Steel Windows
that Typify and Reflect
QUALITY Construction

The high quality of Truscon Double-Hung Steel Windows Model No. 28 results from the use of flawless material and improved methods in the manufacture. Standardization and quantity production add the factor of economy. These windows are built of solid galvanized steel and have a weight of metal which insures long life and trouble-free service. Their many outstanding advantages have made them the choice of leading architects for many of America's finest buildings.

We will be pleased to mail our new Double-Hung Window Catalog and the complete book of Drafting Room Standards for all types of Steel Windows and Doors.

TRUSCON STEEL COMPANY, YOUNGSTOWN, OHIO
STEEL WINDOW DIVISION
Engineering and Sales Offices in all Principal Cities
ARTICLES

Goodhart Hall, Bryn Mawr College
Mellor & Meigs, Architects
By Arthur I. Meigs

333 North Michigan Avenue, Chicago, and
The Tavern Club, Chicago
Holabird and Root, Architects

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Concrete Commits Suicide!
(Effects of Alternate Wetting and Drying)

In the nature of concrete, there is a very evident disposition to destroy itself because concrete is disposed to expand when it becomes wet and to contract as it dries out. No matter how well concrete has set, whenever moisture enters it there is still some chemical action between the cement and water which increases the concrete's volume. If there is no room to expand, it will naturally disrupt.

The small cracks or fissures that you have seen on the surface of concrete are the external signs of such disruption—and these, naturally, invite the further inroads of moisture. Protection in the first place is a positive necessity.

There is no guess work whatever about any of the facts in regard to concrete. It is a reliable building material if it is protected against water. If you had built a concrete wall and you went out and found a man with a sledge hammer about to break it up, you would do something about it. Yet, if you had built that wall without integral waterproofing you would have to stand by and watch it destroy itself because you could not interfere.

When you build with Truscon Waterproofing Paste Concentrated you build the elements of protection into concrete, making it permanently safe against alternate wetting and drying. The disruptive forces of constant contraction and expansion are prevented because water can not enter concrete so protected. You can not take a simpler precaution nor one that, considering result, costs you less than the use of Truscon Waterproofing Paste Concentrated. This material is simple to use and is the only permanent method of protecting structural concrete against the destructive action of water.

*$ This is No. 10 of a series of non-technical explanations prepared by R. A. Plumb, General Director of The Truscon Laboratories, on the necessity for integrally waterproofing all concrete used in building.

General Director of THE TRUSCON LABORATORIES

Write for free data on the practical uses of Truscon Waterproofing Paste Concentrated.

THE TRUSCON LABORATORIES = DETROIT, MICHIGAN
OFFICES IN ALL PRINCIPAL CITIES • • FOREIGN TRADE DIVISION, NEW YORK

TRUSCON Waterproofing Paste CONCENTRATED

The Architectural Record, February, 1929
On Time Deliveries

Help Selden-Breck Construction Company finish St. Louis Civil Court House in record time

These pictures of the Civil Court House, St. Louis, Mo., in course of construction, indicate the kind of operations in which Indiana Limestone Company service has proved a factor of first importance in assuring the rapid and satisfactory completion of the job. Plaza Commission, Inc., Architects. Selden-Breck Construction Co., Builders.

The time element in construction is a matter to which this company has given the most painstaking attention. Our record of service in connection with such projects as the Civil Courts Building in St. Louis and many other large size operations has proved to the satisfaction of leading architects and contractors that "Indiana Limestone Company is not only big enough but well-organized enough to handle any job right." We invite your investigation of our record. Find out how other leading architects and contractors are finding it a real economy to pay a reasonable preference for this service.

INDIANA LIMESTONE COMPANY

General Offices: Bedford, Indiana

Executive Offices: Tribune Tower, Chicago

The Architectural Record, February, 1929
1904 that the late Charles P. Dahlstrom and his associates organized the Dahlstrom Metallic Door Company... an act of pioneering that founded a new industry... creating entirely new tools for the architect's hand.

Through the dark uncertainties of pioneer days... the difficulties of treading paths utterly new... this organization was guided by a single ideal... an ideal that has made the name Dahlstrom the greatest in Hollow Metal.

For, the finest of materials... unequaled workmanship and design... are to Dahlstrom more than mere words. They are the motivating influence of every act... the concrete reason for Dahlstrom predominance... the keynote of a quarter century of progressive leadership.

To the users of Dahlstrom products, this ideal translates itself in terms of longer life... lower upkeep... better fire proofing... lower depreciation... factors that add value to every Dahlstrom equipped building... factors that have made Dahlstrom the standard of value for the Hollow Metal industry.

DAHLSTROM METALLIC DOOR CO.
JAMESTOWN, NEW YORK
New York - Chicago - Los Angeles - Detroit - Dallas
To most men the four walls of their offices are the most intimate, most frequently seen of all the works of the architect.

The planning of walls which will satisfy a man through all the hours of the day, year in and year out, can be a real achievement, however modest be its proportions.

Interior trim or paneling of American Walnut commends itself to more and more architects for the qualities which make it an easy wood to get along with. Its color is warm but unobtrusive. Its figure is interesting but restrained. And nature has woven into its fiber a toughness that takes the punishment of years with a minimum of visible effect.

In ten years we have yet to hear of a man who was dissatisfied with walnut paneling. During the same period we have heard of many who regretted decisions to save a little by substituting an inferior wood for walnut.

We will be glad to send material which will assist you materially in planning interiors of walnut.
For many years the distinct advantages of both lead and copper as durable roofing materials have been recognized. Copper is light weight, rust resisting and has high tensile strength. On the other hand, copper is readily attacked by the sulphuric acid in smoke laden or foggy air, turning an undesirable black under such conditions. Lead, conversely, is not affected by sulphuric acid but blends harmoniously with modern architecture, taking on a beautiful stone appearance with the passage of time. Lead is, however, very heavy and requires extremely strong supporting construction.

In LEADCLAD COPPER the advantages of both metals are retained and their disadvantages eliminated. As the name indicates LEADCLAD COPPER is PURE COPPER jacketed with a coat of PURE LEAD. It is light in weight, low in cost and long in service. There is no more lasting roofing material and the lead coating insures a continued retention of its natural beauty. The architect will recognize in LEADCLAD COPPER a superlative material—lasting—striking in appearance—easily installed. LEADCLAD COPPER is made in flat sheets and in all standard roofing forms but is especially recommended for conductor pipe, gutters and flashing. Prices and more detailed information upon request.

WHEELING METAL & MFG. CO., Wheeling, W. Va.
Everything....

When we undertake any contract in Special Concrete Construction, we have the equipment, organization and experience to do everything necessary for its satisfactory completion well ahead of schedule....ask for proof.

RAYMOND CONCRETE PILE COMPANY
NEW YORK: 140 Cedar St.
CHICAGO: 111 W. Monroe St.
Raymond Concrete Pile Co., Ltd., Montreal, Canada
Branch Offices in Principal Cities

A FORM FOR EVERY PILE

The Architectural Record, February, 1929
There is a place for structural clay tile in every type of construction. Homes, farm buildings, offices, public buildings, manufacturing plants, industrial service structures, and public works. If your file on this subject is incomplete, write to the Structural Clay Tile Association, Engineering Bldg., Chicago.
COUNTLESS homes and buildings, everywhere, offer evidence of the permanence and economy of Structural Clay Tile.

Born, like granite, of a union of plastic clay and searing flame, it is blood brother to the everlasting rocks.

Structural Clay Tile shields, shelters, and perpetuates. Whatever the requirements—for exterior walls, for interior partitions and floors, as protection for steel work, in every type of building, there is a true-to-size, hard-burned Structural Clay Tile unit for the purpose.

Never have the quality, variety and availability of structural clay tile been so marked as they are today. There are shapes and sizes for all uses. A variety of color and texture may be had for exterior and exposed interior construction. It is readily available at any point and is handled and laid with ease and economy.

The Structural Clay Tile Association maintains a staff of engineers to serve the building industry. A wealth of data covering uses, application, strength, insulation values, durability, and other subjects, are available. Specific problems relative to the use of structural clay tile are analyzed, and recommendations made.

The Association is organized for the benefit of the industry as a whole. No charge is made for its service.

STRUCTURAL CLAY TILE ASSOCIATION
Formerly Hollow Building Tile Association
ENGINEERING BUILDING • CHICAGO, ILLINOIS

The Architectural Record, February, 1929
In the residence of Edwin M. Bookmyer, Esq., of Atlantic City, New Jersey, we believe that Seward G. Dobbins, the architect, has achieved a most colorful effect with the pecky grade of Tidewater Red Cypress.

Not only is Tidewater Red Cypress the most durable lumber for exterior use, but an ever-increasing number of architects believe that it is the most versatile of woods for unusual interiors.

We are always glad to be of every possible assistance to the profession. For information, just drop a note to the Southern Cypress Manufacturers Association, Jacksonville, Florida.

TIDEWATER RED CYPRESS
The Wood Eternal
All types of window construction are suitable for Rolscreen installation. All styles of window trim which present different problems of installation have been fully solved.

All plaster or stone jambs—solid wood or semi wood and plaster return and the "forty and one" other conditions may be screened with ease and satisfaction.

The demand for Rolscreens is increasing daily for installation in modern homes, apartments, hotels and hospitals.

The Rolscreens are substantial in construction, all metal, economical in installation and service, fireproof—no question of sagging, bagging, warping or decaying.

Rolscreen Company
13 Main Street, Pella, Iowa
Harmonizing with any office

The latest Sanymetal Office Partitions are furnished in a sufficient variety of designs and colors to harmonize with any office ensemble. Particular attention is given to finish, so that whatever the dominant color tone of the offices may be, there is a soft, rich, lasting Sanymetal finish in sympathy with it. And these restful, pleasing color effects do not fade, do not change in years of service.

For beauty, for privacy, for permanence (with utmost ease of alterations) let Sanymetal designers plan your clients’ office arrangement with you.

The complete line of Sanymetal Products covers office partitions, factory partitions, toilet, shower and dressing compartments, hospital cubicles and metal costumes. We shall be glad to send you details on new and interesting designs of any of these products. Write direct to Partition Headquarters—

New York Office: 536 East 133rd Street
Philadelphia Office: 1814 Harrison Building
Chicago Office: Monadnock Building

THE SANYMETAL PRODUCTS COMPANY
1704 Urbana Road Cleveland, Ohio

Steel Office & Toilet Partitions

The Architectural Record, February, 1929
The stately structure pictured above is the Mitsui Bank, Tokyo, Japan—a monument to American architectural skill.

Atop this great building is a Carey Built-up Roof—specified because a Carey roof can be depended upon for long-time protection.

Everywhere in the world you will find these long-life Carey roofs—on schools, apartments, hotels, industrial and public buildings. For it is known that only the best of materials go into Carey roofs. The very finest of long-fibre felts—Carey made. Asphalts—specially refined and blended by Carey. Plus 50 years of roofing experience.

Architects know that Carey quality pays, in extra years of service. Write for Architect’s Specification book.

"A roof for every building"

THE PHILIP CAREY COMPANY, Lockland, CINCINNATI, OHIO
Crittall Now Offers Casement Windows in Three Price Classes

With the new Stanwin Casement—a sturdily built, substantially equipped window manufactured to compete in the class of lightweight casements—plus Norman and Universal Casements, Crittall now offers a complete line of steel casement windows. For every commission there is a casement to meet the architect’s most exacting requirements as to price, quality or design.

Stanwin Casements
Suitable for many of your commissions, Stanwin Casements are available both in outward and inward opening types in the usual range of sizes and designs—and in some that are new and exclusive. The standard Stanwin sash is considerably heavier than most lightweight steel casements and solid bronze hardware is used throughout. Double and single doors are also furnished in standard sizes.

Norman Casements
For commissions that require extra refinements at a small additional cost, Norman Casements are available in a wide variety of standardized sizes and designs.

Universal Casements
Universal Casements are custom-built in both steel and bronze to the architect’s sizes, designs and most exacting specifications.

Built to a high standard of quality Crittall Casements—Stanwin, Norman and Universal—have a wide range of application and offer you a superior casement window in each of the three principal price classes.

Crittall Casements
Norman Casements
Universal Casements

The Architectural Record, February, 1929
STANLEY Template Butts for metal construction are characterized by accuracy and diversification of design.

By specifying that metal doors and jambs be drilled and mortised for Stanley Template Butts, the architect assures himself, his client and the contractor that there will be no delay in the hanging of the doors. The Architect's Manual of Stanley Hardware contains full information and blueprints of all Stanley Template Butts. A copy is available upon request. The Stanley Works, New Britain, Conn.

Remember — wood doors with pressed steel jambs require Template Butts.

STANLEY HARDWARE

The Architectural Record, February, 1929
Distinguished Interiors
are rarely without a touch
of Plaster Ornament

TODAY architects are giving more
attention to interior design. Rooms
in the newer houses are more livable
—more inviting.

In attaining an atmosphere of com-
fort and good taste, there is perhaps
nothing as effective as plaster orna-
ment. In room after room designed by
America’s foremost architects and pic-
tured as examples of distinguished in-
teriors in the periodicals devoted to
the subject, ornamental plaster is al-
most invariably used, and with striking
effect. The trend is especially notice-
able in the smaller homes, houses and
apartments of seven, eight and nine
rooms. Often just a touch of plaster
will suffice to lift a whole house out
of the realm of the commonplace.

Today the six firms listed at right,
in the interest of a wider appreciation
of plaster ornament, are acquainting
the most discriminating section of the
public with the real possibilities of
this art-material. Pre-eminent in the
field stand these six firms, through
whose catalogues correct plaster or-
nament is quickly available at mod-
erate cost in all parts of the country.

Models for thousands of designs,
ranging in period from Classic to
Modern, are always on hand—a wealth
of decorative material from which to
choose. Each of the firms, too, employs
draftsmen trained in the use of orna-
mental plaster, and always ready to
cooperate in developing new designs
and adaptations, and indicate costs.

Architects and Decorators are invited
to write to each of the six firms for
their individual catalogues.
Illustration reproduced from Bryant educational advertising program appearing in Saturday Evening Post, National Geographic Magazine, House & Garden, Time and other publications. The cleanliness of gas heat and the greater usefulness of the basement are emphasized.

"Let the Pup be Furnace Man"

MORE than 100,000,000 educational messages have been printed the past three years in magazines which go into prosperous, modern homes, all telling the fascinating story of the comforts offered by gas fuel when burned in a Bryant Boiler or Furnace.

WHEN YOU RECOMMEND A BRYANT you can point out to your client that he can throw away his coal shovel—junk his ash can—make a single match his winter’s kindling—tend furnace by the calendar, not by the clock—live in a warm house, sleep in a cool one—laugh at blizzards . . . . . and enjoy winter.

THE BRYANT HEATER & MANUFACTURING COMPANY
Service offices in 57 cities from coast to coast. If "Bryant" is not listed in your phone book, write

17860 St. Clair Ave. CLEVELAND, OHIO

BRYANT HEATING
for Hot Water, Steam, Vapor and Warm Air

© BHMC
A BATCHELDER MANTEL is distinguished by carefully studied design. It has a mellow overtone of color which harmonizes with any reasonable decorative scheme. It commands interest without being unduly conspicuous. Our Mantel Catalog is available to any practicing Architect upon request.
Men have been silvering glass to return their image since 400 B.C.—yet it has remained for modern science to create Brasscrafters “EVALAST” Mirrors—laboratory-tested products with the following characteristics:

A newly perfected coating of silver, specially formulated, and so sealed as to be impervious to corrosion from fumes, steam, moisture and water.

Never in the whole history of mirror-making has development been so marked and so definite. After years of research and experiment, a permanent bonding of silver to plate glass has been found. The result is the Brasscrafters “EVALAST” French Plate Mirror—offered now for the first time.

Old Hazards
As most of the profession know, the ordinary mirror of commerce deteriorates quickly when subject to atmospheric changes. The delicate silver, when applied by the usual processes, is non-resistant to any excess of moisture and temperature.

New Protection
Now comes the new “EVALAST” process of silvering—a patiently sought discovery for making mirrors moisture-proof. This new formula for bonding silver to glass results in a reflecting surface of intensified, lasting brilliance.

The Brasscrafters GUARANTEE
Our guarantee extends for a period of five (5) years after the date of manufacture, stamped on the back of each mirror. Translated into a concrete statement, this means we will resilver any Brasscrafters “EVALAST” Mirror on which the silver spoils within five (5) years, excepting where the damage is due to the action of acids, or to rough handling, ripping through the back, and injuring of the silver. The spillage of damaging acids is a remote contingency, and injury due to rough handling is usually an accident.

This nominal and conservative time limit of five (5) years is dictated by business prudence and is by no means a restricted indication of the life of the “EVALAST” Mirror. In point of fact, there is no reason why this new Brasscrafters product should not hold its original brilliance of reflection undiminished for an indefinite period.

In Bathrooms, Steamships and Barber Shops, where water and atmospheric moisture are constant—in those difficult places where mirrors are set in close proximity to freshly plastered walls, or water pipes, Brasscrafters “EVALAST” French Plate Mirrors are proof against silver corrosion.

A Rugged Test
In addition to laboratory experiments, severe physical tests have proven the unchanging lustre of Brasscrafters “EVALAST” Mirrors, under adverse outside influence. Mirror Plates have been buried in moist earth, exposed to all kinds of weather and climatic conditions, live steam and water, without showing the slightest trace of corrosion or oxidization.

The Architectural Record, February, 1929
The roll-call of Motorpark Garages lists well over 200 buildings aggregating an investment value of more than $100,000,000.
Overwhelming Preference for d'Humy Motoramps

is solidly grounded on the fact that they prove their economic superiority in 93% of the garages in which ramps are in any way practical.

In any garage of 2½ stories or greater height (basement included) the d'Humy Motoramp System of Design will provide a great storage efficiency. We will gladly sketch-plan comparative floor layouts for any particular plot you have under consideration—a regular service for which there is no charge.

Just issued, a new brochure “The Modern Garage!” Shall we send you a copy?

RAMP BUILDINGS CORPORATION

21 East 40th Street New York, N.Y.
In planning new apartment houses, hotels and other multiple residence buildings, provision for proper radio reception is becoming a necessity. New buildings not equipped in the beginning with adequate radio facilities will soon have to be rewired at a greater expense.

To meet the rapidly growing demand for high quality radio distributing systems for use in large residence buildings, the Radio Corporation of America, in conjunction with the General Electric and Westinghouse companies, has designed special apparatus for apartment houses, hotels, hospitals, sanitariums, schools, passenger ships and private residences.

The Radio Corporation of America has perfected two principal methods of wiring buildings for multiple radio reception:

1. A single antenna connected with a distribution system to radio receivers in rooms throughout the building. As many as 80 radio sets of different makes can be independently operated from this common antenna, by plugging into wall outlets—and far more satisfactorily than by the use of individual antennae. Additional central antennae may be installed, if required, for additional groups of 80 receivers.

2. Centralized radio receiving equipment to distribute broadcast programs to as many as 3000 rooms throughout a building. Equipment may be installed to transmit a single program, or to make available the choice of programs from two, three or four broadcasting stations.

The first method is ideally adapted for apartment houses, dormitories, office buildings, etc., where tenants desire to have their own receiving sets. It does away with the unsightly multiplicity of individual aerials, and the inconvenience of connecting them with distant rooms.

The second method is particularly designed for hotels, hospitals, sanitariums, schools, passenger ships, etc., where transient occupants of rooms may enjoy radio programs from loudspeakers or headsets, all operated from a central receiving instrument.

Descriptive pamphlets of these two systems, and of the special apparatus designed for them, are available to architects, builders and building owners.

Radio Corporation of America
100 West Monroe Street
Chicago, Illinois

235 Broadway, New York City
Santa Fe Bldg., Unit No. 1, Dallas, Texas
101 Marietta Street, Atlanta, Georgia

San Francisco, California

The Architectural Record, February, 1929

AMERICAN RADIATOR COMPANY

40 WEST 40TH STREET, NEW YORK
AND ALL PRINCIPAL CITIES

My Name Is. ____________________________

My Address Is. __________________________

City __________________ State ____________

I am interested in receiving . . . . . . . .

☐ particulars of your convenient payment plan by which my home may be heated for less than $75 a room.

☐ particulars of the Building and Loan Association financing plan.

PLEASE SEND TO ME AN ILLUSTRATED COPY OF . . . "HEAT AND THE SPAN OF LIFE" . . .

The Architectural Record, February, 1929
TO make certain that the advantages of CELLized oak floor blocks will be reflected to the fullest extent in the finished floor, Approved Flooring Contractors have been licensed in each territory. After being laid by authorized contractors, the floor is guaranteed by CELLized Oak Flooring Inc., Memphis, Tenn. See partial list below.

Specifications should read: "These floors shall be laid by a flooring contractor licensed by CELLized Oak Flooring Inc., Memphis."

ATLANTA, GA
206 Bona Allen Building

ATLANTIC CITY, N. J.
2 N. Main Street

AUSTIN, TEXAS
2907 Capital Tower

BALTIMORE, MD.
601 W. North St.

BEAUMONT, TEXAS
Beanum Street

BELGROVE, WIS.
J. H. Leedell & Son

BIRMINGHAM, ALA.
1150 Partridge Avenue

BOSTON, MASS.
3930 Camp Street

BUFFALO, N. Y.
50 Delaware Street

CEDAR RAPIDS, IOWA
45 W. Balcom Street

CHICAGO, ILL.
51 E. Ohio Street

CINCINNATI, OHIO
3307 Montgomery Building

CLEVELAND, OHIO
5150 Euclid Avenue

DALLAS, TEXAS
2226 Garrett Street

DAYTON, OHIO
2808 Grand Avenue

DENVER, COLO.
4046 Steele Street

DES MOINES, IOWA
437 No. Michigan Ave.

DETROIT, MICH.
4391 Selden Avenue

ELMIRA, H. Y.
207 Taylor Avenue

GRANADA, CALIF.
110 W. Oregon Avenue

GREENSBORO, N. C.
Box 537

HUSTON, TEXAS
1568 Lawrence Street

INDIANAPOLIS, IND.
2918 Missouri Avenue

IVOOSS, MASS.
7205 Bellefontaine

KANSAS CITY, MO.
Cherry Street

LACKAWANNA, N. Y.
131 Cleveland Avenue

LINCOLN, NEB.
2708 "W" Street

LITTLE ROCK, ARK.
500 N. Polk Street

MADISON, WIS.
2106 Commonwealth

MEMPHIS, TENN.
209 N. Lake Street

MINNEAPOLIS, MINN.
120 E. Fifth Street

MT. VERNON, N. Y.
Oakwood Flooring Co., 3rd Street

NASHVILLE, TENN.
1101 N. First Street

NEW ORLEANS, LA.
2219 Camp Street

OKLAHOMA CITY, OKLA.
6585 E. Eighth Street

OMAHA, NEBR.
1915 S. 46th Street

PEORIA, ILL.
100 California Avenue

PHILADELPHIA, PA.
919 Crozier Building

PITTSBURGH, PA.
341 N. Highstreet Avenue

RICHMOND, VA.
6306 Stoniett Avenue

ROCHESTER, N. Y.
20 Country Club Road

ST. LOUIS, MO.
2506 Commonwealth

ST. PAUL, MINN.
1715 Fachette Street

SHREVEPORT, LA.
1312 Jordan Street

TORONTO, ONT. CAN.
R. Laidlow Lumber Co., Ltd.

TOLEDO, OHIO.
2767 Western Avenue

TULSA, OKLA.
1728 E. Third Street

UTICA, N. Y.
147 S. Third Street

WARREN, ARK.
3119 E. Lake Street

WASHINGTON, D. C.
W. T. Gallihem & Bros.

WICHITA, KANSAS
The Roy Warner Floor Co.

WINNIPEG, CAN.
Manitoba Art Hardwood Floor Co., Ltd.

*CELLized oak floor blocks are sold through retail lumber dealers

*CELLized Oak Flooring Inc. MEMPIS, TENNESSEE

The Architectural Record, February, 1929
This recent installation of Hauserman Type T Partitions shows an interesting use of steel and glass in combination with solid steel walls. The former for maximum borrowed light ... the latter (sound-deadening, packed panels) for that executive office privacy.

A refreshing originality of design ... simplicity. Here is unmatched workmanship in steel—balance of design, tight, perfectly fitted panels. Lustrous tones—deep, rich, unusual; graining effects faithful to the smallest detail. A quality product for those whose selection is based on quality standards.

If you are considering a new building, or remodeling an old one, you will find it profitable to talk it over now with one of our partition engineers nearest you.

THE E. F. HAUSERMAN CO., Partition Specialists
6814 Grant Avenue
CLEVELAND, OHIO
Sales, Engineering and Erection Service at Direct Factory
Branches in Thirteen Principal Cities.

"PARTITIONS FOR EVERY PLACE AND PURSE"

HAUSERMAN PARTITIONS
OF MOVABLE STEEL

The Architectural Record, February, 1929
Throughout the United States . . . in New York and in every other large city where the nation’s architects are designing fine structures in the modern American spirit . . . architects are coming to rely more and more upon Arco paints, varnishes, enamels, lacquers and paint products to discharge every protective and beautifying responsibility. Arco meets the architect’s most critical demands . . . and relieves him of the trouble of “shopping around”. May we not have an architectural representative call on you . . . soon? Through him every facility of our complete architectural department is yours.

THE ARCO COMPANY, CLEVELAND, OHIO
In Canada—The Arco Company, Limited, Toronto, Ont.
New York Chicago Detroit San Francisco Dallas
OUR gas boiler has seven burners, but at no time have we used more than three of these to keep the house at 70 degrees, day and night."

This statement was made by Mr. William P. Fosdick, consulting engineer of Cincinnati, Ohio, referring to his cork-lined house, the ten-room residence illustrated above. It was built in 1926 and completely insulated with Armstrong's Corkboard, 1 3/4 inches thick on the walls and 2 inches thick under the roof, to insure adequate protection against outside temperatures.

The fuel used is city gas and the record for the heating season of 1927-28 is as follows:

<table>
<thead>
<tr>
<th>Month</th>
<th>Cost</th>
<th>Month</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>October</td>
<td>$12.90</td>
<td>February</td>
<td>$28.75</td>
</tr>
<tr>
<td>November</td>
<td>25.25</td>
<td>March</td>
<td>35.75</td>
</tr>
<tr>
<td>December</td>
<td>34.75</td>
<td>April</td>
<td>24.25</td>
</tr>
<tr>
<td>January</td>
<td>39.25</td>
<td>May</td>
<td>18.25</td>
</tr>
</tbody>
</table>

These amounts include the gas for cooking, water heating, and laundry, or about $8.00 a month, which was the average summer-month cost. The rate is graded from 75 cents for the first 5,000 cubic feet to 50 cents, net, for 25,000 cubic feet and over, per month.

This is a record of remarkable heating economy which alone will repay the cost of insulation in a very few seasons. In addition, there is the assurance of comfort, both winter and summer, and of structural stability, for Armstrong's Corkboard will last the life of the house—moistureproof, fire-safe insulation that does not deteriorate.

Full information furnished promptly on request. Armstrong Cork & Insulation Company, 161 Twenty-fourth Street, Pittsburgh, Pa.; McGill Building, Montreal; 11 Brant Street, Toronto 2.
The lights and shadows of all nature's delicate tints have been reborn in Forestblends. Nature deposited these colors in the Sugar-creek clays. Fire has brought them forth in all their wondrous beauty. A patented process of manufacture gives the random texture of Forestblend. There is no other face brick with exactly the same texture as Forestblend. Certainly none can equal the flare and subtlety, the depth and tone of its remarkable color range. The use of Forestblends enables the architect and builder to secure a particularly practical and beautiful color scheme for any style of architecture.

We would be pleased to send to interested contractors and architects our Bulletin 1000 or 1001 showing actual color reproductions of Finzer Face Brick. The architect, contractor or dealer can vary the color combinations to suit the customer, by simply changing the percentages of the mixture. This is a Finzer service offered without extra charge. Samples gladly furnished upon request.

THE FINZER BROS. CLAY CO.
Members, American Face Brick Association
SUGARCREEK 
OHIO

The Architectural Record, February, 1929
WHATEVER is worth doing at all is worth finishing well. This paraphrase might well be applied to the work of the architect whose creations are the result of training, thought, study, imagination and practical experience.

When Pratt & Lambert Varnish Products are used to beautify and protect surfaces which the architect made possible, he can rest assured that he has chosen wisely and that these enduring materials provide the finishing touch.

A total of 1,089 gallons of Pratt & Lambert products were used on the interior of the new Whitehall Apartment Hotel, 101-109 East Delaware Place, Chicago. Outstanding among these is Vitralite, the Long-Life Enamel, and then follow wall coatings, acid stains and fillers — all contributing to make this apartment hotel more livable and attractive.

How can we aid you? Telephone or write the nearest Pratt & Lambert Architectural Service Department.

Pratt & Lambert-Inc., 108 Tonawanda St., Buffalo, N.Y. (Phone Delaware 6000); 3301 38th Ave., Long Island City, (Phone Stillwell 5100); 320 West 26th St., Chicago, (Phone Victory 1300). Canada: 28 Courtwright St., Bridgeburg, Ontario.
"THE insulating value of an ordinary air space more than about one inch in width is equivalent to about 1/4 inch of insulating material. The addition of a half-inch layer of insulation in the middle of the air space in a frame wall is, therefore, the equivalent of adding about a 3/4 inch layer at some other place in the wall."

In these terms . . positive and unquestionable in their authority . . the U. S. Bureau of Standards Letter Circular No. 227 sets forth the scientific principle upon which the FLAX-LI-NUM two-air-space method of insulation is based. FLAX-LI-NUM is installed between the studs to form two air spaces in the wall . . it increases its own insulating value 50% after it is in place. These facts cannot be side-stepped . . Greater efficiency . . greater home comfort . . and greater fuel economy are the inevitable results of the FLAX-LI-NUM two-air-space method.

May we send you a valuable manual containing full specifications and the transmission coefficients of the various types of walls and roofs?
HERe are many things which, though not comely in themselves, have an intrinsic truth by which they render beauty. The potter’s clay, the common brick, are of that number. The clay needs but the potter’s touch, the common brick the artist’s hand, to burgeon forth in grace.

Door detail of house by John P. Thomas, Portland, Me., Architect

COMMON BRICK MANUFACTURERS ASSOCIATION OF AMERICA
F 2142 GUARANTEE TITLE BUILDING, CLEVELAND, OHIO

These District Association Offices and Brick Manufacturers Everywhere Are at Your Service:

Boston - - - - - 11 Beacon Street
Chicago - - - 220 N. La Salle St.
Cleveland—Ohio Assoc., 2124 Guar. Title Bldg.
Denver - - - - 1725 Stony Street
Detroit - - - 400 U. S. Mortgage Trust Bldg.
Hartford - - - - - 228 Pearl Street
Los Angeles, Calif., 634 Chamber of Commerce
New York City - 1716 Grand Cent. Term.

New Orleans, La. - - 727 Canal Bank Bldg.
Norfolk - - - - - 112 West Plume Street
Philadelphia - - - - - 1430 Walnut Street
Pittsburgh - - - - - 524 Fourth Avenue
Salt Lake City - - - - 301 Atlas Block
Seattle, Wash. - - 913 Arctic Building
San Francisco - - - - - 461 Market St.

That Your Work Shall Live

The bronze illustrated above is issued by the C. B. M. A. through the various district offices. It is given for installation in masonry walls whose materials and workmanship pass an Association inspection. It is at once a cornerstone and a hallmark of sound brick construction. The furtherance of better building is its sole aim and purpose. Your co-operation will assist its success.

A new book, “The Technology of Brick and Brickwork,” has just been completed. It presents all the data of design. Write for a copy. It is free.
Placing The Detached Greenhouse

Being Number One of a Series of Twelve

For the owner who likes his greenhouse near at hand, yet who prefers it detached from his residence, you may find a link-up making use of pergola or colonnade a happy solution.

In this example the greenhouse “belongs” yet is in no way obtrusive. It takes its place as a logical part of a homogeneous scheme. The size of the glass enclosure, 18' x 25', is large enough to be practical, yet small enough to be consistent with the residence, which reflects in its design a merging of motives of the smaller Italian villa and farmhouse.

By “glass enclosing” the pool in the foreground, a well-balanced effect would still be had, and the pool would be made available for use all-the-year-round.

Lord & Burnham Co.

For Four Generations Builders of Greenhouses

Irvington, N. Y. New York Philadelphia Chicago Boston
Buffalo Cleveland Denver Kansas City St. Louis
Greensboro, N. C. Montreal St. Catharines Toronto

The Architectural Record, February, 1929
Defeating Time

with Rust-Resisting TONCAN IRON

ONLY time can tell the life of materials used in the construction of buildings. Rust and corrosion, arch enemies of sheet iron, require years to complete their activities. Therefore, to determine the best material to use, it is necessary to employ accelerated tests to speed up time. True, such tests will not determine the exact life in service, but they will indicate the comparative value of ferrous metals in resisting rust and corrosion.

Results of accelerated hydrochloric acid tests—one of the accepted methods widely used—definitely prove the superiority of Toncan Copper Molybdenum Iron. They show that this Super-Iron lasts many times as long as comparable metals and in fact is the long-lasting ferrous metal in its class.

Consequently, leading architects are now specifying durable Toncan Iron for sheet metal work of every structure they design. It is used for gutters and downspouts, ventilators, cornices, ventilating ducts, metal lath, window frames and many other important building parts.

Write for our new book on sheet iron. It contains practical information of value to every architect.

CENTRAL ALLOY STEEL CORPORATION, MASSILLON, OHIO

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WORLD'S LARGEST AND MOST HIGHLY SPECIALIZED ALLOY STEEL PRODUCERS
Jewett Refrigerators are Famous for the Company They Keep

In a Jewett book of much practical information—which we invite you to write for—you will find a roll call of Jewett installations that is evidence of the fact that Jewett refrigerators are indeed famous for the company they keep.

Refrigerators of unquestioned quality for

Hotels  Hospitals

Clubs  Fine Residences—

and every type of building or institution.

THE JEWETT REFRIGERATOR COMPANY
Established 1849
BUFFALO, N.Y.

The matchless beauty of a Jewett installation is equalled only by its in-built quality. Through and through these refrigerators are built to a standard that eclipses all competition.

Jewells: New York, 16 East 40th St.; Chicago, 318 North LaSalle St.; Boston, 11 Beacon St.; Atlanta, 145 Spring St. N.W.; Cleveland, 106 East 22nd St.; Montreal, 60 Cathcart St.; Toronto, 43 California St.
Strength can be Beautiful

POWER houses as designed today are not mere shelters for heavy machinery. They are show places employed to generate respect and reputation as well as energy.

That is why COLORMIX, which makes concrete more enduring as well as more beautiful, is so widely used for power house floors. Its tile-like gloss and warm colors are ideal for any structure, private or public, where the traffic is heavy, yet appearance is a vital consideration.

THE MASTER BUILDERS COMPANY

Sales Offices in
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Factories at Cleveland, Buffalo, N. Y.,
and Irvington, N. J.

COLORMIX FLOORS

Interior View of Above Substation
COLORED HARDENED CONCRETE

The Architectural Record, February, 1929
CERTAINTY

GUSSWORK, even in trivial details, has no place in modern business. Only through constant definite knowledge, can the production and operating economies necessitated by present day competition be maintained. The absolute certainty with which information is obtained, instructions transmitted, and general routine handled with the aid of Strowger P-A-X, is but one of the factors which has made it supreme in the field of automatic interior telephony. In every line of industry, both great and small, it has become the world's standard of comparison. Strowger engineers will gladly give you facts and details pertinent to your business.

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Automatic Electric Inc.
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The Architectural Record, February, 1929
Yes, you can lift a house by its Sheldon Slate Roof

Any moderate-price residence may be raised to a higher level, a higher class, in beauty, in value, and in permanence of beauty and value, by means of Sheldon's Heather Combination.

That is a roof of comparatively low cost, but possessing all the qualities that make a Sheldon Slate Roof one of "eternal beauty." See it in natural colors on page A-495 of Sweet's, or we'll be happy to send you that page and the other pages showing Sheldon Slate Roofs in colors. For that, and for anything else in connection with the use of slate, we hold ourselves at your service.

F.C. SHELDON SLATE Co.
General Offices, Granville, N.Y.
HERE is being erected in the City of Chicago a totally different housing project fostered by the Estate of Marshall Field, and known as The Marshall Field Garden Apartment Homes. That its name is well chosen will be apparent when it is learned that a beautifully landscaped park, larger in area than a city block, occupies the center of the space enclosed by the buildings. Chicago is proud of this new non-profit venture in housing—and justly so.

How shall one set out to describe this huge undertaking? Its very scope almost takes one's breath away. It covers an unbroken area of two city blocks, and provides homes for more than six hundred families. Its apartments will rent for an average of but $15 per room per month, and yet will have every convenience that modern science can devise for the comfort and convenience of the tenants. Among these is a Dunham Differential Vacuum Heating System, which will warm every room uniformly and comfortably.

The Marshall Field Garden Apartment Homes occupy a site on Chicago's Near North Side selected by housing experts after a most careful survey of the city's available locations. Each room in each building will have outside light and air. The rooms are unusually large. Kitchens are fully equipped with cabinets, gas ranges, mechanical refrigerators, combination sinks and wash tubs, and dumb waiters. All buildings have concrete base soundproof floors, and are fireproof throughout.

A park, a playground and an indoor playroom for the children to romp in, a first aid room for the proper care of their hurts and bruises, a rest room for tired mothers, an auditorium for meetings and parties, a music room, and glass enclosed sun-porches on the roof of each building, are some of the advantages in store for the lucky tenants of this unique project. And the entire cost of more than five millions of dollars is destined to earn a return of but 5% on the invested capital.

Where else in the world will you find anything quite like these new Marshall Field Garden Apartment Homes? Do you wonder that Chicagoans look upon this project with pardonable pride?

Over eighty sales offices in the United States, Canada and the United Kingdom bring Dunham Heating Service as close to you as your telephone. Consult your telephone directory for the address of our office in your city. An engineer will counsel with you on any project.

C. A. DUNHAM CO.
SOLUTION of the housing problem for so many hundreds of families such as the new Marshall Field Garden Apartment Homes provides, without a solution of the heating problem upon which largely depends the health, comfort and physical well being of the tenants, would have been a short-sighted policy. And so you will find that the Trustees of the Marshall Field Estate wisely provided a Dunham Differential Vacuum Heating System as the very finest heating equipment their untiring research had revealed.

Steam will be generated under high pressures, for operating certain mechanical equipment, in a central boiler plant which will be entirely separated from all apartments and located about a block away. A medium pressure steam main will run in a tunnel from the boiler house to the building line where it will divide and run in both directions completely surrounding the ten buildings.

A take-off is made to each building where the main pressure is reduced to two pounds, the maximum required to heat the buildings in the most severe weather. The Dunham Control Valves then reduce this steam to the desired vacuum required to heat the apartments under the prevailing weather conditions. The control valves are adjustable from the boiler room, so that the engineer has control over each building at all times.

This sub-atmospheric steam, temperate as a tropic breeze, never too hot, yet always of sufficient warmth to keep every room at precisely the right temperature for good health and solid comfort, is distributed in each building by basement mains feeding upward to radiators on all floors.

It will not only provide a maximum of healthful, comforting heat, but will effectively prevent the overheating of any room or building, and greatly reduce the ills due to excessively high temperatures, too-dry air which has been robbed of its proper humidity, and chill drafts caused by windows opened to cool off overheated living quarters.

The degree of vacuum carried in the distributing system will determine the radiator temperature and the amount of heat given off to the room. This vacuum is under the control of the operating engineer in the boiler-room and he is thus able to control the temperature in all apartments.

It is significant that the heating of this internationally famous housing project was entrusted to the Dunham Differential Vacuum Heating System, and is further proof of the demonstrated comfort, economy and satisfaction of this system of heating following its installation in approximately 500 leading buildings since its announcement two years ago.
This imposing building is in the Blue Ridge Mountains. The club building and garden walls, fountains, terraces, pavillons, and pergola, all of white Georgia Marble, were erected some eighteen years ago. The fine state of preservation of the building and the surrounding marble details after eighteen years of exposure to the elements, is one of many examples which prove the superior weathering quality of Georgia Marble. Its exceptional durability is due to its impervious character, a quality which is recognized by many eminent architects and sculptors.
CREWE HALL, Cheshire, is justly famous as one of the most splendid examples of the late Elizabethan or Early Jacobean houses. After passing through the hands of many owners, it is still remarkably well preserved.

The ceiling reproduced above, originally in the grand stairway hall of the old house, has won the universal admiration of architects for its wonderful plan and rich detail.

The Second Book of Old English Designs is now ready for distribution to recognized architects and decorators.

Jacobson now in Atlanta

Jacobson & Company announce the formation in Atlanta of a subsidiary, The Jacobson Plastering Corporation. In the contracts with which the Atlanta Company is favored, it is their sincere desire to maintain the same high quality of workmanship which has always been associated with the Jacobson name.

Invitations to bid on the better grade of plain and ornamental plastering work are earnestly solicited from Southern architects and contractors. The Atlanta office, 1128 Candler Building, is fully equipped to estimate promptly and accurately all jobs submitted.

JACOBSON & COMPANY
239-241 East 44th Street—New York
Atlanta—The Jacobson Plastering Corporation, 1128 Candler Bldg.
And again Carnegie Beams were selected

"A man is not without honor save in his own country" has been disproved in Pittsburgh, the home city of Carnegie Beams. The magnificent Koppers Building is one of many imposing structures now under construction in this city of steel, in which these beams form the framework. Here, as well as all over the country, architects, engineers and builders have been quick to recognize the many advantages offered in this modern series.

The Carnegie Beam Series offers two unique features. First, the flanges are of uniform thickness without taper—a factor which permits of simple connections and facilitates fabrication and erection. Second, a complete series of 10" and 12" sections are included, designed for column purposes, in which the various weights have a constant depth. In tier or apartment house construction, constant depth is especially valuable.

The details of splices, girders, floor beams, spandrels, stairwells, elevator shafts, etc., for one floor are identical for successive floors. The economy afforded by this uniformity presents an opportunity for substantial savings. The new Carnegie Beams merit your investigation.

Our handbook "Carnegie Beam Sections" will acquaint you with complete details. We will gladly send a copy at your request.
NOW! THE NEW PIERCE-EASTWOOD
SECTIONAL BOILER

OUTSIDE — Modern! Jacketed! In Colors! Thus, the New Pierce-Eastwood Sectional Boiler meets the modern demand for beauty!

INSIDE — real Heating Economy! Combining time-tested and proven principles of scientific boiler design, the Pierce-Eastwood, a new line of push-nipple boilers, represents the achievement of years of research and experience in the development of efficient heating equipment.

The New Pierce-Eastwood Sectional Boiler will be furnished in sizes ranging from 400 feet of rating to capacities meeting the largest requirements for cast iron boilers.

PIERCE BUTLER & PIERCE MANUFACTURING CORPORATION
41 East 42nd Street
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Western Distributors — The Kellogg-Mackay Company, 1351 W. 37th Place, Chicago, Ill.

PIERCE-EASTWOOD
BOILERS AND RADIATORS
The New York County Court House may be said to symbolize the permanence of Justice, the majesty of the Law, the solidity of American Institutions. As in other court houses, architecturally distinguished, H&H Switches control the lighting and symbolize the permanence of the architect's work.

Let us send you "Catalogue T," listing these switches with complete Wiring Device references.

THE HART & HEGEMAN MFG. CO.
HARTFORD, CONN. MAKERS OF ELECTRIC SWITCHES SINCE 1890

The Architectural Record, February, 1929
That is the assurance of 
TRIMOUNT 
SOUND INSULATED 
DOORS

THESE doors have been developed by America's oldest Veneered Door Specialists to meet the increasing demand for a practical sound retarding door.

Prompt deliveries can be made in any wood, to meet the requirements for all buildings where sound insulated doors are necessary.

Write for descriptive circular and refer to our complete catalog in the 1929 SWEET'S.

THE COMPOUND & PYRONO DOOR CO.
ST. JOSEPH, MICHIGAN
Manufacturers and Sales Agents for the Boston Acoustical Engineering Company
Agencies in principal cities.
In the great Boston fire of 1872 the marble front of the Macullar Parker Company building was the only structure left standing between Washington Street and the Boston Light. It served as a barricade against the batteries of flame.

Back of that marble wall the Macullar Parker Company built a new business home. A few years ago the property was sold to the William Filene Sons' Company. It was remodeled and enlarged but the original stone—after seventy-five years of service—was reset in the new front. Other marble to match it was brought down from the Vermont quarries, thus enabling Boston to retain an old landmark.

Entirely apart from its beauty, marble is worth all it costs as an investment in permanence.

Vermont Marble Company—Proctor, Vermont
Branches in the larger cities
See Sweet's Architectural Catalogue for Specifications and other Data

VERMONT MARBLE
used from sidewalk to skyline in facade of these distinguished apartments, Ridge Avenue, Chicago. Capraro & Komar, Architects. Key plan shows extent, terra cotta facing. The ashlar, of rugged texture, is light, grey-green color in mottled finish. Base emerald green; tower panels variegated. Window, and other trim, of ivory color, mottled finish, smooth texture. Unusual demand for space, these buildings, is due to brightness and charm of architectural treatment—rich in color, unique in texture, permanent in beauty.
Method of installing ROBRAS 20-20 Radiators in four-inch recesses under the windows.


ROBRAS 20-20 Designed To Be Accepted As THE Concealed RADIATOR

Why is it so accepted?

Because it was designed with the problems of the architect in mind. Realizing that the architect is loath to change his plans to fit in "units" of given dimensions, we assemble the ROBRAS 20-20 Radiators to order, to fit in almost any shaped space.

There are nine section lengths, from eighteen to seventy inches. They are rated from five to twenty-five square feet per section. If a single section is used, it is only eight inches high and two and one-quarter inches deep. If sections are added laterally, each of the sections adds only one and one-half inches to the original width. This is because the fins of each section interlink.

ROBRAS 20-20 Radiators are usually ordered two tiers high, two sections deep, and of the length nearest to the space available. Thus, they fit easily under a window and in the standard studding.

Additional information on these radiators can be had from your A.I.A. File, from Sweet’s, or from inquiry direct to us. If you do not have our Engineering Data Sheet, we suggest that you allow us to send it to you.

ROME BRASS RADIATOR CORPORATION
ONE EAST FORTY-SECOND STREET - NEW YORK, N. Y.

The Architectural Record, February, 1929
HAVE YOU USED
NATCO VITRITILE?

IT'S THE VOGUE

Month by month, in ever-increasing numbers, people are discovering the many virtues of Natco Vitritile. Recognizing the possibilities it possesses of contributing new and striking effects. Welcoming the opportunities it affords for outstanding economies in construction, and permanent freedom from high maintenance.

Combinations of the various shade blends, which range from light cream buffs through yellow and orange buffs to a rich brown, are particularly harmonious, practical, and pleasing. All units are true to shape, without warpage or surface imperfections. Corrugated wrappings protect from damage in transit.

Natco Vitritile is a structural unit, for use in both exterior and interior load-bearing and non-structural walls and partitions. It is furnished in a multiplicity of shapes and sizes, with one or both faces glazed, and kerfed or split for furring.

If you haven't already used Vitritile, investigate its possibilities; it's the vogue.

NATIONAL FIRE-PROOFING COMPANY


Branch Offices: New York, Flatiron Bldg; Chicago, Builders Bldg; Philadelphia, Land Title Bldg; Boston, Textile Bldg.

In Canada: National Fire Proofing Co. of Canada, Ltd., Toronto, Ontario

PAGE A383

TURN TO "SWEET'S"

The Architectural Record, February, 1929
NOW—12,245 Windows in 41 Large Hospitals
Have Williams Reversible Window Equipment

WILLIAMS Reversible Window Equipment has been serving a large number of hospitals for a great many years. Note the increased volume in the past few years as shown in the chart. It is enabling these hospitals to make a substantial saving annually in cleaning costs because it allows all cleaning to be done from inside the room. A recent test at Mt. Sinai Hospital, Cleveland, O., shows that Williams Reversible Windows are cleaned in 40% less time than is required to clean ordinary windows of equal size. Williams Equipment also provides an easily controlled system of draftless ventilation.

You are invited to write us or any of the hospitals listed below, for further information.

(Partial list of Williams equipped hospitals)

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<th>Hospital Name</th>
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<td>Lakeside Group</td>
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<td>St. Anne's Hospital</td>
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For 25 years manufacturers and installers of reversible window equipment

THE WILLIAMS PIVOT SASH CO.

WILLIAMS REVERSIBLE WINDOW EQUIPMENT
Clean Your Windows from the Inside

East 37th St. at Perkins Ave., Cleveland, Ohio

The Architectural Record, February, 1929
AN ARCHITECTURAL EXPRESSION OF STRENGTH AND BEAUTY IN BARRE GRANITE

THE CITIZENS SAVINGS BANK
BOWERY & CANAL STREETS
NEW YORK

CLARENCE W. BRAZIER, Architect
MARR & GORDON, INC., Granite Contractor

MARR & GORDON, INC.
GRANITE MANUFACTURERS
BARRE, VERMONT
AUSABLE FORKS, N. Y.

Established 1883

The Architectural Record, February, 1929
Start right

Visualizing your building from the plans before you, think awhile on the panelboard question. All makes of panelboards are not alike and cannot give the same service.

Decide now the length of good life without maintenance you want the panelboards to have. Choose now your service requirements and consider safety. With Panelboards and switchboards you can know these things, yet their high quality standard will not add to your costs.

A good start is an estimate giving the right price first, promptly. A price that is based on known costs, a full value for your panelboard dollar.

Send for the nearest man who can help you on panelboard and switchboard details.

Frank Adam
ELECTRIC COMPANY
ST. LOUIS

DISTRICT OFFICES:
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New York City
Omaha, Nebr.
Pittsburgh, Pa.
Richmond, Va.
San Francisco, Calif.
Seattle, Wash.
St. Louis, Mo.
Toronto, Ont.
Vancouver, B. C.
Winfield, Ont.
Winnipeg, Man.
This in No. 605, an attractively designed wall-type Halsey Taylor fountain with automatic stream control, used throughout the Missouri Pacific Building, St. Louis. (E. M. Tucker, Architect; Maasran, Russel & Crowell, Associate Architects.)

In the noteworthy plaza development in St. Louis are many distinguished buildings that are gradually transforming the skyline of this Southwest metropolis. Among them is the Missouri Pacific structure, a splendid example of set-back architecture. The architects, with paramount regard for sanitation, selected Halsey Taylor fountains for this building, The Halsey W. Taylor Co., Warren, Ohio.

HALSEY TAYLOR
Drinking Fountains

The Specification for Sanitation
How would you design a door of this beautiful hardwood? Its natural shades are rich dark red, or light red. The narrow ribbon grain is typical of the finer mahogany, Philippine Laminex, although used for years in cabinet wood, has only recently become available for building. On the Pacific Coast, today, it is proving a sensation.

These Awards in Cash

$500.00 for the clearest concept of tomorrow's door design (winner of this prize not eligible for additional award in the following competition)

* * *

$150.00 for the best new door design for a home
$50.00 for the second best door design for a home

* * *

$150.00 for the best new door design for a commercial building
$50.00 for the second best door design for a commercial building

Conditions of the Competition

The Jury of Awards: Mr. William Zorach, sculptor, New York; Mr. Henry S. Churchill of Thompson & Churchill, architects, New York; Mr. Howard Raftery of Frazier & Raftery, architects, Chicago. There will be no appeal from the decisions of this Jury. If, however, two contestants are deemed equally worthy of any award, both will receive the full amount of that award.

Prize Payments: The Wheeler, Osgood Company will pay the winners immediately after receiving the Jury's judgment.

Requirements: Designs must be for interior doors and of a nature fitted to the use of Philippine Laminex. Door trim in this competition considered a part of the door design.

Drawings may be in line or wash, or both. Indicate all scales graphically.

To preserve the anonymity of drawings, each is to be signed with a nom de plume or other identifying device which is also to be written on the outside of a plain white envelope containing the competitor's name and address.

Drawings may be sent flat or rolled and are to be addressed to The Wheeler, Osgood Company, Dept. of Design, Tacoma, Washington.

The competition closes at midnight, April 30, 1929, at the above address. No entries received after that time can be considered.

Designs awarded prizes become the property of The Wheeler, Osgood Company for publication or any other use. Other drawings will be returned to the senders if requested and return postage is included.
ARCHITECT IN AMERICA
CAN BEST ENVISION IT?

$500.00 will be awarded him, $900 in all to winners of a competition on
designs for interior doors of beautiful
Philippine Laminex

Here is a competition worthy of your thought. Announced last month, it
has caught the attention of architects, designers and editors all over the country.

Embracing door design as conceived today, it holds the greater interest of speculation upon the
interior door of tomorrow.

And that is not idle speculation. Door proportions, door designs even now are radically
changed for "modern" homes. Surely we may expect something new in future office buildings
that may pyramid a hundred stories above the city streets.

And so we seek now the door of tomorrow, inviting architects
everywhere to put down their ideas of it.

A New Wood to Work With

In this competition you have, too, the inspiration of working
with a new wood—the wood of tomorrow, Philippine Laminex.

Used for some years by cabinet makers, put into wider uses only
recently by Pacific Coast architects, Philippine Hardwood is
just now being made available to architects and builders everywhere.

Displaying the narrow ribbon grain of fine mahogany, in either
light or dark red natural shades, yet costing considerably less
than mahogany heretofore used, Philippine Laminex will charm
you with its beauty and will im-
press you with its practicability.

It is to reveal the magnificent possibilities of this wood that this
competition is being held.

As pioneer importers of Philippine Hardwood, as the largest
door manufacturers in the world, we cordially invite you to share
in those discoveries.

Your better knowledge of Philippine Laminex will doubtless
lead you into its specification for
some local job, give you the
honor of introducing it into your community.

But, more than that, we would
like you to share in the creation of a Philippine Laminex door
that will establish a new note in the beauty of its conception,
in the purity of its design.

For the best such design we
shall pay $500.00 in cash.

Winning that prize, you will
not be eligible for award in the
two following classifications, but
failing in competition for the
grand prize, you may win $150.00
for the best new door design for
a home or $50 for the second best
design. Or you may win $150.00
for the best new door design for
a commercial building or $50 for
the second best design.

The rules are simple, established only in fairness to all con-
testants. Notable judges have been selected. There is time for
you to study the problem thorough-
ly if you start now.

Ask a local millwork dealer to
show you Philippine Laminex or
send the coupon for a free sam-
ple and descriptive literature.

The Architectural Record, February, 1929
Stating
Problem XIII

Required: A material with texture suitable for the floor of a conservatory-like extension to a private ballroom. Material must, in spite of texture, take a smooth, waxed finish suitable for dancing. It must be resilient under foot. The material must not be cold beneath those who are resting from dancing. Must, above all, be in keeping with luxurious decorations.

The PROBLEM Solved

SUCH requirements for the Park Avenue Apartment of Condé Nast, Esq., were easily met by Zenitherm. Its resiliency under foot, combined with its stone-like texture, made it the most suitable material for the use to which it was put.

The floor was laid of gold, drab, olive, and natural Zenitherm in a random "T" pattern. It is richly inconspicuous, fitting in perfectly with the decorative scheme. It is comfortably warm under foot, a fact much appreciated by Mr. Nast’s guests who rest from dancing at the little tables beneath the windows. Zenitherm has a wide color range and a most pleasing texture. It is long wearing, fire resistant and not affected by water or weather. It is an excellent insulation against heat or cold. It comes in fourteen standard colors. Other colors can be made up to architect’s special order. Samples of colors and a booklet describing interesting installations are available to those who send us their names.

A. F. H. R., President

Zenitherm in random “T” pattern as used in apartment of Condé Nast, Esq.
AN APARTMENT IN TRUE ENGLISH STYLE

by
ROBERT DE GOLYER

Set deep in the Bedford limestone facade—Fenestra Casements accent the modified Tudor Gothic style of this distinguished new Chicago apartment building. They give the exterior the stately charm of an old English manor; add sunlit beauty and supreme comfort to the interior.

Because they are built of narrow, solid steel bars, Fenestra Casements provide more light in the same sized window opening, or the same amount of light in a smaller sized window opening. This is a tremendous advantage in the conservation of wall space so necessary in most apartments.

More light, better control of ventilation, easy washing from within and inside screens which protect the draperies are only a few of the reasons why discriminating architects specify Fenestra Casements. These all steel windows open wide at a finger touch yet close snug against cold and storm—all without warping, shrinking, sticking or rattling. They offer unlimited possibilities for attractive decorating effects.

Fenestra Casements simplify the architect’s design problem, too. For they lend themselves to endless interesting groupings. And that is a wonderful advantage in developing a satisfying elevation for a twenty-four story building such as this.

To give the architect every possible aid, the complete Fenestra Blue Book has been included in Sweet’s catalogue.

DETROIT STEEL PRODUCTS COMPANY
2303 East Grand Boulevard, Detroit, Michigan
Factories: Detroit, Mich., and Oakland, California. Convenient warehouse stocks.

Fenestra casement windows

The Architectural Record, February, 1929
Towering thirty-one stories above Minneapolis' street level, the new Foshay Tower proclaims again the efficiency and economy of Meyer Steelforms.

In erecting this great structure, 120,000 square feet of these sturdy, easily-removed steelforms were used.

Architects and contractors specify Meyer Steelforms with full confidence that the reinforced concrete work will be adequately executed. Depend on them and Ceco Super-Service next time. Call our nearest office or write 1141 North 11th Street, Omaha, Nebraska.

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Architects and Engineers
ROOPER & JANUSCH INC., Chicago
Associate and Consulting
Architects and Engineers
NATIONAL CONTRACTING CO., Minneapolis
Contractors

The Architectural Record, February, 1929
Three views of the Arlington Memorial Bridge at Washington, D. C. being built by the Federal Government at a cost of $15,000,000. McKim, Mead and White, architects. Entire facing of masonry arches, parapet, and the architectural features of the bridge's plaza and approaches will be of granite. Views from top of page to bottom, show detail of granite piers, general view of bridge and storage of granite at the site.

Because of the extraordinary care with which this work is being done it is estimated that four and one-half years will be required to complete the main bridge. The specifications state that the class of work usually found in bridges will not be acceptable "and require that all granite be set within five one thousandths of a foot of true line and grade."

National Building Granite Quarries Association, Inc.

STUDIES IN GRANITE

On request a complete folio of these Granite Studies will be reserved for you

The Architectural Record, February, 1929
When the Fred F. French Companies built their own home

When the Fred F. French Companies built the Fred F. French Building at 551 Fifth Avenue, New York, a Jennings Vacuum Heating Pump was specified on the return line of the heating system.

The size E duplex unit was installed, suitable for 65,000 sq. ft. equivalent direct radiation. Since only one separating tank for the wet returns is needed, the space occupied by the Jennings duplex equipment is hardly more than that required for a single unit.

Fred F. French Building, 551 Fifth Avenue, New York, N. Y. Financed, designed, constructed and managed by the Fred F. French Companies. Clyde R. Place, consulting heating engineers; Baker-Smith & Co., heating contractor.

Jennings Return Line Vacuum Steam Heating Pump, duplex type, size E, serving the Fred F. French Building.

Jennings Pumps

THE NASH ENGINEERING CO 13 WILSON ROAD, SOUTH NORWALK, CONN.

The Architectural Record, February, 1929
ARCHITECTS' ANNOUNCEMENTS

McKim, Mead and White, architects, 101 Park Avenue, New York City, announce the admission to partnership of James Kellum Smith.

Van F. Pruitt and Louis A. Brown, Jr., announce the formation of the partnership of Pruitt and Brown, architects, 342 Madison Avenue, New York City.

R. C. Hugenin, formerly supervising architect of the state of Montana, has associated with George H. Shanley, architect, Great Falls, Mont., and Fred F. Willson, architect, Bozeman, Mont., under the name of Shanley, Willson & Hugenin, architects and engineers. Mr. Hugenin will be in charge of the firm offices in the Administration Building, 111 North Montana Street, Butte, Mont., where he wishes to receive manufacturers' samples. Mr. Shanley and Mr. Willson will continue the offices at Great Falls and Bozeman as before but under the new firm name.

Carl E. Segerberg and Michael J. Hoffmann, architects, have formed a partnership under the firm name of Segerberg & Hoffmann and will maintain an office in the Washington Building, 438 Main Street, Middletown, Conn.

Fred C. Medicus-John H. Samuels, A.I.A., Limited, announce the removal of their architectural offices from 211 Chapel Place to 216 Mahoning Bank Building, Youngstown, Ohio.

William E. Fisher and Arthur A. Fisher, architects, announce the removal of their offices to 827 Denver National Building, Denver, Colo.

Announcement is made of the dissolving of the partnership of Philip Lindsley Small and Charles Bacon Rowley. Mr. Small will continue the practice of architecture under the name of Philip Lindsley Small and Associates at 1508 Terminal Tower, Cleveland, Ohio. Mr. Rowley has opened an architectural office in the Keith Building of that city.

Word has been received of the death of John W. Columbus, architect, of Paintsville, Ky. The firm, John W. Columbus & Son, architects and contractors, will be discontinued.

Clarence M. Nutting, architect, has moved from 29 Marshall Street to Hazian Building, 4 West Avenue, South Norwalk, Conn.

David J. Wymber and Loyall F. Watson, architects and engineers, announce the removal of their offices to Suite 503, Architects Building, Los Angeles, Calif.

Homer H. Knodle, commercial artist, has opened a studio in Fort Wayne, Ind., for the preparation of renderings, perspectives and plaster models for the architectural profession exclusively.

Beckett & Akitt, architects, have changed their address from 406 Temple Building to 330 Michigan Theatre Building, Detroit, Mich.

Lewis J. Sarvis, architect, announces the removal of his offices from 63 East Michigan Avenue to Suite Three in the Bromberg Building, East Michigan Avenue at Monument Square, Battle Creek, Mich.

Carl Regler, architect, announces the removal of his office from the West Virginia Utilities Building to the Titus Building, High and Fayette Streets, Morgantown, W. Va.

Howard Greenley, architect, formerly of 125 East 54th Street, New York City, has virtually retired from active practice in architecture and requests that manufacturers remove his name from their mailing lists.

Edward A. Nolan, architect, announces the removal of his office from 310 Thomas Building, Midland, Tex., to 207-8 Security Building, Phoenix, Ariz. Manufacturers' samples are requested.

Cyril Bennett and Fitch H. Haskell, architects, announce the removal of their offices to 311 First Trust Building, Pasadena, Calif.

George P. Turner and Edward D. Slater announce the formation of a partnership for the practice of architecture, under the firm name of Turner and Slater, architects. Offices are at 1212 Martin Boulevard, Birmingham, Ala.

The address of Arthur C. Munson, architect, has been changed to 312 Westlake Park Building, 2024 West Sixth Street, Los Angeles, Calif.

Bayard M. Smith, architect, of 914 College Avenue, has moved to 513 Construction Industries Building, Dallas, Tex.

The correct address of Theodore Brent, engineer, is Room 80-B, Hotel Roosevelt, New Orleans, instead of Mississippi-Warrior Service, 324 Customhouse, New Orleans, La.

Brandon Smith, R.A., announces his association in partnership with Harold O. Reif for the continuation of Mr. Smith's architectural practice at 429 Penn Avenue, Pittsburgh, Pa. Mr. Reif will devote himself to the executive administration of the firm.

L. Kopczynski, C.E., has moved his industrial architect and engineering office to 729 Colonial Building, 100 Boylston Street, Boston, Mass.

Herbert M. Greene, of the Herbert M. Greene Company, architects, announces that he has taken into copartnership, for the practice of architecture, his former associates, Edwin Bruce LaRoche and George Leighton Dahl, under the firm name of Herbert M. Greene, LaRoche & Dahl, with offices in the Construction Industries Building, Dallas, Tex.

Oman & Lilienthal, architects and engineers, have moved from the Garrick Theatre Building, to new studios and offices, Suite 1410 Tribune Tower, Chicago, Ill.

The Architectural Record, February, 1929
Look Forward

The originality, practicability and harmony you are creating in your new bank or commercial buildings will be carried through to completion when you specify "CLEMCO" Desks and Fine Office Suite Furniture.

Look Forward. Choose from the many rich "CLEMCO" designs and give that final touch so important in creating the desired impression.

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PENNSYLVANIA

LIMESTONE COPING

GRANITE

BRICK COPING

CEMENT

FOXCROFT

BRICK COPING

CEMENT

GRADE IN SERVICE COURT

GRASS AT WALL LINE OF ROAD

DETAIL OF BRICK COPING

10'
GATE TO SERVICE COURT

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEGS, ARCHITECTS
ALL BUILDINGS have a function to fulfill but Architecture is the aesthetic fulfillment of that function. Yet, functions vary as the poles asunder, as, for example, a church spire differs from a chimney stack, and while we may apply an unlimited amount of architectural ornament to the chimney stack, yet we cannot make it the same as the church spire.

Architecture, like Sculpture, must be modeled and arranged until it achieves shape.

As a church spire is to a chimney stack, so may we consider collegiate architecture to commercial architecture—with which we are all too familiar. If the former fails to be aesthetic, if it fails to have shape, harmony, and inspiration, it fails to be architecture.

In this building, the principal element is the Great Hall, which dominates the scheme within and without. Around and against this the other elements are arranged: the Foyer to the south, the Students’ Wing to the north, the Stage Entrance to the east, and to the west, the Music Wing, pushing against the main mass from below and holding it from slipping from its position. These lesser architectural elements buttress the main architectural element, precisely as the stone buttresses on the outside brace the great flying arches which are within, and these in turn support the roof with its stone flèche which dominates all. So it builds up from the ground to its pinnacle and accent.

A stone flèche held aloft in the air grips the imagination more than one made of a lighter material, because, consciously or unconsciously, the mind and the senses seek for its support. And the support is there, namely, the double stone arch in the center of the interior. So we find that the whole building works towards the support of its highest point.

Nothing is more stirring in architecture than its silent stresses and strains. And when we walk along the Music Walk on the west side of the building we are passing through them, and when we enter, we are sitting under them.
The four flying arches in the interior, the doubled flying arch in its center, and the stone flèche, high above all, constitute the architectural heartbeats of the whole.

The above was written after the signing of the contract and before the turning of the first sod; and a friendly architect made the friendly comment that perhaps the written word might prove to be the best thing about the whole building.

There were two main sources of inspiration: one, the Ponte del Diavolo in Italy, and the other, a barn in France. The Ponte del Diavolo is a triple arched medieval bridge spanning a torrent stream, with its main arch flying high above the water and supporting a nine foot roadway, ascending and descending a steep incline from the banks to the crown of the arch, which is so thin that it looks as if it might break but doesn't. The barn is the typical shape with the low walls and the great roof.

Everything else flowed along in the wake of these two main ideas, and, in order to give them emphasis, the barn was set to strip the building of detail as far as it was possible and to use only the simplest and sturdiest of materials.

Stone, Iron, Wood.

Goodhart Hall is built almost entirely of these three and their relatives. The ashlar itself is what is commonly known as Chestnut Hill stone, except that it comes from the Foxcroft quarry three miles from...
Bryn Mawr and fifteen from Chestnut Hill. The environs of Philadelphia are rich in this material and the veins extend a long way. Limestone trimmings, a slate roof, flagstone walks and floors in abundance, and a Belgian block pavement spread like a stone carpet in front. Inside, more flagstone floors, concrete and mason dashing; all of the stone family. Almost all the interior walls are covered with mason dashing, which is no more than cement plaster applied by the mason with a trowel, and of its own natural color, namely a yellowish gray, produced by the cement and the bright yellow Jersey gravel. Everything enumerated above except the slate is put on or laid up by the mason.

Pink granite Belgian blocks greet us on our arrival, and so modest and retiring are they that we might forget to notice that we are stepping on them, but were they absent, we should miss their color and texture. Unobtrusively, they tell the motorist which way to go, and they play a part practically and aesthetically as important as do the foundations structurally.

Next comes the concrete, a mixture of stone and iron concealed. These arches are not really arches, but in truth, curved concrete beams in the shape of an arch. They thrust at the bottom, but if it were not for the thousands of pounds of reinforcing iron in their cores they would break up through the roof at their thinnest point. One main thing about the surface, and that is, that it had to remain untouched after the removal of the forms, bubble holes, honeycombs and all. This being assumed in the beginning, the forms were of dressed
WEST STAIR TOWER
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
MAIN ENTRANCE DOORS
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
CENTRAL DOOR AND FROST CRYSTALS
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
EAST SIDE
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
FRONT ENTRANCE

BEGINNING OF MUSIC WALK
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
VIEW OF AUDITORIUM FROM THE STAGE
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
VIEW OF AUDITORIUM FROM THE BALCONY
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
THE FOYER
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
UNDER THE BALCONY
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
lumber with their joints running radially. After concrete comes wood, and there is not much of it, but what there is, is stout and strong. Yellow pine for the roofs and balcony and oak for the doors.

Finally, we come to the iron, left to the last on purpose. Two huge twisted iron ropes hold up the balcony. Rivets, bolts and bosses hold the doors together; hinges the wrought iron work of one Mr. Samuel Yellin, master craftsman, to achieve a craftsman’s purpose. We cannot have a design consisting only of accents, no matter how fond we may be of them; nor can we have nothing but plain surfaces and backgrounds. We must have both, and the two must be inter-related.

What does architectural design boil

carry them, shoot bolts, pulls and thumb latches operate them; and so on through the stair-rails and lamps and brackets of many different descriptions. And why were all these surfaces of stone and concrete, plaster and wood left so plain and unobtrusive? Why indeed, other than to allow down to but to have a want, to find an idea to fit it, to clothe and build the idea in materials, and to seek to make the materials harmonize, to apportion to each material the job that it is fitted to do, and to try to leave all the materials comfortable and happy in the end?
PORTFOLIO
OF
CURRENT ARCHITECTURE

Buttresses on East Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
West Elevation

Goodhart Hall, Bryn Mawr College, Pennsylvania

MILLER & ASBRO, Architects
Main Entrance to Auditorium
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIOS, ARCHITECTS
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
East Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
The Music Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
Stair Gable
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
Detail Drawings
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
Balcony on Music Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
Detail Drawings
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
View from beneath the Organ Chamber
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
SECTION 3-6
DETAIL OF STAIR HALL
MALJORIE WALTLE GOODHART HALL
BRYN MAWR COLLEGE PA
MELLOR MEIGS & HOWE ARCH'TS
PHILADELPHIA PENNA
East Entrance
Goodhart Hall, Bryn Mawr College, Pennsylvania

MELLOR & MEIGS, ARCHITECTS
Built in 1928
In memory of
MARJORIE WALTER
GOODHART
of the class of 1912
Stage Scenery Door
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
Detail Drawing of Lamp
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
Green Room Entrance
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
Pinnacles
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
The Fleche
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
Bird's Eye View of Music Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
Deck over Foyer
Goodhart Hall, Bryn Mawr College, Pennsylvania

MELLOR & MEIGS, ARCHITECTS
Stairway and Balcony
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
Common Room Fireplace
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
DOOR FROM AUDITORIUM TO MUSIC WALK
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
ORCHESTRA PIT AND STAIRS TO STAGE

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS
GARGOYLES SEEN THROUGH A WINDOW
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
STAIRS TO BALCONY
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
ENTRANCE TO COMMON ROOM
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
The open site of the 333 North Michigan Avenue Building gives it a striking prominence which the architects have emphasized by placing a tower on the plaza end. The axial relation of the plot to the bridge opposite and the limited width on Wacker Drive, determined by Michigan Avenue on the west and by Beaubien Court on the east, give a sentinel quality to the structure.

Because of the relatively small area, 62 by 200 feet, economy of space demanded even greater consideration than is usual for buildings of its type; therefore the entrance and the elevator lobbies were placed in the center of the length to permit the most flexible and economical subdivisions with a minimum amount of corridor space. And because of the possibility of an eastern addition the elevators were located on that boundary in order that they might be continued in the new part.

The lot area is 12,300 square feet with the renting area of a typical floor ranging from 9,400 to 9,700 and comprising slightly over 77 per cent of the whole. The total renting area is 273,600 square feet. The tower occupies one-fourth of the ground. Column spacing is approximately 17 feet throughout, allowing subdivided offices of eight feet in width. There are four local elevators running to the twelfth floor and
six express elevators to higher floors. The major block of the building rises twenty-four stories above the upper Michigan Avenue level (260 feet) and the tower extends eleven stories higher, reaching a total of 426 feet. The first three stories are devoted to shops and the remainder to offices. On the lower level of the avenue is a storage floor serving the shops above. Under this is a large undivided floor for club purposes and a two-story boiler room, forming a total depth of 43 feet below the upper avenue level. The first story height is 13 feet 6 inches, the second is 11 feet 6 inches, and the third, 11 feet 2 inches. Typical stories are 10 feet 10 inches floor to floor. Oriental Granite from Rockville, Minnesota, was used as a facing for the base of the structure; the colors are black, purple, mauve, gray, and pink. The show windows and outer frames of the main entrance are constructed of cast iron. Bedford Indiana Limestone of a buff color and with a shot-sawn finish is used for the remainder of the exterior except where terra cotta spandrels fill certain spaces between windows and where portions of the eastern side are faced with brick.

The carved stone work is sculptured in a modern manner, flat, sharply incised, and cut back of the wall face with the crisp, chiseled lines throwing shadows which can be distinctly seen from a distance. In the carvings at the sixth floor the growth and history of Chicago are symbolized. In the entrance and elevator lobbies are floors patterned in Traitel Terrazzo, and the entire walls are covered with large slabs of Greek Verde Antico. Bronze is employed for the frames of the show windows, elevator doors, grilles, mail box and chute, stair railings, moldings at the cornice line and at intersections of corners, and for the panelled grilles on the ceilings, which are of ornamental plaster. The typical corridors have the same flooring as the main lobby, are wainscoted to a height of 7 feet 2 inches with Vermont Colonial Marble, and have a base of Vermont Cipilon Marble. Their ceilings are of plaster with coved cornices. Doors, transoms and trim are of mahogany. The office floors are finished with a smooth cement to receive covering materials chosen by the lessees.

The design problem presented in this building was not radically different from that of many others; it was to be merely another rentable office building. Therefore no especially original composition resulted. However, this handling of the exterior lines, of the masses, and of the set-backs required by the zoning ordinance, is one more natural interpretation of present-day practical construction.
BUILDING AT 333 NORTH MICHIGAN AVENUE, CHICAGO
HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS
ENTRANCE DETAIL
BUILDING AT 333 NORTH MICHIGAN AVENUE, CHICAGO
HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS
ENTRANCE CORRIDOR
BUILDING AT 333 NORTH MICHIGAN AVENUE, CHICAGO
HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS
CONFERENCE ROOM IN OFFICE OF MESSRS. HOLABIRD & ROOT
BUILDING AT 333 NORTH MICHIGAN AVENUE, CHICAGO
HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS
THE TAVERN CLUB
AT
333 NORTH MICHIGAN AVENUE, CHICAGO

PLAN OF TAVERN CLUB ON TWENTY-FIFTH FLOOR OF BUILDING

SMOKING ROOM
CARD ROOM

TAVERN CLUB, 333 NORTH MICHIGAN AVENUE, CHICAGO
HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS
WINOLD REISS, INTERIOR ARCHITECT AND DESIGNER
THE DINING ROOM

TAVERN CLUB, 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROOT, ARCHITECTS; WINOLD REISS, INTERIOR ARCHITECT AND DESIGNER
LOUNGE AND READING ROOM
TAVERN CLUB, 333 NORTH MICHIGAN AVENUE, CHICAGO
HOLABIRD & ROOT, ARCHITECTS; WINOLD REISS, INTERIOR ARCHITECT AND DESIGNER
MANTEL IN LOUNGE

TAVERN CLUB, 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROOT, ARCHITECTS; WINOLD REISS, INTERIOR ARCHITECT AND DESIGNER
ALLIED ARTS
AND
CRAFTSMANSHIP

MAIN CHANDELIER FROM BELOW
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
SAMUEL YELLIN, IRON CRAFTSMAN

Featuring
GOODHART HALL, BRYN MAWR COLLEGE

§ 167 §
LAMP FOR SUNKEN GARDEN
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN
MAIN ENTRANCE LANTERN
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN
HINGE AND HANDLE FOR FOYER DOOR

SIDE BRACKET IN AUDITORIUM

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN
ORNAMENTAL IRONWORK
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN
RING AND BOSSES ON SCENERY DOOR
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN
WOOD AND IRON DOOR
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN
DETAIL OF MAIN ENTRANCE DOORS
MARJORIE • WALTER • GOODHART • HALL
BLYN • MAWR • COLLEGE • PA
MELLOR, MEIGS & HOWE • ARCH'TS
PHILADELPHIA • PENNA.
A SEVENTEEN-STORY APARTMENT BUILDING
STUTTGART, GERMANY
Sketch by Francis Keally
A MODERN BUILDING IN DESSAU, GERMANY
CEMENT CONSTRUCTION

NEW COMMERCIAL BUILDING, STUTTGART, GERMANY
BUILT OF LARGE BLOCKS OF TRAVERTINE
Sketches by Francis Keally
RICHMOND GARAGE, RICHMOND, VA. (DOUBLE SPIRAL RAMP)
LEE, SMITH & VANDEVOORT, ARCHITECTS

Featuring
GARAGES

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GARAGES
(Standards for Design and Construction)

Compiled by the Editorial Staff of The Architectural Record, with collaboration from E. P. Goodrich, consulting engineer; G. W. Rand, engineer for Ramp Building Corporation; H. L. Woolfenden, mechanical engineer; Horace L. Smith, Jr., engineer Auto Ramps Corporation of Richmond; Arthur Brace, Construction Engineering Department of the Tide Water Oil Co. and others.

The appropriate and characteristic expression for garage design will be attained by architects without conscious effort. Ferro-concrete construction with the demarcation of floor levels, steel sash and the omission of cornice and base will endow the garage with frankness and modernity.

There should be no applied ornament and the surface treatment where concrete is used should be no other than that suggested by the nature of the material.

The garage may well attain a new and distinctly expressive form, indicating its practical function. "Modern architecture of our time seeks to devise form and motives from purpose, construction and materials. If it is to give clear expression to our feelings, it must also be as simple as possible."

COMMERCIAL GARAGES

I. INDEPENDENT COMMERCIAL GARAGES

(A.) ECONOMIC FACTORS.

The commercial success of the public garage depends upon proper balance between construction cost and efficiency of layout. To aid in determining this relationship and to ascertain other factors which will influence the design, the architect should first make an analysis of the conditions in the district where it is proposed that the garage be built. The "Outline for Garage Survey" indicates the scope of such a study.

The effects on design, of the facts brought out by this survey, are discussed below.

1. LOT COST IN RELATION TO BUILDING HEIGHT.

To show a normal profit on the investment, for buildings up to and including 6 stories in height, the lot cost should not exceed cost of building. (This is a rule of thumb and serves only as an approximate basis for analysis.) The relation of lot cost to cost of building may be expressed in the form of an equation in which

where

$7.50 = X$2.50 $12.00 = X$2.50 $15.00 = X$2.50 $2.50$L = cost of lot in dollars per square foot.
B = cost of building in dollars per square foot per floor.
X = minimum number of stories for reasonable profit.

For buildings up to and including six stories, the items above when reduced to a formula are

$L = \frac{B}{X}$

For buildings in excess of 6 stories in height the following equation is used:

$L = \frac{(B \times 6)}{B + 2} + 6 = X$

To illustrate the use of these formulae, assume cost of lots at $7.50, $12, and $25 per square foot. Also assume a construction cost of $2.50 per square foot of floor. The minimum height of the building will be found as follows:

Since the value of X is found to be 3,

$2.50 = X$3.00 = X$4.80 = X$5.00 = X$10.00 = X

Therefore 3 stories is the minimum height for garage with the land cost indicated.
The value of X is 4.8. Therefore 5 stories is the minimum height for garage with this land cost.
The value of X is 10 which is in excess of this formula. The other equation should therefore be used.

Value of X is 14, therefore, this is the minimum height for a garage with this land cost.

2. PEAK LOAD.

Sixty per cent of total capacity of a garage may arrive within a half hour in the morning or in the evening at theatre time. Speed in handling cars as they enter the garage during the rush period is of the utmost importance. (A delay of five or ten minutes may cause the client to use another garage (possibly less centrally located) provided the additional walking time is less than the waiting time at the garage with inadequate arrangement and facilities.)

The first floor checking and the interfloor method of travel (ramp or elevator) must be capable of handling the probable peak, as shown in survey, without delay.

A one-way ramp system with easy grade and turns will care for 20 to 30 cars a minute. An elevator of average speed will complete an up and down trip in
This analysis of an architectural problem should be made by the architect in order to determine those economic factors that govern garage design in a specific locality. This study should determine the type of building, number of stories, and character of design.

### Type of Storage

<table>
<thead>
<tr>
<th>TYPE OF STORAGE</th>
<th>PROBABLE AVERAGE NUMBER CARS PER DAY</th>
<th>RENTAL RATE</th>
<th>CLASS OF RENTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Day Night</td>
<td>Peak Load</td>
<td>1/2 Hour Period</td>
</tr>
<tr>
<td>a. Monthly day storage from offices and stores</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>b. Monthly twenty-four hour storage from apartments and permanent residents in hotels, apartment houses and private residents</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>c. Monthly night storage of salesmen’s cars, commercial cars and trucks</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>d. Transient day storage from offices and buildings, hotels, lunch clubs and theatres</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>e. Transient evening storage from hotels, theatres and public halls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Overnight storage from hotels and commuters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Dead storage in off-season</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Trucks not included in this study.)</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td></td>
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</table>

**NOTE:** Many parking garages have a twenty-four hour turnover of from two to four times the total capacity of the garage, while subsidized garages having free parking space will sometimes have a turnover of from six to eight times their total capacity.

From one to three minutes, depending on height of building, method of parking, etc.

3. **Number of Chauffeur-driven Cars.** It is now necessary in large city garages to provide a lounge room for chauffeurs, equipped with games and with reading tables. The number of chauffeur-driven cars will indicate the size and character of chauffeur quarters.

A call system should be installed in waiting rooms and parking floors in order that chauffeurs may receive communications from owners.

4. **Class of Rentals.** The survey should indicate whether the minimum rental with some slight inconvenience will be preferable, in the client's opinion, to average rental with greater convenience, or higher rental with luxury features. The class of clients catered to will influence:

a. The Maximum Height of Garage in which a ramp system may be profitably operated. For example, two ten-story ramp garages were erected in different districts in Chicago. In both cases, for owner-driven cars, the rent on the tenth floor was $11 per month, as compared with $22 on the second floor. In one district the upper floors rented quickly on account of the lower rent-paying ability of clients. In the other district, however, clients preferred lower floors at the higher rate.

b. The Choice of Ramp Systems. Interfloor travel systems separated from the parking aisles, such as the elliptical system in the Commodore-Biltmore Garage, New York City, and in the Fisher Building, Detroit, require more space than does the *d'Huny* staggered floor ramp system. The use of the former may be justified where low rents are of minor importance. In the double spiral ramp system of Richmond, the entire separation of ramp and parking aisles permits greater safety, speed and convenience of interfloor travel and lessens the distance to be traveled by at least 50 per cent as compared with straight or staggered floor ramps.

c. The Width of Parking Space. This should be 6 feet 9 inches wide for average rental, and 7 feet for dependent garages providing free short time parking. Size of columns on lowest floors may make it advisable to reduce this width, but in no case should parking spaces be less than 6 feet 8 inches. Width in excess of 7 feet is a luxury and should not be considered unless there is indication that patrons will be willing to pay for such additional space.

d. Depth of Parking Space. A 15 foot deep parking space and 20 foot aisle are sufficient for most cars, but for the more wealthy clientele a deeper space should be provided, at least on some floors.

e. Enclosed Stalls. Completely enclosed, individ-
BOOK TOWER GARAGE, DETROIT (HUMY RAMP)
LOUIS KAMPER, INC., ARCHITECTS
ENTRANCE TO BOOK TOWER GARAGE, DETROIT
LOUIS KAMPER, INC., ARCHITECTS
ual parking stalls may be used when catering to clients willing to pay for the utmost convenience.

5. Competition. Consideration should be given to present and future competition. Existing garages in the neighborhood should be studied as to rates, service, class of convenience, types of chauffeur quarters, etc. Future competition should be considered from the following angles: Is there cheaper land in the same district? May a higher building in this neighborhood give lower rent? May lower cost buildings be erected? May more efficient and convenient buildings be subsequently erected? May free or subsidized parking be furnished by stores, office buildings, or city?

Considering future competition it will probably be found advisable to erect a building of lowest cost compatible with efficiency and convenience even though a more elaborately appointed type would produce a good profit at the time of erection.

Because the parking garage business is still in its infancy, commercial garages must necessarily be extremely efficient from the economic standpoint if they are to compete with future buildings of improved character and with subsidized garages which will rapidly increase in number within the next few years.

### MOTOR CAR DIMENSIONS (1929)

<table>
<thead>
<tr>
<th></th>
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<tr>
<td>Chevrolet</td>
<td>13'-23/4&quot;</td>
<td>10'-65/8&quot;</td>
<td>22&quot;</td>
<td>30°</td>
<td>5'-7&quot;</td>
<td>6'-6&quot;</td>
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<td>Graham-Paige</td>
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<td>11'-11/2&quot;</td>
<td>16&quot;</td>
<td>31&quot;</td>
<td>5'-6&quot;</td>
<td>6'-6&quot;</td>
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<tr>
<td>Ford</td>
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<td>10'-35/8&quot;</td>
<td>21-1/2&quot;</td>
<td>30°</td>
<td>5'-5&quot;</td>
<td>5'-5&quot;</td>
<td>0°</td>
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<tr>
<td>Essexite</td>
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<td>10'-9/16&quot;</td>
<td>22-1/2&quot;</td>
<td>29&quot;</td>
<td>5'-6&quot;</td>
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<td>21-1/2&quot;</td>
<td>29&quot;</td>
<td>5'-6&quot;</td>
<td>5'-6&quot;</td>
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<td>Oldsmobile</td>
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<td>11'-11/2&quot;</td>
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<td>5'-9&quot;</td>
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<td>24-1/2&quot;</td>
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<td>5'-11&quot;</td>
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<td>11'-11/2&quot;</td>
<td>23&quot;</td>
<td>32&quot;</td>
<td>5'-10&quot;</td>
<td>5'-10&quot;</td>
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<tr>
<td>Hupmobile</td>
<td>14'-23/8&quot;</td>
<td>11'-11/2&quot;</td>
<td>13-1/4&quot;</td>
<td>36-1/2&quot;</td>
<td>6'-4&quot;</td>
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<td>11'-11/2&quot;</td>
<td>14-1/2&quot;</td>
<td>32&quot;</td>
<td>5'-10&quot;</td>
<td>5'-10&quot;</td>
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<td>13-1/4&quot;</td>
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<td>5'-9&quot;</td>
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<tr>
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<td>11'-11/2&quot;</td>
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<td>13-3/4&quot;</td>
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<tr>
<td>Dodge</td>
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<td>12'-0&quot;</td>
<td>13-1/2&quot;</td>
<td>38-1/2&quot;</td>
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<td>Franklin</td>
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<td>12'-0&quot;</td>
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<td>Packard</td>
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<tr>
<td>Auburn</td>
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<tr>
<td>Pierce Arrow</td>
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<td>35&quot;</td>
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<td>Cadillac</td>
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<td>28&quot;</td>
<td>45°</td>
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<tr>
<td>Packard</td>
<td>17'-11/2&quot;</td>
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<td>45°</td>
<td>5'-10&quot;</td>
<td>5'-10&quot;</td>
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</table>

Note: Information supplied by automobile manufacturers. Where makes are repeated, figures are for smallest and largest models. (L.) Length; (W.B.) Wheelbase; (F.) Distance from center of front hub to front extremity; (R.) Distance from center of rear hub cap to rear extremity; (W.) Width; (H.) Height; (C.) Distance from ground to underside of running board; (T.D.) Turning Diameter (diameter of smallest walled-in circle in which the car will make a complete turn.)

Comparison of the 1929 figures with those of 1928 shows an increase in wheelbase with a corresponding increase in length, a slight tendency toward higher cars, but a definite decrease in turning diameter for the longer models.

Courtesy Ramp Building Corporation

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THE ARCHITECTURAL RECORD

THE ARCHITECTURAL RECORD
Fig. 1. Straight single-way ramp.
Fig. 2. Two-way straight ramp.
Fig. 3 and 4. Section and plan of staggered floor, (d’Hunty patent.)
Fig. 5. Elliptical ramp (Commodore-Biltmore Garage.)
Fig. 6. Concentric spiral ramp (Eliot Street Garage.)
Fig. 8. Double spiral ramp (Richmond Garage.)
Fig. 9. Ramp garage in core of office building.

GARAGE FLOORS WITH VARIOUS RAMP SYSTEMS
of 7 feet is extravagant except in parking garages having a very high turnover.

(c) 15 feet depth with a 20 foot aisle width is generally sufficient. Cars of maximum length may be parked at ends of aisle where the projection into aisle causes less inconvenience, or a certain part of the parking area may be made deeper to accommodate the larger cars.

(d) The three car bay has generally been found to be most satisfactory. It should have a space of 20 feet 3 inches in the clear between columns, but this space may be reduced on the first few floors to 10 feet if necessary to allow for additional column size. (Free short time parking garages require 11 feet in the clear.) One advantage of the three car bay is that when the garage is not running at capacity, two cars may be placed between columns, allowing very ample space to maneuver cars; and two trucks may be placed in the space provided for three cars.

(e) Interior columns should be elliptical to conserve space. (See sketch below.)

(8) Parking Guides. Concrete curbs are sometimes placed in parking bays to serve as guides for cars. These have proved unsatisfactory as they make it difficult to park a car and are likely to scrape the tires. Curbs are desirable at sides of ramps and driveways and should be painted with diagonal striping to increase their visibility. Floor grooves have proved unsatisfactory because they collect grease and dust. Lines painted on the floor are not recommended as paint soon wears off. Cast iron traffic buttons have proved fairly satisfactory as markers. These permit truck or two car parking yet clearly indicate the capacity car spaces.

(4) Stall Numbers. Stall numbers painted on the floor or walls are a disadvantage. If numbered, a customer who rents space by the month expects the same stall each time. Not having stall numbers permits the overselling of parking space by approximately 25%.

b. Entrance Floor. (1) Garages should have only one point of entrance and exit.

(a) It simplifies the checking in and out of cars and reduces to a minimum the chance of a car being stolen.

(b) It increases sales in the "accessories" department, which may be located so that all those entering or leaving the building will pass through or near it.

(c) It permits the provision of only one information desk and one waiting room with toilets.

(d) The greatest loss of heat in a garage building in winter occurs when the large doors are opened. With a single entrance this loss is reduced.

(e) The cost of installing and the expense of operating garage doors are reduced.

(2) The Garage Entrance should be located as far as possible from a street intersection because if placed near it, the waiting lines of traffic will at times prevent exit of cars from garage.

(3) The filling station should be adjacent to the garage entrance. (See arrangement on page 193.)

(4) Three or more driveways should be provided so that two may serve incoming traffic and one outgoing in the morning; in the evening this would be reversed.

(5) Waiting rooms should be placed to the right of cars going out so that passengers will not need to cross the driveway.

(6) Traffic markers as used for safety zones are satisfactory for division of these roadways.

(7) Provision for Merchandising. Although the natural tendency might be to install service facilities
(ABOVE) GENERAL VIEW  (BELOW) ENTRANCE TO SPIRAL RAMP
RICHMOND GARAGE, RICHMOND, V.A.
LEE, SMITH & VANDERVOORT, ARCHITECTS
for washing, greasing, brake adjustments, and so forth, in the basement, these facilities should be located on the entrance or second floor where they will exert a constant sales effect through power of suggestion.

A "tire and accessories" salesroom should be located adjacent to waiting rooms and gasoline pumps, in order to serve both the filling station trade and garage parking patrons.

Merchandising should be restricted generally to automobile accessories, although show cases may be provided for tobacco, candy, etc., which sometimes show a small profit.

The importance of merchandizing is indicated by the statement of a garage operating company that in the early stages of their business, 80 per cent of the gross income from garages operated by them was from parking and 20 per cent from merchandizing; while now 30 to 50 per cent of the gross income is from parking and 50 to 70 per cent from merchandizing.

c. Roof. (1) Provision should be made for roof parking, not only because the additional parking space may prove a source of income, but also when a ramp or elevator is installed running to the roof, the problem of adding floors at a later date is simplified.

(2) Roof deck should be covered with special floor as described under Construction Data. (See page 191.)

2. Interfloor Travel. a. Ramps. (1) The straight single-way ramp (Fig. 1., page 185) has an efficiency of 46 per cent and requires 2.42 square feet per car.*

(2) The two-way straight ramp (Fig. 2.) has an efficiency of 38 per cent and requires 2.90 square feet per car.

*Computation of efficiency and square feet per car is made in this study on a basis of a parking floor, 100 x 200 feet.
shown in Fig. 4. This ramp system has an efficiency of 51 per cent and requires 218 square feet per car.

(4) (Fig. 5.) The elliptical ramp used in the Commodore-Biltmore Garage, New York, has an efficiency of 40 per cent and requires 278 square feet per car.

(5) The elliptical ramp used in the Fisher Building, Detroit, (page 188) has an efficiency of 40 per cent and requires 278 square feet per car.

(6) (See Fig. 6.) The concentric spiral ramp has an efficiency of 43 per cent and requires 260 square feet per car.

(7) (See Figs. 8 and 9.) The double spiral ramp is designed on the principle of a double thread screw, the up traffic driving on one thread and the down traffic using the other thread. Both ramps use the same space that would be required for a single circular ramp of the same diameter. The double spiral ramp has an efficiency of 45 and requires 143 feet per car.

It will be noted that the above methods have varying degrees of separation of interfloor traffic from parking aisles. The extent to which this separation of traffic should be carried will depend, as pre-

(3) The staggered floor system (Figs. 3 and 4.) controlled by d'Humy patents differs from other systems in that the building does not have continuous floors. The building is divided by a vertical plane, the floors one side of the plane being a half story higher than the floors on the other side. The floors are connected by short straight ramps. This feature is shown in Fig. 3. A floor plan of the staggered floor type is...
As previously stated, on height and area of building, volume of peak load, and other economic factors.

For the average multifloor garage with capacity up to 350 to 400 cars the one-way single roadway ramp is sufficient. In buildings where the capacity is 450 or 500 cars, ramps 10 feet wide (three-car spaces) work out very satisfactorily. Ramps of this width will enable small and medium size cars to pass on them, but make it necessary for larger cars to pass in the aisle between the ramps.

In buildings with a capacity of over 500 cars, a system of double ramps is desirable, permitting continuous movement of cars travelling in both directions.

b. Elevators. (1) The ordinary freight elevator is often used when a building is converted into a garage. It has an efficiency of 53½ per cent and requires 208 square feet per car. This is fairly satisfactory in buildings of small area, catering to monthly parking and having a small peak load, but is unsatisfactory where peak load is heavy.

(2) Power Parking elevator as installed in the recent Kent Garage, New York City, obtains an average of 68 per cent of floor coverage. Cars are parked on two sides of the elevator with the aid of an electric parking machine. This method with two or more cars parked in a row requires some shifting to bring cars to elevator.

(3) The four-way parking elevator obtains a maximum use of floors with practically all cars as live storage. The elevators are two-storied, the cars on upper and lower floors facing at right angles. The cars run in tracks and are loaded and unloaded by a gravity system. It is estimated that this type will have an incoming capacity of six cars per elevator per minute and an outgoing capacity of about three cars per minute. This plan has a floor efficiency of 59½ per cent and requires 187 square feet per car.

Passenger elevator and stairway (under normal conditions) should be located in one corner of the building. The illustration on the left is an efficient combination of stair and elevator occupying a two-car bay.
(C.) CONSTRUCTION FACTORS.

1. RAMPS.  a. A 12 to 15 per cent grade is recommended. In no case should the grade exceed 20 per cent.

   b. The surface of the ramp should be made rough with a "wood float" finish.

   c. The ramp may extend into the aisle two or three feet, the floor being raised slightly to meet the slope of the ramp. In designing the concrete it is often possible to obtain the desired slope by raising the floor beam at its juncture with the ramp. The intersection of ramp slope with the floor should be at right angles to the slope.

   d. Ramp walls should be omitted in order to give better vision for the driver, thereby reducing danger of collision. When fireproof doors are required by fire regulation at each floor level, then the open ramp is only possible if the building is divided by a fire wall at right angles to the ramp. This fire wall may easily be incorporated with the staggered floor system and with varying success with other types of ramps.

2. FIRE HAZARD AND INSURANCE. An insurance rating bureau should be consulted in order that advantage may be taken of the various fire prevention practices in construction, so as to reduce the insurance rate.

3. LIVE FLOOR LOAD. The building code requirements of various cities show a variation in live-load requirements of from 50 to 250 pounds per square foot. A live load factor of 100 pounds per square foot for a passenger car and light truck garage is both safe and economical. For a heavy truck garage the figure should be raised to 150 lbs. per square foot.

4. FLOOR TREATMENT.  a. Dust proof. Concrete garage floors which "dust" easily offer a serious problem to garage operators, as it is almost impossible to keep the parked cars clean under such conditions. An expert concrete finisher can produce a hard "dust-less" floor without the use of surface floor hardeners. In cases where expert workmanship is not available,
AN OFFICE BUILDING WITH GARAGE CONVENIENCES
(CLIENTS' CARS ARE PARKED FREE FOR ONE HOUR)
BUILDING FOR THE TITLE INSURANCE AND TRUST CO., LOS ANGELES
JOHN PARKINSON AND DONALD B. PARKINSON, ARCHITECTS

SCHLOTTERBECK GARAGE, BASLE, SWITZERLAND
(An example of compartment parking space.)
W. E. BAUMGARTNER AND H. HINDERMANN, ARCHITECTS
it is advisable to apply a surface floor hardener.

b. Waterproof. A well built slab floor should be sufficiently water tight for all purposes in a garage building. Certain precautions, however, are advisable and waterproofing may be necessary. The seepage of water through a slab floor is caused by unsealed cracks which develop after seasoning or by poor or porous bonding between successive day's pourings. Should cracks develop after seasoning they should be cut and cleaned out to leave a V joint 3/4 in. wide and 3/4 in. deep. This joint should be poured full of Vault Light Cement.

The entire floor, where possible, should be poured in one day or, where the building is large, a V joint of the size noted above should be left between the end of one day's work and the beginning of the next. This joint should be filled with the above mentioned seam composition. Caution: Seepage has occurred where one day's pour is joined to that of following day. No construction joints should be permitted within 20 feet of a drain.

Waterproof asphalt finish should not be used for garage floors as it is affected by oils and greases.

(Note: Snow is the principal source of water in garages and in climates with heavy snowfall it is advisable to provide floor drains for the removal of the melted snow.)

5. Roof Treatment. A roof used for parking should be surfaced with approved asphalt paving blocks laid over waterproofing and in asphalt. These paving blocks do not in themselves constitute a system of waterproofing because of joints but serve as protection for waterproofing underneath.

Or a 3" thick concrete slab may be laid over the usual five ply waterproofing felt applied with hot tar. The slab should be constructed in sections not exceeding 5 feet in each direction and separated from each other and from the parapet wall by quarter-inch joints filled with a suitable 3/4" expansion joint or some approved seam composition. Before applying the concrete slab finish, the surface of the felt should be covered with a heavy layer of hot tar.

(D.) Equipment—General.

1. Heating. In garages there is a large heat loss from frequent opening of entrance doors. Since there are no interior partitions, air currents through entrances or windows will make it very difficult to heat the windward side of the building but by using unit heaters and ventilators it is possible to meet the heating requirements.

The two pipe steam system, sufficient to raise the temperature to fifty degrees on the coldest days, should be used for the car storage part of the building. A hot water or steam heating system should be
provided to heat the offices and waiting rooms. If direct radiation is used the location of radiators is of prime importance. Placing radiation on the ceiling is satisfactory from a car storage viewpoint but decidedly inefficient as a method of heating. When radiators are placed on walls under the windows they are in danger of damage and should be protected against breakage by heavy guards.

Buildings with a ramp system are provided with extra radiation on lower floors because of the openness of construction and on account of heat loss from the entrance. Only limited radiation is required for the upper floor because of heat that rises from below.

2. Ventilation. Garages used exclusively for parking and having ample window space, need no ventilating equipment except in the basement. If a part of the garage is to be used for making minor repairs, such as timer or carburetor adjustments which will require running the engine, provision should be made for installation of an exhaust vent with flexible connections for attachment to exhaust of cars.

If a central ventilating system is provided and the
ventilating shaft is located in the center of the building, away from the windows, most efficient ventilation is secured in the summer by placing the louvered at the ceiling. The gases emitted by the motors are hot and will immediately rise to the ceiling. In winter, however, the natural circulation in the building will be upward at the windows across the ceiling toward the center of the building and thence downward and along the floor to the louvered in the shaft at or near the floor. Provision should also be made for exhausting a small quantity of air near the ceiling.

3. Lighting. Lighting for ramps should be on separate circuit from floor lights and controlled from first floor so that they may be turned off when not needed. Lights should be arranged so as to give an even lighting for entire floor, about two candle power per squarefoot. Concentration of light on aisles and correspondingly less at rear of parking space adds to difficulty in parking. Lights should be equipped with pull cords so that they may be extinguished when not needed.

Wall plugs should be installed at convenient points to permit attachment of “trouble shooting” light cord. Special attention should be paid to installation of flood lights above and below wash and grease racks.

(E.) SPECIAL EQUIPMENT.

1. Garage Doors. Garage exterior doors should open automatically or be mechanically operated. The overhead door is satisfactory for private garages but may be a source of accident in parking garages, due to restriction of upward vision, preventing view of door not fully open.

2. Electric Call System. Garages should be equipped with electric call systems for communication between owners and chauffeurs or attendants. Telautographs are often used and are a convenience in transmitting orders to various floors. They are especially valuable as they preserve a record of orders.

3. Gasoline Supply. Gasoline should be supplied at the entrance and should also be piped to all floors as it is often more convenient to supply cars with gasoline on their storage floors, and thus avoid congestion at the street exit. In a large garage it is imperative to have at least one gasoline outlet on each floor.
4. **Compressed Air.** Outlets for compressed air should be provided at all floors.

5. **Service Equipment.** Equipment such as brake testing apparatus, wash racks, grease racks and vulcanizing equipment should be installed on the first or second floors.

6. **Dirt Shoots.** It has been found convenient to install a dirt shoot, with openings at all floors, for removal of floor sweepings.

7. **Lockers.** Lockers of ample size should be installed in waiting rooms and chauffeurs' quarters.

II. **Subsidiary Garage**

Garage facilities provided in connection with department stores, office buildings, hotels and apartment houses, are generally subsidized. They are maintained to attract trade and as a convenience to patrons.

With the following exceptions the economic, planning, construction and equipment factors are approximately the same as for the independent garage.

The need of minimum cost building and of maximum parking space is less imperative than with the commercial garage. This is particularly true of a garage in connection with a store which is maintained as a convenience, and to attract customers. Store owners might well expend additional sums on improved appearance and convenience of garage entrances.

The aisles, car bays, and ramps should be very ample to facilitate their use by inexpert drivers and to increase speed of service.

**Location.** Free parking space when provided, should, where possible, be located in the basement or in the rear of building. When this service is added to an existing building, the garage facilities should be provided in an adjoining structure.

When rental parking space is provided, a garage may be attached to the main building, but the present tendency is toward the use of the lower floors of the building served. Such floors, especially when the building is located on a narrow street, are less desirable for office use than the upper floors on account of street noises and lack of sunlight.

When land cost is high it is preferable to use the core of the building for parking space with offices in the perimeter. (See Fig. 9 on page 183.) Here, probably, will be the solution of garage location in city buildings.

**Apartment House Type.** Residential districts are generally zoned against parking garages. An independent parking garage may depreciate the value of adjoining property in an apartment district but if built as part of and to serve an apartment house alone, there would not be depreciation.

Two contrasting opinions are here quoted:

"The Board of Trustees of the Village of Hastings-on-Hudson, New York, by virtue of section 89 of the village law ordain and enact . . . that there shall be provided on the same plot with any multi-family dwelling, a gravelled or paved parking area sufficient in size to accommodate one car for each family housed."

On the other hand, the Supreme Court of Pennsylvania in a decision handed down May, 1928 (Ladner vs. Siegel, 142 Atl. 272), held "that a public garage, though not a nuisance in itself, can become such when conducted in a residential neighborhood, regardless of how it may be carried on."

"In the case before the Pennsylvania courts the question arose with regard to the building of a public garage which it was proposed to construct in the center of a block to provide garage facilities for the cars of the occupants of apartment houses which it
SPECIFICATION CHECKING LIST

1. GENERAL
   Size, height and character of building determined by survey.
   Entrances and exits placed as far as possible from street intersections.
   Provide space for cars waiting to be checked on entrance floor.
   Check zoning, building and fire ordinances.
   Garage construction to comply with regulations of National Board of Fire Underwriters.

2. FLOOR TREATMENT (Concrete)
   Entire floor poured in one day.
   Floor surface hardener.
   Waterproofing for floors and walls.
   Surface cracks sealed with vault light cement.
   Floor drains for removal of snow water.
   Drains for wash racks.

3. HEATING AND VENTILATING
   Unit heaters and ventilators for garage proper.
   Steam or hot water for offices and waiting rooms.
   Fan ventilation for basement.
   Attachable exhaust vents where repairing is done.
   Fan ventilating system where windows are insufficient.

4. LIGHTING
   Separate circuit lighting for ramps.
   Light control at each floor.
   Wall receptacles in each bay and at all columns for "trouble shooting" light cord.
   Flood lighting above and below wash and grease racks.

5. SPECIAL EQUIPMENT
   Exterior garage doors automatic, operating at side.
   Electric call system or Telautograph.
   Gasoline supply outlets at each floor.
   Compressed air at each floor.
   Dirt shoots at all floors.
   Lockers in waiting rooms, washrooms and chauffeurs' quarters.
   Electric signal for car calls and for indicating parking space occupancy.
was planned to build on the four sides of the block. The contention was made that inasmuch as buildings for the accommodation of their motors is a requirement which the Court must recognize and that therefore the general rule forbidding the erection of a public garage in a residential district should not apply to cases of this character.

The Court, however, decided against the public garage owner partly because the contemplated apartments had not yet been erected and there was not yet apparent to the Court any need for such service.**

**"Housing," N. Y. C. December, 1918, p. 293, 294.

PRIVATE RESIDENTIAL GARAGE
I. LOCATION.
A. AT REAR OF LOT. It has been the custom to locate the residence garage at the rear of the lot. This necessitates separate heating apparatus in cold climates, and is inconvenient. Where there is no alley the drive from the street to the rear of lot often interferes with the satisfactory treatment of the grounds.

B. GARAGES ON COURT ADJACENT TO STREET. A plan has been developed with garages on a forecourt and houses at rear (see page 194), which, by providing a minimum driveway, saves development cost, and gives the residents greater privacy than where garages are at the rear.

C. GARAGE ATTACHED TO HOUSE. Garages attached to dwellings are not an undue fire risk if reasonable precautions are followed. The garage floor should be non-combustible. The garage should be separated from the rest of the building by un-pierced partitions, and ceiling constructed to meet the one hour fire test. Walls, windows, and doors must be fire resistant. A single self-closing fire door leading from garage to house may be used. "As a minimum requirement, walls may also be constructed of wooden studs spaced 16 inches center to center, with metal lath attached outside and inside. The outer lath is to be plastered and back-plastered with Portland cement stucco, and the inner lath plastered with 3/4 inch Portland cement or gypsum plaster. For interior partitions separating garage from dwelling, 3/4 inch Portland cement or gypsum plaster on metal lath, on both sides of studs is satisfactory."

There is an increasing tendency to attach the garage to the house. This has been a development that has followed the changed attitude toward the motor car. The automobile was at first housed in a detached garage, perhaps on the same principle which led the first designers of cars to make them with dashboards and whip sockets. But the discovery that a garage was not a stable has made it a common practice to include it in the house and express it externally.

In the "House for the Motor Age," shown on the opposite page, we offer a solution to the house garage problem.
A HOUSE FOR THE MOTOR AGE

The house plan with garage incorporated as a part of the house, illustrated and described on this page, is suggested as a logical step beyond the house plan adopted for Radburn and for the average moderate size dwelling. When we enter the garage of our proposed scheme, we, in reality, enter the house. There is a single entry which leads directly to all divisions of the house.

On the opposite page is illustrated a house plan for Radburn, New Jersey. The Radburn Development has been called "A Town for the Motor Age." This novel town planning eliminates the street that passes the door step and represents the application of twentieth century technology and scientific street location to town building. It has permitted the placement of homes so as to front on open lawns and gardens. All through motor traffic is cared for on boulevards. Residences are on dead ended private lanes which, while giving access to houses and private garages, cannot be used for general traffic. The very large block units add greatly to privacy and attractiveness and also permit the residents to walk to stores, schools, etc., with practically no street crossings. Not only is this plan far superior to the ordinary street and block system but the saving in installation of streets and public utilities more than pays for the interior parks and paths.

The house plan for Radburn, page 196, provides garage accommodation beneath the house roof. Access to the house from the garage by a circuitous pathway to an entry at the opposite side of the house, is open to question. Aside from the inconvenience of a round-about pathway, the necessity for a vestibule far removed from the garage may be debated. Guests will park their cars in the garage driveway, off from the private lane. It will therefore be most convenient to enter the house directly from the garage. It is obvious that when guests are not to be considered, the kitchen doorway will, in reality, be the place of entrance.

Should we not accept the garage as the logical place of entrance? With the "house for a motor age" illustrated on this page, the garage is widened to permit an adjoining walk. The vestibule off the garage leads to the living room, kitchen or basement stairway. (The service feature is not different from many apartment houses.) The saving in expense for other outside door vestibules, grading, stone paving, weather stripping and heat losses, can be applied to making attractive the combination of entrance and garage doors.

An alternate scheme which should, perhaps, receive consideration of the designer, would be to further recess the garage beyond the centre of the house so as to permit entrance from a small porch at juncture of garage and house.
THE PLACE OF THE GARAGE IN CITY PLANNING

BY ERNEST P. GOODRICH

The place of the garage in City Planning is one of the most troublesome of all planning problems. Recent tendencies in well considered zoning ordinances, however, point to the prospect of a satisfactory solution.

In zoning work, garages may be divided into four classes: (1) private garages for the use of one or more families living on the same lot upon which the garage is built; (2) parking garages within an office building for the use of tenants or their clients; (3) public garages whose main function is parking of cars for tenants or clients of near-by buildings; and (4) so-called public garages devoted primarily to the repair of motor vehicles.

The recent trend in zoning ordinances has been to exclude from business districts garages devoted primarily to repair and to permit them only in zones of light or heavy industries. Although some zoning ordinances prohibit private or public parking garages in business districts, it would be better to encourage their proper location and use in districts where traffic density and street width necessitate entire prohibition of parking.

In single family residence districts there is a tendency to have the garage located within the walls of the main building, either at ground level, below building grade or as a projecting wing of the building, instead of on the rear corner of the lot as was the prevailing custom up to the last few years. In two-family houses and for dwellings there is a similar tendency to keep the back yards open by placing a garage within or adjacent to the residence structure. This has resulted from a demand for heated garages but the by-product of greater yard openness is no less important as a social factor.

With respect to the garages incident to apartment houses a more serious problem and a wide difference of opinion exist. Serious opposition develops whenever it is proposed that garage space be provided underneath multi-family dwellings. The imperative need to provide suitable garage space limited to storage of private passenger cars for tenants of such multi-family apartment structures leaves only one course open, namely: to provide such space on the same lot with multi-family structures. Where the slope of the ground permits, this can be accomplished by construction of storage garages, one-half the height of which is under ground. The problem of draining away gasoline and oil vapors makes it necessary to slope the garage floor and place the exits so that there shall be proper drainage of air to lessen the explosion and asphyxiation hazard. In flat country this hazard necessitates the construction of the garage entirely above the ground. Where the roof of such a garage is flat and terraced or surfaced so as to provide a recreation or parking area it seems proper to count such surface area as part of the side or rear yard.

Incidentally, one of the most recent zoning ordinances provides that on the same lot as any apartment house there shall be a paved or gravelled parking space of sufficient area to accommodate one car for each family housed and that such parking area shall not be leased but reserved for the tenants of the apartment house and their guests.

Of course it goes without saying that all public garages and all private garages incident to multi-family dwellings should be capable of meeting the Board of Fire Underwriters' standard one hour fire test. Also that one or two-car garages in connection with private homes, two-family or group houses should be of fire resistant construction when within the walls or adjacent to the house.

Owners of office buildings in our large cities now realize that the provision of garage parking space attached to or within the building for the use of tenants and their clients is an important inducement in renting. (Provision of such parking space may not be essential if the office building is close to an efficient public parking garage but as these are often overloaded, it is probably the better policy to provide garage parking space in connection with all buildings.) This garage space may be provided partly under ground and partly in the rear, or the entire central dark portion of the building may be utilized for parking purposes.

Entrance and exit from these parking garages should be placed as far as possible from street intersections in order that cars waiting for the traffic signal will not block cars coming from the garage.

The foregoing observations represent the general trend which appears to be a sound one. Though a long way from being generally adopted, these tendencies provide a fairly satisfactory answer to the question of where garages should be located in city planning schemes.

A CORRECTION

In the January issue of The Record, page 80, we called attention to the use of burlap to obtain a rough concrete surface suitable for the application of tile. We omitted mention that this chemically treated burlap is Contex fabric, a product of the Loc-Crete Company, 51 East Forty-Second Street, New York City.
MOSAIC FLOOR IN DELOS ISLAND, GREECE
CORNER DETAIL, SCALE 1/5
MOSAIC FLOOR IN DELOS ISLAND, GREECE
SCALE 1/10
NOTES AND COMMENTS

CALIFORNIA ARCHITECTS LOOK AHEAD

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS held its first convention in San Francisco early last fall. I don't know how many states enjoy similar societies, nor to what extent those that do, may have organized them on similar lines. At any rate, there are possibilities here which deserve a passing word.

In one respect the new Association achieves the rare distinction of absolute unanimity. It embraces every one of the twelve hundred odd registered architects in the State of California! The constitution adopted provides that a person is a member by virtue of his certificate to practise architecture granted by the State Board of Architecture, unless he tenders a written resignation. As anyone too indifferent to participate is unlikely to take the trouble to write a resignation, it is safe to assume that all architects in the state are members, willy nilly. There may be a question as to what will be the effect of carrying the certain amount of dead matter that is sure to accrue. In view of the plan of organization, this does not promise to become a serious charge on the Association. Besides, it must be remembered that even a socially dead architect is subject to resuscitation under proper incantation. If chances were to be taken, the organizers judged the presence of a few useless members a safer risk than the exclusion of one possibly valuable one.

It will thus be seen that the new Association, by its all-inclusive membership, is not competing with the two California chapters of the American Institute of Architects. It is working hand in glove with the latter body, as well as with the official State Board of Architecture, to both of which it promises to be a valuable adjunct. In fact, the technique, if not the ideals, of big business has been adopted in the principle of interlocking directorates. That is probably as near as architecture can get to exorbitant profits.

But however unanimous the membership, the actual deliberations of the convention proved less so. This is only as it should be. Even running a steam roller must become monotonous with nothing but a vacant highway to run over. As an index of the seriousness of the occasion, the entire state was represented from Alturas to San Diego. This may not mean much to an outsider until it is explained that a space of some seven hundred miles as the crow flies is involved, or perhaps the distance from New York to Charleston, South Carolina.

The first specific task the Association sets itself is amendment to the State law regulating the practice of architecture. Although nobody can style himself "Architect" in California today without a certificate granted on official examination, at the present time the intention of the law is freely circumvented by such facile subterfuges as "Tom Jones, Architecture and Building," "Dick Smith, Architectural Designer," or "Harry Brown, Non-certificated Architect." Defects in the law leave the State Board of Architecture unequipped to prosecute these evasions, and render conviction uncertain when a case is pressed. What good, we ask, is a law without teeth? The new California law regulating the practice of architecture promises to be one of the best in the country when this job of legal dentistry shall have been accomplished.

The subject of public education came up in the convention. Personally I look forward to the Association's embarking upon a comprehensive campaign, to which its organization by central committees and completely distributed network of regional advisers eminently fits it. The public is a tremendous thing to educate, and the amount of education it needs is appalling. Yet, in the last analysis, architects as a body are at its mercy. Painters can pile pictures behind the piano, and poets and musicians can fill the bureau drawers with manuscripts, but architects can build nothing but what clients will pay to put up. And clients, of course, are no more than special cases of the public—and not always the high points, either. The longer missionary work is deferred, the longer public salvation is postponed. Mr. Myron Hunt made the statesmanlike suggestion of catching them young and off their guard, by sponsoring lectures and even courses to be introduced into the high schools of the state.

Mr. H. Roy Kelley read a spirited paper deploring the devastation of the speculative builders. Mr. William I. Garren supplemented Mr. Kelley's eloquent indignation with a few cool and arresting figures compiled from the records of the San Francisco Building Department. Skipping many interesting and significant details for the bare core, it seems that, during the last year, some twenty-five per cent. (in dollars) of the building done in San Francisco was designed and supervised by architects. The figures for Los Angeles prove to be no better, and there is every reason to believe that those for the many smaller communities would turn out considerably worse. And yet, I reflect, California is producing an architecture which is attracting nation-wide recognition for quality and character. If this can be done hitting on only one cylinder, as it were, it is interesting to speculate on what may be accomplished after the State Association of California Architects has had a chance to exercise a reasonable influence in boosting public
appreciation and checking incompetent practice.

Irving F. Morrow

CORRECTION

It is regretted that an error occurred in the caption which appears on Page 525 of the December issue of The Record. Credit for the bronze sundial at Cranbrook School, Bloomfield Hills, Michigan, should have been given to Paul Manship, sculptor, and not to Geza Maroti as stated under the illustration.

COLOR IN EARLY AMERICAN ARCHITECTURE

The Record inspired several letters from architects experienced in the remodelling of colonial houses. Mr. Horace Wells Sellers, architect of Philadelphia, contributed the following important data:

... "I have found in our Pennsylvania farmhouses and also in buildings in the city erected during the 18th and early decades of the 19th century, the use of both light gray and often of a light shade of brown or tan on the woodwork, especially in the interior."

"In the farm-houses and minor rooms of more pretentious dwellings I have reason to believe that whitewash or bare plaster was often used in various shades, some which might be designated as terra cotta, or what I believe corresponded to the term 'Venetian red' sometimes described in early specifications. With such stronger colors I recall the black border baseboard height on the walls or at least the skirtings where they existed, painted black.

"In regard to wall painting, I have detected the use of pigment in delicate pastel light shades of various colors and in fine woodwork of the early 19th century, paneling and stiles and rails of wainscoting, finished in very simple shades of pearl and rose. In fact until the latter decades of the 18th century I question if in this neighborhood untinted white paint was used to any great extent although the colors employed were warmer and lighter than I have noted in modern attempts to restore such original conditions.

"I have noted, for example, mantels carrying ornament in low relief which needed the application of white paint or extremely light tints of color to maintain the effect of light and shade that the bas reliefs call for and which in the hands of the modern restorer is quite lost under the application of different shades of blue, green or gray."

"There is a tradition here that in the early city dwellings where wainscoted walls were used at a period when competent plasterers were difficult to secure, the cedar or pine commonly used was left unfinished exactly as I noted recently in old houses in England that I had occasion to visit.

"I remember some years ago in restoring an old house in New England where walls had layers of paper applied showing the progress of the art from 1800 to the present century that under it all was disclosed an attempt to imitate wall paper by color applied to the plaster. . . ."

ARCHITECTURAL LEAGUE EXHIBITION

The Annual Exhibition of The Architectural League to be held at the Grand Central Palace, New York City, April 15-17, occurs at a time that will be convenient to those architects who attend the Convention of The American Institute of Architects at Washington, D. C., April 23-25 and who may include New York in their itinerary. It is not generally known that the exhibits will not be confined to architects and craftsmen members of the New York Architectural League. Any architect may submit photographs and drawings to the Jury of Selection for acceptance or rejection. There is an entrance fee required of $5.00 from each exhibitor.

The inclusion of a special group of paintings by contemporary American artists as a part of the Architectural and Allied Arts Exposition has been arranged by the Arts Council of the City of New York. This exhibition is considered as a step in the Arts Council's plans for the establishment in New York of a Museum of Contemporary Art. The hundred artists to be represented will be chosen from lists of names to be sent to the Council by artists, art collectors, art executives, art instructors and art writers. If the reader of this announcement belongs to any of these groups he is requested to send a list of names of those living American painters whom he considers important.

REGIONAL CONFERENCES OF THE AMERICAN INSTITUTE OF ARCHITECTS

The Regional Conference of the Middle Atlantic District of the American Institute of Architects was held last November in Carpenters' Hall, Philadelphia. This Hall is a surviving link between the days of medieval craft guilds and our period of professional architectural practice. One of the objects of the Carpenters' Company, says Robert Stead, who reported the Philadelphia conference, was to "obtain instruction in the Science of Architecture." Carpenters' Hall possesses an unusual library including besides many rare architectural works of the eighteenth century, a collection of Carpenters' Price Books which list and illustrate details of public and private buildings. This material may well serve as an authentic guide in the reconstruction of eighteenth century architecture.

The Regional District meeting of the American Institute of Architects for the Western Mountain States was held at Seattle, Washington, in January.
MODERN FRENCH ARCHITECTURE
ROBERTSON, HOWARD, AND YERBURY, F. R., Eds.
Examples of Modern French Architecture. 100 pl. Scribner's.
$10.00.

The volumes and articles on modern architecture now and again appearing in the several countries, Sweden, Holland, Germany, France, etc., are a little inclined to see national initiative and peculiarities too exclusively. In turning from volume to volume, one frequently finds the same characteristic successively called Swedish, Dutch, German, French, or American. Differences there are of course, but the main phenomenon before us is becoming common to all these countries, and the main element in it is a radical change in appearance growing out of a radical change in structure, which in turn had grown out of a new kind of building material, namely, structural steel and reinforced concrete.

Among national differences the modern American seems to be structurally the most daring and decoratively rather conservative, and French architecture moderne to run true to the national temperament in attempting to "follow through" with its logic. Why hide steel frame and reinforced concrete, it asks, by camouflage? What have these modern buildings to do with the ancient Orders? "Architecture moderne," says the writer of a recent article, "has straight lines; it is angular, geometric, and tends to follow cubic proportions. On the exterior an interest in the structure is created by a balance of mass, rather than a variety of intricate ornamentation that per se means nothing—In most cases there has been an honest attempt to follow out the lines of construction rather than the old style of masking everything behind a false front—With the elimination of the Orders went the elaborately carved doorways and windows, and, what was of greatest import, the cornice as the crowning motif of the building."

It seems that frontal pilasters on a steel frame building do look rather silly; that the outside surface and appearance of such buildings will eventually show the influence of the substance behind them more completely than they have yet; hence that the appearances of the architecture moderne may be more or less prophetic for us. The new materials have a tensile strength that stone has not; hence it is prophesied that a lintel age is upon us and the arch will disappear.

The first group of the Robertson and Yerbury plates presents the Lyons Stadium, which suggests the Yale Bowl but is far more architectural and apparently smaller. The Bowl is simplicity itself but the Lyons Stadium is a composition. Le Raincy Church (Pl. 28-30) has been frequently photographed, and comments upon it have often been to the effect that it is too restless for a church. But it may be that peace has something to do with custom. Possibly a Gothic church would look restless to a Greek, and perhaps in some sense it is. Aspiration is a form of restlessness, but one has not thought it inappropriate to a place of worship.

Le Raincy Church may be restless without aspiration, but at any rate it is a definite something.

Some of the features of the new architecture in America do not appear in any of these French plates. In many tall buildings American architects seem tending to substitute flat vertical lines of different color, instead of pseudo-structural members such as buttresses and pilasters, with the vertical recesses between them to carry the eye upward; and this seems to open the way to polychrome fronts. The French plates of commercial buildings and dwellings show no tall structures. These undecorated surfaces

EXHIBITION SHOP FRONT
SEZILLE, ARCHITECT
From Examples of Modern French Architecture
and rectangular lines run naturally to an extreme austerity. Architects to whom extreme austerity is not attractive endeavor to escape from it in various unexpected ways, which sometimes perhaps are in effect more eccentric than harmonious. Many of the house interiors seem unhouse-like (see pl. 45). But one can see everywhere an intention to argue logically from the facts of structure, and discard any tradition which the argument does not lead to or include.

This collection of plates does not claim to trace the development of modern French architecture, or to represent it. It is a volume of photographic impressions, and it succeeds in conveying an impression. Some peculiarities look like passing fashions, but the general impression is more like the beginning of a style. Some of the work presented is restrained and evolutionary, some of it frankly radical and revolutionary. Architecture is slower than other forms of art to reflect the tendencies of an epoch. Messrs. Robertson and Yerbury find the signs of change reflected not so much in the great public buildings, as in shops, homes, hotels, cafes; for these have no self conscious eye to posterity; they are buildings for today. Large and important work in the modern manner hardly exists as yet in France, except on the drawing board. The bulk of the illustrations are therefore from shop fronts and private houses, and these are by far the most radical and experimental.

ARTHUR W. COLTON

ART STUDIES

ART STUDIES

MEDIEVAL RENAISSANCE AND MODERN. 1917. Cambridge. Harvard University Press. (Fifth Year).

THE ANNUAL publication of Art Studies by members of the departments of Fine Arts of Harvard and Princeton, is, outside the classical field, the most important American contribution to the scholarship of art. With its distinguished international advisory council and such foreign contributors as Monneret de Villard, Diehl and Oursel, combined with American scholars of established position and younger men and women at the opening of their careers, it offers every year a rich and usually well balanced variety of contents illustrated with excellent plates.

Important as are the iconographical articles and those on painting and sculpture, the present review can only touch on those dealing with architecture. Oursel's article on "La Genèse Monumentale de l'Église Abbatiale de Vézelay" gives a full account of the relation between ecclesiastical politics and architecture in Burgundy at the end of the eleventh and beginning of the twelfth century and an admirable explanation of the disparity in style between Vézelay and the great church at Cluny. Monneret de Villard's briefer article insists upon the coherence in style of the art produced about the Mediterranean during the first millennium of our era regardless of the religion temporarily in control. Although he does not say so, Monneret de Villard's Arts Sachmide is the same as Spengler's Magiam Art and the suggestions he offers for advancing our knowledge of that culture stress how central in point of history it was and how in our Rome-blindness it has been misunderstood and neglected despite all the efforts of Strzygowski and those who have worked with him.

Mr. Anthony's article on the Florentine Baptistry has already appeared in expanded form as a book. Mr. Whitehill's article is more far reaching than the actual point at issue since it suggests that liturgy is an influence on architecture of wide and infrequently grasped importance.

For those who are interested in modern architecture there can be nothing more healthy than the reading of archaeology and the history of art. These few articles, all within the medieval field, suggest much that is inherently and permanently true of great architecture and also the very strict and necessary relation between architecture and the civilization in which it exists—a connection which the men of the nineteenth century tried to forget, yet which, ironically enough, is very evident in their architecture. Let us hope that with sounder knowledge of the past our own day may be reader to accept and profit by the influences which inevitably react on architecture and that we may be freer to evolve a style in which we may face the past, not as an enfeebled image in some distorting mirror, but clearly and honestly as we are.

HENRY-RUSSELL HITCHCOCK, JR.

FURNITURE ARTS AND CRAFTS

JOHNSON, A. P., AND M. K. STRONEN, Compilers.

Manuai of the Furniture Arts and Crafts. Edited by William J. Etten, Grand Rapids, Mich. A. P. Johnson Company, 1918. $5.50

THIS VOLUME is a compendium of facts about furniture. It includes a short historical sketch, a description of furniture woods, veneers, machinery and upholstery. There are also chapters devoted to the furniture housed in various museums of the United States and biographical sketches of furniture craftsmen.

GOTHIC ORNAMENTS

PRUGN, AUGUSTUS CHARLES.

Gothic Ornaments. C. W. Kuehny, Cleveland, Ohio. $7.50

EXAMPLES of Gothic ornament from various ancient buildings in England and France, covering every description of decorative detail from the eleventh to the beginning of the sixteenth century, are included. The first edition of this work, without letterpress, was published in 1831.
LIST OF NEW BOOKS ON ARCHITECTURE AND THE ALLIED ARTS

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ARCHITECTURE

BAUM, JULIUS.

Bibliographical footnotes.
The first German edition was published in 1910. This is a translation of the second, enlarged to 180 plates.
The object of the introductory text of this book is merely to show how French culture of the middle ages is mirrored in the works of art of the country. Preface.

CASTLE, SYDNEY ERNEST.
Domestic Gothic of the Tudor Period. Jamestown, N. Y., International Casement Company, Inc., 1927. 6, 86 p. front., illus., 54 plates. 4°. $5.00. 718

Informal, personal impression of English architecture of this period, illustrated by photographs and by the author's renderings in pen and ink.

GOTCH, JOHN ALFRED.
The growth of the English house, from early feudal times to the close of the eighteenth century. London: B. T. Batsford, Ltd., 1918. x, 214 p. front., illus., plates. 2°. rev. and enl. 8°. 128. 6d. 728

The first edition was published in 1909.
"Advantage has been taken of the demand for a new edition of this book to make such slight variations of the text as became requisite, owing to researches undertaken since it was first published, and owing also to a revision of illustrations to picture more fully periods that formerly were sparsely represented." Preface.

HALSTRAD, FRANK.

This volume together with the one on 'The orders of architecture' and the 'Architects' and builders' reference book,' is planned to meet the demand for a treatise on architectural drawing. Preface.

MESSSENT, CLAUDE J. W.
The old cottages and farm-houses of Norfolk; with pen and ink illustrations by the author. Norwich: H. W. Hunt, 1928. 148 p. incl. plates. front., illus. 4°. 10s. 728.6

This study of a local architecture includes chapters on dovecotes and Georgiac shop fronts.

SOCIETY OF BEAUX-ARTS ARCHITECTS, New York.
Winning designs, 1904-1927, Paris prize in architect-
ALLIED ARTS

CAPART, Jean.
Lectures on Egyptian art. Chapel Hill: The University of North Carolina Press, 1928. xxxii, 290 p. illus. (incl. plans, ports.) 4°. $5.00 709.32

This volume prints the text of the lectures delivered by Monsieur Capart on his tour in the United States during the season of 1924-1925. A popular but illuminating commentary by an authority on the subject.

FRENCH, J. C.
The art of the Pal empire of Bengal. Oxford: University Press; London: Humphrey Milford, 1928. xv, 26 p. 32 plates. 8°. $6.50 709.54

Discusses sculpture and architecture of this period in India which is contemporary with the early Middle Ages in Europe, from the 8th to the 11th centuries.

GARBERT, Josef.
Die romanischen Wandgemälde Tirols. Wien: Krystall-Verlag, 1928. 127 p. illus. (incl. plans), 91 pl. f°. 35 marks. 729.4

Through the medium of textual description and some 91 plates, this volume forms a record of Tyrolean mural paintings of the Romanoesque period, covering the years 1000 to 1300.

GAUTHIER, Pierre.
Paris: aquarelles de Paul-Émile Lecomte. Grenoble: J. Rey, 1928. 3 v. illus., col’d plates. f°. 120 fr. 720.944

An architectural pilgrimage in Paris, fully illustrated from photographs and water colors.

GODARD, A., and others.

Bibliography, p. 129-108.

Not only the report of a preliminary survey made by an expert commission, but a review of all earlier visits to the valley of Bamiyan, and a reprint of texts dealing with previous expeditions.

GOTHEIN, Marie Louise (SCHROETER).
A history of garden art, edited by Walter P. Wright; translated from the German by Mrs. Archer-Hind. London: J. M. Dent & Sons Ltd., 1928. 2 v. fronts., illus., plans. 4°. 848. 710

An important history of landscape gardening, translated from the second German edition.

GUILLOT, Lucien.

Bibliography, p. 209-112.

Discusses and illustrates the representation of the horse in painting and sculpture from pre-historic down to contemporary art.

HANOTAUX, Gabriel.
La Provence nîzigue. Paris: Hachette, 1928. ix, 159 p. diagr., facsim., illus. (incl. plans), plates. f°. (La Renaissance provençale.) 100 fr. 709.449

HAUTECOEUR, Louis.

Contents: Herriot, E. Introduction.

Hautecoeur, L. Les origines du romantisme.

Aubert, M. Le romantisme et le moyen âge.

Vitry, P. La sculpture romantique.

Rey, G. Gros-Géricault.

Jamot, P. Delacroix.

Joubin, A. Les manuscrits d’Éugène Delacroix.

Focillon, H. Chassériau, ou les deux romantismes.

Schneider, R. Le paysage romantique.

Rouché, G. Les peintres romantiques et la peinture étrangère.

Rosenthal, L. La gravure romantique.

Lanson, R. L’orient romantique.

Bouchot, A. Berlioz et le romantisme.

Girard, H. Le livre, l’illustration et la reliure à l’époque romantique.

A series of lectures commemorating the centenary of the romantic movement in France.

HURLIMANN, Martin.
India, the landscape, the monuments and the people. New York: B. Westermann Co., Inc., 1928. xxxiii, 304 p. incl. plates. map. f°. (Orbis terrarum.) $7.50. 720.945

Like others of the series, a collection of admirable plates from photographs illustrating Indian architecture, scenery and racial types. The text is descriptive and interpretative.

JOINT EXPEDITION OF THE BRITISH MUSEUM AND OF THE MUSEUM OF THE UNIVERSITY OF PENNSYLVANIA TO MESOPOTAMIA.

Contents: Al-'Ubaid; a report on the work carried out in 1923 and 1924-3 by H. R. Hall and C. L. Woolley at Al-'Ubaid.

Describes the temple and cemetery at Al-'Ubaid and includes a detailed account of the objects found during the various excavations. Excellent photogravure plates.

LUETHI, Max.

Describes and illustrates interiors, wall decoration and furniture of the 18th century, from examples in published volumes, in historical museums, in the author’s possession and in other private collections.

MARQUAND, Allan.
The brothers of Giovanni Della Robbia: Fra Martia, Luca, Girolamo, Fra Ambrogio. With an appendix and corrections for all the Della Robbia catalogues. Edited and extended by Frank Jewett Mather, Jr., and Charles Rufus Morey from the manuscript of the late Professor Marquand.

"This book represents the first comprehensive attempt to disentangle the works and personalities of the last Della Robbia sculptors from the mass of pieces hitherto vaguely ascribed to the school. Thus on the scholarly side, the late Professor Marquand's final volume may be regarded as his most personal and original contribution to the entire subject." Preface.

MARTINIE, A. H.

Paris. Exposition internationale des arts décoratifs et industriels modernes, 1925. Rapport général. Paris: Larousse, 1927-18. vol. 4, 5, and 9, plates (part col'd). 4°. 80 fr. per vol. 740 Contents: vol. 4, Accessoires du mobilier. vol. 5, Parure. Includes bibliographies. The set is to be completed in eighteen volumes, the subjects including architecture, furniture, textiles, books, toys, costume, theatre arts, and municipal art. Five volumes are to be devoted to a discussion of the finance and administration of the Exposition. Each volume has text and approximately one hundred plates.

TROESCHER, GEORG.

TYRRELL-GREEN, EDMUND.
Baptismal fonts, classified and illustrated. London: Soc. for Promoting Christian Knowledge, 1918. xvi, 188 p. incl. front., plates. 8°. (Historic monuments of England.) 6d. 710.41 Bibliography, p. v-vi. An English architect speaks with emphasis upon what he considers the forces destructive to good English architecture, wise town planning, and the beauty of the English countryside.

FOREIGN PERIODICALS
Reviewed by Henry-Russell Hitchcock, Jr.

ARCHITECT AND BUILDING NEWS. October 19, 1928. Weekly. The Architect and Building News is an excellent English magazine of architecture. At the same time, it carries so much foreign material that it gives the American reader less of a view of English architecture than certain others. The current number has a report on the International Exhibition of Garden Design at the Hall of the Royal Horticultural Society at which the house and garden by Easton and Robertson, mentioned elsewhere in reviewing the Builder, was exhibited. The foreign article this month is devoted to houses by André Lurçat in the Ciré Seurat and includes some new examples as well as many plans. If one may at all criticize the excellent "foreign policy" of The Architect and Building News it is that they illustrate perhaps too much French and Dutch work and too little German and Swiss. Also they seem unable to find in England many good buildings of comparable modernity.

SOUTH WIMBLEDON STATION, LONDON
S. A. HEAPS AND MESSRS. ADAMS, HOLDEN & PEARSON, CONSULTING ARCHITECTS
From Academy Architecture and Architectural Review Volume 60, 1928 (A Bi-annual)
ent instance, the Royal Horticultural Hall. There is a very small illustration of a modern house and garden also by Easton and Robertson, an article on department store planning, in which English and American examples are compared, and some schools, libraries and bridges of no very great interest. Except for its broad scope there is little to recommend this review to Americans.


Building describes itself as a practical monthly journal for not only architects but also for quantity surveyors, builders, structural engineers, heating, lighting and ventilating engineers, sanitary engineers, decorators, manufacturers and merchants of building material and estate managers. Although its editorials and notes are somewhat more journalistic in tone than those of the professional architects' magazines and its publication of single buildings less complete, it gives a more varied picture of English contemporary production. There are also brief articles of general interest by foreign architects relative to their theories of design; the current number, for example, contains "The way we are going" by Ragnar Ostberg, the well-known Swedish architect of the Stockholm City Hall. A series of articles on Modern Continental architecture provides in the current number a well-illustrated discussion of Switzerland. The work mentioned conforms generally to the current English standards of good craftsmanship and either simplified traditional design or eclectic modernism. The frequent technical articles are of more interest to those other than architects for whom the magazine is produced.


The Review is a sumptuous and expensive monthly with excellent illustrations and text. But it is not particularly concerned with the actualities of architecture. Its book reviews and travel articles are its strongest features. In the present number, for instance, is an article on South African wine cellars with magnificent photographs, and a Spanish travel diary with very vigorous pen illustrations. The Review contains also a History of the English House treated as a series by Nathaniel Lloyd.

Included, too, is a full account of the new Hudson Bay Building by Mewes and Davis in Louis XIV style and, for contrast, some interesting modern block printed textiles by the well-known painter Paul Nash. The book reviews are well chosen and well done. In conclusion, The Review may be said to be the most impressive and the least usual to American architects of all the British architectural periodicals.
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The Architectural Record, February, 1929
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Top: Marble-ized Cork-Composition Tile in reception room, Murray, Aldrich & Roberts, Counselors at Law.

Left: Bonded Floor of Battleship Linoleum in working spaces of Equitable Trust Co.

Extreme left: Bonded Floor of Battleship Linoleum in vaults of Equitable Trust Co.

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The Architectural Record, February, 1929
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The Architectural Record, February, 1929
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THE BASEMENT-FED KERNERATOR
— for the home already built, costs about the same as the portable gas-fired incinerator of half the capacity. Abundant room for not only garbage and combustible waste, but all rubbish and non-combustibles like tin cans as well. Savings in gas pay for it in a few years' time.
MODERN architecture demands a material which assures permanent beauty as well as economy in construction.

Terra Cotta which offers color texture and design without limitation is the most responsive medium for effective architectural expression for both exterior and interior.

Send for illustrated booklets showing Terra Cotta in various types of buildings.
Truck Weighed 23,175 pounds
It was driven 10 M.P.H.
It hit the "back-fill" 325 times
But the Ric-wiL Tile Conduit
underneath was unharmed!

Will Ric-wiL Conduit of vitrified tile stand up under the punishment of earth-load and heavy traffic?

We wanted the answer—a positive answer that would settle the matter finally.

We got it. Ric-wiL stood up under a test that was many times as severe as the worst conditions it will ever be called on to meet.

Five sections of the 15" Ric-wiL Conduit were installed in a 33" wide trench on Ric-wiL Base Drain Foundation. Back-fill of 2½' over top of conduit was tamped with a 4,000 pound truck running over it 200 times. Then we loaded a 5 ton truck with gravel—gross weight 23,175 pounds. It was driven 325 times across the trench at a speed of 10 miles per hour—325 gigantic blows that grew heavier and heavier as the back-fill packed.

But when we dug up the Ric-wiL, there wasn't even a crack in it. Not even the joints were disturbed. We'll send you full details of this test if you want them.

Another advantage for you when you put underground steam lines in Ric-wiL—dependable strength that guarantees permanent water-tightness. Add that to Ric-wiL extraordinary speed and economy of installation and its well above 90% efficiency and you explain why miles more Ric-wiL than ever before were put in for important buyers last year.

For the sake of sound investment, get the Ric-wiL proposal on your next job

The Ric-wiL Company
1566 Union Trust Bldg., Cleveland, O.

74

The Architectural Record, February, 1929
Kohler Colorware is for all bathrooms

Kohler fixtures in color are naturally thought of when an elaborate bathroom is to be planned. They should be thought of no less for simple bathrooms where cost is a vital factor.

Bathrooms with Kohler colored fixtures cost very little more than those with white fixtures. The fixtures themselves are somewhat more expensive — but that adds nothing to the cost of fittings, of installation, of walls or floor. The extra charge for Colorware is a minor part of the cost of the completed bathroom.

Besides, there are Kohler fixtures in color to meet any price requirement. You may not have realized that this complete line includes bathubs in color, complete with chromium-plated fittings, to retail for as little as $80; lavatories for $40; toilets for $70.

Beautiful in color
These less expensive fixtures have all the color charm of the more costly ones. They are made in the same delicate, livable shades of ivory, green, blue, lavender, brown and gray — and in striking jet black.

This range of color and patterns affords the architect the fullest possible scope in designing beautiful modern bathrooms — in planning several bathrooms for the same house, each with its individual color appeal; or in creating for a group of apartment homes a series of unusual color effects.

Admirable in quality
In beauty and permanence of coloring, Kohler Colorware lives up to the intrinsic worth of the ware itself. All Kohler fixtures, whether of enameled or vitreous china ware, are made in one place — and they partake of the unique quality of Kohler Village, one of America’s most beautiful town-planned communities. In specifying Kohler Colorware you specify superior worth — at the cost of the ordinary.

We urge you to take advantage of the first opportunity to inspect Kohler Colorware at a Kohler display room. And we invite you to write for a new booklet illustrating Kohler fixtures in color for bathrooms, kitchens, and laundries. The coupon below will bring it.

KOHLER OF KOHLER
Plumbing Fixtures
LOOK FOR THE KOHLER TRADE MARK ON EACH FIXTURE

KOHLER CO., KOHLER, WIS. Gentlemen: Please send your book of Kohler Colorware. A.R. 2-29

Name ____________________________

Street ___________________________

City ____________________________ State ____________________________

© 1929, Kohler Co.
An Incident That "Sold" an Insurance Inspector

Too many stair accidents in a prominent metropolitan department store had brought a representative from their insurance company to investigate. A Norton engineer accompanied him, for Norton Floors were under consideration as a remedy, and while the insurance inspector was impressed with their features he was not quite "sold."

"These are supposed to be safety treads," said the inspector as they came to one of the stairways that had been giving most trouble.

The inspector turned to a clerk behind a counter at the foot of the stairs. "How many persons fall on this stairway in a week?"

"At least six or seven," was the reply, "whose names and addresses we take. There are undoubtedly many more accidents that are never reported."

"Do you ever find any lost heels here?"

"Yes, we pick up one or two every day."

The insurance inspector turned to the Norton Floors representative. "Are there any installations of your materials in the city?"

"Oh, yes," and he named several including the city's largest and best-known department store.

"Let's go take a look at one."

They went to the store of a large chain system which has been using Norton Floors for many years. The inspector walked carefully down the stairs and was visibly pleased with their non-slip quality. He stepped up to a salesgirl near the foot of the stairs.

"How long have you worked here?"

"Ever since the store was opened, over two years ago," she replied.

"How many accidents do you have on the stairs? How many falls?"

"None," was the answer, "I haven't seen a single fall as long as I have been here."

The inspector was "sold." The department store is replacing the old type of tread by Norton Floors as fast as conditions permit.
ANNOUNCING

Parsons Pureaire

CABINET
(PATENTS PENDING)

Here is what the architect and apartment builder have long been looking for

A STOVE CABINET CONSTRUCTED ON A COLD DRAWN STEEL CHANNEL FRAME, SECURELY WELDED AND WITH DIRECT FLUE CONNECTIONS THAT CARRY AWAY THE COOKING ODORS AND HEAT FROM THE APARTMENT.

The Parsons "PUREAIRE" Cabinet—(cabinet only furnished)—is finished in attractive color effects, and due to large production and perfected manufacturing processes, is very reasonably priced. Note these salient points of the "PUREAIRE" Cabinet.

Direct outside ventilation.
No heat from the stove.
No odors from cooking.
Pure air in the apartment.
More rent. Satisfied tenants.
Keeps apartments clean.
Saves redecorating.
Reduces fire hazard.

Write for descriptive literature today

No. 600
The No. 600 "PUREAIRE" Cabinet shown above is built with space for a refrigerator unit.

No. 500
The No. 600 "PUREAIRE" Cabinet is similar to the one shown, but has two doors instead of one, below the drawers, behind which are a bread box and three roomy compartments.

DEALERS: We are appointing dealers in many of the larger cities. Write for our liberal proposition at once. It may mean a large source of income to you.

The Parsons Company
603 Milwaukee East, Detroit, Michigan

The Architectural Record, February, 1929
Cement delivered in Bates Bags ensures better concrete

The use of Bates Bags is a distinct service to the architect, for it eliminates the inspection and superintendence he is otherwise obliged to furnish in order to make certain of full strength cement.

Cement in Bates Multi-Wall Paper Bags comes to the job in the same excellent condition that it left the mill. Every pound is protected from moisture deterioration by the 5 separate walls of these modern containers.

Millions of Bates Bags, produced by the original makers of multi-wall bags, are now used yearly, and this use is rapidly increasing, for Bates Bags are a valuable economic contribution to the building industry.

BATES VALVE BAG CORPORATION

General Offices: 35 East Wacker Drive, Chicago, Illinois
"... it stands out a gem excelled in beauty by no other structure of its kind on the Pacific Coast" ... .

Thus the press gave tribute to the new Scottish Rite Temple in Oakland, California, and to the material of which its beauty was wrought. The entire facade from the forty-two foot columns to the delicate tracery around the entrance, is cast stone manufactured of Atlas White Portland Cement. Harmonizing color and texture are secured to the sides through stucco made with Atlas White and granite chips.

Any form, color or texture that architecture demands, may be secured with Atlas White; a fact that is partly responsible for the constantly increasing use of cast stone, structural and decorative, in all types of buildings. Dependability is assured because Atlas White fully meets the requirements of standard specifications for Portland cement.

On request, architects may have books featuring Atlas White, with specifications for use in stucco—terrazzo—cast stone—and non-staining mortar. Address the office nearest you.

You can purchase Atlas White or Atlas Gray Portland Cement in any quantity from your own building material dealer. He is the only distributing agency between the Atlas plants and your concrete job. The flexible service which he offers on Atlas and the direct delivery of cement to the user, bring Atlas to you at less expense than by any other method. And because he performs this essential, economic service, the dealer makes a vital contribution to the upbuilding of the community.
"THE TRUE WORK OF ART IS BUT A SHADOW OF THE DIVINE PERFECTION"

—Michael Angelo

To the architect "American" craftsmen in wood bring more than skillful execution of design and careful rendering of detail. Artists in soul and spirit, they express in wood a pulsing reality of hand and cabinet art, so earnestly desired by every architect. Such results are obtained only where mechanical equipment and morale of personnel approaches perfection. Faith in these facts is one reason why architects can come to "American" craftsmen with highest expectations.

American Seating Company

16 E. Jackson Blvd., Chicago
670—119 W. 40th St., New York City 1211-B Chestnut St., Philadelphia
Announces

a new line of Built-up Roofing

By the addition of a line of slag or gravel surfaced roofings to their well known smooth surfaced Asbestos built-up roofings, Johns-Manville Corporation is now in a position to offer to Architects and Contractors built-up roofings suitable to any type of building and to any condition.

Together with this addition to their line of roofings, Johns-Manville is also prepared to offer surety bonds guaranteeing the performance of these roofings when laid under the supervision of their inspectors. Depending upon the type of roofing used, and upon the conditions, these bonds run for periods of ten, fifteen and twenty years. In connection with the bonding of these built-up roofs, a periodic inspection service is also supplied.

As in the past, all Johns-Manville built-up roofs will be laid only by Roofing Contractors approved by Johns-Manville Corporation. This will insure to the Architects that the workmanship will be handled in a satisfactory manner, and that the proper specifications will be followed.

The Johns-Manville line of built-up roofings now includes the following: Smooth surfaced Asbestos Roofings. These can be laid on roofs of any pitch . . . Super Class A. Underwriters' Laboratories Classification. Bonded for twenty years. . . . Class A. Underwriters' Laboratories Classification. Bonded for fifteen years . . . Combination roofing. Can be laid on roofs of any pitch. Bonded for ten years . . . Slag or gravel surfaced roofings. These can be laid on any pitch up to six inches per foot. Bonded for ten years.

Architects are urged to avail themselves of the free services of Johns-Manville Architects' Service Section for consultation and assistance on all roofing problems. This service is offered to any who are using or considering the use of any Johns-Manville product.
SUPERB craftsmanship in producing and erecting the designs of master engineers schooled by years of experience in the protection of wealth and valuables accomplishes the marvelous vault installations by Diebold. Bank, Building and Loan, and Insurance buildings the world over bear evidence of the superiority of Diebold Vault Doors in security, appearance and mechanical perfection.

Physical protection of wealth, a growing tendency, is best understood and harmonized with the architects' ideas in design by Diebold—we have specialized for over seventy years.

We will be glad to send you complete information for your files. There is no limit to size and design of Diebold Bank Vaults.

DIEBOLD SAFE & LOCK COMPANY
Canton, Ohio


The Architectural Record, February, 1929
Art Endures—When "Five Point" Pipe Protects It

Back of the thought and skill that produce a structural masterpiece must stand the assurance of completely dependable pipe. For no building is younger than its pipes, and beauty cannot endure when walls and ceilings must be torn open to replace pipe that gives only partial protection.

That's the value of specifying Reading Genuine Puddled Wrought Iron Pipe—the "five point" pipe that lasts for generations because it resists all the forces that tend to shorten pipe endurance.

There is no substitute for genuine puddled wrought iron pipe. To be certain of complete protection, specify Reading Genuine Puddled Wrought Iron Pipe—and look for the Reading name and spiral knurl mark on every piece.

1 Resists Corrosion—the puddling process coats every inmost particle of Reading Pipe with age-lasting silicious slag.

2 Defies Vibration—puddling imparts a tough, rope-like structure that does not crystallize or fracture sharply.

3 Threads Better—clean threads are quickly cut, insuring tight joints that stay leak-proof.

4 Welds Easily—pipe walls have maximum strength; no "weak spots".

5 Holds Coatings Permanently—due to the texture of genuine puddled wrought iron, galvanizing adheres to Reading Pipe four times more thickly than to any other ferrous pipe material. Paint and other coatings last indefinitely.

There is only one way to make genuine puddled wrought iron—the time-tested material. Pure pig iron and silicious slag must be kneaded and worked together inside a flame-filled furnace, to secure perfect and uniform distribution of the protective slag filaments within the metal. Time tells of only genuine puddled wrought iron—accept no untried substitutes for Reading Genuine Puddled Wrought Iron Pipe.

POURED—
Cretan Mantels in any
design or reproduction

Mantels made of Cretan Stone are not limited in the matter of design. We are as ready to furnish them from an architect's own detail as from the variety of "stock" designs in our collection. For the most part, these latter designs are faithful reproductions of venerable mantels found in old English, French and Italian homes of aristocracy.

Cretan is a stone exclusively our own creation. In making a mantel, moulds are formed and the Cretan Stone poured into them. After setting, each detail of design is gone over by hand until the finished product is as beautiful as one carved entirely by hand in natural stone.

Architects and Decorators should become familiar with what Cretan Stone offers, from the viewpoints of both economy and convenience.
The old Runyon House was vibrant with patriotism and joy...

"...It was one of the early anniversaries of the Declaration of Independence. And at the old Runyon House had gathered nearly every person of consequence in Trenton to rejoice over the blessings of independence.

Truly the ballroom on this notable evening presented a brilliant picture. Laughter, music, dancing, powdered and pompadoured gentlemen bowing deeply to beruffled beauties. A spirit of fine patriotism and joy was everywhere..."

These two booklets of authentic colonial entrances and columns gladly sent on request.

The booklets illustrate a notable group of entrances and columns of authentic early American inspiration...many being almost exact duplicates of famous originals, now on display in the Metropolitan Museum.

The booklets tell how Hartmann-Sanders entrances and columns are finely hand wrought by skilled craftsmen, who understand from long years of experience, every artistic detail.

Write for the booklets.

No charge, of course Hartmann-Sanders Co. 2152 Elston Avenue Chicago. Eastern Office and Showroom: 6 East 39th Street, New York City.

Hartmann-Sanders
PERGOLAS - COLONIAL ENTRANCES - KOLL COLUMNS
ROSE ARBORS - GARDEN EQUIPMENT

Above is the entrance to the old Runyon House, Trenton, New Jersey, which may today be seen at the Metropolitan Museum.

The Architectural Record, February, 1929
Announcing

"Highboy" and "Lowboy"
Industrial Unit Heaters

New, efficient, simple, good looking. Can be installed in vertical, horizontal or inverted position to fit space and structure requirements. Numerous exclusive features. Write for details.

See these heaters at the Chicago Power Show

BUFFALO FORGE COMPANY, 459 Broadway, Buffalo, N.Y.

IN CANADA: CANADIAN BLOWER & FORGE CO., LTD., KITCHENER, ONT.
MASONRY problems that develop in winter can be largely circumvented by the use of Kosmortar. Cold weather and wet weather generally retard wall-laying, as mortar put into a wall must harden before the wall can be further built on. Kosmortar, though easy to spread and work, sets sufficiently as work progresses to hold the brickwork, and to prevent danger of the brickwork swimming, or sliding out. Brick laid today are firmly hard tomorrow. The wall shapes up true, sound, and fast.

Building has become a year-round operation. Masonry demands a mortar that works with speed and safety in winter as in summer. The increased consumption of Kosmortar in cold weather is a reflection of its satisfactory use. Mixed and used immediately; plastic, strong, economical. The Ideal Cement for Masonry. Kosmos Portland Cement Company, Incorporated, Mills, Kosmosdale, Kentucky; Sales Offices, Louisville, Kentucky.

Write for Plastic Velumina Specifications.

COLOR and effects of plaster or composition applied in one operation — and an enduring, non-absorbent washable result!

Plastic Velumina — a plastic form of the well known Velumina Flat Wall Paint can be stippled, swirled or worked to stone effects. It is tintable to the whole palette of color — applicable over plaster or wood, painted, or unpainted surfaces!

It is a new, durable medium for architectural decoration of individuality and distinction.

PITTSBURGH PLATE GLASS CO.
Paint, Varnish and Lacquer Factories, Milwaukee, Wis.
Newark, N. J., Portland, Ore., Los Angeles, Cal.

The Architectural Record, February, 1929
From Basement to Roof...

Columbia University's new Chemistry Building has been equipped with KNIGHT-WARE. This includes WASTE, DRAIN and VENTILATING LINES, LABORATORY SINKS, SUMPS, FAN HOUSINGS AND VENTILATING CAPS.

Besides Columbia there are many more now using KNIGHT-WARE, a list of which will be sent on request.

We furnish all bores of Acid Proof Pipe and Fittings from ½" up to 60", Laboratory Sinks in any sizes or designs to suit your needs, Sumps in capacities and types as desired and Ventilating Flue Caps as are wanted. Further, we can furnish any other special equipment that might be necessary.

KNIGHT-WARE is GUARANTEED to be acid and corrosion proof throughout the entire body of the ware, free from defects and satisfactory in EVERY respect. It will withstand the action of acids, alkalis, chemicals and all corrosive solutions and gases, weak or strong, hot or cold.

We will be glad to assist you in any way in planning your new building.
Say "Floor with Maple"

... one of the finest acts of service you can render any client

Your client is building an office structure. You recommend Northern Hard Maple Flooring. He follows your advice. The result: His offices are easy to rent—because they are comfortable and homelike. His floors are permanently smooth and easy to keep clean. They make simple the problem of under-floor alterations in his building. They give him year upon year of uniformly satisfactory wear. Your client is satisfied.

Your client is planning a school building. He and his committee choose Maple Flooring—upon your advice. The result: Economy for the community that pays for the building—because Northern Hard Maple outwears stone. Hygienic study conditions for the children who attend the school—because Maple is warm, dry, resilient, sanitary. Your client, his committee, the community are satisfied.

Your client is building a factory or mill. He floors with Maple—in accordance with your recommendation. The result: His floors give cushioning comfort to his workers' feet—minimize fatigue—raise the standards of health and efficiency. They provide lasting smoothness, despite the wear of heavy rolling trucks and pounding feet—because the extremely hard, tough-fibred, unsplintering structure of Maple gives it a unique ability to withstand the years. Your client is satisfied.

Your client is building a hotel or hospital. He accepts your advice and installs Northern Hard Maple Flooring. The result: Rooms and corridors of great comfort and attractiveness. Sanitary conditions. Economy. Less noise in the building. Pleased guests or patients, as the case may be. Your client is satisfied.

Your client is planning a residence or apartment building. You recommend Maple Flooring. He follows your recommendation. The result: The floors provide the lasting beauty of finest hardwood. They are smooth, inviting, durable. Your client can stain them any color he desires. He is satisfied!

We are sparing no effort to inform your clients of the many advantages Northern Hard Maple provides in industrial, commercial and residential buildings. The constantly increasing use of this flooring material and the enthusiastic attitude architects are taking toward Maple, justifies us, we feel, in saying, "One of the finest acts of service you can render your client is to advise, 'Floor with Maple.'"

The letters MFMA on Maple, Beech or Birch flooring signify that the flooring is standardized and guaranteed by the Maple Flooring Manufacturers Association, whose members must attain and maintain the highest standards of manufacture and adhere to manufacturing and grading rules which economically conserve these remarkable woods. This trade-mark is for your protection. Look for it on the flooring you use.

Let our Service and Research Department assist you with your flooring problems. Write us.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
1774 McCormick Building, Chicago

Floor with Maple

The Architectural Record, February, 1929
Why the Equitable Trust is Spencer Cleaned

PRIMARILY because the management was familiar with the results obtained in other Office Buildings.

The Spencer System

shows the following results as compared to any other method:

1. Labor cost of cleaning is less.
2. The light weight Spencer tools and hose are preferred by the users over any other method.
3. The building is kept free from dust accumulation on desks, furniture, walls, etc.
4. Greater freedom from tenant complaints.
5. A new high standard of cleanliness which makes Spencer Central Cleaning a necessity.

DATA FOR ARCHITECTS

Better tools, better layouts, better efficiencies in the equipment and a greater knowledge of the routine operation of the cleaning crews constitute a source of data which is furnished to architects by our local representatives on request.

THE SPENCER TURBINE CO.

HARTFORD, CONNECTICUT CENTRAL CLEANING SYSTEMS REPRESENTATIVES IN 50 CITIES

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In the years when Aero, the National Radiator, was the only complete line of tube-type radiation on the market, it was the almost invariable selection for the finest buildings. That was only natural.

Now, competing with many imitations, it is still chosen with amazing regularity. That is significant.

It indicates appreciation of the fact that Aero has, during more than six years, been rendering faithful, trouble-free service on heating applications of every character; and that it is the only complete line of tube-type radiation that can show so impressive a record of demonstrated dependability.

The man who selects Aero, the National Radiator, takes no gamble on the quality or on the satisfactory performance of his warming equipment.
K-M Incinerators
For Residences, Apartments, Hotels

For Once, the Best
Is Cheapest Because
it is the Most Simple

Because of its simple construction and a
consequent saving in labor and material
costs—because of the low cost of the incinerator
parts owing to their simplicity—the K-M
costs less than you have probably been accus­
tomed to figure for incineration.

Because there are no nuts or bolts—because the
grates are stationary without bearing blocks or
shakers, the K-M Incinerator is "fool proof"
and can never get out of order.

Because of its blast furnace design—because
the side grates keep the refuse away from the
brick and provide for the circulation of air on
all sides of the burning mass—and because
draft comes from two points, the fire door and
the ash pit door—speedy and thorough com­
bustion is assured.

We shall gladly send you complete details of
the K-M Incinerator if you will write or simply
return the coupon below.

Kellogg Mann & Co., Inc.
315 Grote Street, Buffalo, N.Y.

Please send me complete details of your K-M
Incinerator. [ ] I am a builder

Name

Address

City & State

The Architectural Record, February, 1929
THE architects of America have depended on the Colonial Damper for a quarter of a century to insure the proper functioning of prominent fireplaces as well as modest ones.

Homes throughout the land are happier because in them the fireplace—"the heart of the home"—is controlled by a dependable Colonial Damper.

The Colonial Damper meets all conditions of construction and is the only damper made that takes up heat expansion within itself. This prevents the possibility of a cracked fireplace facing.

With the new Style "G" operating device this is the only damper that can be set to three or more courses above the opening—high up in the fireplace throat—where only the best results of draft control can be obtained.

The Colonial Damper prevents smoking, compels correct formation of the fireplace throat—the vital part—and pays for itself by the time it saves in construction.

Leading architects, experienced contractors and informed home owners specify the Colonial because they know it will give practical satisfaction.

For blue print detailing helpful suggestions, as well as dangers to avoid in fireplace design and construction, address—

Colonial Damper

COLONIAL FIREPLACE CO.
4622 Roosevelt Road, Chicago
—there are 1500 catalogues here—

IS IT ANY WONDER that an overwhelming majority of architects have expressed a marked preference for the SWEET'S method of catalogue presentation—that so few architects have the time, office, space or inclination to maintain a worthwhile file of manufacturers' individual catalogues—and, finally, that the manufacturer's individual catalogue in the architectural field is rapidly becoming a thing of the past, retiring in favor of a complete catalogue in SWEET'S?

SWEET'S CATALOGUE SERVICE
Division of F. W. Dodge Corporation
Offices, 119 West 40th Street, New York, and 28 principal cities

—and there are 1500 catalogues here—

Architects will find the new SWEET'S, recently distributed to the profession, a working tool of greater practical value than ever before.
We believe the new Marblmetal hardware is the finest ever put on toilet partitions. The new Marblmetal hinge has been operated by a testing device to equal ten years' service without perceptible wear and it is safe to say that our hinges will last a lifetime. All Marblmetal hardware is chromium plated. Ask to see a sample of this wonderful new partition.

A Toilet Partition for the Finest Buildings

MARBLMETAL is a toilet partition that in design, construction, equipment and appearance immediately disassociates itself from the crowd. There is nothing that compares with Marblmetal. It has no equal.

The panel is $\frac{3}{4}"$ thick insulated with a special material. A knuckle-knock sounds like marble. Instead of a monotonous flat surface there is a continuous $2\frac{3}{4}"$ stile around doors and panels giving just the right contrast for beauty. The stile is interlocked with outside sheets, re-inforced at each corner, solidly welded across the mitre, ground down and filled.

What a toilet partition Marblmetal is! Beautiful, durable, easy to keep clean. Will not absorb odors. A quality product in every detail but quantity production makes the price surprisingly attractive.

THE MILLS COMPANY

A Mills Metal Partition for Every Purpose
903 Wayside Road ... Cleveland, Ohio
REPRESENTATIVES IN ALL PRINCIPAL CITIES

MARBLMETAL

The Architectural Record, February, 1929
No. 1 Buff • • • a uniform creamy white Indiana Limestone • • • has been the market's highest grade for 72 years • • • and is admirably adapted to the sweeping vertical lines of present-day building. Warm and full of life and beauty • • • it is uniform in tint • • • and the supply is unlimited. • • • Victor Oolitic Stone Co., Bloomington, Ind.
The Ideal School Room Floor

FEATURES of silence, long life, sanitation and comfort have made Wright Rubber Tile first choice for many school room floors. Simple and ornate patterns in endless variety make easy—the matching or contrasting of any general decorative scheme.

Wright Rubber Tile has been endorsed for all types of floors by an authoritative board of prominent architects. When you specify this product you are protected by tests and performance records that place the stamp of approval on your recommendation.

For the convenience of all architects Wright Rubber Tile is illustrated in thirty colors, with complete data, in the 23rd Edition of Sweet's Architectural Catalog. This same information is also available to you in handy, file size pamphlet form. We will cheerfully mail you this pamphlet without cost or obligation. Write

WRIGHT RUBBER PRODUCTS CO.
LAYARD AVE. RACINE, WISCONSIN
Outstanding Examples of Architecture now Possible on a Low-Cost Basis

With the application of new and improved quarrying methods and preparing Briar Hill Ashlar for immediate use, production costs of this famous Golden Tone Sandstone have been considerably reduced. Even architects who specialize on medium cost structures can now avail themselves of the unusual possibilities and effects offered by stone construction.

In the use of Briar Hill Ashlar, much costly stone-cutting is eliminated. This beautiful stone is sawed into strips of standard heights at the quarry and delivered in convenient random lengths, suitable for a variety of different patterns in broken or straight coursed ashlar. It comes ready to set with a minimum of labor required of the masons. Obtainable in split-face, sand sawed or shot sawed face texture and in a wide range of color shades and tints.

It is economically available anywhere. Write for a photographic reproduction of a Briar Hill Ashlar wall in beautiful natural colors. Cost estimates cheerfully submitted from blue prints, without obligation.

THE BRIAR HILL STONE CO.
Glenmont, Ohio

See our Catalog in Sweet's

GOLDEN TONE SANDSTONE
Entrance and Exit...

**ELECTRIFIED**

Heavy-service PEELLE Tel-Co Doors increase traffic efficiency at driveway entrances, railroad sidings, piers, building entrances with interior shipping platforms. They afford full openings, operate quickly, easily and vertically.

In the above installation PEELLE Doors solved two problems—the conditions imposed by a one story building and heavy service traffic requirements. These doors are electrically operated by simple pressure on the switch control. C. PEELLE engineers offer their services in determining the freight door requirements of industrial plants, storage and warehouses, shipping and railroad terminals. Consult them... or... request a catalog.

**THE PEELLE COMPANY, Brooklyn, New York**

*Boston, Chicago, Cleveland, Philadelphia, Atlanta and 30 other cities.*

*In Canada: Toronto and Hamilton, Ontario*

**PEELLE Freight Elevator DOORS**

"The doorway of America's freight elevator traffic"
This two-unit EVANS Vanishing Door Wardrobe Holds 60 Hangers

This is the EVANS Class R Class-Room Wardrobe, made in two six-foot units instead of the four-foot size usual with all built-in wardrobes of other makes. The space required, taken from the finished plaster line, is 12 feet wide, 2 feet 6 inches deep and 6 feet 2 inches high, and the capacity is such that even if there are more girls than boys in the class, there is plenty of room to segregate their garments. Soundless, mischief-proof, operated at a touch, and astonishingly economical of space, EVANS Vanishing Door WARDROBES are being accepted as standard school equipment everywhere. May we send our architect's filing-size illustrated catalogue, with ALL the facts on ALL the types?

W. L. EVANS, WASHINGTON, INDIANA, U. S. A.

Patented in U. S., Canada and Foreign Countries. Trademark "Vanishing Door" registered in U. S. and Canada

All the structural materials for the Cape Girardeau, Missouri, Bridge — (for which plans were drawn by Harrington, Howard and Ash of Kansas City) — were inspected by our staff of experts.

See Swee't's, A 4

STEEL AT SHOP AND FIELD
CEMENT - CONCRETE
CONCRETE SUPERINTENDENCE

The ROBERT W. HUNT CO. Engineers
Inspection - - - - Tests
CHICAGO
All Large Cities

The Architectural Record, February, 1929
Confidence—built on a foundation as secure as MacArthur's own sturdy piles.

Confidence—reinforced by the MacArthur principle that character of soil and structure must determine the type of pile to be used. (MacArthur drives every type).

Confidence—earned by the value of MacArthur's cooperation with architects and engineers in the working out of difficult foundation problems.

Confidence—ever-increasing because the MacArthur method of casting piles in place, of dry concrete (just sufficient water to bond) under seven tons compression, gives extra load-bearing value.

You may find detailed information of distinct value when next you have a pile job under consideration.

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The Architectural Record, February, 1929
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The Architectural Record, February, 1929
SECOND ANNUAL COMPETITION
FOR THE
A. W. BROWN TRAVELLING SCHOLARSHIP

Announcement is made this month through the architectural press of the second annual competition open to architects and architectural draftsmen for the award of THE A. W. BROWN TRAVELLING SCHOLARSHIP, a memorial to the late A. W. Brown who was for many years President of Ludowici-Celadon Company and a leader in the manufacture of roofing tile.

Believing in the importance to the architect of a thorough knowledge of the various materials which go to make up a completed work of architecture, Ludowici-Celadon Company is continuing this scholarship with the hope that it will offer advantages for detailed study of the uses of materials and especially of tile roofs.

The scholarship was established in consultation with the American Institute of Architects and, through its president, a member of the Committee on Education and a member of the Committee on Allied Arts have been appointed to act with the architectural adviser as a special committee to conduct the competition and to have charge of the scholarship.

Ludowici-Celadon Company has made an agreement with the American Institute of Architects to provide the funds necessary to conduct the competition for the selection of a worthy and deserving beneficiary and further to pay to them the sum of two thousand dollars to be used in defraying the expenses of the beneficiary during a year of travel and study in Europe, and also five hundred dollars to be distributed as three additional prizes.

While there will be no restrictions as to the type of architecture which the holder of the scholarship shall study or the exact places he shall visit, he will be required to prepare at least two envois consisting of measured drawings of buildings on which burned clay has been used for roofing. It is hoped, by thus emphasizing in the work of this student the particular craft which the donors represent, that this scholarship will prove a real aid in establishing a better understanding of the use and necessary qualities of burned clay.

Programs will be mailed from New York City on or about March 1st, 1929, and the drawings are to be delivered on April 1st, 1929. Further details concerning the competition will be found in the editorial pages of this magazine. Those wishing to compete should apply for blanks to the secretary of the committee, Wm. Dewey Foster, 25 West 45th Street, New York City.
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The Architectural Record, February, 1929
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The Architectural Record, February, 1929
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The Architectural Record, February, 1929
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The Architectural Record, February, 1929
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The Architectural Record, February, 1929
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With foreword by RALPH ADAMS CRAM

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The text is profusely illustrated with reproductions of photographs and drawings and 9 plates in full color.

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Architects have proved that the sound-proofing efficiency of Hamlin's Sound-Proof Doors and Folding Partitions makes possible economy of space and simplification of plans that reduce building costs and greatly improve the utility of adjoining rooms. As illustrated at the left, the auditorium receives the benefit of the gymnasium to use as a very large stage, thereby making the gymnasium more valuable because of greatly increased seating facilities. While each may be used separately if desired. This folding partition in the Bexley High School, Columbus, Ohio, is 19 feet high by 60 feet wide.

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The Architectural Record, February, 1929
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The Architectural Record, February, 1929
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TARGET and ARROW

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Represented in SWEET'S—page C5541

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The Architectural Record, February, 1929
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The Architectural Record, February, 1929
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The Architectural Record, February, 1929
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The Architectural Record, February, 1929
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The Architectural Record, February, 1929
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See Sweet's Catalog, pages C3022 to C3025 for this and other styles and sizes of Hess Steel Cabinets and Mirrors.

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I've been investigating the service of motors for years.

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The Architectural Record, February, 1929
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Illustration shows a wrought iron gate made and designed in Toledo, Spain, for the Paramount Theatre, Brooklyn; Architects, Rapp & Rapp, Chicago.

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If you install Church Sani-Black Toilet Seats in your building you have gained a point about which you will never have to worry again, for the Church Sani-Black Seat will last as long as the building in which it is installed. It is guaranteed.

Church Sani-Black Seats will never cost anything to keep up. That is one of the reasons they are specified by architects and contractors for hotels, hospitals, schools, office buildings and other public structures. They are built to give perfect service under the most rigorous usage.

The core of the Sani-Black Seat is made of cross-grained layers of wood and rubber, vulcanized into a compact, indestructible unit. The outside covering is a hard, jet-black composition, vulcanized to the core under great heat pressure. This completely seals the core. It has no joints or cracks. Its polished surface will never wear off, crack, chip, or tarnish.

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Write for complete information about this most modern toilet seat

If you don’t already know all about Church Seats, mail the coupon at the bottom of this page today! It will bring you complete details. C. F. Church Mfg. Co., Holyoke, Mass.
NOTES IN BRIEF

A. W. BROWN TRAVELLING SCHOLARSHIP COMPETITION, 1929

Announcement is made of the second annual competition for the selection of a beneficiary for the A. W. Brown Travelling Scholarship, this competition to be held under the direction of a committee of the American Institute of Architects. Programmes will be mailed to approved applicants about March 1st, 1929, drawings to be delivered on April 1st, 1929.

This scholarship is the gift of Ludowici-Celadon Company and is a memorial to the late A. W. Brown, who was for many years president of that company and a leader in the manufacture of roofing tile.

The value of the scholarship is Two Thousand Dollars, to be used towards defraying the expenses of a year of travel and study in Europe by a worthy and deserving architect or architectural draftsman. Traveling expenses between the winner's place of residence and the port of New York will be paid in addition to this amount.

An award of Two Hundred and Fifty Dollars will be made to the person whose design is placed second in the competition; One Hundred and Fifty Dollars to the person whose design is placed third; and One Hundred Dollars to the person whose design is placed fourth.

The Architectural Record, February, 1929

CALENDAR OF EVENTS

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<tr>
<td>Feb. 15</td>
<td>Exhibition of work of prize-winners in the last House Beautiful Competition. Dinner in their honor. Architects Building Material Exhibit, Fifth at Figueroa, Los Angeles, Calif.</td>
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<td>Apr. 17-May 11</td>
<td>&quot;Own Your Home&quot; Exposition, indoor and outdoor. Chicago.</td>
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<td>Sept. 3</td>
<td>Exposition of Modern Decorative and Industrial Art. Mandel Brothers, Chicago.</td>
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<tr>
<td>Oct. 29-Nov. 7</td>
<td>World Engineering Congress. Tokyo, Japan.</td>
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<td>Nov. 7-22</td>
<td>Excursion and inspection tours throughout the Japanese Empire, in connection with the World Engineering Congress.</td>
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COMPETITIONS

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<td>Feb. 15</td>
<td>All ballots nominating members of the International Jury in the Columbus Memorial Lighthouse Competition must be in Washington, D. C.</td>
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<tr>
<td>Apr. 1</td>
<td>Columbus Memorial Lighthouse Competition. Drawings must be in Madrid, Spain.</td>
</tr>
<tr>
<td>Apr. 1</td>
<td>A. W. Brown Travelling Scholarship Competition. Drawings to be delivered. Programmes will be mailed to applicants about March 1st, New York City.</td>
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CITY PLANNING ENABLING ACT

A Standard City Planning Enabling Act booklet has been prepared by the Advisory Committee on City Planning and Zoning of the U. S. Department of Commerce which may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., for fifteen cents.

In several hundred American cities and regions, planning commissions are working with public officials and private groups in order to obtain more orderly and efficient physical development of their land area. They are concerned partly with rectifying past mistakes, but more with securing such location and development of streets, parks, public utili-
Andersen Frames pass the three tests of good design

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Suitability of Materials

**BEAUTY**

Andersen stock frames are designed to give the most exacting architect the materials and the weather-tight provisions he otherwise finds it necessary to specify in detail. As this fact has become more widely known, the opportunity for frame economy from drafting room to finished job has been quickly seized by forward-looking architects.

Below is a list of reasons, "Why Architects Specify Andersen Frames".

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**Andersen FRAMES**

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*The Architectural Record, February, 1929*
ties, and public and private buildings as will best serve the needs of the people for their homes, their industry, trade and recreation.

The booklet gives information on how a standard city planning enabling act based on a careful analysis of wide experience may be drafted.

ARCHITECTS TO HONOR L'ENFANT

A nation-wide movement to commemorate Major L'Enfant, the Frenchman known as the "Founder of Washington," has been started by the Committee on Plan of Washington and Environs of the American Institute of Architects, of which Horace W. Peaslee is chairman. It is proposed that the memory of Major Pierre L'Enfant and of William Thornton, a contemporary architect of L'Enfant, be honored annually on Memorial Day through national and state architectural societies.

It is also suggested by the Committee that an open parkway from the Capitol to Washington Monument, which will be completed in time for the 200th anniversary of Washington's birth be dedicated in honor of L'Enfant.

MOVING PICTURE FILMS AND SLIDES FOR ARCHITECTURAL CLUBS AND SCHOOLS

In February, last year, The Architectural Record announced certain films prepared by manufacturers of building materials which were available on loan to Architectural Clubs, Chapters of The Institute and Schools. The Producers' Council in collaboration with the Structural Service Department of the American Institute of Architects and the Association of Collegiate Schools of Architecture have now prepared a catalogue of Moving Picture Films, Slides, etc., illustrating materials and appliances used for construction.

The form of service which these films and slides aim to institute is the result of widespread interest among architects and educational authorities in visual education. It is believed that a better understanding of building materials, their manufacture, character and application to building uses will result from the presentation of salient facts pertaining to materials used in building.

The list of films, slides and lectures is too extensive to repeat completely here. Included in the list are the following:

- Installing tilework in swimming pools
- Erection of a steel frame house

PROFESSIONAL ANNOUNCEMENTS

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MEDALLION OF MAJOR L'ENFANT

From Journal of the A. I. A.

Manufacture of cork covering
Metal flashings
Brick and its romance
Manufacture of face brick
Lumbering in the Pacific Northwest
Trip through mills fabricating, cutting and carving of limestone. (A film showing setting of limestone in building is in course of preparation.)
Terra cotta
Quarrying and shaping slate

Portland cement stucco and the
Application of textural finishes
There are over fifty subjects in all, mostly films that vary in length of time for showing from fifteen to forty-five minutes.

The school, chapter or club will be expected to pay cost of transportation one way. No charge is made by the Council for the loan of films, slides, etc.

Further information may be obtained on application to The Producers' Council, 19 West 44th Street, New York City.

CONTRIBUTORS

Arthur I. Meigs, member of the firm of Mellor & Meigs, has been a practising architect of Philadelphia, which is also his native city, since 1906. Mr. Meigs is author of the book "An American Country House," in which he describes the house of Arthur E. Newbold, Jr., Esq., which was designed by his firm.

Ernest Payson Goodrich is a consulting engineer. His wide experience includes the construction of two harbors in the Philippine Islands; preliminary investigation of Valparaiso harbor and other large work in foreign countries; work as chief consulting engineer for the borough of Manhattan and as associate in many city planning, water-way and railroad projects.

C. Howard Walker is an architect of Boston, well known as a lecturer on architecture, having made several lecture tours of American universities for the American Institute of Architects.

Holabird and Root.—John Augur Holabird and John Wellborn Root are both natives of Illinois. Both studied at one time at the Ecole des Beaux-Arts in Paris and they have been in association since 1915, although the firm name was only recently changed from Holabird & Roche to that of Holabird & Root. A short time ago the firm was selected a member of the Architectural Committee for the Chicago World's Fair, 1933.
For nearly half a century, prominent architects have specified Woodbury granite for buildings. Granite costs more than substitutes but it is the best exterior material for the permanent type of building. Woodbury Gray and Bethel White granites are noted for their qualities of beauty and permanence. In this material the architect may be sure of perpetuating the exact expression of the ideals he wishes to carry out.

WOODBURY GRANITE CO., INC.
WOODBURY GRAY — BETHEL WHITE
BURLINGTON, VERMONT

The Architectural Record, February, 1929
A New Building Product
— made by a new and different method

Here is a new Kalman product for safe and economical fire-resisting floor construction. This advanced type of joist gives you a joist which meets the requirements of modern construction methods, and is built according to accepted principles of sound engineering. A new and different method of manufacturing gives you the chords and web members which are formed from one piece of steel. There isn’t a bolt, rivet or weld in tension. You can see the Kalmantruss joist — can read about it — and you can get lots of other valuable information from the new Kalmantruss catalog. Write for it.

KALMANTRUSS
JOISTS

KALMAN STEEL COMPANY

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ATLANTA
NEWARK

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COLUMBUS
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NILES

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The Architectural Record, February, 1929
Advanced Features in Screened Windows

Bayley-Springfield Pivoted Windows Screened combine the ventilating and screening features which are the outcome of more than fourteen years of development and extensive experience in steel window construction.

In quality of materials and workmanship, they are identical with other Bayley-Springfield Windows, and in addition have a special contact, a vital part of the screen feature which permits full freedom in opening, positioning and closing of the ventilators without having to disturb the fixed position of the screens.

Offsets, extensions and chains have been eliminated, and refinements incorporated which assure a trim, attractive appearance admired by observers and enjoyed by users.

These Bayley-Springfield Pivoted Windows Screened afford quality at minimum initial cost, and permanent efficient service at minimum upkeep expense.

District offices in the large cities and agents throughout the country offer complete sales and installation service. A. I. A. 16e and Sweets. A new folder giving complete details will be mailed on request.

The William Bayley Company
132 North Street, Springfield, Ohio

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Bayley-Springfield Steel Windows

The Architectural Record, February, 1929
THE spacious interior of the
FIRST NATIONAL BANK OF BOSTON
building, with its deeply coffered ceiling 45 feet above the floor,
combines the best in classical architecture with the newer archi-
tectural expression designed for the needs of modern commerce.

STONE & WEBSTER
INCORPORATED
BUILDERS
Mississippi Polished Wire Glass

The wire glass with the plate glass finish that protects thousands of fine buildings when the neighbors are on fire. Particular architects specify it because its high quality has won recognition everywhere. If you want safety and security you will also specify "Mississippi"—the standard since the standard was created.

MISSISSIPPI WIRE GLASS COMPANY
CHICAGO • 220 FIFTH AVENUE • NEW YORK • ST. LOUIS
CONSTRUCTION STATISTICS

From the records of F. W. DODGE CORPORATION, Statistical Division. The figures cover the 37 states east of the Rocky Mountains and represent about 91 per cent of the country’s construction volume.

Year 1928

<table>
<thead>
<tr>
<th>Classification</th>
<th>Total Contracts</th>
<th>Work Planned by Architects</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Number of Projects</td>
<td>Valuation</td>
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<tr>
<td>Commercial Buildings</td>
<td>23,583</td>
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<td>Educational Buildings</td>
<td>4,759</td>
<td>398,997,300</td>
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<td>Hospitals &amp; Institutions</td>
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<td>Industrial Buildings</td>
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<td>Military &amp; Naval Buildings</td>
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<tr>
<td>Public Buildings</td>
<td>1,205</td>
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<td>Religious &amp; Memorial Buildings</td>
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<td>Residential Buildings</td>
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<td>Social &amp; Recreational Projects</td>
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<td><strong>Total Building</strong></td>
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<td>Public Works &amp; Utilities</td>
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<td><strong>Total Construction</strong></td>
<td>200,255</td>
<td>$6,628,286,100</td>
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<tr>
<td>Total Construction, year 1927</td>
<td>184,604</td>
<td>$6,303,055,100</td>
</tr>
</tbody>
</table>

General Trend of Building and Engineering Construction
Eliminate the Danger of Basement Seepage

Install a Penberthy Automatic Cellar Drainer or Electric Sump Pump

COPPER AND BRONZE THROUGHOUT

Penberthy Injector Company

ESTABLISHED IN 1886

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The Architectural Record, February, 1929
Clinton Grilles for every purpose -

Formal public buildings are no longer the exclusive users of perforated metal grilles. A new consumer has come into being — the private home. We recognize that the home builder cannot afford to pay for special dies on his small job and demands a finish to match or harmonize with the surroundings.

The Clinton line of grilles has been enlarged, therefore, to include not only the old numbers in expensive metals, but steel grilles finished in colors and Wissco Bronze grilles made to match any hardware or to go with any color scheme.

While the actual perforation is done to order, stock dies make it possible to produce Clinton Grilles at reasonable prices. Our new hand book shows the procurable designs. It is more than a catalogue; it's a text book. We will gladly send it to you free of charge.

There is a Clinton Grille Representative in your city.

WICKWIRE SPENCER STEEL CO.
39 East 42nd Street, New York City

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Buffalo Atlanta Seattle
Cleveland San Francisco Portland

Send me copies of your latest Handbook on grilles.
Name
Address

RECENT TRADE PUBLICATIONS
ISSUED BY MANUFACTURERS OF CONSTRUCTION MATERIALS AND EQUIPMENT

[Risers and Treads, Boltless

Leadwork

Reflectors

Tube, Steel

Sound Control

Wardrobes, Cabinets, Etc.

Gas Machines, Water

The Architectural Record, February, 1929
The permanence of the mortar color in the joint depends not only upon the pigment selected but upon the mortar with which it is mixed. Too frequently the desired effect of harmony or contrast is entirely lost by the use of a mortar that fades the color and causes a washed-out appearance of the joint.

When BRIXMENT mortar is used this condition is eliminated. For BRIXMENT contains none of the strong acids or alkalies so frequently the cause of fading in other mortars.

The small amount of mineral oil combined with BRIXMENT when manufactured is a further protection to the color because it prevents moisture from penetrating the mortar and leaching out the pigments. Architect's handbook on request. Louisville Cement Company, Incorporated, Louisville, Kentucky.
For Enhancing the Beauty and Doubling the Life of Natural Wood

When architectural requirements call for Shingles, Clapboards, Trim or Tim­bering in natural wood:
Bring out the beauty of the grain, heighten the attractiveness of the building and its surroundings, and double the life of the wood,

By Specifying
Cabot’s Creosote Shingle Stains
The Standard Wood-Preserving Stains
Send in coupon below for latest information

<table>
<thead>
<tr>
<th>COUPON</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOSTON, MASS.</td>
</tr>
<tr>
<td>Please send me full information on CABOT’S CREOSOTE SHINGLE STAINS</td>
</tr>
</tbody>
</table>

House at Portland, Ore. Walter Church, Architect. Insulated with Cabot’s Quilt. Exterior Woodwork finished with Cabot’s Creosote Shingle Stains.

RECENT TRADE PUBLICATIONS—(Continued)

WINDOWS, STEEL

BEAM SECTIONS
“Carnegie Beam Sections.” Additions and modifications of advantage. Detail drawings and section index. Elements of sections decimal, dimensions of sections fractional, maximum bending moments and web resistance, allowable uniform loads, etc. Tables. Carnegie Steel Company, Pittsburgh, Pa. 5 x 7 1/4 in. 46 pp. III.

SASH PULLEY, NOISELESS
A.I.A. File No. 27ai. Exclusive and distinctive features. Guarantee. Mechanical specifications. Andersen Foundry Co., sash pulley division of Anderson Lumber Co., Bayport, Minn. 8 1/2 x 11 in. 4 pp. folder. III.

AUTOMOBILE TURN TABLES
“‘Automobile Turntables.”’ Advantages, including speed and ease of operation. Sizes with or without washrack extension. Details of pit foundation for regular and washrack extension turntables. Detail drawing. The Canton Foundry and Machine Co., Canton, Ohio. 8 1/2 x 11 in. 16 pp. III.

INSERTS AND ACCESSORIES
A.I.A. 4H. Use as metal lath hanger and veneer anchor. Advantages. Specifications for concrete, plastering, stucco, veneer, etc. Detail drawings. “‘`Tie-To” Insert Co., 874 Layton Blvd., Milwaukee, Wis. 8 1/2 x 11 in. 4 pp. folder. III.

METAL LATH, ETC.
“Steelcrete Time-Tested Products.” Manufacturing process. Specifications for mesh reinforcement. Tables and explanation. Steelcrete armor mat vaults, diamond lath, arch lath, industrial mesh, accessories, binder mesh, etc. The Consolidated Expanded Metal Companies, Wheeling, W. Va. 8 1/2 x 11 in. 16 pp. III.

TABLETS, BRONZE

ENTRANCE INCLOSURES, ELEVATOR

FOUNTAINS, BRONZE

(Continued on page 162)

The Architectural Record, February, 1929
Telephone Arrangements are now Planned in Advance ... and Built into the House

People everywhere are welcoming the new idea ... telephone service available throughout the house ... wherever it is needed

Telephone service throughout the house.

This is part of the new idea of telephone convenience and comfort which is meeting instant favor among home-owners everywhere.

Telephones permanently installed in those rooms frequently used ... living-rooms, kitchen, bed-chambers, hallways, etc.

Telephone service available in other parts of the house—when needed!

And it can be accomplished so easily. Especially in new or remodeled homes facilities for wires and other apparatus can be built in, adding appreciably to appearance and permanence.

Architects are finding it desirable, in designing residences and buildings, to plan in advance for telephone convenience. They arrange for telephone outlets during construction, providing not only for immediate service requirements, but for future expansion and rearrangements as well.

Conduits are run, within the walls, to all points where present or ultimate service may be desired. Thus, rearrangement of the service, or additions to it, may be made without the necessity of exposed wiring.

Many people nowadays want two or more telephone lines—one, or perhaps two, for the family and another for the servants. Household business can then be conducted without interfering with incoming and outgoing calls. Additional equipment is available for all sorts of requirements.

To help architects and others in preparing for proper telephone facilities, the Bell System has issued two booklets on planning for telephones in residences and buildings. If you have not yet received your copies, the Business Office of the local Bell company will be glad to see that you are supplied at once.
Banishes Transom Nuisances

No more unsightly transom lifters

No more frantic tugging and pushing

No more screeching and squealing

RIXSON CONCEALED TRANSOM OPERATOR

Hidden in the jamb, operating easily and quietly, this popular Rixson Hardware Specialty is a refinement particularly appropriate in many types of buildings, public and private. It is one of those touches that helps build a well satisfied clientele. Simple, strong construction is warranted by the Rixson reputation for dependability.

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New York Office: 101 Park Ave., N. Y. C.

RECENT TRADE PUBLICATIONS—(Continued)

WASHFOUNTAINS

WALL FinishES, HARDENERS, Etc.
A.I.A. File Nos. 25c, 21a, 21d. Series of bulletins on colored Portland cement flooring, stucco, interior wall finishes, paint, etc. Advantages, directions for use and application, specifications, etc. Made-Rite Products Company, 5223-25 McKissick Avenue, Saint Louis, Mo., 8, 6, and 8 pp. folders. III.

LOCKERS, STEEL

INSULATION

DUMB WAITERS AND ELEVATORS

LACQUER

CHIMNEY POTS

The Architectural Record, February, 1929
96 Apartments furnished a constant supply of correctly heated water by battery of six No. 28 Excelso Indirect Water Heaters connected to 2,000 gal. storage tank.

A number of the Capitol's residential buildings—hotels, apartments and private homes—have been equipped with Excelso Indirect Water Heaters, as a result of demonstrated efficiency and economy in over 600,000 installations throughout the U. S. and Canada.

Excelso Products Corporation
DIVISION OF AMERICAN RADIATOR COMPANY
67 Clyde Avenue
Buffalo, N. Y.

Sold and Installed by All Plumbers and Steamfitters

SIZES TO HEAT WATER FOR ONE FAMILY OR ONE HUNDRED FAMILIES

The Architectural Record, February, 1929
Stop That Stealing!

Private detectives—rigorous punishment—stern methods—all were unable to stop petty pilfering in certain old school houses of a Kansas metropolis. The condition resulted in a public indignation meeting at which school patrons complained to the board! Yet, stealing could have been practically eliminated by the use of Miller School Wardrobes

In conjunction with the "home room system." With a Miller Wardrobe in the classroom, all pupils keep their coats, wraps, books, etc., under lock and key—one key controls the master lock on all doors—the teacher has the key and is responsible for the wardrobe. When she wishes, she can unlock all the doors with a single movement! This is the famous "single control" of the Miller School Wardrobe, so highly praised by educators everywhere. L. D. Kruger, principal of the Rosedale High School, Kansas City, Kansas, says that Miller School Wardrobes "completely stopped petty pilfering" in his school building. For booklet, photos, details, etc., write

K-M SUPPLY COMPANY
123 West Eighth St. Kansas City, Mo.

CLASSIFIED DIRECTORY OF ADVERTISERS
Alphabetical Index to Advertisers, Page 162

After reviewing advertisements in this issue—consult Sweet's Architectural Catalogue 23rd edition for catalogue and specification information on the products of the most of the manufacturers.

Acid Proof Chemical Stoneware
Knight, Maurice A.
Arc Welding
Lincoln Electric Co.
Arch Roofs
Lamella Roof Syndicate, Inc.
Architectural Faience
Associated Tile Mfrs.
Architectural Supplies
American Lead Pencil Company
Higgins, Chas. M., & Co.
Artstone
Ruckle, George, & Sons Co.
Asbestos
Johns-Manville Corporation
Asbestos Lumber
Asbestos Shingle Slate & Sheathing Co.
Bag Trucks
Bates Valve Bag Corp.
Basement, Windows—Steel
Detroit Steel Products Co.
Kalam Steel Company
Truscon Steel Company
Bathroom Accessories
Eustis, J. P., Mfg. Company
Hess Warming & Ventilating Co.
Premier Standardized Woodwork
Beads—Corner Metal
Concrete Engineering Co.
Genfire Steel Company
Kalam Steel Company
Truscon Steel Company
Wheeling Corrugating Co.
Beams, Angles, Channels, Etc.
Carnegie Steel Company
Beds—Concealed
Concealed Bed Corp.
Blackboards
Weber Costello Co.
Blinds—Venetian
See Venetian Blinds
Boiler and Pipe Covering
Johns-Manville Corporation
Ric-wil Company
Boilers
American Gas Products Co.
American Radiator Co.
Dahlquist Mfg. Co.
Pierce, Butler & Pierce Mfg. Co.
Bolts—Door
Corbin, P. & F.
Brass and Bronze Workers
See "Ornamental Metal Workers"
Brick
Common Brick Mfrs. Assoc. of America.
Finzer Bros. Clay Co.
Flake & Company, Inc.
Hood, B. Mifflin, Brick Co.
Builders
Stone & Webster, Inc.
Building Paper
Bird & Son, Inc.
Sisalkraft Company
Buildings—Steel
American Bridge Co.
Carnegie Steel Company
Butts
Corbin, P. & F.
Stanley Works
Cabinet Work
Hyde-Murphy Co.
Cabinets—Medicine
Eustis Mfg. Co. J. P.
Hess Warming & Ventilating Co.
Cabinets—Radiators
Tuttle & Bailey Mfg. Co.
Cabinets—Steel
Parsons Company

The Architectural Record, February, 1929
in various sizes and shapes, combining to produce a multiplicity of designs and color tone effects, particularly meet the extraordinary demands for a flooring material where beauty, sanitation, ruggedness and permanence of color are required.

The warmth of feeling from their richly dignified tones harmonizes perfectly with other interior wall and ceiling effects.

Contrary to the usual impression, they are, by virtue of a velvet-like surface texture, practically noiseless under foot and are easily kept clean.

Especially desirable also for English brick paving designs on exterior terraces and garden walks.

Samples of the new Hoodbuff and Hoodgray tiles are now ready awaiting your request. Address Dept. "R," Daisy, Tenn.
ARCHITECT RUSSELL F. BARKER, Hartford, Conn., in designing this home in West Hartford selected WEATHERBEST Stained Shingles in 24-in. lengths for sidewalls specifying angle butt stained white, not to be brush-coated. A Roof of 18-in. WEATHERBEST Stained Shingles in variegated shades of gray is in delightful harmony with the sidewall treatment.

The wide exposure on both sidewalls and roof is only one of the many possibilities with WEATHERBEST Stained Shingles in the longer lengths. Correspondence is invited covering any detailed specification of WEATHERBEST Thatch Treatments, Old Colony Hand Rived Shakes for walls and roofs, and other special effects shown in our literature.

WEATHERBEST Stained Shingles are always uniform—of 100% edge grain red cedar preserved and stained by our special process—triple inspected and packed to full count—ready to lay without waste.

Let us send Sample Colors and large Portfolio of photogravures showing actual combinations for sidewalls and roofs. Check Coupon for Literature on special effects and for modernizing book. WEATHERBEST STAINED SHINGLE CO., Inc., 2313 Main Street, North Tonawanda, N. Y. Western Plant—St. Paul, Minn. Distributing Warehouses in Leading Centers.

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Caseements
Crittall Caseement Window Co.
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International Caseement Co.
Lupton's, David, Sons Co.
Truscon Steel Company
Cellar Drainer
Penberthy Injector Co.
Cement
Atlas Portland Cement Co.
Kosmos Portland Cement Co.
Louisville Cement Company
Portland Cement Association
Sandusky, Cement Co.
U. S. Gypsum Co.
Cement White
Atlas Portland Cement Co.
Sandusky Cement Co.
Cement Bags—Paper
Bates Valve Bag Corp.
Chain Sash
Detroit Steel Products Co.
Smith & Egge Mfg. Company
Channels
Carnegie Steel Co.
Concrete Engineering Co.
Genfire Steel Co.
Kalman Steel Co.
Church Memorials
American Seating Company
Clamps—Lock Joint
Hyde-Murphy Co.
Clay Vitrified
Clay Products Association
Clock and Signal Systems
Time Systems Company
Coal Doors
Kalman Steel Company
Columns, Porches, Etc.
Hartmann-Sanders Co.
Union Metal Mfg. Co.
Competition
Ludowici-Celadon Co.
Concealed Beds
Concealed Bed Corp.
Concrete Accelerator
Master Builders Co.
Solvay Sales Corp.
Concrete Construction—Reinforced
American Steel & Wire Company
Concrete Engineering Co.
Concrete Reinforcing Steel Institute
Genfire Steel Company
Kalman Steel Company
Truscon Steel Company
U. S. Gypsum Co.
Concrete Hardener
Master Builders Co.
Sonneborn, L., Sons, Incorporated
Solvay Sales Corp.
Concrete Piling
See Piling Concrete
Concrete Surface Treatment
Master Builders Co.
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Conduit for Underground Heating Pipes
Ric-Wil Company
Coping Wall
Clay Products Association
Cork Covering
Armstrong Cork & Insulation Co.
Cork Tile Flooring
Armstrong Cork Company, Custom Floors Dept.
Corkboard
Armstrong Cork & Insulation Co.
Covering—Pipe and Boiler
Armstrong Cork & Insulation Co.
Johns-Manville Corporation
Ric-Wil Company
Damper—Fireplace
Colonial Fireplace Co.

The Architectural Record, February, 1929
The three companies amalgamated under the name of Federal Seaboard Terra Cotta Corporation bring under unit management all that is possible in modern terra cotta practice. The ideal, the knowledge and the equipment to insure PERFECTION, the financial strength, the personnel and the capacity for any size work are fully represented in this organization.
The Largest Selling Quality Pencil in the World

VENUS

A Country Cottage or a Skyscraper—whether a lead pipe or a landscape—whatever the nature of your sketch, the result will be more satisfactory rendered with a VENUS PENCIL.

From the vigorous blacks, colorful masses and shadows, soft grays and high lights, to the pains-taking hard lines of the technical drawing, you'll find in the 17 separate, distinct VENUS degrees the perfect pencil for the job.

They are always the same—smooth, uniform, durable—the most thoroughly satisfying pencil you've ever used.

Send $1.00 for special assortment of a dozen styles.

American Pencil Co.
512 Willow Avenue
Hoboken, N.J.

Door Closers
Corbin, P. & F.
Norton Door Closer Co.
Sargent & Company

Door and Window Frames
Andersen Lumber Co.

Doors
Bayley, William, Company
Compound & Pyroco Door Co.
Cornell Iron Works, Inc.
Dahlstrom Metallic Door Co.
Detroit Steel Products Co.
Genfire Steel Company
Hamlin, Irving
Hyde-Murphy Co.
International Casement Co.
Peelite Company, The
Richmond Fireproof Door Co.
Sanymetal Products Co.
Security Fire Door Co.
Thorp Fire Proof Door Company
United Metal Products Co.
Wheeler-Osgood Co.
Wilson, J. G., Corp.

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General Electric Company
Guth, Edwin E., Co.
Hart & Hegeman Mfg. Co.
Hazard Insulated Wire Works
Holster-Cabot Electric Co.
Imperial Electric Co.

Elevator Doors
Peelite Company, The
Secured Fire Door Co.
United Metal Products Co.

Elevator Inclosures
United Metal Products Co.

Elevators—Matot, D. A., Co.
Otis Elevator Company
Sedgwick Machine Works

Enamels
Arco Company
Pratt & Lambert, Inc.

Engineers—Inspection
Hunt, Robert W., Company

Expanded Metal
Consolidated Expanded Metal Co.
Genfire Steel Company
Kalman Steel Company
Truscon Steel Company

Exposition
Architectural & Allied Arts Exposition

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American Steel & Wire Co.

Fence—Woven Wood
Reeves, Robert C., Co.

Fences
American Steel & Wire Co.

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Vonnegut Hardware Company

Fireplace Forms
Heatilator Company

Fireproof Doors, Shutters and Windows
Cornell Iron Works, Inc.
Dahlstrom Metallic Door Co.
Peele Company, The
Richmond Fireproof Door Co.
Thorp Fire Proof Door Company
Truscon Steel Company

United Metal Products Co.
Banks are difficult to decorate— but two San Francisco architects made floors do their part.

A BANK has so little wall space... so many barred cages... so much cold steel. How can such an interior be given the feeling of friendly warmth and welcome that bankers would like their depositors to feel? Obviously draperies, pictures, and all wall decorations must play a very minor part. Obviously, too, the floor must do double duty... serve both as the floor and as the main decorative unit.

Bliss and Fairweather made the floor do its part in The Bank of California, shown on this page, by specifying Armstrong's Linotile in a distinctive design. Dignity combines with a warmth of feeling in this contrasting pattern of black and marbleized green. Linotile is really an exceptional floor. It has the beauty of marble with none of its hardness. Each tile is laid separately by hand, and firmly cemented to the floor base, making a quiet, resilient, long-wearing floor of lasting beauty.

With Linotile, the architect is able to plan any kind of an individualized floor. He can suit his design exactly to the particular type of home or business interior. With the sixteen plain and fourteen marbleized colorings, practically any design may be created, practically any color scheme effectively matched.

Many architects have found that the Armstrong Bureau of Interior Decoration can be of real help in suggesting decorative schemes for any type of interior. We should be glad to have you consult us, too. Just address the Armstrong Cork Company, Custom Floors Department, Lancaster, Pennsylvania.

Armstrong's Custom Floors
LINOTILE
CORK TILE

You can't hang pictures on a SAFE

The Architectural Record, February, 1929
Few churches have attracted as much attention as this one with its towering spire, the tip 200 feet above ground, and with the unique development of its cruciform design. RACKLE ART-STONE, used throughout for doorways, lintels and in many other places, affords a charming relief to the sombre stone used for the body of the building—a note of accentuation that illustrates the happy versatility of this popular product.

Represented in Sweet’s—A 348-349.

THE GEO. RACKLE & SONS COMPANY
Cleveland, Ohio
Established 1870

Fireproofing

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Kalman Steel Company

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Bird & Son, Inc.
Bonded Floors Co.
Wright Rubber Products Co.

Floor Hardeners
Master Builders Co.
Sonneborn, L., Sons, Incorporated
Truscon Laboratories

Floor Plate Steel—Carnegie Steel Co.
Floor Plates—Wood, Alan, Iron & Steel Co.

Flooring
Arkansas Oak Flooring Co.
Armstrong Cork Co. (Flooring Division)
Bonded Floors Company
Bruce, E. L., Co.
Cellized Oak Flooring, Inc.
Master Builders Co.
Moulding, Thomas, Floor Co.
Norton Company
Oak Flooring Bureau
Structural Gypsum Corp.
United States Gypsum Co.
Wright Rubber Products Co.
Zenithem Company, Inc.

Flooring—Composition
Bonded Floors Co.
Zenithem Company, Inc.

Flooring—Engineers and Contractors
Bonded Floors Co.

Floors—Fireproof
Structural Gypsum Corp.
U. S. Gypsum Co.

Fountains—Drinking
Rundle-Spence Mfg. Co.
Taylor, Halsey W.

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Clemetsen Co.
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American Gas Products Co.
American Radiator Co.
Bryant Heater & Mfg. Co.

Gas Ranges—American Stove Company

Glass—Plate
Pittsburgh Plate Glass Co.

Glass—Stained
See Stained Glass

Glass Wire
See Wire Glass

Granite
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Sullivan Granite Co.
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King Construction Co.
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Highton, Wm., Sons, Division of Hart & Cooley Mfg. Co.
Wickwire-Spencer Steel Co.

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The Architectural Record, February, 1929
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The Architectural Record, February, 1929
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When this hearth glows, and flames rear up, lights will liven the glossy oak floor. At all times an oak floor lends charm to a room. There is a simplicity about flooring of oak that strikes a chord with every architectural style.

Oak floors are a token of strength in construction. They are durable. As the years go by they mellow with age and become more and more an expression of taste. At the time of construction, as well as years later, oak floors add value to any house. Yet the additional cost of oak is only a small item.

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The Architectural Record, February, 1929
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Pondosa Pine is trade-marked on the end grain. There is an abundant timber supply and ample mill stocks in shipping condition. Western Pine Manufacturers Association of Portland, Oregon.
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The Architectural Record, February, 1929
There is no second best

A building is supposed to give protection to the occupants. That has been its purpose from the days of the first rude cave.

A modern building is supposed to insure protection from moisture, dust and cold. Whether or not it is actually such a protection depends largely on the use of Pecora Calking Compound.

Wherever wind pressure forces these three destroyers through the walls, particularly around window frames and door frames, and through exposed mortar joints, your building needs to be calked. The best time to do the calking is when the building is being erected. The next best time is now. The best material to use for calking is a material that is permanently resilient and adhesive. There is no second best.

PECORA
CALKING
COMPOUND

clings to the surface of any building material with an amazing grip. Its resiliency is permanent. Properly installed in openings and exposed mortar joints, it positively blocks the passage of moisture, wind and dust.

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ALBERENE STONE

A NATURAL STONE OF DIVERSIFIED ARCHITECTURAL UTILITY

The Architectural Record, February, 1929
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A Barrier to Wind and Weather

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They are particularly desirable where floor space is limited, as they roll up overhead and out of the way, and are quickly raised and lowered either by hand, chain, crank or motor. Burglar proof and fireproof.

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At the mere touch of a button these heavily reinforced doors glide swiftly up and down and deliver quiet, safe and dependable service. Freight movement is accelerated—operating time is diminished—and a distinct saving in labor results.

Chrysler has placed four separate contracts for similar equipment since the installation in the above building—thereby paying a tribute to Seco Doors which can be earned only by delivery of the fullest measure of service.

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Some Other Sonneborn Products

Lapidolith—The original Concrete Floor Hardener.

Lignophol—The penetrating Preservative for Wood Floors.

L. SONNEBORN SONS, Inc.

114 Fifth Ave.,
NEW YORK

The Architectural Record, February, 1929
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Self-Ventilating WATER CLOSETS

Whenever an Abingdon Self-Ventilating Water Closet is specified, you may be sure that the woman of that house will be forever free from the common bathroom nuisance.

Never will her bathroom be a source of annoyance. No more of the embarrassing situations with which she is all too familiar.

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In every detached home—in every apartment—in hotels, clubs, public buildings, comfort stations, and all places where plumbing equipment is required—this handsome unit, with the self-ventilating feature exclusively its own, should be installed.

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The Architectural Record, February, 1929
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Architect

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