ARCHITECTURE
August 1931

Ely Jacques Kahn—an analytical portrait
Modern Lighting Sources—Eugene Clute
Commensurability and Walls—Ernest Flagg
Additions to St. Bartholomew's, New York
Portfolio: Bank Entrances

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The upper picture shows the cars and the lower picture a ground floor entrance manufactured and installed by Otis in the Bacardi Building, Havana. Note the harmony in design and effect between the finish of the cars and the entrance.
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First, because Battleship Linoflor is highly moisture-resistant. Tests show that it can be used safely in many places where dampness prohibits the use of linoleum. Second, it is a highly resilient floor. Whenever you wish to quiet the noise of people walking, Battleship Linoflor will solve your problem. Third, Battleship Linoflor can be cemented direct to concrete slabs without the use of lining felt.

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Its durability makes it suitable for all sorts of interiors where traffic is heavy. Use Battleship Linoflor in public buildings, churches, schools, hospitals, offices, stores. If patterned floors are desired, there are attractive designs in lighter gauge Inlaid Linoflor.

A test sample of Battleship Linoflor will be sent you without charge. An examination of this remarkable material will suggest many uses, perhaps help you with a difficult floor situation. Write to the Armstrong Cork Company, Floor Sales Division, Lancaster, Pennsylvania.

Armstrong's LINOFLO FR
new low-cost floor material

MADE BY THE MAKERS OF ARMSTRONG'S LINOLEUM
Reflecting the modern trend in architectural design, the Philadelphia Saving Fund Society Building at 12th and Market Streets will add new interest to the rapidly mounting sky-line of down-town Philadelphia. Howe & Lescaze are the architects and Purdy & Henderson, the engineers for this interesting contrast to the more conventional architecture of the Quaker City.

Equally modern is the structural framework, embodying CB Sections . . the latest contribution to structural steel. American Bridge Company are the fabricators and George A. Fuller Company, general contractors. If you are interested in efficient and economical steel construction . . investigate the merits of CB Sections.

Carnegie Steel Company,

Pittsburgh, Pa.
How far do you go when you go modern?

The architect of this General Electric Refrigerator showroom decided to be modern to the limit. For the floor, he chose a material that has had no “entangling alliances” with any period style—an entirely new and different effect just developed this year by the makers of Sealex Linoleum.

Veltone effects in Sealex Linoleum lend themselves to interesting and unique floor design. First, because this flooring is intrinsically beautiful—very unusual—very distinctive. Second, because Sealex Linoleum is a very workable material—easily cut into any required shape. The bold geometric insets which give so much character to the floor reproduced above did not add greatly to its expense.

Veltone effects come in several different color combinations. When laid, they are apparently seamless, an unbroken flow of harmoniously blended colorings from wall to wall.

In designing a floor in Sealex Linoleum, it is not necessary to confine oneself to large-scale

(See next page)
figures. The cleverly executed G. E. monogram in the foreground is an example of what the skilled contractors who work in Sealex Linoleum can do for you on cut-to-order insets.

FOR LARGE AREAS

Congoleum-Nairn offers a number of designs created specially for large area installations. Some of these are reproduced above. Pattern No. 3323, for example, has 54-inch repeats—the widest ever offered in a standard linoleum design. This makes possible an unusually large-sized tile, measuring 18 by 24 inches. Such patterns are not out of scale even in spacious interiors.

When Sealex materials are installed by authorized contractors of Bonded Floors, they are backed with a Guaranty Bond, issued by U. S. Fidelity and Guaranty Company. Write our Architectural Service Department for any further information you may require regarding these resilient floors.
Main Entrance to City Bank-Farmer's Trust Co. Building
Cross & Cross, Architects. See Portfolio Section

Bank Buildings and Bank Entrances make one aware of the character and function of the building.

The value of an investment in a building constructed of age-lasting, beautiful materials is long proven.

Granite has been used perhaps more than any other material for Bank building. Note the effective carving in the above illustration, showing coins of all nations.

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FACTORIES: PERTH AMBOY, N. J. WOODBRIDGE, N. J. SOUTH AMBOY, N. J.
The Seminary of St. Charles Borromeo, Overbrook, Pennsylvania

New Group in foreground:
Paul Monaghan, Architect
Chambersburg Construction Co., Heating Contractors

Alterations to old group in background:
Hoffman-Henos Company, Architect
S. Faith & Company, Heating Contractors

The Seminary of St. Charles Borromeo
is one of many notable University Groups heated by Webster Systems

Others include Princeton University, Massachusetts Institute of Technology, University of Notre Dame, University of Alabama, William and Mary College, Vassar College, etc.

When the old group (shown in the background) was modernized three years ago the heating system was equipped with Webster MODERATOR Control—in which steam to the entire old group of buildings is actually Controlled-by-the-Weather through a unique Roof Thermostat. Results in terms of fuel economy, enhanced comfort, ease of operation and low maintenance cost deserve the most careful study by university administrators and their architects and warrant the prediction that true Control-by-the-Weather will play an important part in university group heating during the next decade.

For complete details and able cooperation write: Warren Webster & Company, Camden, N. J.
THE BULLETIN-BORD

PARIS PRIZE AWARDS

Of the six hundred and fifty-four entrants in this year's national competition, the four finalists were P. A. Bezy of Columbia University; H. Elarth, of Nebraska; C. F. Guenther, of Cleveland School of Architecture; and C. F. Schilling, of Princeton University. The award was made to C. E. Guenther by the jury consisting of Messrs. Joseph H. Freedlander, chairman, Harvey Wiley Corbett, C. C. Zantzinger, Philip A. Cusachs, Chester Aldrich, John W. Cross, William Adams Delano, Otto Eggers, William F. Lamb, Egerton Swartwout, John V. Van Pelt, and Whitney Warren.

The competition consisted of three elimination competitions of varying duration. The first required a completely rendered drawing in twelve consecutive hours for a fountain facing the entrance to a metropolitan park, and commemorating the completion of a new water supply for the metropolis. The second competition, of twenty-four hours' duration, called for a rendered plan for a museum and laboratories of anthropology. The final competition, of thirty-six hours' duration, called for a sketch solution for a pantheon. Of the eight competitors in the third competition, four were selected to develop and execute the drawings at larger scale, the time being ten weeks.

The Paris Prize in Sculpture was awarded to Ottavio Mastrovito, a student in the Sculpture Department at the Institute, who attended the evening classes, and, during the day time, working as assistant to Lee Lawrie and Albert Stewart. The subject of the final competition was the sculptural decoration of a set-piece.

In addition to the Paris Prize, the following Honors were awarded: Second Place, Silver Medal and $100 to George J. Sklar; Third Place, Bronze Medal and $50 to Michael F. Lantz; Fourth Place, First Mention and $25 to Anthony Dal Pino; Fifth Place, First Mention and $10 to Gabriel Kohn; Sixth Place, First Mention and $50 to Ray M. Sleee.

Architectural Ornament, the season was ended by an important competitive design, entitled: "Bird Fountain in Panel in the Louis XVI Style," which was the occasion for the following Honors: First Prize, Silver Medal and $100 awarded to John Rosalie; Second Prize, Bronze Medal and $50 awarded to Thomas Famiglietti; First Mention to P. Mutalipassi, F. Di Bugno, M. Monteleone; Mention to J. A. Campo and G. Rosalie.

Other Annual Awards at the end of the school year were as follows: Trustees' Prize, $50 for the best ornament during the year, to Maurice Arata; Silver Medal and $50 for the second best composition during the year, exclusive of the Paris Prize, to Anthony Dal Pino; Bronze Medal and $25 for the second best composition during the year, exclusive of the Paris Prize, to Anthony Dal Pino.

Other Annual Awards at the end of the school year were as follows: Trustees' Prize, $50 for the best ornament during the year, to Maurice Arata; Silver Medal and $50 for the second best composition during the year, exclusive of the Paris Prize, to Anthony Dal Pino; Bronze Medal and $25 for the second best composition during the year, exclusive of the Paris Prize, to Anthony Dal Pino.


BOSTON ARCHITECTURAL CLUB

At a recent meeting of the Boston Architectural Club Atelier, the following officers were elected for the coming year: Massier, Russell H. Brown; Sous-Massier, George S. Lewis; Treasurer, Joseph Di Stefano, Jr.; Scribe, Robert Minor.

BROOKLYN CHAPTER, A. I. A.

At the May meeting of the Brooklyn Chapter, A. I. A., the following prizes were awarded in the competition of the Chapter's student affiliates. This was the sixtieth annual competition, and called for a driveway bridge. First prize, $75, to Robert Hillier; second prize, $50, to Robert Edwards; third prize, $25, to Hamilton Reese.

The Chapter's $500 scholarship award went to Frederick Amundsen, of Pratt Institute, for his gas filling station. First honorable mention went to Hamilton Reese.

The officers re-elected are: President, Charles C. Wagner; Vice-President, William A. Sanders; Secretary, George F. Kiess; Treasurer, Herbert C. Bowman; Surveyor, Ralph M. Rice.

For the Board of Directors: Adolph Mabie was re-elected for one year; Stephen W. Dodge, Lester B. Pope, and Robert F. Schirmer for two years.

The A. I. A. 1932 convention delegates are Charles C. Wagner, William P. Bannister, William A. Sanders, J. Monroe Hewlett, and John B. Sleee, with the following as alternates: Alexander Mackintosh, Herbert C. Bowman, Daniel D. Streeter, John P. Veelker, and George Francis Kiess.

GUGGENHEIM FELLOWSHIPS

In order to improve the quality of education and the practice of the arts and professions in the United States, to foster research, and to provide for the cause of better international understanding, the John Simon Guggenheim Memorial Foundation, established by former United States Senator and Mrs. Simon Guggenheim as a memorial to a son who died April 26, 1922, offers a limited number of Fellowships, tenable abroad under the freest possible conditions, for research in any field of knowledge and for creative work in any of the fine arts, including music. Appointment to Fellowships will be made by a Committee of Selection, subject to ratification by the Board of Trustees.

The Foundation now offers a limited number of Latin-American Exchange Fellowships to citizens of Argentina, Chile, Cuba, and Mexico, for work in the United States of America; and to citizens of the United States for work in Latin America. In 1932 the Latin-American Exchange Fellowships will be extended to Porto Rico. Latin-American Exchange Fellows from the United States will be chosen on the same basis as all other Fellows from this country.

The Foundation plans to maintain annually approximately sixty Fellows. The Fellowships are intended for men and women of high intellectual and personal qualifications who have already demonstrated unusual capacity for productive scholarship or unusual creative ability in the fine arts.

Fellowships are open to men or women, and to married or unmarried candidates. Fellows are normally of ages between twenty-five and forty years; but for 1932-1933 the Committee of Selection has been empowered, in exceptional cases only, to make a limited number of grants to scholars older than forty. The Fellowships are open to applicants (or, in exceptional cases, to permanent residents who are not citizens) of the United States, irrespective of race, color, or creed.

(Continued on page 17)
Atlantic Terra Cotta

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THE BULLETIN-BOARD Continued

The stipend will in the normal case not exceed $2,500 for a year of twelve months. The tenure of Fellowships will be adjusted to the purpose and scope of the studies of each individual. Appointments will be made ordinarily for one year; but plans which involve two or three years' work will be considered by the Trustees.

Further details may be had upon application to Henry Allen Moe, Secretary, 551 Fifth Avenue, New York City. Applications for appointment should be received at the office of the Foundation before February 1, 1932, and final selection of Fellows for 1932-1933 will be made early in March, 1932.

UNIVERSITY OF MICHIGAN

THE University of Michigan, in the death last April of Professor Albert J. Rousseau, lost its senior professor in architectural design. The University now announces the appointment of his successor, Jean Hebrard, who comes to Ann Arbor in the fall to fill the same chair. For the last five years Professor Hebrard has been a professor of architectural design at the University of Pennsylvania, and was at one time at Cornell University. He holds the diploma of the Ecole des Beaux-Arts.

VENTILATION IN THE NEW YORK BUILDING CODE

THE ventilation problem—one of the most difficult with which the writers of the municipal building codes have had to deal—has been attacked in an entirely new manner in the New York Building Code which the Merchants' Association of New York is now writing at the request of the City Administration.

In general, the proposed code, as drawn by the subcommittee, intends that many spaces in which the air is now dead shall be ventilated by artificial means. The proposed code provides that in all cases the ventilation shall be sufficient to render the air harmless for the occupancies that are permitted.

As a means of accomplishing its purpose of providing pure air for every one, the committee has recommended the establishment of a simple basic formula. Under this formula an index figure based on window space, floor area, cubical contents, and proposed occupancy is established for all types of buildings. From the index figure, it is easy to calculate the ventilation requirements.

The present New York building code attempts to deal with the ventilation problem by permitting the presence of not more than one part of carbon dioxide to a thousand parts of air. For several reasons this test has been found impracticable. It is practically impossible to determine the amount of carbon dioxide that will be present under varying conditions.

ARCHITECTURAL STUDENT AWARDED TWO SCHOLARSHIPS

RICHARD H. GRANELLI, twenty-four years old, of New York City, draftsman and student of architecture, for the past seven years in the employ of Schultze & Weaver, architects, was awarded the Walter Hopkins Scholarship which is given to the winner of the highest number of values in Class A studies of the Beaux Arts Institute of Design.

Granelli was recently informed that he had also been declared the winner of the Princeton Scholarship in Architecture for 1931-1932, which entitles him to a one-year course in the study of architecture at Princeton.

For the past five years Granelli has been a member of the Atelier Morgan, under the tutelage and patronage of Lloyd Morgan, junior member of the firm of Schultze & Weaver.

"HOUSE BEAUTIFUL" COVER COMPETITION AWARDS

BETWEEN twelve and thirteen hundred entries were received in the Ninth Annual Cover Competition conducted by the House Beautiful Magazine which closed last May, artists and students from every portion of the United States competing.

The prizes and honorable mentions were awarded as follows: First Prize: Antonio Petruccelli, New York City; Second Prize: Betty Paul, New York School of Design; Honorable Mention: Christopher Murphy, Jr., Savannah, Ga.; Albert Richard Stockdale, Pasadena, Calif.; Lauren W. Cook, New York City; Katherine G. Fisher, Columbus, Ohio; Heath Anderson, San Francisco; Margaret Masson Penacook, N. H.; Marion Moran Cook, New York City; and Howard Weston Arnold, Yonkers, N. Y.

As a student design won the second prize, no special student prize was awarded this year.

The usual cover exhibit of one hundred designs selected from all those submitted will start its tour of the country next September.

A TEST OF NEW YORK STATE'S REGISTRATION LAW

JUSTICES Kernochan, Flood, and Murphy in the Court of Special Sessions recently convicted J. Harold MacDowell of practising as an architect without a license. Mr. MacDowell, who had a sign "Consulting Architect" on the door of his office in the Chrysler Building, was tried on the complaint of James O. Hoyt, an inspector of the State Department of Education, that, between April, 1929, and November, 1930, he had violated Section 1,476 of the State Education Law by posing as an authorized architect.

Mr. MacDowell, testifying in his defense, insisted that he was a graduate architect and declared that he had practised the profession for more than twenty years.

PERSONAL

John M. Liptak and Albert L. Schaeffer, architects, have formed a partnership for the practice of architecture with offices in the Delaware Trust Building, Wilmington, Del., under the firm name of John M. Liptak & Albert L. Schaeffer.

Henry & Murphy, architects, announce the removal of their offices to 247 East Exchange Street, Akron, Ohio.

E. C. Landberg, architect and engineer, announces the removal and consolidation of his Newport, Ky., office, with his Cincinnati, Ohio, office, which will be located at 114 Garfield Place, Cincinnati, Ohio. Manufacturers' catalogues are desired.

Morris H. Whitehouse & Associates announce the change in the firm name on July 1, 1931, to Whitehouse, Stanton & Church. Morris H. Whitehouse, A. Glenn Stanton, and Walter E. Church will continue the practice of architecture with the same personnel of firm and staff as heretofore at The Railway Exchange Building, Portland, Ore.
Two photographs of a Georgia Marble building and one of them was taken 25 years ago.

There is no change in the Georgia Marble... only the surroundings have changed. The lunch room on the right has worn several new fronts during the past twenty-five years; a theatre has been built on the left; the runabout with its buggy top has given way to the sleeker motor cars of today; Brownie and Pete have been out of the harness for a score of years.

What changes will another quarter century bring?

A photograph taken in 1956 will no doubt show a new building on the right, new types of motor cars in the street, making today's models look angular and clumsy, and possibly a small helicopter hovering in the air waiting to drop into any parking space that might open up.

But through all of these changes, this Georgia Marble will still be as sound and beautiful as it is today... as it was twenty-five years ago, because Georgia Marble is non-absorbive. This essential quality deprives the elements of their favorite method of attack... getting below the surface and working havoc under cover. Georgia Marble being practically impermeable to moisture, time and the elements can not dull its sparkling beauty. Georgia Marble is easily and economically cleaned — removing any dirt that has collected on the surface reveals its original beauty.

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When writing for Technical Publication 41, ask also for a reprint of the Report of the Joint Committee on Bathing Places of the American Public Health Association and the Conference of State Sanitary Engineers. (Technical Publication 120).

WALLACE & TIERNAN CO., Inc.
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The Cathedral at Segovia

From a photograph by Joseph B. Wertz

ARCHITECTURE
PERSONALITY is an amazingly complex thing. It is almost never comprehended unless the observer constantly change his viewpoint, viewing the object in the whole round. I should imagine that one who knew Ely Kahn only through his architectural achievements would feel rather confident that the man is an outstanding executive, interested mainly in the doing of big works—an architect of bulk. The number of huge office buildings that he has built within the last five years would lend weight to such a portrait.

Or, another observer, noting the absence of all traditional detail in Kahn’s work, and in its place a daring use of abstract ornament, bold color, and the unexpected silhouette, would label the man as a radical modernist who could have neither admiration nor respect for beautiful forms of past epochs.

Both observers would be absurdly wrong, each with a distorted picture of Ely Kahn’s personality resulting from assuming the whole on the basis of observation from a single point of view.

Unquestionably it would astonish either of these superficial observers to learn that one of the things nearest this man’s heart is archaeology. His library along these lines is probably the most extensive in New York, and it is being constantly and rapidly enlarged. And this love of archaeology has carried Kahn into devious paths that lead far beyond architecture. The minor arts of Persia beckon him; his personal collection of majolica, early pottery, the more sophisticated porcelains, gives a new vista of the man’s personality. Greek ideas, Greek arts, Greek philosophers, have influenced him deeply.

Ely Kahn went from Columbia to the École in Paris and came back an etcher, a watercolorist. For a time he was known in architectural circles as a man who could render presentation drawings, a man to be called in for the special job. Then he taught design for a period at Cornell. It doesn’t resemble the picture of the man today, does it? But most of us pass through some such period of finding oneself—experimenting, developing one’s powers, tending toward the things one wants most to do and therefore does best.

Apparently, the thing Ely Kahn really wanted most to do was an honest job of architecture. Quite evidently he did not want to go on making beautiful drawings of other men’s ideas, for in his work to-day he is the designer—not merely as to general parti, not merely as to the plan and mass silhouette, but in every last minor detail of materials, textures, color, even to the fabric which will cover a minor piece of furniture, or a piece of hardware necessary to the full development of a particular scheme.

The question immediately arises: How is such a practice possible in these days when work costing thirty or forty millions of dollars is to be turned out in a twelvemonth? The answer one most frequently hears is, organization and the wide delegation of authority. But the answer is only half applicable in this case. Kahn does not and will not delegate design to others. I fancy one of his greatest dreads is that a flood of work may force it upon him, but he surely will never willingly take that way out. Rather, he uses another powerful weapon. It is almost wholly a
matter of time, after all. If time is dissipated on other matters there is little or none left for personal design. Kahn conserves his time in two ways: through organization and through a developed habit of making quick decisions. The organization is one of long standing. Three of his men have been with the firm for forty-five years; four or five, for twenty-eight years—much longer than Kahn himself. Before the present year the Firm of Ely Jacques Kahn was Buchman & Kahn; before Kahn's coming it was Buchman & Fox, among whose completed works were one or two of the Centennial Exposition buildings in Philadelphia of 1876.

With the passing of the years this organization has naturally become welded together as an effective machine. There are heads of departments to whom authority and responsibility are generously apportioned. It is a custom of the office to have weekly conferences at which every uncertain point concerning a particular job is threshed out, a decision reached and put on the records. Through this conference system, therefore, every side of the organization knows at once what decisions have been reached, and why, and carry on accordingly. The system also prevents the stealing of valuable time either in small quantities or large from Mr. Kahn, or any of the department heads, by the constant rain of questions which, without some such weekly round-up, would be inevitable.

Again, it is this matter of time—how can the little that is available be conserved and made to count most effectively? Mr. Kahn would probably be the last man to claim that all of his decisions are proper ones, but, right or wrong, they are reached almost instantaneously and pass into the realm of things checked off, and without further power to cause regret.

The architectural practice of the firm has, as in most important offices, attained a certain measure of specialization. Kahn has given his attention to matters as far away from his main line of activities as the design of a private apartment with all of the accessories that go with it, but the bulk of his practice is the design of commercial buildings. It is an essential adjunct of such a practice to know intimately the intricacies of New York real estate—the values of certain key locations, the maximum volume of building that can be put thereon under the present zoning laws, and finally, how such a building would work out in its financial set-up. Having worked out a number of such preliminary problems Kahn immediately recognized the futility of research and study over again for a later client who would be following similar lines of investigation. Thereupon, he established a sort of bureau of research in his own office by which this accumulated data, once having been reached through study and investigation, was filed and made readily available. As a result, to-day a client comes to Kahn, and tells him that he is considering the possibility of putting a loft building on such a location. Kahn touches a button, asks for the dossier of this location, and shows the client at once what the possibilities of the site are, down to the last detail of income.
Blois, from one of Ely Kahn's sketchbooks—done in pencil on a gray paper, with water-color washes
Kahn's facility in indication is well represented by this pencil drawing of Anboise—particularly the children.
Blois, in sanguine, with a rub of the finger-tips to gain tone
production. The research department, when not otherwise engaged, is developing similar data for other likely and available sites, so that this accumulation is becoming more and more nearly complete month by month. Of course, a similar service, though usually without the architectural development, is becoming more commonly available through the large real-estate brokers, but it

Raymond Hood, Dudok, a group which is the pattern of many and the despair of others. The latter group probably regards these men as seekers after novelty, impatient of doing things as they have been done before, reckless adventurers into untrodden paths, without guide or compass—heretics rampant. Yet Ely Kahn and, I feel quite sure, any of the others named have no purpose in their architectural practice that conforms to any such picture. Kahn, at least, since it is he that we are here trying to learn to know, has no patience with either of the two common conceptions of modernism: either a static style of recent creation, or a negation of all that has been learned.

On the contrary, what he is trying to do is just what architects of any epoch, architects who have not been lured into some contemporary blind alley, have probably been trying to do, namely, to devise a structure that fits the needs of those who are to use it and make it beautiful according to the designer's lights. In his efforts to do just this he recognizes, first, the essential necessity of being en rapport with all the other arts, drawing upon their store of that which has aesthetic appeal—form, color, all rhythms in which mankind has found and will continue to find pleasure.

He recognizes the fact that in our time the achievement of such a structure has become a far more complex thing than ever before. It is not possible for an architect—or for any single artist—to create a monument of his own powers alone. He must bring into collaboration the work of others, the sculptors, the painters, the landscape men, but first of all the humble craftsmen who must give form and substance to the designer's visualizations. Architecture to-day, as in the days of Le Brun or of Michaelangelo, or of Bullfinch, consists in getting buildings built in accordance with mankind's best knowledge and ability, and appreciation of what is beautiful. The Greeks certainly aimed at nothing higher, nor did the cathedral builders, nor the designer of the Taj Mahal. The results these men produced were utterly different, just as the best we shall do to-day must necessarily be utterly different.
Modern Decorative Light Sources

By Eugene Clute

WHAT was until recently one of the least progressive of the arts allied to architecture has suddenly become one of the most advanced—the making of decorative equipment for the lighting of interiors by electricity. "Lighting fixtures" is an inadequate and rather inept term, since it is so closely associated with the kind of chandeliers and wall brackets that did their worst to disfigure the homes and public buildings of the past three decades; also, since the light sources of to-day are very often recessed in the walls or ceilings or otherwise incorporated in the architectural treatment of the room. Modern light sources bear little, if any, resemblance to the lighting fixtures of even a few years ago, because they are designed for electric light, rather than being mere adaptations of designs originally intended for lighting by candles or gas.

Some of the most interesting developments which Maurice Heaton has used glass tubes, glass sheets, and a minimum of metal.
Working drawings of a lighting source with which are combined the warm air inlet and the vitiated air exhaust; see illustration on opposite page.

In the reception room of the Irving Trust Company, One Wall Street, New York City. Voorhees, Gmelin & Walker, architects; illuminating engineering by the Frink Corporation.
are seen in the light sources just installed in the 
Irving Trust Company Building, 1 Wall Street, 
New York City.

The reception-room of the bank, on the 
ground floor at the corner of Wall Street and 
Broadway, is a remarkably beautiful room of 
thoroughly modern design, about 90 feet long, 
45 feet wide, and having a ceiling height of 32 
feet. The walls and ceilings are covered with 
glass mosaic in a web-like pattern of gold lines 
upon a rich red background that grades up to a 
lively orange-red upon the ceiling. At intervals 
along the walls are tall, narrow bronze grilles 
(1 foot 6 inches by 12 feet 10 inches), back of 
which are combined the heating, ventilating, and 
lighting equipment, avoiding the disturbing 
multiplicity of grilles that so often mars the ef­
flect of fine interiors. Through the upper part 
of these grilles warm, fresh air is introduced; 
through the lower part the vitiated air is drawn 
out, and about half way up are concealed the 
flood lights that supply the illumination. These 
are directed upon the ceiling and are so arranged 
as to provide a wide and even distribution of 
light. The design and construction of these units 
are shown here by working drawings.

In the main entrance lobby of this building 
the problem was to supply an evenly distributed 
illumination and to light a decorated ceiling 
properly. By reference to the working drawings 
it will be seen that each light source consists of a 
reflector unit concealed in the wall back of glass 
louvers that are set in a bronze frame flush with 
the marble facing of the wall. The frame carry­
ing the louvers is hinged at the top, for conveni­
tence in re-lamping. These light sources are 9 
inches high by 1 foot 6 inches wide, spaced evenly 
on the two long walls, 2 feet 9 inches below the 
level at which the ceiling joins the walls. The 
light is projected upward and outward upon the 
ceiling and is well distributed.

Above alternate light sources and connected 
with them are the grilled openings of exhaust 
ducts, for the ventilation and the lighting have 
been combined here also. The grilles consist of 
vertical members of extruded bronze of inter­
esting design so arranged in staggered lines that 
one cannot see into the exhaust ducts back of 
them (see illustrations on page 74).

Though many photographs and descriptions 
of the lighting of the grand foyer of the Chrysler 
Building have been published, the working 
drawings from which the installation was made 
have never before appeared. The basis of the 
scheme is indicated in the diagram on page 75.
The lighting units are strip reflectors supported in a vertical position a little in advance of reflecting surfaces of honed Mexican onyx that are set in the walls and piers. These surfaces, having a matte finish, do not reflect an image of the lamp filaments, as a polished surface would. They not only reflect but also diffuse the light and they impart to it a slight amber tint to which is added a suggestion of red by reflection from the rouge flamme marble of the walls. This color is very pleasant and it is flattering to complexions, a point that should not be disregarded in the lighting of interiors.

Turning to light sources that may be classed as lighting fixtures more properly, though very different from the older types, we find a wide variety of designs, including combinations of glass tubes in various arrangements; combinations of superimposed louvers that take the place of the usual kind of indirect lighting fixture; luminous glass troughs upon the ceiling; and many other advanced types.

Among the most interesting of these are the lighting fixtures in the new showrooms of L. P. Hollander & Company, for the display of women's gowns and other apparel, on East 57th Street, near Fifth Avenue, New York.

A simple unit of design is the basis of many of these fixtures—a tube of clear glass through the centre of which is a slender rod, little more than a wire, that holds in place simple metal caps upon the ends of the tube. By combining these tubes in different ways a wide variety of designs is produced.

The great circular fixture in the centre of the ceiling of the main showroom on the ground floor is made in this way. The tubes are arranged to form deep fringes and are hung so that they are free to swing, in order that they may always be plumb. They are illuminated by lamps concealed in a large ring suspended below them, and they blaze with light after the manner of crystal chandeliers.

Elsewhere such tubes are arranged close together in vertical lines upon the wall to form a rectangular mass; again, the tubes are similarly grouped upon the ceiling of an alcove, the ends of the vertical and horizontal groups of tubes coming together upon the angle. Only the thickness of the tubes projects beyond the surface of the wall or ceiling. Through these grilles of glass diffused light pours from lamps concealed in boxes recessed back of them. There are also panels of translucent glass set flush in
the walls in front of recessed boxes containing lamps. In some instances two or three rooms receive light from panels in different sides of the same box. In addition there are fixtures in many different designs in the various showrooms, notably one in which heavy rings of clear plate glass are used as flanges on a cylinder of translucent glass that is lighted from within.

Indirect lighting fixtures composed of louvers arranged one above another are used in the remodelled and redecorated interior of the Casino Restaurant in Central Park, New York, and in the new section of the Brooklyn department-store of Abraham & Strauss, Inc. In the former the louvers are circular in plan and in the latter they are square. A development of this type is seen in fixtures for the New York Telephone

Below, a light source in the Chrysler Building observation gallery. The globe is of translucent glass, the frame of monel metal, the ring of mirror glass. William Van Alen, architect; French & Company, decorators; craftsmanship by Cox, Nastrand & Gunnison

In the Chrysler Building lobby where the light is reflected from large areas (see detail section above at left). William Van Alen, architect; illuminating engineering by the Frink Corporation

Staircase lantern in the Chrysler Building by the same designers and craftsmen; made of nickel silver and moulded glass against Bleu Beige marble. The moulded glass takes a form somewhat like a group of glass rods
Company Building, in which the lowest portion is so constructed that it is lighted by reflections from the inside of radiating ribs arranged around it. An elaboration of this idea is seen in the large fixture in the studio for Lucien Tyng, Esq., at Southampton, Long Island, which is highly decorative (page 71).

A very pleasing treatment of the cylindrical lantern type of fixture is seen in the grand staircases of the Chrysler Building. The metal work is of Benedict nickel and the glass is in heavy moulded sections that have the form of groups of round glass bars.

In the observation gallery of the Chrysler Building, on the seventy-first floor, are spherical fixtures composed of curved sections of translucent glass set in Benedict nickel. Each of these spheres is surrounded by a ring of mirror glass that recalls the Kings of Saturn quite appropriately, for these fixtures are seen against a painted ceiling decorated with constellations and signs of the Zodiac in gold on a blue ground.

The Daily News Building on East 42d Street, New York, affords a number of notable examples. The illumination of the grand foyer, or rotunda, is upward from the circular pit in the centre of the floor in which is set the great rotating terrestrial globe that is the chief feature of the room. This light comes from lamps concealed under the steps of heavy translucent glass that encircle the lower part of the globe in the pit. The charts all around the walls have direct lighting from curved reflector strips supported from the wall on horizontal metal arms. In the entrance lobby, to the south of the grand foyer, the illumination is from trough-like boxes of glass, set in bronze and lighted from within, which extend along the centre of the ceiling, and from banks of vertical glass cylinders placed over the doors at the ends of the room. In the elevator lobby the lighting is also from a glass trough set against the ceiling. Smartest of all are the fixtures in the readers’ service department. Each consists of a ball of translucent glass (14 inches in diameter) that is intersected by four vertical discs of metal (3 feet 6 inches in diameter) lacquered red and having chromium-plated edges (see illustration above).

Quite as modern as any described above and especially well suited to form part of the setting for formal social life are the lighting fixtures for those two new Parisian hostelries, the Hotel Georges V and the Hotel Principe de Gales. These luminaires are composed of crystal, forged bright iron, and nacrolaque, a composition made from mother-of-pearl in sheets, showing beautiful softly iridescent colors by transmitted light.
On account of its great size and its location among other tall buildings, it is impossible apparently to get a satisfactory photograph of the Western Union Building as a whole. It is built of brick, shading through twenty-one color variations from a deep red at the bottom to a light orange at the top. The coping material here shown and throughout the building is of cast stone, the display windows and their spandrels being of bronze.

Photographs by Palmer Shannon

Detail of the Hudson Street entrance

Western Union Building, New York City

Voorhees, Gmelin & Walker, Architects
ARCHITECTURE

August, 1931

The main corridor, looking toward the Hudson Street entrance. Throughout this corridor, the same brick as that used for the exterior, in but three or four tones, has been employed.

WESTERN UNION BUILDING, NEW YORK CITY
Voorhees, Gmelin & Walker, Architects
One of the elevator corridors leading off the main lobby on the first floor. The floors are of three or four colors of terrazzo; the elevator doors and grilles of bronze.
A bay of the main corridor leading at left to the gallery of the lecture hall

Western Union Building, New York City

ARCHITECTURE

VOORHEES, GMELIN & WALKER, ARCHITECTS
The lecture hall for the use of employees. Acoustical plaster is used on the ceiling, and hard plaster, run in varying planes, on the sidewalls, all painted a warm gray. There is a loudspeaker opening back of the draperies at the sides of the stage.

Western Union Building, New York City

voorhees, gmelin & walker, architects
The cafeteria, with its tile wainscot and acoustical plaster above and on the ceiling

Entrance to a bank from the main corridor

The serving counter room opening from the cafeteria

WESTERN UNION BUILDING, NEW YORK CITY

voorhees, gmelin & walker, architects
ARCHITECTURE

From the pencil drawing by Vernon Howe Bailey

Verona
The new Post-Office, with Power and Garage Building at right, for Minneapolis, which buildings, to cost $3,250,000, are approaching the working-drawing stage. Magney & Tudes, Inc., architects and engineers.

Architectural News in Photographs

At left and right, preliminary perspectives of the War Memorial and Opera House to face the City Hall of San Francisco. Arthur Brown, Jr., architect; G. Albert Lansburgh, associate architect.

The City Commission of Newark has approved the drawings for the new Pennsylvania Railroad Station to replace the present Market Street Station. McKim, Mead & White, architects.

Indiana University's Union Building, now under construction at Bloomington, Ind., will contain an auditorium, cafeteria, bookshop, faculty club, and many offices. Granger & Bollenbacher, architects.
A perspective of the approved design for the United States Marine Hospital in Seattle. Bebb & Gould and John Graham, associate architects.

A new unit in the Columbia Presbyterian Medical Centre, New York City, is the Eye Institute of the Presbyterian Hospital. James Gamble Rogers, architect.

Edward S. Harkness has given Columbia University the funds with which to build a library facing the present Low Memorial Library. James Gamble Rogers, architect.


Below, four busts recently unveiled in The Hall of Fame, New York University, New York City.

Walt Whitman
Chester Beach, sculptor

James Monroe
Hermon A. MacNeil, sculptor

Matthew Fontaine Maury
F. William Sievers, sculptor

James A. McNeill Whistler
Frederick MacMonnies, sculptor
Notre Dame from Across the Seine

From the etching by Donald M. Kirkpatrick
Brooklyn New York Times Building, Brooklyn, N. Y.

Albert Kahn, Inc., Architects and Engineers

Detail of end bay
Photograph by Richard Averill Smith

classified advertisements room

Brooklyn New York Times Building, Brooklyn, N.Y.
Albert Kahn, Inc., Architects and Engineers
The press room

Brooklyn New York Times Building, Brooklyn, N.Y. Albert Kahn, Inc., Architects and Engineers
The architects have carried up through the ribs the limestone used in Goodhue’s general exterior, filling the spaces between with tile and marble in varied colors which are, however, toned down to that of the general exterior.

Dome, St. Bartholomew’s Church, New York City  
Mayers, Murray & Phillip, Architects
A detail of the dome itself which, in order not to compete with surrounding high buildings, is kept low.

Dome, St. Bartholomew’s Church, New York City

Mayers, Murray & Phillip, Architects
With the completion of the apse and the dome over the crossing, in which there is an organ, the interior of the church may probably be considered finished.

Dome, St. Bartholomew's Church, New York City

Mayers, Murray & Phillip, Architects
Detail of the organ screen which separates the dome organ from the interior of the church. It is of fire-proofed wood, carrying the coloring and gold that prevails throughout the interior. The craftsmanship is by Eli Berman Company, Inc.

Dome, St. Bartholomew's Church, New York City   Mayers, Murray & Phillip, Architects
Another detail of the organ screen in the dome, showing more fully the corbelling.
Color is secured in these corbels through the use of tile and marble mosaics

Dome, St. Bartholomew's Church, New York City  Mayers, Murray & Phillip, Architects
The new bronze doors for the baptistry portal of the Park Avenue front. Albert Stewart, sculptor

St. Bartholomew's Church, New York City

Mayers, Murray & Phillip, Architects
It is interesting to trace the gradually declining taste and knowledge of lettering through this series of memorial tablets, all to be found in Trinity Church, New York City. Assuming that the lettering of the respective tablets was executed at about the dates given thereon, the examples lead from the delicacy and grace of the 1760 tombstone to the final example of 1805, on the next page, which indicates the depth to which the design of lettering may descend.
Some Pitfalls in Supervision

By W. F. Bartels

XIII. PLUMBING (CONTINUED)

Pipes for water supply are of steel, wrought iron, or brass. Lately there has come on the market a steel-alloy pipe which is said to be almost the equal of wrought iron in rust-resisting qualities. Brass seems to be superior in general as far as non-rusting is concerned, and while talk may be heard of its high cost, its final cost is only a small percentage more than wrought iron, due to the labor costs being the same. Whichever one is called for, the superintendent should see that no other is allowed on the job. If wrought-iron pipe is to be used it should have the trademark of one of the standard brands rolled in it. Where wrought-iron pipe is called for, it is ludicrous to see a bundle of steel pipe come on the job with a label on which has been laboriously written: “Genuine wrought iron.” More often, however, the plumber forgets to bring the wrought-iron fittings to go with the pipe. Incidentally, the substitute fittings are more difficult to detect and more easily overlooked than the pipe. The wrought-iron pipe, being more porous than steel pipe, takes the galvanizing better. Also, when wrought iron is split the rupture will show a fibrous structure as compared to the crystalline makeup of steel.

It is well to check the walls of brass pipe for thickness, to see that it corresponds to that called for in the specifications. Often there will be an attempt to substitute a light-weight pipe for the regular weight. This should not be countenanced, as it will be difficult to handle and will probably break off at its connections should any strain be placed on it. The reason for the breakage here is that there is not enough material left beneath the threading to allow for much strain. Similarly, the fittings should be checked to see that they are in order.

Having satisfied himself as to the weight and size of the pipe and the fittings, the superintendent should see that reasonable care is exercised in installing the brass pipe. The careless use of the Stillson wrench chews the pipe unnecessarily. The wrench should not be used too far from the point where the pipe is held by the vise. In large-size pipe care must be taken not to crush the pipe, such as by the use of chain tongs. Ordinary brass pipe should not be bent unless it has been fully annealed. To make the joints tight the only thing that should be allowed is boiled oil and a little cotton wicking, which is put on the male thread. No red lead, litharge, or cements should be used, because oftentimes they will give a decided taste to the water. One case is on record where a plumber was sued for a case of sickness because he had used red lead.

The riser lines should be gone over to see that they are of the size called for on the plans. Then the branches, or “Crotons,” as the mechanics in New York call them, should be checked to see that each fixture gets its proper size supply line. All this should be done of course before the lines are enclosed by partitions. Then the valves should be looked at to see that they are in and are located in their correct positions. If possible they should be in closets or other inconspicuous places and in no case should they be allowed to project out into a room. The valves are generally furnished to cut off the water supply of one set of fixtures, although in the more expensive type of work a valve may be furnished for each fixture.

No bushings should be allowed in the work to take the places of reducers. No unions should be installed, their places being taken by right-and-left couplings. The latter are difficult for the average plumber to put on and therefore are avoided whenever possible. Where the water supplies run to a basin or lavatory they should be provided with an air chamber, preferably twelve inches long. This will eliminate the knock so often heard when the water is shut off suddenly.

Hot and cold water pipes should be kept at least six inches apart, and the hot-water lines should be covered with an insulating material. When brass water pipes are run in cinder floor fill they should be painted or in some manner protected against the acids which may be in the
cinder fill. In the non-fireproof type of construction the hot-water riser will often have its individual hot-water return. Care should be taken to see that this return is carried down from the highest point served. Often it is cut into the riser at the second floor, thus depriving the floors above of its benefit. When this is done and the building plastered the detection of this fraud is difficult.

When water pipe is cut and threaded there is a burr left on the end by the cutting. This should be removed with a reamer to make a workmanlike job. Particularly is this so in steel or iron pipe, for where left on the burr offers an excellent starting point for rust. If it is a small pipe the whole opening is soon closed up with rust.

In long lengths of hot-water pipe it is necessary to provide expansion joints. It is a good plan to have access doors so that these joints may be reached in case of necessity. However, if a hung ceiling is provided, a swing or loop may take the place of the expansion joint, and then no access door is necessary. This "loop" is nothing more than an offset in the pipe to allow for expansion and contraction without damage. Where a long length vertically makes it necessary to install a loop it can be made in the middle and the pipe held by hangers top and bottom; or a "loop" may be furnished at top and bottom with the hanger in the centre.

Similarly a "loop" should be used on a long horizontal run.

When the water supply system is completed it should be tested with air or water. The latter is really preferable as it will indicate the leaks more quickly. The test pressure should be fifty per cent greater than the working pressure. Care should be taken to see that the cut-out valves are open so that the entire system is being tested. Often if a line is not quite finished a turn of a valve will take it "out of the test" without the knowledge of the inspectors. A gauge will of course be supplied and the indicator should hold steady at the required mark.

If air is used in making the test and the lines are long, it is well to watch the hand of the gauge for several minutes. The pump used will be at the gauge, but there is nothing to prevent another pump's being used on another part of the line to keep the pressure up. The throbbing of the second pump, however, will cause a pulsation of the gauge indicator, thus revealing the deception.

Gas Lines

The gas lines will be tested by the gas company, who use air pressure with a mercury-column gauge. In this test, as in the air test of water lines, a leak is difficult to find. The plumber generally makes a soapsuds lather and applies it with a brush to the suspected leak, which at once reveals itself if covered. Often the specification will call for gas pipes to be painted in some manner, in which case the superintendent should see that this is done.
Commensurability and Walls

By Ernest Flagg

Much has already been said in these articles in a general way of the advantages to be derived from the standardization of parts in building and the dependence of standardization on commensurability in design.

The object in this installment, as it was in the last, is to present a specific illustration of the application of this truth. It is now proposed to consider walls, but before beginning it may be well to state again certain facts which seem so self-evident as to be axiomatic and upon the truth of which our argument rests.

1st: The most effective way to reduce cost is by standardization, or mass production, as it is called.

2d: Standardization of design in house construction is, generally speaking, undesirable as tending toward monotony.

3d: A better way is to standardize parts.

4th: Standardization of parts is dependent on commensurability in design, for otherwise they will not always fit.

5th: Commensurability can best be had by the use of building units or modules.

Now as to walls: Many different types have been evolved during the ages, suited to different needs, different materials, and different tastes. What is now wanted is a type suited to standardization of parts under modern conditions, or to unit construction, as it may be called.

Some years ago I invented a type of rubble wall which has certain advantages over ordinary rubble. It is made by the use of demountable forms, easy to operate and requiring little lumber to make. By the use of a unit in planning, the forms always fit, no matter how the design may be varied. This wall and the method of making it are fully described in my book "Small Houses." The forms consist of uprights, firmly held in place at top by light frames, and planks to hold the masonry. The forms are so contrived that the planks can readily be slipped out as the work proceeds and used at a higher level, therefore comparatively few are needed. The face of the wall is formed by placing the flattest side of the stones against the planks, then filling behind with concrete. Pointing is done after the planks have been removed. Figure 1 shows a wall of this kind in process of erection, and Figure 2 is an inside view of the forms. As the work after pointing has a mosaic-like appearance, I called it mosaic rubble. Remarkably beautiful results are obtained with little skilled labor.

Although these forms, in their economy of construction and simplicity of operation, have advantages over any others that I know of, they, like all other forms, have their drawbacks. Comparatively inexpensive, their cost is nevertheless too great for a single operation and their setting requires care and a certain amount of skill. They are intended for, and adapted to, multiple building. When used for several buildings and operated by men accustomed to them they are of considerable value, but for a single house there is little economy in their use. It was to overcome this difficulty...
that I devised the type of wall about to be described.

It came about in this way. In building mosaic-rubble walls I found, as usual in rubble work, the greatest difficulty at corners. Stones had to be cut to obtain a presentable angle, and there were other difficulties, so that one corner cost about as much as ten feet of plain wall. To remedy this I used cast-stone corner blocks, or quoins, as shown in Figure 3, and the better to hold them firmly in place and form a rigid guide for the forms, a large hole was cast in each so that when piled there was a continuous channel from top to bottom in which iron reinforcement was placed, then the hole filled with concrete, as shown in Figure 4. This device proved so successful as to suggest an extension of its use to all parts of the wall. Thus an entirely new system of wall construction made its appearance, with results astonishingly economical. The blocks used in combination with brick are shown in Figure 5. Before describing the process of erection it will be in order first to describe the method of making the blocks.

As the unit in design gives perfect commensurability, stones of few shapes are needed and all can be made in a single box by the use of filler pieces. Inside dimensions of the form or box are 15 inches by 15 inches by 30 inches. It is made of cast iron, machined to exact dimensions, without top or bottom, and has demountable sides. It is shown in Figure 6 with certain of the filler pieces in place. Its cost, exclusive of filler pieces, was seventy-five dollars, and its life is indefinite. I have used mine for several years, and by keeping it oiled it has suffered no appreciable deterioration. Its inner sur-
faces are perfectly smooth, as are also the surfaces of the blocks made in it. Heretofore the fillers used have been of wood, but they have not been entirely satisfactory because, even though kept well coated with shellac, there is more or less swelling and shrinking. In the future metal filler pieces will be used.

The mixture is three parts clean, sharp sand to one of white Portland cement, thoroughly mixed, with only enough water to dampen it. It is put in the forms in layers, each one carefully tamped by hand. Better and quicker results could doubtless be had by automatic tamping, but even by the hand process two men are able to make from twelve to fifteen blocks a day, or about twenty cubic feet. The blocks are quite as handsome, to my mind, as some varieties of limestone and probably quite as durable. Their cost compared to stone is low and by more efficient methods of manufacture it might easily be reduced by half. The white Portland cement in connection with the yellow sand produces a beautiful warm ivory color which few natural stones can equal. As soon as the material is tamped the sides of the form are removed and the blocks stood aside, each on its separate plate, and allowed to cure for thirty days, during which time they are kept damp. Figure 7 shows blocks of different shapes. The one in the foreground is a corner stone, the filler pieces for which are shown in place in Figure 6. The one beyond is for a splayed window-jamb.

In an ordinary house from eight to ten different shapes are required, all made as stated in the one form.

Now as to construction: The houses are without cellars, and the first operation after laying out the work is to build the foundation. Where there are no foolish building laws to interfere and the wall is low, a trench is dug, on the line of the wall, about one foot wider than the wall and filled for eighteen inches with cinders well tamped. Then, centred on this cinder bed and using planks for a form, the foundation course, of the exact thickness of the wall, is made of concrete. In this connection too much stress cannot be laid on accuracy, for any time or trouble spent here will be most amply repaid by subsequent speed and satisfaction. Great care is taken to make the top of the planks which act as the form for the concrete base perfectly level and true. This foundation course is one foot high—six inches above grade and six inches below it.

If the finished floor is to be of linoleum cemented to the concrete floor slab, then the top of the foundation is at floor level, but if a wooden floor is to be used, then it is two inches above the floor slab to allow for the thickness of the floor and the one-inch sleepers to which it is nailed. When this foundation course has been finished and trowelled perfectly true, smooth, and level, it is covered with a damp-resisting compound on which, as an additional precaution, is laid a strip of rubberoid of the width of the wall. Then all is ready to proceed with the superstructure.

Work commences by piling corner blocks to the full height of the story, great care being taken that corners are exactly the right distance apart and perfectly plumb. These corner piles serve as guides for the intermediate ones and by sighting between them the slightest deviation from the true can be detected.

It will be seen by reference to Figure 5 that the wall consists of piles of blocks, one at each corner and one at each side of every door and window. If there are any long unbroken stretches of wall, intermediate piles are placed at suitable intervals. If all has been properly prepared in the manner described, two laborers under a competent foreman can easily set up the blocks for one story of an ordinary house in a day, or in far less time than would be required for the erection of the simplest kind of forms. The reason for this speed is that the stones are all of exactly the right size and that no mortar in the ordinary sense is used in the joints. The blocks are simply placed on top of each other, work which can be done by common day laborers under the guidance of a competent foreman quite as well as by the most skilled stone mason.
say no mortar is used, in the ordinary sense; that is to say, no mortar which affects the thickness of the joint, but before one stone is placed on another the top of the under one is covered with a mixture of Portland cement and lime of about the consistency of thick cream. This has the effect of filling any irregularity, no matter how fine, in the stone beds and making them water-proof. Vertical joints are keyed or sealed by grouting the channels cast on the blocks where they meet, as shown in Figure 7.

It will be seen from this same figure that corner blocks have a tail piece on one side only, about three inches thick, with a groove in the end for the key just mentioned. In the next course this stone would be reversed so that from the outside the stones are alternately long and short as shown in Figure 5, but inside they appear as straight piers. The brickwork filling between these piers consists of only four inches of brick, damp-proofed on the inside and coated with a half-inch of cement. The blocks are so beautiful as to make it practical to leave them exposed on the inside as a part of the interior decoration. Recesses between piers can be filled in, furred off to form pipe chases, left for use as bookcases, cupboards, or simply as recesses, adding just so much to the available size of the room. By this means about one-third of the masonry otherwise required is eliminated, while a stronger wall is obtained. This type of construction is particularly suited to places subject to earthquakes, as California for instance, because, fastened together as they are by the iron rods and concrete core, no amount of shaking can dislodge the blocks. The construction may be likened to that of a bird cage which no shaking will affect, whereas if built in the ordinary way it would be like a house of blocks which at a slight movement collapses.

In using this method it is of course necessary that the placing of the various shaped stones be carefully worked out and clearly indicated on the elevations, but after a little practice this can be done very rapidly. The different shaped stones, of which there are few as stated, are each given a number or a letter which is marked on the elevation. Figure 8 represents one elevation of the house under consideration with the blocks numbered; each number representing a particular shape.

These blocks are useful for other purposes, as fence posts, supporting piers, and the like. Figure 9 shows them as angle posts of a grape-arbor.
Friday, May 22.—Almost from the moment we left the pier yesterday afternoon, we were through a thick fog, probably engendered through the meeting of Traditionists and Modernists who dwell in this world at widely differing temperatures. Not that there is any discussion of either subject far from it, for, between the foghorn blasts, coming every minute, on the minute, the talk is of almost everything but architecture—of Paris and how to make the most of our fifteen days there, of those who should have been with us and are, of committees and what is expected of them (which seems to be a great deal).

Saturday, May 23.—It was a fond thought of mine before embarking on this trip that the eight days at sea, both going and returning, would at least be free of all responsibilities in connection with periodical publishing. Here it last should have been a rest—well earned, I insist. But no. Instead of a monthly I am now editing a daily, nor are the news-gathering and writing the whole of it, for I must even type-cut the stencil from which it is mimeographed. It is permitted that Guest Editors be drafted into service, so the following are to be largely responsible for the next few issues: Edgar Hay, Hubert Ripley, Kenneth Murchison, and Louis La Beaume.

Monday, May 25.—Tournaments are in progress on all sides—bridge, shuffleboard, deck tennis, deck golf, and "Camelot." C. C. Zantzingier (pronounced "Zahn-zahn-zhay" on this trip) and Ethan Allen Dennison are revealed as dazzling comets at deck tennis. N. C. Wyeth is disclosed as a past master of shuffleboard, while Hubert Ripley broods over the bridge table like an all-wise Buddha. Ely Kahn is in a class by himself. "Camelot," having lost the game with him, and being the only one on board who knows the rules. When he does not know the rule he makes one.

Tuesday, May 26.—Apparently this holiday idea was wholly misleading. The "Muriel" painters, as Ken Murchison calls them, have undertaken the decoration of the Lounge and Bar, rooms which had conveniently been lined with ivory wall-board panelling. Arthur Covey, C. Putnam Brinley, George Wharton Edwards, Philip H. Chadbourn, James A. Meehan, Ralph Gray, George S. Idell, C. Howard Walker, and Arthur Ware are busily engaged upon their respective panels of the Lounge, while Tony Sarg transformed the Bar by painting ten superb panels in a single morning.

Wednesday, May 27.—Unable to wait until the usual evening for the concert, the talent insisted upon giving it last evening under the chairmanship of William H. Gompert. "Songs of the Sea" was sung in phantome, by Harry R. Burt and Arthur Ware; Mott B. Schmidt sang "My Wild Irish Rose," assisted by a group of fairies; Tony Sarg wove his marionettes Arthur Ware, in the garth of Lord Dundreary, recited "Two O'clock in the Tenderloin"; Harry Burt entertained with legende-main; and there followed a melodrama in one act, "The Triangle," written apparently while it was being performed, by Murchison, Foster Gunnison, A. J. Rasperti, Philip Chadbourn and George Harvey. The "Star-Spangled Banner" was followed by several earnest efforts to sing "La Marseillaise" in French—not wholly successful.

Friday, May 29.—Between the final rounds of various tournaments I managed to steals time for an hour or so with Ely Jacques Kahn, drawing from him the essentials of his philosophy of architecture and how he tries to achieve it, most of which will be found in another part of this issue.

Soon after lunch we ran into heavy weather on nearing the channel, and before dinner were slowing down under a full gale from the port beam. With all of the driving rain and heavy seas the finalists in the shuffle-board tournament succeeded in completing their match on the upper deck with a score of 98 to 102, the victors coming down in clothes that were almost as completely soaked as the decks.

Saturday, May 30.—Soon after nine A.M. we steamed into Cherbourg, went ashore in a lighter and, after a few moments with complaisant customs officers, disposed ourselves and our luggage in a new train. It had been designed for the State Railways by M. Paucon, an architect, who had come down from Paris with several other ancians of the Ecole to bid us welcome to France.

Soon after six o'clock we rolled into the Gare St. Lazare to hear the welcome of some three hundred students in the eternal words of Les Pompiers, accompanied by their own band. The station rang with the victorious welcome, the explosions of flashlights, and the almost equally noisy reunions of the Voyager's with Raymond Hood, Ernest Peixotto, William F. Lamb, Simon Ford, and others who had come to see that our entrance into Paris should be made unmistakably hospitable. On the students' trolley, in buses, and on foot, the procession and its band made their leisurely way through Parisian traffic to the Café des Deux Magots on the Boulevard St. Germain. Here the regular patrons gathered and gave way before a demonstration of affection for the ancians that surely had never before been equalled in the Quarter.

After rounding up the luggage and disposing it properly at our two hotels, The Madison and The Palace, both on the Boulevard St. Germain, hard by old St. Germain des Prés, the party resolved itself into units of varying size and disposition to seek what might be found in our first night in Paris. Far into the night one encountered groups of two to five making their way to Montparnasse, Mou­
	onde and La Dom, and other lesser lights of the Montparnasse firmament.

Sunday, May 31.—This afternoon with Putnam Brinley, Arthur Covey, Monroe Hewlett, Ely Kahn, Louis La Beaume and W. H. Parsons to have a preliminary glimpse of the Exposition Coloniale, out near Vincennes. Some of the thatched-roof buildings, representing Togo and Cameroun, seemed of particu­lar interest—the work of an Ecole man, L. H. Boileau, who, whether or not he captured the spirit of the native architecture, displayed a convincing knowledge of design and a pleasing use of unusual materials.

Monday, June 1.—Parisians tell us that they have had rain for several months—to-day a fair sample of it, like a showery day in April, interspersed with sunshine. It was not enough to keep me from tramping miles of circulatory inspection over on the right bank, finding more of the familiar landmarks unchanged, but with a profuse representation of modernized shop fronts in the shopping district. Three years ago the contemporary manner had made only an occasional appearance in a rebuilt front; now it is far more in evidence—rarely as a whole new façade, but usually a new flowering of the street level alone, with plenty of applied metal, bizarre block lettering, and more daring color.

Tuesday, June 2.—Practically the whole party, numbering fifty or sixty, piled into char-à-bancs and motored out to Fontainebleau, where Welles Bosworth, supervising the various Rockefeller restorations in France, and the architect in charge of the work on Fontainebleau itself, showed us what is being done. Most of us found this of particular interest the tiny theatre, seating possibly one hundred fifty per-
ARCHITECTURE

August, 1931

sons, where the musicians' pit and the orchestra had been much subordinated to the main gallery, with its anteroom and rich embellishment. Here sat the Court, with retainers below and above in much simpler and less luxurious surroundings.

Before returning, Bosworth took us to Courance, a smaller and more intimate Fontainebleau, owned and used by the Marquis and Marquise de Gannay. The grand stairway in the entrance court, quite similar to that at Fontainebleau, seemed even finer and more restrained. And though flowers are grown here only with difficulty, through some climatic quirk of the location, the gardens themselves, depending largely upon water motives, are superb.

On the way back to Paris we again stopped for a sip of champagne, tea or coffee, depending largely upon climatic quirk of the location, the garden-furniture, tapestries, and minor bits, all assembled with surpassing skill and discretion.

Wednesday, June 3.—At the Grand Palais there is a good showing of the artiste décorateurs—a better showing than in the now historic Exposition of 1925, in the opinion of several who have been abroad for six years, but who have been abroad for six years, but who have had to be content with a view from outside, the réception of the Medicis fountain. Met Gelett Burgess dining at Michaud's. They have been abroad for six years, but we had to be content with a view from outside; thence to Senlis and its cathedral; then on to Compiegne and to Pierrefonds, with its imposing fortified castle, destroyed by Richelieu, but restored by Viollet-le-duc under Napoleon III. Close inspection of the interior is rather disappointing, the restoration being cold and precise, and with a surprisingly crude use of color.

After a few of us had lunch at the offices of Fontaine et Cie, rounded the Porte Saint-Denis and saw the Restoration of the Medici's Fountain. We were entertained by a short Chinese play, by a troupe of children dancers from Angkor Vat, the Exposition's most dramatic feature, and, under the guidance of the architect who reproduced it from French Guiana, and by a dance of Annamites from the Sudan. Following our hosts, we entered the reproduction of Angkor Vat, the Exposition's most dramatic feature, and, under the guidance of the architect who reproduced it here, as well as formerly at Marseille and at Barcelona, marvelled at the miles of intricate ornament so faithfully copied in stucco from the stone original.
NUMBER XV
IN A SERIES

OF

WORKING DRAWINGS

By Jack G. Stewart

This series, in which one drawing will appear each month, is designed to cover the smaller practical problems that confront the architect in his day's work. The subjects chosen are those which, while not uncommon, call for some experience and knowledge of approved solutions. Next month the subject is a Bank Counter and Screen

PREVIOUS SUBJECTS IN THIS SERIES

I. Flagpole Holder on an Exterior Wall
II. Radiator Enclosures
III. Cigar Sales Counter
IV. Woodwork in a Library
V. Built-in Kitchen Cupboard
VI. Various Trims and Mouldings
VII. Telephone Booth
VIII. Men's Toilet
IX. Window Spandrels
X. Circular Stair for a Residence
XI. Detail of Metal Stair Construction
XII. Detail of Elevator Construction
XIII. Detail of Folding Partition
XIV. Detail of Counter-weight Slide Door for Dumb-waiter

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The Producers' Council
Broadens Its Scope

A HIGH spot of the first day's proceedings, April 13, at the San Antonio Convention was the working relationship brought into view with the Associated General Contractors of America, the president of which, Mr. A. P. Greensfelder, and the heads of its various divisions and committees concerned with building construction, were all present at the joint afternoon session, and, with the president and other officials of the A. I. A., discussed with us the basis upon which our respective groups could cooperate.

Points discussed included the problems presented in the "or equal" clause of customary specifications; the presentation of an absent member's view in a written statement ably summarizing the manufacturer's position; the submission, by contractors, of subcontractors' names and proposed use of products, with their general bids; difficulties of this from the contractors' standpoint; the evils of unsoundly financed projects, and the assumption by architect, contractor, and producer of proper responsibility in their respective spheres.

The outcome has been a decision of the Institute to appoint a committee to work with the general contractor, and steps to be taken by the A. G. C. to form a corresponding section of that body to maintain contact with the Council and Institute, as the proposed "third leg" of the stool. Further steps will be the subject of a conference with A. G. C. officials in Washington at an early date.

This session developed some real meat for joint effort and Council service to members during the ensuing year. The "three-legged stool" upon which alone the solution of specific detail questions must rest has been brought into being, at any rate as a psychological fact. The mental conviction upon the part of all three groups that this is a serious necessity is established. This large achievement is now recognized as the prerequisite to the particular solutions of detail questions which some may have hoped would be arrived at at this meeting.

The problem revealed proved larger than these in the laying first of the necessary foundation. That has been achieved. As one prominent industrial leader present remarked: "History is being made here. If our great business executives in industries not yet represented in this Council knew what it means, nothing could keep them out of it." There was similar evidence of serious appreciation in the comments of architects and the whole spirit of the A. I. A. Convention.

Tuesday, April 14, was given over to attending the A. I. A. sessions, at which the scope of the architect and government building programme were discussed. Listening in to the problems of the architect revealed much that is of moment to manufacturers' interests in both connections.

Wednesday, a high spot was the address delivered to the joint luncheon of the Institute and Council by Mr. Bennett Chappie (see July issue). Its result on public opinion with relation to support of the architectural and engineering professions and responsible industry should be very gratifying.

Wednesday's Council sessions were devoted chiefly to the discussion of recommendations made in the executive secretary's report relating to the co-ordination of research, action looking to the improvement of standard contract forms and the encouragement of Producers' Council clubs. This latter centred on what can be done to support and extend these, and provide for their representation by delegates at our annual meetings hereafter. Mr. G. R. Kingsland, president of the Producers' Council Club of Northern California, contributed greatly to clarifying the procedure which would make these clubs of inestimable value to Council membership.

An old house in Chartres, with a particularly lovely texture of brick nogging in the half-timber. Because of the narrow street the photograph had to be taken in two sections.
Cast Stone in Building Codes

SUGGESTED SECTION FOR INCLUSION IN MUNICIPAL SPECIFICATIONS: IT CONCERNS STRENGTH, ABSORPTION, SAMPLING, AND TESTING

By Wal-Ward Harding, A.I.A.

Architects, engineers, and specification writers of my acquaintance from time to time are called upon, either in official capacities or as consultants, to co-operate in the modernization of municipal building codes. In recent months some of these men have asked my advice concerning strength, absorption, sampling, and testing of cast stone—that is, with reference to these matters in connection with building-code revisions.

So numerous were these requests for information on cast stone, which is a building stone moulded from especially prepared concrete in which the aggregate is selected for durability and appearance, that a suggested section for inclusion in building codes has been drafted. This, I believe, will interest other architects, engineers, and specification writers who may at some time or another have occasion to use it in connection with municipal and other work.

The term cast stone as used in this code shall be understood to mean a building stone manufactured from portland cement concrete, precast and used as trim or facing on or in buildings and other structures.

"Cast stone shall have an average minimum compressive strength at the age of twenty-eight (28) days, or when delivered on the job, of not less than five thousand (5,000) pounds per square inch and an average absorption of not more than seven (7) per cent of its dry weight.

"Samples from which test specimens will be cut shall be selected by the Commissioner of Buildings or his representative. In the event specimens fail to meet requirements in the first test the test may be repeated on a second set of specimens. At the direction of the Building Commissioner tests may be required for each additional ten thousand (10,000) cubic feet of stone delivered on the job. Tests shall be paid for by the manufacturer.

"Tests for compression and absorption for cast stone shall be made on three (3) two by two (2 by 2) inch cylinders or two (2) inch cubes cut from the stone as delivered on the job or from the regular stock in the yard. If not homogeneous throughout, specimens of cast stone to be tested for absorption and compression shall be taken in such a manner that they are composed of approximately one-half (1/2) of facing and one-half (1/2) of backing material so that they can be tested in the position in which the cast stone will be laid in the masonry. Compressive strength and absorption tests on cast-stone specimens shall be made in accordance with the American Concrete Institute tentative specification for cast stone (P-3-A-25-T).

"No individual specimen used in the above prescribed tests shall vary more than ten (10) per cent below in compression nor more than ten (10) per cent above in absorption from the average requirements specified above. All cast stone shall be branded with a permanent identification mark of the manufacturer, which shall be registered with the Commissioner of Buildings."

Way up on top of Muir Pass in the Sierras, at an elevation of some-thing over twelve thousand feet above sea level, the Sierra Club has built the Muir Shelter Hut, which was designed by Henry H. Guterson, architect, of San Francisco, and built out of the granite on which it stands. Sand had to be carried nine miles on pack animals; water, two and a half miles; cement, a four-day trip.
ARCHITECTURE'S PORTFOLIO OF BANK ENTRANCES

THE FIFTY-EIGHTH IN A SERIES OF COLLECTIONS OF PHOTOGRAPHS ILLUSTRATING VARIOUS MINOR ARCHITECTURAL DETAILS

Forthcoming Portfolios will be devoted to the following subjects: Urns (September), Window Grilles (October), China Cupboards (November), Parapets (December), Concealed Radiators (January), and Interior Clocks (February). Photographs showing interesting examples under any of these headings will be welcomed by the Editor, though it should be noted that these respective issues are made up a month in advance of publication dates.

Subjects of Previous Portfolios

1926-27
- Dormer Windows
- Shutters and Blinds
- English Paneled Doors
- Georgian Stairways
- Stone Masonry Textures
- English Chimneys
- Fanlights and Overdoors
- Textures of Brickwork
- Iron Railings
- Door Hardware
- Palladian Motives
- Gable Ends
- Colonial Top-Railings
- Circular and Oval Windows

1928
- Built-in Bookcases
- Chimney Tops
- Door Hoods
- Bay Windows
- Cupolas
- Garden Gates
- Stair Ends
- Balconies
- Garden Walls
- Arcades
- Plaster Ceilings
- Cornices of Wood

1929
- Doorway Lighting
- English Fireplaces
- Gate-Post Tops
- Garden Steps
- Rain Leader Heads
- Garden Pools
- Quoins
- Interior Paving
- Belt Courses
- Keystone
- Aids to Penetration
- Balustrades

1930
- Spandrels
- Chancel Furniture
- Business Building Entrances
- Garden Shelters
- Elevator Doors
- Entrance Porches
- Patios
- Treillage
- Flagpole Holders
- Casement Windows
- Fences of Wood
- Gothic Doorways

1931
- Bankers' Room Check Desks
- Second-Story Porches
- Tower Clocks
- Altars
- Garage Doors
- Mail-Chute Boxes
- Weather-Vanes
Bowery Savings Bank, New York City
York & Sawyer

First National Bank of Boston, Boston, Mass.
York & Sawyer

Lawyers Title and Guaranty Company,
White Plains, N. Y. Andrew J. Thomas

National Bank of Commerce, Philadelphia
Davis, Dunlap & Barney
City Bank Farmers Trust Company, New York City
Cross & Cross

Dime Savings Bank, Waterbury, Conn.
York & Sawyer

Seamen's Bank for Savings, New York City
Benjamin W. Morris

Federal Reserve Bank, New York City
York & Sawyer
Brooklyn Trust Company, Flatbush Branch
York & Sawyer

The Fairhill Trust Company, Fairhill, Pa.
Davis, Dunlap & Barney

Palisades Trust & Guaranty Company,
Englewood, N. J.  Aymar Embury II

Trowbridge & Livingston and E. P. Mellon
Holmesburg Trust Company, Holmesburg, Pa.
Davis, Dunlap & Barney

The Ashland National Bank, Ashland, Ky.
Schenck & Williams

New York Trust Company, New York City
Cross & Cross
The Bloomfield Bank and Trust Company, Bloomfield, N. J. - Mowbray & Uffinger

Integrity Trust Company, Philadelphia - Paul P. Cret

City Bank Farmers Trust Company, New York City - Cross & Cross

The National City Bank of New York, Porto Rico - Walker & Gillette
Essex County Trust Company, East Orange, N. J.
Dennison & Hirons

The National City Bank of New York, Branch,
New York City. Walker & Gillette

Bankers Trust Company, Detroit, Mich.
Smith, Hinchman & Grylls

Moise H. Goldstein

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AMERICAN BANK & TRUST COMPANY
Integrity Trust Company, Philadelphia
Paul P. Cret

American Bank & Trust Company,
Philadelphia. Davis, Dunlap & Barney

Grand Rapids Trust Company, Grand Rapids, Mich. Smith, Hinchman & Grylls

City National Bank, Huntington Park, Calif.
Harbin F. Hunter
Tenth National Bank, Philadelphia
Davis, Dunlap & Barney

Title Guarantee and Trust Company, New York City
John Mead Howells

Bank of America of California, Redlands, Calif.
Swasey & Hayne

E. W. Clark & Company, Philadelphia
Zantzinger, Borie & Medary
The Farmers' Loan and Trust Company Building, New York City. Starrett & Van Vleck

Royal Bank of Canada, Montreal. York & Sawyer

Plaza Trust Company, New York City. Corbett, Harrison & MacMurray

Passaic National Bank and Trust Company, Passaic, N. J. Harry Leslie Walker

Guaranty Trust Company, New York City Cross & Cross

Chase National Bank, New York City Graham, Anderson, Probst & White

Central Savings Bank, New York City York & Sawyer
City National Bank and Trust Company, Bridgeport, Conn. Dennison & Hironi
The Dime Savings Bank, Bensonhurst, Long Island Halsey, McCormack & Helmer, Inc.

California Bank, Hollywood, Calif. John and Donald B. Parkinson
The Savings Institution, Williamsport, Pa. Godley & Sedgwick
San Jacinto Trust Company, Houston, Tex.
Joseph W. Northrop, Jr.

Bank of New York and Trust Company,
New York City. Frank E. Newman

Irving Trust Company, New York City
Voorhees, Gmelin & Walker

The National City Company, New York City
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Rhode Island Hospital Trust Company,
Providence, R. I. York & Sawyer

First National Bank, Azusa, Calif.
Robert H. Orr

The State Bank and Trust Company, New York City
Dennison & Hirons

City Bank Farmers Trust Company, New York City
Cross & Cross
Central National Bank, Mineola, Long Island
Frederic P. Wiedersum

The New York Trust Company, New York City
Cross & Cross

The First National Bank and Trust Company, Mamaroneck, N. Y. Office of John Russell Pope

The Greenwich Savings Bank, New York City
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Cottages, greenhouses, stables and garages, grouped around a residence, make the large estate a little community. Such a community, like every other, has its own telephone requirements. Communication from one room in the residence to another, or to any outbuilding, is always desirable, often essential.

This complete telephone convenience is best achieved by the aid of telephone conduit, built into the walls and floors of the residence, run underground to outbuildings . . . in combination with one of the several intercommunicating systems developed by Bell engineers.

The conduit conceals all wiring, protects against service interruptions and permits telephone outlets to be located wherever they are most convenient. The intercommunicating system allows calls to be made to any part of the house, to any point on the estate or outside it, with equal ease, over the same instruments. No switchboard attendant is necessary. Calls received on any telephone can be transferred to any other.

Whether you’re planning a big estate or a modest home, let the local telephone company help you with the telephone arrangements. Their advice means increased comfort and efficiency. It is given gladly, without charge. Just call the Business Office.
NEW RESEARCH DEFINITION

"An organized method of keeping everybody reasonably dissatisfied with what he has." According to C. F. Kettering, vice-president of General Motors, a satisfied customer may be a fine advertisement, but a poor buyer. Dissatisfaction should not be in the non-workability of an article, but it is reasonable dissatisfaction to think: "If I were making a new one of this kind, I would make it a little bit different." New trade literature is ever valuable for its presentation of progress in the industry covered.

STAINLESS STEEL

The United States Steel Co. has prepared a treatise on "Stainless and Heat Resisting Steels." The brochure contains tables of physical properties, recommended procedure for uses of each grade, and illustrations of typical uses. It is interestingly comprehensive.

SEEMINGLY SEAMLESS

Carrying its secret in its back is a new carpet from Collins & Aikman Corp., of New York. Instead of ordinary sizing, a resilient material is used that penetrates the bottom of the weave and permanently locks in the pile tufts, forming a self-selvage when cut—eliminating sewing and binding. When two edges are put together, the pile meshes and the seam is scarcely discernible. This eliminates the handicap of the old standard of eighteen feet of broadloom carpet. No matter how spacious or unusual the room plan, this new carpeting will seemingly seamless-carpet any room. The back is also waterproof, and dirt and grit will not penetrate the resilient back. Stains and burns can easily be cut out and replaced without loss of original appearance. The Collins & Aikman booklet gives color samples and typical installations. Their slogan is: "Broadloom effect at narrow-width price."

INSULATING FIREBRICK

A recent bulletin issued by the Babcock and Wilcox Co. discusses a new firebrick with insulating properties. The refractory characteristics are illustrated by means of curves, sketches, and calculations. In the section devoted to the advantages secured by the use of this material, illustrative examples are given. Copies of the publication may be obtained by addressing the company at 85 Liberty Street, New York City, or this bureau.

MODERN CHURCH LIGHTING

Rambusch has prepared a text-book, artistically illustrated, on Modern Church Lighting. In it have been explained how the latest developments in this field can be used to full advantage in the relighting of old churches, and how the lighting for new churches should best be laid out. Assuming that bad lighting distracts the congregation and that good lighting gives an atmosphere of comfort and one conducive to meditation, the value of this discussion is obvious. Rambusch has also issued an interesting brochure on The Art of Stained Glass.

LIGHT WITHOUT DISTRACTION

Can be had with the use of Kolomos Opalescent Glass. It is particularly useful for transoms, partitions, and skylights, and any place where transparency is undesirable. Samples will be sent on request, mention of type of building only being required.

ABOUT LEAD

One hundred and four pages of practical information on lead have just been published in a clothbound booklet, obtainable for fifty cents, by the Lead Industries Association. To those desirous of adding to their knowledge of the properties, the refining, the compounds, and the uses of lead this book should prove of immense value.

LAMPS FROM TODHUNTER

A very complete illustrated booklet shows new Todhunter lamps. There is every variety—wrought iron and brass, candlestick, table, floor and bridge lamps, in new and interesting designs.

RESTORATION WITH SALEM SHINGLES

Number three of a series of architectural monographs from the Johns-Manville Corp. gives the interesting story of the restoration of the Hancock-Clarke-House in Lexington, Mass. Valuable in its historical memory and a treasure house to-day of priceless antiquities, the replacement of the old hand-hewn wood shingles of early New England with a roofing of weather and fireproof security, presented a problem. The Johns-Manville Salem Shingle, made of asbestos fibre and Portland cement united under great pressure, offered both the weatherproof and fireproof roof, and the effect of the old weathered hand-hewn shingle; so the charm of the original roof is recaptured and made permanent.

SEALEX VELTONE

Is a new wall covering perfected by the Con golene-Nairn Company. It is easily applied over plaster or other bases, and makes a virtually one-piece wall. It is waterproof and easy to clean—practical for new installations or remodelled rooms. It is particularly fine for bathroom and kitchen use. It is offered in special colors harmonizing with modern colored bathroom equipment. Its sanitary features, its ease of application, freedom from cracking or bulging, and its attractive color offerings and low cost solve the problem where modern effects are desired and tiling cannot be afforded. Model installations may be seen at their showrooms at 295 Fifth Avenue, New York City, and information will be mailed on request.

WELDING OF ALUMINUM

The Aluminum Co. of America has issued a booklet on the "Welding of Aluminum" which can be obtained on request. With the ever increasing use of aluminum for decorative purposes in building this booklet should be of interest to the profession.
APPROVED by leading architects, and pronounced by virtue of hundreds of installations and careful production as STANDARDS. . . .

AUSTRAL WINDOWS and AUSTRAL WARDROBES are as essential to the modern school as the latest text books.

Produced for the ERA of ECONOMY, they add nothing to the total cost of the school . . . Simplified . . . Efficient.

The judgment of School Specialists favors COMPLETE NATURAL VENTILATION, made possible through the use of AUSTRAL WINDOWS and AUSTRAL WARDROBES.

AUSTRAL WINDOW Co.
101 PARK AVENUE   NEW YORK CITY
The Battle of the Broom and Base

is staged in every building

A cleaner's one duty is to clean the building, not to consider whether or not the base will show the results of wear from his daily work. And yet, the base is important. If it is shabby it will ruin the effect of an interior. To keep it in condition is an expense.

The architect, when specifications are written, anticipates all of this and writes, "Base shall be of Pyramid Natural Slate."

It is installed and forgotten as far as repairs are concerned. No painting or varnishing to be done, to keep it looking clean and presentable . . . its dark, smooth surface will always remain in its original condition, impervious to dirt and wear.

70,000 lineal feet have just recently been installed in the United States Internal Revenue Building at Washington, D. C. In addition to this base, 9,500 feet of treads and platforms and 3,650 plinths went into its construction. All this because slate has earned the reputation of standing up under abuse and hard wear. You will find it in the better buildings.

THE STRUCTURAL SLATE COMPANY
DEPARTMENT A8 · PEN ARGYL, PA. BRANCH OFFICES IN ALL PRINCIPAL CITIES
These pictures show the dining room of the cafeteria in the beautiful Roosevelt School, Gary, Ind., Designed by Wm. B. Ittner, architect. Mottled Cream Brown AR-KE-TEX Tile was used wainscot high, with Mottled Cream White texture above. AR-KE-TEX Tile was used in the entire interior, including all class room walls from floor to ceiling.

The Walls of This School Are Permanently Sanitary

Maintenance costs in the Roosevelt School will be greatly reduced because the interior walls of AR-KE-TEX Tile will never need painting or refinishing. In school buildings with walls of ordinary material, annual costs for painting and repairing represent a heavy expense.

Walls of AR-KE-TEX Tile are impervious to defacement by any ordinary means. Ink cannot penetrate the high fired glaze of AR-KE-TEX Tile, and neither moisture, acids, alkalis, oil or grease have the slightest effect on the permanently beautiful finish.

Walls of AR-KE-TEX Tile retain their original beauty as long as they stand, needing only an occasional washing to keep them as fresh and clean as when new. This sanitary feature makes AR-KE-TEX Tile particularly desirable for use in schools, where wall surfaces are subjected to the most severe usage.
The Metal Crafts in Architecture

BY GERALD K. GEERLINGS

BRONZE
BRASS
CAST IRON
COPPER
LEAD - ZINC - TIN
MONEL METAL
STEEL

Characteristics and Limitations
Architectural Usage
Specifications
Estimating
Enamelling
Electroplating

Lighting Fixtures
Chemical Surface Action
Current Developments

277 photographs and drawings. 208 pages
9 x 12 inches. $7.50

CHARLES SCRIBNER'S SONS
597 Fifth Ave., New York
Architecture and Architectural Books
COPPER AND BRASS

The bulletins of the Copper and Brass Research Association contain many practical articles on the various unique and modern uses of copper and brass in present-day building construction. If you are not receiving these bulletins, it will pay you to request inclusion in their mailing list.

SEMET-SOLVAY PIPING AND VALVES

Bulletin No. 44 from the Semet-Solvay Engineering Corporation gives complete and excellently arranged information for specification of pipe and valve equipment. It includes blue-prints showing possibilities of combining pipe and branches, full description, drawings, and tables on steel flanges of various pressures and drillings, on expansion joints, and on various types of gate valves. It is an exceptionally well prepared manual for the engineer.

EMERSON FURNACE BLOWER

The Emerson Furnace Blower is adapted to year-round use—furnishing an even warm-air flow in the cold months and providing summer ventilation and cooling. An A. I. A. file leaflet from the Emerson Electric Mfg. Co., of St. Louis, gives the latest features on this blower with adequate dimension diagrams and illustrations of the control units.

GEORGIAN STEEL WINDOWS

A handsome brochure has been issued by David Lupton's Sons Co., of Philadelphia, on their new Georgian Steel Windows. It includes full description, illustrations, drawings, and specification details. This new steel window resembles in design that fine hand-made wood windows of the Georgian period. Among the advantages stressed are the large glass areas made possible by slender, but adequate in strength, frame, meeting rail, and muntins. They have an improved spring balance suspension integral with the frame and a special parting strip of extruded aluminum functions as a weatherstrip.

LIGHTING FROM FRONT STAGE

The stage lighting of the New Earl Carroll Theatre in New York will be controlled from the orchestra pit. The General Electric Co. has designed the control which eliminates the back-stage switchboard. The "Lighting Director" will sit near the orchestra leader, from which vantage point he can see the effects he produces. The electron tube control will be the first installation of its kind in a New York theatre. The mere flick of a small switch will introduce an entirely new color scheme. B. S. Havens, of the G. E. News Bureau, has prepared a very interesting paper covering the special lighting features and their technical operation in this new theatre. Copies are available.

OAK FLOORS

The Oak Flooring Manufacturers' Association has just issued a new edition of a book on the "Laying, Finishing, and Care of Oak Floors" and a folder on "Modernizing the Home with Oak Floors," both of which can be obtained by request to the association at Memphis, Tenn., or to this bureau. "Practical Use" has been the watchword in the preparation of this literature.

POWER FILTER

The Square D Co., of Detroit, has just published a bulletin on its new Power Filter Unit which converts alternating current into non-pulsating, harm-
Eleven shades and burnished gold were used in the wainscot and counter shown in the illustration.

The colors are high fired glazes which cannot fade or deteriorate. The first cost is the only cost—no redecorating expense.

The designs and color scheme are a product of our technical department. Consult with them without obligation on your problems of design and terra cotta construction.

CONKLING-ARMSTRONG TERRA COTTA COMPANY
Sales Office, Architects Bldg., 17th and Sansom Sts.

Executive Offices & Plant
Wissahickon Ave. & Juniata St.

QUALITY, SERVICE, CO-OPERATION

CLE-BAR
WATER HEATER
"Good for a lifetime"

Pressure—Good for any.
Quality of water—Rustless—Special Copper Coils.
Quantity of water—Baths for the whole family.
Installation—By local plumber.
Suitable for—Residence, Club, Business.

CLEGHORN CO.
86 BROAD STREET BOSTON, MASS.

A new Lutz book—Practical Water-Color Sketching
BY E. G. LUTZ

Mr. Lutz has a remarkable gift for being able to impart knowledge of art to others. Here are the chapter headings of this latest of his books: Introductory; Color and Light as the Artist Understands It; Properties of Pigments Used in the Pictorial Arts; Qualities and Uses of Water-Color Pigments; Qualities and Uses of Water-Color Pigments (continued); What Colors to Use for Sketching; Material and Tools for Water-Color Painting; Details of Making Wash Drawings; Light, Shade, and Shadows in Wash Drawings; Some Particulars of Water-Color Sketching; Some Special Methods in Technic; Conclusion.

$2.

CHARLES SCRIBNER'S SONS
597 FIFTH AVENUE, NEW YORK
ARCHITECTURE AND ARCHITECTURAL BOOKS
less direct current for use on sound-films, public-address systems, inter-communicating, signal, and elevator control systems. The bulletin will be sent on request and Square D engineers will collaborate on special filter problems.

RIGID CONDUIT
A critical history of the development of Rigid Conduit has been prepared by the Electrical Testing Laboratories and published by the National Electrical Manufacturers' Association, Utica, N. Y. The study will have appeal for the student of electrical products. It reveals the various attempts to eliminate hazards and the final successful employment of heavy wall mild steel conduit.

MIRROR DOOR CABINET
The F. H. Lawson Co., of Cincinnati, announce a new mirror door cabinet with especially designed and equipped side lights—Lawco Model LX. The cabinet is furnished with switch for the lights and plugs for curling and electric irons. The saving on other outlets and fixtures almost covers the cost of the cabinets.

ROCOPE
Rome Radiation Co., Division of Revere Copper and Brass, Incorporated, announces the introduction of a new concealed heating unit—Rocop. It employs copper exclusively for the heating element, and is offered in a range of sizes designed to meet all standard conditions. A new catalogue on Rocop Conectors is ready for distribution, embodying a simplified presentation of engineering data. Rocop is a companion product of Robras Radiators.

PAINT-POINT PRODUCTS
A new catalogue gives a comprehensive idea of what Paint-Point Products Co., of Brooklyn, can offer to paint the new house or seal the cracks and paint the old. Fibre-Coat for sealing leaks and painting in one operation or for transforming the damp cellar into a recreation room—at one cent per square foot; Plumbine cement for repairing leaky pipes, tanks, or tubs; New-tex Textural Coating and weatherproof shingle stain are other products listed.

Announcements
A. C. Horn Company announces the organization of Horn Continentale for the sale of Horn products in Europe.

Arthur W. Clark has been appointed managing secretary of the Dealer Division of The American Oil Burner Association.


Page Fence Association announces the publication of a booklet entitled "The Border Patrol."
SAFETY — COMFORT — ECONOMY

In thousands of schools, clubs, hotels, and homes this remarkable SAFETY mixer is replacing ordinary mixing valves because it prevents sudden "shots" of cold or scalding water due to the use of nearby faucets, flush valves, etc. Write for Book. The Powers Regulator Co., 2741 Greenview Ave., Chicago — also 38 other cities.

DECORATIVE WALLPAPERS

ELSIE SLOAN FARLEY has made a wonderful collection of wallpapers. Included are some classic French papers as well as the finest examples of the modern German and Viennese schools. Samples will be gladly sent to architects or decorators.

ELSIE SLOAN FARLEY
INTERIOR DECORATOR
435 PARK AVENUE
NEW YORK CITY

EARLY AMERICAN WROUGHT IRON

By ALBERT H. SONN

One thousand illustrations accurately executed from examples personally verified and inspected by the author and here reproduced by a facsimile process, admirably preserving the lovely texture of old iron-work.

Rare originals in public and private collections, examples in farmhouses and old dwellings throughout New England, Pennsylvania, and the Southern States, have been judiciously selected. Measurements are given where feasible and in making the drawings proper proportions have been considered. This book is essentially practical, furnishing the collector, architect, iron-worker, designer, and interior decorator valuable information and material suggesting a multitude of ideas relating to the design of iron-work. Three volumes (10 x 12 7/8 inches).

Complete, $35.00

CHARLES SCRIBNER'S SONS, 597 FIFTH AVENUE, NEW YORK
BANK ENTRANCES

While bank entrances in style and design invariably are symbolical of the stability of the institution, they must operate with ease for the comfort of the bank's patrons.

McCABE Hangers have provided the required operating facility on bank entrances the world over.

The design for the exterior doors of the N. Y. Trust Co., called for their closing on an arc. This presented a new hanger problem. McCABE Engineers solved it. The doors function with the usual McCABE noiseless ease.

McCABE HANGER MFG. CO.
425-427 West 25th St. New York City

THE CUTLER MAIL CHUTE

The achievement of half a century's experience in meeting the exacting requirements of public use under Post Office Regulations.

Simple, practical and sturdy in construction. Can be opened and closed quickly by Post Office representatives and left in perfect condition, with no injury to structure or finish.

Full information, details and specifications on request.

CUTLER MAIL CHUTE CO.
General Offices and Factory
ROCHESTER, NEW YORK

FRED ROSE & CO. INC.
34 EAST 65th ST., N.Y. C.

CONTRACTORS FOR
FINE INTERIORS • WOODWORK
PAINTING • UPHOLSTERY
SPECIALIZING TO ARCHITECTS
Specified for this
UNIVERSITY MEDICAL CENTER

Halsey Taylor semi-recessed drinking fountains with automatic stream control and two-stream projector, in color, similar to above, were chosen for this splendid institution.

ARCHITECTS
Coolidge, Shepley, Bulfinch & Abbott

New York's second gigantic medical center, borders on the East River, between Sixty-Eighth and Seventy-First Streets, and adjoins the Rockefeller Institute for Medical Research. It is being erected by New York Hospital Cornell Medical College Association. In addition to conducting extensive research, it will provide for 1,000 bed patients and 1,000 out patients daily. Naturally, with health-safety so vital a factor, Halsey Taylor Drinking Fountains were specified.

The Halsey W. Taylor Co., Warren, Ohio.

HALSEY TAYLOR
Drinking Fountains
## Advertisers' Index

**ADVERTISERS' INDEX**

**WHAT TO SPECIFY**

*IF YOU ARE INTERESTED IN OBTAINING THE CATALOGUES OF ANY OF THE ADVERTISERS IN THIS ISSUE OF ARCHITECTURE (AS LISTED BELOW) LET ARCHITECTURE'S SERVICE BUREAU SEND THEM TO YOU. ANY ADDITIONAL DATA CONCERNING THE INDUSTRY THAT THE READERS OF ARCHITECTURE REQUIRE WILL GLADLY BE COMPILED FOR THEM BY OUR SERVICE BUREAU.*

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## AN ARCHITECT

### Takes an Interest in Advertising

*by HAROLD TATTON*

In this day of open competition, sound, intelligent advertising is undoubtedly one of the best means of bringing a product to the attention of the architect.

Advertising that will convey technical facts, suitably written, with sufficient distinction to forcibly display what a product stands for, will in time produce the desired result, for in this modern trend, in an age of invention, new methods, new materials, and new applications are being as eagerly sought for by the architect as by the producers.

Buildings of to-day, in order to meet the modern requirements, demand highly specialized products, produced and installed by clever engineers and mechanics in a large and highly competitive field which is growing larger every day. While a few old standards still remain, they are far surpassed with new departures that make the modern building a problem of selecting and fitting together materials and machines that are made and collected from almost every part of the globe. This places upon the architect a very difficult task of selecting from such a large and highly specialized field the best and most economical products that will fit his particular purpose, and one of the means often used, either consciously or unconsciously, lies in the fact that he has absorbed from seeing from time to time a product which has been judiciously advertised.

It would be impossible for the architect to interview every producer, to examine every product that is now produced, often the quantity involved would not allow sufficient profit to pay for the time lost. It must therefore be through some other medium that the architect can narrow down the range of products from which he can choose before he commences a close comparative analysis to determine the best to meet his own particular requirements, and it is probably through the medium of advertisements that he is able to make this distinctive selection.

Most advertisements are interesting. They furnish desired information, and in many cases excellent advice, and often furnish the guide sheets that the architect takes along on his shopping tours. Yes, we read them and then pass on the good news.
To FERRUCCIO VITALE
and ALFRED GEIFFERT, JR.

The Credit Is Due

THE temple-like orangery is but one of the group of extensive glassed-over-gardens, forming practically three sides of the walled gardens. There are numerous fruit houses, general cut flowers houses, not to mention three for orchids.

This group was completed about 12 years ago. Long enough for it to have thoroughly seasoned, so to speak. Long enough for the houses to have indicated their practicalness for growing purposes; and superiority structurally.

However, in thinking of us in connection with these extensive layouts, do not overlook the fact, that the majority of the greenhouses we build are the moderate size ones, 50 to 75 feet long. Ones divided in two or three compartments.

The Improved Master V-Bar Construction has many outstanding points of advantage. Full particulars gladly furnished.

Glimpse on Estate of W. H. WALKER,
Great Barrington, Mass.

For Four Generations Builders of Greenhouses