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The National Housing Act has now become a law-see insert facing page 60

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ARCHITECTURE



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★ No other material is so ideally suited to modern design. Here is a facade, executed entirely in monolithic concrete, on the Edmond Meany Hotel in Seattle, Washington. Architect: R. C. Reamer. Contractors: Teufel & Carlson.



★ The City Hall at Pasadena, California — an instance of the way in which concrete lends itself to the execution of traditional styles. Architects: Bakewell & Brown. Contractors: Orndorff Construction Co.

It is an interesting conjecture . . . particularly as we advance further and further into the Age of Concrete. In Europe, today, and in America many designers are throwing off the shackles of old materials to work in concrete: a material capable of the widest latitude in the composition of masses . . . of infinite variety in surface textures . . . and of color.

Here, for instance, are notable examples of concrete's adaptability to varied architectural classes: one, the traditional Spanish ... the other, the modern.



PRIX DE ROME

THE annual Prix de Rome Fellowship in Landscape Architecture, entitling the winner to two years' study abroad, has been awarded to Alden Hopkins, twentyeight years old, of Chepachet, R. I. The award was made after a competition in which there were twentysix original entrants. The preliminary stage called for the development of a site for the construction of moving-picture sets; in the final competition the competitors were required to develop a city park and museum grounds.

Mr. Hopkins was graduated from Rhode Island State College in 1928, and subsequently studied two years at Massachusetts State College. He receives his master's degree in landscape architecture this year from Harvard.

Members of the jury were: Gilmore D. Clark, chairman; Noel Chamberlin, Alfred Geiffert, Jr., Henry V. Hubbard, and Norman T. Newton.

PERKINS AND BORING FELLOWSHIP

THE School of Architecture at Columbia University has awarded the Perkins and Boring Fellowship for 1934 to Paul B. Schechter of Jersey City, N. J. The Fellowship brings with it \$1800 for expenses of a year in foreign travel and study; second place went to Herman M. Coln of New York City; third place to Edwin A. Neale of White Plains, N. Y., a graduate of Amherst College.

The jury: Harvey Wiley Corbett, Ralph Walker, Carol Aronovici, Dr. Vernon Hegemann of Berlin, and Dean Joseph Hudnut.

PARIS PRIZE

THE eleventh Paris Prize in Sculpture, for which there were fifty-one preliminary sketches submitted, and twenty full-size models made in the final competition, was awarded to Joe M. McIntosh of New York City. The subject for this year's competition was "A Station of the Cross," a panel suitable for carving in stone for the interior of a Catholic church.

The Paris Prize carried \$1200 for three months' study at the Fontainebleau School of Fine Arts, and the opportunity for foreign travel.

In addition to the Paris Prize itself, second place (a silver medal and \$100) was awarded to Albert Wein; third place (bronze medal and \$50) to Frederick De Lorenzo; fourth place (First Mention Placed and \$25) to Mario Monteleone; fifth place (First Mention and \$10) to Paul Diana; sixth place (First Mention and \$10) to Milton Hebald.

The jury: Gaetano Cecere, chairman; H. R. Sedgwick, A. F. Brinckerhoff, Ulric H. Ellerhusen, Ernest W. Keyser, Lee Lawrie, Wheeler Williams, J. Flanagan, E. McCartan, William Van Alen, Ely Jacques Kahn, P. L. Goodwin, C. G. Peters, William Gehron, A. Sambugnac.

BAR COMPETITION

THE National Design Competition for Brunswick-Balke-Collender Company Bars will be judged by R. F. Bensinger, Ernest Byfield, Carl Eitel, and the following architects: Benjamin H. Marshall, Harvey Wiley Corbett, Ralph Walker, and John A. Holabird.

THE ARCHITECTURAL SO-CIETY OF WESTERN MASSACHUSETTS

THE organization with the above name has been formed with offices at 220 Dwight Street, Springfield, Mass. Officers for the coming year are as follows: President, Harry M. Seabury; vice-president, Frank W. S. King; secretary-treasurer, Henry J. Tessier; Board of Governors, Max H. Westhoff, Morris W. Maloney, and Robert B. Warner; representative to the Construction Code Council, Edward H. McClintock.

The objects of the organization are "to organize and unite in friendship the architects of Western Massachusetts, and to promote efficiency and maintain the standards of the profession."

A. I. S. C.

THE American Institute of Steel Construction has decided to endow a Research Fellowship at Lehigh University, Bethlehem, Pa., which goes into effect immediately to be extended over a period of two years. The work will relate to research on steel floor construction and will involve the design of battledeck floors, made of flat steel plates welded to steel beams, to carry concentrated live loads.

During the past several years the

American Institute of Steel Construction had the National Bureau of Standards carry on a comprehensive research on battledeck floors, which developed valuable data regarding fireproofing and behavior under distributed loads. The Fellowship at Lehigh University will continue this work and develop it in the particular field of bridge floors.

RYERSON TRAVELLING FELLOWSHIP

THE Lake Forest Foundation for Architecture and Landscape Architecture has awarded the Ryerson Travelling Fellowship to William H. Buderus, Jr., of Toledo.

The jury: Ernest A. Grunsfeld, Jr., and David Adler, architects; Ralph E. Griswold, landscape architect; Franz Lipp, garden architect; Mrs. Tiffany Blake and Walter S. Brewster, officers of the Foundation. The stipend of the Fellowship is \$1200.

NEW YORK SOCIETY OF ARCHITECTS

THE New York Society of Architects has instituted a programme of awards to universities by which special ability in building construction as shown by students will be recognized. The awards were granted for the first time this year through the Schools of Architecture at Columbia University and New York University. Two medals were awarded in each school to graduating students. Other universities throughout the country will be included in the grants hereafter.

RUSTICATION

IN the Portfolio on Rustication published in the May issue, there were two errors of architectural credit which have since been called to our attention. The work at Kensico Dam (page 306) should have been attributed to Lincoln Rogers as architect, York & Sawyer being consulting architects.

Credit for the Royal Bank of Canada (page 311) should have included with York & Sawyer the name of Sumner Davenport, associate architect.

ALICE M. SIMPSON

MISS SIMPSON, without whose constant interest and devotion the Architectural League of New York would certainly not have ex-(Continued on page 6)

ARCHITECTURE, published by CHARLES SCRIENER'S SONS, 507 Fifth Avenue, New York, N. Y. July, 1934. Volume LXX, No. 1. Published monthly on the 28th of the month preceding date of issue. Entered as second-class matter, March 30, 1900, at the Post-Office at New York, N. Y., under the Act of March 2, 1879. Yearly subscription rate to members of the architectural and allied professions, \$3; to all others, \$6

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THE BULLETIN-BOARD Continued

isted for the whole of her forty years of service, died at her home in New York, May 16, at the age of sixtyfour. Following an operation about a year ago, Miss Simpson resumed her work at the League, but illness again obliged her to retire several weeks ago.

On May 3, at the annual meeting of the League, the President's Medal, otherwise known as the Allied Arts Prize, was awarded Miss Simpson in recognition of her services to the League and, through the organization, to the cultural life of this country. The medal bears the following inscription, "Presented to Alice M. Simpson to record the fortieth year of her unsparing devotion and the admiring affection of The League." Other recipients of this medal have been Major General Goethals, Joseph Urban, and Julian Clarence Levi.

For many years Miss Simpson also acted as secretary to the National Society of Mural Painters and the National Sculpture Society. At her funeral the presidents of twelve of the leading art organizations, both city and national, served as honorary pallbearers.

HENRY G. MORSE 1884-1934

HENRY G. MORSE, New York architect, died at his home in Essex Fells, N. J., May 28, following five months' illness.

Mr. Morse was born in Canton, Ohio, and attended the Episcopal Academy in Philadelphia, and Massachusetts Tech.

For many years he was associated with the firm of Hawes & Morse, and more recently practised under his own name. One of his chief interests was the perpetuation in these days of the naïve structural timbering and more primitive crafts of other days. This activity was reflected in much of his work, including the Warwick Priory and Agecroft Hall near Richmond, Va., and in his country houses —among them that for the late Clare Briggs.

A CORRECTION

In the article on "Our New Public Buildings" in the June issue, the United States Post Office and Court House, Boston, Mass., was improperly credited. It was designed and built under the Office of the Supervising Architect, Treasury Department, the firm of Cram & Ferguson being the architects for the exterior.

PERSONAL

Abraham H. Okum, architect and engineer, has removed his office to 79 High Street, Monticello, N. Y.

Howard H. Clayton, in association with Theodore C. Kistner Company, architects of Los Angeles, has opened an office for the practice of architecture at 415 Haberfeldt Building, Bakersfield, Calif. It is requested that manufacturers' catalogues and samples be sent them.

Horace A. Bailey, architect, has opened an office for the practice of architecture at 405 Fisher Building, Johnstown, Pa., and would like to receive manufacturers' samples and catalogues.

Childs & Smith, architects, announce the removal of their offices to 430 North Michigan Avenue, Chicago, Ill.

William C. Noland, architect, announces the removal of his office to 210 East Franklin Street, Richmond, Va.



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ARCHITECTURE

THE PROFESSIONAL ARCHITECTURAL MONTHLY

VOL. LXX, NO. 1

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ARCHITECTURE is published monthly, appearing on the 28th of the month preceding date of issue. Price mailed flat to members of the architectural and allied professions, to any address in the United States, \$3 per year in advance; to all others, \$6; add \$1 for Canadian postage and \$2 for foreign postage. Single copies, \$.50. Advertising rates upon request. Entered as second-class matter, March 30, 1000, at the Post-Office at New York, N. Y., under the Act of March 2, 1879. Copyright, 1024, by CHARLES SCRIBNER'S SONS. All rights reserved.

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ARCHITECTURE

✤ VOLUME LXX

JULY 1934

NUMBER 1 🗇

Is Architecture Dead? By Edwin Bateman Morris

T arises: Is the profession of architecture dead ?

Pursuing this gloomy thought, a gentleman, long an important follower of the Seven Lamps, gloomily lighted his cigar and paused to taste his coffee again—reminded thus that there were still left a few things in life to offer comfort.

"Building," he told me, "and with it architecture, is the last thing to revive. It will be years after factory wheels are spinning, freight trains roaring, and dinner-pails full before our profession comes out of its coma."

He blew forth a morose and pessimistic cloud of smoke.

"Furthermore," he proceeded, "we are overbuilt already. We have too many banks, too many office buildings, too many hotels, too many factories. What person with money will build a new building of any kind when he can buy an existing one for half its original cost?"

buy an existing one for half its original cost?" "Of course," I began, "alterations to such structures——"

"Just temptations to the contractors. Contractors will offer to make drawings for the changes as a part of their contract price. Where do architects fit into that picture?"

"Unfavorable factors, but are they sufficient to justify complete pessimism? And"

"Absolutely—unless somebody finds some optimistic factor. And who has? Who sees commissions shining ahead? Who can point to any encouraging sign that will assure an architect that he will be supporting himself by his profession at any time in the next two years—in the next *five* years?"

There was a theorem worthy of close investigation. It was not by any means new. The question had been building itself up little by little over a period of many months, during

The illustrations herewith are not intended to amplify Mr. Morris' article, but rather to serve as an accompaniment—the leitmotif of architecture as it is being produced in these days of slow recovery.—EDITOR. which time the flow of new projects into architects' offices had been diminishing steadily from a river to a stream, to a

sluggish trickle, and finally to nothing.

One, in his contact with architects from Maine to Florida, to California, to Oregon, has heard everywhere the same thing. Trained architects with years of achievement behind them were finding less and less demand for their training. Architects' offices boasted nothing but empty tables. The trained men no longer applied there. Instead they were on the streets, selling things, applying the Beaux-Arts training to vending vacuum cleaners from door to door. They were working on road projects, they were pouring concrete, they were using their knowledge of blue prints to help them get by as CWA carpenters. This embraces not only the architectural draftsmen but in many instances the architects themselves.

There were a few architectural draftsmen holding jobs paid out of public funds—jobs which prior to 1930 were not held in high esteem, which are of great value for a fleeting moment but which in a year or two will fade into limbo and evaporate unless architecture takes on a new lease of life and leaps forward into activity. The whole architectural profession therefore is vividly concerned as to what the future may contain. Is there to be architecture again in the old way, or are architects to continue selling razor blades, handing out food at steamtables, ushering at theatres, and running taxis?

Architects have stated—not one but hundreds of them—that they believed architecture was dead and would be dead for a long, long time.

This subject, which I found myself discussing daily, became a sort of obsession. I kept a diary of the discussions. All of the talk, as I have said, was pessimistic in character, yet

« ARCHITECTURE »



FROM THE 49TH EXHIBITION OF THE

Left, farm buildings (former slave quarters) for General William H. Cocke, Claremont Manor, Va. William Lawrence Bottomley, architect— Silver Medal for Domestic Architecture.

Below left, Interior, Girard College Chapel, Philadelphia, Pa. Thomas & Martin, architects.

Below middle, Reflecting Pool on an estate at Riverdale, N. Y. Dwight James Baum, architect; Office of John Russell Pope, consulting architects; Vitale & Geiffert, landscape architects —Medal of Honor in Landscape Architecture.

Below right, Entrance, Girard College Chapel, Philadelphia, Pa. Thomas & Martin, architects



every one brought up arguments that might be used on either the dark or on the sunny side.

One great factor was almost universally overlooked. That factor was the great number of subsurface currents and forces that have been at work since 1929 on the situation that affects building.

If one is content to consider that the year 1934 is exactly similar to the year 1929, except that 1929 had money and 1934 has none, then certainly the outlook is very gloomy indeed. But that is a most inaccurate summing up of the situation. A few matters that have been going on during the past few years are deserving of consideration.

In the first place, most architects, stating emphatically that it will be two years after the low point of the depression before building begins to pick up, place the low of the depression as about the present, because this is the building low. But they forget that the economic and business low was in July of 1932. That was when the stock market struck bottom and when unemployment was at its peak.

When one says therefore that the beginning

of the building upswing is always a couple of years behind the beginning of the economic upswing, that is simply another way of saying that an improvement in building may be expected any time now.

During all the depression people have been thinking and planning and desiring. In 1918 we said, "When the war is over we will do soand-so." During all the depression the world has been thinking, "When it is all over, we will do this and we will do that." All these this's and that's are postponed until a time when there will be money. All these wishes revolve around the spending of money.

It means, when the little wavelets of prosperity roll gently in there will be better food and more clothes. There will be new automobiles. There will be oil burners. There will be brides and grooms who no longer are compelled to live with mother and father, there will be parents no longer content to live with children. There will be men, sold out of former businesses, who will start afresh in the old business or in a new one in a new location. There will be persons who find that five years has given the world new prefer-

ARCHITECTURAL LEAGUE OF NEW YORK

Avery Memorial, Hartford, Conn. Morris & O'Connor, architects-Silver Medal in Architecture Below left, Entrance, Our Lady of Guadalupe Church, Brooklyn, N. Y. Robert J. Reiley, archi-

Below middle, Bronx County Building, New York City. Max Hausle and Joseph H. Freedlander, tect.

architects; designed by Joseph H. Freedlander. Below right, U. S. Post Office and Court House, Philadelphia, Pa. The Ballinger Company and Harry Sternfeld, architects; rendering by Hugh Ferriss-Birch Burdette Long Memorial Prize.

> ences that make desirable certain new businesses to cater to them. It will be discovered that old locations are no longer satisfactory and that moves must be made. It will be discovered that the laws of obsolescence go on even during a

In fact, there has been piling up a mountain of desires, the satisfying of which means the spending of money. When men have money to depression.

spend, sooner or later they find themselves possessed of the desire to build—for home, for

An expert on investment trends in the Bureau of Foreign and Domestic Commerce rebusiness, for investment.

cently pointed out that there is large buying of real estate throughout the country. People are purchasing land because it can be obtained at bargain prices and because there is a feeling that if ever again a depression hits us, it would

That is an important factor. A large perbe well to have a haven of refuge. centage of persons owning land sooner or later build upon it. On that account, therefore, the

good prospects for architecture increase as the ownership of land increases.

If a man buys real estate, either improved or unimproved, because he believes he has found a bargain, in the beginning he may have no thought of erecting new structures or of remodelling old structures thereon, but as time passes the idea is very apt to come to him. He is a potential client as soon as he owns the land. A friend very high in the architectural profession wrote me the other day: "The best real-

estate opinion seems to be that just as soon as the Government will provide some banking arrangements to loosen up credit, building will follow the activity such facilities will bring about. They insist we are not overbuilt, the partly empty office buildings being due to the depressed conditions, and they assert confidently that within a very short time after credit is provided business people will move back into buildings

This process is actually going on. Reports and others will be erected." are to the effect that the most recent of the

gargantuan office buildings in New York which have lain uninhabited for some time are filling up—and partly at the expense of the older and less well-equipped buildings, which are moving

« ARCHITECTURE »>

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into a zone of obsolescence, the foster mother of architecture.

A very thoughtful architect writes: "Undoubtedly many people will purchase old houses and fix them up, but I think that trend is more or less limited, mostly due to the fact that neighborhoods change—at least they have in this country up to the present—and many neighborhoods which were very desirable a few years ago are just the opposite today. This means that people will want to go to new locations, and to do that they will have to build. Man is a restless animal. He is always after a change."

I bring up a few of these points to emphasize the idea that when things are coming our way, we do not have time to analyze why. And when they cease coming we are uncertain what factor caused them to cease and what factor will cause them to start up again.

This has led to a black pessimism based on the belief that there are no favorable factors in the present situation.

Perhaps I may be forgiven if I reproduce part of a letter which reasons along a well-beaten track and contains no new philosophy. Yet its point of view, hackneyed as it is, is so sane that no consideration of this matter can be complete without it. The architect who writes this letter, a person of keen analytical powers, is one of the outstanding figures in our profession.

"Man has a very short memory and one would suppose that there never had been a depression before. While we are all too prone to think that the present one is the worst that has ever happened, I am not so sure that that is the case. A depression has followed every big war. Forgetting the rest of the world and considering only ourselves, we had one after the Revolution and another after the Civil War, which I think lasted longer that the present one and was just as severe. That depression started in '73 and it was not until '79 that the country began to recover. That was six years. The present one has only existed a little over four years. When this depression was at its height there were some twelve or thirteen million unemployed; however, there are always two or three million people unemployed even in the best of times.

"We had another depression in '93. I can recall my father talking about the straits that business people were in at that time and saying that they were very lucky considering what the country passed through in '73 and '79. Architecture suffered just as hard times during those periods of depression as it is suffering today. In fact, we only have to think back to 1920 to remember that architecture was at that time going through a period of depression. So in the long run I have not much to fear about the future. It seems to me it is a question of whether the

> FROM THE 49TH EXHIBITION OF THE



House of Donald D. Dodge, Rockport, Me., garden façade. Tilden, Register & Pepper, architects

Below, Iris garden on the estate of Z. G. Simmons, Greenwich, Conn. Isabella Pendleton, landscape architect



4

Fairy tales panel, Children's Ward, Eye Institute, Columbia Presbyterian Medical Center, New York City. Russel Speakman, painter



Below, half-size model of "First Permanent Settlement of the West," Harrodsburg, Ky. Ulric H. Ellerhusen, sculptor; Francis Keally, architect



members of the present architectural profession can hang on long enough for this depression to pass. If they can, they need not worry about the future."

It is reported that the great cities are all far behind in the matter of housing. In one district in Philadelphia there is said by real-estate operators to be but $3\frac{1}{2}$ per cent vacancies in houses and apartments, whereas 5 per cent is considered normal.

An architect from New England made the surprising statement the other day that he had two commissions to remodel banks. This was considered as a joke at first, but he stood his ground and at length explained that the banks had been rather small banks which by reason of their good financial condition had been allowed to reopen. So much additional business had therefore flowed in their direction that they were having considerable difficulty in handling it in their cramped quarters. They could not move from their established location because the public associated the location with the bank-and furthermore they could not purchase one of the large banks which were no longer operating, for fear that in purchasing the real estate they might purchase with it the reputation of the closed institution.

Banks, among other businesses, are enjoying in many instances a considerable unexpected prosperity. A while ago a gentleman appeared in Washington endeavoring to purchase shares of stock in one of Washington's oldest banks. "Why do you want to buy bank stock?" some one asked. His reply was that this bank stock which was paying \$9 a share, had in 1932 earned \$22 a share and in 1933 \$29 a share. These figures are, perhaps, a far cry from architecture, but actually they are straws which show the way the wind is blowing.

I had lunch a day or so ago with a veteran architect, who has followed the ups and downs of the T-square and triangle for a long while. He said: "A man at the A. I. A. chapter meeting the other night said, 'I have been given three architectural jobs in the last three weeks.' I didn't stop to ask him the amounts involved, because I was so pleased at the indication that people were *spending their own money* for buildings."

I hear from another source that Architect A has four commissions, one of which is a \$15,000 one; that Architect B has an alteration to do for a large mail-order house. As jobs, these are nothing to make Fourth-of-July speeches about, but they are further indications that private persons are "spending their own money" (not CWA or PWA money) for building operations. This indicates a return of confidence. And the revival of building has been said on all sides to

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High altar, Church of St. Katharine of Sienna, Baltimore, Md. Henry D. Dagit & Sons, architects

Below, Preliminary study, south elevation, Headquarters and Administration Building, Fort Jay, Governors Island, N. Y. Lorimer Rich, architect; drawing by Schell Lewis





Exhibition garden for American Radiator & Standard Sanitary Corporation, Century of Progress, Chicago, Ill. Hood & Fouilhoux, architects; Vitale & Geiffert, landscape architects.

Below, garden of Thomas W. Sears, Ardmore, Pa. Thomas W. Sears, landscape architect







East Pediment, Supreme Court Building, Washington, D. C. H. A. MacNeil, sculptor; Cass Gilbert, architect

Plaster model, fountain figure (bronze) "Lady of the Lotus," Newark Museum, Newark, N. J. Ernest Wise Keyser, sculptor Constance Witherby Memorial, Providence, R. I. Gail Sherman Corbett, sculptor : Harvey Wiley Corbett, architect

FROM THE 49th EXHIBITION OF THE ARCHITECTURAL LEAGUE OF NEW YORK

Below, Hall window, house of Stanley Resor, Greenwich, Conn. H. E. Woodsend, architect. There is a space of six or eight inches between inside and outside glass

depend first of all on the return of confidence.

In the South, we hear of tobacco barns being remodelled by the addition of skylights with diffusing glass to give tobacco stored in the far corners an equal sales chance with tobacco near the doors and windows. This is a need which has been growing but which, until now, owners have felt they could not satisfy, requiring as it did the expenditure of real cash. Now they are feeling sufficient confidence in the business situation to spend the money.

In stock-market parlance, the technical position of building is very good. This means that enough things have happened since the position was, in the past, good, to make it ready to respond to any favorable indications now. People, all during the depression, have been living. They have felt that they have been living abnormally—yet there has been much of the normal planning for the future, the plans being set aside to await funds and favorable conditions. These unsatisfied plans form a reservoir of poYardley Shop Window, Rockefeller Center, New York City. Designed and executed by Walter Kantack in collaboration with Ely Jacques Kahn, architect



tential activity—in building and in other businesses—and under present brightening conditions it seems certain that that water will soon begin running over the dam.

The storing-up process is silent and inconspicuous. No one can doubt its existence, yet its inconspicuousness will make architectural prosperity, when it returns, considerable of a surprise to almost every one.

We have been under an anæsthetic for three or four years, and we have not been aware during those abnormal years of the normal forces quietly at work.

Prophecies are at best obnoxious and many of them are inaccurate, but it is perhaps not too brash and assured a statement to make that if the architects who read this article will place under the plate glass on their desk-tops the statement, "The architectural upswing began in July, 1934," they will be interested to refer to it as corroborative events occur—provided they are not then too busy to think of the matter again.

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The Brothers Asam By Lawrence Grant White

NE & HE brothers Robert and James Adam, T the Scotchmen who gave their name to a style, are justly celebrated. But another talented pair of brothers, the Asams who flourished in Germany at the same time, have remained unjustly obscure. For they had genius of a very high order in architecture, painting, and sculpture; and it would not be an overstatement to say that in the combination of these three arts they have never been surpassed. There have of course been far greater architects, painters, sculptors. Michael Angelo and Leonardo excelled in all three; but they have left no single building in which they have combined their work in the three branches of art. But the Asams have left at least two buildings in which the three arts are successfully and simultaneously fused into a single unit which is practically the conception of a single mind, so closely did they work together.

They have remained comparatively obscure because they worked in a style which has been

anathema to the critics of the last few generations. Their architectural drawings were destroyed by a nineteenth-century bigot. The Classical and Gothic revivalists have persuaded the public that no building in the Rococo style is worthy of serious consideration. A Rococo theatre or ballroom might possibly be excused. But churches covered with pastry cookery are beneath contempt; and as the Asams' work was almost exclusively ecclesiastical, it was doubly damned. But if this deep-rooted prejudice be overcome, their work, when judged with an open mind, shows that they were masters of good proportion, composition,



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color, and particularly lighting. Their church interiors, however far removed from present ideas of what a church should be, are magnificent stage sets expressive of the frivolous age in which they lived.

The Adams and the Asams had similar names, but their artistic personalities were as far apart as the poles. While the Scotchmen were exquisite and scholarly, refining familiar classical forms and reducing the scale of their delicate ornament, the Bavarians used their boundless ingenuity in seeking new forms, abandoning all restraint, and indulging in the wildest flights of fancy; yet their sense of scale and composition is always sure, and their details, though far removed from Vignola, are vital and pleasing. They used all three arts to the utmost possible extent, and did not hesitate, as Feulner* says, to step upon the very threshold of the impossible. Sculptured figures, over life-size, fly in mid-air, apparently supported by magic. The effects of perspective in their

> painted ceilings are almost incredible, as in the Church of S. Maria Viktoria at Ingolstadt, where the most startling transformations occur as the spectator changes his position. They were clever to a fault, and were willing to use any means, however tricky, to produce a desired effect. Even if one condemns this lack of restraint, one cannot but admire their virtuosity. With them, the three arts must not be judged separately, but simultaneously.

The Asams were sons of a fresco-painter of Rott - am - Inn, a small village to the east of Munich. Cosmas Damian was born in * Adolf Feulner: Bayerisches Rokoko (Kurt Wolff, Munich, 1923).



Interior of the Church of St. John Nepomuk, which the Brothers Asam built in 1733 for their own edification. All the playfulness of the Rococo is in evidence, the predominating tones being a rich soft gray relieved by tarnished silver and gold

1686, his brother Egid Quirin six years later. They soon learned all that their father could teach them about art (there is a beautiful drawing by Cosmas made at the age of fourteen), and went off to Rome in 1712 to study at the Accademia di San Luca under Pierleone Ghezzi. Upon their return home in the following year, they were launched at once upon their successful and productive careers, and their services were in demand throughout the Germanspeaking world. Their success lasted throughout their lives. Cosmas died in 1739, Egid in 1750.

Their success is not surprising, as they had a most unusual combination of talents. Both were architects and skilful draftsmen. While Cosmas took the leading part in architecture, he could also quickly cover vast ceilings with foreshortened figures in the manner of Tiepolo. At the same time his brother Egid had an equal facility for sculpture, and for modelling the exuberant stucco detail then in vogue. Thus the two brothers could deliver a church com-

One of the earlier examples of Egid Asam's sculpture —an altar group at Rohr. Above and behind the high altar is an open sepulchre sur-rounded by figures well over life-size, painted an oyster white. Above, the Virgin Mary with angels is soaring heavenward - this group painted in natural colors — standing out in front of the greenand-gold plaster curtain



plete; and the rich monasteries and convents hastened to avail themselves of their talents, sure of getting their money's worth. For the Asams did not stint their clients; they seldom left room to add another figure, another bit of ornament or painting.

By 1733 they had made enough money to have a really good time; which meant, for them, to build themselves a grand house in Munich, with a sizable private church of their own attached to it. The result was the Church of St. John Nepomuk: their best-known work, because it is the most easily accessible. The church façade forms the centre of a triple composition, with the priest's house on the right, and their own house on the left. All the playfulness of the Rococo is in evidence: entablatures and pediments curve and break, as waves might break upon the piles of rocks on either side of the entrance door. But the composition is masterly, the detail spirited, and the general effect pleasing. One cannot say as much for the

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two houses, but they are quaint and playful, and form a satisfactory frame for the church, although a later additional story on the priest's house has disturbed the balance.

The interior of the church, which has a rectangular plan of modest dimensions, is extremely effective. The colors, fortunately unrestored, have been subdued by time, so that the predominating tones are a rich soft gray relieved by tarnished silver and gold. As one



The small church at Weltenburg, begun in 1716 and finished in 1736. It is about 50 feet wide and 150 feet long

faces the altar, no windows are visible; the light comes from behind through the large window over the entrance, and also from the vaulted ceiling which, covered with decorative painting in light tones, is used as a reflecting surface for light from hidden clerestory windows.

Over the altar is a huge metal sunburst. Above, in a gallery, is a secondary altar, and above that, at the spring of the vault, a very beautiful group of sculpture representing the Holy Trinity surrounded by angels. The laws of gravity are apparently disregarded. The angels and the Holy Spirit seem to be flying in the air, against the background of the richly painted ceiling. Before this expedient be condemned as bad art, the sculpture itself should be seen. In spite of their rods and armatures, the angels give the complete illusion of creatures of the air, as do the flying figures in some of the Chinese reliefs of the T'ang period. The general composition of the group, familiar enough in paintings, is here superbly treated in the round.

An earlier (1717-1722) and even more startling example of Egid's sculpture is the altar group at Rohr, a tiny village near Regensburg. The theme is the Assumption of the Virgin-a breath-taking composition at the end of an otherwise uninteresting church which was one of the Asams' earliest commissions. In a sort of gallery, above and behind the high altar, is the open sepulchre, surrounded by figures in various attitudes of amazement. They are well over life-size, and are painted an oyster white, in strong contrast to the heavenly figures above; these latter are painted in natural colors and gilded. The Virgin Mary, in a rich flowing robe, is being assisted on her heavenward journey by two stalwart angels; and the group of three stands out in the air, several feet in front of a green and gold plaster curtain, by means of an invisible network of horizontal iron rods. Floating above them, four more very beautiful flying angels support a golden circlet, through which a host of cherubim, surrounded by plaster clouds and gilt sunbursts, peer down expectantly. Effective lighting for the whole composition is provided from concealed windows on the sides. It is a theatrical tour-de-force, like a colossal crêche; but the many excellent qualities of the sculpture are at once apparent. The flying angels have a magical lightness, the modelling is sure and free, the composition perfect. The figures are like wash drawings by Tiepolo, executed in three-one is tempted to say fourdimensions.

But the Asams' masterpiece is a few miles away, at Weltenburg, an elusive and microscopical village on the banks of the Danube. It is a small church, begun in 1716 and finished in 1736, about fifty feet wide and a hundred and fifty feet long. But the scale is so just that it gives the impression of a much larger building. The façade of gray stone is well proportioned and sober, almost austere; but the interior is as rich as the Asams could make it, and has not been improved by regilding and partial repainting during the last century, when the restorer tried to make it still richer. One enters through a low vestibule beneath the organ loft, into the oval nave. Subdued light, reflected from a flat-

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The interior of the little church at Weltenburg, which may be ranked as the Asams' masterpiece. There are no visible windows. Back of the high altar, silhouetted against a strong amber light, is seen the figure of St. George on a silver horse flanked by a lifelike dragon and the daughter of the King of Lydia



The ceiling of the church at Weltenburg. Subdued light reflected from this flow painted cei ing illumines the church

painted ceiling, filters down through a large opening in the centre of the vault. Again there are no visible windows, so that the chancel, which balances the vestibule in plan and is not as high as the nave, is thrown into shadow, a clever method of securing the maximum effect for the high altar. Here, silhouetted against a strong amber light, is a rich triumphal arch with twisted columns; and riding through the arch a great equestrian figure of St. George on a silver horse with gilt trappings, flanked on one side by a most lifelike dragon, and on the other by the daughter of the King of Lydia, who displays the proper emotion at being rescued from such a ferocious beast by such a beautiful cavalier. For he is indeed beautiful: a most triumphant figure in a plumed helmet, like Louis XIV masquerading as a Roman emperor. Although the conception of a horseman riding over a high altar is daring enough, the structural tricks of Rohr and Munich have been abandoned, and all three figures are resting properly on the ground. The setting and lighting of the group are perfect: no photograph can convey the effect of the amber light reflected from the burnished metal surfaces of the sculpture, and from the painting which serves as a background.

It is in the examples described above that the collaborative work of the Asams can best be seen. They were often employed independently to embellish existing buildings will their painting or sculpture; and, alas, their tai, nts were sometimes misappl'ed, as at St. Emmeran at Regensburg, in overlaying be sutiful Romanesque churches with Rococo decoration. Aside from all question of vandalism the result is never successful, for the basilica form does not lend itself to their s j e, which is based upon movement and curves and seems t demand an oval plan and domical section. Hence Weltenburg is more pleasing than St. John Nepomuk in Munich or the chapel of S. Maria V Loria in Ingolstadt.

The Asams were the leading exportants of a vigorous national style, which, though based upon the Roman Baroque, was distinctively Bavarian, and unlike anything in Italy or France. In their use of paintings to reflect light from concealed windows, they articipated the indirect lighting now so much it vogue and hailed as a recent invention. But their greatest achievement was the blending of ar bitecture, painting, and sculpture—and one mign add the art of stage setting—into one artistic corteption.



The west or main entrance front on 18th Street OFFICE OF JOHN RUSSELL POPE, ARCHITECT

Constitution Hall of the D. A. R., Washington, D. C.



The Hall adjoins the Administration Building of the D. A. R. at the east, connecting thereby with the old Continental Hall. The seating capacity is four thousand, and since the building faces upon three streets, the facilities for circulation are unusually generous. At the left, on the north side, D Street, there is a ramp for motor approach together with a sidewalk. C Street is on the right of the plan



Photographs by Samuel H. Gottscho The west façade, showing the beginning of the automobile ramp and sidewalk at the left, on D Street

The south façade on C Street. The marquise occurs also on the north side over the motor entrance. Walls are of Alabama limestone







The auditorium is unusual in the provision of boxes along both sides at a slightly higher level. These were designed for the use of the various state officers of the D. A. R. at conventions. They serve for the seating of other dignitaries in the frequent uses of the auditorium by other organizations

Photographs by Samuel H. Gottscho

The hangings at the back of the stage are paintings by James Monroe Hewlett, representing in the three panels early historical events of the republic

The stage is extensible by the use of demountable sections, brought into use, for example, when a large orchestra is to play



Photograph by Samuel H. Gottscho

The auditorium, looking toward the rear. The skylight is, of course, double, and between the upper and lower glass are louvers permitting complete control of the daylight illumination. In this space also are the sources of artificial light, rheostatically controlled. The curved ceiling is covered with acoustical felt. As to its acoustics, the auditorium has been highly praised by numerous orchestra leaders and other authorities

> Photograph by Drix Duryea, Inc.

A memorial bronze window to Mrs. Grace V. Brosseau, president general of the D. A. R. at the time the building was erected. This is on the main stairway leading from the Administration Building link to the library. The color scheme of the walls utilizes an oyster-shell white with a limestone gray





Photograph by Drix Duryea, Inc.

Foot of the main stairway leading to the library. The rail is of painted iron, the steps of Botticino marble, the floor of Tennessee marble



Photograph by Drix Duryea, Inc.

Upper part of the main stairway. The D. A. R. shield, it will be no-ticed, has been used as a decorative motif in the railing



Photographs by Commercial Photo Company The south lobby. This unusual width of lobby is repeated on the north and west fronts. In the vestibule, shown in the middle distance, are the ticket offices. The floor is of black and white terrazzo



The president general's reception room in the northeast corner of main floor used for the reception of distinguished guests and speakers

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One end of the library. This room extends across the entire width of the east end of the building. Floor of oak; bookcases, metal painted oyster-shell white

> Photographs by Commercial Photo Company

The central control of the library, located at the top of the main stairway. The library expands at either end to a greater width. The ceiling throughout is of acoustical plaster

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Photograph by Drix Duryea, Inc.

Another view of the central part of the upper floor, the top of the stair-case being shown through the opening at the left. The door in the middle of the picture leads to an elevator

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Jones Beach State Park, Long Island, N.Y.

JONES BEACH STATE PARK has achieved widespread commendation as a model of state endeavor and state planning. It is 34 miles from the centre of Manhattan, has an area of 2245 acres, and over 5½ miles of ocean beach. Visitors reach the park by train or bus, or by automobile over a landscaped parkway of four lanes,



LONG ISLAND STATE PARK COMMISSION DEPARTMENT OF ARCHITECTURE H. A. MAGOON, DESIGNER Photographs by Charles E. Knell

with no traffic lights and no grade crossings from the New York City line to Jones Beach.

There are five fully equipped playgrounds and game areas, each under a trained playground director. Shuffleboard courts, archery ranges, handball courts, pony tracks, and a pitchand-putt golf course of eighteen holes offer recreation facilities in addition to the bathing. The East Bath House serves 10,000 bathers at one time; the West Bath House, 5400.

Robert Moses, New York City's present Commissioner of Parks, conceived the project as part of a network of landscaped highways,

state preserves, and shore resorts, some fourteen years ago. He helped nurse it through the legislature, battled with opposing suburban landowners, begged, bought, and condemned land to make possible this great playground.

Jones Beach State Park from the air. The dark masses flanking the centre tower are the parked automobiles, for which provision has been made for over twelve thousand cars



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Left, plan of women's lockers and dressing-rooms; right, plan of men's lockers with the accompanying benches



Plan of the West Bath House which is the newer of the two now used. It will be noticed that the accommodations for bathers provide private dressing-rooms for both men and women; men's dressingrooms (lockers and benches); women's dressing-rooms (three lockers to a dressing-room). Showers are found throughout



At left, typical plan of men-and women's private dressing-rooms with showers adjoining, and a corresponding section

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The water-tower serves as a focal point for the assembling motorists as well as its practical function of supplying water pumped from 1200 feet below sea level for the buildings, from its store of 300,000 gallons



Sandstone is used for the base of the tower, trimmed with limestone. The piers, of which two are shown at left and right, contain the concealed lighting which illuminates the tower at night

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The East Bath House, showing the time and tide towers on the south side. Behind the promenade is an outdoor dining terrace with a cafeteria inside. Walks and stairs are of flagstone; promenade and terrace of colored concrete divided into squares

The north building of the East Bath House, which houses the managerial offices, ticket booths, suit-and-towel counter, key counter, and a depository for valuables. The finials of the piers between the towers are lighting fixtures





A diving exhibition being held in the pool connected with the West Bath House. This pool is 100 ft. by 150 ft., illuminated by underwater lighting. Balconies for spectators are reached by steps rising from the flagstone walk. The dining terraces also overlook this area, and there is a third level —seen behind the announcer in the crow's nest—with bleacher seats overlooking the pool A similar view of the West Bath House swimming-pool in daylight. In the foreground is the wading-pool, 50 ft. by 100 ft. In the distance a stage shell is profiled against the sky; from this radio and phonograph music is broadcast



The swimming-pool side of the south building, West Bath House. In the foreground is the tower housing the dumbwaiter used by the food caterers, and the tower in the distance houses the chimney flue. The West Bath House is built of brick, with cast-stone trim

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South side of the West Bath House. The large windows in the central portion are those of the main dining-room, overlooking the Atlantic Ocean. Food is also served on the open terrace below at the umbrella-shaded tables

Below, the West Bath House with its east entrance to the main dining-room. Awnings cover the east dining terrace, which balances a similar terrace on the west side





The architects' representation of the frieze as drawn by Otto Eggers

The Animal Frieze of the New York State Theodore Roosevelt Memorial

HE question of designing a frieze for the New York State Theodore Roosevelt Memorial, when first projected, seemed a comparatively simple prob-lem. As it developed, however, many unforeseen difficulties arose. The all-important question of scale and the limited space available were two of the most perplexing. The fact that the building was decidedly of Roman style called for a rather bold relief as exemplified by the famous Forum bull. Yet only an inch and a quarter of stone was available, Mr. Pope feeling that deep shadows must be avoided in order to minimize the effect of undermining the supports of his columns.

For the subject matter itself, it was of course necessary to select animals in which Theodore

EDWARD FIELD SANFORD, JR., SCULPTOR

OFFICE OF JOHN RUSSELL POPE, ARCHITECT CARVING BY JOHN DONNELLY

Mr. Sanford met his greatest difficulty in the panels representing the grizzly bear and the bison. At one stage of the work a grizzly was chained within a few feet of the sculptor for the study of head formation



Roosevelt had been interested, and which also had an innate dignity suitable to the building. These must, however, adapt themselves to the scale limitations, yet vary enough in character to keep the frieze interesting. In all, the one hundred twenty-six feet of length was divided into twelve panels. Eighteen animals were selected for representation. Cooperation with the Museum of Natural History brought great aid to the sculptor.

In view of the fact that the Memorial is attached to the Museum, and therefore, subject to the criticism of its nature history experts, the sculptor found it advisable not only to study the anatomical details to be found in the Museum's taxidermy, but the living animals for action.

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The African group : at left, Tompkins gazelle and kudu ; middle, the African lion ; right, the panther



An early study for the lion panel





Final study for the lion panel



Sketch from which the gnu and zebra panel was projected

An early study for the lion panel

Below, the African group: at left, the orzy and sable antelope; middle, cape buffalo and rhinoceros; right, the zebra and gnu



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The American group : at left, timber wolf ; middle, grizzly bear ; right, deer

Final study for the lion panel



An early study for the lion panel



Sketch from which the moose and caribou panel was projected

Final study for the lion panel

North American group: at left, moose and caribou; middle, the bison; right, Rocky Mountain sheep and the eagle







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Cass Gilbert: 1859-1934 AN APPRECIATION BY ROYAL CORTISSOZ

ASS GILBERT began his professional life under circumstances favorable to the development of his natural gifts. He was one of McKim, Mead & White's young men, back in the early '80's, and this means that he started with the respect for tradition which is reflected in all his work. He was not exclusively a classicist. The Woolworth Building, which brought him so much fame and which still remains a significant landmark, showed

that he could successfully deviate into the exploitation of Gothic motives. But the ground-swell of his career, so to say, had its origin in classical ideas, and how faithful to them he was is shown by the great building which is still in process of erection, the one for the Supreme Court, in Washington. In its majestic dignity it sums up his characteristics as an architect.

They were the characteristics of a designer who drove at refinement, simplicity, just proportions, in short, the elements of the grand style. Only three years ago, when the

Cass Gilbert died suddenly at Brockenhurst, New Forest, England, May Born at Zanesville, Ohio, Mr. Gilbert found his early education in the public schools of that city and of Saint Paul, later at Massachusetts Tech, followed by travel abroad. After two years in the office of McKim, Mead & White he formed a partnership with James Knox Taylor, practising in Saint Paul. Ten years later Mr. Taylor became Supervising Architect of the Treasury and Mr. Gilbert moved to New York to practise there.



From the painting, 1927, by Ernest L. Ipse :

Society of Arts and Sciences awarded him its gold medal, he testified to his belief in the skyscraper, a type of architecture to which he had made solid contributions; but, he added, "my plea is for beauty and sincer-ity," and on many occasions he pubity," and on many occasions he pub-licly expressed his devotion to a lofty ideal. That is what lent distinction to his achievements in monumental architecture. The Woolworth Building disclosed the romantic side of his temperament. More frequently, as in the Supreme Court Building aforementioned or in. the Minnesota State Capitol, he showed himself to be of an austere habit, with a deep feeling for the antique column and arch.

He had a large way with him in handling such problems as are posed in the vast public building or commercial structure, and, by the same token, he was never exuberant but looked closely to the balance and sobriety of his composition. He had the energy that is requisite for great undertakings. A tall, stalwart man, he moved

through all the relations of life with an efficient, organizing power, com-manding respect and admiration. Giving himself freely to the service of the arts he did valuable work on various public commissions and functioned to memorably good purpose during his presidency of the National Academy of Design. Whatever he did he was wont to do well and he won international recognition in his long career, through the quality of his art and through the play of a forceful personality. His name will be held in honor in the roster of American architects.

His work is too well known and far too extensive to list in this restricted space. Much of it being of a public character and built to endure, Mr. Gilbert's monuments will carry the evidence of his ability as an architect to generations as yet unborn. The forcefulness of his personality and the outstanding stature of his achievements brought him a vast shower of honors from his fellow men: honorary degrees from five colleges; the chair-manship of the Council of the Fine Arts; the presidencies of The Archi-

tectural League of New York, the National Institute of Arts and Letters, the American Institute of Architects, and of the National Academy of Design. Honorary membership was conferred upon him by the Royal Institute of British Architects, the Royal Architectural Institute of Canada, the Royal Academy of Arts, and the Legion of Honor.

Mr. Cortissoz's words are from an unsigned editorial in "The New York Herald Tribune" for May 19. -EDITOR.

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1-GLAZES

IN dealing with structural glazed clay products the architect must keep the limitations of the several varieties clearly in mind. He should investigate thoroughly before making a decision. One architect used enamel brick high up on the exterior of a large building where it has been exposed to sudden temperature changes. The surface has undergone considerable crazing and color changing, with the result that the effect desired has been lost.

Salt-glazed tile is made by putting salts on the kiln fire just after it has reached its maximum temperature. A gas is given off and this impinges on the baked clay, creating an impervious surface.

Enamelling constitutes another glaze. After its first baking the brick or tile is dipped, or has its face surface otherwise coated in any desired color. The enamelling, of course, gives a more impervious and uniform surface than it is possible to obtain by the salt-glaze method. This type can generally be recognized by the way the enamelling runs over the uncoated side of the brick, like icing over the edge of a cake.

Spray glazing is another method of imparting a colored, impervious surface to a clay product. While the material, or slip, is in the kiln being baked it is sprayed with a surfacing material. Hence both the bisque and its surface are simultaneously baked. The manufacturers using this process feel that by this method the possibilities of any uneven contraction and expansion of two different materials is eliminated because the substances are fused as one by the intense heat of the kiln. Crazing is thus largely eliminated.

2-COLORS AND GRADES

Salt-glazed products are of course limited by the color range of the clays entering into them. They are widely used, however, where an impervious, inexpensive but permanent wall surface is desired. Hence their frequent use in corridors, stair halls, locker rooms, etc.

Enamelled products lend themselves where cost is not a prime factor. A wide choice of colors is offered. Usually the surface will be smoother than that of a salt-glazed tile. It is always well to consider the reflecting values of various colors when selecting enamelled products.

It must be remembered that being

Better Practice By W. F. Bartels CLAY PRODUCTS, CINDER and GYPSUM BLOCKS

allowed to furnish a range of color offers more leeway for the manufacturer when he quotes a price because it eliminates to a large extent the necessity for careful color sorting. Hence a range of a color will be less expensive for the owner than a uniform shade in salt-glazed products. From a design standpoint variation in color is almost always an advantage in overcoming surface monotony.

The question of grades should be gone into carefully. Colors may be important but quality must be lived with also. The manufacturer



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is anxious to supply the grade called for, but without the architect's assistance he is helpless. The manu-facturer wishes to sell his product. If a contractor delivers an ultimatum of a certain price, some manufacturers may go so far as to imagine that the material they furnish at this price is of a higher quality than it really is. In general, imperfections will consist of spots on the face of the product, unglazed surfaces, and chipped edges. The latter may occur before or after glazing, and if not too large do no particular harm, but they are not present in firstquality products.

There are on the market today various types of clay products which are the height of two bricks, including the joint (Fig. 2A). These come plain, finished on two, and on four sides. Those with four finished sides are for a wall finished on both sides. Those finished on two adjacent sides may have the backs scored to receive plaster, or may be plain. In the latter case it is well to rake the joints so that a better bond for the plaster may be obtained.

These blocks are economical in a number of ways. While a bricklayer will not lay so many units in a day as he would lay of ordinary brick, his average will be well above half of that. Also, there is the labor saved in handling them, as well as the reduced cost and labor of the mortar. The tile forms are lighter than two bricks would be, while the brickshaped forms have holes in them which decrease their weight and at the same time add to their bonding qualities.

Where a product that has hollow interior cells is used for an exterior wall, some manufacturers recommend that the mortar joint be not run through entirely, but extend inward only $2\frac{1}{2}$ " or 3" from each face on an 8" wall (Fig. 2B). They say this breaks capillary attraction and allows plaster to be applied directly to the wall without any furring. The open cells in this case act as the furring space.

As a rule an allowance of $\frac{1}{4}$ " on length and $\frac{1}{8}$ " on height must be made for variations in the size of these clay blocks. Some brands, however, by a special grinding process eliminate this difference and allow a tighter joint to be obtained.

A feature of these blocks is that they can supplant tiled walls where vibration exists, and that a structural wall may have a tile-appearing finish without the additional expense of tiling. Some manufacturers have produced a block with a false joint in dovetail fashion so that when the joints are pointed up the fact that it is not a tiled wall will not be discernible (Fig. 2C). In reality its surface is as impervious as tile, and is glazed with practically the same material.

All necessary shapes such as coves, bullnoses, etc., may be ob-tained in any of the above products, and while they may add a small proportional amount to the original cost of the material they are certainly worth it. In general 10 to 15 per cent of the cost of the average-size room will cover the added expense for cove bases, bullnoses for door jambs, and internal angles for the corners. The cove bases, with their long rounding sweep to the floor, allow even a lazy janitor to get the corners clean. Bullnoses should not be omitted at door entrances, particularly if these are in institutions (Fig. 2D). Old people bumping against them, invalids putting their hands on them for support, crowding, and other unavoidable mishaps, may easily cause injury if sharp corners are present instead of the smooth round corner of the bullnose.

3-BONDS; JOINTS; FINISHES

Glazed clay products, with opposite faces glazed, are furnished in sizes above 4'' also, such as for 6'' and 8'' walls. However, one can readily realize the difficulty in getting all the pieces necessary for a wall to be exactly the same size. The mason must lay them so the one side of the wall is plumb and true, and let the other side come as it will, or otherwise "humor" the blocks as best he can to obtain equitable results on both sides. The difficulty is that then both sides probably will look faulty. To obviate this difficulty the manufacturers turn out a size called "soaps. These enable a bond to be formed in a 6" wall by using them in connec-



tion with a $3\frac{7}{8}$ " block. Because the "soap" is slightly less than 2", a good bond can be formed in a wall that will have two good faces (Fig. 3A). While the cost of the two blocks (2" and 4" thick) may be slightly more than the one 6" block, this difference will be offset by the saving in mason's time in setting. It is infinitely easier and quicker to set two pieces, than to set one that has to be humored.

The question of joints is an important one. Those inside will be considered more from a decorative angle, those on the exterior from the utility viewpoint. One of New York's tall buildings is located (naturally the top part) in a very exposed position. The façade is of enamelled brick. The walls were leaking and causing the owners great anxiety. An inspection was made and a snap judgment pronounced without much thinking. It was reported that the joints were tooled too far back, leaving open to the weather a part of the brick that was but slightly-if at all-covered with enamel. This, it was said, caused the leak (Fig. 3B). Further thought would have made evident the fact that seepage through the bricks themselves could hardly be the reason, because of their vitreous quality, but that the poor workmanship in laying them was responsible. The mortar itself was too porous, small holes had been left, and the joints as a whole poorly laid, with the mortar having been merely buttered on the edges of the brick. The result was that a driving rain and wind storm carried the water right through.



Such joints are better carried out to the face of the brick and not raked at all.

The finish of surfaces adjoining glazed work is important. If the glazed work extends to the ceiling, it may end in a sharp corner, or a cove may be used with good effect (Fig. 3C). If glazed material be used only as a wainscot the finish with the plaster may have a regular cap effect, or be bullnosed to the plaster surface, or it may even finish flush with the plaster (Fig. 3D). The latter seems desirable from a sanitary viewpoint as it eliminates a dust-collecting ledge. Some architects specify the plaster to finish against the tile and make no further mention of the matter. Seldom do materials of different natures meet without a crack developing. So, rather than wait for one, some admit there will be one and lessen its effect as much as possible by making a V-joint at the junction of the plaster and the tile or brickwork (Fig. 3E).



4-STRUCTURAL TILES

Structural tiles are those used for carrying loads, and hence the walls built of these will be thicker than those of tile used only as partitions. Particular attention should be paid to the proper setting of structural tiles. The corners must of course be well bonded. Any cross walls should be tied in with the main wall by adequate bonding. Where beam ends rest on the tile the beam ends should be set on pieces of flat tile slab or pieces of steel plate, so that the weight on the beam will be properly distributed on the wall (Fig. 4A). The space between the beams must be filled in. This is best done by the use of other tile, but bricks can be substituted if need be. For a means of fastening down the roof plate, bolts should be inserted in the tile. This can be accomplished by filling up the holes with concrete and inserting the bolts in them (Fig. 4B). The concrete is prevented from going all the way to the bottom



of the holes by chips of wood or stiff paper being stuffed into them. The practice of chasing or otherwise cutting structural blocks is strictly to be avoided. The architect must make adequate provision in his plans so that cutting is not necessary. It is much better to furr out a wall than to weaken it by chasing (Fig. 4C). The few inches lost by furring will be more than compensated for by having no cracked plaster and other defects owing to crowding and chasing. Chases properly built at the time the wall is erected are acceptable.

Lintels also are a subject to be given consideration. For short spans where no excessive weight comes down, rods may be run in the tile and the holes then poured full of concrete. Care must be taken so that the gravel or stone are not of such a large size that they block up the cells and check the filling of the space (Fig. 4D). The frames should be blocked up in this case to make sure that the weight above does not cause a sagging before the tile and reinforced concrete lintel is fully set (Fig. 4E). If there is a direct load over the opening it is far better to use steel lintels, either channels or



angles, than to take a chance on any cracks developing later. In this case no centre support is necessary, but it should be insisted upon that the tile or block be fully bedded on the lintel.

5-BLOCKS: CINDER, CONCRETE

Concrete blocks are made from a number of materials, and have many forms and finishes. They are made from sand and cement, cement and cinders, and other forms of aggregate, such as haydite, etc. They may be solid, as those used for foundation walls, hollow when used above grade. Their surfaces may be rough so that a good bond may be obtained if they are to be stuccoed or plastered. Some have smooth surfaces for painting or whitwashing.

Concrete blocks are no better than their ingredients. Too often they are made of an inferior mix, lacking the full amount of cement, and as a result soon develop defects when in place. Many times they are made by a small company or a single individual, who figures that the less cement put into them the greater the profit. This may be true for a short time—until the product develops a bad reputation. Properly made, however, there is no reason for having any doubt about concrete blocks being anything but a satisfactory building material.

Concrete blocks used as foundation walls should be well laid in full beds of cement mortar. Lightly buttered joints and lean, skimpy mortar, with but little cement, will of course result in leaky, wet wallsand the concrete blocks will be blamed. Used as a back-up for brick veneering, a good structural job may be obtained as well as a finished house that will be cool in summer and easy to keep warm in winter. The blocks can be plastered upon directly inside, but inasmuch as cinder blocks are easy to nail to, it is better to furr and lath and thus create another air space. The brick veneer can either be bonded or clipped to the cinder blocks (Fig. 5A). If enough clips are used, the latter makes a satisfactory job.

6-GYPSUM BLOCKS

Gypsum blocks are made both solid and hollow, Certain conditions,



such as fire-proofing around columns, require solid blocks, whereas the hollow type is used for partitions.

The architect should specify clearly the size and kind of block he wishes used. The blocks should come on the job whole and in good condition. No blocks should be laid or set in a place which is continually damp. Ordinary plaster cannot stand such conditions and neither can these blocks. Gypsum mortar should be the only mortar used to lay up gypsum blocks. Attention might be called at this time to gypsum mortar. It sets quickly and for that reason no great amount should be mixed at one time; 21/2 or 3 hours is the maximum it should stand before being used. By the same token it should not be retempered. Both of these rules are irksome to the bricklayer's laborers. The latter like to mix the entire morning's batch of mortar at one time before the mechanics start, and then retemper it after several hours if necessary.

If the bottom of a gypsum block partition is to have a base of cement or tile, it is advisable to have a clay tile block for the base course (Fig. 6A). Cement is reluctant to stick to the gypsum block. The gypsum block partition should not be made up of broken units, but whole blocks or tiles should be used wherever possible. (Some manufacturers suggest that not more than 8 per cent of the tile used should be other than whole tile, except where such a whole one would be impossible because of fitting, etc.) The partition should be tightly wedged under the ceiling and a proper bond should be maintained throughout the length of the wall. This is very important.



When installing bucks, the architect must decide if the head of the buck he is going to use is strong enough to carry the blocks above. If it is not he must require some form of lintel over the opening, or take the chance of the head sagging and the plaster cracking. Wire lath nailed at the upper corners of the opening will often save the plaster from cracking, as it is prone to do at these locations (Fig. 6B). Anchors should be built in to secure door and other frames in the partitions. No nailing or other hammering of any kind should be allowed on the partition until the mortar is fully set.

7-STRUCTURAL GLASS

Structural glass gives the building trades a new material that is sanitary, non-crazing, and nondiscoloring. It can be used as a purely decorative feature from the very simplest to the most bizarre, or it can combine utility with decoration. In its use the architect must not only study the material so that its potentialities may be fully realized, but also that it may be properly erected to give the most enduring service.

As its name states, it is glass, and must receive that material's care, although of course it is much stronger than the ordinary type of glass. Many details may be obtained from the manufacturers of this material for its use, but it is wise to use those details which put the least strain on the material and provide for its receiving the least



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shock. For instance, when the question as to the use of head-rails or their omission over toilet partitions arises, it would seem wiser to put them up. While the architect may not think these are particularly beautiful, they will steady the long vertical slabs and stiles and thus give a more secure and lasting job. Then, too, it must not be expected that very heavy toilet doors can be hung on thin structural glass stiles and not have some of the latter break. When structural glass is embedded in masonry, it is well to have a thin band of paper around the glass so that if the glass is pushed slightly in any direction the movement will be taken up by a resilient joint rather than by the glass and have it broken or snapped off (Fig. 7A).

A very appropriate place for the use of structural glass is the walls of bathrooms. If it is not desired to use large slabs, there are smaller ashlar types of sheets that may be used. One decided advantage of this material is that it can often be used in alteration work directly over the old wood or plaster. On exterior work no moisture must be permitted to get in back of it. This can be prevented by having the joints properly filled with an elastic cement and the back prepared with a compound to keep out any water. It may be preferable to use the reinforced type, if large sheets are used and there is any danger of their falling. By this method all visible means of fastening are removed, and the exterior is left free for decorative effect (Fig. 7B).

As previously stated, structural glass must be treated as a glass and not as a metal. This did not occur to one contractor, who wedged several slabs of the material between a floor or support and a long steel beam. The beam of course deflected when loaded. This settling cracked the glass. This happened twice before the contractor realized that the glass was not made for support.





Central anchorcge for the junction of the two suspension bridges required for the span between San Francisco and the mid-bay Yerba Buena Island

C. H. Purcell, Chief Engineer; Charles E. Andrew, Bridge Engineer; Glenn B. Woodruff, Engineer of Design; Timothy L. Pflueger, Arthur Brown, Jr., AND John J. Donovan, Consulting Architects

San Francisco-Oakland Bay Bridge: Some Details

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The San Francisco Cable Anchorage and Approach. The concrete mass into which the two cables, 283/4" in diameter, are anchored contains sixty-eight thousand cubic yards of concrete

The San Francisco-Oakland Bay Bridge extends from San Francisco to Yerba Buena Island, a distance of eight thousand feet. The island crossing is accomplished by means of a tunnel five hundred forty feet long, leading to the second span of bridge from the island to Oakland, a distance of nineteen thousand four hundred feet

The architects' conception of the west portal of the tunnel through Yerba Buena Island. This tunnel is to be 67½' wide by 53' high. It has two levels : 58' of upper deck for a fast automobile highway, and, on the lower deck, space for three lanes of heavy trucks and two interurban car tracks



Thursday, May 3.—A day or so ago Hobart Upjohn dropped in to show me the results to date of a stupendous task he undertook many years ago, and on which he is still working—a sort of parallel history of the tenth to seventeenth centuries in France, Italy, England, and other countries. At a glance one can see what was happening in the rest of the world when Chartres was built—who were the rulers and other leaders in the march down through the years.

Saturday, May 5.-F. R. Webber, who has for some years so ably edited Lutheran Church Arts, expresses the opinion that there will not be many large costly churches built for some time to come. Many a congregation has learned the sad lesson of undertaking too great a financial burden. Possibly there will be a check upon the congregation with five hundred communicants building a church seating eight hundred-on the grounds that it will be needed on Christmas Eve, Palm Sunday, and Easter. The Roman Catholic Church has pointed the way to a far more intensive use of small plants, through having three, four, five, or more services a Sunday. Mr. Webber's plea is for better and smaller churches.

Monday, May 7.—Phillips Russell, of Bowden & Russell, was in today, explaining the scheme his firm, with A. J. Barzaghi, engineer, have developed, some of the details of which are shown on another page. There is one obvious advantage in the scheme, and that is that it utilizes the twenty-foot lot prevalent in New York City, so that if as few as three or four owners of contiguous lots could pool their interests thev could build a section of this housing. Then if, later, other adjoining owners felt the scheme to be a good one, they also could build a section, and in time the whole block project might be completed. The scheme utilizes the foundation walls already in place, filling in the old cellars with clean debris from the demolition. The structure is of reinforced concrete.

The Housing Authority of New York were the guests of the National Public Housing Conference tonight at a dinner for the purpose of giving an account of their stewardship. The first two months of their official life have apparently served mainly to give them a full realization of the size and difficulties of their task. No brick has yet been laid in a housing project under their direction. If they are necessarily moving slowly, they are moving surely, and taking every possible precaution against missteps, unprofitable byways, political and other hazards on their road. Governor Lehman spoke to the diners from his study in Albany, and Herbert Bayard Swope, toastmaster, appointed by Mrs. Mary Kingsbury Simkhovitch, president of the Conference, read a reassuring message



The Editor's Diary

from the President as to the continuing depth of his interest in the subject of housing for the low-income groups.

Wednesday, May 9 .- The Brick Manufacturers Association of New York assembled today at luncheon to talk over brick sizes, and to learn if possible from architects, contractors, engineers, and others interested whether the present size of common brick in this locality should be changed. Mr. Phelan, of the Bureau of Standards, stressed the need for a greater degree of correlation between brick sizes and the sizes of steel sash, concrete blocks, terra-cotta tile, wood frames, and other elements which could be made to fit into brickwork with less cutting and fitting. I had the pleasure of speaking a word for the modular system devised by Frederick Heath, Jr., of Syracuse, which seems to offer enormous possibilities for savings in the ar-chitect's work of detailing. There is no need to go into these details here, since Mr. Heath explains them better than I could on another page of this issue. The Bureau of Standards' policy at

The Bureau of Standards' policy at the moment seems to be to attempt a correlation of other manufacturers with the present official standard size of common brick, which however, it is admitted, prevails in less than half of the brick produced in this country. If we are going to work toward standardization, it would seem to be the better part of wisdom to adopt a standard that is easily workable, such as the 8" x 8" x 4" module of Heath's, which includes the brick and one joint, and further provides for brick which, with the joints, will give three courses in height to this same eight inches.

Friday, May 11.—The results of the Real Property Inventory, made by the Department of Commerce, keep rolling in, city by city. The surprising revelation is the lack of radical variation in the figures between cities as far apart geographically as Casper, Wyo., and Columbia, S. C. Two facts stand out in all these figures, namely, that the overwhelming bulk of the houses of this country are valued at between three and five thousand dollars, and rent for less than thirty dollars per month. In this

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great slice of the country's building construction the architect has no part. It does seem as if one of the greatest problems that face the profession at the moment is that requiring that some way be found to extend architectural service into this field.

Monday, May 14.-Talking today at luncheon with Frederick L. Ackerman, who is technical advisor to the New York Housing Authority, I was asking him how one could reconcile these two conflicting facts: By political necessity the efforts of the Housing Authority would seem to be split up necessarily into a number of widely scattered projects; the building of any one of these projects, say of three or four city blocks, almost instantly defeats its purpose by arousing in the adjoining landowners' minds false hopes as to the value of their property, thereby making it difficult, if not impossible, to proceed with contiguous building as the means are provided. Ackerman said that it was his opinion that the efforts must be as few as possible in order that they may be large. He pointed out, however, that in view of the flattening out and probable descent of land values, after an almost unbroken rise throughout the history of this country, the fact may then be borne in upon landowners that land values in slum areas are more likely to go down than ever to rise again.

Tuesday, May 15.—To Washington by motor with Lorimer Rich and Salvatore Lascari, stopping on the way to refresh ourselves in the beauty of New Castle, Del., which refreshment, however, was somewhat dampened by a pouring rain. On to Washington, where the architects were gathering in undiminished numbers for the Sixty-sixth Convention.

Wednesday, May 16.—The Convention, opening this morning, rolled along in the usual well-oiled fashion. The president read his address, the treasurer added his usual keenly analytical report of the finances, and the secretary started his marathon reading of the report of the Board of Directors.

This afternoon's session, continuing the reading of the Board's report, was adjourned at four o'clock when we all moved upon the White House and took our seats under the far-too-large chandeliers of the East Room. (I believe Mr. McKim had these made smaller when he saw them hung, but they are still far too President Roosevelt entered, large.) and the Minister from Sweden presented to him Professor Ragnar Ostberg, architect of Stockholm's now world-famous Town Hall. Ernest Russell, president of the Institute, handed the President the Gold Medal of the American Institute of Architects, which he in turn presented to Professor Ostberg with an unusually gracious speech, in which among other things he said that if he were starting life again in 1882, he would be strongly

inclined to take up architecture. In which case he too would today probably be looking anxiously for a job.

Those who feast, mentally at least, upon Ripley's Recipes-and they must be legion-would have enjoyed as I did this evening the privilege of dining with the man who bears aloft the torch handed down by Brillat-Savarin. Instead of dwelling upon gustatory delights, Hubert Ripley tonight was reminded, by some casual remark, of "the worst luncheon of which I have ever partaken." As I remember, it was in Nashua, N. H. There was chicken-it was cold, and in color it resembled a gunboat gray. There was a sadness about it that was matched only by that of Ripley himself, who tonight was so moved by the memory of that long-past culinary debacle that he hastily drew the curtain over all that followed.

The evening session was given over to architectural education, with a particularly constructive report by Charles Butler and Charles C. Zantzinger, in which several forward steps were outlined. One of these provides for a much closer co-operation with the National Board of Architectural Registration. Another seeks to bridge more effectively the awkward gap between the student just out of architectural school and his active practice of the profession. This is done through the appointment of a mentor for each man, the mentor acting as guide and counselor with the particular purpose of aiding the student to broaden his office experience and avoid the enticing ruts.

The Institute's Craftsmanship Medal was presented to Walter W. Kantack, of New York, for his outstanding achievements in the field of lighting fixtures; and the Fine Arts Medal, to James Henry Breasted, distinguished orientalist and historian, of Chicago.

By this time the convention atmosphere had so pervaded the delegates that Robert Bellows and Edward Prichard, of Boston, sauntered after dinner into one of the various auditoriums of the Mayflower this evening, and resigned themselves to the discussion of financial details and similar difficulties, which seemed to these men merely a continuation of the morning session. After voting affirmatively on several resolutions they awoke to the fact that they were in a bankers' convention rather than in one of architects, and for all they knew had voted for the free coinage of silver.

Thursday, May 17.—This morning's session turned out to be more or less of a love feast. In view of the fact that no convention was held last year, the officers continued to function for an additional year. With the customary two years of service in mind as being enough to ask any man to give to the general welfare of the Institute in these times, the Chicago Chapter nominated Edwin



RAGNAR OSTBERG

Bergstrom to run against Ernest J. Russell. Mr. Bergstrom's first attempts to withdraw his name were frustrated by Mr. Russell's courteous refusal to recognize him on the floor. Louis LaBeaume was nominated for first vice-president, together with Charles D. Maginnis, who has been serving in that office. When it appeared that Mr. Bergstrom, having been renominated for treasurer, was about to be voted upon for two offices at once, his insistence upon withdrawing his name for the presidency finally made possible a vote of acclamation instead of by ballot. The contestants for first vicepresident, however, were formally voted upon, and Mr. Maginnis was re-elected. This session of good feeling, however, was not allowed to end before a resolution was passed, providing that hereafter no man shall occupy office for more than two years.

After a joint luncheon of the Institute and the Producers' Council, the delegates separated to the four winds for the afternoon. I succeeded in getting a pass to the Supreme Court Building, which is now being plastered inside and is beginning to take on its final character. While examining in detail this last great work of Cass Gilbert's, it was with no premonition whatever of the announcement we should hear next morning of his death today in the New Forest, England.

Friday, May 18.—Public Works was the general topic of this morning's session, with Louis LaBeaume giving an inspiring report of his stewardship as chairman of the Institute's Committee on Public Works. We were fortunate in having Mr. Reynolds, Assistant Secretary of the Treasury, with us, and Louis A. Simon, Supervising Architect, both of whom spoke, confirming the vastly improved relationship now existing between the architectural profession at large and the Supervising Architect's Office. The Convention was considerably stirred by a paper by Electus D. Litchfield, "The Case for the Architect"—so much so that by resolution it was voted that a committee of three, including Mr. Litchfield and the president of the Institute, should wait upon President Roosevelt, and put a copy of the address in his hands. But for the fact that this will undoubtedly be printed in *The Octa*gon, or in some other report of the Institute proceedings, we would quote it.

In the afternoon Stephen F. Voorhees, chairman of the Construction Code Authority, gave us a clear-cut picture of this code as adopted, and William Stanley Parker reported upon the long struggle to build the Architects' Code, which struggle seems to be nearing its end in securing the President's signature. An extensive collection of last-minute resolutions was passed without much discussion, and in some cases it would seem without much knowledge as to what the resolutions really signified. Judging from my observations at many conventions, the way to be sure of having a resolution adopted is to keep it under wraps until the last afternoon.

The price of three dollars fifty cents for the dinner scared off a considerable proportion of the delegates, but the event was more than worth the price in that Irving K. Pond, the toastmaster, presented Ragnar Ostberg, who spoke with great charm and with an ineradicable modesty in spite of the continuous flow of decorations upon him from the world at large. Frederic A. Delano, director of the National Planning Board, inspired confidence in the fact that the great task of national planning is in such able hands. Robert D. Kohn, without whose presence and voice any great meeting of architects would seem incomplete, spoke with confidence and hope of his work in public housing, in spite of the myriad and overwhelming difficulties which we all know must be weighing heavily upon him.

Saturday, May 19 .- The delegates were most reluctant to terminate the Convention gathering last night, many of them apparently feeling that the real pleasures of the event had only begun in the last few hours. It was therefore but a short time after the final farewells that Lorimer Rich, Salvatore Lascari, and I again embarked in Rich's car for the north while Washington's milkmen were making their early rounds. We were fortunate in having selected the one day in the year when New Castle, Del., was holding its open house for visitors, and for several hours we revelled in the delicately carved woodwork of the Read house and its lesser brethren in this town of a past era. As is perhaps known, the railroad builders plotted their way around New Castle instead of through it, thereby saving to this time, unimpaired by the march of the industrial progress, a particularly lovely village of the eighteenth century.

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Aerial perspective of a city block as developed under this study

A Co-operative Slum Clearance Study

ARTHUR J. BARZAGHI, ENGINEER BOWDEN & RUSSELL, ASSOCIATE ARCHITECTS

Below are the plans of first, second, third and fourth floor elevations, each setting back over the one below on both the street front and on the court. On the street side there is a common stairway for every six apartments—less than this on the court side. The bathrooms are artificially ventilated as in hotel construction



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A perspective detail of the scheme, with a stair tower, at the bottom of which is the janitor's office

The scheme contemplates the co-operation of property owners to the extent of pooling their interests. It is assumed that the average city plot, individually owned, is twenty feet wide. This scheme utilizes the brick side walls of existing construction, tearing out everything else. Existing cellars would be filled in with unburnable refuse. Use of the open porch as an approach to the apartments is limited to the street side, the porches on the court side being given greater privacy. It is possible, of course, to start such a development with the co-operation of a small number of contiguous owners, others adding on as the merits of the scheme become known

Section through the block. It will be noticed that the line of bathrooms is off centre to allow for difference between bedroom space and living-room space



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CONTACTS



DEVOTED TO A BETTER UNDERSTANDING OF THE BUSINESS SIDE OF ARCHITECTURE AND ITS RELATION TO THE INDUSTRIES



IN the city of Syracuse, N. Y., a recent meeting of those interested determined, as part of a CWA project, to survey and study the economic and industrial possibilities of a closer co-operation in the sizes of manufactured building materials. The work, still in progress, is under the direction of the Mayor's Industrial Commission.

Mr. Frederick Heath, Jr., submitted the following proposal:

At the present time the dimensional standards of such stock building materials and products as brick, tile, block, windows, and doors are not definitely related to each other. As a result, there is difficulty in planning the assembly of these materials into a structure. This imposes a premium on the cost of construction through excessive waste of materials and labor.

It is believed that co-ordination of the basic dimensional standards of these stock products will decrease the cost of building through elimination of waste. It is proposed to accomplish this by observing a standard unit of dimension or *module* for planning and for dimensioning stock materials and products.

A careful survey of prevailing standards and practices has led to the conclusion that the most practical rule to inaugurate modular planning is the following:

The principal masonry dimensions shall be in coincidence with a 4" module in horizontal and an 8" module in vertical planes. (Note: modular dimensions indicate centre-to-centre of joint distances. In accurate detailing, a mortar joint thickness—usually $\frac{1}{2}$ "—is deducted from outside dimensions and added to inside dimensions.)

Stock building materials and products shall be dimensioned to conform to this rule for modular planning. The following illustrates the revisions of present standard dimensions of stock products necessary to arrive at modular standards.

Brick. The modular standard would be based on three brick courses to 8 inches. The present standard size of common, sand lime, and rough face brick is $8'' \ge 2\frac{1}{4}'' \ge 3\frac{3}{4}''$. The

Modular Construction Marches On

modular standard (average size) for this grade of brick, which is laid up in joints averaging about $\frac{1}{2''}$ thick, would be $7\frac{1}{2''}$ x $2\frac{1}{4''}$ x $3\frac{1}{2''}$. Smooth face brick, however, are usu-ally laid with joints less than $\frac{1}{2''}$ thick; moreover, architects sometimes like to use a very rough brick with joints wider than $\frac{1}{2}$ The manufacturer of any type of brick would produce them, under the module system, in sizes compensating for the proper width of joint for that particular brick. For instance, a smooth dense brick, best fitted to ¹/₄" joints, would be made 7³/₄" x 2³/₄" x 3³/₄". The advantages of this are so obvious to the architect, engineer, contractor, and manufacturer that it needs little explanation. It allows competitive bidding for several kinds of brick on the same set of plans; it saves time in preparation of drawings; it saves time in laying out the work; it saves cutting and fitting; it allows each manufacturer latitude to exploit a brick suited to a size of joint that will best develop its design value.

Tile. The tile sizes most commonly used are either 8" or 12" high, 4", 8", or 12" wide, and 8" or 12" long. The modular standards would allow for the mortar joint thickness to be deducted from these basic dimensions, making heights $7\frac{12}{2}$ " or $11\frac{1}{2}$ ", widths $3\frac{1}{2}$ ", $7\frac{1}{2}$ ", or $11\frac{1}{2}$ ", and lengths $7\frac{1}{2}$ " or $11\frac{1}{2}$ ".

Block. The block sizes most commonly used are 8" high, 4", 8", or 12" wide, and 16" long. As in the case of brick and tile, the modular standards would be compensated for joint thickness, making height $7\frac{1}{2}$ ", width $3\frac{1}{2}$ ", $7\frac{1}{2}$ ", or $11\frac{1}{2}$ ", and the length $15\frac{1}{2}$ ".

Windows. The old custom of basing window sizes on standardized glass sizes has given way in certain types of windows to an effort to

« ARCHITECTURE »

JULY, 1934

establish modularly dimensioned standard masonry openings. A module of 6 inches has been used, but it is now proposed that standard masonry openings be in coincidence with a 4" module in width and an 8" module in height.

The manufacturers were sympathetic to the proposal and suggested that local architects be questioned for further reactions.

A total of thirty-five Syracuse architects were interviewed on this subject. Questions number I to 6 inclusive—in the list following were asked, and the answers written down, before the architect saw the remaining questions.

1. What are the standard dimensions for brick?

Out of 30 answers given for common brick, 7 (23%) gave the Simplified Practice Recommendation promulgated by the U. S. Bureau of Standards, which shall be referred to as the correct standard. For sand-lime brick, 23 replied, of which 6 (26%) were correct. For rough face brick, 28 replied, of which 9 (32%) were correct. For smooth face brick, 24 replied, of which 1 (4%) was correct.

2. Do you observe brick lengths and courses in detailing and dimensioning plans and elevations?

All 35 architects replied in the affirmative, but 5 (14%) limited their answers to certain phases of planning.

3. What are the standard dimensions of the most commonly used sizes of structural clay tile for exterior walls and brick-faced walls?

Of the 111 replies, 58 (52%) were correct sizes.

4. What are the standard dimensions of the most commonly used concrete blocks?

Of the 97 replies, 3 (3%) were correct sizes.

5. Can you give any standard masonry opening dimensions for stock sizes of metal pivoted and projected windows?

Of the 14 architects who gave a total of 33 dimensions, but 4 (12%) were correct.

6. If the standard dimensions of these stock products were to be changed

so that they were co-ordinated to a common denominator, would it simplify planning?

33 (91%) replied in the affirmative, the remainder not replying.

Would it eliminate waste?

29 (83%) believes so, 1 (3%) believes not, the remainder did not reply.

Additional questions followed the proposal for modular construction as set forth above:

7. Do you endorse this proposal as a step in the right direction?

34 architects replied in the affirmative, 1 negative.

8. Can you suggest another basis for co-ordination?

But 4 architects offered suggestions, none of them differing basically from the proposal made.

9. To what type of building is modular construction applicable?

The bulk of the architects seemed to associate this with schools, factories, commercial, and industrial types. There were 71 replies.

10. In what types of building is modular construction not practical or desirable?

Out of 45 replies, residential was the only type that predominated.

11. Assuming you favor, what means or agencies do you suggest for effecting this co-ordination?

Among a total of 97 suggestions

most frequently mentioned were the American Institute of Architects, the Bureau of Standards, together with national manufacturers and their trade associations.

12. If a majority of Syracuse architects favor this particular plan for modular construction, and Syracuse manufacturers of building products agree to produce brick, tile, block, and windows in modular standards as proposed, are you willing to observe the rule for modular planning where applicable?

34 replied in the affirmative, one architect not replying because he was employed by a manufacturer and not engaged in building design.

The Opportunity in Building, by Clarence M. Woolley

THE early months of 1933 witnessed further severe declines in building construction. This downward trend was arrested in May. The remainder of the year showed fair increases but not sufficient to offset the early declines. The trend of residential building construction is portrayed by the following record showing the number of families provided with new residential accommodations during the respective years in 257 identical cities of the United States.

1921 224,545	1927 406,095
1922 377,303	1928
1923 453,673	1929 244,394
1924 442,919	1930 125,322
1925 491,222	1931 98,178
1926	1932 27,063
1933	24,557

During a short century a continent has been conquered, frontier after frontier. By ingenuity, invention, and with the courage to discard the inefficient, the American people have taken the enormous resources at hand and created a material civilization such as the world has never seen. Standards of comfort hitherto not possessed by any nation have been established. But those material comforts reach only two-thirds of our people. The lower third, even under normal circumstances, can afford to live only in sub-standard housing without any of these available comforts.

Lately we have become very conscious of slums. They are seen in every town and city throughout the country. The business world knows them as areas of insolvency; the Mr. Woolley's remarks are extracted from a report recently made by him as chairman to the stockholders of American Radiator and Standard Sanitary Corporation.—EDITOR.

city administration knows them as areas of tax delinquency and inadequate return on the cost of city service; the social worker knows them as places of degradation and crime; the doctor knows them as centres of malignant disease.

In Europe since the war there has been a steady movement to eradicate bad housing. In this country, however, we are just becoming convinced of the human necessity for similar action. Here is another frontier to be conquered, a frontier which will take the best of our ability, our knowledge, and our sense of justice, to overcome. Furthermore, we are beginning to understand that it is poor economy to have so many of our people living without the benefits our productive civilization can supply.

The passage of the National Industrial Recovery Act pointed the way to a solution of this most pressing problem of low-cost housing. The provisions of this Act, making available loans and also outright grants of money for housing of low rental value, should lead to action on the part of every agency required to ameliorate these conditions.

To provide a supply of decent housing for the masses of our people presently suffering from a lack thereof is an undertaking of such magnitude that it would be the

> ≪ ARCHITECTURE ≫ JULY, 1934 46

equivalent of at least ten peak years of building. The benefits of such a project are obvious. There would be not only the direct result of improved social conditions, but indirectly great stimulation to all industries and commerce.

Public opinion subscribes to the principle of proceeding with building activity as suggested by the National Industrial Recovery Act; and each community is the proper area of responsibility for a local housing programme. If necessary, as a last resort, it should become the care of municipal, State, and national governments. Action should be taken immediately.

A partial amelioration of the situation is possible with respect to some portion of sub-standard housing through rehabilitation and modernization. In many instances it is found that the installation of modern heating and plumbing increases rentability and yields a substantial return on the cost. This movement has gained headway during the depression, especially in the large number of cases where housing accommodations have come into the hands of mortgage holders.

The trend of building activity, both residential and non-residential, has been upward for several months. This is the first time this situation has existed since 1928. The current rate of activity, however, is still 80 per cent to 85 per cent below the average of the years 1925 to 1928. There is much reason to believe that this change in trend presages a turn in the downward cycle of the last five years.

THE NINETY-THIRD IN A SERIES OF COLLECTIONS OF PHOTOGRAPHS ILLUSTRATING VARIOUS MINOR ARCHITECTURAL DETAILS

ARCHITECTURE'S PORTFOLIO OF GARDEN FURNITURE

Subjects of previous portfolios are listed below at left and right of page



Below are the subjects of forthcoming Portfolios

Window Heads, Exterior

Spires SEPTEMBER

Business Building Lobbies OCTOBER

Roof Trusses

Modern Lighting Fixtures DECEMBER

Circular Gothic Windows

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 about six weeks in advance of publication date. 1930 CASEMENT WINDOWS FENCES OF WOOD GOTHIC DOORWAYS

1931 BANKING-ROOM CHECK DESKS

SECOND-STORY PORCHES TOWER CLOCKS ALTARS GARAGE DOORS MAIL-CHUTE BOXES WEATHER-VANES BANK ENTRANCES URNS WINDOW GRILLES CHINA CUPBOARDS PARAPETS

1932

INTERIOR CLOCKS OUTSIDE STAIRWAYS LEADED GLASS MEDALLIONS EXTERIOR DOORS OF WOOD METAL FENCES HANGING SIGNS WOOD CEILINGS MARQUISES WALL SHEATHING FRENCH STONEWORK OVER-MANTEL TREATMENTS

1933

BANK SCREENS INTERIOR DOORS METAL STAIR RAILINGS VERANDAS THE EAGLE IN SCULPTURE EAVES RETURNS ON MASONRY GABLES EXTERIOR LETTERING ENTRANCE DRIVEWAYS CORBELS PEW ENDS GOTHIC NICHES CURTAIN TREATMENT AT WINDOWS

1934

EXTERIOR PLASTERWORK CHURCH DOORS FOUNTAINS MODERN ORNAMENT RUSTICATION ORGAN CASES

1926 DORMER WINDOWS SHUTTERS AND BLINDS 1927 ENGLISH PANELLING

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 KEYSTONES AIDS TO FENESTRATION BALUSTRADES

* 1930 SPANDRELS CHANCEL FURNITURE BUSINESS BUILDING ENTRANCES GARDEN SHELTERS ELEVATOR DOORS ENTRANCE PORCHES PATIOS TREILLAGE FLAGPOLE HOLDERS

Olmsted Brothers



Walter H. Sheffield





Ellen Shipman



Helen Swift Jones

Ellen Shipman



Jacob John Spoon





Vitale & Geiffert



Charles A. Platt

ARCHITECTURE

JULY, 1934



Robert Van Esdorf



Clarence Fowler



Robert Ludlow Fowler, Jr.; Arden Studios, Inc.



ARCHITECTURE





Arden Studios, Inc.



Ellen Shipman

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Arden Studios, Inc.

Arden Studios, Inc.





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Olmsted Brothers

England, from the collection by Pitkin & Mott, Inc.





Marian Coffin



Helen Swift Jones

JULY, 1934

Clarence Fowler





James W. O'Connor





© Amemya





James W. O'Connor

JULY, 1934



Arden Studios, Inc.



Arden Studios, Inc.



Imported marble seat in a garden by Olmsted Brothers



ARCHITECTURE



Bottomley, Wagner & White



Godwin, Thompson & Patterson

Clarence Fowler

Olmsted Brothers

JULY, 1934







On Lady Astor's estate, England, from the collection of Pitkin & Mott, Inc.

JULY, 1934

Stock seat in a garden by Olmsted Brothers





Janssen & Abbott



Frank Ashburton Moore

JULY, 1934

Granada, from the collection of Helen Swift Jones



Moncloa Gardens, Madrid, from the collection of Eleanor Roche





A. F. Brinckerhoff



A. F. Brinckerhoff



"Raixa," Spain, from the collection of Eleanor Roche



Richard H. Moen

In the Walter C. Teagle estate, Portchester, N. Y.



Kenneth MacDonald, Jr.





Wilton House, England, from the collection of Pitkin & Mott, Inc.



Clarence Fowler

James W. O'Connor

Villa d'Este, Italy, from the collection of Pitkin & Mott, Inc.





JULY, 1934



Henry F. Withey



Andrew J. Thomas





George W. Kosmak, Jr.

Edward S. Hewitt

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The National Housing Act, recently written into the statutes, is an instrument of tremendous potentialities, and of vital importance to all connected with the building industry. Upon request we shall be glad to send you a copy of the act, a summary of its provisions, or, when issued by the administrator, the rules of procedure under which one can profit by this new and powerful incentive to building.

FOR YOUR REFERENCE FIL

Members of the architectural profession may secure without cost any or all of the literature reviewed on this and the following page. Fill in the file numbers of items desired on the prepaid mailing card below and mail. ARCHITECTURE will see to it that you have full information.

DISTINCTIVE STORE LIGHTING

F. 255. Curtis Lighting, Inc., 1119 West Jackson Boulevard, Chicago, announces a portfolio of ideas on store lighting, covering new and unusual ideas for lighting both large and small stores. It includes a 26-page paper recently presented before the Illuminating Engineering Society, together with photo-graphs that show the modern lighting used for some of the exclusive shops at the World's Fair. Modernization without necessarily changing furniture, counters, etc., is shown changing furniture, counters, etc., is shown to be possible. Copy of portfolio on request.

* * *

EVERY BUILDING NEEDS CONTROL

F. 256. And the James P. Marsh Corp. 2073 Southport Avenue, Chicago, Ill., in its latest literature claims to have the answer in the new Marsh Tritrol Heat Regulator. It is particularly adaptable to the modernization of existing buildings, providing control by way of direct operation of the boiler draft, oil burner, stoker, gas boiler, or applied to various types of valves of either electrical or pneumatic structure.

* * *

NO MORE THREADING ON

BRASS PIPE

F. 257. Isn't that good news? It has al-ways been a job to get a perfect thread in ways been a job to get a perfect thread in copper or brass to secure a tight joint. Working together the Air Reduction Sales Co., the Walworth Company, and Handy & Harmon have perfected a new threadless bronze pipe fitting. This fitting will be manufactured exclusively by the Walworth Company, Boston, Mass., to be known as "Walseal Threadless Bronze Fittings." It is wiberion proof resists corrosion, and will not vibration proof, resists corrosion, and will not creep. But we'll let the company give you all the interesting details. Send your request for complete data.

* * *

HARDBOARD KNOWS NO LIMIT

F. 258. Hot off the press from Johns-Manville, 22 East 40th Street, New York City, comes a brochure dealing with Johns-Manville Hardboard and Tempered Hard-board. The cover of the brochure is a reproboard. The cover of the brochure is a repro-duction of the natural wood colors of a panel made from these materials. The book dis-cusses the opportunities for the virtually un-limited, unusual, and practical uses of these products. You'll be surprised by the range of possible uses.

* * *

CONCRETE SHELL CONSTRUCTION USED ON MODERN DAIRY BARN

F. 259. An interesting news release has come from the Portland Cement Association, 33 West Grand Avenue, Chicago. It is de-voted to description of the Brook Hill Farm exhibit at the World's Fair. The fact that the while can see Viewin D wills may four the public can see Vitamin D milk pass from cow to bottle has its interest. But what is of primary interest to you and me is the adoption for the first time in this country of the Zeiss-Dywidag system of shell roof construction to farm construction.

Special steel forms were built for the job and may be used repeatedly in similar build-ings. Concrete was placed to a thickness of 3 inches. One day after placing, the concrete was sealed with waterproofing. Forms were removed after four days. The Portland removed after four days. The Portland Cement Association will be glad to send you data on this particular building and supply information as to how shell vaults are a solution to the problem of economical concrete roof construction in buildings having wide spans.

* * *

NEW METHOD FOR WIRING EXTENSION

F. 260. How to extend low potential wiring to service some particular spot or mawring to service some particular spot of ma-chine has always been a moot question. The National Electric Products Corporation, Fulton Building, Pittsburgh, announce a new "Metal Product" to solve this problem. It consists of two pieces—base and capping—so formed as to "snap" together—with con-cealed fastening means in the base. It stands just $\frac{5}{16}$ " in height with gradual sloping ramp. Surface width is $1\frac{1}{2}$ ". It is designed for popular requirements.

CHEKIT

F. 261. The Franklin Research Co., 1224 Girard Avenue, Philadelphia, releases news relative to "Chekit," a new wood seal just placed on the market. It is described as "a penetrating wood seal which hardens the sur-face and impregnates the floor with a rot-resisting combination of natural oils—developed primarily for the treatment of unfinished wood where it will form a splendid foundation for a wax maintenance."

* *

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SINGLE-PIPE VAPOR-HEATING SYSTEM

F. 262. Bulletin from the Gorton Heating Corporation, Cranford, N. J., describes the Gorton Vapor Appliances, which are specific-ally designed for a one-pipe system of heating. The company claims an exclusive system of equalizing. Schedule of valve sizes and roughing-in dimensions are included.

* 4 4

SILENTAIRE WINDOW

F. 263. The Truscon Steel Company, of Youngstown, Ohio, presents a new type of window offering proper ventilation together with abatement of noise. The Silentaire Window is a development from the Silentaire manufactured by Truscon which is a simple non-mechanical muffler. These new windows combine the outstanding features of Silentaire with the modern design and construc-tion of Truscon Steel Windows. A complete shop-fabricated unit, the cost is little more than that for a standard window. There are no maintenance or operation costs. Erection is simple. High acoustical efficiency and ample ventilation capacity are obtainable through these Truscon Silentaire Windows without the use of blowers, fans, or other mechanical means.

* *

TUBE COUPLING'S PAR'T IN PLANNED PLUMBING

F. 264. A new catalogue from the Parker Appliance Co., 10320 Berea Road, Cleveland, stresses the importance of "planned" indus-

- NOTE -For your convenience ARCHITEC-TURE will see that at your request any data or literature pertaining to any advertised product presented in this issue is sent you. Use request card below.

trial plumbing to secure economical and satis-factory performance. The catalogue gives data on Parker Tube Couplings and associ-ated equipment. The company plans shortly to release a complete series of dimension sheets, with suitable binders. The draftsman and engineer will find these data sheets of immense value in laying out his industrial plumbing installations. Be sure to send for your binder. your binder.

* * *

FLEXIBILITY IN HOUSE LIGHTING

F. 265. A new Indirect-Three-Lite Lamp F. 265. A new Indirect-Three-Lite Lamp has been announced by the Incandescent Lamp Department of the General Electric Co., Nela Park, Cleveland. It is designed primarily for portable indirect units and provides three different levels of illumination from a single bulb. This affords hitherto un-obtainable flexibility in indirect home light-ing. Fixtures to accommodate this lamp are being designed being designed.

* * *

"CUSTOM-FITTED" AIR CONDITIONING

F. 266. Air Conditioning has become the tested recipe for profits, be it in store, thea-tre, hotel, or office. Westinghouse announces that the best "selling weather" is made to order indoors. Excellent descriptive mate-rial has been published by the Westinghouse



FOR YOUR REFERENCE FILE

Send prepaid mailing card to

ARCHITECTURE **Charles Scribner's Sons**

Electric & Mfg. Co., East Pittsburgh, Pa., and is available for your uses. It covers a wide range of application. The new self-contained summer air conditioner, "Mo-belaire," is described as particularly useful for spaces of 150-300 square feet area. Book-lets C2004-5-6 cover apparatus for offices, restaurants and shore. restaurants, and shops.

* * *

STYLISH BOILERS FOR EVERY NEED

F. 267. The United States Radiator Corp., of Detroit, has published for your ref-erence files a new series of data booklets on its complete line of boilers and radiators. Rating and data sheets are included along with much useful information on the uses and results obtainable from each product. Features of construction are illustrated.

* * -

PUBLIC ENEMY NO. 1 OF MOTORS CONQUERED

F. 268. The Lincoln Electric Co., Cleve-land, in its recent leaflet announces the solu-tion to the failure of motors due to overheat-ing. Lincoln "Linc-Weld" self-protecting motors are said to have positive protection built into windings so that when the motor reaches 90° C., the maximum safe operating temperature, the Lincoln Protector closes an auxiliary circuit in the motor which opens the relay in the starter, automatically disconnect-ing the motor from the line. Folder includes cycle ratings and table of dimensions.

SHAMPOOING CARPETS ON THE FLOOR

F. 269. A pamphlet from the Hild Floor Machine Co., 108 West Lake Street, Chicago,

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			Scribner Bldg., New York
cki 'kinr			AKCHITECIUKE

describes the effectiveness of Hild Rug Shampoo in cleaning rugs and upholstered furniture. Application can be made with an ordinary brush or for large buildings and hotels the Hild Carpet Scrubbing Machine makes possible the cleaning of twenty rooms or more per day. Hild Rug Shampoo claims safety for anything pure water itself will not harm, also that it is non-inflammable and non-explosive. It leaves no trace of unpleas-ant odor, yet disinfects and mothproofs as it cleans, leaving rugs dry in four to six hours cleans, leaving rugs dry in four to six hours after washing.

* * *

NEW CONCEPT FOR TEMPERATURE REGULATION

F. 270. In its technically prepared yet readable and informative booklet, the Penn Electric Switch Co., 2000 East Walnut Street, Des Moines, Iowa, covers as briefly as possi-ble the advantages and elementary features of a new concept in room-temperature reguof a new concept in room-temperature regu-lators. The company invites you to read the bulletin with open mind, then take the most difficult temperature-control problem you have—try a Penn Temtrol of either type and note what it accomplishes in room tempera-ture regulation. Explanatory charts make the technical claims easy to follow.

* * *

REFRIGERATION NEEDS COMPRESSION

So the Carbondale Machine Co., F. 271. Carbondale, Pa., publishes a new Bulletin No. 1233 on "Carbondale Duplex Vertical Ammonia Compressors." The new unit is described as a modern two-cylinder singleacting compressor. Among the stressed fea-tures are Strip Plate Inertia Valves, Tapered Roller Main Bearings, Automatic Forced Lubrication and Safety Relief Valve be-tween Discharge and Suction. They are made in a wide range of sizes to cover efficiently and economically all commercial refrigeration and icc-making requirements. Table of sizes and installation illustrations are important parts of the bulletin.

* * *

KINZUA FRAMES ARE "ARCHITECT-DESIGNED"

F. 272. Illustrated folder from the Kinzua Pine Mills Co., of Kinzua, Ore., describes the latest Ponderosa Pine K. D. Frames which have been designed to include the features im-portant to appearance and efficient operation of working parts. This folder is second in a series carrying news and illustrations of exclusive Kinzua products. The Kinzua Win-dow and Door Frames are manufactured for permanent construction.

* * *

ZONE CONTROL

F. 273. Since issuing their well-illustrated brochure "The Johnson System of Tempera-ture Control in Residences," The Johnson Service Co., 507 East Michigan Street, Mil-waukee, Wis., has published a new booklet more technical in illustration and content— "Johnson Zone Control Systems." It discusses automatic temperature regulation as applied to the distributing system-heating mains and branches.

* * *

SUPER-AUTOMATIC ELECTRIC RANGE

F. 274. The Specialty Appliance Depart-ment of the General Electric Co., Cleveland, announces a new de luxe flat-top super-automatic electric range embodying new fea-new features which provide greater utility and modern style beyond anything heretofore avail-able. Ray Patten has designed a radically different style in this new GE model, the Imperial. Among the unusual features are: a new aviation type centralized panel control; radio dial type illuminated automatic tem-perature controls; built-in Telechron timer and clock; automatic lighting in upper oven; and new GE "minute minder." The finish of the Imperial is white vitreous enamel. It is designed to be completely built-in-without necessity for vent or flue.

* * *

CONVERSION BURNER

F. 275. The Heater Division of Motor Wheel Corp., Lansing, Mich., announces the addition to its line of oil-burning utilities of a low-price pressure atomizing conversion burner. Known as the MW Emancipator, it is furnished in one model sufficiently flex-ible to meet all domestic heating-plant re-quirements. Advantages cited are: aluminum casings of stream-line design; smooth, quiet operation; radio interference eliminator; no hot or moving parts exposed; ease of installation and economy of operation; and finest quality controls and accessories.

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A. 97. American Telephone & Tele- graph Co.	
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How Many Functions per Mate-	
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A. 113. Youngstown Sheet & Tube Co.	
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To demonstrate the almost unlimited color combinations possible—and to help you in planning installations—we've made up Lokweave Sample Boxes containing small swatches of the 27 plain colored fabrics, quality samples, color plates of designs, and price lists. Send for *your* Sample Box today—priced below cost, at \$2.00.



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BIGELOW-SANFORD CARPET CO., INC., 140 MADISON AVENUE, NEW YORK, N.Y.

JULY, 1934

"The intense blackness of Castell is ideal for sketching"

William Gehron



Mr. Gehron was awarded the Architectural League Silver Medal in 1932 for two notable bridge designs. One of them, the Veteran's Memorial Bridge at Rochester, is shown above. In the photograph below, Mr. Gehron is using "Castell" in working out plans for the new observatory in California.



Absolute smoothness and density of tone can only come from finer, more expensive graphite. "Castell" graphite, mined in Bavaria, surpasses all others in these qualities. It is for this reason, that a true appreciation of a really fine pencil...A. W. Faber's "Castell", is to be found throughout the architectural profession.

DRAWING PENCILS

USED BY THE WORLD'S FOREMOST ARCHITECTS Made in Bavaria in 18 Degrees » A. W. Faber, Inc., Newark, N. J.



The Gollege Library Building ITS PLANNING AND EQUIPMENT

By James Thayer Gerould

Librarian of Princeton University

Dr. Gerould has visited more than fifty representative American colleges and has studied the library in all of its phases. You will be surprised at many of his findings: the dangers of a donor's imposed theories, north or east as preferable exposures, centralization rather than departmentalization, the desirability of providing reading room for 30 or even 50 per cent of the student body, the advisability of providing double the stack room now required, the alcove scheme's failings, the need for browsing rooms where one may smoke.

The architect will find herein the answers to a host of questions as to what and how and why in plan and materials.

116 pages, 51/2 by 81/2 inches. \$2.

CHARLES SCRIBNER'S SONS 597 Fifth Avenue, New York Architecture and Architectural Books

TELEPHONE CONDUIT PROVIDES FOR TOMORROW'S NEEDS AS WELL AS TODAY'S



Built-in conduit and seven convenient outlets, including one in the third-floor maid's room, provide for telephone convenience in this well planned residence in Hackensack, New Jersey. ARTHUR E. DORE, Architect, Hackensack, New Jersey.



B^{UILT-IN} telephone conduit and outlets make new or remodeled residences more livable —

prevent unsightly exposed wiring — protect against most types of service interruptions.

But their convenience is more than immediate. By careful planning, *extra* outlets can be located at strategic points throughout the house to provide for *future* requirements. Then as children grow up and households expand, the telephone arrangements can be easily extended or revised without the annoyance of messy alterations.

Extra outlets cost little during construction, add nothing to the monthly telephone bill until used, and assure flexible service. They are indicative of a foresight on your part that clients invariably appreciate.

Engineers from your local telephone company will be glad to co-operate in planning conduit layouts for any of your projects. There is no charge. Just call the Business Office and ask for "Architects' and Builders' Service."

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