounded by beautiful gardens, the center would eventually become the "Showplace of America." It should attract people and be effective advertising for the products.

The first prize of $200.00 was awarded to a team of students from Cranbrook Academy of Art: architects were W. C. Muchow and D. R. Knorr; Matt Kahn, painter; and both Matt Kahn and D. R. Knorr, sculptors. Their winning design, shown at the top of the adjacent column, was commended especially for its logical plan and effective sculpture.

Second prize of $100.00 was awarded to a team from Cornell University which included Richard H. Schreiber, architect; Henri Jova, landscape architect; Paul Jova, painter, and William B. Doan, sculptor.

Honorable Mentions were given to five teams: two from Cooper Union Art School, one from Cornell University, one from the University of Notre Dame, and the fifth from the Cleveland School of Art in conjunction with the School of Architecture of Western Reserve University.


Neutra on Neutra

July 26-28 will be Richard J. Neutra Week at Montana State College. In a special summer quarter seminar Mr. Neutra not only will be chief lecturer, but will also have his own work illustrated and discussed by the College's architectural staff. Subjects he will discuss are: Sociology and Architecture; Problems and Solutions Involved in City and Regional Planning; Relationship between the Architectural Profession and the Public; Housing; his own experiences and observations of building developments throughout the world; Theory of Design and Integration of the Arts, Space-time, etc. In addition, he will lead several open discussions, one on schools.

Further information on the three-day (Continued on page 170)
Alert designers today call for concealed control on all prominent doors. Some do not realize, however, the advantages of concealing the closers OVER the doors rather than in the floor. For three reasons overhead closers should be specified:

**FIRST COST . . .**

With list prices about equal, the *installed cost* of the overhead closer is usually much less than that of a floor closer. Why? No cutting of floors; no costly moves; no extra door holders or shock absorbers to buy; no expensive boxed or cut thresholds needed. The overhead closer is easily secured in a metal door and frame "blanked out" for it at the factory, or in a wood door and frame quickly prepared on the job. These savings run into real money.

**PERFORMANCE . . .**

An overhead door closer is basically more efficient because its power is applied farther out from the hinge than that of a floor closer. This gives greater leverage, a smoother performance, less strain on closer, door and frame. All adjustments are easy to reach without removing anything.

**LONG-RUN COST . . .**

The real cost of any equipment is the *total cost*, including maintenance, over the years. Here the overhead closer is far more economical than the floor type. (We know this, after twenty years of making both types and observing the experience of users.)

The overhead closer needs less servicing and lasts longer. In its protected location above the door it avoids the abuses of floor dirt, scrub water, etc., which always foul a floor closer and shorten its life. This is doubly true where closers are exposed to the weather.

LCN Catalog 11-a contains 33 pages of information on good door control; how to select the right closer; full data on each.

Would you like a copy? Address LCN Closers, Inc., 466 W. Superior St., Chicago 10, Illinois.

Overhead and Floor Type
Concealed *and* Surface Type Door Closers

*LCN*
session may be obtained from the Director, Summer Quarter, Montana State College, Bozeman, Mont.

Columbia Names Consulting Architects

Adams & Woodbridge of New York have been appointed consulting architects to Columbia University as the first step in a long-range plan of architectural coordination and development. The firm will have architectural supervision over present and future properties and buildings of the University on Morningside Heights (exclusive of Barnard and Teachers Colleges and Union Theological Seminary), the Medical Center on Washington Heights, Baker Field, the Nevis Estate at Irvington-on-Hudson, and Camp Columbia at Litchfield, Conn.

Under the terms of the arrangement, Adams & Woodbridge will not design any buildings for Columbia. Their duties will include: liaison between the controller’s office and architectural firms, landscape architects and decorators engaged in design and construction or alteration of university buildings and grounds; general consultation in connection with problems of maintenance, alterations to buildings and grounds, and utilization of space; supervision of such architectural details as character, design, mass and height of buildings, and the development of landscaping of grounds; and cooperation with university officials in matters pertaining to general development needs.

OFFICE NOTES

Offices Opened, Reopened

Edward L. Barnes, Architect, has established his own offices at 33 E. 75th St., New York City, N. Y.

George H. Davis, Jr., Architect, has announced the opening of offices for the practice of architecture in association with John B. Ferguson, Engineer, at 14423 Sylvan St., Van Nuys, Calif.

Joseph H. Heuer, Structural Engineer, has opened an office for the practice of general structural design at 5 S. Wabash Ave., Chicago 3, Ill.


Turner Construction Co., with offices in Boston, New York and Philadelphia, has opened a Chicago office at 105 W. Adams St. R. L. Cullum is District Manager, and Clarke I. Kudson is Contract Engineer.

New Addresses

The following new addresses have been announced:

Donald L. Bostwick, Architect and Engineer, 34 S. Main St., Niles, Ohio.


Signman and Farkas, Consulting Engineers, 14 Church St., New York City, N. Y.

New Firms, Firm Changes

Herman M. Cole and Fred L. Liebmann announce the formation of a partnership under the firm name of Cole and Liebmann, Architects, at 415 Lexington Ave., New York, N. Y.

Fleming R. Hurt, A.I.A., has formed a partnership with Charlie D. Hurt, Jr., A.I.A., for the practice of architecture under the firm name of Fleming R. Hurt and Charlie D. Hurt, Jr., Architects, with offices at Waynesboro, Va. and Lexington, Va.

Richard L. Meagher has recently entered partnership with Robert L. Brown and William G. Wells. The firm, now known as Brown, Wells, and Meagher, Architects and Engineers, has

(Continued on page 172)
Save your clients future redecorating expense...

Specify FABRON for walls and ceilings

THE HARTFORD HOSPITAL, Hartford, Conn.

Dedicated in March, 1948, this beautiful new 820-bed building replaces the old hospital (foreground), founded in 1854. It is one of the largest, most modern and most efficiently equipped postwar hospitals. Fabron was used throughout—in patients' rooms, corridors, staircases, dining quarters, offices—wherever the surface to be decorated was of plaster.

ONE REASON why FABRON, the fabric-plastic-lacquer wall covering, has been adopted by well over a thousand institutions in the hospital field alone is its proven record as a budget saver. For FABRON with its double function—decorating and preserving that decoration—was engineered for long-range economy. It eliminates periodic repaintings—a vitally important advantage to institutions whose operating funds are limited.

Permanently protects plaster. Fabron's sturdy canvas and plastic base strengthens plaster...conceals surface imperfections...prevents cracks that require complete room redecoration after repairs.

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Initial cost of Fabron falls within the average budget. Before specifying the interior finish for your next new building, investigate Fabron. Send the coupon today!

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JULY 1948
THE RECORD REPORTS (Continued from page 170)

offices at 118½ W. Campbell Ave., Roanoke, Va.

Walter L. Moody, Architect, has recently become associated with Ralph C. Flewelling, Architect, under the firm name of Ralph C. Flewelling and Walter L. Moody, Architects, at 3112 Loz Feliz Boulevard, Los Angeles, Calif.

I. Wm. Ricciuti and M. Wayne Stoffle have consolidated their architectural practices under the name of Ricciuti, Stoffle and Associates, Architects, with offices in the Queen and Crescent Bldg., New Orleans, La.

James J. Souder has recently become associated with York and Sawyer, Architects, of 101 Park Ave., New York City, N. Y. York and Sawyer also announce the opening of an office in Washington, D. C., at 1306 18th St. for the continuance of the practice of the late Jarrett C. White, A.I.A. Mr. Souder, who was associated with Mr. White, will continue in the Washington office.

Wallace Franklin Yerkes, A.I.A., has joined the Chicago architectural firm of Naess and Murphy. Until recently Mr. Yerkes was a partner of Grunsfeld, Yerkes, Lichtmann and Koenig, Chicago, in charge of designing.

Elections, Appointments

Ira J. Bach has been appointed Director of Planning of the Chicago Land Clearance Commission. He was formerly Executive Director of the Cook County Housing Authority and resigned in order to take over the planning of the new slum clearance program for Chicago.

Henry A. Bettman, A.I.A., of the Cincinnati firm of Garriott, Becker and Bettman, has been named to a five-year term as a member of the Cincinnati City Planning Commission. After his appointment he was elected Chairman.

Robert C. Hills has been appointed Director of Client Service by Van Doren, Nowland and Schladermundt, Designers, of New York and Philadelphia.

Dr. Henry W. Newson, prominent nuclear physicist who has played a major role in the development of atomic energy, has been retained as a full-time consultant on nuclear reactor design by the H. K. Ferguson Co., Industrial Engineers and Builders. Royal A. Stone has been appointed chief engineer for the Eastern District of the Ferguson Company.

At recent shareholders and directors meetings of Lockwood Greene Engineers, Inc., their executive officers, as follows, were re-elected: J. S. Allen, President (New York), Samuel B. Lincoln, Vice-President, (New York), Robert E. Barnwell, Vice-President, (Spartanburg, S. C.), David Elwell, Vice-President, (New York), Howard E. Cousins, Vice-President (Boston), William J. Heiser, Vice-President, (New York), John S. Harris, Treasurer, (New York). The Board of Directors was increased to 11, including the above, by the election of the following new directors: George L. Hawkins, New York, John C. Hipp, Spartanburg, S. C., John R. McInerney, New York, Lucas O. Veser, New York.

New officers and directors of The Society of the Plastics Industry were elected to serve until June, 1949, at the conclusion of the Annual Meeting in Atlantic City on May 21. Re-elected were: Chairman of the Board, Neil O. Braderson, Rochester Button Co., Rochester, N. Y.; President, George H. Clark of Formica Insulation Co., Cincinnati, Ohio; Vice-President, Gordon Brown of Bakelite Corp., New York, N. Y.; Secretary, Norman Anderson of General Molded Products Corp., Des Plaines, Ill. Mr. J. J. B. Fulkendower of Hercules Powder Co., Wilmington, Del. is the newly elected Treasurer.
The finest in Terrazzo Art calls for the
FIRST and FINEST WHITE CEMENT

The true test of quality in white cement is best exemplified in fine Terrazzo. In Terrazzo, as in no other white cement use, a pure white color is absolutely essential. It governs the background in relation to the beautiful colored marble chips. Over 41 years ago, this company introduced Medusa White, the Original White Portland Cement, which has been used in the most colorful and artistic Terrazzo to be found anywhere. Its white color has been tested with hundreds of different color combinations, backgrounds and marble chips. It has been proved the finest white cement for Terrazzo work.

But Terrazzo is not the only use in which the white color of Medusa has excelled. In its many years of service, this fine white cement has been instrumental in making gleaming white and tinted stucco in countless buildings in almost every civilized country in the world. Medusa Waterproofed White, in addition to making a finer stucco, makes the stucco finish impervious to water. That's because the waterproofing material in the Waterproofed White Portland Cement repels all water at the surface. Dirt is washed off, water cannot enter, freeze and disintegrate the stucco. For a permanent beauty in Terrazzo or Stucco, be sure your specifications call for Medusa White, the Original White Portland Cement.

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JULY 1948
the owner may buy rental insurance to the extent of $68 per month (85 percent of the approved rental). He may claim benefits any time after three years have passed. But he is unlikely to do so as long as building costs remain high and there is a shortage of rental housing.

**End Direct Participation?**

If building costs continue to rise, the Dominion Government — through its agency, Central Mortgage & Housing Corporation — may substantially reduce its 1948 low-rental housing program. Rt. Hon. C. D. Howe, Minister of Reconstruction, says construction will be halted on projects where it appears rentals will be forced higher than $37.50 per month.

The government’s current program calls for erection of 12,000 permanent houses for rent to veterans. Agreements completed and pending with municipalities account for less than 9,000. In the light of Mr. Howe’s announcement, and since CMHC has taken no further municipal applications for rental housing since June 1, it appears unlikely that the 1948 objective will be met. As for 1949, Mr. Howe comments: “Whether the Dominion will continue in the direct rental field is a matter for further consideration.”

Canada doesn’t subsidize housing through capital grants or rent reduction funds, but various hidden subsidies exist on both Dominion and municipal levels. The Dominion and the municipalities now share responsibility for 35,000 war workers’ and veterans’ houses and 10,000 emergency shelter units. Mr. Howe has stated repeatedly that the Dominion faces constitutional limitations in formulating its housing policy and anticipates the day when it can withdraw from house building activity.

**Autonomy Granted School**

Dr. Sidney E. Smith, president of the University of Toronto, announces that autonomy has been granted the School of Architecture. For 38 years a department of the Faculty of Applied Science and Engineering, the School had been registered as nearly 300 in 1947-48. Professor H. H. Madill, F.R.A.I.C., has been appointed director.

**Canada Leads Per Capita**

Canada led the world in construction of new housing in 1948, according to the latest issue of *Housing Progress Abroad*, a quarterly review published by Central Mortgage & Housing Corporation. Comparative figures for dwelling units produced per 10,000 population are:

- Canada: 63
- United States: 62
- New Zealand: 61
- Sweden: 39
- United Kingdom: 48
- Australia: 48

The Dominion seems well on the way to reaching its objective of 500,000 units to be erected during the five-year period following World War II. During the two and a half years already passed, nearly 200,000 units have been produced. Volume in 1947 was 79,000 units (an upward revision from earlier estimates of 77,000), which showed a healthy increase over 68,000 units in 1946. Construction time was cut from 11 months per unit in 1946 to eight months per unit in 1947. If the brightening supply picture makes a proportionate speed-up possible this year, production should total a record 90,000 units.

**New Record for Housing?**

Residential contracts awarded during the first four months of 1948 total nearly $84 million, according to the *Building Reporter*, the monthly construc-

(Continued on page 176)
Superior in detail, low in price, wide in range of types and sizes...

REYNOLDS ALUMINUM RESIDENTIAL CASEMENT, FIXED AND PICTURE WINDOWS

How to Write Air Infiltration Specification:
Windows of the type furnished shall have been tested by a recognized laboratory and shall have shown air infiltration not exceeding \( \frac{1}{2} \) cubic foot of air per minute per foot of vent perimeter when subjected to static pressure equivalent to a wind velocity of 25 mph.

REYNOLDS ALUMINUM CASEMENT WINDOWS MEET THIS SPECIFICATION.

REYNOLDS Lifetime ALUMINUM Gutters and Downspouts

Rustproof permanence at about half the price of other rustproof materials. Three styles available in either plain or stippled-embossed aluminum.

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WORLD'S LARGEST PRODUCER OF ALUMINUM BUILDING PRODUCTS:
Shingles, Clapboard Siding, Corrugated and 5-V Crimp, Snap-Seal and Standing Seam Roofing, Weatherboard Siding, Built-Up Roofing, Nails, Gutters, Wall Tile, Windows, Reflective Insulation, the "Alumi-Drome" (prefabricated utility building).
tion summary of Hugh C. MacLean Publications, Ltd. This figure represents a jump of 145 per cent over a year ago, and indicates a sharp increase in physical volume despite rising building costs.

At the very time that starts were multiplying, completions were running about 40 per cent higher than last year. The housing market has concealed its buoyancy well. Residential contracts were down in 1947: $197 million compared with $213 million in 1946. But on the basis of this spring's activity, construction experts are now talking a record $250 million for 1948.

Contracts awarded for all types of building are up 10 per cent over last year. Housing's gain seems to have been made largely at the expense of engineering and industrial classifications, down 35 per cent and 25 per cent respectively. Contracts awarded for commercial, institutional and public buildings are virtually unchanged from a year ago.

Urban Building Surveyed

An eight-city survey by the Financial Post, prominent Canadian business newspaper, shows that wherever building volume has weakened in recent months, costs have followed suit. "This," comments the Post, "seems to mean that construction is extremely sensitive to the demand level." It goes on to say, however, that "building weakness" cities are few and demand generally is greater than it was last spring. Points of interest revealed by the survey are:

1. Costs in the "building weakness" cities of Regina, Calgary and Halifax are 5 to 10 per cent lower than a year ago, but continue to rise in Toronto (up 15 to 20 per cent), Montreal, Vancouver, Edmonton and Winnipeg.
2. Materials are in better supply, but winter stockpiles are not being replenished from production at the current rate of delivery. Prices average 10 per cent more than last year, and recent railway freight rate increases are expected to send them higher.
3. Labor has won wage increases in the building trades ranging from 10 to 12 per cent across the board. Montreal leads with an 18 per cent boost.

Architects' Act Outmoded?

An opinion of interest to architects was voiced recently by a Kitchener, Ontario, Magistrate. In dismissing a charge laid by the Ontario Association of Architects alleging violation of the Architects' Act, His Worship noted that the Act did not permit anyone to design houses over a value of $5000 without being a registered architect. "But," he said, "it is a well known fact now that few, if any, houses are constructed at a cost of less than $5000. " The decision is being appealed by the O.A.A.

More Nails on the Way

That hardy perennial, the nail shortage, has again made its appearance. Production is ahead of last year, and no Canadian nails are exported, but a lack of these essential ingredients became evident some months ago. In a brief presented to the Steel Controller, the National House Builders' Association requested appropriate action by the Dominion Government to ensure a supply of nails for essential construction.

A difficulty presented itself in that production of wire rod for nail manufacture is now at capacity, and any increase in nail production has to be made at the expense of other steel products. The government is apparently willing to take this step. Reconstruction Minister C. D. Howe has announced that the manufacture of barbed and other wire for agricultural purposes will be suspended for a few months in order to save material for nail production.
A VALUABLE ADDITION
TO YOUR A.I.A. FILE

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Layouts for Commercial and Industrial Installations
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JULY 1948
REMOTE CONTROL OF LIGHTS
WITH NEW WIRING SYSTEM

A new remote control wiring system has been designed to provide a more flexible method of controlling lights and outlets in the home, farm, office or factory. The system is said to permit the building tenant to switch on lights, outlets or small appliances from any number of points within the building.

The new wiring system differs from conventional ones in that the switches are connected to the outlets which they control by a light-weight Flamenol-insulated 22-gage wire carrying only 25 volts. Finger pressure on the switches activates 25-volt relays mounted at the outlets which in turn either open or close the 115-volt circuit. A small transformer installed somewhere in the building provides the low voltage.

Advantages claimed for the system are: (1) permits control of outlets from many points without the use of comparatively high-priced three- and four-way switches and large quantities of three- and four-conductor cable; (2) eliminates the danger of shock since the switches are connected to only 25 volts; (3) eliminates the use of wall plates and reduces the size of switch boxes because of the small switch size; (4) can be installed in either new or existing structures. General Electric, Wiring Division, Bridgeport 2, Conn.

This "Two-For-One" Idea
Made News in 1947

The Bradley Duo-Washfountain...
One Wash Fixture Serves Two

Here are the Features Named Most Important
1. SANITATION-HEALTH SAVINGS. No faucets to touch—no collection of dirty water—self-flushing drain.
2. SPACE SAVING. Two persons wash simultaneously at each DUO. One takes the place of two ordinary wash basins.
3. SIMPLE INSTALLATION. Half the number of piping connections.
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5. WATER SAVINGS. Foot-control is not only sanitary, but water is cut off immediately as washers leave.

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9227 W. MICHIGAN STREET, MILWAUKEE 1, WISCONSIN
Distributed through Plumbing Wholesalers

WATER FAUCET

A novel water faucet has been designed with one handle controlling water temperature and the other flow rate. The faucet is made of chrome finished forged brass in three models: the lavatory model, the swing spout for kitchens and restaurant sinks, and the institutional swing spout for laboratories, hospitals, barber shops, etc.

Water faucet handles designed to control independently flow rate and temperature

The temperature mixing valve is self-honing, self-adjusting, which is said to prevent wear and corrosion.

The only other working part, the flow stem, incorporates the "Moving" seal which is claimed to merely touch the seat with the pressure of the water causing the seal.

The temperature handle may be locked in position if necessary. Cole Valve Co., Duluth, Minn.

(Continued on page 180)
The sign of the times is...

"Certified Adequate Wiring"

What It Means To You: Certified Adequate Wiring makes today's home buyers tomorrow's boosters. It helps you build houses that stay modern for years to come. It helps you sell houses easier and quicker because: (1) it overcomes today's buyer resistance; (2) it assures you of promotional support from your local electrical industry.

What It Means To The Home Buyer: Adequate Wiring makes even a moderate-cost house, or a re-modeled home, modern. It provides not only for today's electrical needs but for those of tomorrow—including such things as kitchen and laundry appliances which can be covered by a "packaged mortgage."

What "Adequate Wiring" Means: An adequate electric service entrance; enough circuits, enough convenience outlets; permanent lights and switches.

Here's What You Can Do About It:
1. Use the services of your local Adequate Wiring Bureau in preparing complete wiring layout for every floor plan.
2. Install Adequate Wiring in accordance with this layout.
3. Obtain your "Proof Adequate"—a certificate to present with each deed.
4. If there is no Adequate Wiring Bureau in your area, write as for details of how to take advantage of "Adequate Wiring" as a sales feature.

NATIONAL adequate wiring BUREAU

CLIP AND MAIL TODAY for free information and material!
NATIONAL ADEQUATE WIRING BUREAU, Depl. AR-7
155 E. 44th Street, New York 17, N. Y.
Please send me, without charge, information on how to take advantage of Adequate Wiring as a sales feature.

NAME ________________________________
FIRM ________________________________
STREET ADDRESS ______________________
CITY ______________________ STATE ______
CEILING FAN

The improved Shepler Model 81 ceiling ventilating fan designed for use over cooking ranges or in any room where wall space cannot be used requires only 7\(\frac{1}{4}\) in. joist space. Once installed, only the cast aluminum grille is visible. The 48 watt motor and fan assembly is attached to the grille which permits the ready removal of the entire working mechanism for cleaning.

The louvers are arranged to provide high efficiency. One is mounted in the end of the fan housing while the other is mounted in the outside wall hood. Both open automatically from fan pressure and are gravity closing when the ventilator is not in use. Duct space between the louvers is said to provide a dead air lock preventing condensation. Sponge rubber seats on the louvers insure quiet operation and are said to prevent cold air back drafts. This model has a 10 in. fan blade and is designed for use on 110-120 volt service. Rating is 650 cfm (free air delivery). Shepler Mfg. Co., 1325 Sheffield St., Pittsburgh 12, Pa.

WATERPROOFING AGENT

A transparent waterproofing liquid called Crystal has been developed which is said to make common types of masonry completely water repellent without destroying their "breathing" qualities.

By applying one coat of this agent to the exterior, capillary attraction is claimed stopped, eliminating efflorescence which deposits unsightly salts on the surface.

The liquid is said to penetrate and coat the microscopic pores of masonry without clogging or sealing the pores so that natural moisture within the wall is not trapped and may evaporate.

After 500 hours exposure to water stream, treated wall (left) remains dry while untreated section (right) is waterlogged.

Crystal waterproofing is said to dry in a few hours, but two weeks curing time is recommended before painting. Since the agent penetrates the pores of the masonry, the color and texture of the surface is claimed to be unaffected.

The liquid can be applied with brush or spray; the surface need only be clean and free from stearic or wax-type waterproof coatings. Wurdak Chemical Co., 4952 Fyler Ave., St. Louis 9, Mo.

NYLON CARPET

Nylon’s strength, abrasion resistance and cleanability are reported to assure long life for recently introduced carpet woven with this plastic.

The carpet is pre-shrunk during manuf.

(Continued on page 182)
Big nation-wide chains know the customer-attracting value of air conditioning in retail stores. Besides, they know its cost must be in line with other merchandising helps and that it must be dependable. This explains why so many chains are repeat buyers of Carrier Weathermakers for both old and new stores.

S. H. Kress variety stores, Lerner dress shops and Walgreen drug stores are among the national buyers that have installed Carrier Weathermakers again and again. One chain has just ordered its 125th Carrier unit.

System Weathermakers give a store the advantages of efficient, customized air conditioning with all the convenience and economy of an easily installed, factory-assembled unit. They are available in a choice of capacities to meet the exact needs of individual stores. They can provide winter heating as well as summer cooling. Designed to operate with duct work from concealed locations.

Like every other Carrier unit, System Weathermakers are backed by Carrier's pioneering experience in air conditioning. Architects and consulting engineers find Carrier engineers eager to help with the plans for every type of air conditioning. Their aim is always a system that gives the greatest satisfaction. Carrier Corporation, Syracuse, New York.
facture and is said to retain its original width and length through repeated washing with soap and water. Claimed to be non-flammable, the pile will melt when exposed to flame but is said to be self-extinguishing after the flame is removed.

The nylon carpet if stored clean is said to need no special protection from moths. Available colors include beige, gray and pastel green, used in a single shade or in two shades of the same color. The carpet has a scroll-like pattern and incorporates a bas-relief effect. Nye-Wait Co., Auburn, N. Y.

**MIDGET LOUVERS**

Use of midget aluminum louvers, where insulation has been applied is said to help prevent condensation problems. Where the sheathing boards are nailed directly to the roof joist on a flat roof, the Midget Louvers can be installed at the eaves between the joists.

For gabled roofs, the louvers can be installed at the eaves or soffit and at the gable ends to cause better circulation of air over the insulation and up the rafters. Unexcavated areas can be ventilated by installing the louvers through the siding above the sills.

---

*The first of a Series in the interest of more efficient use of steel...a vital American resource.*

**BALANCED**

**DESIGN and STRENGTH**

**MULTI-RIBBED for MAXIMUM ANCHORAGE**

**HIGH STRENGTH for STEEL—CONCRETE SAVINGS**

"30 years ahead of the building codes"—that's the verdict on the Laclede Multi-Ribbed Reinforcing Bar. All tests show that the long sought balance between high strength and adequate anchorage has been achieved. The combined factors of high yield point (in excess of 55,000 p.s.i.) plus improved deformations give greater reinforcement strength and provide a more efficient use of steel...conserving America's most important resource while effecting material savings on the job.

Laclede bars meet ASTM Specifications A305-47T, for improved reinforcing bars, developed in the interest of modern, efficient use of steel.

Write us about specifying Laclede Multi-Rib bars on your jobs.

**LACLEDE STEEL COMPANY**

*St. Louis, Mo.*

---

Louvers help give adequate ventilation

The Midget Louver, 2½ and 4 in. in diameter, is screened to keep out insects and requires no nails or screws for installation; louvers are tension fitted into holes drilled in the structure. Midget Louver Co., 8 Wall St., Norwalk, Conn.

Simulated walnut finishes are reproduced on a base of Preswood for wall paneling

**WALL PANELS**

Available in simulated cross-fired figured walnut and bleached walnut finishes, Ser-Wall panels are designed to provide durable, decorative wall beauty for home, industrial, commercial and institutional use. The wood grain is reproduced on a base of tempered Preswood by a special lithographing operation after which the panels are coated with clear lacquer to protect the surface.

(Continued on page 184)
Planning Hospitals?

GET THE WHAT...WHERE...AND WHY
ON MAJOR HOSPITAL EQUIPMENT
FROM MEN WHO OUTFIT MANY HOSPITALS

As developers and manufacturers of a great variety of equipment used in hospitals, and with years of experience in contacting hospital management and staffs, "Ohio Chemical" is qualified to supply valuable assistance and engineering data to hospital architects. Mail the coupon for detailed information on Surgical Lighting, Sterilizing Equipment, Recessed Cabinets, and other features of modern hospital design.

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Represented in Canada by Oxygen Company of Canada Limited, Toronto and Montreal, and internationally by Airco Export Corporation, 33 West 42nd Street, New York

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JULY 1948

183
for doors that must not halt or fail . . . . .

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INSTANT EXIT PANIC DEVICES

THEY'RE BEST INSURANCE for your careful planning — exit traffic flow will never bottleneck in practice.

THEY'RE BEST INSURANCE for lasting customer satisfaction — with mechanical excellence that never fails.

THEY'RE BEST INSURANCE for complete utility with every type of frame — Wood, Hollow Metal or Channel Iron.

WRITE TODAY for descriptive literature or refer to your Sweet's catalog, for Mortise, Rim, and Vertical Rod types. Monarch easy-order information will speed your specification listing.

CLAYTON & LAMBERT MFG. CO.
1705 DIXIE HIGHWAY • LOUISVILLE 10, KY.

The manufacturer claims that the panels can be cleaned with mild soap and water without peeling, chipping or cracking.

Panels come in a variety of sizes from 16 by 72 in. to 48 by 96 in., and 3/8 in. thick, with beveled edges and scored borders enabling them to be butted together and nailed in the score lines. Service Products Division, Woodall Industries, Inc., 2135 Claunet Ave., Chicago 16, III.

AIR CONDITIONER

Available in three and five ton capacities a packaged air conditioner is designed to cool, dehumidify, filter and circulate air. For winter use the unit may be equipped with heating coils to operate as a warm air system.

The unit features a hermetically sealed compressor-motor unit which eliminates the refrigerant seal between the units. A water-saving condenser coil has been used to economize operation.

United States Air Conditioning Corp., Minneapolis, Minn.

Bender fabricates radiant heating coils

TUBE BENDER

Designed especially for radiant heating installations, a lightweight portable copper tube bender is said to bend both un-annealed hard and soft copper tubing (types K and L) to a 180° return bend. The bender is available in suitable radii for tube sizes of 3/8 in. to 1 in. The manufacturer claims that changeover of formers and rollers from one size to another takes less than a minute. Tal Bender, Inc., 417 N. Water St., Milwaukee 2, Wis.

Ready-made logs aid rapid construction

FACTORY MADE LOGS

Surprisingly enough, factory-made logs are now available in Canada. They are manufactured to uniform size, are tongue-and-grooved so as to lock together and may be used for rapid construction by relatively unskilled labor.

(Continued on page 186)
ZONOLITE FIREPROOF PLASTER
USED IN HUGE HOUSING PROJECT

In "Pittsfield Village," large Michigan housing project, Zonolite Plaster Aggregate was used throughout. This material provided a lightweight, fireproof plaster of high insulating and sound deadening qualities. The Zonolite plaster was applied over gypsum board lath.

Architects and engineers are interested in the weight saving features of Zonolite Plaster Aggregate. It weighs only 8 pounds per cubic foot as compared to 100 pounds per cubic foot for sand, thus greatly reducing dead load in buildings—as much as five tons in the average house. As it applies faster and easier, it speeds up construction.

For full details about Zonolite, fill in and mail the coupon.

ZONOLITE COMPANY
Dept. AR 78 • 135 S. La Salle St., Chicago 3, Illinois

UNDERWRITERS GIVE *VERMICULITE PLASTER 4-HOUR FIRE RATING

In recent test by Underwriters' Laboratories, Inc. 1 inch of Vermiculite Plaster on metal lath used as protection for steel floor and structural members, received 4-hour fire rating, the highest rating awarded any material. Chart shows results and maximum temperatures reached. This construction is the lightest, least expensive and thinnest fire protection ever to withstand this test.

*Zonolite Plaster Aggregate is a brand of Vermiculite.

ZONOLITE COMPANY
Dept. AR 78, 135 S. La Salle St., Chicago 3, III.

Gentlemen: Please send me complete details on □ Zonolite Plaster, □ Zonolite Concrete Floors, □ Zonolite Concrete Roofs.

Name:

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JULY 1948

185
mullions
and
spandrels
by
ALBERENE

Regular grade Alberene’s soapstone window mullions and spandrels are financially and esthetically right for your job. They’re greenish-blue... harmonize with any decorative pattern. And their price will put a grin on the face of even your most budget-minded client.

For samples and further information, write or phone—

ALBERENE STONE CORPORATION
of VIRGINIA
419-4th Ave., New York 16, N. Y.

FOOD WARMERS

Again available is the complete line of nine Scotty stainless steel, thermostatically controlled, portable food warmers. These warmers designed for use in restaurants and other food service establishments have (on most models) a 12 in. by 20 in. top opening which permits 30 different pan top combinations. Another feature is the 5-way temperature control, giving correct storage temperature for each food.

A new model, the Scotty Mate (SSY-110) is adaptable as an individual unit, in banks of two or more or can be included in an existing bank of matched electrical counter kitchen appliances. See Co., Inc., 5206 S. 35th St., St. Louis, Mo.

Fire alarm system said to provide coverage of houses up to 2000 sq. ft. in area

HOME FIRE ALARM

A new low-priced home fire alarm consists of an alarm unit, 8 fire detectors, wire and accessories, said to provide

(Continued from page 184)

The heart of each log is bored out to eliminate the possibility of rot and to permit equal seasoning. The hollow core also provides insulation and space for electrical conduit. Air-Lock Log Construction Co. Ltd., 90 King St., W., Toronto, Ont.

Thermostatically controlled food warmers

Cooking onions is no problem in a BLO-FAN equipped kitchen... because BLO-FAN (being installed in the ceiling, directly over the range) co-operates with nature to provide the most efficient ventilation available. BLO-FAN’S unique design combines the power of a blower with the efficiency of a fan. The totally enclosed motor, cooled by the air stream, assures trouble free operation. See Sweet’s, 29th/12, or write for complete information.

(Continued on page 191)
HERE'S another big job where Gold Bond Solid Partitions, of fireproof gypsum plaster and metal lath, will save about 4 inches per wall over old style walls. This system, employed throughout the Amsterdam Housing project in New York, will actually provide far more living space. Why not look into the Gold Bond Solid Partition system for your next job? You'll find it fully described in Sweet's. Or, for a 15 minute demonstration by your local Gold Bond representative, just drop us a card. No obligation, of course!

NATIONAL GYPSUM COMPANY
BUFFALO 2, N. Y.

You'll build or remodel better with Gold Bond
Lucky the building owner who modernized his uncontrolled steam heating system with a Webster Moderator System in time for the 1947-48 heating season. Frequent cold waves made it necessary to keep heat on for extended periods. With Webster Moderator Control, there was no waste of fuel through overheating, no heating complaints.

In the Webster Moderator System, an Outdoor Thermostat actuates a central control which varies heat delivery with changes in outdoor temperature.

Webster Moderator Controls can secure "controlled-by-the-weather" comfort for even the hardest-to-heat office or apartment in your building. An Outdoor Thermostat automatically varies steam supply to meet weather conditions. And controlled heat means adequate heat on cold days, minimum heat on mild days.

In each Webster Moderator System installation, properly sized Webster Metering Orifices are installed in radiator valves to balance heat distribution throughout the building.

Start now to insure next winter comfort by modernizing your present heating system with Webster Moderator Control. Write us about your problem. We will pass it on to your local Webster Representative. He will be glad to work on it with you.

Address Dept. AR-7

WARREN WEBSTER & CO.
Camden, N. J. Representatives In Principal Cities
In Canada, Darling Brothers, Limited, Montreal

Webster HEATING

(Continued from page 186)

complete coverage for houses up to 2000 sq. ft.

The 7 in. alarm unit contains an automobile-type horn, relay and transformer. Insulated wire connects the alarm to the fire detectors which contain a fusible element which melts before the temperature in the fire danger area reaches 170°F. Ingersoll & Co., 502 N. Prior Ave., St. Paul, Minn.

Lock is adaptable to various door widths

SLIDING DOOR LOCK

Designed to include all the features that are being demanded for sliding door operation, a unit-type lock recently introduced is said to be adjustable to various door thicknesses and easily installed without mortising.

Sliding doors are closed with a small bar recessed in a cup in the escutcheon plate.

Three types of escutcheons, tooled for ready interchangeability, make the lock adaptable to different requirements as to the closing operation, security and finish. The lock can fit any door thickness from 1/8 in. to 1/4 in.

Each lock is adaptable to either right- or left-hand doors with or without dead lock on either side and emergency unlocking feature opposite. The escutcheon measures 4 1/2 in. by 2 7/8 in. All exposed parts are brass. Adams-Rite Mfg. Co., 540 Chevy Chase Drive, Glendale, Calif.

FURNITURE SHOWROOM

The Edgewood Furniture Co., featuring the William Arbusner Collection, has recently opened a new factory-showroom. Edgewood Furniture Co., Inc., 208 E. 27th St., New York 16, N. Y.
Another Building of Distinction

GENERAL PETROLEUM BUILDING,
Los Angeles, California
One of the most distinctive buildings
of the century is equipped with
BROWNE windows and all-aluminum
fins manufactured by Universal Corp.
in Dallas. A tribute to modern archi-
tecture.

Walter Wurzeman and
Welton Beckett, Architects

Wherever you find buildings of distinction
you’ll find BROWNE folding type windows.
...it’s a perfectly natural combination, for
BROWNE windows are not only beautiful in
appearance, they are functional and economical.
BROWNE windows give you heavy,
only the BROWNE windows ... 100%
all-aluminum extrusion construction ... permanent
controllable draft-free ventilation ... permanent
In addition, both sides of glass can be cleaned
from the inside.
Our department of design will be happy to work
with you on any special job. Your request for
special data and/or drafting room standards
will receive prompt attention.

BROWNE folding type windows are manufactured
exclusively by Universal Corporation in Dallas under
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Qualified sales representatives in all architectural centers
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The RESTORATION of COLONIAL WILLIAMSBURG

A Reprint of the December, 1935 Issue of ARCHITECTURAL RECORD

104 pages, bound in cloth
$2.00 per copy

The Colonial Williamsburg Number of ARCHITECTURAL RECORD — issue of December 1935 — was sold out soon after publication but the entire editorial contents have been reprinted and bound in permanent book form with blue cloth covers.

Many thousands of these Williamsburg reprints have been sold but the demand continues unabated.


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Enclosed is $ _______ for which send ____ copies of your reprint, The Restoration of Colonial Williamsburg, bound in cloth, at $2.00 per copy. (Add 2% Sales Tax for New York City deliveries.)

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190
CENTRAL PLANT AIR CONDITIONING
with the features you dream about

To eliminate costly application problems and installation bugs in central plant air conditioning, G-E engineers arranged countless discussions with architects and contractors in the air conditioning field. The results of this intensive field work went into the construction of the new G-E Central Plant Air Conditioners.

Time Saving ... Space Saving
Compact and light in weight, these units are pre-engineered, pre-fabricated and parts pre-matched for speedy installation. Expensive building alterations—cutting and patching—are avoided because each sub-assembly has ample clearance to pass easily through a standard 30" door. You'll find 12 assembly arrangements available for vertical or horizontal installations—virtually eliminating the bugaboo of space problems.

The new vertical or horizontal combinations both share equally the built-in G-E qualities which give quiet, smooth operation...dependable, consistent performance. Why not discuss them with your local G-E air conditioning representative today? General Electric Company, Air Conditioning Department, A8447, Bloomfield, New Jersey.

Look at these Dream Points!
- Pre-matched components
- Pre-engineered
- Quick, easy selection
- Accurate, reliable G-E ratings
- No expensive rigging
- No wall knockdowns—(Every part will go through standard 30" doorway)
- Attractive appearance (No shielding or furring)
- No field fabrication of parts

GENERAL ELECTRIC
Better Air Conditioning
Why be "half safe" with shower mixers that only protect bathers from scalding caused by fluctuating pressures in hot and cold water supply lines—a frequent and important cause of shower trouble... but only ONE.

For SAFER and More Comfortable SHOWERS

Install

POWERS
THERMOSTATIC
SHOWER MIXERS

They protect shower users from scalding caused by both TEMPERATURE and PRESSURE variations. Both dangerous variables are present in all shower installations.

Be doubly safe. Get positive, accurate protection against both Temperature and Pressure changes. Use Powers mixers. They cost more. Their greater safety and economy make them worth more.

Cut Fuel and Water Bills with Powers mixers. Bathers waste no time or hot and cold water while waiting for a shower at the right temperature.

Phone or write for estimate

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Over 55 years of WATER TEMPERATURE CONTROL
EXIDE EMERGENCY LIGHTING protects these buildings against lighting failures

Protection against lighting failure is vitally important. For despite all precautions of utility companies, accidents beyond their control can cause interruptions of normal electric current. Storms, floods, fires and collisions may occur with little or no warning, and can be a serious menace to electric power lines.

You can safeguard the buildings you design against such lighting failures. Exide Emergency Lighting provides safe, sure, modern protection. Batteries are always fully charged, and respond instantly and automatically when needed.

Exide Emergency Lighting can be supplied in systems and units to fit the needs of buildings of any size... from a few rooms to an entire building or group of buildings.

Exide
EMERGENCY BATTERIES

1888... Dependable Batteries for 60 Years... 1948

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • Exide Batteries of Canada, Limited, Toronto
NO OTHER PAINT OFFERS YOU THE ADVANTAGES OF OUR COLLOPAKING PROCESS

Cabot's Collopakes produce a porcelain-smooth, weather resistant surface that gives years of beauty and protection. This is because our patented Collopaking process reduces pigments to particles of sub-microscopic size and colloidally disperses them in the vehicle... actually making homogenized paint. And because only pure pigments and no fillers or adulterants are used, the colors in Cabot's Paints stay fresh and lively for years.

Write Today for Color Card and Information. In Cabot's wide selection of attractive colors, you will find exactly the right color for any design in any setting. Be sure that you have our latest color card in your file and complete information about Cabot's Collopakes. Samuel Cabot, Inc., 2186 Oliver Building, Boston 9, Mass.

Cabot's Collopakes

- Dubin & Dubin, Chicago

For complete information see SWEET'S CATALOG Section 29-G-8

The HEATFORM proved by 27 years of use in homes all over America and advertised in nationally circulated magazines.

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also manufacturers of form dampers, fuel grates, ash dumps, cleanout doors and dampers screens.
where hotels use

Non-Slip Floors

... for safety's sake!

Firm-footing is important in many parts of hotels. Whether behind-the-scenes, or out-front, the hazard of slipping is a constant danger to both guests and personnel. Accidents due to slips and falls account for one-fifth of all claims for compensation.

Non-Slip floors are the proved answer.

ELEVATOR SILLS: Feralun* is universally specified by architects for elevator sills to prevent costly accidents.

KITCHEN: Use Amcolun, for safety's sake, in the kitchen where oily or wet conditions frequently occur. Protect your personnel.

SIDE ENTRANCE: We recommend Amcolun—the non-slip abrasive tile—wherever floors present a slippery condition due to "tracking-in."

MAIN ENTRANCE: ... and for exterior steps, we suggest Bronzalun* thresholds and treads.

Our Advisory Engineering Service extends to all key cities, offering you a convenient, authoritative source for non-slip flooring information. Meantime, check our non-slip products in Sweet's File, 136-8.

The American Abrasive Metals Company
IRVINGTON • NEW JERSEY


American Abrasive Metals Co.
460 Coit Street, Irvington, New Jersey

☐ For safety's sake, send me your technical data catalog on all your non-slip products.
☐ Please send me the name of your advisory engineer located nearest to me.

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JULY 1948
CONSIDER LIME PLASTER

It does not rattle . . .
It does not buckle . . .
It does not come in modular sizes . . .
You don’t nail it, screw it, suspend it. You don’t fasten it TO your walls or ceilings . . . because it is PART of those walls and ceilings, an integral, monolithic part of the entire building.

To the DESIGNER, it fits willingly his every form of expression. The flat surfaces, the angular; the inside, the outside curves. And any decorative treatment may be achieved, to become an integral part of the whole.

To the OWNER it provides the satisfaction of a smooth, clean, joint-free job, that is vermin-proof, rodent-proof, fire safe and acoustically right. More economical in first cost than any “Substitutes”, it is its long life that affords real life-long economy.

And for the best in fine finishing lime, remember Ohio Hydrate’s brands:

“Ohio White Finish” and “Hawk Spread”. They are identical.
They have no equal.

Refrigeration

TO MAKE 600 TONS OF ICE DAILY FOR CALIF. SHIPPERS

That’s the projected output at Salinas, where the Shippers Development Co. has built a $1,400,000 plant to ice vegetables. Five big growers and packers use the product for icing thousands of rail-way cars and trucks. The Associated Refrigerating Engineers, of Los Angeles, selected Frick equipment for this important job. You, too, will find Frick refrigerating, ice-making, and air conditioning systems most reliable and profitable.

One of the Modernistic Offices—all Air Conditioned—at Salinas

Group Lift Saves Labor on Ice Tanks

Five Frick 11 x 10 Compressors at Salinas

ARCHITECTURAL RECORD
Will she be complaining about a new house of yours next winter?

[Image of a woman looking concerned with a speech bubble saying, "John, this house is cold as a barn!"]

Not if you plan for anthracite heat!

No House is Cold with the "Unbeatable Heating Combination"

- The "unbeatable heating combination" will give your clients the heat they want when they want it. The experts' predictions of shortages of some fuels for 3 to 5 more years does not apply to anthracite.

  The "unbeatable heating combination" — a hard coal stoker and plentiful anthracite — works these three ways to keep your clients warm and comfortable:

  **Plentiful Heat** A full year's supply of plentiful, stoker size anthracite can be stored easily.

  Occupants need never turn their thermostats to chilly levels to conserve fuel.

  **Economical Heat** Stokers use the smaller, cheaper stoker sizes of hard coal . . . reduce fuel bills as much as 52%.

  **Completely Automatic Heat** Modern hard coal stokers are fully automatic . . . from bin feed to ash removal. Sensitive thermostatic controls keep heat steady.

  Get all the facts on heating with all types of anthracite equipment including modern stokers and the revolutionary anthratube. Simply fill out and mail the coupon today.

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101 Park Avenue, New York 17, N. Y.

Please send me more information on anthracite and anthracite equipment including stokers and the new anthratube.

Name ____________________________
Company ________________________
Address __________________________
City _____________________________ Zone ______ State ____________

PLEASE PRINT
JOHNSON & JOHNSON specifies
Kno-Draft Air Diffusers in New Plant

Picked for appearance and performance

ARCHITECTS, THE BALLINGER CO. • INDUSTRIAL DESIGNER HERBERT ROSENBERG

APPEARANCE: Note the simplicity of design of the Kno-Draft Air Diffuser (arrow) in the reception room of the new Johnson & Johnson plant in Cranford, New Jersey. It enables these diffusers to blend with either modern or period interiors. In their original aluminum, Kno-Draft Diffusers furnish an unobtrusive decorative accent. Painted to match the ceiling, they become self-effacing.

PERFORMANCE: A close-up through the show window in the reception room discloses the manufacturing area of this modern plant. Those Kno-Draft Diffusers in the ceiling are delivering conditioned air in a pattern that eliminates drafts and maintains uniform temperature and humidity throughout the area. Since Kno-Draft Diffusers can be adjusted to control air direction, volume and throw, "custom-made" air patterns were created to meet the exacting requirements of product quality control and employee comfort established in this baby products plant.

Send for your FREE copy of our new handbook on air diffusion. It contains all the data to enable you to create "custom-made" air patterns and eliminate drafts. Please write Dept. S-103.

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Select beautiful, durable U.S. Naugahyde...61 colors and finishes...all decorative and dependable for year-after-year service satisfaction. The finest plastic compound with strong fabric backing, no bagging, no splitting, no customer complaints.

String tags or sew-in labels (furnished free of charge) identify U.S. Naugahyde on your products...tie-in benefits from important national advertising. Distributors in principal cities.

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COATED FABRICS DIVISION—MISHAWAKA, INDIANA
Are Insulation Values Permanent?

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"M"any loose insulations settle down from year to year, producing areas that are eventually without insulation. "Insulation," by Dalzell and McKinney published by American Technical Society.

- "Conductivity may vary by several hundred per cent, depending entirely on the arrangement of the fibers."
  
  Dr. J. L. Finck  
  In Bureau of Standards Research Booklet No. 243.

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  Dr. J. L. Finck  
  in "Industrial & Engineering Chemistry."

- "Aluminum foil exposed in a vertical position since 1929 to the dust and fumes in the Heat Measurement Laboratory, M. I. T. Samples of this foil have been removed from time to time and the emissivity determined. Over a period of 10 years, no appreciable change in emissivity was found."
  
  Prof. Gordon B. Wilkes  
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Long Branch, New Jersey
October 22, 1947.

President
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I am one of 56 men who constructed and then lived in the Byrd Expedition buildings in Antarctica for a year (1934-35) which were assembled from Homasote lined sections left over from the establishment of the first Little America in 1929. These sections were already the veterans of five years storage in damp New Zealand warehouses, but were still so strong and easy to saw, fit, and assemble that we were considerably surprised. But when we had dug down to the old camp and found also that the Homasote in the original buildings was in perfect condition after one year of soaking in melted snow (1929-30) and five years under the terrific pressure of 20 feet of ice, we were completely sold. When other wallboards would have pulped, cracked or dissolved, Homasote remained firm and trustworthy insulation against blizzards and temperatures to minus 75.

I am not in the habit of using my few leisure hours to throw bouquets, I have too much to do, but I feel that merit deserves reward, so here goes — believe it or not, the above remarks are pale into obscurity by my present opinion of your fine product. When, as a technical observer, on the recently concluded Navy's Operation Highjump, I was one of the few who were privileged to dig down 12 feet to our old home 10 miles from the newest camp-site, I found the 18 year old Homasote in the walls and ceilings of the "Messhall" and "Science Lab" (the only buildings we could reach) absolutely unharmed by time, water, or cold. Hundreds of tons of ice had forced up the wood floors and pushed down the ceilings until they met in the center of the rooms, and puddles of ice everywhere evidenced the repeated freezing and thawing of the many seasons, but the walls were straight, unbuckled and scarcely stained.

Later, when our Expedition was leaving for its return to the States (February, 1947) and I had occasion to make one last run to the old camp to mark the entrances against the future, I hacked out a piece of the messhall wall to send you for analysis. I am mailing it to you for whatever purpose you may wish to use it, and if you ever want me to convince some doubting customer of yours, just lead me to him. At least I can assure you that when last I build the home I've been planning throughout several years of roaming the world, the insulation will emphatically be Homasote.

Yours sincerely,

Amory H. Waite, Jr.
Radio Engineer
BAE II 1934-35 and 1946-47

P.S. I forgot one item. When I was carrying your specimen up the rope ladder from the whaleboat to the ship, it fell out of my pack and drifted away to sea. To my amazement its generation-old water-proofing qualities were still intact for it kept floating! Another boat scattered it with a boat hook an hour later and returned it to me, punctured, but still distinctly useable wallboard. The hole, therefore, is a badge of honor rather than a defect.

A.H.W.

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JULY 1948

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