Bank of Manhattan Building
40 WALL STREET
NEW YORK CITY

Completely Equipped with Tyler
Elevator Cars and Entrances

The Bank of Manhattan Building, 40 Wall Street, is the tallest office building in the world with one exception.

Thousands of people will make this their business home and millions will visit the building... These millions will be impressed by the beauty and attractiveness of the Tyler Elevator Cars and Entrances.

THE TYLER COMPANY
Cleveland, Ohio

New York • Chicago • Boston
Detroit • Philadelphia • Atlanta
Built to house present-day business, the News Building has abandoned every ancient formula of architecture, and made its own. It copies nothing, repeats nothing. It is bare of battlements, arches, pillars, cornices, cupolas. It professes to be only what it is—a business building.

The piers rise starkly to their appointed heights, and stop simply. Its setbacks make horizontal ledges that temper its vertical rise, give accent and proportion to its towering mass. Superbly planned, it nevertheless pleases the eye and intrigues the imagination . . . Hanley White Glazed Brick with rose and black brick spandrels.
New TRUSCON HEAVY

Thoroughly in keeping with modern requirements of faultless window service.

Double Casement with Transom

Double Casement

Superior Design
The Very Best of Hardware
Prompt Deliveries

Double Casement with Hopper Vent
Steel Casements

Type

Truscon announces the development of a new and superior Heavy Type Steel Casement for use in fine residences, public buildings, offices and good buildings of all kinds.

The members throughout are constructed of extra heavy sections. The hardware is solid bronze of improved design. The workmanship and construction represent the last word in steelcraft.

Heavy Type Truscon Steel Casements can be made to open out or in. We recommend as a general practice that casements to open out be selected.

Glazing may be either on the outside with putty or on the inside with either putty or special hot-rolled glazing beads.

The complete line of Heavy Casements includes single or double units, with or without transoms and hopper vents, and with hinged or fixed sash. Units may be combined as desired to meet the exact specifications of architects.

Details and information for application of Heavy Type Truscon Casements to individual projects furnished on request.

TRUSCON STEEL COMPANY
YOUNGSTOWN, OHIO
Sales and Service Offices in all Principal Cities
Donald C. Bromfield Residence, Denver, Colorado. M. H. and B. Hoyt, Architects.

Genuine hand made replicas of Old World Roofing Tiles

THE HEINZ TILE ROOFING CO
DENVER, COLORADO    3659 COUNCIL ST., LOS ANGELES, CALIF.    101 PARK AVE., NEW YORK
All the individual character of the architect's design, no matter how rhythmic the flow or modern the conception, can be faithfully reproduced in terra cotta. For symbolic figures and other forms of enrichment expressing the most cherished ideals of the American School, terra cotta is an exceptionally sympathetic material. The living, breathing spirit of the ornament is fully retained, as approved in the original model. Each unit, either in white or in full color, can be repeated without the slightest loss of feeling. Every detail is true to the creative impulse which transformed it from a lump of clay into a thing of lasting beauty.

Part One

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For the first time in its history, structural concrete has been endowed with the property of insulating against heat and cold.

The cause—
A structure of individual trapped air cells in the Haydite aggregate, that is vitrified, fused shale, impervious and strong.

The result—
A product that resists the passage of heat and cold and which at the same time brings the weight of concrete as low as 10 lbs. per sq. ft. All this with a strength as great as sand concrete — well above all building code requirements.

Featherweight Concrete INSULATING ROOF SLABS

are providing permanent, fireproof, no-maintenance service on all kinds of buildings—public, industrial and railroad — such as the Adler Planetarium, Chicago—Alexander Gymnasium, Appleton, Wis. — Detroit Municipal Hangar—C. M. & ST. P. R. R.—Oakland Motors—Dow Chemical—and many more. "Catalog and Roof Standards" on request.

Made, Laid and Guaranteed by
FEDERAL CEMENT TILE COMPANY
608 South Dearborn Street  Chicago
FOR OVER A QUARTER CENTURY
A Jet Black Polished FORMICA Store Front

This jet black high polished Formica store front is one of the most striking on Wabash avenue, Chicago.

The material is Formica \( \frac{3}{8} \) of an inch thick with asbestos center. The material was screwed into place.

Both material and erection were much less expensive than most materials that could approach it in good looks and durability.

We shall be glad to send Formica samples and price lists on request.

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4618 Spring Grove Ave., Cincinnati, O.
Concrete structures are the heritage of posterity

Architecture finds full expression in concrete

Concrete imposes no restrictions upon the architect. He plans freely, knowing that in mold or form, in pre-cast block or cast-in-place structure, concrete will reproduce with utmost fidelity even the finest detail of his conception. The solidity of concrete assures firesafety, and endurance with little maintenance through generations. Concrete is a complete building material.

These views are of the Hawthorne School, Beverly Hills, California, of monolithic construction throughout, with decorative details cast in place. R. C. Flewelling, Architect.

Portland Cement Association
Concrete for permanence and firesafety
"According to Specifications!"

A TIME honored phrase... but after your tile work has been completed do you ALWAYS find that your specifications have been carried through to the letter? Are you sure that first quality material has been used? Are you certain that the price you accepted would permit of the best grade being furnished? SPECIFY PARDEE TILES and insist on a PARDEE BONDED INSTALLATION. Backed by the workmanship of a reliable tile contractor, you could have no better form of "INSURANCE FOR YOUR SPECIFICATIONS."

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Whatever You Need in Tile

THIS COUPON WILL ACT AS A USEFUL MESSENGER

The C. PARDEE WORKS
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Kindly send me without cost or obligation:

☐ Portfolio in color.
☐ Color sketch of enclosed area showing how it will look if tiled in Pardee.
☐ Sketch of tile area (with dimensions)
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Color scheme is

Name
Street
City
State

Pardee Supplies
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CERAMICS
INTRODUCING in hardware a new interpretation of Old World architectural design—distinctly fitting for the exclusive suite, the restful foyer, the fine town house, country home or manor.

Massive in appearance with a rugged durability further enhanced by delicate arabesque traceries, RUSSWIN Rim-locks—like all RUSSWIN Hardware—are made of the finest metals, brass and bronze . . . every one of their component parts are hand-fitted by craftsmen, that their rare beauty and charm shall have a like perfection of workmanship.

The four designs shown herewith are the latest development of RUSSWIN, which for almost a century has been the pioneer of the "new" in distinctive hardware for the home.

Inside and out, the quality of RUSSWIN Rim-locks is built to give a lifetime of lasting, trouble-free service and satisfaction . . . hardware you will be proud to live with and which will be a fitting expression of good taste for all years to come. Russell & Erwin Manufacturing Company (The American Hardware Corporation, Successor) New Britain, Connecticut—New York, Chicago, London.

For the Architect’s convenience RUSSWIN Hardware is illustrated and described in Sweet’s catalogue, pages C-3137—C-3216.
In the Tower Dome of the Chrysler Building are 78 Lupton Steel Windows—especially designed for this unique architectural masterpiece. Here is a practical example of Lupton's ability and facilities for handling special window-work. Perhaps we may be of help to you, as well. Write to David Lupton's Sons Co., 2207 E. Allegheny Ave., Phila., Pa.
Alcoa Aluminum reduce weight on City Bank—

By using Alcoa Aluminum, which weighs only \(\frac{1}{2}\) as much as other materials commonly used, the weight of the City Bank–Farmers Trust Building is being reduced many tons without the expenditure of a penny extra. This great weight saving both reduces the cost of shipping, trucking and hauling, and speeds up work on the job.

Over 1,000 spandrels will be used; casement windows—more than 100 of them—on the second and third floors—thousands of feet of hand rail—all of these will be made of the light, strong Alloys of Alcoa Aluminum.

On this building six different decorative ornaments are being used on one spandrel base. Where ventilation was desired behind the spandrel, a vent has been cast in the base and the ornament placed to cover it.

Both the Architect and Builder have found Alcoa Aluminum a most helpful material for many architectural purposes. It is easily worked. It can be wrought, drawn or extruded. It can be cast accurately to any design. No design is too intricate. It can be readily fitted in place either on the exterior face of the structure or on the interior.
Ornaments and Spandrels
300,000 lbs. at no extra cost,
Farmers Trust Building, N.Y.C.

Alcoa Aluminum does not rust. It will not streak
adjoining surfaces; never requires painting. Pleas­
ing effects are obtained by deplating and high-light­
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Our nearest office will gladly give you complete
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Let our representative advise with you on the use
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Specifications of these Spandrels
and Ornaments

"These Aluminum Spandrels and Ornaments shall
be made of Alcoa No. 43 alloy, having a silicon
content of 5%. The average tensile strength shall
be 17,000 lbs. per sq. inch and the average elonga­
tion 5% in two inches. The weight shall not ex­
cede .097 pounds per cubic inch. The surface
shall be free from imperfections and in all respects
equal to sample submitted."

4 of the 6 different Alcoa Aluminum Ornaments used on Spandrels in this Building

Alcoa Aluminum Spandrel Orna­
ment—14 in. x 20 in. Weighs
10 lbs.

Alcoa Aluminum Spandrel Orna­
ment—19 in. x 20 in. — 9 in.
across bottom. Weighs 15 lbs.

Alcoa Aluminum Spandrel Orna­
ment—21 in. x 21 in. — 9 in.
across bottom. Weighs 13 lbs.

ALUMINUM
This is the only light house under U. S. Government supervision built of marble. The architect and the donors were unwilling to permit any but a time tried material to be used for this project. Although Georgia Marble had never been used for a light house, it had been used for fountains, statues exposed to the weather, memorials, mausoleums, and hundreds of monumental public buildings and commercial buildings from Porto Rico to Canada, and coast to coast. Past performance gives ample assurance that Georgia Marble withstands punishing weather changes.
STORE FRONTS BY ZOURI

FINTEX CLOTHES

FINSTERWALD CLOTHES SHOP, PITTSBURGH, PENNSYLVANIA
ARCHITECTS: MARKS & KANN

IN
COLD ROLLED COPPER, BRONZE
OR ALUMINUM, CAST & EXTRUDED
BRONZE

ARCHITECTURAL CASTINGS: ENTRANCE DOORS
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GENERAL OFFICES, CHICAGO HEIGHTS, ILLINOIS

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WRITE FOR CATALOG
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FAST FINISH sacrifices none of the characteristics of Best Bros. Keene’s Cement. It produces the same durable, perfect ceilings and walls for which Best Bros. Keene’s “Regular” Cement has, for more than 40 years, been famous. This fast-working gypsum cement is readily adaptable to all types of modern interior finishes and color effects. It assures that speed for which users of Keene’s Cement have long waited. BEST BROS. KEENE’S CEMENT CO.—1050 West 2nd Ave., Medicine Lodge, Kans. Sales Offices in: New York, Chicago, Toledo, St. Louis, San Francisco, Atlanta, Philadelphia.

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We invite you to write for literature containing full particulars about this pure gypsum FAST FINISH Keene’s Cement.
Note the appeal of this modern Brasco design in contrasting white and statuary finish—a construction of brilliance and permanence.

20 Years of Continuous Quality Have Kept Brasco Foremost

The tone of today's shop is determined by its front of modern design, of new metals and brilliant effects, built to withstand the action of vibration, time and the elements. Twenty years ago Brasco pioneered in the development of quality metal store fronts, engineered for strength, safety, permanent architectural beauty. Today, the same basic principles bring to your clients the very highest value in advanced store front construction. Such quality—and at moderate price—is made possible only because Brasco ability, experience and facilities have progressed with your demands.

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Brasco Store Fronts may be obtained in Monel Metal-Bronze-Copper-PermaWite-Davis Solid Bronze
A charming time-worn texture was given the walls of this and other buildings on the place of Michael Gavin, Jericho, L. I., by using cinder blocks of varying size which had been sprayed with water while still soft. These walls called for a roof that also simulated age, so Hopkins and Dentz, the architects, chose IMPERIAL Shingle Tiles. In color and texture they are amazingly faithful reproductions of tiles which have seen centuries of use.

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Makers of IMPERIAL Roofing Tiles
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NATCO FRITTED GLAZE VITRITILE
NOW OFFERS A NEW MEDIUM OF EXPRESSION TO ARCHITECTS

FRITTED GLAZE—A PLEDGE OF PERMANENCE

NEW fields of color composition, color harmony, are open with the advent of Natco Fritted Glaze Vitritile. The comprehensive line of structural units, suitable for interior or exterior walls and partitions, are painted with flame into beautiful luminous matt whites, striking blacks, and seven delightful and unique mottled effects, ranging through cream tans and cream browns.

Beautiful When Installed—the Beauty of this New Material Endures

The Natco Fritted Glaze process, scientifically developed, is a pledge of permanence. The glaze is as permanent as that on the finest English Glazed Brick—the standard of excellence in materials of this type.
NATCO FRITTED GLAZE represents the successful culmination of a determined attempt to produce a glaze so permanent—so impervious—so immune to the destructive agencies of time, the elements, chemical attack, staining, checking, and crazing—that it will easily meet the most exacting requirements. The fritted glaze process is the most effective method science has devised of holding, crawling, peeling, blistering, cracking and pinholing to a microscopic minimum.

Tests and experiments early disclosed that the ordinary processes of raw mixing, spraying, and kiln-burning which are in common use were powerless to attain these ideals. Only by the scientific fritted glaze process could they be realized.

NATCO's frit is made of a number of various compounds, which are mixed, melted at 2300°, chilled and then ground to an immeasurably fine powder. This powder represents a new and homogeneous compound, which melts at a much lower temperature. The successive coats of glaze material (sometimes as many as 7) are applied to the tile on a patented "G Mottling" machine, developed by a ceramic expert. This machine does its...
work with absolute precision, substituting for the uncertainties of makeshift methods un­varying excellence of results. When the tile is kiln-burned, the frit causes the glaze to mature at a lower temperature; form a more intimate bond with the tile; give—because the various elements have been pre-melted, instead of merely fused, together—more uni­form results; and yield a silica glaze equiv­alent to that on the finest English glazed brick—the accepted standard of excellence. Colors are prepared in the same pains­taking, scientific way. Instead of merely mixing a dye-powder with the glaze, Natco utilizes calcined colors, the various com­pounds required to produce the desired shade are blended, burned, wet-ground and the resulting powder screened, before it is added to the glaze. Color variation is thus reduced to a minimum.

The added care needed, the added expense, of the scientific Natco Fritted Glaze process is abundantly justified in the increased service, the assured satisfaction, the well­founded confidence that Natco’s product offers to the user. Fritted glaze is a triumph of the ceramic art, a pledge of permanence to you.
The architects' cry for a new brick unit will soon be answered. Natco Vitribrik, shortly to be introduced, will offer a brick twice the height of the present standard. Its face will be finished in a beautiful and permanent salt glaze, which resists all agencies of destruction. Watch for the announcement, soon to come.

Natco Fritted Glaze Vitritle
For Permanent Walls of Enduring Beauty

EXTERIOR USE
The calcined colors and fritted glazing of Natco Fritted Glaze Vitritle are prepared by a scientific process, and then are fired in, making them immune to acids, to alkalis, to the attack of the elements. The most striking effects may be obtained through this material and the effect will endure year after year with no decrease in attractiveness.

INTERIOR USE
Beautiful, colorful finishes, hitherto obtainable only through costly decorating, now can be built into the wall. Instead of being faced with the necessity for frequent redecoration, the owner has a wall finish that will last as long as the wall itself. Dirt will not harm it, acids will not affect it. The glass hard fritted glaze repels dirt, is easily cleaned and kept clean.
MONSON ROOFING SLATE

The requirements for beauty, strength, and long life are perfectly satisfied in Monson—the finest type of unfading black slate. Mined and shipped directly from our quarries to the project, Monson is given the same careful supervision and inspection that our other slate receives. Since this splendid black slate costs little more than inferior slates to quarry and no more to apply, the architect may specify a high class roof of Monson without appreciably increasing the cost of the building.

Rising-and-Neilson-Slate-Company
WEST PAWLET, VERMONT
Architects' Service Department: 101 Park Avenue, New York City
THIS UNRUSTING UNSTAINING UNTARNISHING

ALLEGHENY METAL . . .

AN UNPLATED ALLOY, FAR STRONGER THAN MILD STEEL. THE IDEAL METAL FOR INTERIOR AND EXTERIOR TRIM, FOR KITCHEN, HOSPITAL AND LAUNDRY EQUIPMENT.

No man can foretell how widely Allegheny Metal will be used. It finds its way into trims for many buildings . . . into pans for many humble kitchens. It has, in fact, a thousand and one uses.

In many applications Allegheny Metal is new. Old and thoroughly tried in others.

In Chicago this lustrous alloy sheathes a bridge, the connection between the Daily News Building and the Chicago & Northwestern Station. After years of exposure to rain and winter cold, to smoke and parching heat, it remains untarnished and uncorroded . . . Other metals, exposed to similar conditions for the same length of time, cannot match Allegheny Metal.

Because it does have so many superior qualities, Allegheny Metal has been chosen recently by architects for three of the world’s largest skyscrapers. First to use it is the Wacker-La Salle Building in Chicago. Rebori & Wentworth, the architects, specified tons of this alloy to trim the interior. Second, the Irving Trust Building on Wall Street in New York City (architects, Voorhees, Gmelin & Walker) will use Allegheny Metal in the same way. On the huge Empire
State Building, Shreve, Lamb & Harmon, the architects, have chosen this alloy for window trim, ornamental sunbursts, store fronts and dirigible mooring mast. Allegheny Metal will rise from the fifth to the eighty-fifth stories of this building in mullions and window trim, affording brilliant contrast with the gray limestone piers and the darker vertical lines of the windows.

Architects on these structures chose Allegheny Metal from the multitude of available alloys for several reasons. First, it has a bright, silvery surface which lasts. Further, it is unrusting, unstaining, untarnishing even under many rigorous exposures.

It is easy to clean as glass, and should be cleaned in the same way as glass. It is far stronger than mild steel, resisting denting and scratching. It is unplated, with no thin coating to chip or peel. And it is readily available.

For decorative use, Allegheny Metal affords an interestingly wide range of finishes. Make it mirror smooth for brilliant bands of white. Use it dull for dignity in restrained design. Etch it with any pattern to harmonize. Alternate Allegheny Metal, brass and copper for still different effects. But never conceal it or paint it over—better use a baser metal instead.

Along with its decorative
functions, Allegheny Metal has strength. This brilliant alloy is far stronger than mild steel. Plans need not be made entirely to support Allegheny Metal on the structural frame. With such strength, it helps bear part of the load. With such strength, it is used for bolts, rivets and all necessary materials.

This alloy is specified on exteriors in present architectural plans for high, many-storied buildings. For roofs that will last for ages. For store fronts. For window casings that will never stick or jam from rust. For marquees and ornamental doorways. For glistening decoration.

In interiors still more uses present themselves. Most important are elevator enclosures, grilles, trim, railings, mopstrip and door hardware. In this field particularly, no man can foretell how widely Allegheny Metal can be used.

A new type of design is thrown open by the use of Allegheny Metal because it is so easily kept clean. To illustrate, some building managers today instruct their maintenance crews to refrain from polishing escutcheon plates of brass. They do this because the harsh abrasives or powerful cleaning fluids required would also remove the paint adjacent to the plates, exposing base metal to corrosion.

No strong cleaning fluids are needed to keep Allegheny Metal bright. Most users keep it shining with plain soap and water. And this humble cleaner will not scour off paint.

The type of design suggested by this description employs brilliant silvery stripes of Allegheny Metal immediately adjacent to a painted surface for any kind of flat design.

Even in homes, Allegheny Metal brightens design and eliminates laborious cleaning. Architects and interior decorators say it is the better material for lamps, lighting fixtures, radiator covers, fireplaces, kitchen and bathroom equipment.

Mr. Raymond M. Hood, over a year ago, chose this alloy for the overmantel, ceiling and window curtain in an Apartment House Loggia. The loggia was built for the 1929 Exhibition of Contemporary Design at the Metropolitan Museum of Art, New York City.

This use indicated that style in living quarters today trends toward the use of plane metallic surfaces. And taste decrees that these surfaces be white and silvery, rather than of yellow-colored metals. Fortunately it is that Allegheny Metal is now available, that it is so nearly perfect for this use.

Even beyond the decorative parts of the home, Allegheny Metal has forged its way back to the kitchen and up to the bathroom. Here it lends new beauty because it is a bright metal, because it will not chip nor corrode.

For sheer kitchen utility, Allegheny Metal has years of experience to recommend it. Unrusting from water, unstaining from foods, untarnishing...
from strong fruit acids. No strong cleaning fluids are needed to keep it bright. It cannot taint foods in taste, in color, or in any manner whatsoever. It is the safe metal. Enlarge the home kitchen tasks of Allegheny Metal, and one finds it used widely in the kitchens of restaurants, hotels, hospitals and all other types of institutions. For instance, the famed Haddon Hall kitchen in Atlantic City has complete kitchen equipment of this alloy. The kitchen of the Chateau Laurier, Ottawa, Canada, is completely furnished with it.

Among restaurants, Allegheny Metal is used by Childs, William R. Childs, Horn and Hardart, Acker, Merrall & Condit, John R. Thompson, Stouffer’s and many other huge organizations. The Passavant Memorial Hospital in Chicago and the Montefiore Home in New York City are two of the many institutions equipped with Allegheny Metal in their kitchens.

Not alone in the kitchens but in the laundries of large institutions, Allegheny Metal is showing its superior qualities. Here its advantages are many. It is easy to clean. It will not spot in the bleach. Its strength is a big factor. And its beauty again comes to the front, for institutional laundries are often inspected by visitors. Everyone appreciates the lustrous sheen of this alloy.

In working with Allegheny Metal, as with hundreds of other building materials, the wide experience of the manufacturer can help the architect toward economy, and toward proper use in his own design. The staff of the Allegheny Steel Company has consulted with many architects in the successful applications of their product. This staff is glad to be of use in this way at any time.

If you wish information on the use of Allegheny Metal, the ideal alloy for interior and exterior trim, for kitchen and laundry equipment, write direct to the manufacturer.
Face Brick in Colorful Tones
Characteristic of Latin-Type Architecture

Experience is rapidly converting home builders to the use of permanent and colorful face brick. The brick structure will not burn or wash away, and age serves only to enhance its colorful charm. Thirty-nine years in the art of brickmaking enables us to offer "a brick for every type—a color for every color scheme." Let us help solve your color problems in...

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Face Brick—
Yearly Capacity

Manufactured by
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Established 1891

Plants, Offices, Displays and Dealers Through the South and Southwest

NEITHER BY FROST, FIRE, FLOOD NOR TIME ARE WELL BURNT CLAYS DESTROYED—SPECIFY ACME
IF YOU'RE OPEN TO NEW IDEAS

consider the advantages of the
new Collins & Aikman Carpet

COLLINS & AIKMAN CARPET is a quality pile carpet, coming in 51-inch widths only. On the back, instead of ordinary sizing, a material of permanent resiliency is used. This penetrates and locks the pile. By an exclusive process of joining, the carpet may be laid in a room of any size—even an entire hotel lobby—to give a seamless, broadloom effect. And it sells at the price of ordinary narrow-width carpet! With these revolutionary features in mind, what are the advantages of Collins & Aikman Carpet?

(1) Naturally, the main advantage is a luxurious, decorative effect at an economy price. The desirable appearance of seamless broadloom carpet, formerly obtainable only at relatively high cost, is now available at the regular narrow-carpet price.

(2) The beautiful unbroken surface of Collins & Aikman Carpet is possible even in places where broadloom carpet would have to be cut and sewed... for circular and odd-shaped stairways, around pillars or obstructions, in irregular corners... and for rooms over 18 feet in width, which is the limit of broadloom.

(3) You may choose any color combinations you desire, to harmonize with the decorative scheme of a room, and have them made up in Collins & Aikman Carpet without the prohibitive expense of special weaving. All sorts of designs, patterns and borders are possible without spoiling the seamless appearance.

(4) Collins & Aikman Carpet is protected by the best kind of insurance against burns and uncleannable stains. Spots may be quickly cut out and repaired by the insertion of new pieces, which cannot be detected.

(5) The special resilient backing of Collins & Aikman Carpet is water-proof, and the carpet can be washed and scrubbed on the floor.

(6) You may have rugs of any size, as well as overall carpets, made up from Collins & Aikman Carpet... quality rugs in any special designs or color combinations you desire. The resilient backing of Collins & Aikman Carpet makes it unusually valuable in rugs, for it prevents them from slipping or skidding on the floor.

For illustrated booklet, giving full details, write to Collins & Aikman Corporation, 25 Madison Ave., New York City.
OLD EUROPE SHINGLE TILE

OLaD EUROPE Shingle Tiles are rapidly gaining recognition as the most suitable tile to simulate that hospitable charm of handmade slop-mould shingles of Old England. Elusive tinges of mossy patina, incidentally discovered among the darker values of weathered browns and gray mauve hues, form a natural gradation from eaves to slightly grimy browns and pastel salmons at the ridge, a most pleasing characterization of the actual aging of time-toned tiles. Comprehensive samples will be gladly submitted to the architect or his client. Address Dept. F, Daisy, Tenn.

B. Mifflin Hood Company
KIL-KRAFT TILES
TRADE MARK
DAISY, TENNESSEE

Above all things use Hood Roofing Tile
VALUE at your WINDOWS

isn't THAT what you want for your window shade money?

With all the shouting that's going on about "special features" of various window shadings, it is not always easy to remember that the one and only vital feature is... that your shades do, and keep doing, good work at your windows.

Compare a Columbia NIAGARA washable shade with any other, and you'll see just what we mean. We'll provide the NIAGARA shade any time.

NIAGARA does a splendid job at your windows. Its colorings are rich and even. Its texture and finish bespeak the thoroughbred. Its translucency gives a delightful effect... with no sacrifice of privacy.

Yet NIAGARA costs less than you'd guess. And its length of service is more than you've ever had reason to expect of a shade.*

NIAGARA doesn't "go dead" with exposure. It keeps its shape and appearance.

And it is washable...really washable...repeatedly washable.

NIAGARA, sir, is the best performer you can buy, by a wide, wide margin... and performance is what you want, isn't it?

*NOTE: When you specify NIAGARA shades, be sure to get Columbia rollers, for it takes the world's best roller to match NIAGARA's service.

Columbia

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THE Columbia MILLS, INC., 225 Fifth Avenue, New York  •  BRANCHES: Baltimore  •  Boston  •  Chicago  •  Cincinnati
Cleveland  •  Dallas  •  Denver  •  Detroit  •  Fresno  •  Kansas City, Mo.  •  Los Angeles  •  Minneapolis  •  New Orleans
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Wood is king... of good looks and good value. Walnut, Mahogany, Oak, Birch, Gum... so on and et cetera. They all make handsome office walls and add charm to every interior.

Wood withstands abuse... improves with age. When expressed in Circle A Partitions, wood serves a double purpose. It builds an office today that can be taken apart tonight... and rebuilt to new requirements tomorrow.

Doorways are changed. Two offices are made of one. The secretary has privacy at little cost. It is done quietly, with unbelievable speed. Send today for data on these versatile and eye-pleasing office walls.

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652 So. 25th Street, Newcastle, Indiana
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Also manufacturers of Circle A Folding Partitions, Rolling Partitions, Kitchen Units, Portable and Permanent Steel Grandstands, Portable Wood Bleachers.
THE PINE FURNITURE OF EARLY NEW ENGLAND

A REVIEW BY

CLIFFORD WAYNE SPENCER

The charm of early American furniture lies largely in its primitive simplicity and in the fact that each piece is highly personal. It was made by an individual for another individual, with its ultimate use definitely in mind. It is an expression of that urge to produce beautiful things that is so strong in the makeup of all of us. If it be true that to be beautiful an article must be useful, these implements of every-day life in the homes of the early settlers certainly fulfilled all the requirements of true beauty. Added to the qualities of simplicity, utility and personality, there are the endearing influences of historical association, and the mellowing touch of time, sharp edges softened by the wear of long use, and above all the marvelous patina that can be acquired only by beautiful woods after a long period of use and with constant rubbing and waxing. These are the qualities that cannot be duplicated and that account for the great interest and love that so many people have come to have for the simple objects with which the early inhabitants of this country surrounded themselves. It is never claimed that the work of these early cabinet makers represented the last word in the furniture maker's art; it was too limited in the quality of its material, the nature of the tools with which the craftsmen worked, and the necessity of making articles to withstand hard usage, to attain anything even approaching perfection. In fact it was these very shortcomings that lead to their products their greatest charm,—soft woods worked by hand with simple moulding planes and workmanship not too skilled.

In the choice of the woods which the early craftsmen employed, they were probably interested primarily in those that were easily worked and durable. At first it was thought that only oak, of the native woods, would be sufficiently durable, but it was soon discovered that although quite soft and light, the wood of the white pine was capable of withstanding hard usage and long wear, and that where an especially hard wood was desired the so-called hard pines would answer very well. The smoothness of the grain of the white pine and its softness gave to it the added advantage of being easily worked, which in those days of primitive tools was a great advantage. Their choice of pine as the principal wood for building furniture and interior woodwork has proved very fortunate, for the centuries that have passed have demonstrated that the wood is capable of withstanding unlimited wear and that in varying lights it takes on a great number of rich and agreeable color variations ranging from a bright red to a light cream color, and that the wear and tear of rough usage only serve to add to the general effect of softness and mellowness. The patina assumed by pine after a long period of use furnishes a clue to the genuineness of a piece, since it cannot be reproduced successfully by any modern method of finishing, and it adds still further to the mellow charm of an authentic old piece.

In the volume which is the subject of this review the author has selected his material carefully from examples of the colonial cabinet maker's art which were found in New England and which are constructed either wholly or largely of pine. In presenting a subject such as this the matter of careful selection is of the greatest importance, since it does not follow that because an object is old it is necessarily good. Probably the proportion of ugly pieces in relation to the beautiful was as great in those days as it is today, and while a great majority of the ugly pieces have ceased to exist for that very reason, there are still in existence large numbers of relics which are interesting only on account of their age and which have no place in a volume of this sort. In this case the selection seems to have been very well and carefully made, with an eye to their beauty and also to their adaptability to reproduction. The author evidently was inspired by a great love for his subject and a true understanding of the intrinsic beauty found in the furniture of this period and class. It is also evident that either his architect had access to many collections in private homes as well as to those in public museums. In most cases great care has been taken to present the objects in connection with their proper backgrounds of authentic early American interiors. In these instances the author's architectural training has stood him in good stead, and nothing is shown that is not in agreement with the dictates of good taste.

In addition to the plate section, which constitutes the major portion of the volume, an introduction by the author presents a general view of the subject to be discussed and will afford the reader, especially if he be comparatively unfamiliar with the subject, an adequate understanding on which to base his enjoyment of the volume. Some knowledge of the woods to be used is of prime importance to such an understanding, and the author discusses in the order of their importance the various woods which played a part in the construction of furniture in the early American period, especially in New England. In this classification white pine naturally takes first place. Its good qualities are explained, and the reader is shown how he can distinguish between the various kinds of pine in common use in this country prior to the Revolution. The second important phase

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An Authoritative Work on
"The Greek Revival"
By Howard Major

The search for effective types of architecture for domestic use led logically to the re-discovery of the style known as the "Greek Revival." In the hands of a few particularly skillful architects it is being used with marked success, their use being based largely upon study of such examples as have survived the period, just prior to the Civil War, when use of the type was widespread throughout the United States. It is an entirely American style, founded not upon a following of current English architecture but upon a study by Americans of classic types adapted to domestic uses.

Mr. Major's excellent work is the result of a careful study of the style as it was interpreted in the North and East, and particularly in the South. The illustrations of exteriors and interiors are full of suggestions for anyone seeking a variety of architecture bold, simple and effective, which supplies a fitting background for life in America. The book is richly illustrated, and shows existing work, large as well as small, in both city and country.

236 Pages; 7½ x 10¼ Inches. Price $15

THE ARCHITECTURAL FORUM
521 FIFTH AVENUE NEW YORK
Materials assembled for laying one-piece cove-base and border in an "outside" corner. The cove-stick has been installed and Sealex Linoleum Paste has been applied on the wall.

Here we see the mechanic fixing the cove-base and border in place by means of headless brads, placed on 3" centers, 1/4" below top of base.

Picture shows mechanic completing the job, spreading linoleum paste under edge of the border and the patterned linoleum used for the floor.

The diagram above shows the materials required for a one-piece cove-base and border, and the mechanical details of assembly. The cove-stick is merely a piece of soft wood, triangular in shape, with 1 1/2" leg calked to a concrete face. This method of construction gives a neat, sanitary effect at comparatively low cost. It was developed entirely within the Bonded Floors organization and is available through Authorized Contractors of Bonded Floors.

The pictures on this page show three steps in the installation of a one-piece border and sanitary cove-base in Sealex Linoleum. Constructing this as one unit is one of those fine points of craftsmanship that mark the difference between a good floor and a fine floor.

This one-piece border and cove-base was developed by the engineers of the Bonded Floors organization. The men best qualified to install it are the Authorized Contractors of Bonded Floors, located in principal cities throughout the country.

Everyone admits that the customary factory-made cove-base furnishes a satisfactory job. The one-piece base, border and cove, however, possesses certain definite points of superiority. It lends itself to a much greater variety of decorative effects. It makes possible a border of any width, in any weight of material and in any color—as opposed to the strictly limited assortment of effects in the factory-made cove.

Furthermore, this Bonded Floors cove-and-border is structurally sounder than the old-style type. The number of cove cross-joints is reduced. It is less expensive to construct—and can readily be installed.
on the job by a skilled mechanic. We recommend it for commercial and business installations and particularly for schools and hospitals. Not to mention kitchens in private homes.

We have described this Bonded Floors improvement in some detail because we consider it a typical example of the progressive flooring service offered by Authorized Contractors of Bonded Floors. The ready-cut borders illustrated on the right are another service feature available through Bonded Floors contractors. These strips can be combined into a great variety of attractive border effects—without the expense and wastage of material that is inevitable when the border is cut out by hand on the job.

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(See preceding page)
interesting variation of the bench is the settee, often placed before an open fire, its high-boarded back evidently designed to prevent drafts. An unusually beautiful bench of this sort has an interesting paneled back and arm rests sawn to an amusing profile. Other variations of the bench were the "settle bed," the "chair table," and the "settle table."

The variety of tables shown here indeed covers all sorts. There are tiny stands for holding candles and huge trestle tables which might be taken apart and put away between meals; there are hutch tables with little chests beneath the tip tops, and all sorts of gate-leg and butterfly tables in every shape and size. The desks illustrated are of many kinds. The section on cupboards and shelves includes some very fine old dressers, and one or two useful suggestions for the arrangement of shelves in paneled rooms are given. The sign boards which the author has included among the furniture are amusingly quaint and no doubt will be a source of much inspiration to architects in the designing of similar decorative signs for their buildings. Although it is no longer customary to make weather vanes of wood, the pine vanes illustrated here are very good in design and their forms might be easily adapted for other materials.

In addition to all these variations in furniture, it seems that there was scarcely anything that the early settlers needed that could not be fashioned from pine. Mirror frames, lanterns and even chandeliers are shown, in the construction of which pine has been used, due no doubt largely to the fact that it is a wood that can easily be worked by amateurs, and this same quality will doubtless suggest to many who see these plates the possibility of reproducing some of the pieces for themselves. For these and others who are interested in the actual design and construction of the pieces, there is included a section of 55 full-page plates of measured drawings, showing the details of construction and design of many of the pieces shown in the illustrations in the volume.


RATHER than to present an encyclopedic treatise on shadow projection, the author has confined this work to an analysis of methods employed for all forms, with demonstration of those considered most typical. In all cases the forms chosen have been designed to explain the principles of shadow projection, and for no other purpose. The first and second parts of the volume deal with the shade and shadows of points, lines, shapes and forms, and the third part with the shade and shadows of more complex forms; the fourth part gives a series of rapid methods for complex forms, and the last part shows methods of projecting shadows on interpenetrating forms which are designed so as to introduce minor complexities. Shadow projection is a means to an end. Its usefulness is limited to those forms which bear obvious geometrical analysis. The diagrams are simply presented and are very readily understood.

ARCHITECTURAL SHADOW PROJECTION. By John M. Holmes. 58 pages, 9½ x 13 inches. Illustrated, cloth. Price 10s./6d. The Architectural Press, 9 Queen Anne's Gate, Westminster, S.W. 1, London. To be ordered directly from publishers.

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SIR ASTON WEBB 1849—1930

During the latter part of August, announcement was made of the death in London at the age of 81, of Sir Aston Webb, regarded by many as the foremost among British architects. Sir Aston was the recipient of many honors in both England and America. In addition to having served as president of the Royal Academy, in itself a distinction of high order, he was awarded the British Gold Medal in 1905. He was one of two British architects to receive from the American Institute of Architects its gold medal for distinguished architectural achievement. Born May 22, 1849, he was educated privately, received the honorary degree of Doctor of Laws from Cambridge, and was knighted by Edward VII in 1904. Sir Aston Webb was emphatic in expressing his aversion to the modern skyscraper, and was strongly opposed to its appearance in London, where he maintained that conditions for erecting such buildings are unfavorable. He will be best remembered as architect of the Admiralty Arch, the structure leading from Charing Cross to the Mall; the buildings of the Imperial College of Science, and the new buildings of the Victoria and Albert Museum at South Kensington; and particularly as the designer of the new exterior which some years ago was given to Buckingham Palace, the London home of the British sovereigns.

ENLARGED STAFF AT NEW YORK UNIVERSITY

Dean Rossange, of the Department of Architecture, New York University, announces the appointment of George A. Licht as an additional critic in design for the coming year. Mr. Licht, the winner of the first Paris Prize in 1904, has served with the faculties of Princeton and Columbia, and in addition has had for many years an atelier of his own, which has won many high awards in the Beaux Arts Institute competitions. This addition to the design staff of New York University, which already includes Burnham Hoyt, George S. Koyl, Will Rice Amon, A. C. Schweizer, and E. O. Holien, makes it one of the strongest departments in this country and will undoubtedly enable its students to maintain and probably excel the exceptional record established during the past year. DeWitt C. Pond, the well known architectural engineer, will be added to the staff in charge of construction, and will assist in developing the new option in architectural engineering. In view of the very great importance of construction in modern functional architecture, it is proposed to develop and strengthen the courses in that subject and to relate such courses very directly to the work in design.

The new quarters of the department, at 250 East 43d Street, are within a block of the Beaux Arts Institute of Design and in close proximity to many of the most important architectural offices in this country. High above the streets, the lecture rooms, library, atelier and drafting rooms are admirably lighted and most commodious. Although much larger than the old quarters, they would be more than filled by the large number of applicants, and admission will be placed on a competitive basis; 75 students were enrolled in the summer session this season. A number of these students came from other institutions during their vacations in order to enjoy the exceptional opportunities offered in New York. To assist students in such study, it is proposed next year to offer a number of inspection visits, under the leadership of specialists, to many of the extraordinary examples of modern work which New York contains.

The great success of the course in "Modern American Problems," open to the public, which was given last spring, proves the importance of such study at this time. A second series will be offered during the coming year and also a new series on the "Promoting and Financing of Building Projects." Practicing architects recognize more and more the necessity of knowledge of these subjects, and interest shown in this course since it was announced assures its popularity.

In September, 1931, two new five-year courses will be inaugurated, leading to degrees. These courses will be added because it is becoming more and more difficult to give an architectural student adequate training in only four years. It is proposed also in 1931 to offer for women a special course in architecture leading to the degree. This course will be similar to the existing courses and will include the fundamental work in construction, meeting fully the requirements of this state. But it will recognize the special attitude and also the limitations of women for architectural work, and emphasis will be placed on residential work and interior decoration. Few women are numbered among the most successful architects, and yet the importance of the woman's point of view, experience and taste, when it comes to domestic architecture is recognized and commented upon. In this course a special series of problems in design will be given, including country and city houses, tenements, apartments and hotels.

JOSEPH EVANS SPERRY 1854—1930

The death of Joseph Evans Sperry, one of the best known Baltimore architects, occurred August 7 at his home in Guilford, a Baltimore suburb. His name has been closely linked with the growth of the Johns Hopkins University and Medical School. He designed the civil and mechanical engineering buildings at Homewood. He also designed the dispensary, Institute of Pathology, Halstead and Osler clinics (now under construction), the Wilmer Eye Institute and the women's clinic in the medical and hospital group of the institution. The Union Memorial Hospital, together with the Johnston Children's Clinic and the Bauernschmidt Memorial, also were designed by Mr. Sperry. Other buildings he designed include the Equitable and Calvert Buildings, the Emerson Hotel, the Emerson Tower Building, and the Emersonian Apartments.
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**SEPTEMBER, 1930**

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VAN WART AND WEIN, ARCHITECTS

FROM A WATERCOLOR DRAWING
BY EARL HORTER

The Architectural Forum
THE MODERN APARTMENT HOUSE

BY
FRANCIS S. BANCROFT
VICE-PRESIDENT OF PEASE & ELLIMAN, INC.

THERE is no doubt that the architect has
exerted as strong an influence on the phe-
nomenal development of the apartment house,
which has been a feature of the past two decades,
as any other one factor. Of course the fact that
Manhattan, being an island, can never be spread
out over more than the original area, has made
it economically unsound for only one family to
live on a plot of land which is continually in-
creasing in value, and the scarcity of servants at
reasonable wages has made it nearly impossible
for any but the ultra-wealthy to run a large house
efficiently. The result of these two difficulties
would have become acute had not the architect
gradually evolved an apartment design which wa>
acceptable to a large portion of New York's
population.

In the beginning, apartments which were then
known as French flats, were not popular, and
their occupancy was confined to those who de-
sired or were forced to economize. It was the
development of the cooperative which first
gave a spur to and public recognition of apart-
ments, a movement which was started about 1880
by T. G. Hubert, of Hubert and Pierson. These
houses approximated as closely as possible the
arrangement of an attractive private dwelling.
In the early years of the present century, co-
operatives, under the name of “Home Clubs,”
introduced the first duplex apartments.

By 1900 an apartment house plan was devel-
oped which appealed to those of moderate cir-
cumstances. The wealthy classes were still living
in private dwellings, oblivious of the fact that
within the next fifteen years they would them-
selves be apartment house tenants. The typical
building then was of seven stories with an ele-
vator, with a height restricted by law to not more
than eighty-five feet. The usual family suites
consisted of six rooms and a bath. The apart-
ment was entered through a very small foyer,
opening on a long narrow hall off of which
opened the parlor, three chambers and a bath.
To enter the dining room it was necessary to go
back through the long hall and turn on a passageway
at right angles. The dining room was con-
ected with the kitchen and an adjoining bath.
Even in the few apartment houses which had
suites renting at the then staggering sum of $10,-
000 a year, the same long winding hall was in-
trouduced. The only essential difference between
the two was the inclusion of more baths and a
few small rooms such as a library, a billiard
room, etc.

The plan introduced by J. E. R. Carpenter
some years ago, where the rooms were regrouped
with entertaining rooms on one side of a gallery
and bedrooms on the other gave a great impetus
to the increased popularity of the apartment
house. This plan is to this day universally used.
Since these beginnings the apartment house has
so developed that it can now include features
which could not be found in any private house.

The ideal way to erect an apartment house to-
day is to have complete cooperation between the
builder, the architect and the renting man. The
builder can discuss a plan which would return
him a satisfactory return on his investment, the
architect one which will be aesthetically pleasing
and utilize every foot of space advantageously,
and the renting man one which will contain the
features demanded by and most pleasing to
prospective tenants. Without this complete un-
derstanding between the three forces behind any
apartment building, the builder would perhaps
indulge his wish to obtain the maximum number
of apartments in a building to a point where
there would be many unrentable apartments, the
architect would be more likely to go to the other
extreme, and the renting man would be left with
an impossible problem.

The first thing which is demanded by the apartment public today is spaciousness. Even if the rooms cannot be very large, a design giving the effect of space proves popular. Wide doors, ceilings as high as possible, windows placed to utilize every ray of the morning and afternoon sun, and permitting proper furniture placing, well-planned closets and bathrooms are a necessity today. No longer will a prospective tenant be satisfied with shallow and inadequate closet space, dark and poorly ventilated bedrooms, for the sake of roomy entertainment rooms. The same feeling of space must be applied to all of the rooms, with the possible exception of the kitchen, where, the introduction of so many mechanical devices and the desire of most servants to have all cooking equipment and cupboards as nearly contingent as possible make compactness desirable in this room. The introduction of the dining alcove in small apartments has proved popular as the subsequent saving of space enables these suites to have facilities not previously obtainable.

The builder and architect today must include in their buildings all of the modern conveniences if they wish to meet competition in renting. Mechanical refrigeration is today an absolute necessity. Bathrooms equipped with glass-enclosed showers attractively tiled in the modern manner are a renting aid. Radio outlets in all living rooms, a large supply of telephone and base electric light plugs, wood-burning fireplaces, cedar-lined closets, are all desirable. One of the most interesting developments in the last five years is the growth in popularity of pent-house and terrace suites.

In 1900 an apartment house on Riverside Drive was considered a wonder because it had on the roof two summer house pavilions which were open to all of the tenants in the building. Gradually the idea of utilizing this space for apartments where the tenants could have their private roof gardens in gardenless New York became popular. Today the pent-house suites are usually the first to rent in a building. With the advent of the new Multiple Dwelling Law, with its required number of set-backs, the terraced suite has reached a new development. Today builders are including these terraces which furnish the equivalent of a front porch wherever possible. These are usually decoratively tiled, have ornamental railings, and, in some instances, connections for a fountain. Every builder and architect should include in their plans as many of these suites as possible. Even if they can only be large enough to include a few plants, the view furnished and the long French doors through which they are usually approached, have great public appeal.

There is still one respect in which apartments are undesirable, and that is the living quarters for servants. Even in some of the de luxe apartments the sleeping quarters for servants are little above the tenement house class. The efficient servant passed years ago out of the drudge class and today commands a respectable salary. The day will come when tenants in buildings will find the servant problem acute unless better accommodations for them can be offered. In many buildings it would take nothing short of magic to provide adequate service rooms as well as spacious apartments for the tenants, but this is a problem to which much care must be given both for economic and humanitarian reasons.

There are two extremes in apartment planning which the architect must avoid if he wishes his building to be a financial success. One is the growing tendency to provide very large rooms, a tendency which, in some cases, passes all economic necessity and wastes space which might be better utilized. The other is the complete acceptance of the builder's desire to include a certain number of rooms in a building. If a building is so standardized and commercialized that each floor must have a given number of apartments, regardless of the number of baths, closets or maids' rooms, the result is a number of unrentable suites and an unsatisfactory yearly return to the builder on his investment.
CRITICISM OF APARTMENT ARCHITECTURE

A CRITICISM AND A PROPHECY

To justly criticize American apartment houses one must consider the many sides of the problem. First there is the fact that, like the office building, the apartment house is, strictly speaking, a commercial proposition. To bring in a reasonable return on the money invested is the end to be sought in any apartment house project. Therefore, the all-essential factor is an economical, convenient, well arranged plan. Architects most surely have accomplished this during the past 20 years of intensive apartment house construction. Today there is no excuse for any architect's designing a poorly planned apartment house. The plans of countless successful buildings of this very specialized type and purpose are available for his information and inspiration. Architects have reduced to a formula the problem of planning a successful apartment house. The most difficult problem is that of the cooperative apartment, to fit together in a given amount of space the varying plans of the different privately owned apartments. To plan successfully such de luxe cooperative apartments is an architectural problem of the first magnitude, —buildings in which one-, two- and even three-story apartments have to be dovetailed together.

Second, and of real importance because of its effect upon the public and the environment, is the exterior design of the apartment house. Subconsciously, architecture affects and moulds public artistic taste more than does any of the other arts. In apartment house design for the past 25 years there has been little or no change. Based upon an unsuccessful and unsatisfactory attempt to impose one or another of the traditional styles upon the exposed facades of these great and small rectangular boxes, the result has been dry, monotonous and uninspiring. Superimposed orders, elongated to fit several stories; classic cornices and string courses, horizontally dividing towering wall surfaces into layers of varying width, have characterized the designs. Great masonry cakes of thick and thin layers, always topped off with a generous, overhanging frosting in the shape of a colossal classic cornice, with or without a supporting frieze, are found everywhere. As in the design of the office building, so also in the design of the apartment house, its commercial sister, the advent of steel with its possibilities of limitless height found the projector's training in traditional styles unfitted him for the novel and tremendous task of creating multi-storied structures.

Evolution in architectural design has made tremendous and encouraging progress during the past five years. The fetters of traditional adherence are fast falling away. Architectural design is entering upon a period of the greatest potentialities. With imagination and inspiration untrammeled and unimpeded by traditional prejudice, may not the architect of today and tomorrow achieve a new and genuine style expressive of, and appropriate to, the great new architectural problems which this scientific and commercial age has imposed upon architecture, the greatest of the creative arts?

FAILURES AND THE CAUSES

It is evident, after a study of the exteriors of American apartment buildings in their architectural aspect, that the architect has failed to develop an appropriate design for the multiple-dwelling building. Again, there are two reasons for this obvious failure,—lack of rational appraisal of the problem, and the effect of speculative builder ownership.

The transition from the one-family to the multiple-family dwelling has altered many of the old social and family customs. Notwithstanding these radical changes, there has persisted a belief that the exterior and interior characteristic of the one-family dwelling should be incorporated in the apartment building. The architect has failed to appreciate the fact that an entirely new kind of design was required for an entirely new type of residence. What is the result? We find an attempt to apply the traditional features of the one-family dwelling or the palace to the multiple dwelling, regardless of its number of stories, shape, bulk, location and the altered sociological condition of the family. The apartment building is essentially a residential structure, but it is of such a specialized character that it requires a specialized treatment of its architectural design. Acknowledging the force of the tenant's preferences for certain architectural effects, it should be as easy to exploit the tenant's herd instinct in favor of the good as for the mediocre.

It was and is well within the architect's province to evolve and establish certain distinctive and appropriate modes and limitations for the design of this type of building. The method actually employed was to attach to the elevations and lobbies, with incomprehensible naivete, fragments of one historical style or another, entirely disregarding the fact that these styles were developed exclusively for dwellings or palaces.
of from one to four or five stories in height. The result is a lack of unity and clarity of design, involving a disproportion of inappropriate parts,—it could not be otherwise. The application of the traditional styles to the office building resulted in architectural mistakes that are now definitely recognized, and corrective measures are being employed by architects who understand function and character. The same process of intelligent thought must be used for the development of appropriate apartment house design.

By and large, the American apartment house in its architectural design is decidedly disappointing, especially when we realize the great importance of this type of building and the tremendous financial investments that it represents. Perhaps there is an extenuating circumstance applicable to the architect. It has been the policy of the ownership to concentrate on the rentable plan which is successfully developed. The architectural design is considered as secondary. If a building possessed pronounced renting qualities, however mediocre its architectural design, it was reproduced by the same or other owners because of the same herd instinct that characterizes the tenant.

In the opinion of the owner, the architect's only function is to produce a plan, with an elevation that is rentable and also acceptable to the building departments. Too often the owner resorts to the use of "free engineering" services provided by the various subcontractors. The architect is paid an inadequate remuneration which does not permit him to give a sufficient amount of his own time or to employ competent designers. It is a case of procuring the most, not the best, for the least money.

There are notable examples of appropriately designed apartment buildings found in every section of the country. They are the products of an understanding, cultured and appreciative ownership and of architects who have been adequately remunerated so as to enable them to render complete architectural service of the highest quality. A general improvement and eventual attainment of fine architectural designing of apartment buildings may result from the same causes that have produced the noticeable present-day improvement in office building design: greater competition for tenants; a more intelligent and cultured ownership; and, adequate remuneration for architects: more careful discrimination on the part of bankers in making loans.

The cooperative apartment building is a radical development in that the occupants are owners instead of tenants. An owner is more interested in the quality of the home than is a tenant and, perhaps, possesses more discrimination and knowledge. Owners of this type, at least, can afford to employ competent and adequately paid architectural service. The cooperative apartment building, because of its increasing excellence, may force an improvement in the architectural design of the tenant-occupied apartment building.

**JUSTIFICATION**

While there are many architects who deplore the "poor architecture" of the usual apartment house, it can hardly be denied that the buildings as we see them are an expression of American taste and American custom. We know this because it has been tested and is being tested every day by renting agents. The public is given what experience shows it wants enough to pay for. If the taste in the city is raised to a level at which it thinks it appreciates the charm of old English houses, this is soon reflected by fake "half-timber" and meaningless gables applied to the apartment exterior. A building in one so-called style which rents successfully will be copied by the next speculative builder in the vicinity. The taste expressed is not necessarily the taste which would be shown in answer to a questionnaire, and yet it is the taste which the American public is backing up with its dollars and cents.

Until recently practically all the apartment houses were of a speculative nature. The cooperative apartment has to some extent changed this, and many architects of outstanding ability have designed buildings in this field. Those who are thinking of architecture as dealing with either beauty or function, or both, must certainly deplore the paucity of imagination or anything simulating real design in all apartment buildings (with but few notable exceptions), from the long, monotonous Florentine fronts on Park Avenue to the pseudo half-timber and semi-Spanish of the cheap "rows." Yet they are all expressions of taste. The tenant of the de luxe apartment feels that his home is in good taste if there is enough Italian detail and a few caronches. Whether or not the detail is well placed or whether it is a mere arbitrary collection of ornament and motif makes no difference to him, and therefore makes no difference to the renting agent, and consequently to the architect who must turn out his drawings in the shortest possible time.

The architect is usually receiving too small a fee to justify a thorough study of the problem, so the plan is given the benefit of some cumulative renting experience (if not scientific analysis), and the exterior is ornamented rather than made an integral part of the design. Until architects can demonstrate the money value of plan analysis and studied design throughout, we can hardly hope for better apartment architecture.
IN commenting on the new Multiple Dwelling Law of New York, it is well to consider conditions which brought about its passage. Previous to 1909, tenements, as occupied in New York, were real tenements (as generally understood by the word); that is, such accommodations were the most crowded and unsanitary. The building code covered these buildings so far as construction was concerned, and the Health Department had sanitary regulations, but all in all these laws produced most unsatisfactory results. The present New York slums are largely the result of the insufficient regulation of these tenements.

In the year 1909 the Tenement House Law was passed, and from that time on the tenement house took on a different aspect. While there had been a few good “apartments” built before that time, they were a negligible number, but following this change in the law the advantages of well planned and well constructed tenements became evident. The change from the private dwelling to the multiple-family dwelling was brought about mainly through domestic and economic necessities, and before long we found the finest private homes abandoned for the most luxurious “tenements,” as they were then classified.

During the latter years of the existence of the Tenement House Law there sprang up another form of multiple-family dwelling, the apartment hotel, commonly known as the “bootleg hotel.” These hotels supplied housing in most cases of the best and most expensive character, but they did not fit the classification of the Tenement House Law.
Law. Many families of means who had country homes, who traveled a great deal, or who did not want to be bothered with the details of housekeeping, moved into these hotels, furnished their own apartments, did occasional cooking in the small serving pantries provided for the purpose, or took their meals in the restaurants within or outside the buildings. The Tenement House Law defined a tenement house “as the home or residence of three families or more, living independently of each other, and doing their cooking upon the premises.” Since these people did not live independently of one another and did not do their cooking on the premises, but generally used the restaurants in the houses, these buildings were permitted, although recently the courts decided they were not within the law. These houses were built according to the local Zoning Law and were carried to a greater height, with smaller-sized yards and courts than tenement houses, so that where these buildings were built within a residence district much damage was done to the light and ventilation of adjoining tenements.
(Upper Left) Interior Court and Driveway. (Upper Right) Perspective View of Park Avenue. (Right) Typical Floor Plan.
After considerable agitation over a period of years, this matter was brought to a head in the legislature where finally the new Multiple Dwelling Law was passed which put these buildings within the scope of the Dwelling House Law. There were several points where these buildings had the advantage of the tenements, but the new Multiple Dwelling Law practically eliminates these and puts both the tenement and the hotel, that is, Class A (Tenements and Apartment Hotels) and Class B (Transient Hotels) Multiple Dwelling, on an equal footing as far as yards, courts, exits and most of the details are concerned, the one exception being that where a transient hotel is erected in a business block, the height and bulk are governed by the local Zoning Law and not by the Multiple Dwelling Law. If it were not for this exception it would hardly be possible (for commercial reasons) to erect a transient hotel on expensive land in the downtown business districts of New York, as the limitation of bulk is too severe.

Comparing the Dwelling Law with the Tenement House Law, we find the changes in non-fireproof houses have not been very radical. Yards and courts generally have been increased, and stair requirements have been changed to comply with the number of rooms instead of the number of families, which somewhat eases the situation where many small apartments are built. The greater change has occurred in tall fireproof structures, and for a very good comparison I will cite two buildings planned by my firm, one completed last year under the Tenement Law and the other completed this year under the Multiple Dwelling Law located within a short distance of each other, and built for the same owners, and where the general requirements are about the same.

<table>
<thead>
<tr>
<th>69th Street &amp; Central Park W.</th>
<th>69th Street &amp; Central Park W.</th>
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<tbody>
<tr>
<td>15-Story Tenement House Law Plan</td>
<td>18-Story Multiple Dwelling Law Plan</td>
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<tr>
<td>Area of plot: 16,678 sq. ft.</td>
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<tr>
<td>Total cubic contents: 2,365,800 cu. ft.</td>
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<tr>
<td>Number of rooms: 576</td>
<td></td>
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<tr>
<td>Number of apartments: 91</td>
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<td>Average net room size: 226.2 sq. ft.</td>
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We find on the Tenement House Law plan the average coverage of lot from the first to the 15th floor is 77.9 per cent with a 40.3 per cent area in a pent house, giving an average of 75.5 per cent. We find on the Dwelling Law plan that the coverage from the first to the ninth floor is 75.2 per cent and then varies to 52.2 per cent on the 18th floor with 36.1 per cent for the pent house, making an average coverage of 68.2 per cent. The greater number of stories and economies in lighting the stair halls and public halls more than make up for the decrease in area per floor to allow for the greater number of rooms noted here. The rear and court walls of the building run up straight to the ninth floor, and above this floor the walls are set back in two-story units; the front walls run straight to the 13th floor and are similarly set back above the 15th floor in two-story units. The other Dwelling Law houses planned by our firm have shown rather small variation in the average coverage of lot, varying from 67.4 per cent to 72.2 per cent, the greater coverage being for the larger plots.

To the architect who is not familiar with the working of our New York laws governing multiple dwellings, some of the details of the plan may seem curious; in fact he may even say that they are clumsily planned, but when he has waded through our many laws governing these buildings he will understand the difficulties and the many "tricks" necessary to produce a livable and commercially successful multiple dwelling. I may give the reader some idea of this condition when I say that in order to build a multiple dwelling in New York it is generally necessary to secure 15 or 20 permits from many departments having jurisdiction. Add to this the requirements of economy of space, construction, and materials demanded by the builder, and some idea may be formed of the difficulties of the architect in designing and executing this highly commercial type of architecture.
RECENT APARTMENT HOUSES IN NEW YORK

740 PARK AVENUE, NEW YORK.
ROSARIO CANDELA AND ARTHUR LOOMIS HARMON, ARCHITECTS
Practically all of the apartments are duplex, with sizeable and well proportioned rooms, unusually well arranged for convenience and comfort. From the accompanying architects' sketch of the exterior, there is evident a conservative expression of contemporary freedom in architectural design. String and belt courses are used to delimit the principal parts of the facade, and not at all in a classical or traditional manner. The setbacks above the twelfth story suggest the varied arrangement of the several large and important apartments occupying the upper stories of the building. In these setbacks there is a pleasing variation in the size and arrangement of the various windows opening on the small garden terraces made possible by the different setbacks.
730 PARK AVENUE, NEW YORK.
F. BURRALL HOFFMAN, JR. AND
LAFAYETTE A. GOLDSTONE, ARCHITECTS
THE exterior design shows a legitimate simplicity appropriate to a building erected as an investment proposition. Above a two-story stone basement, the next eleven stories show a plain brick wall surface broken by windows, some of which differ in size and arrangement. This variation in the windows gives a pleasing character to the design and obviates the usual monotony of window arrangement and size found in most apartment-house designs. Above the thirteenth story the setbacks, with the exception of the five-story gables which serve as finials to the street facade, are varied in size and design, piling up one above the other in picturesque irregularity. It is evident from this design that the Dwelling Act is bringing about as great a change in the exterior design of apartment houses as the Zoning Law of several years ago produced in the architectural appearance of office buildings. These two New York laws which are exercising such tremendous effect upon office building and apartment house design in New York, are already being adopted either as a whole or in part in many of the other large cities in this country. So the result during the next few years may presage consistent architectural development throughout the entire United States.

730 PARK AVENUE, NEW YORK,
F. BURRALL HOFFMAN, JR. AND
LAFAYETTE A. GOLDSTONE, ARCHITECTS
ONE BEEKMAN PLACE, NEW YORK.
SLOAN & ROBERTSON, ARCHITECTS
UPPER FLOOR

LOWER FLOOR

It is hardly fair to criticize the design of any building from preliminary sketches because almost always the completed building varies considerably in design from the architect's early conception. However, this sketch quite accurately suggests the appearance of the building as it will look when completed. In this design there is a pleasing simplicity. The size and the grouping of the windows break the plain wall surfaces in a balanced arrangement. In the treatment of the entrance door and the two stories above it, as well as of the façade of the upper setbacks, a simple decorative treatment has been carried out, obviating any possible monotony. The typical floor plans of the three duplex apartments show the principal living rooms are overhanging the East River.

ONE BEEKMAN PLACE, NEW YORK.
SLOAN & ROBERTSON, ARCHITECTS
LONDON TERRACE,
NEW YORK. FARRAR & WATMOUGH, ARCHITECTS
As these buildings were designed and accepted by the Building Department before the Multiple Dwelling Act went into effect, no setbacks above the twelfth story were required. Therefore, sixteen stories rise formidably from the building line. It seems unfortunate that the famous London Terrace of old times should be replaced by a group of apartment houses in which financial return has necessitated the erection of such tremendous buildings, suggesting in no way the quiet charm and dignified refinement of the Greek Revival style which distinguished the original London Terrace. It might have been an interesting and successful experiment to design this great unbroken group of apartment houses in a style suggestive of the Neo-Greek period in American architecture.

COST AND CONSTRUCTION DATA

Date of Completion: 10 units, Summer 1930; Avenue buildings, early 1931.
Total Number of Apartments: 1671.
Total Number of Apartments per Floor: 106 typical.
Total Number of Rooms per Apartment: 1-8.
Structural Frame: Steel.
Structural Floor System: Cinder concrete with mesh reinforcing.
Heating: Vapor vacuum.
Ventilating: Mechanical.
Elevators: 28 passenger, 2 service.
Lighting: Rigid conduit.
Plumbing: Soil pipe, cast iron, brass hot and cold.
Windows: Steel casements.
Trim: Metal.
Cubical Contents: 16,821,000 ft.
Total Cost: Valuation, $20,000,000.
3 EAST 84TH STREET, NEW YORK.
JOHN M. HOWELLS—RAYMOND M. HOOD, ASSOCIATED, ARCHITECTS
FOR a small apartment house on a side street this building is pleasingly simple and straightforward in design. What little architectural decoration there is has been used in the spandrels below the windows. These have a geometrical design typical of the contemporary style. The accompanying plan shows a typical one floor apartment layout. The arrangement and location of the various rooms could hardly be improved upon. The location of the kitchen and pantry in relation to the service elevator floor and service stairs is excellent. One of the most difficult problems in laying out a one floor apartment is the proper location of the service end of the establishment.
169 EAST 78TH STREET, NEW YORK.
ROBERT P. RODGERS AND
ALFRED E. POOR, ARCHITECTS
COST AND CONSTRUCTION DATA

Date of Completion: September, 1928.
Total Number of Apartments: 35
Total Number of Apartments Per Floor: Varies.
Total Number of Rooms Per Apartment: 1, 9-room; 1, 8-room; 16, 3-room; 3, 2-room; 3, 6-room; 10, 4-room.
Structural Frame: Steel.
Structural Floor System: Concrete floor slab.
Studio floors soundproofed.
Heating: Steam.
Lighting: Direct electric from side brackets.
Radiators: Concealed in studios.
Plumbing: Showers over bathtubs.
Windows: Wood casement.
Trim: Steel.
Cubical Contents: 603,271 cu. ft.
Cubic Foot Cost: 85 cents.
Total Cost: $518,525.36.

JUSTIFIABLE simplicity marks the design of this recently completed studio apartment house. Although this building occupies a plot of land almost equal in size to the apartment house by the same architects across the street, it is smaller on account of grouping together the three large windows of the studios on each floor. The small windows at each side, alternating in size and shape, give the effect of balancing piers, which break up the facade in a successful manner. The low studded bedrooms and dining rooms are cleverly dove-tailed in with the high-studded studios. There are four studio apartments on each of the six principal floors, the arrangement of which shows ingenious and thoughtful planning.
170 EAST 78TH STREET, NEW YORK.
ROBERT P. RODGERS AND
ALFRED E. POOR, ARCHITECTS
COST AND CONSTRUCTION DATA

Date of Completion: December, 1927.
Total Number of Apartments: 33.
Total Number of Apartments per Floor:
  Varies as some are duplex, others simplex.
Total Number of Rooms per Apartment:
  2, 9-room; 1, 8-room; 2, 6-room; 6, 5-room; 7, 4-room; 15, 3-room.
Structural Frame: Steel.
Structural Floor System: Concrete floor slab.
  Studio floors soundproofed.
Heating: Steam.
Lighting: Direct electric from side brackets.
Radiators: Concealed in studios.
Plumbing: Showers over bathtubs.
Windows: Steel casement.
Trim: Steel.
Cubical Contents: 648,000 ft.
Cubic Foot Cost: 77 cents.
Total Cost: $507,571.06.

CRITICISM

SIMPLICITY bordering on austerity is here evident. The building looks thoroughly practical and utilitarian. All of the wall space possible, between the unbroken brick piers, is occupied by windows equal in width but varying in height. Were it not for the applied Neo-Grec decoration above the entrance motif, and the original iron lamp posts on either side of it, the severity of this design would suggest a loft rather than a studio building. But here again it must be remembered that studio as well as apartment buildings are erected as financial investments, so the minimum of architectural ornamentation and decoration is advisable. In the plan the arrangement of the six studios on each of the six principal floors is excellent. Buildings of this type, where high studded studio rooms are combined with low studded bedrooms and dining rooms, require great ingenuity in successfully and economically fitting together the various parts of the plan.

170 EAST 78TH STREET, NEW YORK.
ROBERT P. RODGERS AND
ALFRED E. POOR, ARCHITECTS
28 EAST 63RD STREET, NEW YORK.
HENRY S. CHURCHILL, ARCHITECT.
HERBERT LIPPMANN, ASSOCIATED
COST AND CONSTRUCTION DATA

Year of Completion: 1927.
Total Number of Apartments: 45, 138 rooms.
Total Number of Apartments per Floor: Varies.
Total Number of Rooms per Apartment:
   Ones, twos, threes, fours, fives, sixes.
Structural Frame: Steel.
Structural Floor System: Cinder arch.
Heating: Steam.
Elevators: Two passenger, one service.
Windows: Steel casement.
Trim: Metal.
Cubical Contents: About 978,000 ft.
Cubic Foot Cost: 75 cents.

CRITICISM

THIS apartment is unusually interesting and successful in plan and elevation. The apartment was built three years before the Multiple Dwelling Law was enacted. Above the ninth story there are eight stories of setbacks. Each one of the three apartments on each floor has a pantry of sufficient size to permit its use as a kitchenette, a very popular plan feature. The color of the terra cotta and brickwork, as well as the method of laying the brick, gives the design of this building a pleasing individuality. The color of the terra cotta of the basement story contrasts and harmonizes in an artistic and successful manner with the color of the brick walls above. An excellent feature in the design of this building is the unusual width of the openings.
21 EAST 79TH STREET, NEW YORK.
VAN WART & WEIN AND BREED,
FULLER & DICK, ASSOCIATED, ARCHITECTS
To find a plain and unadorned façade for a mid-block apartment house is a welcome experience. To give solidity to the base of the building, as well as a little architectural decoration within the visual range of the spectator, black marble and an ornamental entrance door have been used. Freedom and originality in architectural expression is evident. From a careful study of the emphasis of the entrance door and the center window above, it would appear perhaps the heavy enframement of this window too closely crowds upon the windows on each side. The severity of the design as a whole might have permitted the black marble of the basement story to have continued unbroken across the lower part of the façade. A heavy reed moulding acts as a belt course above the third story and at the top of the building. Below is an iron railing of delicate design. This makes a decorative note as the crowning feature. Each of the twelve floors contains a single apartment, one of which is shown in the plan above. The principal rooms are logically located on the front of the building which faces south. The arrangement is compact and convenient with the four bedrooms well shut off from the living part of the apartment, as is also the case with the service end which occupies one corner of the plan. The sizes of the several principal rooms vary according to their importance and their use.

21 EAST 79TH STREET, NEW YORK.
VAN WART & WEIN AND BREED.
FULLER & DICK, ASSOCIATED ARCHITECTS
THE ROERICH MUSEUM, NEW YORK.
HELMLE, CORBETT & HARRISON, ARCHITECTS
The line of difference between the apartment house and the apartment hotel is sometimes difficult to define. As a combination of a museum, a school of fine arts and the drama, and a multiple dwelling building, this structure has no parallel.

In exterior design as well as in plan, its straightforward simplicity and balance of design is noteworthy. The use of corner windows up to the first setback gives an individual character to the design. Structurally, the use of corner windows does not strengthen the effect of the corners of the building but adds much to the interior light and cheerfulness of the corner rooms. Open on all four sides, the plan of the apartment floors shows the elevators, stairways and bathrooms logically located in the center of the building. The strong, vertical feeling produced by broad and narrow brick piers extending all the way up to the setback floors gives dignity and consistency to the exterior design. Even the proportions of the entrance door repeat and accent this vertical feeling. The color of the brickwork ranges from dark red at the ground to light at the top.

Roerich Museum, New York.
Helmle, Corbett & Harrison, Architects

296
160 EAST 72ND STREET, NEW YORK.
TAYLOR AND LEVI, ARCHITECTS.
KENNETH M. MURCHISON, CONSULTANT
AN interesting solution of an unusual apartment house problem is found in this mid-block building designed for the occupancy of an individual and some of his friends. The exterior design shows a more informal, although balanced, use of Italian Romanesque detail. Especially in the two lower stories is this expression evidenced. The several floors are laid out as duplex apartments with sizeable rooms for living and entertaining. Each apartment has master bedrooms on the south side of each of the floors. On the top floor are located a squash court, studio, dressing rooms and play room belonging to the owner of the building. There is an individuality in the design of this building which almost places it in the private residential class.

COST AND CONSTRUCTION DATA
Date of Completion: October, 1928.
Total Number of Apartments: 14 in all; 6, 2 to a floor; 6, 1 to a floor; 1 duplex; 1 triplex.
Structural Frame: Steel skeleton construction.
Structural Floor System: Cinder concrete.
Heating: Modulation vapor system.
Ventilating: Individual fans in kitchens.
Elevators: Traction, manually operated.
Lighting: Direct.

Radiators: Cast iron.
Plumbing: Brass water pipe.
Windows: Steel casements entire front and part of rear; double-hung for others.
Trim: Wood.
Cubical Contents: 712,500 ft.
Cubic Foot Cost: 64½ cents.
Total Cost: $460,000.
ONE FIFTH AVENUE, NEW YORK
HELMLE, CORBETT & HARRISON,
SUGARMAN & BERGER, ARCHITECTS
As in the case of the Roerich Museum Apartment Building designed by the same architects, One Fifth Avenue is a combination apartment house and apartment hotel. Practically every apartment has a large closet containing an electric ice box and electric connections for cooking use. The elevators and service stairways as usual occupy the center of the rectangular plan. The setbacks necessitate smaller rooms but provide outside terrace facilities. The design is symmetrical and free. Again emphasis has been laid on the vertical lines of the building by using light and dark brick simulating shadows. Strength has been added to the design by cutting off the corners and carrying them up one story above the first setback in a turret effect. Above the 16th story the several setbacks form a strong base to the towering central shaft of the design. This in turn is crowned by a picturesque arrangement of pent houses and chimney stack. The building as a whole has solidity and dignity.

ONE FIFTH AVENUE, NEW YORK.
HELMLE, CORBETT & HARRISON,
SUGARMAN & BERGER, ARCHITECTS
CONSTRUCTION DATA

Total Number of Apartments: 35 suites in simplex, duplex and triplex arrangements of 12 to 15 rooms.

Heating: Two pipe low pressure vacuum steam system.

Ventilating: Mechanical in kitchens and interior bathrooms.

Elevators: Three passenger, two service.

Lighting: Electric.

Radiators: Recessed within walls and enclosed.

Plumbing: Cast iron for main soil and waste lines; copper bearing steel for inside leaders; brass for both hot and cold water supply pipes.

Windows: Wood and metal, double hung.

THE design as a whole is dignified, simple and straightforward. Above three lower stories of stone tower nine stories of brick walls, relieved by broad vertical bands of brick work and the doubling of the center windows. The delightful simplicity of the design as a whole particularly evidenced in the severe but balanced setbacks of the upper stories is not improved by the modernized type of cornice introduced above the twelfth story. The setbacks above the thirteenth story make a sufficient break and change in the design to obviate the necessity of so sharp and heavy a horizontal line. On the upper floors the de luxe apartments have some rooms of tremendous size. As the top apartments are always the highest priced as well as the most desirable from the point of view of light and air, it is practical as well as desirable to include at least one great room for entertaining purposes in each apartment.
In exterior design the deep breaks which divide the façade into three different parts are fortunate. Also the restriction of the main façade to nine stories adds much to the pleasing quality of the design. A general freedom of expression is also evident in the use of triple windows which give emphasis at certain points on the façade. The emphasis of the horizontal lines still further helps to reduce the apparent height. The straightforward simplicity of the design requires no ornamental crowning feature. In plan, the layout is excellent. By setting the building back from the rear lot and still further recessing the center portion of the structure a small open space which may have a fenced-in garden was made possible. Every apartment has a kitchen of adequate size and some of the larger apartments include a dining room. Today in moderate priced apartments of a living room, kitchen and two bedrooms, dining rooms are seldom considered necessary. As they are rooms used only three times a day for usually less than an hour at a time it seems more economical to throw this dining space into the general living room which may especially be used for dining as well as living purposes.
BEAUX ARTS APARTMENTS, NEW YORK,
The Firm of Kenneth M. Murchison, And Raymond Hood, Godley & Foulhoux, Associated, Architects
COST AND CONSTRUCTION DATA

Date of Completion: January, 1930.
Total Number of Apartments: 816.
Total Number of Apartments per Floor: 22
in each of the buildings.
Total Number of Rooms per Apartment:
Ones, twos and threes.
Structural Frame: Steel.
Structural Floor System: Concrete.
Heating: Steam.
Ventilating: Only in kitchens.
Elevators: Electric.
Lighting: Electric.
Radiators: Covered.
Windows: Metal casements.
Trim: Metal.
Cubic Foot Cost: About 76 cents.

THE demands of sophisticated
 tenants who wish to live close
to the center of New York social and
business activity are satisfied in this
most modern of New York apart­
ments. The plan provides for the most
efficient type of modern living, as the
large rooms are used as living rooms
and bedrooms and, on occasion, as
dining rooms. The building reflects in
its entire design (i. e., both plan,
exterior and interior treatments) the
spirit of the modern American. The
dominance of horizontal lines is
the result of the use of broad case­
ment windows and bands of dark
brick between. There is a freshness
in the use of materials and the free­
don of decorative motif that shows a
new conception of design possibilities.
Excellence of plan is here equaled by
imaginative and pleasing decorative
treatment.
345 EAST 68TH STREET, NEW YORK.
EMILIO LEVY, ARCHITECT

ARCHED ENTRANCE
The design of the facade of this building is a peculiar mixture of motifs from various styles with perhaps a dominance of English Georgian. It is hard to understand why an adapted Lombardy Romanesque brick cornice should be used in this connection. The iron balconies do not seem to enhance the beauty of the facade, as they suggest fire escapes. It is unfortunate that it was found necessary to place three of the living rooms on courts and to use such long, narrow corridors. The fact that most of the living rooms have real fireplaces undoubtedly adds to their attractiveness.
THE MODERATE PRICED APARTMENT HOTEL

BY

H. DOUGLAS IVES

OF FRED F. FRENCH COMPANY

The increasing difficulties of transportation, the overcrowded subways, and the traffic jams that occur on the streets during the rush hours, are rapidly causing workers of moderate means who are employed either in the Grand Central Zone or in Wall Street, to wonder whether it is economy to live farther and farther from their places of employment for the sake of living in one of the traditional type of apartments, or whether they might not be much better off living in one of the newer type of "efficiency" apartments, of two or possibly of only one room, whose aim is to relieve the burden of the housewife or business woman, most of whose daylight hours must be spent in acquiring the means necessary to live.

In New York the apartment hotel has been developed to meet this specific need from both the owner's and the tenant's viewpoint. The high and increasing cost of land and construction precludes the possibility of producing a profitable investment in or near the center of the city if the usual type of five or six rooms must be rented at a rate within the means of the vast majority, so that complete and attractive living facilities must be provided within a smaller floor area. Generally speaking, apartment hotels may be divided into two groups,—those on Fifth and upper Park Avenues, which cater to a wealthy and exclusive class, owners, perhaps, of large estates in the country who require a pied-a-terre in town and wish to be surrounded by their own furnishings and belongings during their comparatively short stay, and with consequently greater comfort and feeling of security than would be the case in a purely transient hotel, and to whom a low rental is not a vital consideration; and those buildings such as Prospect, Windsor and Woodstock Towers in Tudor City, whose tenants are those of more moderate means, but to whom ease of living and accessibility are of prime importance. These buildings consist largely of "one-room apartments," for which there appears to be a large and growing demand, and which may be occupied more or less...
transiently by the busy executive or others who maintain residences in the country but who find it necessary to spend one or two evenings in town each week, and by the very large number of young men and women starting their great adventure in the great city, but who heretofore have found living quarters in that rapidly disappearing symbol of "The Age of Innocence,"—the brownstone-fronted boarding house.

In planning a building of this type, the project as a whole must be studied somewhat more carefully than the ordinary apartment house, as features must be provided that belong to both the apartment house and the purely transient type of hotel. The requirements of each individual building vary somewhat due to location and probable type of tenant, and where space is so strictly limited the greatest ingenuity is often required to provide the maximum amount of comfort and convenience for the lowest possible rental returns at which the building can be made a profitable investment for the owner.

The typical floor plan should be arranged as simply as possible, and interior courts must be avoided, as they are noisy and the rooms on the lower floors are inevitably dark and consequently difficult to rent. If a suitable piece of property can be obtained, a plan such as that of Woodstock Tower in Tudor City, with the utilities such as stairs and elevators grouped at the center and the rooms facing on the street and rear yard, provides a most economical arrangement from the point of view of service and maintenance and allows for the maximum amount of light and ventilation for each apartment. The "setbacks" on the upper floors which are required under the Zoning and Multiple Dwelling Laws can be utilized as terraces and are a renting feature which appeals to many. There should, however, be an iron railing between each of the two separate apartment terraces, giving each tenant a greater feeling of security. Access to it should be by a
door instead of,—or in addition to,—the regular window. Steel casement doors and windows have been used throughout Tudor City and have been found eminently satisfactory for buildings of this type.

The general arrangement of “one-room” apartments has become more or less standardized, in that door beds, kitchenettes and interior bathrooms are common to all. The space for the first of these should be so located that little moving of furniture will be necessary when the beds are in use, and it must be large enough to provide adequate ventilation when they are not. Twin beds are always preferable to one large bed, as these rooms are frequently rented by two persons; for the same reason two closets are desirable,—more if space is available. According to the new Multiple Dwelling Law a kitchenette when it is of the recess or closet type, that customarily is found in “one-roomers,” must not be over 10 feet in length, but it has been found that half this is sufficient to contain all the equipment necessary; a small sink with a drain board over which there should be a dresser large enough to contain dishes for a simple meal for five or six persons; mechanical or electrical refrigeration is of course essential, and there are machines now on the market which have been designed to meet these conditions and still provide enough space to meet the requirements of the average tenant whose cooking is usually limited to preparing a light breakfast of coffee and eggs. On top of the refrigerator may be set a small electric or gas stove of the open-burner type. Space under the sink should be provided for the temporary disposal of garbage before it can be removed to the incinerator, and this can best be done by the use of oiled or waxed paper bags which fit into containers, various types and sizes of which are easily obtainable.

Exterior bathrooms are of course a little more desirable, but it is not always possible to provide them without utilizing space which might better be used for increasing the sizes of the rooms. The interior type has become common practice, and is thoroughly satisfactory, as the Building Department requires proper ventilation. Tile floors and
wainscots are a standard treatment, and the walls and ceilings above the latter can be effectively decorated by the use of waterproof wall paper, which is not only economical to maintain but helps to relieve the institutional feeling found in so many buildings of this kind. The fixtures should be of the regulation sizes, and a 5-foot tub with a shower above will be found satisfactory.

It seems needless to say that every effort within reason should be made to soundproof the partitions between apartments, and much can be done by the use of heavy quilting or felt, but as far as the writer is aware, this problem has not as yet been satisfactorily and yet economically solved. The desirability of using floor and table lamps is becoming increasingly evident,—they are more flexible and tend to give a more homelike appearance to the room than wall brackets, which are difficult to locate in positions that will give satisfactory results and not be damaged by the hurried opening of doors or interfere with the wall decorations; consequently a close-up ceiling fixture for general lighting and three or more base outlets constitute a better arrangement. If there is a foyer, this should also have a ceiling light,—in fact the only wall brackets necessary are one in the kitchenette and one over or on either side of the medicine cabinet in the bathroom.

A width of 5 feet will usually be found ample for the public corridors on the typical floor. Carpets are advisable if only for the purely practical reason that they help to deaden sound,—an important consideration, as the entrance doors to apartments are required to have some form of ventilating louver to the detriment of their soundproofing quality.

An incinerator is a necessity and should be located as centrally as possible. The collection of garbage is a matter to be decided upon by the management of the building, but in many cases the tenant prefers to dispose of it himself rather than wait for a regular collection at an hour which may not be convenient. The incinerator must not open directly into a public hall, but into a well ventilated space equipped with shelves to receive empty bottles or boxes which are too large or too dangerous to be disposed of otherwise than by being collected and taken down in the service elevator.

The elevator requirements must be figured in much the same manner as for an office building, in that a peak load is reached both in the morning and in the evening, and a further burden is also placed upon the system during these “rush hours” by the demand for room service. One or more purely service cars, depending upon the size of the building, must be provided in addition to one which can be used for both passengers and service. There should also be a freight elevator at the service entrance running from the street level to the basement or sub-basement to facilitate the handling of heavy baggage and supplies, and for removal of ashes and rubbish.

The public space requirements of an apartment hotel approximate very closely those of the transient hotel in that offices, restaurants, and lounge rooms are common to both, although of course in the former on a somewhat smaller scale; and the architect, when called upon to design such a building, must be prepared to find space on the first floor for news and cigar stands, telegraph office, and possibly a theater or tourist agency,—features which add greatly to the comfort and convenience of the tenants.

The location, equipment and arrangement of the restaurant and kitchen should be given the most careful thought, as the management will be called upon to provide a wide choice of club breakfasts and table d’hote luncheons and dinners, as well as a la carte, in addition to the room service. In Tudor City, which has at present five apartment hotels containing over 2,000 apartments, it has been found necessary to vary the type of restaurants to meet the extensive range in the tastes and desires of so many tenants.

In the basement or sub-basement, in addition to the space requirements of mechanical equipment, store rooms for the kitchen, meter rooms, etc., ample accommodation must be provided for trunks which must also be easily accessible to the tenants, as naturally the size of the apartments does not allow for any of these, nor many bags, being kept in them. Space must also be found for the valet service, locker rooms and toilets for both male and female attendants, and a parcel room. This latter should be located as near as possible to the service entrance, so as to make for better control. To sum up, the requirements for this floor are almost identical to those for the transient type of hotel.

The architectural treatment of the exterior or the decorative feature of the public spaces of the interior is a matter for the personal taste of the architect and owner, and many an architect will, at times, suffer acutely in trying to develop an interesting composition for the facade, and will find that beauty must in a sense give precedence to the economical arrangement and lighting of the rooms, and to the exigencies of the budget.

As the apartment hotel is essentially a residential building occupied by permanent tenants, some effort should be made to introduce a domestic note into the furnishings and decorations of the lounge and reception rooms, in contrast to the impersonal and formal arrangement which must of necessity be the case in the purely transient hotel, and where this has been done it has been appreciated by the tenants, who are tempted to linger.
FOR the average New Yorker, and in particular for one who lives in the Borough of Manhattan, a cooperative apartment provides the most practical embodiment of the city home. There are still those who prefer the luxury and prestige, even coupled with the attendant troubles, of the private house; but taxes and servant troubles have become so much of a burden that, in Manhattan at least, the private house bids fair to soon become extinct. Everyone knows that the wages of domestic servants have increased tremendously since the war, and the great difficulty there is in obtaining well trained and adequate servants. Gone are those paragons who served in our mothers' houses. The invention of labor-saving devices for cleaning, cooking and for the laundry have seemed to reduce, rather than to increase, what the average maid considers a full day's work. Less space and less waste space in the home seem a necessity. One after another of the notable New York mansions has disappeared, and in its stead has risen a great apartment house in which quite often the owner of the original house has purchased an apartment. The papers have headlines when, as still, but very occasionally, happens, plans are filed for a private house in Manhattan. Hundreds, if not thousands of apartments are rented and sold to one individual residence.

ADVANTAGES OF THE COOPERATIVE APARTMENT

The cooperative is the aristocrat among apartments,—not that it costs more, for in the long run it undoubtedly costs less than the nearest approach to equal value in a rented apartment. Its popularity is due to the fact that it usually does, and always should, approach the old private residence in prestige, convenience and in individual and homelike quality. The disadvantages of a cooperative apartment are few. The present financial depression has so far provided the answer to a fear which many had,—that when times were bad, many of these cooperative apartments would be offered for resale with few takers. But so far neither the number of the apartments so offered, nor the difficulty of finding a market has been found greater than was found with a private house in previous periods of financial stringency. Among the various advantages of a cooperatively owned apartment are permanence of location among satisfactory neighbors and a more or less definitely fixed and moderate annual expense. The reason for the latter is obvious, for several of the various profits which go into the construction and operation of a rented apartment are avoided in a cooperative undertaking, so that, except in the most costly locations, it is possible to keep the annual maintenance, plus the interest on the investment, below the rental which would be normally asked for a similar rented apartment. There are, it is true, cooperative apartments in Manhattan where the first cost of the land and elaboration of the building have resulted in excessive annual cost of ownership as compared to the nearest approach in a rented apartment; but, on the other hand, it must be said that there probably are no rented apartments having an equally satisfactory location and being equally satisfactory in plan and arrangement. In other words, these apartments are unique in location and design and, like all unusual things, demand a special price.

RESIDENTIAL CHARACTER

Whether located on the most expensive corner
or in a less desirable part of town, the cooperative apartment should have much more for the owner than any rented apartment which he is likely to obtain. In the first place, the plans for cooperative apartments are made, as a rule, by architects specially trained and familiar with the social and living requirements of the purchasers; and particular care has been given to the disposition, size and details of the rooms, so as to make them conform as nearly as possible to the wants of persons of means and education. In addition to this, minor changes, and often very extensive changes, have been made to meet the personal taste of the purchasers, and the decoration has been done, either by, or under the direction of, the purchasing owner himself. These apartments are, therefore, much more personal and individual than the rented apartment. Many of them have the very desirable feature of the duplex plan, and sometimes occupy even three stories, and reflect, in a very considerable degree, the atmosphere of a well planned private house. The planning of a cooperative apartment building is, in consequence, a much more difficult problem than that of the rented apartment, and this is particularly so if, as it seems to me should always be the case, a real effort is made to give to its exterior a logical, pleasing and definitely residential character.

EXTERIOR DESIGN

It has always seemed to me that the horizontal belt courses, so characteristic of the Italian palace, the ancient prototype of the modern apartment house, go far toward giving a residential character to these buildings. The perfectly natural trend toward verticality in towering office buildings seems to emphasize that in the residential type of structure the horizontal should be the important element of the design. The entirely original shape, however, which the new Multiple Dwelling Law in New York imposes upon the apartment building, seems to demand a complete breaking away from precedent and tradition in its design. The height, lot coverage, and setbacks are all specified under this law, and economic considerations usually demand that the building have all of the volume possible which the law permits. The law having been written with very little regard to aesthetics, the maximum possible envelope of the structure does not usually produce a symmetrical mass. Coupled with the difficulties which are a result of the law, there are the difficulties which are inherent in the normal layout of the American home; there are the large living room, with preferably not more than two windows on a side; the dining room, which should also have two windows, somewhat smaller; the library, with one or two windows;
the bedrooms with two windows where possible, and with space between for bed or bureau; numerous bathrooms; a kitchen, which should have at least one large window; and the small servants' rooms with one window each. It is apparent that the windows in the living room must be larger than those in the maids' rooms and must be much farther apart center to center. Where there is but one apartment to each entire floor in the building; the difficulties of producing a symmetrical exterior design are apparent.

AN IDEAL BUILDING OPERATION

The cooperative apartment in New York, when the market conditions are satisfactory, is the ideal building operation from the operator's standpoint. When, as so often has been the case, the apartments are all sold by, or before, the completion of the construction of the building, the operator, or operating syndicate, has all of its investment out of the undertaking and its profit in hand within a year or 18 months from the inception of the operation. It is greatly to be desired, therefore, that the individual apartments and the entire building shall be so attractive in location, planning and in financial set-up that it shall be completely sold at as early a date as possible. If the sale of many of the apartments is long deferred, the maintenance, which starts with the completion of the building, soon eats into the profits of the undertaking. The maintenance is usually somewhere around 10 per cent of the cash price of the apartments, and the total sales price is likely to approximate 50 per cent of the entire cost, including the estimated profit of the transaction. The other 50 per cent would be in a mortgage. If the sale of all of the apartments should be deferred one year, the operator would have no return from his invested funds and, in addition, would have to supply more than 10 per cent of his original investment in cash, in order to maintain the building. If the estimated profit of the transaction had been 15 per cent on the total cost of land and building, and the cash sales prices of the apartments were set at 50 per cent, it is obvious that 5 per cent must be expended per annum for maintenance and the total 15 per cent profit would disappear in three years. It is, therefore, of the greatest importance to the operator that everything within reason be done to make the plan of the prospective building so attractive as to expedite the sales in every way. From the architect's standpoint it is a thrilling game, particularly if, as is often the case, he decides to have a financial interest in the undertaking.

ONE APARTMENT TO A FLOOR

Many things besides skill in planning go into
making the success of the undertaking. From the purchaser's standpoint the building having but one apartment to a floor, or, in any case, with but one apartment entrance on a floor to a single bank of elevators, is most desirable; but from the standpoint of cost, the larger the building the cheaper per room it can be built, and the more apartments to a single bank of elevators the more economical the operation. On the other hand, a building with but one apartment to a floor requires but few sales for the completion of the undertaking, and in that respect it has for the operator more value than the multi-apartment building.

NO. 800 PARK AVENUE, NEW YORK

No. 800 Park Avenue occupies a plot 44 feet by 120 feet, irregular, at the northwest corner of Park Avenue and 74th Street. A few feet more of length on Park Avenue would have made possible a somewhat more generous layout for the service portion of the apartments, which would have been more desirable; but aside from this, the size and disposition of the plot were almost ideal for the planning of an adequate apartment for the usual sized family of social position. The plot lent itself to the provision of a desirable number of rooms of comfortable sizes, all well lighted. One of its particular virtues is the lighting of the foyer hall from the court on the west side of the plot, which borrows light from the yards of adjoining buildings. There was space enough to provide a bath for each room and also the very necessary guest toilet and coat closet off the foyer hall. In the service portion of the building it was possible to have the butler's room, with its own bath, entirely apart from the maids' suite. In the design of the exterior we were influenced by the precedent of the fifteenth century Italian palace. The architectural interest is concentrated on the three lower stories, which were made of limestone, surmounted by a tall shaft of an almost lavender colored Holland brick, with an interesting texture given by cross bond, unornamented except by the simply moulded band courses; the shaft being crowned by two decorative stories in brick, stone and terra cotta. It was desirable, of course, that the elevation should be as symmetrical as possible in effect and, with the asymmetrical plan, a very interesting adjustment had to be made of window sizes and piers to adequately meet the plan requirements and yet obtain a quiet and reserved facade. The problem might, perhaps, have been solved by having a greater number of small windows; but we felt that the larger wall surfaces and the larger windows were more satisfactory for the exterior and for the interior as well. In order that the wall surface of the shaft should be broken up as little as possible, stone lintels were omitted and sills, also, except for a 1-inch slab of slate which was practically invisible. As the actual work proceeded I felt a demand for an easy transition from the limestone of the lower stories to the simple shaft of brick, and I finally hit upon the idea of the checker board panels made of brick and softly contrasting cement, which seemed to adequately accomplish the purpose.

NO. 79 EAST 79TH STREET

No. 79 East 79th Street, like 800 Park Avenue, has but one apartment to a floor. Unlike 800 Park Avenue, it was not built on a corner but on an inside rectangular plot 63 feet in width and 102 feet in depth. The apartments in this building were planned to meet the wants of very much the same sort of families as those to which 800 Park Avenue was sold,—families of reasonable size with several, but no great retinue, of servants, and not over-extravagant in their tastes. These families require three or four master's bedrooms, each with its own bath; a living room as large as possible; a good sized dining room, not less than 16 by 22; if possible, a library; and the usual pantry, kitchen, maids' rooms and service hall. As at 800 Park Avenue, the disposition of living room, library and bedrooms in plan, demanded an asymmetrical arrangement of windows on the exterior, if the interior was to be properly served. Here again, therefore, it was necessary to very carefully study the widths and centering of windows and piers to produce an agreeable facade. For one reason or another both of these buildings seemed to meet the popular demand and were completely sold at about the time of their completion; and in both of them resales have been made at a considerable advance upon the original prices.

NO. 50 EAST 79TH STREET

No. 50 East 79th Street is planned for two apartments on a floor, and the whole building is to be carried with setbacks to the greater height permitted under the Multiple Dwelling Law, to the requirements of which it is of course subject. The site is approximately 100 by 100, and most floors are planned with two apartments of ten or eleven rooms each. As I have said, the building designed under the Multiple Dwelling Law has a mass which is quite its own. It cannot be built to the great heights possible for the office building, and the setbacks, which are required under the Law, if it is to be carried to its new maximum height, give it a mass entirely different from that of any class of buildings heretofore built. It is interesting that this is the case, and it will no doubt result in the creation of a type of multiple residence building here in New York which will become characteristic of the city and unique in appearance.
PRELIMINARY STUDIES FOR TWO MODERN APARTMENT HOUSES ON ASTOR STREET, CHICAGO. PHILIP B. MAHER, ARCHITECT
EDGEGATEREACH
APARTMENTS, CHICAGO.
BENJAMIN H.
MARSHALL, ARCHITECT
1100 NORTH DEARBORN STREET, CHICAGO. McNALLY AND QUINN, ARCHITECTS

2000 LINCOLN PARK WEST, CHICAGO. McNALLY AND QUINN, ARCHITECTS
1100 NORTH DEARBORN STREET, CHICAGO.
MCNALLY & QUINN, ARCHITECTS

CONSTRUCTION DATA

Date of Completion: April, 1930.
Total Number of Apartments: 211.
Total Number of Apartments per Floor: 14.
Total Number of Rooms per Apartment: 2, 3, 4, 5.
Structural Frame: Reinforced concrete.
Structural Floor System: Concrete joists, pan forms.
Heating: Vapor vacuum steam, coal burning.
Ventilating: Mechanical ventilation in kitchens, corridors, stair halls.
Elevators: Two passenger, car switch control; one service, combination car, switch and collective push button control.
Lighting: All wiring in conduit.
Radiators: Cabinet type.
Plumbing: Water pipe, galvanized wrought iron: soil pipe, cast iron.
Windows: Double hung wood.
Trim: Birch.
Cubical Contents: 3,061,014 ft.

2000 LINCOLN PARK WEST, CHICAGO.
MCNALLY & QUINN, ARCHITECTS

CONSTRUCTION DATA

Date of Completion: April, 1930.
Total Number of Apartments: 247.
Total Number of Apartments per Floor: 13.
Total Number of Rooms per Apartment: 2, 3, 4.
Structural Frame: Reinforced concrete.
Structural Floor System: Concrete joists, pan forms.
Heating: Vapor vacuum steam, coal burning.
Ventilating: Mechanical ventilation in kitchens and stair halls.
Elevators: Two passenger, car switch control; one service, collective push button control.
Lighting: All wiring in conduit.
Radiators: Cast iron.
Plumbing: Water pipe, galvanized wrought iron: soil pipe, cast iron.
Windows: Double hung wood.
Trim: Birch.
Cubical Contents: 2,043,160 ft.
1242 LAKE SHORE DRIVE, CHICAGO. ROBERT S. DE GOLYER & CO. ARCHITECTS

1648 EAST 50TH STREET, CHICAGO. ROBERT S. DE GOLYER & CO. ARCHITECTS. CHARLES MORGAN. ASSOCIATE
Date of Completion: 1930.
Total Number of Apartments: 35.
Total Number of Apartments per Floor: 1, 1½, 2.
Total Number of Rooms per Apartment: 6, 8 (simplex and duplex), 10, 11 and special layouts up to 16.
Structural Frame: Steel.
Structural Floor System: Concrete joist.
Heating: Vapor.
Ventilating: Kitchens and elevator foyers.
Radiators: Concealed.
Trim: Birch.
Cubical Contents: 1,445,000 ft.

CONSTRUCTION DATA

Date of Completion: 1929.
Total Number of Apartments: 20.
Total Number of Apartments per Floor: 2.
Total Number of Rooms per Apartment: 7 and 9.
Structural Frame: Concrete.
Structural Floor System: Concrete joist.
Heating: Vapor.
Ventilating: Laundries and kitchens.
Windows: Steel, lower floors: wood above.
Trim: Birch.
Cubical Contents: 1,940,000 ft.
4940 East End Avenue, Chicago. B. Leo Steif & Co., Architects

3800 Sheridan Road
Chicago. B. Leo Steif & Co., Architects
**TYPICAL FLOOR**

COST AND CONSTRUCTION DATA

Date of Completion: May, 1929.
Total Number of Apartments: 99.
Total Number of Apartments per Floor: 5.
Total Number of Rooms per Apartment: 3, 4, 5 and 6.
 Structural Frame: Reinforced concrete on wood pile foundations.
 Structural Floor System: Reinforced concrete joists.
 Heating: Vacuum.
 Ventilating: Exhaust system in kitchens.
 Elevators: Gearless.
 Lighting: In galvanized conduit.
 Radiators: Slim type.
 Plumbing: Enamelled tubs, china lavatories and water closets; black tarred wastes and galvanized water piping.
 Windows: Wood double hung with steel casements in kitchens.
 Trim: Birch and unit metal bucks.
 Cubical Contents: 1,612,000 ft.
 Cubic Foot Cost: 60 cents.
 Total Cost: $1,015,560.

4940 EAST END AVENUE, CHICAGO.
B. LEO STEIF & CO., ARCHITECTS

**APARTMENT "B" TYPICAL FLOOR**

COST AND CONSTRUCTION DATA

Date of Completion: October, 1927.
Total Number of Apartments: 101.
Total Number of Apartments per Floor: 5.
Total Number of Rooms per Apartment: 5, 6, 7, 8, 9 and 11.
 Structural Floor System: Reinforced concrete joists.
 Heating: Vacuum.
 Ventilating: Exhaust system in kitchens.
 Elevators: Gearless micro-drive.
 Lighting: In galvanized conduit.
 Radiators: Cast iron concealed.
 Plumbing: Enamelled tubs, china lavatories and water closets; black tarred wastes and galvanized water piping.
 Windows: Steel casements.
 Trim: Birch.
 Cubical Contents: 2,750,000 ft.
 Cubic Foot Cost: 66 cents.
 Total Cost: $1,815,000.

4940 EAST END AVENUE, CHICAGO.
B. LEO STEIF & CO., ARCHITECTS

326

210 E A S T P E A R S O N STREET, CHICAGO. H U S Z A G H & H I L L, A R C H I T E C T S
COST AND CONSTRUCTION DATA
1540 LAKE SHORE DRIVE, CHICAGO,
HUSSAGH & HILL, ARCHITECTS:
J. W. McCARTHY, CONSULTING ARCHITECT

Date of Completion: July, 1926.
Total Number of Apartments: 30, 8-room.
Total Number of Apartments per Floor: 2.
Total Number of Rooms per Apartment: 8.
Structural Frame: Reinforced concrete.
Structural Floor System: Concrete joists.
Heating: Steam.
Elevators: Electric.
Lighting: Electric.
Radiators: Cast iron, concealed.
Windows: Metal casement.
Trim: Walnut.
Cubical Contents: 1,511,000 ft.
Cubic Foot Cost: 61 cents.
Total Cost: $1,521,265.

COST AND CONSTRUCTION DATA
210 EAST PEARSON STREET, CHICAGO, HUSSAGH & HILL, ARCHITECTS

Date of Completion: October, 1927.
Total Number of Apartments: 62.
Total Number of Apartments per Floor: 4.
Total Number of Rooms per Apartment: 30, 5-room; 30, 6-room; 2, 2-room.
Structural Frame: Concrete.
Structural Floor System: Concrete joists.
Heating: Steam.
Ventilating: Bathrooms only.
Elevators: Electric.
Lighting: Electric.
Radiators: Cast iron, concealed.
Trim: Wood.
Cubical Contents: 1,230,000 ft.
Cubic Foot Cost: 63 cents.
Total Cost: $1,216,926.
201 EAST DELAWARE PLACE, CHICAGO.
THIELBAR & FUGARD, ARCHITECTS
Date of Completion: 1926.
Total Number of Apartments: 115, including seven-room bungalow on roof.
Total Number of Apartments per Floor: 8.
Total Number of Rooms per Apartment: 2, 3, 4.
Structural Frame: Reinforced concrete.
Structural Floor System: Reinforced concrete.

Heating: Vacuum steam.
Ventilating: Bathroom exhaust only.
Elevator: Variable speed.
Radiators: Standard floor type.
Trim: Birch.
Cubic Foot Cost: 62.8 cents.

201 EAST DELAWARE PLACE, CHICAGO.
THIELBAR & FUGARD, ARCHITECTS
APARTMENT FOR C. E. HAMILTON, ST. LOUIS,
BOWLING & SHANK, ARCHITECTS
172 BEACON STREET, BOSTON,
BIGELOW & WADSWORTH, ARCHITECTS

116 CHARLES STREET, BOSTON,
BIGELOW & WADSWORTH, ARCHITECTS
COST AND CONSTRUCTION DATA

Date of Completion: November, 1928.
Total Number of Apartments: 10.
Total Number of Apartments per Floor: 1.
Total Number of Rooms per Apartment: 15.
Structural Frame: Steel.
Heating: Vapor.
Elevators: Electric.
Lighting: Electric.
Radiators: Cast iron.
Plumbing: Brass pipe.
Windows: Wood.
Trim: Wood.
Cubical Contents: 398,230 ft.
Cubic Foot Cost: 90 cents.
Total Cost: $358,407.

172 BEACON STREET, BOSTON.
BIGELOW & WADSWORTH, ARCHITECTS

COST AND CONSTRUCTION DATA

Date of Completion: January, 1925.
Total Number of Apartments: 5.
Total Number of Apartments per Floor: 1.
Total Number of Rooms per Apartment: 8.
Structural Frame: Wood.
Structural Floor System: Wood.
Heating: Vapor.
Elevators: Electric.
Lighting: Electric.
Radiators: Cast iron.
Plumbing: Brass pipe.
Windows: Wood.
Trim: Wood.
Cubical Contents: 96,560 ft.
Cubic Foot Cost: 86 cents.
Total Cost: $82,866.

116 CHARLES STREET, BOSTON.
BIGELOW & WADSWORTH, ARCHITECTS
31 EAST 12TH STREET, NEW YORK,
SUGARMAN & BERGER, ARCHITECTS

400 EAST 58TH STREET, NEW YORK,
GEORGE FRED PELHAM, ARCHITECT

Nykolta & Lincoln

Wares
31 EAST 12TH STREET, NEW YORK.
SUGARMAN & BERGER, ARCHITECTS

400 EAST 58TH STREET, NEW YORK.
GEORGE FRED PELHAM, ARCHITECT
325 EAST 72ND STREET, NEW YORK.
LEONARD COX, ARTHUR C. HOLDEN & ASSOCIATES, ARCHITECTS;
ALFRED BUSELLE, CONSULTANT

BEEMAN MANSION, NEW YORK.
VAN WART & WEIN, AND TREANOR & PATIO, ASSOCIATED, ARCHITECTS
TYPICAL FLOOR

325 EAST 72ND STREET, NEW YORK,
LEONARD COX, ARTHUR C. HOLDEN
& ASSOCIATES, ARCHITECTS;
ALFRED BUSSELLE, CONSULTANT

THIRD TO SEVENTH FLOORS

EIGHTH AND NINTH FLOORS

BEEKMAN MANSION, NEW YORK,
VAN WART & WEIN AND TREANOR
& FATIO, ASSOCIATED ARCHITECTS
ONE EAST END AVENUE, NEW YORK. PLEASANTS PENNINGTON AND ALBERT W. LEWIS, ARCHITECTS. MCKIM, MEAD & WHITE, SUPERVISING ARCHITECTS.
COST AND CONSTRUCTION DATA

Date of Completion: October, 1929.
Total Number of Apartments: 35.
Total Number of Apartments per Floor: 3, varying.
Total Number of Rooms per Apartment: 8 to 14, varying.
Structural Frame: Steel.
Structural Floor System: Cinder arch.
Heating: Vapor.
Ventilating: Ranges only.

Elevators: Electric.
Lighting: Electric.
Radiators: Copper.
Plumbing: Brass piping, hot.
Windows: Wood.
Trim: Steel and wood.
Cubic Contents: 1,375,000 ft.
Cubic Foot Cost: 90 cents.
Total Cost: $1,239,000.

ONE EAST END AVENUE, NEW YORK.
PLEASANTS PENNINGTON AND ALBERT
W. LEWIS, ARCHITECTS; McKIM, MEAD
& WHITE, SUPERVISING ARCHITECTS

COST AND CONSTRUCTION DATA

Date of Completion: October, 1929.
Total Number of Apartments: 16.
Total Number of Apartments per Floor: 1, varying.
Total Number of Rooms per Apartment: 5 to 18.
Structural Frame: Steel.
Structural Floor System: Cinder arch.
Heating: Vapor.
Ventilating: Ranges and special cases only.
Elevators: Electric.

Lighting: Electric.
Radiators: Copper.
Plumbing: Brass pipe.
Windows: Wood.
Trim: Steel and wood.
Cubic Contents: 835,600 ft.
Cubic Foot Cost: 82 cents.
Total Cost: $692,750.

1001 PARK AVENUE, NEW YORK.
PLEASANTS PENNINGTON AND
ALBERT W. LEWIS, ARCHITECTS
623 PARK AVENUE,
NEW YORK, J. E. R. CARPENTER, ARCHITECT

886 FIFTH AVENUE, NEW YORK,
WARREN & WETMORE, AND ROSARIO CANDela, ASSOCIATED, ARCHITECTS
1020 FIFTH AVENUE, NEW YORK.
WARREN & WETMORE, ARCHITECTS

660 PARK AVENUE, NEW YORK.
YORK & SAWYER, ARCHITECTS
5TH, 7TH, 8TH, 10TH AND 11TH FLOORS

1020 FIFTH AVENUE, NEW YORK.
WARREN & WETMORE, ARCHITECTS

8TH, 9TH AND 12TH FLOORS

60 PARK AVENUE, NEW YORK.
YORK & SAWYER, ARCHITECTS

344
25 EAST END AVENUE, NEW YORK.
CROSS & CROSS, ARCHITECTS

155 EAST 72ND STREET, NEW YORK.
CROSS & CROSS, ARCHITECTS
25 EAST END AVENUE, NEW YORK,
CROSS & CROSS, ARCHITECTS

155 EAST 72ND STREET, NEW YORK,
CROSS & CROSS, ARCHITECTS
530 EAST 86TH STREET, NEW YORK.
CHARLES A. PLATT, ARCHITECT

30 SUTTON PLACE, NEW YORK.
ROSARIO CANDELA, ARCHITECT.
Pebody, Wilson & brown, supervIsIng architects
THE suburban apartment house is a matter of recent evolution. It is only in the last twenty years that any real progress has been made in the development of such multi-family groups of a definite suburban character. The movement began with the adaptation of old mansions to house several families. Alger Court, in Bronxville, New York, is reputed to be one of the first, if not the first of these adaptations, and it is significant that this has been fully rented ever since it was changed from the old Swain mansion into its present form. Definite attempts soon followed to design suburban apartment dwellings which would have the same advantages of fresh air, sunlight, and attractive landscape settings, as are concomitants of suburban private residences.

SUBURBAN ADVANTAGES

The reasons for the ever-increasing demand for the right kind of suburban apartments are obvious, but should be carefully borne in mind in approaching the problem of design. Improved railroad transit, new roads and parkways, and the multiplication of automobiles have all helped to increase the commuting population of the larger cities. The suburbs usually have good schools and they are free from the dangers of heavy traffic to which the children in city schools are exposed. Finally, there are the recreational facilities such as golf and tennis, bathing beaches and bridle paths, country clubs and open spaces, which are not found in urban centers. Hence, it is not surprising that people are being attracted to apart-
ment houses outside the city, providing these structures can satisfy the wants of their discriminating tenants. The advantages which they expect are more light and air, less noise, cross ventilation, and an attractive outlook—and all this at a rental below that which they would have to pay for the same number of rooms in town. Experience has shown that, in order to meet their expectations, the buildings should be set well back from the street, with attractively landscaped grounds, and ample provision for both parking and housing automobiles.

HIGH UNITS DESIRABLE

That these conditions can be fulfilled on a financially profitable basis is due, of course, to the lower cost of land in suburban areas. It is doubtful whether enough advantage of this fact has been taken, and it might be mentioned here that such advantage does not necessarily preclude high apartment units. There is much to be said in favor of suburban apartments of six or more stories, provided the coverage of the site is limited proportionately. The upper floors gain in light and air, and every tenant has the advantage of an increase in the surrounding garden space.

LAYOUT AND OUTLOOK

To insure a low rate of vacancies, which is essential for a fair return on the investment, a suburban apartment house should have in abundance the advantages that building in the suburbs makes possible. Zoning regulations have undoubtedly helped to encourage open types of apartment houses, but a limited coverage does not completely solve the problem. The garden spaces must be effectively arranged so that each apartment in the building may have a pleasant outlook.

MODERN EQUIPMENT INDISPENSABLE

We are witnessing today the introduction of new devices for use in the home and apartment in unprecedented numbers, and their advantages are advertised more cleverly and alluringly than ever before. The people who never heard of colored bath fixtures, chromium finish, incinerators, electric refrigeration, electric dishwashers, steel cabinets, folding ironing boards, Vita glass and concealed radiation, until a few years ago, are now made to believe that they are indispensable. The apartment houses built before their advent and adaptation are considered "out-of-date." Certainly they are features of large attraction, and their effect has been to create a tendency among the tenants to become more and more transient, causing the owners grave concern. To combat this tendency it is necessary to look well ahead and give ample consideration to modern equipment, but equipment which is modern today is out of date tomorrow. It is, of course, important that such properties be kept abreast of the times to retain their attractiveness, but it is frequently impossible for physical or financial reasons to provide every new modern appliance.

PLAN AND DESIGN

If basic features of plan and design are wisely and generously provided in the beginning, they will go a long way toward satisfying the tenant. He is not so apt to be lured to a fresh new apartment
Below: Plan of "The Arches,"
Bronxville, New York.
Penrose Stout, Architect

with some more recent equipment if the ventilation is not so good, the plan not so convenient, the rooms not so large, or the buildings not so characterful and dignified as the one he now occupies. Experience has demonstrated that narrow units, about thirty-three feet wide, are advantageous in suburban multi-family dwellings, as this facilitates a design with none of the apartments more than two rooms deep, thus insuring cross ventilation. The narrow units require more exterior entrances, but long public halls are made unnecessary. By placing the living room near the entrance to the apartment, with the bedrooms beyond, a real economy of hall space is achieved. Plenty of light and ventilation is assured to the main rooms if the dining room and living room, having opposite exposures, run through the width of the buildings.

VESTIBULES AND ENTRANCE FOYERS
It is particularly important in suburban apartments to avoid small, poorly lighted vestibules. This first impression is important and is frequently taken as an index of what lies beyond. It seems well to be lavish at this point, for although no one rents the entrance or the vestibule, yet they reflect very directly upon the apartments they serve, and since they serve several apartments we can afford to treat them well and obtain those qualities of dignity, distinction and charm that one might expect to grace the main entrance of a country home.

DEMAND INCREASING
There can be little doubt that the demand for suburban apartments will continue to increase in number as our business centers become more densely occupied and our cities less attractive places in which to live. Life, both business and social, is becoming increasingly complex, and the servant problem adds its trials to further develop this urge on a large part of the public for a more simplified home life where care, maintenance and responsibility are left to the landlord.

ADJACENT PROPERTY OWNERS MUST BE CONSIDERED
Too many apartments have been built in the suburbs without regard to environment and effect on adjacent property. Desirable residential property has too frequently been blighted by apartments of poor character crowding their boundaries. This has often resulted in public disfavor and condemnation of all apartment houses in
their community. But apartment houses will come, forced by population pressure, increasing property value and taxation. So it behooves us to reconcile our communities to their advent by intelligent forethought and direction. Architects can serve in this regard by helping to create well devised zoning ordinances and building ordinances in the suburban communities and by influencing the individual owner to build creditably and in sympathy with his environment. The field is large and because it is comparatively new, it offers the architect a stimulating opportunity to express himself originally and to help preserve and enhance rather than disfigure and destroy the charm of our suburbs.

The stock market slump last fall, with its subsequent business depression, put an end to the hasty over-production of apartment houses that was taking place on the outskirts of our larger cities, and it is to be hoped that wiser councils and better judgment will prevail when money for real estate improvement becomes again available. It is believed that investors and mortgage companies have learned the necessity of exercising a more careful discrimination in approval of buildings on which money is to be loaned.
OPPORTUNITY IN THE GARDEN APARTMENT

BY

JOHN TAYLOR BOYD, JR.

WITHIN the past ten years the garden apartment has come to the fore as one of the important classes of American buildings. Whether this is likely to continue is an interesting question. I believe that the answer is in the affirmative. There is good reason for believing that conditions and tendencies in the real estate field today offer excellent opportunities for the garden apartment type in the years immediately ahead.

SUPERIORITY OF GARDEN APARTMENTS

Experience with the garden apartment has proved rather conclusively that it has marked superiority over the two competing classes of residence buildings,—the individual house, either of the detached or the row type, on the one hand, and on the other hand the old fashioned congested apartment house that is built as solidly up to the building line and to the property lines as law will allow. As regards the first competitor, it is noteworthy that the trend toward apartment house living has set in stronger than ever during the last couple of years, as statistics of new construction show. This appears to be true all over the country, even in those cities where authorities once declared that people would never forsake their individual homes for apartments. But householders, particularly young married people, prefer the greater conveniences of an apartment and the central location that is likely to go with it, to say nothing of its greater economy. People also wish to have as much as is practicable of the amenities, and with the beauty and the openness, light, garden surroundings and the outlook that characterize the detached house in mind, they naturally prefer the garden type of apartment. So much for the point of view of the renting public. From the viewpoint of the promoter or investor, the garden apartment has in general superior investment value over either the older apartment type or the individual house. Thus, it is likely to be the easiest type to finance. I believe that mortgage interests are recognizing this fact.

Another significant trend favors the growth of the garden apartment idea. There is the increasing tendency,—in New York at least,—toward the large unit of operation as being the most economical. In residence building the most economical unit is felt to be a city block or more. Among real estate experts, builders and mortgage interests as well as architects, there is a growing understanding of the fact that the advantages of the large operation are so great that it is the “coming thing,” and the “only thing,” in many cases in this present buyers’ market in real estate. This opinion is being supported in practice. For
典型楼层

托马斯花园公寓，纽约
安德鲁·J·托马斯，建筑师
Dunbar Apartments, New York
Andrew J. Thomas, Architect
General Plan

Typical Center Building

End Buildings

Apartments for the Bayonne Housing Corporation, Bayonne, N. J. Andrew J. Thomas, Architect

Well over a year in New York the activity in real estate trading, promotion and construction has centered more and more in the hands of about a dozen of the largest organizations, who appear to be very active on a huge scale, doing volume business in the largest possible units. Most of them are of the type of strong public real estate—financing—construction companies described in the articles published in The Architectural Forum last year, entitled "Wall Street Enters the Building Field." In this buyers' market these strong companies are more active, and they are expanding faster than ever before, if one may judge from the frequent reports of their operations in the real estate news sections of the press. It is an apt illustration of the economic
principle that the test of an organization is its ability to make hay while the sun does not shine. A few of these concerns are reported to have been buyers of residence properties. The point to be noted here is that almost inevitably the huge operation, comprising one or more city blocks, means the use of the garden apartment type. In a buyers’ market one must offer goods of better quality than the other fellow’s and at a lower price. In other words, why not produce the garden apartment type?

ADVANTAGES OF LARGE SCALE OPERATIONS

The large scale of these operations and their low-cost financing of equities and junior mortgages together make possible the lower price to the public; and the large plottages assembled furnish opportunity for the garden plan layout. With the garden layout there may be created a sort of monopoly of the sales appeal attractiveness of the new, improved standards that lie so close to the heart of Americans. This superiority, in the competition of a buyers’ market, may attract tenants out of older buildings, thus rendering them prematurely obsolete, gray-hair before their time. In this present economic situation there is also to be considered the important phase of land values and site prices. Hitherto the chief handicap to the rise of the garden apartment to an important position among the most widely used types of American buildings has been the inertia of the building industry and its allied interests who felt that it was too difficult and too costly to purchase enough land in a given operation to allow the garden type. In a sellers’ and speculators’ boom market, this was thought to be a waste of good money. For, in the post-war housing shortage, would not almost anything sell and rent, even apartments having a large proportion of dark, poorly ventilated rooms, drab surroundings, and badly planned houses? On top of this reluctance was there also not failure to understand that small sites with maximum coverage of building usually involve a heavy loss of efficiency in the plan of the building itself as compared with very large sites with buildings of low coverage, a loss so great that high coverage does not often pay on an investment?

FALLACY OF HIGH COVERAGE

This fallacy of high coverage still persists, notwithstanding all that has been written in disproof of it in the architectural journals during the past two years. Therefore one more illustration may be of interest. It happens that with Arthur C. Holden and Associates, I am consulting architect for the East Side Chamber of Commerce of New York. This organization is taking an active leadership in promoting the rehabilitation of that admirably located district on the edge of two of the greatest business centers in the world, but one which is today in a sad state of blight due chiefly to the obsolete buildings of all types which cover the district solidly. The purpose of the East Side Chamber is to encourage builders to come into the district and rebuild it, chiefly with residence structures, thus making it one of the most attractive and valuable sections of Manhattan, as it unquestionably should be. For more than a year my counsel has been against the undesirable development of the small “shoe-string” operator. I have pointed out that his typical building with narrow frontage is too small to effectively change the neighborhood in the way that the huge “Tudor City” development, comprising several city blocks at the end of East 42nd Street, Manhattan, changed a similarly blighted district into one of the best. On the lower east side the small operation is likely to fail, and in failing it begins another shun. This view, I believe, is finding favor in mortgage circles.

ECONOMY OF THE GARDEN PLAN

Nor should it be thought that this situation on the lower east side is an isolated case. Nearly every one of the older large cities of the United States has similar blighted districts on the edges of the finest business or residential centers, where land values are comparatively low, inviting profitable reconstruction with new buildings. Here is one of the finest opportunities for the building industry that could be found. But the work must be done in a large way, and on sound principles. A striking example of the economy of the garden plan came to my notice recently in this connection. A builder had a plan for a medium-priced, six-story elevator apartment house, on an inside plot with 80 feet frontage, 20 rooms to a floor, coverage nearly 70 per cent of the property. I compared it with a plan that we had drawn for a whole block, 600 x 190, covering 55 per cent and with somewhat larger rooms, every one with fine outlook over either street or huge interior garden, running almost the full length of the block. Now, the first plan showed an average of 4 feet of street frontage for each room per floor, whereas, the garden apartment plan showed 4½ feet of street frontage per room per floor,—apparently a difference of $12$½ per cent in favor of the high-coverage plan: but when it is understood that in the small congested plan there were two small apartments with four of the 20 rooms with low rental value because they were located on small side lot line courts, and also that the eight rear rooms were located on a very narrow yard with a shut-in cheerless outlook, it will be seen that the large block, low-coverage plan has actually a higher number of good rooms per front foot than the
small plan has. The superior efficiency of the lower-coverage plan in this particular comparison has, be it noted, no reference to land values. In addition, there was considerable extra expense involved in the small plan in the long public corridors necessary to provide access to the single elevator. These were absent in the other plan.

Of course, when a small builder is shown these facts he may reply: "I see the point all right, but I haven't enough capital to go into a larger operation." Equally, of course, when you suggest that he combine in a group with other small builders who, like himself, wish to enter the district in a small way, to carry out a large operation and split the risk, you find that he is too much of an individualist to welcome the suggestion. But that sentiment will pass, particularly when the small builder gets the same advice from mortgage people, as now seems likely.

THE CHIEF OBSTACLE TO GARDEN APARTMENTS

Here we come to the main obstacle to the progress of the garden apartment idea. This is the small property owner. As every one who has ever tried to assemble a large plotage knows, it is the small property owner who often balks the project in one way or another. But even here there is prospect of improvement. There is to be detected the beginning of a realization that under the complex conditions of a large city the holding of real estate in small parcels is becoming uneconomic. It is risky business for the small holder as well as for the building industry. The practice is a relic from the days when real estate was a while back. It is interesting to note that securities, is possibly not so popular now as it was a while back. It is interesting to note that twice within the past nine months when I remarked to a real estate expert, who is a partner in a well known Manhattan firm, that liquidation in site values was inevitable, I received the identical reply: "Of course, in the best residence section of Manhattan they have pushed prices up so high that only the most expensive cooperative apartments can be built on them. And the market for that class of goods is extremely limited,—much smaller than the supply of un-built-on sites."

After all, the value of a site is based on the earning power of the building erected on it. As changes in market demand for buildings affect their earning power one way or another, so does the value of the site change similarly. Eventually, the owner of the site must change his price to agree with its altered value. Thus, the trend toward the larger operation, no matter what class of building is involved, cannot be stopped by arbitrary notions of fixed or rising land "values." The garden apartment should benefit increasingly.

GREAT IMPROVEMENT IN EQUIPMENT

In conclusion, it may be said that the standard of design, construction and equipment of the garden apartment is always improving, and this makes it additionally attractive to the public. The record of these improved standards is constantly registered in great detail in the architectural journals, and it needs no careful explanation here. One tendency, however, may be noted. In the New York district, at least, the public demand for elevators in apartments that are more than four stories high. People will not pay enough for the privilege of walking up above the fourth floor to make a "walk up" of five or six stories profitable. Not only that, but there appears to be enough social distinction associated with living in an elevator apartment house to make those who rent the lower stories willing to pay a higher rental on account of the elevator for which, as a matter of convenience, they have little need. Such are the reasons for believing in the future of the garden apartment,—the garden apartment of all types and classes and prices and heights, and walk-up and elevator and land prices.
PARIS APARTMENT HOUSES

BY
KENNETH M. MURCHISON

In Paris, the city of charm, the city of beauty, the largest and most interesting group of apartment houses in the world is now in course of construction. The intensity of the thing is amazing, and the site, immediately facing the beautiful Bois de Boulogne, is without parallel.

The long line of fortifications, long since abandoned, situated at the Porte de la Muette, was for a long time intended to be used eventually for hotels particuliers, or private homes. But private houses are now a thing of the past. Apartments have taken their places. Rarely is one invited to a hotel particulier in Paris. Only the old families have them, and if you are a house guest and want to take a bath in these aristocratic surroundings, you have to wait in line with your towel and your soap, praying that the one ahead of you is a quick washer!

Everyone in Paris, as in New York, is headed straight for apartment life. As land values soar, so do the private houses, and in inverse ratio, as it were, hide their heads in embarrassment, for it isn’t the fashion these days to blazon forth one’s riches and one’s successes, and the private house certainly gives to the critical world that holier-than-thou appearance. And, of course, the servant problem is ever present, even in Paris, although domestic servants are much easier to find in Paris than in the United States. But the difference in wages would make you positively cry like a child. In New York, for instance, we pay a cook, generally of Irish or Scandinavian extraction and almost always without any knowledge whatsoever of the art of cooking; yes, we pay these ladies $100 or $125 a month. In Paris they pay them $20 and for a cook too,—not the imitation variety, but a really good chef, a cook who knows her onions and whose productions leave a haunting memory of zip and relish.

But back to our architectural subject. The municipality of Paris held a competition on December 30, 1927, for the first of four great groups of apartment houses on the site of the abandoned fortifications at the Porte de la Muette. It was a marvelous piece of property, facing the Bois and surrounded by gardens on all sides, by avenues hundreds of feet wide, by towering trees and by attractive hotels particuliers. This competition called for a group of buildings covering 131,000 square feet, or by our calculation, an entire New York avenue block 200 feet wide, running back some 650 feet, a piece of property as large as that of the new Waldorf-Astoria Hotel, which will occupy an entire city block on Park Avenue. But there was a severe restriction on the property, that of height. The total was 60 feet facing the park and avenues and 72 feet on the interior gardens of the group. The height could not be greater than four stories above grade on the building line, but a fifth story was permitted if set back 20 feet. The object of these covenants was two-fold: first, to have a low and picturesque setting around the Bois; secondly, not to interfere with the view of the Bois from the existing buildings on the opposite side of the avenue.

The competition attracted some 50 entrants. The successful architect was M. Jean Walter, a graduate of the Ecole des Beaux Arts about 1902 and a designer of wide experience and great ingenuity, already noted for his apartment houses. His scheme comprised three buildings opening onto a central garden and containing 68 apartments, all of ample size and some of grandiose
dimensions. Terraces and roof gardens are here in abundance; in fact the Paris architects no longer put the servants' rooms up on the roof. M. Walter has arranged that all his kitchens, servants' bedrooms, guest lavatories and stairways are lighted and ventilated by large service courts, and every master's room and every entertaining room opens directly on the gardens.

This plan has been ingeniously arranged in M. Walter's scheme, but in certain instances he had to arrange the service to the dining rooms across the passages leading to the bedrooms. He evidently reasoned it out that it was more important to have the salon, the *petit salon* and the dining room open en suite, all with outside exposures (even if it did necessitate serving across the bedroom corridor) than to have the dining room face the court. With us, the dining room is the least important of the master's rooms, but in Paris, where lunch is an affair of perhaps two hours, a desirable outlook is necessary. The arrangement of servants' rooms in this plan is to us peculiar. Around the service court on each floor there runs a glass-enclosed gallery leading to a battery of servants' rooms, as many as 19 in one case. These are available for any or every apartment on that floor. One water closet is provided on each floor, and each room has a lavatory. Downstairs on the court side there is located an extra group of servants' rooms with a large bathing outfit such as is seen in a club house. One monte-charge or service lift is considered sufficient to lift the maids and the supplies, but with us it would hardly be considered ample.

You planners all know that if you have this ideal arrangement of every master's room and every service room on the court, and if you have your living rooms together, with the adjoining apartments served by the same elevators, you simply have to cross your hall from the pantry to the dining room. The objections to the plan are obvious. In the first place, if Emile is cooking Brussels sprouts or spring lamb with garlic, every time the butler opens the door a great whiff assails the fine French nostrils of the guests. Then again, the children playing horse races in the corridor (which is the very place for such a thing) are likely to try to run between the footman's legs while he is bearing away the discarded soup plates, in imitation of a machine gun being attuned to the propeller of an airplane! However, you can take your choice—a somewhat dark, a somewhat noisome outlook on a court, with no smells on the outside, or a garden outlook with the mentioned indelicacies in full force. For me, I believe I would use M. Walter's plans, chain up the children, and let the cocktail shaker soothe the olfactory nerves of the guests into peaceful acquiescence.

The plan of this group is really most ingenious,—and complicated. In the first place, there are few, if any, right angles in the property. Then again, it was important that none of the principal viewpoints should be given up to the service. The presiding geniuses of the kitchen over there do not have the exalted social position of our kitchen mechanics. The apartment buyers or lessees in Paris demand very high ceilings in the main rooms, so M. Walter has given them 13 feet in the clear, a height which to us, even in the higher class of apartment houses, is a bit unusual. He therefore had the opportunity of making the servants' rooms and kitchens, all on the court, of less height, staggered with the main story levels. That made it again more complicated, as to both stairways and lifts.

The stories are arranged thus: on the outside, four stories above grade with an additional setback story; below grade one basement, lighted by areas and used for laundries and service rooms; underneath the entire garden and buildings there is a garage for 250 cars, so that each apartment owner may have space for three or four cars. This convenient and logical arrangement is not permitted by our laws in New York. On the court side (the grade of the court being lower than that of the street or garden) there are nine stories of servants' rooms and kitchens, with the garage in the sub-basement. On the outside, besides the four stories and the setback story, the municipality allowed the architect to add four or five towers of one story each. These belong to the setback stories, which, with their gardens and terraces overlooking the Bois, are naturally the most desirable apartments, although not the largest. The architect himself has taken one of these, and
logically he ought to know something about it.
The facades are very simple and modern in style, of stone and without a cartouche or a garland on them. The construction is of reinforced concrete with extremely thick walls, not only on the exterior but in certain interior portions as well. M. Walter has designed great windows and exterior doors leading onto balconies, of a single sheet of plate glass sliding back into these thick walls by means of a special mechanism, thus opening the entire end of the room to the beautiful view and air of the Bois. Thus has a French architect abandoned French doors, French cartouches and a lot of other French specialties. He was in New York last year looking over a lot of our apartment houses (I had the pleasure of being his official guide), and who knows but what he picked up here and there a couple of Yankee ideas?

No apartment house architect of today is interested to a great extent in the elevations. Indeed, one of our most talented designers built an apartment house on East 79th Street in New York recently, and the fenestration has nothing to do with itself or with anything else. Every apartment in it was speedily sold, and it was supposed that the architect said "Here are the columns and the elevators and the stairways. Do what you wish with the design; here to the plan, let the windows fall where they may!"

But a succinct explanation of the plan of this first unit of the development on the site of the fortifications may not be unpleasant reading. Our diagram shows three separate buildings, A in the center, B on the left, and C on the right. To the right of C is the Porte de la Muette, 500 feet wide, and on the other side of this opening will be located the second unit of the four designed for this development. It is truly a magnificent site, just as if some one of us had a proposition to build a group of apartment houses on Fifth Avenue, running from 72nd Street to 85th Street! If anyone of us got a commission like this, we just wouldn't notice anybody who spoke to us!

But on with our plan! Unit A has three apartments on a floor. The smallest happens to face the Bois, because it is the snub nose of a plan which resembles a 75-millimeter shell, if you gather what is meant. One elevator and one monumental curved stairway serve this apartment, which has six master's rooms and two baths. The two larger apartments in Unit A have nine master's rooms and four baths each. They are served by a semi-circular stairway lighted from the court, with two elevators side by side. This arrangement is very desirable in any country where people give parties. And, by the way, you all know that Paris elevators go up but they don't go down. That is, if your apartment house contains a lift that will take passengers down, you tell everybody about it, you're so proud. But then nobody in Paris will trust themselves to go down in an
elevator. They're not used to it, and it gives them a sinking spell.

These three apartments, totalling 24 masters' rooms on a floor, also include eight servants' rooms on a floor; or, there being nine servants' floors to five masters' floors, each floor of three apartments has about 14 servants' rooms to divide up among the three. Bear in mind, of course, that these apartments represent all that there is of the most chic, the most smart and the most desirable in Europe. Unit B has five apartments on a floor, two lifts, each serving two apartments, and one lift serving the odd apartment. The larger apartments run nine or ten rooms with three or four baths, and the smallest eight rooms and three baths. For these five apartments there are allocated about 22 servants' rooms. This unit has one inside service court and two narrow outside courts. Here and there kitchens and pantries are lighted by courrettes or light shafts of fairish size. Unit C contains five apartments on a floor, two lifts serving two each and the remaining lift serving the odd apartment. The apartments in this unit run from nine to eleven rooms each and from three to four baths. Thirty-four servants' rooms go with these five apartments.

The number of rooms given include kitchens, servants' dining rooms and sewing rooms, but do not include the galleries or pantries or any inside rooms. The bedrooms rarely have closets, these being provided in the corridors or in the entrances to the bathrooms. I had quite a discussion with the architect over this point, but the only reason he gave, besides that of objecting to so many doors in a room, was that French families of wealth have so many more servants than do the American families of even more wealth, that there is always a servant handy with a pair of trousers hanging over his arm or in his hand the necktie you don't want. The theory is all right, but suppose you were in a hurry, with no trousers on, and the valet was dining, and the closet was way down in the corridor, and you weren't sure which closet was which—. Of course, I didn't argue with him over the point, but nevertheless I felt strongly about it. However, I am very polite,—in Paris. Just the same, I can't help thinking about the things that might happen to me if my closet were in the hall! I am like a fireman, but without the greased pole, but the French are never in a hurry, except when they are getting out of the way of four thousand taxicabs going in different directions in the Place de la Concorde!

The plan of this group is a cock-eyed plan. The property is cock-eyed, and hence the cock-eyed plan. The rooms are thus necessarily cock-eyed, but M. Walter has used every device of furring, paneling, concealing, short-changing and bluffing to get over this difficulty. In most cases he has succeeded, but every once in a while you will find a room that has the appearance in plan of a sole meuniere or tripe a la mode de Caen. Nearly all the bathrooms are shaped like a piece of mince pie, but that is no trouble to anybody but the tile setter. They (the bathrooms, not the setters) are much larger than ours, and all contain a fourth fixture commonly known as The Old Family B—t.* This useful and slightly object is never used in American architecture, but our sisters across the ocean simply couldn't do without it. And let me whisper this in confidence, I think they're right.

Now as to further evidences of M. Jean Walter's ability. On December 21, 1928, the municipality instituted three more competitions for the three remaining plots. M. Walter won two of them, M. Azema being awarded the third. M. Walter's two new buildings will cover about 500,000 square feet, something colossal, and for the second of these new plans M. Walter has evolved something he considers much superior to his first design. In it he has eliminated a great deal of the service across bedroom corridors, and instead of having a grand salon and a petit salon he has designed one large space 70 x 26 which can be subdivided or not, to suit the whim of the tenant or the buyer.

In conclusion, I aver, most honestly, that we should give an apartmental decoration to M. Walter for this group of fine edifices. But there are others as well, especially a magnificent apartment building, half completed, designed by M. Arvidsson, an architect well known to many of us here in the States. He has included one apartment which recently sold for $200,000, quite the record for Paris. But this particular apartment has two stories in front and three in the rear, practically a hotel particulier but with none of its inconveniences.

It is said that in certain parts of Paris one can buy an apartment for what one would pay in rent here in New York. I know, however, that Paris property on an average runs about 10 per cent of the cost of similarly located property in New York, and that a building like that designed by M. Walter and ignobly described here, runs about 48 cents a cubic foot cost of construction. We architects in the United States have a habit of looking down on the rest of the world from time to time, but these new apartments in Paris are nothing to be caviled at. No, not at all. They are superb. They are the last word. They have it. They have everything they should have.—but I can't help thinking about those closets out in the hall!

*Extract from Le Matin of March 4, 1930: "Mais hier, a la police judiciaire, il sortit un carnet que M. Fains-Pass Bidel examina."
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is produced by an organization devoted exclusively to the manufacture of rubber tile floors. Every detail from origin to final installation is in expert hands. More than 9 million square feet already installed testify to its success.

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HARDWARE...
LOCKS...
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This new apartment, 55 Central Park, West, exemplifies fully modern life in New York City. Outside and in, the latest tendencies in design have been followed, though tastefully restrained. Unusual comforts, conveniences, protections have been installed to make city life in 1930 most attractive.

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In Chicago — 150 North Wacker Drive (at Randolph),

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LOCKS AND HARDWARE
The publications listed in these columns are the most important of those issued by leading manufacturers identified with the building industry. They may be had without charge unless otherwise noted, by applying on your business stationery to The Architectural Forum, 521 Fifth Ave., New York, or the manufacturer direct, in which case kindly mention this publication.

**ACOUSTICS**
- G. & G. Telescopc Hoist catalog, 8'/y x 11 ins. A.I.A. Standard Classification 301 contains complete descriptions, method of selecting correct model to fit the building’s needs, scaled drawings showing space requirements and specifications.

**ASH HOISTS**
- G & G Telescopc Hoist catalog, 8'/y x 11 ins. A.I.A. Standard Classification 301 contains complete descriptions, method of selecting correct model to fit the building’s needs, scaled drawings showing space requirements and specifications.

**ASH HOISTS—TELESCOPIC**
- G & G Telescopc Hoist catalog, 8'/y x 11 ins. A.I.A. Standard Classification 301 contains complete descriptions, method of selecting correct model to fit the building’s needs, scaled drawings showing space requirements and specifications.

**CONSTRUCTION, FIREPROOF**

**CONSTRUCTION, STONE AND TERRA COTTA**
- Cowing Pressure Relieving Joint Company, 100 North Wells St., Chicago, Ill. Pressure Relieving Joint for Buildings of Stone, Terra Cotta or Marble. Booklet, 16 pp., 8'/y x 11 ins. Illustrated. Deals with preventing cracks, spalls and breaks.

**DAMPPROOFING**

**DOORS AND TRIM, METAL**
- The American Brass Company, Waterbury, Conn. Anaconda Architectural Bronze Extruded Shapes. Brochure, 180 pp., 8'/y x 11 ins., illustrating and describing more than 2,000 standard bronze shapes of cornices, jambs, casings, moldings, etc.

**DOORS**
- David Lupton’s Sons Company, Philadelphia. Lupton Commercial Steel Doors. Folder, 8'/y x 11 ins. Illustrated. Lupton Steel Industrial Doors. Brochure, 8 pp., 8'/y x 11 ins. Illustrated. Details and specifications.

**DOORS AND TRIM, METAL**
- The American Brass Company, Waterbury, Conn. Anaconda Architectural Bronze Extruded Shapes. Brochure, 180 pp., 8'/y x 11 ins., illustrating and describing more than 2,000 standard bronze shapes of cornices, jambs, casings, moldings, etc.

**CENTRAL CLEANING SYSTEMS**
- Marysville, Ohio. COWING Pressure Relieving Joint Company, 100 North Wells St., Chicago, Ill. Pressure Relieving Joint for Buildings of Stone, Terra Cotta or Marble. Booklet, 16 pp., 8'/y x 11 ins. Illustrated. Deals with preventing cracks, spalls and breaks.

**CHURCH EQUIPMENT**

**CABINET WORK**

**CARPET**

**CERAMIC**

**CEMENT**
- Louiséville Cement Co., 315 Guthrie St., Louiséville, Ky. BRIXMENT for Perfect Mortar. Self-filing handbook, 8'/y x 11 ins. Illustrated. Contains complete technical description of BRIXMENT for brick, tile and stone masonry, specifications, data and tests.

**DOORS AND TRIM, METAL**
- The American Brass Company, Waterbury, Conn. Anaconda Architectural Bronze Extruded Shapes. Brochure, 180 pp., 8'/y x 11 ins., illustrating and describing more than 2,000 standard bronze shapes of cornices, jambs, casings, moldings, etc.

**CEMENTS**
- Louiséville Cement Co., 315 Guthrie St., Louiséville, Ky. BRIXMENT for Perfect Mortar. Self-filing handbook, 8'/y x 11 ins. Illustrated. Contains complete technical description of BRIXMENT for brick, tile and stone masonry, specifications, data and tests.

**DOORS AND TRIM, METAL**
- The American Brass Company, Waterbury, Conn. Anaconda Architectural Bronze Extruded Shapes. Brochure, 180 pp., 8'/y x 11 ins., illustrating and describing more than 2,000 standard bronze shapes of cornices, jambs, casings, moldings, etc.

**DOORS**
- David Lupton’s Sons Company, Philadelphia. Lupton Commercial Steel Doors. Folder, 8'/y x 11 ins. Illustrated. Lupton Steel Industrial Doors. Brochure, 8 pp., 8'/y x 11 ins. Illustrated. Details and specifications.

**DRAINAGE FITTINGS**
SELECTED LIST OF MANUFACTURERS’ PUBLICATIONS—Continued from page 65

DUMBWAITERS
Sedgwick Machine Works, 151 West 15th St., New York, N. Y.
Catalog and Service Sheets. Standard specifications, plans and prices for various types, etc. Illustrated. Catalog and pamphlets, $5.50 each. Illustrated. Valuable data on dumbwaiters.

ELECTRICAL EQUIPMENT

General Electric Co., Merchandise Dept., Bridgeport, Conn.
Manufacturer and send coupon to THE ARCHITECTURAL FORUM, 521 Fifth Avenue, New York.

The House of a Hundred Comforts. Booklet, 40 pp., 8½ x 10½ ins. Illustrated. Dwells on importance of adequate wiring.

Prometheus Electric Corporation, 360 West 13th St., New York.
Catalog and Service Sheets. Standard specifications, plans and prices for various types, etc. Illustrated. Catalog and pamphlets, $5.50 each. Illustrated. Valuable data on the subject.

Elevators
Otis Elevator Company, 260 Eleventh Ave., New York, N. Y.
Otis Push Button Controlled Elevators. Descriptive leaflets, 8½ x 11 ins. Illustrated. Full details of machines, motors and controls for these types.

Osier Graded and Gearless Traction. Elevators of All Types. Descriptive leaflets, 8½ x 11 ins. Illustrated. Full details of machines, motors and controls for these types.

Escalator Booklet, 8½ x 11 ins., 22 pp. Illustrated. Describes use of escalators in subways, department stores, theaters and industry. Lighting and Elevators. Also includes elevators and dock elevators.

Elevators. Booklet, 8½ x 11 ins., 24 pp. Illustrated. Describes complete line of "Ideal" elevator door hardware and checking devices, also automatic safety devices.

Sedgwick Machine Works, 151 West 15th St., New York, N. Y.
Catalog and descriptive pamphlets, 4½ x 9¼ ins., 70 pp. Illustrated. Descriptive pamphlets on hand power freight elevators, sidewalk elevators, automatic elevators, etc. Catalog and pamphlets, 8½ x 11 ins. Illustrated. Important data on different types of elevators.

ELEVATORS
Otis Elevator Company, 260 Eleventh Ave., New York, N. Y.
Style in Oak Floors. Booklet, 16 pp., 6½ x 9 ins. Illustrated. Shows typical installations.


FIREPROOFING
Concrete Engineering Co., Omaha, Neb.

FIREPROOFING—Continued
Concrete Steel Company, 2 Park Avenue, New York, N. Y.
Economical Fireproof Floors for Suburban Buildings. Folder, 4 pp., 8½ x 11 ins. Illustrated.

Havemeyer Steel Joists. Booklet, 24 pp., 8½ x 11 ins. Illustrated.


Unabcker, The Tile That Binds. Folder, 8½ x 11 ins. Illustrated.

Face Tile Walls, Folder, 8½ x 11 ins. Illustrated.

Meeting Every Need. Folder, 8½ x 11 ins. Illustrated.

Nacot Vitrifile. Folder, 8½ x 11 ins. Illustrated.

Nacot Double Shell Load Bearing Tile. Folder, 8½ x 11 ins. Illustrated.

FLOODLIGHTING
National Terra Cotta Society, 239 Park Avenue, New York, N. Y.

FLOOR HARDENERS (CHEMICAL)
Minwax Company, 4 West 44th Street, New York, N. Y.
Concrete Floor Treatments. Folder, 4 pp., 8½ x 11 ins. Illustrated.

Toch Brothers, New York, Chicago, Los Angeles.
Handbook of R. L. W. Protective Products. Booklet, 40 pp., 4½ x 7½ ins.

FLOORS—STRUCTURAL
Concrete Steel Company, 2 Park Avenue, New York, N. Y.

Truscon Steel Co., Youngstown, Ohio.

Structural Gypsum Corporation, Linden, N. J.

Service Sheet No. 2. Specifications and Details of Design and Construction for Gyosteel Pre-Cast Floors and Ceilings. Folder, 8½ x 11 ins. Illustrated.

FLOORING
Armstrong Cork Co. (Flooring Division), Lancaster, Pa.


Enduring Floors of Good Taste. Booklet, 6 x 9 ins., 48 pp. Illustrated in color. Explanatory sections for offices, stores, etc., with reproductions in color of suitable patterns, also specifications and instructions for laying.

Blacon's Linoleum Styles for 1930. Booklet, 64 pp., 4¼ x 5½ ins. Illustrated.


Comparison of Tests. Folder, 8½ x 11 ins. Illustrated.

Celzled Oak Flooring, Memphis, Tenn.
Style in Oak Floors. Booklet, 16 pp., 6 x 9 ins. Illustrated.

Congednum-Nairn, Inc., 195 Belgrave Drive, Kewaunee, N. J.
Facts you should know about Resilient Floors. A series of booklets on floors for (1) schools, (2) hospitals, (3) offices, (4) stores, (5) libraries, (6) churches, (7) Clubs and Lodges, (8) apartments and hotels. Illustrated.


REQUEST FOR CATALOGS
To get any of the catalogs described in this section, put down the title of the catalog desired, the name of the manufacturer and send coupon to THE ARCHITECTURAL FORUM, 521 Fifth Avenue, New York.
THE fine working qualities of Carney Cement Mortar have no seasonal restrictions. In fact, the characteristics that recommend Carney Mortar for summer use become even more desirable in winter—for instance, its suitability for fast mixing assures entering the wall without danger of freezing—and its smooth working qualities permit excellent workmanship under trying conditions.

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See Sweets A-903

CARNEY CEMENT
for Brick and Tile Mortar
SPECIFICATIONS:—1 Part Carney Cement to 3 Parts Sand
SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—Continued from page 66

FLOORING—Continued

Goodyear Tire & Rubber Co., Inc., Akron, Ohio.


Franklin Products, Inc., New Jersey.


The Dunham Co., 111 West 33rd St., New York.

For the Home. Brochure, 24 pp., 6 1/4 x 8 1/2 ins. Deals with residence hardware.

Garage Hardware. Booklet, 24 pp., 3 1/4 x 5 1/2 ins. Data on a valuable detail.

Hardware for the Home. Booklet, 24 pp., 3 1/4 x 5 1/2 ins. Deals with residence hardware.

Garage. Booklet, 12 pp., 3 1/4 x 5 1/2 ins. Hardware intended for garage use.

Radiator and Heating Traps. Folder, 5 pp., 6 x 9 ins. Illustrated. Deals with heating and hot water supply.

Structural Gypsum Corporation, Linden, N. J. Gypsum Faucet Hardware for Fireproof Floors. Booklet, 36 pp., 5 1/4 x 8 1/2 ins. Illustrated. Deals with hardware of the best type for exterior and interior use.

HEATING EQUIPMENT

American Blower Co., 604 Russell St., Detroit, Mich.

Heating and Ventilating Utilities. A binder containing a large number of valuable publications, each 8 1/2 x 11 ins., on these important subjects.

American Radiator Company, Tho, 115 West 70th S., N. Y.

Ideal Rollers for Oil Burning. Catalog 554 x 8 1/2 ins., 36 pp. Illustrated in 4 colors. Describing a line of Heating Rollers especially adapted to use with Oil Rollers.


Ideal Arcola Radiator Warmth. Brochure, 654 x 9 1/2 ins. Illustrated. Describes a central all-on-one-floor heating plant with radiators for small residences, stores, and offices.

How Shall I Heat My Home? Booklet, 46 pp., 554 x 8 1/2 ins. Illustrated. Full data on heating and hot water supply.


In-Airid, the Invisible Air Valve. Folder, 8 pp., 3 1/4 x 5 1/2 ins. Illustrated. Data on a valuable detail of heating.

The 999 ARCO Packless Radiator Valve. Folder, 8 pp., 6 1/2 x 9 1/2 ins. Illustrated.

Bryant Heater & Mfg. Co., 7525 St. Clair Ave., Cleveland, Ohio.


James B. Claw & Sons, 534 S. Franklin St., Chicago, Ill.


C. A. Dunham Company, 450 East Ohio St., Chicago, Ill.


Dunham Return Heating System. Bulletin 109, 8 1/2 x 11 ins. Illustrated. Covers the use of heating apparatus of this kind.


The Fulton Sylphon Company, Knoxville, Tenn.

Sylphon Temperature Regulators. Illustrated brochures, 354 x 8 1/2 ins., dealing with general architectural and industrial applications, also specifically with applications of special instruments. Sylphon Heating Specialties. Catalog No. 200, 192 pp., 3 1/4 x 6 1/2 ins. Important data on heating.

Grinnell Company, Providence, R. I.

Grinnell Discovers a Superior Heating Trap. Folder, 4 pp., 6 1/2 x 9 1/2 ins. Illustrated.

Hoffman Specialty Company, Inc., 25 West 45th St., New York, N. Y.

Heat Controlled With the Touch of a Finger. Booklet, 40 pp., 354 x 8 1/2 ins. Illustrated.

How to Lock Out Air, the Heat Thief. Brochure, 48 pp., 3 x 7 1/2 ins. Illustrated.

Janette Manufacturing Company, 556 West Monroe Street, Chicago.

More Heat from Any Hot Water System on Less Fuel. Folder, 354 x 8 1/2 ins. Illustrated. Deals with use of the "Hydro-

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W. & J. SLOANE
DOUBLE-WAXED LINOLEUM
### SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—Continued from page 68

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<th>Manufacturer</th>
<th>Publications</th>
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<tr>
<td>S. T. Johnson Co.</td>
<td>Booklet, 9 pp., 8½ x 11 ins. Illustrated.</td>
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<tr>
<td>Prometheus Electric Corporation</td>
<td>360 West 13th St., New York.</td>
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<tr>
<td>McQuay Radiator Corporation</td>
<td>Catalog No. 79, 6 x 9 ins. Illustrated.</td>
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<tr>
<td>National Radiator Corporation</td>
<td>Johnstown, Pa.</td>
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<td>S. T. Johnson Co.</td>
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<td>Nash Engineering Company</td>
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<tr>
<td>McQuay Visible Type Cabinet Heater</td>
<td>Booklet, 4 pp., 8½ x 11 ins. Illustrated.</td>
</tr>
<tr>
<td>Modine Mfg. Co.</td>
<td>Racine, Wis.</td>
</tr>
<tr>
<td>McQuay Convector Radiators</td>
<td>Brochure, 4 pp., 8½ x 11 ins. Illustrated.</td>
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### HEATING EQUIPMENT—Continued

- **Spencer Heater Co., Williamsport, Pa.**
  - *Brochure, 8 pp.*, 8½ x 11 ins. Illustrated.
  - Describes construction and operation of the Jennings Return Line Vacuum Heating Pump.
- **Nash Engineering Company, South Norwalk, Conn.**
  - *Bulletin 63, Brochure, 4 pp.*, 10¼ x 7½ ins. Illustrated. Describes the Jennings Unit Type Motor Driven Jennings Condensation Pump. 

### Insulation

- **Armstrong Cork & Insulation Co., Pittsburgh, Pa.**
  - The Insulation of Roots with Armstrong's Corkboard. Booklet. Illustrated. 7½ x 10½ ins., 28 pp. Describes principles of design of Armstrong Corkboard Insulation for manufacturing or commercial structures. 
  - *Insulation of Roof Assembly for Protection by Filling.* Illustrated booklet. 7½ x 10½ ins., 26 pp. Gives full data on valuable line roof insulation. 
  - *Filing Folder for Pipe Covering Data.* Made in accordance with A.I.A. rules.
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BIGELOW SANFORD
Rugs and Carpets
SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—Continued from page 70

INSULATION—Continued

JOISTS

KITCHEN EQUIPMENT
The International Nickel Company, 67 Wall St., New York, N. Y. Hotels, Restaurants and Cafeteria Applications of Monel Metal. Booklet, 8 1/2 x 11 ins., 32 pp. Illustrated. Gives types of equipment in which Monel Metal is used, with service data and sources of equipment.

LABORATORY EQUIPMENT
Allene Stone Co., 153 West 23rd Street, New York City. Booklet, 14 pp., 8 1/2 x 11 ins. Illustrated. The Stone for laboratory equipment, shower partitions, stair treads, etc.

LANTE..

LATH, METAL AND REINFORCING
Steetmax Data Sheet No. 1. Folder, 8 pp., 8 1/2 x 11 ins. Illustrated. Steetmax for floors on steel joists with round top chords. Steetmax Data Sheet No. 2. Folder, 8 pp., 8 1/2 x 11 ins. Illustrated. Steetmax for floors on steel joists with flat top flanges. Steetmax Data Sheet No. 3. Folder, 8 pp., 8 1/2 x 11 ins. Illustrated. Steetmax for floors on wood joists. Truscon Steel Company, Youngstown, Ohio. Truscon 4-inch Hy-Rib for Roofs, Floors and Walls. Booklet, 8 1/2 x 11 ins. Illustrated. Describing Truscon 4-inch Hy-Rib as used in industrial buildings. Plates of typical construction. Progressive strips of corrugation. Specifications and load tables.

LAUNDRY MACHINERY

LIGHTING EQUIPMENT

MAIL CHUTES
Cutler Mail Chute Company, Rochester, N. Y. Cutler Mail Chute Model F. Booklet, 6 pp., 9 x 9 ins. Illustrated.

MANTELS

MARBLE
The Georgia Marble Company, Tate, Ga.: New York Office, 1238 Broadway. Why Georgia Marble Is Better. Booklet, 34 pages 6 ins. Gives analysis, physical qualities, comparison of absorption with granites, opinions of authorities, etc. Convincing Proof. Booklet, 8 1/2 x 6 ins. Illustrated. Classified list of buildings and memorials in which Georgia Marble has been used, with names of Architects and Sculptors.
Hurt Building, Atlanta; Senior High School and Junior College, Muskegon, Mich. Folders, 4 pp., 8 1/2 x 11 ins. Details.

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When you specify Helioglass, you always know that your sun-windows are going to bring in the full sunlight. The vital ultra-violet rays will be there. Ordinary glass, you know, actually blots out these health-guarding rays. Helioglass transmits them generously and permanently.

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Helioglass is readily obtainable from our many Warehouses—located in every principal city.

PITTSBURGH PLATE GLASS CO., PITTSBURGH, PA.
SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—Continued from page 72

METALS
The International Nickel Company, 67 Wall St., New York, N. Y. Monel Metal Primer. 8 folders. 4 pp. 8 1/2 x 11 ins. Illustrated. Data on sheet steel.

MILL WORK—See also Wood
Curtis Companies Service Bureau, Clinton, Iowa. Your Dream Kitchen. Booklet, 11 pp., 7 1/8 x 10 1/2 ins. Illustrated. Fine line of fittings for kitchens, breakfast alcoves, etc.

PAINTS, STAINS, VARNISHES AND WOOD FINISHES
The Pergola Catalog. 7 1/4 x 10 ins., 64 pp. Illustrated. Contains illustrations of pergola lattices, garden furniture in wood and cement, garden accessories.

MORTAR AND CEMENT COLORS
Clinton Metallic Paint Co., Clinton, N. Y. Clinton Mortar Colors. Folder, 8 1/2 x 11 ins., 4 pp. Illustrated. Illustrated list of colors for various types of buildings.

PAINTS, STAINS, VARNISHES AND WOOD FINISHES
Medusa Portland Cement Co., Engineers' Building, Cleveland. "How to Paint Concrete and Masonry Surfaces." Booklet, 16 pp., 8 1/2 x 11 ins. Illustrated.

PARTITIONS—Continued
Irving Hamlin, Evanston, Ill. Hamlinized Folding Partitions Made from Hamlin's Evanston Soundproof Doors, Sectional and Movable. Folder, 4 pp., 8 1/2 x 11 ins. Illustrated.
Hausenmann Company, E. F., Cleveland, Ohio. Hollow Steel Standard Partitions. Various folders, 8 1/2 x 11 ins. Illustrated. Give full data on different types of steel partitions, together with details, elevations and specifications.

Details Instructions for Erecting Telesco Partitions. Booklet, 24 pp., 8 1/2 x 11 ins. Illustrated. Complete instructions, with cuts and drawings, showing how easily Telesco Partition can be erected.

Improved Office Partition Co., 25 Grand St., Elmhurst, L. I., N. Y. (See Henry Klein & Co.)

Improved Office Partition Co., 25 Grand St., Elmhurst, L. I., N. Y. (See Henry Klein & Co.)


Structural Gypsum Corporation, Linden, N. J. Service Sheet No. 4. Specifications for Gypsum Partition File. Folder, 8 1/2 x 11 ins. Illustrated.

Telesco Office Partition, 23 Grand St., Elmhurst, L. I., N. Y. (See Henry Klein & Co.)

PIPE


National Tube Co., Frick Building, Pittsburgh, Pa. "National" Bulletin No. 1. Specifications for Hot Water Pipe, 8 1/2 x 11 ins., 24 pp. Illustrated. In this bulletin is summed up the most important research dealing with hot water systems. The text matter consists of seven investigations by authorities on this subject.

"National" Bulletin No. 3. "National" Pipe Against Internal Corrosion. 8 1/2 x 11 ins. 20 pp. Illustrated. Discusses various causes of corrosion, and details are given of the deactivating and activating and deactivating systems, 6 1/2 x 9 ins. 12 pp. Illustrated. Describes various types of lead cames.


PARTITIONS
Circle A Products Corporation, New Castle, Ind. Circle A. Partitions Sectional and Movable. Brochure. Illustrates all styles, 8 1/2 x 11 ins., 4 pp. Full data regarding an important line of partitions, along with Directional instructions for partitions of three different types.

PLASTER


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A roof of Sheldon's Slate has, rightly, been called "the roof of eternal beauty."

Time, however, not only fails to deteriorate this eternal stone, but its caresses cause it to grow in loveliness. Even short periods of time mark an enhancement in beauty that can not escape attention.

A case in point is the First Methodist Church of La Porte, Indiana, a structure of Indiana Lime Stone all around, containing forty-eight rooms and costing $350,000, admired alike by citizens and visitors.

It is crowned with a roof of Sheldon's Semi-Weathering Green and Gray Slate* (shown in colors in Sweet's) and in a letter that lies before us Mr. George W. Allen, of George W. Allen and Sons, the Architects, says, significantly:

"That roof was put on in 1928, and I wish you could see it now. Time and the weather have made it so much more soft and beautiful in color!"

A common experience, which has led to the suggestion that a Sheldon Slate Roof would be better described as "the roof of eternally increasing beauty."

Haven't you, on the boards or contemplated, a project good enough for such a roof? If so, permit us to help you to develop one that will be a credit to you, an everlasting joy and profitable investment to the owners, and eternally increasing in beauty to all who observe it.

*Laid by Frank Laidlaw, Elkhart, Indiana.
SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—Continued from page 74

PLASTER—Continued

Interior Walls Everlasting. Brochure, 20 pp., 8\% x 11 ins. Illustrated. Describes origin of Keene's Cement and views of buildings in which it is used.

PLUMBING EQUIPMENT

Clow & Sons, James B., 534 S. Franklin St., Chicago, Ill. Catalog M, 9\% x 12 ins., 104 pp. Illustrated. Shows complete line of plumbing fixtures for Schools, Railroads and Industrial Plants.


Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago, Ill. Various Patent Flush Valves, Duplicate Water Closets, Liquid Soap Fixtures, etc. 8\% x 11 ins., 136 pp., loose-leaf catalog, showing rough-in measurements, etc. Illustrated in color. Describes Imperial Brass Mfg. Co.'s various patent flush valves, duplicate water closets, liquid soap fixtures, etc.


PNEUMATIC TUBE SYSTEMS


PUMPS


Ludowici-Celadon Company, 104 So. Michigan Ave., Chicago, Ill. "Ancient" Tapered Mission Tiles. Leaflet, 8\% x 11 ins. Illustrated. For architects who desire something out of the ordinary this leaflet has been prepared. Describes briefly the "Ancient" Tapered Mission Tiles, hand-made with full coves and designed to be applied with irregular exposures.


Roofing

Federal Cement Tile Co., 628 S. Dearborn Street, Chicago. Catalog and Roof Standards, Booklet, 36 pp., 8\% x 11 ins. Illustrated. Describes Featherweight Concrete Insulating Roof Slabs, including complete data, weights and dimensions, specifications and detail drawings. Also includes complete information on Featherweight Nailing Concrete Roof Slabs for use with ornamental slate or copper covering. The catalog is profusely illustrated and contains also a partial list of users.

Examples of Theaters and Theater Roofs. Brochure, 16 pp., 8\% x 11 ins. Illustrated. Contains views of theaters designed by some of the country's leading architects.

Heinz Roofing Tile Co., 1925 West Third Avenue, Denver, Colo. Plymouth-Shingle Tile with Sprocket Hips. Leaflet, 8\% x 11 ins. Illustrated. Shows use of English shingle tile with special hips.

Italian Promenade Floor Tile. Folder, 2 pp., 8\% x 11 ins. Illustrated. Floor tiling adapted from that of Davanzati Palace.


Ludowici-Celadon Company, 104 So. Michigan Ave., Chicago, Ill. "Ancient" Tapered Mission Tiles. Leaflet, 8\% x 11 ins. Illustrated. For architects who desire something out of the ordinary this leaflet has been prepared. Describes briefly the "Ancient" Tapered Mission Tiles, hand-made with full coves and designed to be applied with irregular exposures.


SCHOOL EQUIPMENT


SEWAGE DISPOSAL

Kewanee Private Utilities, 442 Franklin St., Kewanee, Ill. Specification Sheets. 744 x 10\% ins., 40 pp. Illustrated. Detailed drawings and specifications covering water supply and sewage disposal systems.

Ludowici-Celadon Company, South Norwalk, Conn. Bulletin 65. Booklet, 16 pp. 8\% x 11\% ins. Illustrated. Describes Type A Jennings Sewage Ejector for handling Un-screened sewage and raising it from basements below sewer level.

J·M Salem Gray Asbestos Shingles

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SELECTED LIST OF MANUFACTURERS’ PUBLICATIONS—Continued from page 76

SCREENS
American Brass Co., Inc., Waterbury, Conn.
Factories & Architects About Screenings. Illustrated folder, 8½ x 11½ ins., giving actual samples of metal screen cloth and data on screens and screen doors.

Athey Company, 6015 West 66th St., Chicago, Ill.
The Athen Perennial Window Shade. An accordion pleated window shade, made from translucent Herringbone woven Cotton cloth, which raises from the bottom and lowers from the top. It also retains savings, affords ventilation, can be dry-cleaned and will wear indestructibly.

SHELTING-STEEL
David Lupton’s Sons Company, Philadelphia, Pa.
Lupton Steel Shelling. Catalog E. Illustrated brochure, 40 pp., 8½ x 11 ins. Deals with steel cabinets, shelling, racks, doors, partitions, etc.

STEEL PRODUCTS FOR BUILDING
Bethlehem Steel Company, Bethlehem, Pa.
Steel Joists and Stanchions. Catalog, 8½ x 11 ins. Illustrated.

Steel Frame House Company, Pittsburgh, Pa. (Subsidiary of McGraw-Hill Book Company)
Steel Framing for Dwellings. Booklet, 16 pp., 8½ x 11 ins. Illustrated.

Steel Products for Gasoline Service Stations. Booklet, 8 pp., 8½ x 11 ins. Illustrated.


The Arc Welding of Structural Steel. Brochure, 32 pp., 8½ x 11 ins. Illustrated. Deals with an important structural process.

STONE, BUILDING
Indiana Limestone Company, Bedford, Ind.


Volume III. Series C. Indiana Limestone for Barns. Illustrated. Deals with use of Indiana Limestone in barns.

Volume IV. Series D. Indiana Limestone for Colleges. Illustrated. Deals with use of Indiana Limestone in college buildings.

Volume V. Series E. Indiana Limestone for Colleges and Colleges for the Architect. Illustrated. Deals with use of Indiana Limestone in college and college buildings.

Volume VI. Series F. Indiana Limestone for Churches. Illustrated. Deals with use of Indiana Limestone in churches.


Volume VIII. Series H. Indiana Limestone for Factories. Illustrated. Deals with use of Indiana Limestone in factories.

Volume IX. Series I. Indiana Limestone for Factories. Illustrated. Deals with use of Indiana Limestone in factories.


Volume XIII. Series M. Indiana Limestone for Factories. Illustrated. Deals with use of Indiana Limestone in factories.

Volume XIV. Series N. Indiana Limestone for Factories. Illustrated. Deals with use of Indiana Limestone in factories.

Volume XV. Series O. Indiana Limestone for Factories. Illustrated. Deals with use of Indiana Limestone in factories.

Volume XVI. Series P. Indiana Limestone for Factories. Illustrated. Deals with use of Indiana Limestone in factories.

Volume XVII. Series Q. Indiana Limestone for Factories. Illustrated. Deals with use of Indiana Limestone in factories.


Volume XIX. Series S. Indiana Limestone for Factories. Illustrated. Deals with use of Indiana Limestone in factories.


Volume XXII. Series V. Indiana Limestone for Factories. Illustrated. Deals with use of Indiana Limestone in factories.

Volume XXIII. Series W. Indiana Limestone for Factories. Illustrated. Deals with use of Indiana Limestone in factories.

Volume XXIV. Series X. Indiana Limestone for Factories. Illustrated. Deals with use of Indiana Limestone in factories.

Volume XXV. Series Y. Indiana Limestone for Factories. Illustrated. Deals with use of Indiana Limestone in factories.

Volume XXVI. Series Z. Indiana Limestone for Factories. Illustrated. Deals with use of Indiana Limestone in factories.

STORE FRONTS
Bronze Manufacturing Co., 323-35 South Wabash Ave., Chicago, Ill.
Catalog No. 33, Series 500. All-Metal Construction. Brochure, 20 pp., 8½ x 11 ins. Illustrated. Deals with stores of a high class.


Detail Sheets. Set of seven sheets, 8½ x 11 ins., printed on tracing paper, giving full-sized details and suggestions for store front designs.

Davis Solid Architectural Bronze Sash. Set of six sheets, 8½ x 11 ins., printed on tracing paper. Full-sized details and suggestions for designs of special bronze store front construction.

The Kamwee Company, Niles, Mich.

Detail Sheet, and descriptive folder, 8½ x 11 ins., with A.I.A. File No. featuring "B" Store Front Construction, designed along modernistic lines.

National Terra Cotta Company, 230 Park Avenue, New York, N. Y.
Terra Cotta Storefronts and Store Fronts. Booklet, 15 pp., 8½ x 11 ins. Illustrated.

TELEPHONE SERVICE ARRANGEMENTS
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Planning for Home Telephone Conveniences. Booklet, 52 pp., 8½ x 11 ins. Illustrated.


TERRA COTTA
National Terra Cotta Company, 19 West 44th St., New York, N. Y.

TIMBER TILE VAULTS
R. Guastavino Co., 40 Court Street, Boston.
Timber Arch Construction. Booklet, 8 pp., 8½ x 11 ins.

TILE, HOLLOW


Natco Face Tile for the Up-to-Date. Farm Bulletin. 8½ x 11 ins. Illustrated.

Natco Header Backer Tile Bulletin. 8½ x 11 ins. Illustrated.


TILE, STRUCTURAL CLAY

Natco Vitratile Bulletin No. 164. 40 pp., 8½ x 11 ins. Illustrated. Shows color charts, sizes and shapes, actual installations, etc.

Natco Header Backer Tile Bulletin. 8½ x 11 ins. 4 pp. Illustrated.

Natco Unbacker Tile Bulletin. 8½ x 11 ins. 4 pp. Illustrated.


TILES
Vitocraft Tiles, Unglazed. Folder, 4 pp., 8½ x 11 ins. Illustrated. Details of patterns in full color. Ask for Form A-322.

Faience Tiles for Bathrooms. Folder, 4pp., 8½ x 11 ins. Illustrated. Ask for Form A-332.


Flintcraft Files. Folder, 4 pp., 8½ x 11 ins. Illustrated. Machine-made floor or wall tile. Ask for Form A-383.

Hanley Quarry Tile. Folder. 4 pp., 5 x 8 ins. Illustrated.


Pardee Tiles. Bound volume, 48 pp., 8½ x 11 ins. Illustrated.

TRUSSES
McKown Bros. Company, 523 South Keeler Avenue, Chicago.
Truth in Architecture. Folder, 4 pp., 8½ x 11 ins. Illustrated. Deals with use of trusses of wood.

Factory Built Bowspring Trusses. Folder, 4 pp., 8½ x 11 ins. Illustrated.

Timber Trusses. Folder, 4 pp., 8½ x 11 ins. Illustrated.

VALVES
Crane Co., 836 S. Michigan Ave., Chicago, Ill.
No. 51. General Catalog. Illustrated. Describes the complete line of the Crane Co.

C. A. Dunham Co., 450 East Ohio St., Chicago, Ill.
The Dunham Packless Radiator Valve. Brochure, 12 pp., 8½ x 11 ins. Illustrated. Data on an important type of valve.

Jenkins Brothers, 80 White Street, New York.

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**SELECTED LIST OF MANUFACTURERS' PUBLICATIONS—Continued from page 78**

**VENETIAN BLINDS**

**VENTILATION**
- Duriron Company, Dayton, Ohio.
- Acid-proof Exhaust Fans. Folder, 8 x 10½ ins., 8 pp. Data regarding fans for ventilation of laboratory fume hoods.
- Specification Form for Acid-proof Exhaust Fans. Folder, 8 x 10½ ins.

**WATERPROOFING**
- Medusa Portland Cement Co., 1002 Engineers' Building, Cleveland.
  - Waterproofing Stadia. Folder, 4 pp., 8½ x 11 ins. Illustrated.
- Transparent Waterproofings for All Masonry Walls and Surfaces. Folder, 4 pp., 8½ x 11 ins. Illustrated.
- Data Sheet on Membrane Waterproofing. Folder, 4 pp., 8½ x 11 ins. Illustrated.
- Toch Brothers, New York, Chicago, Los Angeles.
  - Architects' Specification Data. Sheets in loose leaf binder, 8½ x 11 ins., dealing with an important line of materials.

**WEATHER STRIPS**
- Athey Company, 635 West 65th St., Chicago, Ill.
  - The Only Weatherstrip with a Cloth to Metal Contact. Booklet, 16 pp., 8½ x 11 ins. Illustrated. Data on an important type of weather stripping.

**WINDOW GLASS**
- Pittsburgh Plate Glass Company, Grant Building, Pittsburgh, Pa.
  - Pennvernon Window Glass With the New Flatter Surface. Booklet, 16 pp., 8½ x 11 ins. Illustrated.

**WINDOWS**
- William Bayley Co., 147 North Street, Springfield, Ohio.
- Detroit Steel Products Co., 2250 E. Grand Boulevard, Detroit.
- The Kawneer Company, Niles, Mich.
  - Circular, 8½ x 11 with A.I.A. File No. featuring full size details and specifications of Heavy Type Sealair Independent Balanced Sash Window.
  - Circular, 8½ x 11 with A.I.A. File No. featuring full size details and specifications of Light Type Sealair Independent Balanced Sash Window.
  - Circular, 8½ x 11 with A.I.A. File No. featuring full size details and specifications of In-swinging Sash Sealair Windows. The above to be furnished in non-ferrous metal and steel.

**WINDOWS, CASEMENT**
- Detroit Steel Products Co., 2250 E. Grand Boulevard, Detroit.
- Fenestra Screen Casements. Brochure, 16 pp., 8½ x 11 ins. Illustrated.
- Decorating With Casements. Booklet, 16 pp., with inserts in color 6 x 8½ ins. Deals with use of decorations, particularly draperies, with casement windows.
  - Lupton Casement of Copper Steel. Catalog C-217. Booklet, 24 pp., 8½ x 11 ins. Illustrated brochure on casements, particularly for residences.

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Subsidiary: Berkeley, Calif.

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SELECTED LIST OF MANUFACTURERS’ PUBLICATIONS—Continued from page 80

WINDOWS, CASEMENT—Continued

Lupton Creates a Complete Casement. Folder, 8½ x 11 ins. Illustrated data on a casement providing for screens, shades and draperies.

Lupton Heavy Casements. Detail Sheet No. 101, 4 pp., 8½ x 11 ins. Details and specifications only.


List of Parts for Assembly. Booklet, 8½ x 11 ins., 16 pp. Full lists of parts for different units.

WINDOW SCREENS

Detroit Steel Products Co., 2250 E. Grand Boulevard, Detroit.

Fenestra Screen Casements. Brochure, 16 pp., 8½ x 11 ins. Illustrated.

William Bayley Co., 147 North Street, Springfield, Ohio.

Bayley Pivotil Windows Screened. Booklet, 8 pp., 8½ x 11 ins. Data on screening and window ventilation.

WINDOWS, STEEL AND BRONZE

William Bayley Co., 147 North Street, Springfield, Ohio.

Bayley Steel Window Inserts. Brochure, 8 pp., 8½ x 11 ins. Illustrated Suggestions on correct use of inserts.

David Lupton’s Sons Company, Philadelphia, Pa.

A Rain-shed and Ventilator of Glass and Steel. Pamphlet, 4 pp., 8½ x 11 ins. Deals with Pond Continuous Sash, Sawtooth Roofs, etc.


Truscon Steel Company, Youngstown, Ohio.

Drafting Room Standards. Book, 8½ x 11 ins., 120 pages of mechanical drawings showing drafting room standards, specifications and construction details of Truscon Steel Windows, Steel Lintels, Steel Doors and Mechanical Operators.


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Wood Conversion Company, Cloquet, Minn.


WOOD FINISH

Minwax Company, 11 West 42nd St., New York.

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Architects: Halsey, McCormack & Helmer, Inc.
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HAY FOUNDRY & IRON WORKS, Newark. "Commemo-
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business which were in existence a century ago; still fewer
would be the instances in which such a business has been
guided by the same family, and extremely rare are
instances in which the name of the founder is still borne
after a century. In the history of the United States, the
time of a business is a long time.—Two-thirds of its whole
period of time. This interesting booklet reviews in a
condensed form the history of the Hay Foundry & Iron
Works, founded in 1830 by James Bruce Hay and still
owned and operated by his descendants. The firm has
played an important part in producing materials used in
building operations, and the part it is playing in 1930 is
well attested by views of many great buildings either re-
cently constructed or now in course of erection in which the
firm's excellent materials have been or are being used.

WEBER SHOWCASE & FIXTURE COMPANY, INC., Los
Angeles. "Weber Sectional Unit Office Partitions."

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increasing tendency of large manufacturing concerns to have
their executive quarters in office buildings in cities rather
than on the premises of their manufacturing plants have brought
about an immense increase in the use of moveable or
less movable partitions which are used for subdividing
large open floor areas. This subdividing of floor space is
of course nothing new, nor is the making and carrying in
stock of such partitions anything of a novelty. What does
constitute a new departure is the supplying of partitions
made of material and in forms which possess sufficient
architectural merit to render them appropriate for use amid
surroundings which are of themselves of a type which has
been constantly improved during the past few years. To-
day when a large concern leases space in which to conduct
its business it is probable that there will be called in for
consultation an architect or a representative of a firm which
specializes in the planning or arrangement of such areas
in which the partitions are installed, and a successful installation requires the use
of more details than might be supposed by anyone not fully
acquainted with what is an extremely complicated matter.

Just here is where the consideration of partitions begins.
This booklet issued by a large concern making a specialty
of supplying such partitions and details of woodwork related
to them deals fully with the subject. The brochure makes
it plain by illustrations that the fittings do possess the
essential qualifications and explains by diagrams and in other
ways the manner in which the partitions are installed, the
sizes of the units in which they are to be had, and gives
data from which it will be an easy matter to determine the
number of units required. While dealing chiefly with
partitions, the brochure gives data regarding the firm's
counters, lockers, telephone booths and the like, and also
placed around lavatories. It also gives a list of some build-
ings in which the firm's partitions and other details have
been installed, views of many interiors where they are being used, and on one page a view of the large Weber factory.

P. & F. CORBIN, New Britain, Conn. "Corbin Locks and
Builders' Hardware."

The designing of locks of different types has been done
with great skill and ingenuity, and the designing of hardware
for doors and windows has engaged the attention of men
so well qualified by good taste and knowledge of archi-
tectural design that the catalog of a large firm specializing
in locks and builders' hardware is interesting not only to
architects and interior decorators but to home owners and
to anyone interested in the safety which reliable locks afford or in the appearance which well designed hardware adds to
a building of any kind. This publication contains in brochure
form the firm's pages from the 22nd edition of Sweet's
Architectural Catalogs for distribution among the builders.

PITTSBURGH REFLECTOR COMPANY. "Permaflcctor
Lighting." Volume IV, Number 4.

The great improvement wrought in the design and equip-
ment of school buildings is no more notable in any way than in
the improvement which has been made in lighting. The
matter has been given careful and scientific study, and the
results are easily had in the form of data so well presented
that there is now no excuse for the existence of a school or
college which is not properly lighted. This excellent brochure,
for distribution among the builders.

The designing of locks of different types has been done
with great skill and ingenuity, and the designing of hardware
for doors and windows has engaged the attention of men
so well qualified by good taste and knowledge of archi-
tectural design that the catalog of a large firm specializing
in locks and builders' hardware is interesting not only to
architects and interior decorators but to home owners and
to anyone interested in the safety which reliable locks afford or in the appearance which well designed hardware adds to
a building of any kind. This publication contains in brochure
form the firm's pages from the 22nd edition of Sweet's
Architectural Catalogs for distribution among the builders.

KALMAN STEEL COMPANY, Wrigley Building, Chicago.
"Steel Joists; Fire-Safe Construction."

The use of steel, now general in building of all kinds, in-
volves not only the most careful designing and manufacture
of steel but likewise the use of countless accessories in actual construction. Even steel fabricated with the utmost
precision will hardly give adequate service unless it is prop-
erly installed, and a successful installation requires the use
of more details than might be supposed by anyone not fully
acquainted with what is an extremely complicated matter.
This brochure gives a list of some build-
ings in which the firm's partitions and other details have
been installed, views of many interiors where they are being used, and on one page a view of the large Weber factory.
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Glass

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CLEARER, flatter, more lustrous... truly a remarkable product. LUSTRAGLASS transmits a substantial amount of the shorter ultra-violet rays of sunlight of a wave length of 313 mµ... It costs no more than ordinary window glass and is the whitest of all glass made for windows as evidenced by the unretouched photo shown at the left.

This is an "edge on" view of four stock samples of the leading and best known makes of glass... The second from the left (the white one) is LUSTRAGLASS... you can make this test yourself... The superiority of LUSTRAGLASS is obvious... Its marked freedom from color alone is sufficient reason for its use in better buildings.

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Pittsburgh
Pennsylvania
As with the matter of providing proper acoustical properties, adequate heating and correct insulation, the matter of ventilation has been made the subject of so much study and research that there is now hardly an excuse for lack of equipment to render comfortable and practical a structure of any type, and in few structures is proper ventilation of greater importance than in schools. This brochure deals fully with this subject. "It should be said at the outset that this booklet deals only with the ventilation of school classrooms and similar spaces where the problem of securing proper air conditioning arises solely from occupancy. It does not attempt to cover those problems in ventilation which exist in smoking rooms, toilets, kitchens, etc., where it is necessary to remove fumes, odors, or excess heat created by equipment. In the second place, it should be noted that heating and ventilating are complementary processes to secure temperature regulation under varying weather conditions, and the two cannot properly be separated. In designing heating and ventilating plants for school buildings, it has been customary: First, to provide sufficient heating capacity to offset the heat losses by conduction and leakage through walls, windows, roofs and other exposures. Second, to introduce and circulate a predetermined volume of outdoor air necessary to remove fumes, odors, or excess heat created by walls, windows, roofs and other exposures. Seconcl, to introduce sufficient ventilation air to reduce temperature of this air from that of the out-of-doors to the required room temperature." The booklet then deals exhaustively with this subject, discussing the ventilation of all the different departments of a school building,—classrooms and libraries; assembly, lecture and study rooms; rest rooms and dressing rooms; and basements; it deals also with the laws on ventilating which are enforced by many states and some municipalities.

AUTO RAMP CORPORATION, Richmond, Va. "The Double Spiral Auto Ramp." Data on an important detail.

G. Glover Booke announces the opening of new offices at 2639 Erie Avenue, Cincinnati.

AUTO RAMP CORPORATION, Richmond, Va. "The Double Spiral Auto Ramp." Data on an important detail.

L. Louis Kroman announces the opening of offices at 180 N. Michigan Avenue, Chicago.

The architectural practice of the late William J. Crichton is being carried on by Harry B. Lentz, at Hazleton, Pa.

Charles L. Hoffman wishes to receive the catalogs and other publications of manufacturers at his newly opened offices at 122 N. Eighth Street, Richmond, Va.

Marani & Lawson announce the entrance into the firm of R. S. Morris. The name of the firm has been changed to Marani, Lawson & Morris, and the firm's offices are at 38 Bloor Street West, Toronto.

The Construction Section, Indian Service, under the Department of the Interior, is conducting a widespread survey of the special forms of cooperation undertaken by Indian Service technicians with a view to profitable operation by manufacturers and merchants. Noteworthy among these has been the rapid growth of the new form of cooperation,—the pooling of marketing activities on the part of business enterprises, both competing and non-competing, in order to raise the efficiency of selling operations or to reduce costs. In response to many requests for information on this subject, the Policyholder's Service Bureau of the Metropolitan Life Insurance Company recently conducted a widespread survey of the special forms of cooperation undertaken by independent business enterprises outside the scope of regular trade association activities. The results of this investigation are set forth in a report just published by the Bureau entitled Co-operative Marketing Activities in Business. The foreword to the study says that all operations dealt with "are of such recent origin, with new developments almost constantly appearing, that underlying principles are not yet clearly in evidence. Generalizations, except within the narrowest limits, and conclusions are out of place. The report is made up of brief case studies selected with a view to presenting a picture of the field. Although cooperative marketing in agriculture has reached a high plane of development, the application of similar procedure in the field of business is still in an embryonic stage. The report presents a survey of what is taking place by reviewing special instances of cooperation in marketing, analyzing the functions or activities which are handled through such joint arrangements, and describing the nature of the machinery set up in each to accomplish the objectives in view. The study shows that the extent of this collective action enjoys the widest possible range of variety. In the simpler cases, no form of organization is involved. Each of the scale are those cases where the organizations joining in the cooperative effort set up a company, with capital stock held exclusively by themselves, for the purpose of undertaking the activity in which the associated companies have a common interest. The survey is divided into four major paragraphs to consider the subject from its important phases.—Development of Group Enterprise; Group Activities by Competing Manufacturers; Cooperative Efforts by Non-Competing Manufacturers; and Group Merchandising or Selling Activities by Retailers. In the first section the factors influencing group marketing activities are analyzed.
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