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EDITORIAL ADVISER

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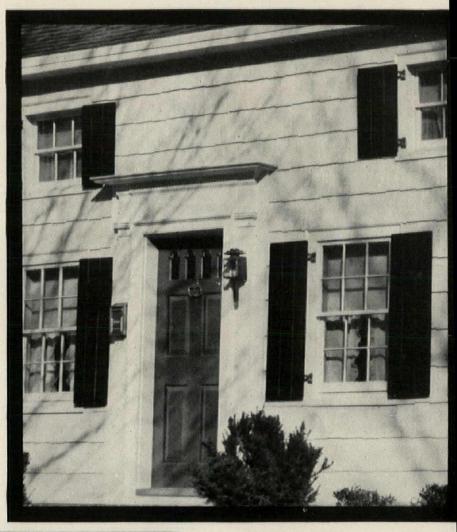
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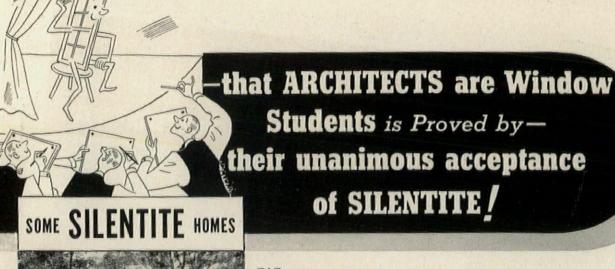
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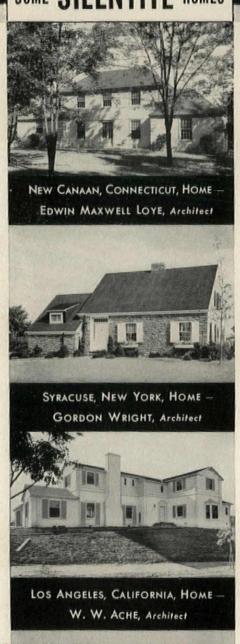
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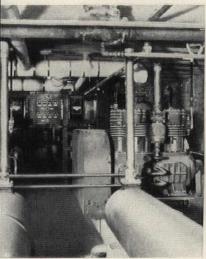
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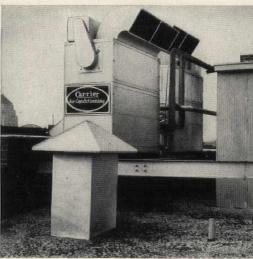


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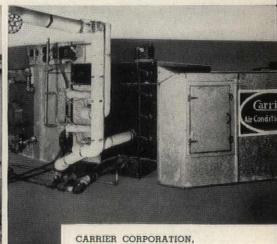
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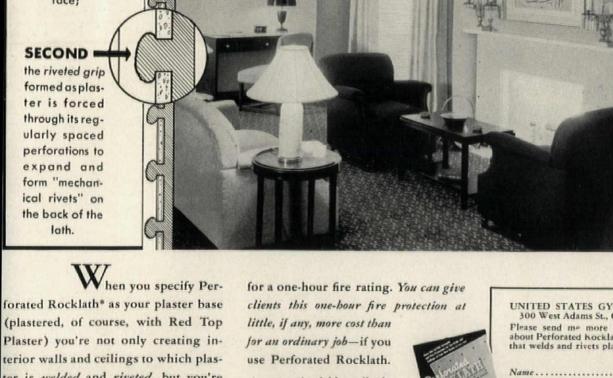
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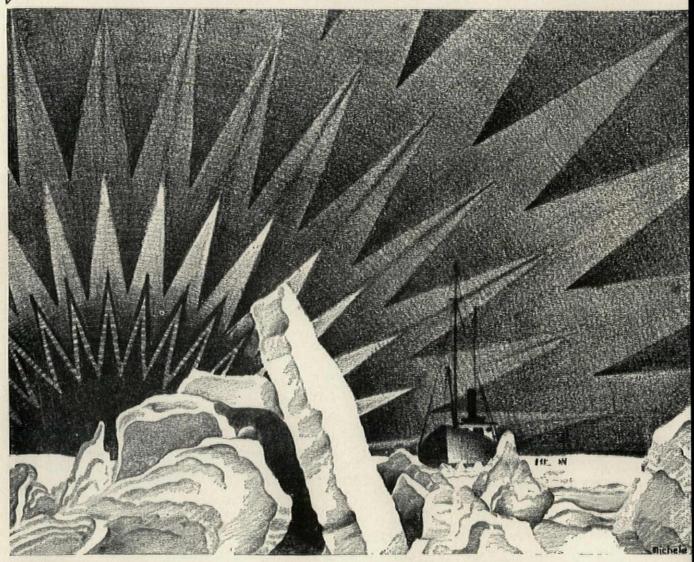
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spring thaw—start now. Newspaper and magazine cuts which appeal to you make fine subjects and are of especial value when the outdoor sketching season is over.

The above drawing was rendered on medium-finish drawing bristol with the famous "Negro" pencil. The intense black of this medium sets off the snow and ice to best advantage. The stylized northern lights were laid out with compass and dividers, and rendered with Negro No. 1. In order to build up a tone whose gradations could be readily controlled, I resorted to cross-hatching; but to avoid the scrubby look which this method sometimes produces, two definite directions of stroke were used. One set radiates outward from the center of the pennons; the other set curves in circular

arcs having the same center as the radial strokes. A rather fine point was used, which resulted in a tone o very pleasing texture.

The ice-jam was handled with Negro No. 5, a few touches of No. 1 being added for emphasis. Notice how, in general, objects are defined by the tones behind them. The ice-cake in the center is practically all white paper surrounded by black sky and dark shadow. It is necessary to plan the toning of various areas before making the finished drawing. A trial sketch on tracing paper is the quickest way to see what you're doing, and is easily made with the "Negro" pencil.

Julian Michele

This is the fifth of a series of drawings by Mr. Michele. A new product, No. 2600 Polycolor Leads in 24 colors, is now on the market. Send for leaflet No. 522-P which gives full description.

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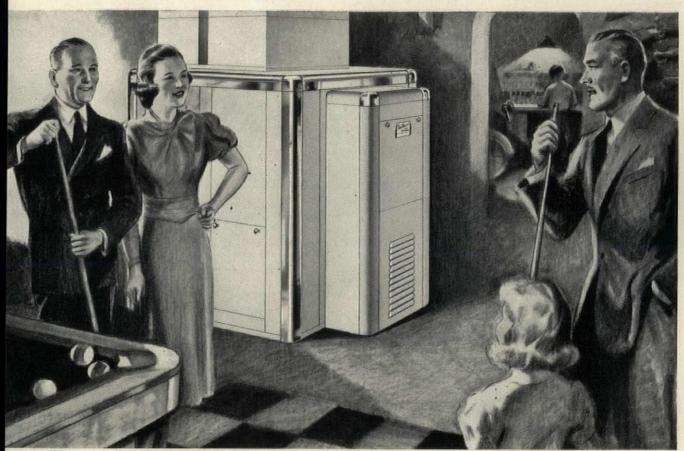


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HERE, THERE, THIS & THAT

Bostonians Yearn For Federal Disbursement

The likelihood of PWA disbursements has quickened some architectural hopes and expectations within our corporate limits. But expectations are not immediately edible or worth much, except as hope titillaters. Anyhow we can boast of one good-sized office building for that miracle, a private owner, and it is just about the only one of its size in New England. Lever Brothers Company is the client and Donald des Granges, architect.

"Red's" Potomac revelations of a Federal architectural world, fed by quasi-reliable springs, is likely to avalanche static drafting forces in a southerly direction, our water-holes being in tough shape. All other advices, brought in by spent Indian-runners from far corners, discourage the hegira idea. One of us, who tried the West Coast and probed here and there en route, was wised-up proper and has returned to grow old in Boston. After all it is a good, clean town, where anyone who speaks to a stranger, without at least a vestigial introduction, is pretty sure to be an itinerant panhandler or some other sort of improper peripatetic. We like it that way.

Rallying handsomely, at a recent Parker House luncheon, our architects pitched for the Massachusets Federation of Taxpayers Associations, to fight political graft and pecuniary prodigality. As a group they face social demands so far in excess of their present earning capacity that the spectacle of the easy-money boys practicing legerdemain at the public till is just too much. Some of us even feel a little bitter about that dummy, Charlie McCarthy, but at least he does his best to be entertaining.

The Eleventh Annual Critics' Dinner, speechless but beerful, was the Architectural Club's event of the month. As Massier, Archangelo Cascieri directed his "thank-you" remarks towards a sizeable group of professionals who had given time and talent as teachers during the past school year. Besides President Loring, Jack Forknall, the keg, the manx cat, a banjoist, and a performer on the accordion, my uncertified record of those present

has the names of Messrs. Albright, Altar, Clapp, Clinch, Garland, Granger, Linnett, Lynch, Putnam, and Richmond. Round and about them, the young gentlemen of the atelier contributed their presences and appetites.

It is unlikely that the architect was on hand who bustled out of his sanctorum, after a longish interval, to interview a newly-graduated aspirant for work. Says he, "We don't run a kindergarten. Call again in a few years." Luckily, the lad had manners.

Another exhibition at the Jordan Marsh store, the ninth in an annual display by contemporary New England artists, had four architectural contributors. Carroll Bill showed, "Lots of Ducks"; Nelson Chase, "Corner of Dartmouth St., Boston"; Walter H. Kilham contributed, "White Lace Gables, Yarmouth"; and E. Donald Robb entered an interior drawing, "Cathedral of St. John the Divine."

Elsewhere Mr. Robb's son, Malcolm, was producing this year's winning Rotch Prize drawing, "A Roadside Hotel." We all gaped upon discovering that "tradition" was again triumphant in scholarship competition. The also capable runners-up were "unshackled."

As this report is indited, no one knows how many not-too-busy offices and men are taking a flyer on the Wheaton College Art Centre Competition. After looking at the invited list, more than one conservative designer propitiated the Goddess of Tradition (whose name escapes me), promised to be back soon, then closed his eyes and shot the works. The experience may plant a seed of iconoclasm in many an hitherto impeccable cerebrum, so that its delinquincies will grow in frequency and duration, and result in a permanent bender. It almost looks like a conspiracy.

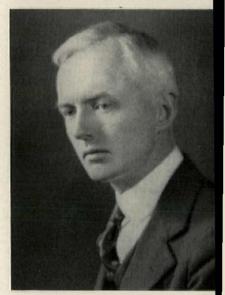
The office of Belknap and Weir claims to be unique hereabouts in having, among its plumbing appointments, a bathtub of relatively modern design and piped for instant hot and cold running water. This water situation was somewhat overdone in Coolidge, Shepley, Bulfinch, and Abbott's cellar-hole for the Massachusetts General Hospital addition. The rainy season came on before a building could be rigged up over the cellar, to keep it dry, and in the tarn that formed some wise guy released a pair of ducks, born white but highly decorated for the occasion with an over-all tartan in mercurochrome. The Boston Archiscots Unfriendly immediately condemned the pattern as bogus and delegated D. T. G. to see that the fowls were impounded and plucked.

LEON KEACH

Columbia University Fellowships Granted

The award of two fellowships and exchange scholarship in the Columb University School of Architecture heen announced by Dean Leopold A naud, as chairman of the Committ of Award which also included Talb F. Hamlin, Kenneth A. Smith, as Donald A. Fletcher.

The McKim Fellowship for \$2,00 given every three years to a gradua of the School, has been granted for 1938-1939 to Harry Beardslee Brainerd of New York, Architect and City



HARRY B. BRAINERD



HERBERT D. PHILLIPS

Planner, who will begin his fellowshi work at the Liverpool School of Civi Design and will inspect port and mar ket buildings of a number of Englisicities before leaving for Moscow and the ports of The Netherlands, Sweden Germany, and the Hanseatic Basin His research, which will have the scope of a doctoral dissertation by this

(Continued on page 18)

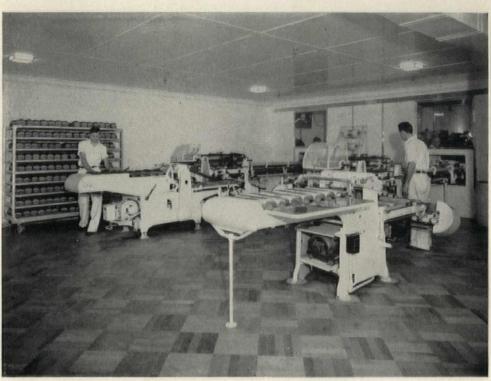
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experienced civic architect, is expected to be of value to the entire profession.

Herbert D. Phillips of New York, a Senior in the School, is the recipient of a University Fellowship for \$1,500 for graduate work leading to the Master of Science degree. For his Bachelor's thesis, Mr. Phillips now is designing a health center for Lower East Side in New York. He won the 1938 Boring Medal of the School.

Richard Compton Harrison, Jr., of New York, a graduate of the School in 1937, has been appointed Exchange Scholar to the University of Rome, Dean Arnaud also announced. An Italian student selected by the Italian Government will study architecture at the Columbia University School in exchange.

Wins Booth Fellowship

Robert C. May, Ann Arbor, a Senior in the College of Architecture at the University of Michigan, has been awarded the George G. Booth Traveling Fellowship for travel and study of architecture abroad.

The award was based upon a competition in the design of a repertory theatre adapted to a specified site, in which the Jury was composed of Detroit architects and members of the College faculty.



RICHARD C. HARRISON, JR.

New Meeting Place

General membership meetings of the Architectural and Engineering Guild, Local 66, of New York, now are regularly held on the fourth Thursday evening of each month at Edison Hall, 226 West 47 Street, according to the May bulletin recently received from the Guild. The Cooperative Housing Movement was discussed at the last meeting of the Guild, when A. Pearlstein of the Amalgamated Housing Corporation was the guest speaker.

Retired Architect Dies

Oscar Wenderoth, former Supervising Architect of the United States Treasury Department who died April 15 in New York, held that Federal office for two years of the Taft Administration during which many important public buildings were erected in Washington, including the Post Office and the Bureau of Printing and Engraving. He also was a former associate of the firm of Carrere and Hastings for several years.

Mr. Wenderoth was a native of Philadelphia and began work there at the age of 15 in an architect's office, entering Federal employ in 1897 as a draftsman in the office of the Supervising Architect in Washington. He later was assistant superintendent of construction when the U. S. Mint was built in Philadelphia and in 1904 he was head draftsman during the erection of the House and Senate office buildings.

When he had attained the rank of architect, he resigned to join the firm of Carrere and Hastings in New York in 1909, then was appointed Supervising Architect of the Treasury Department in 1912. Mr. Wenderoth had not been active professionally for a number of years.





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Something About Macowin Tuttle

The late Macowin Tuttle, whose woodgravures are reproduced on pages 375-378, was born at Muncie, Indiana, on November 3, 1861, and died March 26, 1935, at Buck Hill, Pennsylvania. Distinguished as an engraver, painter, illustrator, teacher, and lecturer, he is particularly well known for his origination of the Wood Gravure which many critics proclaim a new, independent voice of the Fine Arts.

Commencing as an engraver, he devoted fifteen years to perfecting this craftsmanship before turning his attention in 1929 to producing a wooden block as a finished art emotion entirely independent of ink, paper, or the printing press. During this early stage of his career, he also did illustrations for some of our leading periodicals, was a pupil of William M. Chase, Duveneck, and Laurens and studied at the Academy Julien, Paris.

In addition to a series of twentyfour Wood Gravures Mr. Tuttle did at Yale University, nine completed at Princeton, and the eight of the Williamsburg Restoration, there are two more which he completed in Buck Hill a few months before his death.

His work is represented at the Metropolitan Museum and the Mu-



MACOWIN TUTTLE

seum of the City of New York, the National Gallery of Art, the Library of Congress and the Smithsonian Institution, Washington, D. C. Recent exhibitions of the Wood Gravures were held at the Currier Gallery of Art, Manchester, N. H.; the Syracuse Museum of Fine Arts, Syracuse, N. and Montclair Art Museum, Morclair, N. J. One of the Wood Gravu also was shown at the Addison G lery of American Art, Andover, Marand one at the Fogg Art Museu Harvard University, Cambridge, Ma









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World's Fair Draftsman Wins Scholarship

Award of the \$1,400 LeBrun Traveling Scholarship of the New York Chapter, A.I.A., to Harvey P. Clarkson, draftsman for the Board of Design of the New York World's Fair and Assistant Instructor in History at New York University, who won the nationwide LeBrun competition for 1938, has been announced by Oliver Reagan, chairman of the Scholarship



HARVEY P. CLARKSON

Committee of the New York Chapter.

Clarkson's proposal for a "suburban shopping center, developed out of an existing business center in a small town that had become blighted by a main highway passing through it" was selected with three others accorded honorable mention as offering a workable solution of the problem. The winning design appears on page 384. This involved replanning the town to make the shopping center convenient for the residents and at the same time attractive to those on the express highway. The winning design separated the functions of the express highway and the town center, by slightly diverting the highway from the center and providing an overhead pass for shoppers who had to cross the highway. Other designs carried the highway over the street serving the shopping center.

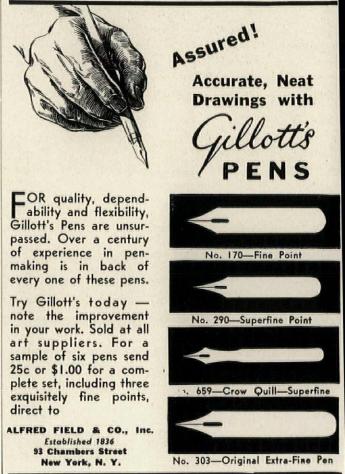
As he is deeply interested in Scandinavian architecture, Clarkson now will travel in Norway, Sweden and Finland as well as on the Continent, with the scholarship fund which was established by the late Pierre L. Le-Brun to give the recipients six months on tour in Europe for advanced architectural study and practice. The scholarship winner has been associated with the World's Fair Board of Design since January, 1937. While an

undergraduate at New York University, he studied under Will Ri Amon, LeBrun prizewinner in 192 and he won the Emerson Prize at the Robert Perry Rodgers Prize of t Beaux Arts Institute of Design f 1937-1938.

Designs receiving honorable me tion were submitted by William Suite of Washington, who studied a chitectural design at the Cathol University, has won several Beau Arts medals and a certificate of ex cellence and now is with the firm Wolcott, Clarke and Waggeman Alexander F. Kleiner of New York who has studied seven years with th Beaux Arts Institute of Design, re ceiving two medals, and three year in Columbia University classes, now with William I. Hohauser of New York; and Justin C. Fabricius of Brooklyn, who is a graduate of New York University, where he won thannual Samuel F. B. Morse prize for excellence in design and served as In structor in Design during 1933-34 Fabricius also holds the diploma of th Beaux Arts Institute and is in the of fice of John Russell Pope, New York

The Scholarship Jury was composed of Reagan, Arthur L. Harmon, the president of the New York Chapter Alfred E. Poor, Harvey Stephenson H. R. Sleeper, and W. F. R. Ballard





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New Orleans Architects Know the Landmarks

Among the complimentary letters received by the editors of Pencil. Points following our April issue devoted to the distinctive architecture of New Orleans are several also supplying corrections of the errors that were almost inevitable in the titles of certain of the plates, as they were assembled more hurriedly than usual. We regret that these were misleading and we thank our New Orleans friends for setting us straight.

The building on Eads Plaza, shown on page 16 of the section devoted to contemporary work in the ancient city, was planned by a special committee of the Louisiana Chapter, A.I.A., we learn from Moise H. Goldstein, Architect, who we understood was the designer. He was a member of the committee, however, with Louis A. Livaudais, N. C. Curtis and Allison Owen, who was employed as architect for the buildings by the Board of Port Commissioners.

The picturesque old home shown on page 251 was recognized by Richard Koch, Architect, as the Darby Plantation. He also informs us that the mansion shown on page 254 is the Chretien House near Sunset, built in 1831; that the pigeonierre shown on page 256 is located on the Parlange Plantation; and that the outside stair shown on page 258 is a detail of Three Oaks, near Chalmette.

An interesting fact about the preparation of plans for the New Orleans Cotton Exchange is brought to our attention by Francisco Lopez, Architect, of San Juan, Puerto Rico, who applauds "bringing Architectural New Orleans to the eyes of the world." He also writes about our illustration of the Cotton Exchange, which appeared on page 24, as follows:

"Nevertheless, it was surprising to me to see that the New Orleans Cotton Exchange is credited to Messrs. Favrot & Livaudais. This is absolutely erroneous, for it was at the office of the late Eminent Architect S. S. Labouisse where plans and specifications were prepared by the mentioned gentleman, assisted by Mr. Neville Settoon, Mr. Louis H. Guerin, Consulting Engineer, Mr. Manuel Garcia, Civil Engineer, and the writer, then a beginner, in the year 1918.

"When Mr. Labouisse passed away, plans and specifications had been drawn up and Messrs. Favrot & Livaudais, who became partners in this job to Mrs. Labouisse, passed on the documents and supervised the construction."

Solutions of Low-Rent Housing Project Graded

The solutions submitted by competing groups in the Competition for Low-Rent Housing Project on the Sit of Glenwood Cemetery, Philadelphia have been comparatively graded unde supervision of the Philadelphia Housing Authority, we are advised by Walter H. Thomas, Technical Adviser to the Housing Authority and Professional Adviser in the Competition.

The first place was taken by the group headed by W. Pope Barney, Director, and Frank R. Watson, Assistant Director. Other members of this group are Roy W. Banwell, Edmund B. Gilchrist, Harry Parker, and William H. Thompson. They will do the strictly architectural designing of the buildings on the first project, the only job promised to date, subject to the supervision and control of a Technical Advisory Board acting for the Authority.

The group winning second place is composed of Walter T. Karcher, Director; George H. Bickley, Assistant Director; Duffield Ashmead, Jr., J. Roy Carroll, Jr., Clarence De Armond, Morton Keast, and Livingston Smith.

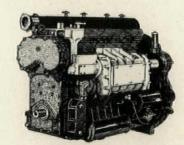
Sixteen groups were represented in the competition.

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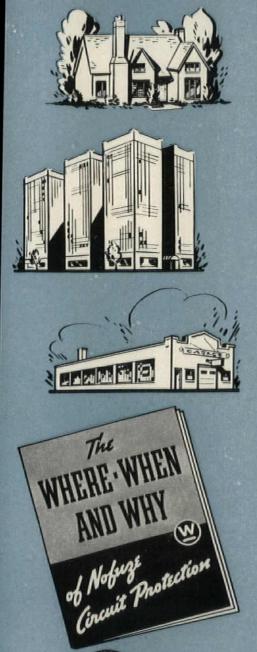


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more efficient job for less money. The guideline on studs will please the lather—keep costs down. I'll get more and better jobs. Satisfied owners will recommend my work to their friends."

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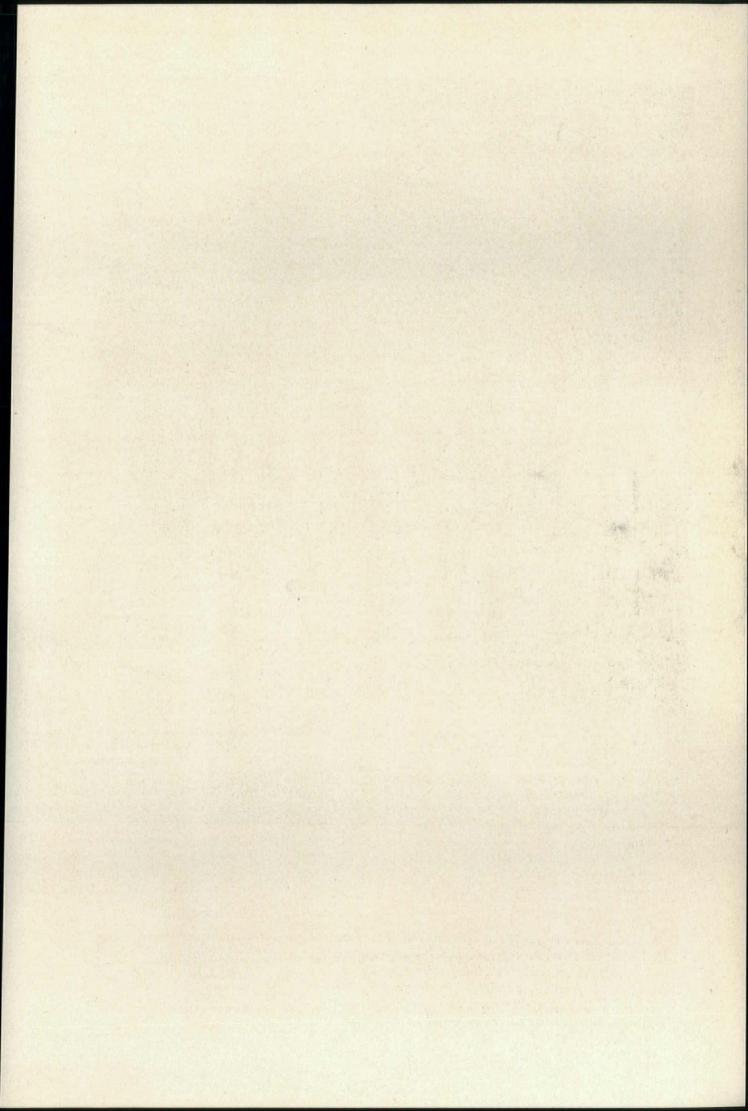


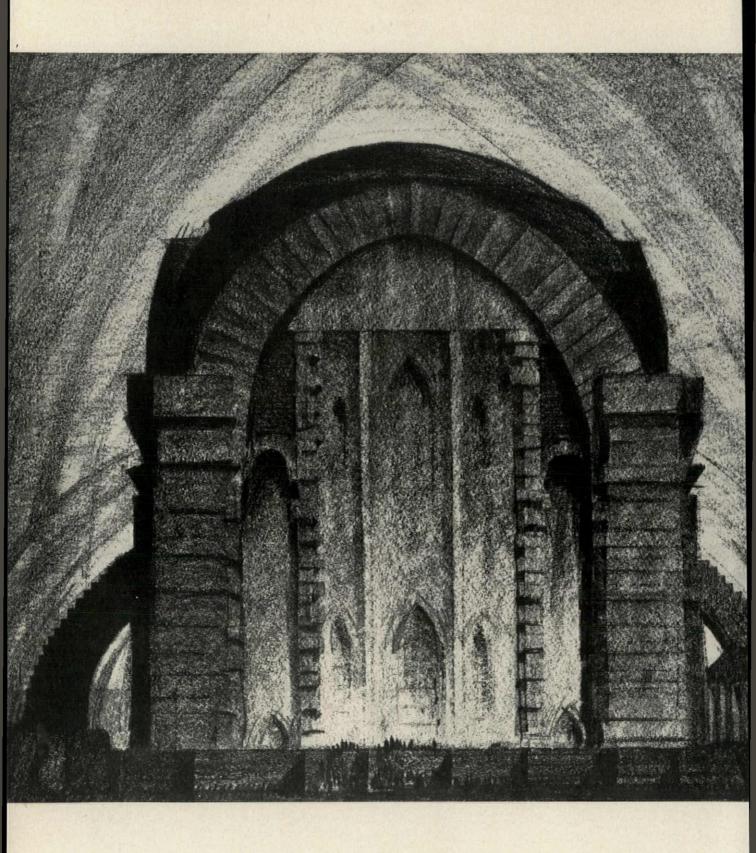
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The monumental construction of the Cathedral of St. John the Divine, in New York City, is interpreted with unusual effect by Hugh Ferriss in this lithographic crayon study made from the front of the unfinished building and showing the lofty main arch of the nave, the massive walls and supporting buttresses on either side — all on a vast scale

THE ARCHITECTURAL LEAGUE EXHIBITION

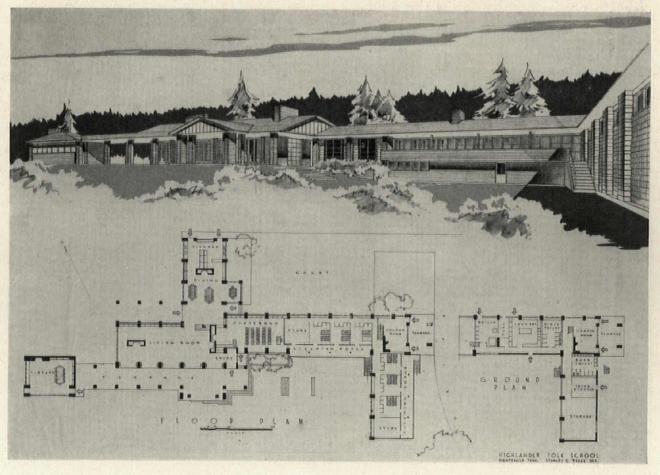
REVIEWING CONTEMPORARY AMERICAN ARCHITECTURE

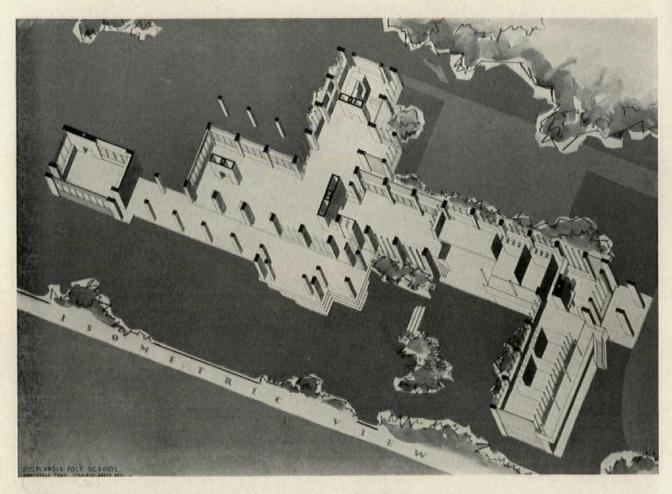
BY TALBOT FAULKNER HAMLIN

For its exhibition this year, the Architectural League set for itself a high task—no less than a review of the architecture of the entire country over the past few years. As such, the exhibition has an importance far beyond that of the usual annual show; here, if the avowed purpose has been realized, one can see the present state of the architecture in the United States, its progress, its achievements, its character. To produce this exhibition, the country was divided into rather arbitrary geographical sections, and in each a local jury was set up to select the material exhibited. How the juries were chosen, I do not know; however, it is obvious that any such system produces less a

complete review of the architecture of this country than a review which expresses the tastes of a group of local juries. Any local comparisons I may make must be accepted with this qualification. If the local juries are all equally expressive of the general taste of their regions, the method by which this exhibition was chosen is valid. For the purposes of

The Highlander Folk School at Monteagle, Tennessee, designed by Stanley C. Reese, Architect, of Chattanooga. Here, clarity of presentation accompanies clarity of design; the use and expression of the materials and the simple demarcation of planes are quite delightful. The isometric view overleaf emphasizes the orderliness





criticism one is forced to make this assumption, but it is an assumption only.

The first impression one gathers from the show is one of a sort of collective paleness, of caution, of rather stereotyped but well-bred quietness. Were all the juries over-cautious in their choices? Surely American architecture has produced more definite affirmations, more courageous and daring work than the average that is evident here! Or are those more creative things so rare as to be without significance? The list of architects of importance who are not represented here is too long for the observer to arrive at any such conclusion.

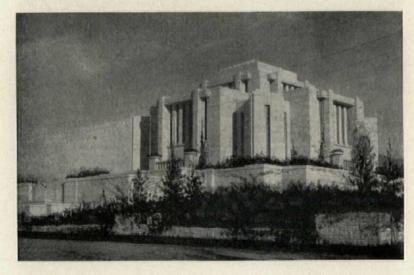
There seems to be a sort of collective caution, too, in the types of building represented. Of course, more houses are built than any other kind of structure, but houses form the most backward and tradition-bound type of building as well. Really significant work is most often along other lines, and one notes here an extraordinarily small number of schools and an almost total lack of industrial buildings. Undoubtedly the most important development in the architecture of our day in the United States has been that of large-scale

> housing; yet here the housing exhibits are few in number and un-

impressive.

We may forget these omissions and consider the exhibition merely for what it is, and not for what it is not. Surely its more than 1,600 items must produce some

Alberta Temple, the Mormon Church at Alberta, Canada, was designed by Pope and Burton of Salt Lake City. It has vivid, daring form; the whole may lack perfection but certainly not vitality



dominant effect. The most striking impression which I received did not concern architecture at all-it was merely that American architectural photography has made enormous progress. The general standard of these photographs, as photographs, is of the highest. Pictorially they are interesting, at times dramatic. Technically they are superb. Architectural photography, which started out as a mere recording of buildings, has become — as a certain type of architectural rendering became — a creative art. But, in this development, the architecture has become quite secondary to its representation, the photograph. Buildings are not photographs. The "good" photographer, without realizing it, may give utterly false and deceptive representations of buildings; and in many of the photographs shown it required a real effort of will and imagination to pierce behind the lovely pattern of the photograph to the actual material form of the building.

An exhibition so preponderantly of photographs of buildings becomes basically unrealistic. One has the same impression of superficial smartness and good looks that comes from leafing over a smart woman's magazine. Of course there are exceptions; some architectural photographers have the artistic humility to submerge their own desire for drama and pattern in the effort to represent as much of the essence of the building itself as they can; but such photographers are all too rare. The artful foreground of foliage and the trick point of view are much too common for verity.

In such an exhibition, it would seem that the need for plans and similar descriptive drawings was more important than ever. After all, architects and architectural students form a large part of those who visit this show, and, even at the cost of a few discordant notes in the universal brown surface of the exhibition, they should be told



William P. Henderson's Navajo House of Religion at Santa Fe, New Mexico, is based on the geometry of primitive worship. The interior, shown below, is daring, simple, expressive, alive, and appropriate



Vivid handling of materials and bold simplification of form are evident in "Stone Ashley," a residence for Miss Florence L. Pond at Tucson, Arizona, by Grosvenor Atterbury with John Tompkins as his Associate





A bouse at Madison, Wisconsin, by George Kastner and F. J. Brimeyer of Milwaukee combines rhythms suggestive of Frank Lloyd Wright with plain surfaces and wide windows of contemporary vernacular



Simple sincerity which disarms criticism marks Hervey Parke Clarke's residence near San Francisco. Below, William Wilson Wurster's beach house for Dearborn Clark is frankly of wood and frankly of today

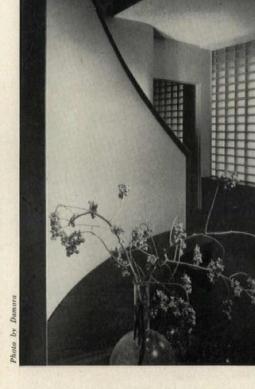


some cold and definite facts about the buildings themselves and why their forms are what they are. Photograph-architecture is probably the most dangerous and insidious kind of paper-architecture; to have required a plan or plans with every building shown might have provided a healthy compensation. Where really descriptive drawings were shown, as in the case of Stanley Reese's excellent Highlander School, the relief, after the acres of photographs, was enormous. The Reese drawings became a sort of little climax all by themselves, and his isometric plan, with its skeleton structure, shows that plans can be made which are interesting and tell their story even to the com-

paratively untrained.

If the necessary additional effort is made to discount the beauty of photography, and the exhibition is studied again, the quality of thoroughly competent timidity seems all the more to stand out as the chief impression. It makes the visitor long for something almost outrageous to balance the universal pallidity. When one comes on even an eccentric and personal invention like Pope and Burton's Alberta Mormon Temple, it seems to have a value out of all proportion to its merits. A heavy stone-faced pile, with its masses a caricature of Wright's Unity Temple, it has, nevertheless, some vitality of its own, some queerly awkward sense of planes interrelated; it seems unafraid and alive. So William Henderson's Navajo House of Religion at Santa Fe is alive, and, both outside and in, its statement is as forceful and direct as its exterior form is simple. In the same manner Grosvenor Atterbury's and John Tompkins's "Stone Ashley" estate at Tucson stands out from the run of colonialesque niceties that dominate the domestic architecture shown; its powerful masonry, its grouped windows, its low blocky forms, its wedding of building and garden, all seem of an excellence all the more note-





Hays, Simpson & Hunsicker's Hall of Progress at the Great Lakes Exposition has vivid gaiety, daringly applied. You may question the taste, but not the vitality

Above and below, views of a house by Victorine and Samuel Homsey of Wilmington, Delaware. Outside and in, this is obviously a place to live—simple, warm, real



Photo by Damora



This Fine Arts Center at Colorado Springs, Colorado, solves its complex plan problems with gracious ease and its simple, direct forms make an admirably sincere, well-composed expression of its plan and its materials. Two views are shown here. John Gaw Meem of Santa Fe was the architect



worthy because of its rarity. The same is true, of course, of the one view of Taliesin, by Frank Lloyd Wright, which, if it were not so well known, would deserve a much longer comment; true, too, of John Lloyd Wright's excellent "House of Wood." Keck's rather eccentric Bruning House, at Wilmette, also deserves notice, if only for its attempt to inject new compositional elements into the "International Style."

The second great impression one gets from this more careful study of the exhibition as a whole is of an insidious and all too common insincerity. This is a hard judgment, which I hate to acknowledge; but, if we call insincere any artificial seeking for effect by meretricious ways not flowing naturally from the problem, I am afraid it will have to stand. This aptitude for producing effects is part of our general competence, perhaps, applied to the wrong things. Again and again these houses seem obviously attempts to compose pretty, or telling, "bits." Charm is sought too consciously in some, obstreperousness or ostentation too obviously aimed at in others. The same is true of much of the commercial architecture shown, especially the examples from the Middle West. Thus these office buildings often ape a monumentality entirely unwarranted; they pile modernist detail upon modernist detail.

This quality of insincerity is not a matter of style choices. It cuts across all the stylisms of this generally style-ridden exhibition. Nor are the examples showing sincerity-some obvious, patient, and humble attempt to create buildings which shall grow as naturally, and with as little artificial effect, as grass plants grow -examples which stand out like rather precious jewels, all of one style or all of the typical modern type. No; this sincerity is a matter of basic attitude, or perhaps rather of the basic character of the individual architect.

For instance, this quality seems almost equally present in Gardner A. Dailey's Lowe House, Woodside, California, in Winchton Risley's more traditional Clapp House in Pasadena, in William Wurster's modern Beach House in San Francisco, in Hugh Keyes's "Regency" Trix House at Grosse Pointe, in Paul Schweiker's Third Unitarian Church, Chicago, in V. and S. Hormsey's house at Wilmington, Delaware, in Armstrong and Koch's Reily Cottage at Bayou Liberty, Louisiana, in Coolidge, Shepley, Bulfinch, and Abbott's classic revival High School at Fitchburg, Massachusetts, and in Cameron Clark's very New England Town Hall at Fairfield, Connecticut. Compare this last, for instance, with the same architect's Washington, Connecticut, Town Hall, with its tricky variations on colonial themes and its over-rich and yet meaningless ornament, to see the difference between a design which is disarming in its complete simplicity and one which wears obviously too much make-up.

It is that same quality of sincerity which distinguishes Milton McGuire's Andrus Memorial at Yonkers, with its simple walls and roofs, and which, in a building of entirely different kind, makes Cret's Federal Reserve Board Building in Washington stand out so sharply from its showy and meretricious Washington com-panions. One feels behind Cret's quiet, classic front some kind of honest reality. The interiors shown have the same quality of open simplicity, and of graciousness; both outside and in, the quiet classicism of the detail becomes no mere expression of archeology or of waste, but has a validity all its own.

On the other hand, buildings of much more modern style may lack this quality entirely, and may substitute for it a mere smart and wise-cracking slickness. This quality, it seems to me, is present in all too much of the otherwise excellent work done in connec-

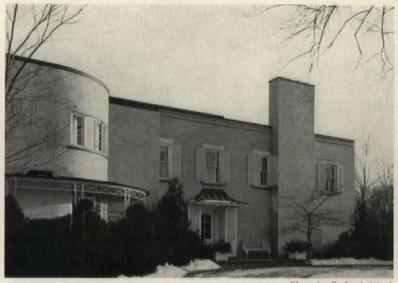
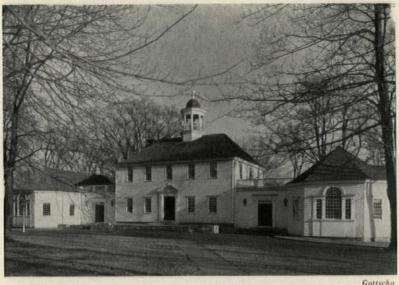


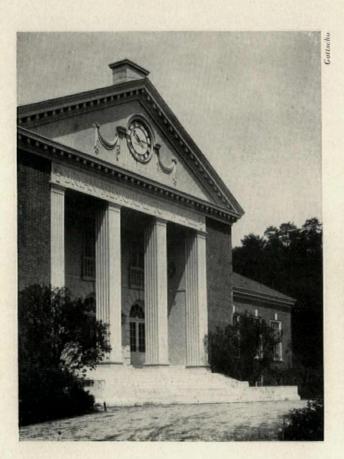
Photo by E. L. Astleford

"Regency," perhaps, in style, but very obviously, very sincerely, a large pleasant bouse without trickery or ostentation is this residence for Herbert B. Trix at Grosse Pointe, Michigan, designed by Hugh Keyes, Detroit architect. Below, a residence at St. Louis designed by Ralph Cole Hall, though Classic Revival in basis, is not forced; its brick walls and windows are bouse parts rather than exhibitionism





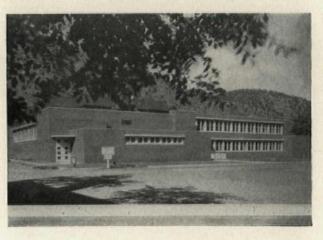
Cameron Clark's Fairfield Town House at Fairfield, Conn., stands in perfect simplicity-a New England town hall. Here, again, the style becomes merely a means, not in any sense a show-off. In contrast, another New England town ball-the Bryan Memorial at Washington, Conn .- designed by the same architect. The style in this instance has become an end in itself; as a result the whole building loses sincerity, reality, and tends to become essentially nothing but a fashion plate



tion with the tunnels and bridges of New York; the flood-light tower of the Lincoln Tunnel and the tunnel entrances, for instance, are altogether too facile and restless in their play of unnecessary planes, in their too obvious striving for a "modern" effect, in their confusion of show and beauty. This is all the more surprising because, in such works as Aymar Embury II's Triborough Bridge anchorage, his sense of clear, simple, powerful, and sincere form seems superb.

Something of the same contrast between smart competence and quiet sincerity appears in the mural paintings and the sculpture at the exhibition, and again it is not a matter of styles but of basic attitude. Thus Thomas La Farge's murals of sea life, representative though they are, have a delightf. honesty, which they share with Elsa Jemne's Minneapolis mural, where she is seeking new symbolisms of rather Rivera type, and with A. Hansen's "Plank Road" for a high school in Milwaukee, with its quiet acceptance of a slightly stylized realism. What a contrast there is between this quiet simplicity and the strident complexities of the Court House Interior at Nashville, where Cornwall's rather showy figures be-

The Idaho Springs High School by Frank W. Frewen and Earl C. Morris of Denver, Colorado, was one of the few schools shown. It is most successful in its direct bandling of brick, its strong borizontal bands of windows, and its beautifully modulated planes and masses



tween the marble pilasters seem merely competent; like the architecture around them, they seem to be striving so hard to be modern and striking that they achieve only the effect of a clever and rather tricky effort; they become modern only by becoming fashionably dated. The best painting never dates.

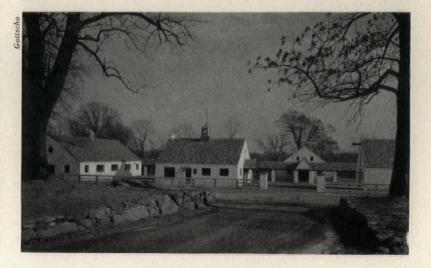
There is too much of the same kind of slickness in much of the sculpture. Little strictly architectural sculpture appears; of the separate pieces scattered around the rooms too many seem to lack real feeling and a true sense of scale. Little pieces look like big figures reduced, big figures like table decorations blown up to many times their actual size. Amateis's "Paul Bunyan" for the World's Fair is an example; the simplifications are too stylized, too superficial, for monumental sculpture. One turns away with relief to the simple humor of Perna Krick's "Young Siren," to Saul Baizermann's vivid and lavish copper relief, "Exuberance," and, especially, to the real grandeur, the large and commanding simplicity of Carl Milles's Peace Memorial at St. Paul.

There is a large amount of landscape work illustrated in the exhibition. It has the same competence in producing lovely views to photograph which is so noticeable in the architecture. At times one suspects a similar superficiality, a similar lack of a complete realization of the site, the building, and the use of the garden. American landscaping is at its worst in its handling of the relations between building and ground; again and again the gardens are units entirely separate from the house; again and again it would seem as though the landscapist had no sense of what the house or the garden were really for, of the fact that people in the houses look out of windows and sometimes like to step directly out from house into garden. It is almost as if the landscapist in many cases were doing his utmost to



The Third Unitarian Church, Chicago, designed by Paul Schweiker, Inc., combines beauty of texture and proportion. It is a simple, direct solution of the problem in which pleasant materials have been used in characteristic ways. Out of these, real architecture grows, as here

Milton H. Maguire of New York was the architect for the Julia Dyckman Andrus Memorial at Yonkers, N. Y. His elements were roofs and walls and windows and doors . . . What more need an architect seek?

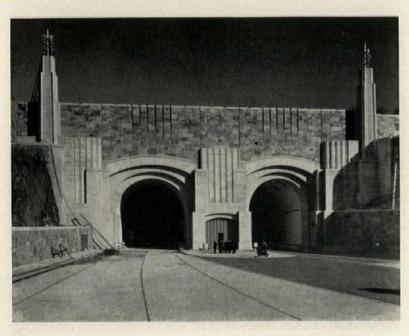


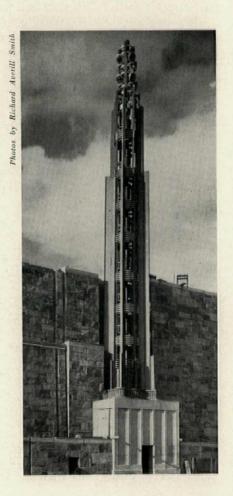


Paul P. Cret's Federal Reserve Board Building in Washington is so widely known that extended comment is unnecessary. It is Classic but convincing; its style secondary to its directness



In the New Jersey entrance to the Lincoln Tunnel and in the Flood Light Tower for the same project, Aymar Embury II, Architect, became involved in complexity of plane and line in a strident effort to be up-to-date. O. H. Ammann was Chief Engineer and Ralph Smillie was Engineer of Design with whom Mr. Embury was associated on this job



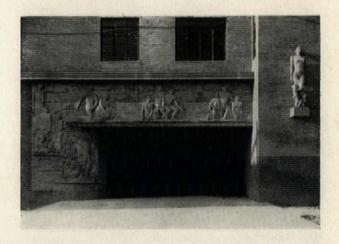


forget the house entirely. Another besetting sin of American landscape designers is over-planting - particularly over-planting close to and around buildings. Too often the effort seems to be not only to disregard the functions of a building, but also, as far as possible, to conceal the building itself. Great gardens are almost always those which relate most closely to the building for which they exist. The great virtues of the landscape work exhibited lie in its expert handling of plants-that is, in its horticultural phases. Especially lovely are certain of the semi-wild gardens shown, which are marvelous in their blending of nature and art. But a closer cooperation between architect and landscape designer, and a clearer recognition of the need for the closest relation between the work of each, seem sorely needed.

The exhibition, fortunately, is hung with all the works of each locality grouped together, so that some approximate geographic evaluation is possible. Differences between the groups are obvious. We are developing a certain regionalism of taste, a regionalism that is as much a difference of artistic ideals as it is of climate. The old leadership of New York



In his Triborough Bridge Anchorage, Aymar Embury II, as architect for the Bridge Authority, reached expressive form without undue straining for effect. This is real architecture again. A. H. Mann was Chief Engineer and Allston Dana was Engineer of Design for the Authority



The Lansington Terrace Housing Development in Washington, D. C., had for its architects Robinson, Porter & Williams. This, one of the few housing developments in the League's exhibit, has from its very nature a vitality that many of the exhibits lack. The sculpture, by D. Olney, is an unusual and attractive solution of a difficult decorative problem. It demonstrates how well good sculpture can be used to embellish contemporary buildings

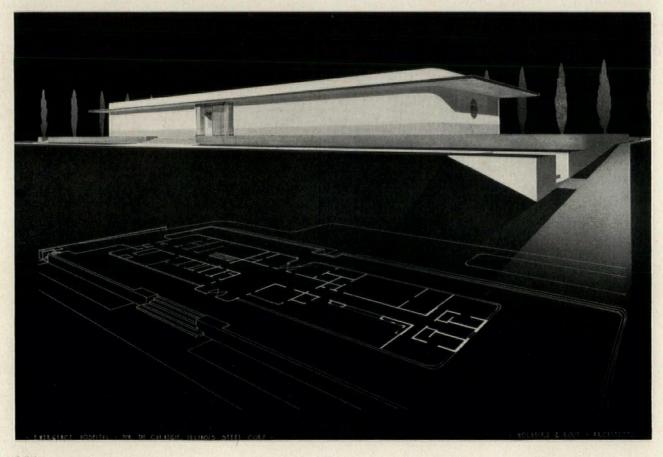




A view in Chatham Village, Pittsburgh, for which Theodore M. Kohankie was the architect, shows simple and attractive landscaping; planting to embellish, not to hide the buildings; making a real amenity and not a nursery or horticultural exhibit. This natural effect is good

An Emergency Hospital designed by Holabird & Root for the Carnegie Illinois Steel Corporation has quiet simplicity, simple geometry, clarity

and Chicago has disappeared. Much of the best work in the show-at least that which seems most alive, most real-comes from the central part of the country, from Santa Fe, from Utah, from St. Louis, from Denver, from Milwaukee. San Francisco holds up well, as does New Orleans. If any work of Neutra or Schindler had been shown in the Los Angeles section, the result there would have been different; as it is, save for Risley's Clapp Residence, all the work shown is the most insignificant moviemagnate type. In general, the eastern part of the South seems almost destitute of original work, and the New England work shown, except for Eleanor Raymond's Sculptor's Studio, seems dull and desiccated - at best, a nostalgic search for dead glories; at worst, a continual and listless reiteration of the styles. New York's exhibit is curiously uneven; it stresses, rightly, the work of the Park Department and similar Authorities under Aymar Em-



bury II (of which I have already spoken). The New York exhibit varies from the worst and most conventional and most lavish of interior decorator's paradise houses to some erratic but imaginative World's Fair buildings. It is restless, obviously, in all its roles. But without Harlem River Homes, without anything by Lescaze or Stone or any of the younger and more creative designers, it is manifestly a non-representative, one-sided show.

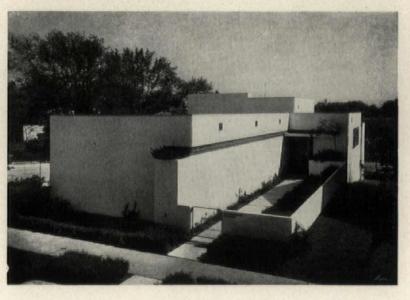
Yet the geographic comparisons remain, for New York, discouraging. We who live in New York must now realize that control of the architectural destinies of America is not ours, despite the crowding together here of money and of publications. It should be a healthy experience for us, and make us more humble before the breadth of this country and the variety and vividness of its artistic potentialities.

For the architects of the country at large there are lessons to be learned, too. The greatest, it seems to me, is the lesson to be found in the difference between competence and creation, between superficial effectiveness and honesty, and between exhibitionism and sincerity. Building design is not an opportunity to show all you know, but rather an opportunity to use your knowledge to create a certain building for the use and the delight of the world. To do this requires more than cleverness, more than the ability to absorb and express the currently fashionable, more than facility in producing cute atmosphere; it requires a large sense of humanity, of people-real people, not Vanity Fair people—and a deep sense of the essential dignity of buildings. It requires the genius of being able to subordinate one's self to the materials and the needs of the building, and of making taste secondary to beauty. It requires some kind of honesty in facing life and in recreating a beauty that is innate in real life.



From California; attractive gaiety attained in simple forms in the Biltmore Beach Club at Santa Barbara. Gardner A. Dailey was the architect for this successful conception of a setting where people may relax and play

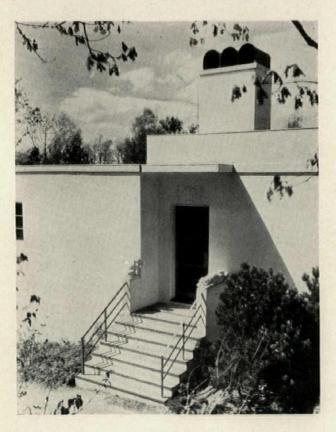
From St. Louis; a doctor's office building that is simple, modern, but not tricky. Harris Armstrong did it for Dr. Leo M. Shanley





From the Rocky Mountains; a simple house in wood and masonry—welcoming, warm, direct, sincere. The Bromfield Residence in Denver, Colorado, designed with contemporary awareness by Burnham Hoyt

From New England; one of the few entries from this conservative region which is not an exhibition of stylism. It is a sculptor's studio designed by Eleanor Raymond, who practices with great distinction in Boston



It is for that reason, I think, that any exhibition so largely of the grander type of houses is likely to be misleading. The life lived in those houses is often so unreal, so fantastically proud, snobbish, and inhuman, that the houses themselves cannot help expressing the fact in their superficial lavishness. It is difficult for any real architecture to come out of such an expression, save at the hands of a very great and very forceful architect, who can impose his own integrity on the conspicuous waste" of his client. There is some connection between great programs and great conceptions. And the problem of the great house is a twice-told tale, signifying nothing; it is stale, fundamentally banal.

No, the future of American architecture lies not in these palaces for the privileged. What are our great problems, our great programs, today? Large-scale housing, for one-New York has in Harlem River Homes one example to show the promise; Camden, Philadelphia, Cleveland, and the list is growing daily. Parks and park buildings. Schools. Railway stations. Airports. Bridges. Dams and power houses. Humanized factories. These are the great architectural problems of today, for which tomorrow must find an

answer.

And, in this search for an answer, this exhibition, I think, shows us the two qualities we must most consciously seek-daring and sincerity. Perhaps we must throw overboard much of our boasted slick competence and start almost at the bottom again. We have a lot to forget-we must take the simplest elements of building and master them anew; we must see them with new honesty, unprejudiced alike by past styles and new fashions. Then we shall have a firm foundation; then we may be able to create anew, to develop living answers to our great problems. These will be the new and the great architecture of America.

ARCHITECTS CAN DO LOW COST HOUSES

BY ADOPTING THE SEPARATE CONTRACT METHOD

BY H. VANDERVOORT WALSH

THE most ardent advocates of the patented type of prefabricated house must admit, in the light of the experience of the past four or five years, that this system of building has not shown the results which all the prophets predicted for it. And why has not the idea progressed as anticipated? For one good reason, at least. The average house, as it is built today, is essentially a partially developed prefabricated house, very well adapted to the sluggish social conditions which surround us.

When the greatest clamor for this all-factory type of house was at its loudest a few years ago, I repeated in articles and speeches over and over again that the all-factory built house could not be the solution for building homes, since they were not like automobiles or refrigerators. I am again repeating, in hopes of gaining a greater audience, that the solution of building cheaper homes is to work out more efficient means of buying and assembling the existing standardized and prefabricated parts of houses which are now available on the market and already in wide distribution. It is absurd to say, as do many advocates of prefabricated houses, that we build in the same old manner as did the slaves of Pharaoh. Nothing which goes into the construction of the modern American home is the same type of product it was even fifty years ago. Every unit of construction and equipment has been standardized and studied for ease of transportation and assembly. The big problem is to get them together at the site.

The key to lowering the cost of building homes (not the financing cost) is for the technical man to find a way to get into a position where he can apply his knowledge to the problems of assembly, and get his costs down below those of the speculative builder. To date, it has been this fellow, the jerry-builder, who has gotten nearer to the solution of lowering costs than anyone else, but he does not pass the benefits on to the buyer.

Experience shows that the architect as he conventionally practices cannot obtain as cheap a house as the speculative builder. Certain professional restrictions have blinded him from seeing the facts eye to eye and attacking the problem directly. None of the systems, sponsored by the architectural organizations, for supplying cheap stock plans has been successful in getting down the cost of houses because reducing the cost of plans has little effect on the actual cost of the house, which is the cost of materials and labor to assemble it. Besides, stock plans always have to be altered to fit local conditions.

On the other hand, the speculative builder who is free to do as he wishes does not take the plans and specifications too seriously. To him they are only rough guides and means to an end. He knows that the cost of the house he erects will be the result of his buying. He wants to keep the plans in a liquid state so that he can be an opportunist and take advantage of the market or play one sub-contractor against another. It's a rough game of bluff and mild deception, for which the technically trained, professional man is utterly unfitted.

Architects who have been able to afford to experiment in the small house field have learned that no matter how carefully they make their plans, with much thought to cutting down costs, all their efforts will be in vain when the bids come in. One almost becomes cynical as he finds that the more meticulously the plans are drawn, the higher the bids will be. Big specifications are certain to yield big bids. I know many architects who do not believe this, but let them try out two sets of drawings for the same house, making one a *study in simplification*, almost to the point of being sketchy. This latter will bring in lower prices.

There is an old story about the contractor who determined his costs by the weight of the specifications, the heavier they were the higher was his bid, for he said such specifications mean that there is a fussy architect at the other end, or else an inexperienced one. Under such conditions no architect can benefit by his studies of improved methods of construction intended to cut down quantities of labor and materials. General contractors who bid on architects' plans do not pass on to the owner the savings which technical economies in construction ought to produce. To a certain extent conferences with the lowest bidder in which these economies are considered will have some correcting influence, but not enough. The fact still glares out that the architect who has a house constructed by a general contractor cannot get as low a cost on it as the speculative builder or the builder who does not use the services of an architect.

Why should it be heresy for an architect to hold that in the field of the small house, the general contractor should be eliminated by the architect? Is it not sensible, if we believe in the powers of the technical man, to provide conditions for him to make a living in the field in which he is expected to work? If the architect is to invade the field of the small home, he must be properly compensated for his labors or he will not enter it. The budget of the small house is so cramped that it cannot stand an architect's fee and a builder's profit. One or the other must be dropped, and up to the present time it has been the architect's fee.

Some architects seem to have forgotten that throughout the ages the finest examples of architecture were built by labor and materials paid for directly by the owner, and not through a general contractor. The present system, whereby an architect designs a house and lets out the plans for bids to general contractors, is comparatively new. Yet there are some who seem to think the general contractor is hoary with age and tradition. They call any idea which suggests his elimination a radical one, full of dangers to society! Yet many architects in this country have built fine structures without a general contract.

Since there is not room for the contractor's profit and the architect's fee in the small house field, I propose the simple idea that the budget of the small house contain only the architect's fee. Since the builder of the small house offers to his customer "free" architectural planning, why should not the architect offer "free" building service? Is one any worse than the other? But stop . . . I hear the shouts of disapproval, the contractors crying "unethical practice," and the architects with no experience in the small house field nodding approval.

If the architect, who is the only technical man in the building industry with a broad training in all branches, can invent cheaper ways of assembling the parts of houses, why should he not set up a system of construction by which he can pass on to his client the advantages in lower cost which he can create by his planning? But such a system must presume that the technical man is in charge of operations, not a broker whose main interests are in the profits he can squeeze out of the operations. But how can the architect get into this position? If he becomes a general contractor himself, he is in business to get his profit and must compete on the same level with the other men. The answer is that he should use the "separate-contract system of building."

For clarity, I shall define what I mean by the "separate-contract" system of building under the supervision of an architect. It consists of substituting for a single contract with a general contractor many contracts with the master mechanics of the several trades, and in substituting for the management of a general contractor that of the *architect*. The specifications must be prepared so that they can be separated into the different trades to allow a number of bids to be taken in each field.

It is important to realize that when an architect directs the work of many contractors instead of one his professional status is not lost. He in no sense becomes a contractor. The owner signs the many contracts, just as he would the one, and the relation of the architect to the owner remains the same as when a general contractor is employed. Many architects and even lawyers will question this statement, but except for possible political manœuvres through professional license boards, the legal status of the architect so operating cannot be questioned. This matter is fully discussed in the Handbook of Architectural Practice issued by the A.I.A.*

This procedure places the architect, as agent, more intimately in charge of buying for the owner the component parts of the house. Since the modern house is the assembly of many standard parts, the architect can gain the benefits of cost reduction resulting from good technical planning and pass them on to his client. He can adapt his tactics to the local conditions in which he is building. For simple country carpenters and masons, simple plans and specifications. For towns with building codes, plans with enough on them to conform.

Most owners are afraid to build houses this way. They have been told that they need the

^{*&}quot;The Owner signs the many contracts, just as he would the few, and the relation of the Architect to the Owner and to each contractor remains without change," Handbook of Architectural Practice.

security of the general contractor. They think of him as a rock of strength, the head upon whom all responsibilities can be placed for every wrong act of every mechanic. Unfortunately, the conditions are not like this, as all who really know the workings of the building industry will confess in secret. Very few contractors who find they are losing on a job will finish it up without skimping on materials and labor. Very few will even finish the job at all. I heard the statistics from a credit company on this once; they were something like "2% of contractors finish their jobs when they are losing money."

The general contractor knows that in competition he must be among the lowest bidders to get a chance at the job. His proposal depends more upon the bids from the mechanics of the various trades than on the value he puts upon his own work. To get the lowest subbids he invites a host of sub-contractors and he does not inquire too closely about their qualifications. If he gets the contract as the result of his low bid, he does not necessarily close with the men who have bid to him, but employs every device he can to depress their figures by inviting still more into the competition. Even though one has no knowledge of the building game, it requires little imagination to estimate the amount of potential trouble that can be stored up by such methods.

With the "separate contract" system, though, legitimate savings can be brought about for the owner without resorting to such tactics. The various mechanics speak directly with the architect who is the designer of the plans and so can get a first-hand impression. This procedure makes for clearer understanding of the intentions of the plans and brings lower bids. Then, too, is the added sense of security, which the master mechanics feel when they have contracts directly with the source of money, the owner himself. When they have performed their end of the bargain they receive their payment directly and not through another source. The middle man idea of the general contractor leads to suspicion. Dealing directly with the owner this way, the mechanics, if guided by the architect, can be persuaded to give the reasonable "breaks" when they occur. In addition, there are savings which the owner can effect if he can buy certain equipment through his personal business connections, obtaining the discounts.

As for the security of the owner under this system by comparison with the general contract arrangement, it is well to recall an old saying about having one's eggs in many baskets. If the owner has ten contracts, it is not

as serious if one goes bad as when he has only one contract. He can easily get another carpenter or mason, but once a general contractor defaults he leaves a wide swath of unpaid bills behind him. Even if he has been paid with caution, it is very difficult to finish up a job with the money held back. Besides all new mechanics have to be called in as the old ones will be fighting mad to get the money which the general contractor did not pay them.

I have often heard it said that an owner can protect himself against this situation by making the general contractor furnish a completion bond. To any one in the building business, this is naïve, since few small contractors have the funds to swing it. To give such a bond the contractor needs practically the equivalent sum in cash. He can of course charge the owner five hundred to a thousand more if he is to supply such a bond, but no owner will take his contract at this rate.

But with the "separate contract" system the architect can watch with more accuracy the payment of laborers and material dealers. If the owner pays his bills as they come due, it is about as sure a way to be protected against mechanic's liens as any yet devised. But heaven help the architect, if the owner turns out to be a chiseler and refuses to honor his requisitions for payment. Such an architect will then need an ironbound contract between himself and the owner for his safety.

This "separate contract" system of building a small house is full of troubles for the architect who undertakes it, especially in these days when so many starving lawyers are ready to destroy anyone to collect an unholy dollar.

But if the architect has the complete cooperation of an owner, he may receive letters as I have in many cases from an owner, after the house is finished, containing approval such as "and thus and thus only with the aid of an architect like yourself to make possible the very real savings that may be secured when the owner deals with the sub-contractors."

And it is true! There is no better system for the owner who wishes to enjoy the building of a house of quality with honest savings picked up all along the line.

As the duties which fall upon the architect under this system become much heavier, it is absolutely necessary for him to charge fifteen per cent, his traveling expenses, and also the contract price for the doing of "general conditions" which covers a multitude of small items, primarily the mop-up work of all the incidentals at the end of the job. If he charges less he will soon find he is going into the red. He will have to guide the work of the many

contractors and harmonize their differences. The volume of records, reports and accounts will mount to astonishing size for even the smallest house. His correspondence and telephone calls will be trebled. He will take on more worries arising from the stupidity of mechanics and the ignorance and suspicious attitude of owners than he has ever known before, until he wonders whether the whole thing is worth doing at all. But there are always moments of compensation to offset these.

Any architect who wants to keep in this line of work will soon realize that the biggest problem is to keep the new work coming into the office. He cannot attend to the work on hand and also find new work. Some means must be found to keep it coming in. Of course all of his competitor builders will be doing this with paid advertising. This is what he should do, but professional ropes around his neck will prevent him. If he can get his story publicized, that will help call attention to his type of service, but then he is making himself vulnerable to attack by his competitors. Although there are no laws which prevent architects from advertising or obtaining publicity releases, it is possible to harass an architect and almost to put him out of business through laws governing his license.

From my experience, it would seem that an architect practicing the "separate contract" system of building should do it quietly in certain states. I know quite a number who do, but in a very small way. Yet it is extremely difficult to keep up a new flow of work without letting the public know of the nature of the service offered. It is quite different from an architect who gets large commissions. He has the time and funds to spend looking for new work while the old is under way, but with the small house, the commissions are so small and the work so exacting that no time can be spent running around getting new work in the usual professional way through friends and social connections.

Another problem to face eventually is that of being shunned by the general contractors as an unethical competitor. When this becomes general it is impossible to get any to bid on the plans. Yet this is one of the most important features of handling work in this way. It is only fair to your client to let him have bids from general contractors to compare with the costs which result under the "separate contract" bidding. He should not be expected to build under this system unless the sum of all the mechanics' bids, plus material costs, plus architect's fee is less than the sum of the general contractor's bid and architect's fee for

this type of work. In other words if he is employing an architect to supervise his work he should be shown that the "separate contract" figures really save him money, and then with his own free will make up his mind as to how he will have his house built. Personally I have not found this to be a serious situation, but those who have tried it in smaller communities report it to be quite troublesome.

Still another difficulty to face is the prejudice which the lending institutions have against this system. They seem to want, in most cases, a general contractor to do the job, yet most of the woe they have had in times past have arisen from this source. If they are liberal and permit the owner to build as he wants, then they insist upon a general contractor's bid in the beginning. On the other hand, I have known many executives in lending institutions who have heartily approved of this method of building, once they have been made to see its many advantages, and one in particular remarked that it was the best idea he had heard of to correct old evils.

But the construction industry as a whole seems to be set against the "separate contract" system for building small houses, and in favor of the general contractor. This in spite of the general acceptance of the idea for larger buildings. It seems strange, for the "separate contract" system is far simpler to apply to a small project like a house than to a large school or business building.

Manufacturers ought to be interested in promoting this "separate contract" system which places the architect in a stronger position to demand their better grades. But as conditions are today, even though an architect may know a certain standard unit is the best and the cheapest, he seldom can get the benefit through the general contractors, who have their own pet dealers and without inquiry will tell the owner that the items specified by the architect are too expensive. So many general contractors are tied hand-andfoot to a local building material dealer because of past debts, that they are unable to use any product outside of the line carried by this company. The result is the owner cannot get what the architect calls for unless he pays a higher price for it. But with the architect in charge of operations under the "separate contract" system, he can get anything he wants without resistance.

But there is a limit to it. It is best for the owner to have a contract with the mason and carpenter for *labor and materials*, since this makes them more careful of the quantities they use. The owner may buy the materials

This prefabricated bouse can be built anywhere in the country, because it is an assembly of parts which can be secured from the nearest material dealer. It has been purposely made very simple in design and completely freed of all ornamental features which are associated with bigger houses. Note the standard windows, doors, siding, gable end, gutter, roofing, bricks, screens, and even fence. Throughout the interior of this bouse the same regard for standard parts has been followed.



Yet the picture gives one something of the homelike quality which the original possesses, and it is distinctly American. Through the separate contract system of building, including the architect's fee, this house was built for about \$3500. The cost may vary from this now, but if handled right, and not too expensive hardware, decorating, plumbing fixtures and lighting fixtures are specified, it should be possible to reproduce it for about \$4000.

There is a living room, two bedrooms, bathroom, entrance ball, and ample closet space. The cellar for the heating unit is under the kitchen, accessible through a trap door in the floor. Wallboard units were used instead of plaster. Linoleum was used for the kitchen and bathroom floors. The only fixed lighting units were in the kitchen, bath and ballway. All other outlets were for portable lamps. Bathroom fixtures were the simplest and most inexpensive type. The heating unit is bot air with ducts and fan for circulation. Woodwork was painted, but walls were left natural grey color of insulating board.

and have contracts for labor only, but then the workmen become careless and allow waste or even loss of material from the site. From the architect's personal angle, it is best to have contracts for labor and materials, for he will be saved many small headaches and nuisances. I tried separating the two and although the owners saved much money, it left the door open for the chiseler owner to make trouble for the architect. It is a dangerous procedure for the architect. However, arrangements can be made to have the carpenter or mason get the materials on the owner's credit, and then when payments come due on the materials have the owner make out checks so that both contractor and material dealer will have to endorse them.

In spite of all the difficulties outlined above, I believe that if the prejudices against this method of building a house can be broken down, it represents the best solution to the problem of lowering the cost on architecturally designed homes. I can also see that this might develop into the real solution of the prefabricated house. The standard units sold

by the manufacturers could be made larger and larger to reduce field labor to a minimum. The market would be kept competitive, as no one company would be attempting to capture all the units required to build a house. The architect would be the technical designer to plan and adapt the various standard parts to the local conditions and the ultimate technical expert to make the selection from the open market. Just as the electrical, heating, and plumbing work have been organized to give separate service to the owner, the carpenters and the masons, painters and others could be organized to operate as effectively. Under the supervision of the architect small homes could be erected anywhere of the best units to be found on the market. They would not be standard in appearance, but quite varied, yet all of the advantages of mass production and factory supervision of parts would be passed on to the owner. Some have called this the integrated house. That is not a bad name, provided that the architect is in charge of operations and not a broker who is concerned only with getting his profits.



This unusual drawing was made by Julian Michele of Babylon, Long Island, New York, with carbon pencil on Japanese paper of the type sometimes called "whisper." The subject is a Norway Spruce standing by a stream in a park. He has rendered it in a rather decorative way by using value contrasts

NORTH LIGHT

BY "HUB"

EDITOR'S NOTE: Although this "story for architects" was written several months ago, we felt it such an unusual and human document that it deserved to be passed along to our readers. The author's busy life has fortunately whetted his sense of the amusing. He chooses, for reasons that appear sufficient, to remain anonymous.

THE other day when my wife and I were looking at a map of this north country, she called attention to the fact that in point of our present locality, after many years, I have come almost full-circle. I was pointing out on the map the little town where I had been shipped by an employment agency on another and far-off winter day, and from which village I had walked nearly twenty miles through deep snow to the logging camp where I began to live my own life. Just a boy I was then, thoroughly dissatisfied with the hardships and lack of opportunity incident to life as I found it on a far from profitable farm in this same section of country. I had no money and was without any experience of life apart from the farm routine I was so anxious to leave behind me. But I took to that camp an interest in drawing which had its beginning in my few High School days, and which was sufficiently active to keep me practicing nights around the camp fires. And that interest has been persistent enough through all the intervening years to keep me plugging away at the practice of architecture, here and there, in season and out of season: in spite of the vicissitudes that beset that profession even in so-called normal times, and in the face of the almost overwhelming odds that are our portion in recent

During the last few months I have been helping to draw plans for a big county highway building, already under construction only a few miles, as the Ford flies, from the logging areas of my early youth. What is even stranger to me than the whim of Fate that has brought me back to live for a while so near the spot I started: and what I am hoping may carry enough of interest to be worth recording, is the fact that I have been drawing these plans

in an architect's office in a small town in this locality, a town of less than two thousand souls (not even the county seat), and liking it.

After so many years in large cities, New York at first, afterward in Chicago, and many more of lesser growth: and having kept a conviction that architecture was a flower that must grow and flourish, if at all, in metropolitan surroundings, my present job is furnishing food for thought. Incidentally, it is furnishing food to eat: and for some of our hard-hit profession, this is "news."

Not that the architect with whom I am now associated has found it always easy going—not now either, far from it. But he is and has been "going": perhaps from having learned the trick, or having had the good judgment to scale the overhead down somewhere near ability to finance it—and keep going. Doubtless there are other good reasons.

Our drafting room was, in a previous state of existence, the living room of a modest second-floor apartment. One bedroom makes a desirable private office, and the adjoining one is enough work space for stenographer etc., as well as a reception room. We do not utilize the kitchen. That is rented out to some lone man as a bachelor apartment, where he is no doubt demonstrating that in these times at least, one can live more cheaply than two—or more.

There is a complete bathroom, with all fixtures—a bit of "swank" perhaps, and a little unnecessary in spots, so seldom are we around the office on Saturday night.

Heat is furnished from below us, and when not up to our specifications, we get prompt response by the old and time-tried signal of rapping peremptorily on the radiators: though in that connection the draftsmen would prefer that the stenographer did not use the triangular scales for the purpose—the consequent "nicks" are not so convenient. We are not furnished much in the way of janitor service. It seems to be the assumption that we can "roll our own" in that particular, with the customary result that what is the job of

three or four people becomes nobody's job, and is just a topic for recrimination among ourselves.

All in all, we are very comfortable in the main—even attractive as offices go—and for these accommodations the monthly rental would about pay street car fare in the big city.

Our stenographer is so small a girl that with the usual tenderness of all office forces toward the lady-in-waiting, she is known as "The Weasel." This may not be altogether because of her tiny proportions either. She has a sharp bite under persecution, which runs fairly constant. Besides myself, there is one other whom I insist on referring to as the Practical Man, without one of which species, as I tell him, no office could long endure. Like myself, he is native to this soil, though he started life as a minister's son, cancelled that all out with service in the Navy during the War: and has since added so much to his abilities and experience, it totals up to being right-hand man to the Boss, about whom if I don't seem to say much, maybe that is because he is so seldom around the office.

There is, around the office, considerable evidence of his existence. He goes out early into the highways and the byways of this farflung territory, and has enough of what it takes to return late and leave what it takes to keep us all occupied. And just as large a percentage of our sketches go on to be working drawings as happens in any city office. The finished products may not run to the monumental so often. We are not so colossal in the main, though our county building is three hundred feet long and will cost close to one hundred thousand dollars, enough to make the tax payers rage and several people imagine a vain thing, and all be wrong. We are going to succeed a little more because of this success, and going ahead now on plans for another county building, on the other side of the state.

As yet this office has not done much for housing the folks in this part of the world. There is a definite preference for taking care of the business and industrial angles of their lives, and for enhancing their public appearances. In the few months I have been here it interests me to note from the files that several village councils have been persuaded that there was no good reason why their jails should be an eye-sore to those who are lucky enough to keep outside. It is just routine to furnish decent churches, schools, city halls, and the like-we let ourselves go on creameries too: so that even the cows who furnish the cream should be more contented, and the wayfaring man, though a fool, shall surely see less that is ugly along the highway as he goes on his way.

No, the Boss does not have it so easy—not unless you think two thousand miles up here in January was fun! He has to be able to wield a mean shovel as well as a T-square, for up here when winter comes, they go in for blizzards and snow-drifts in a big way. There is bound to be a lot of hardship plus annoying delays: but so far he has dug through to a gratifying number of contracts right on time.

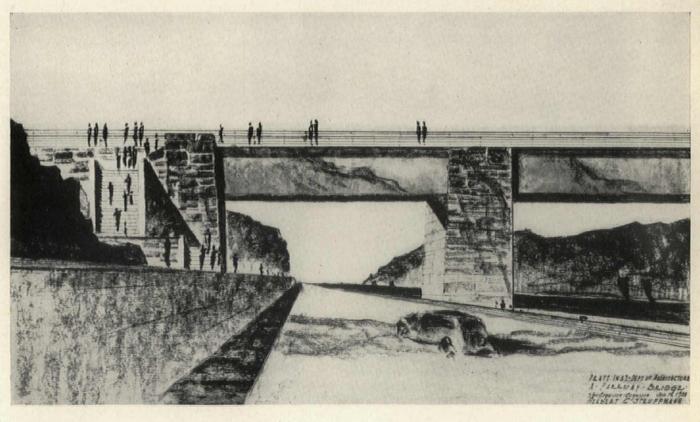
We put in more hours at the office than is the custom in larger cities. But up here the Scandinavian influence is strong, so we stop for coffee et cetera in mid-morning, and repeat in the afternoon. The bakery below us enjoys our patronage, and we enjoy the lull. And lest you should think it is a case of playing hooky when the Boss is away, I hasten to state that on those rare days when he is in his office, he leads the way. In this and many other pleasant ways is built up a sort of "entente cordiale," whatever that means, and I am glad I don't have to pronounce it. In connection with the extra lunches, I weigh more than I ever have, and so far it is not a bad idea.

As for the social side of living in a small community, that's a long and pleasant story in itself. With the itinerant habits born of the depression, my wife and I are guests of the hotel here, so comfortable a place and so full of interest, it too deserves a story. We do get out and around among those who have homes here. Whatever, in years gone by, a cruel world meant by "small town stuff," it does not exist today. Maybe isolation did make for some ways, and for a manner of living that had to be crude. But now there is no isolation. The automobile, radio, libraries-no end of things have changed all that-have removed it completely. It is for me old stamping ground, but with what a difference! Gone are my logging camps, and in their place there are better farms than I ever knew, towns and people where before were long uninhabited miles. Electricity is indeed the servant of all the rural districts now, or if gas is preferred, that too is delivered to the housewife in tanks, just outside the door. Whatever they want, and when! All this up-to-dateness now, plus cleanliness, light and ventilation, peace and quiet, so conspicuously lacking in the city dweller's habitations. There is so much more time too. Some of us can and do walk to work, a block and a half is not too tiring, though for those who must ride everywhere there are plenty of streamlined cars. In the good old summer time, still too far ahead, I can see that even good fishing will be within walking distance. Anyhow no more worry about missing the 5:22 for home. If you are going to insist that there is gossip, I can only say that we did not escape it in towns of several millions: and we did miss such a lot of genuine friendliness and neighborliness.

Is it that the north light is making me forget how many shadows do still exist? Is this just an "unusual case"? Or is it perhaps pioneering in what may be a new deal for our profession? The old order changes. Maybe we are more and more going to take architecture to the people, rather than wait in offices we can so little afford, growing more and more impoverished, when they fail to come to us? Who knows but we shall work out a plan by which we can do more of our work en route! I offer in testimony that one winter lately when I was glad to be helping the County Assessor of Cook County, Illinois, on appraisals, I had a drawing board fastened in the back sea of my car, sketches being sometimes in order, or at least were ordered. It is only fair to state that I was nearly arrested once, in front of some quite extensive estate on the fashionable North side—it seemed to smack too much of kidnapping procedure I suppose. Fortunately, my credentials satisfied the cop so I was not taken to jail, though no one connected with an Assessor could hope to be popular. It only shows what can be done in the way of drawing, while we wait. It might not be so simple to do our own blue-printing on the road: but with trailers as they are today, nothing is impossible.

I am indebted to the Practical Man, who was visionary for a moment, when he suggested that a rough sketch of this particular set-up might be interesting to the architectural fraternity. It is not the idea that a lot of competition shall come rushing into the field. This sketch would be rougher still were it not for the services of my wife, who happens now to have a lot of time to help me with them, and a typewriter.

Included among the displays at the Fifty-first Annual Exhibition of the Pratt Institute School of Fine and Applied Arts, Brooklyn, N. Y., which was viewed by nearly 20,000 persons last month at Rockefeller Center, was this effective presentation of "A Parkway Bridge" by Herbert Struppmann, a Fourth Year student in the Department of Architecture and a student of rendering under Theodore Kautzky. The projet as rendered here was a seven-hour esquisse.



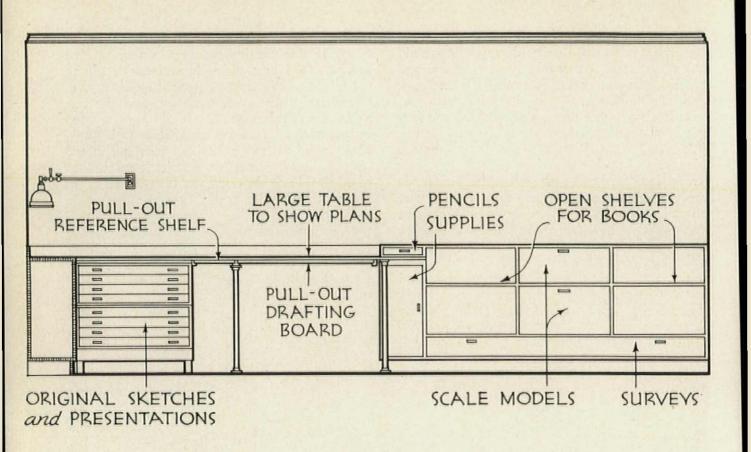
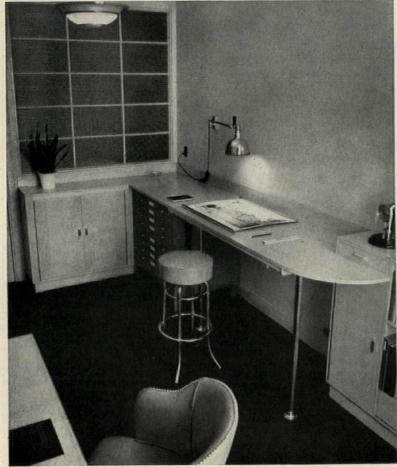
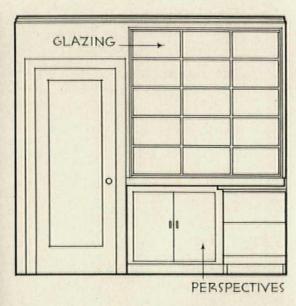


Photo by F. S. Lincoln



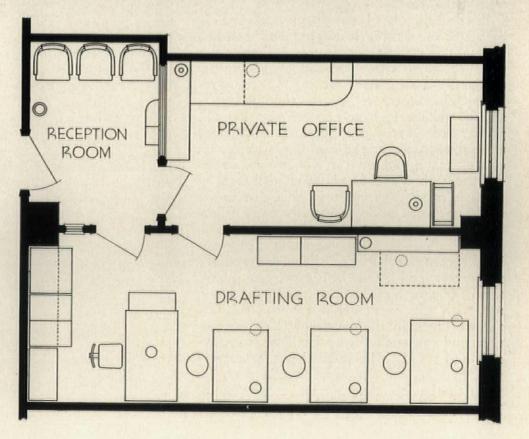


When an architect designs his own office and drafting room we expect to see the most compact and attractive arrangement possible, as in the office of Joseph Douglas Weiss, Architect, New York, illustrated above and on the opposite page. The photographs show the office



Photo by F. S. Lincoln

An ingenious use of familiar furnishings makes the office of Joseph D. Weiss, Architect, New York, distinctive. Lamps of the type sold to beauticians light the architect's own desk and built-in drafting table, at which he uses a bar stool covered with leather matching the office chairs. A quiet color scheme, controlled light and air-conditioning unit make the office restful to work in



CHECK LIST FOR WORKING DRAWINGS

COVERING NECESSARY SHEETS FOR RESIDENCE WORK

BY PAUL ROBINSON HUNTER*

W HAT constitutes a complete set of working drawings? It is a question that frequently arises in discussions and conversations about architectural service. It is a question that every architect at some time or other answers in terms of his individual practice, and establishes for himself a degree of completeness to be observed by the draftsmen in his office. Yet, happy is the architect who, after a contract has been let, can go to bed and sleep peacefully, certain that everything has been shown on the drawings, and that he shall not be obliged to fall back upon some obscure, allinclusive note in the specifications, or reluctantly bring forth that clause of the General Conditions regarding "anything omitted from the drawings necessary for the proper execution of the work

First of all, what is the purpose of working drawings and why is their completeness so important? Working drawings put into exact technical form the wishes and requirements of the client which are developed in the preliminary sketches, at the same time including all the details and notes necessary for the proper erection of the building. It is from these drawings that the contractor makes his cost estimate, and whatever is omitted or indefinitely shown must be provided for by guess; a marked variation in bids, due to the inadequacy of the drawings, is a great reflection upon an architect. The working drawings are among the most important documents in the contract between the client and the contractor, and it may be necessary to submit them for close legal scrutiny. These drawings, too, with subsequent details are used daily by the workmen in the course of the construction, and eventually every last flaw is uncovered and saved to be pointed out, pleasantly or otherwise, to the superintendent on his visits to the job. Another and newer factor

which is influencing the preparation of working drawings is the minute examination to which they are subjected by the lending and mortgage insurance institutions; these institutions recommend lower values for buildings which are to be erected from incomplete information.

In the preparation of working drawings, as in so many phases of architectural work, experience is the great teacher. But the lessons of experience are often severe and uncompromising, and whatever can shorten the years of training and obviate mistakes is greatly to be desired. The use of check lists is proving to be of value in supplementing experience, although they are far from being a panacea for the multiplicity of diverse and unusual problems that arise with each new project. A check list to be of any real value must be developed by the particular office in which it is used and must express the accumulated experience of the architect and his draftsmen. It should be revised from time to time as building practices change, and must be added to as the requirements of clients increase in number and complexity. The accompanying check list is revised from an earlier one used in the office of Roland E. Coate, F.A.I.A., of Los Angeles, and is the result of a careful search through a great many sets of drawings prepared during the last two or three years.

This check list has been so arranged that it divides itself into sections that correspond in order and subject matter to the several sheets of the working drawings. A residence costing from \$25,000 to \$50,000 requires about eight sheets of drawings: the plot plan, the basement, and the first and second floor plans claim the first four sheets; the elevations, sections, and interiors take the next three; and the door and window schedules and details make up the eighth. The preparation of a plot plan is relatively simple, unless excep-

^{*}Of the office of Roland E. Coate of Los Angeles, California.

tional conditions of drainage and grading are encountered. Most of the information is supplied by the survey, and it is necessary only to locate the house on the property by easily found dimensions, to provide walks and drives, to indicate changes in grading and surface drainage, and to dispose of rain water. The basement plan is drawn after the first floor plan is settled. In California, rooms are provided only for heating equipment and for storage, and the remainder of the area under the house is excavated to a depth of from twentyfour to thirty inches below the joists for ventilation. A house that is complicated in construction requires a separate foundation wall section for each different condition to explain to the concrete foreman what is desired; and the relation of the dimension lines of the basement plan to the masonry or stud lines of the first floor plan must be clearly shown.

The first floor plan is the key drawing of the set; for only after it has been determined can the rest of the drawings be developed; and it is usually prepared by the man in charge of the job. The first floor plan establishes dimensions, materials of construction, placing of stairs and chimneys, location and character of plumbing, electrical, and heating outlets, and the relation of the finish floor to exterior porches and terraces and to the various grades about the house. The second floor plan is similar in nature and is next in importance. The exterior elevations establish floor, plate, and

opening heights, note materials, show door and window panel and glass divisions, and indicate eaves, dormers, porches, and other details. The sections through the house explain the construction, the relation of the building to the natural and finish grades, and the framing of the roof. The interior elevations give the general character of the design, the treatment of openings, mantels, and cases, and note the finish materials. The kitchen, pantry, dressing rooms, and baths are drawn at half-inch scale, so that case work, materials, and special equipment may be more clearly shown and dimensioned. Typical frames and all detailed doors and windows are shown; the number and character of the scale details are determined largely by the design of the house, but whatever affects the price of the contract must be adequately presented.

This check list is submitted in the hope that it may offer fresh suggestions to those who already have or are developing individual check lists, and that it may in a measure help to define completeness. Study by a younger draftsman of a check list in conjunction with a set of drawings may call to his attention items that he might have heretofore overlooked, and may lead to questions that will clear up misunderstandings. And the use of a check list by the older, more experienced man may help to relieve that very common uncertainty when a set of drawings is finished; "Have I caught

everything?"

The Contract Drawing List presented below was prepared to cover the various plans, sections, elevations, and details required for house construction, including Plot Plan, Basement Plan, Foundation Sections, First and Second Floor Plans, Exterior Elevations, Small Scale Sections, Interior Elevations, and Scale Details.

PLOT PLAN

SURVEY

Property Description Lot, block, tract, city Street number

Easements
Property Lines

Dimensions, angles, stakes

Topography

Present grades and contours Bench mark

Public Improvements

Streets, sidewalks, drives, parkway

Utilities

Water, gas, sewer, electricity, telephone

Private Improvements

Existing buildings, trees, shrubs, walls, fences

Compass, Scale Soil Tests

NEW WORK

Buildings

Locational dimensions

Elevations

Revised Topography

New or finish contours and grades Legend of contours and grades

Rainwater Disposal

Drain pipelines Spill blocks

Dry wells

Sewage Disposal
Sewer connection
Septic tank, cesspool

Driveway

Dimensions and material Cement or wood curbs

New public curb Garden Accessories

Walls, walks, steps, gutters

Service

Drying yard, incinerator

BASEMENT PLAN

Title, Scale, Compass

Dimensions

Foundations

Concrete walls, stud line above

Footings (dotted)

Post and column footings Foundation section lines

Porch and terrace walls, slab on

fill

Vents and areas

Underpinning Pier footings

Garden walls

Chimneys

Footing, 12" projection Ash pit and clean out door

Flues

Framing

Joists above, size and direction Posts, piers, and beams Steel

Columns and beams, size and number

Unexcavated Portion

Crawl holes and scuppers Trench to chimney clean outs Lights

Excavated Rooms Title and number Floor and base

Plastered masonry walls Wood partition sizes Wood room and chute

Wine room, vault door

Stairs

Doors and Windows see Schedule

Heater Room

Furnace and water heater

Flues

Pipe runs and risers Gas and power outlets

Sump Plumbing Electrical

Dumbwaiter

Incinerator Gas outlet

FOUNDATION SECTIONS

Section Numbers and Scale

Typical Section

Footing and wall dimensions Reinforcing in footing and wall Asphalt slab, 2", in unexcavated

Basement slab, 41/4", No. 10 x No. 10 6"x6" welded mesh Water table, cement plaster, caulk-

Asphalt mopping on top of con-

crete

Mudsill bolt and washer

Setting bed

Mudsill

Joists and blocking, joists to "tail in"

Joists 2'0" to 2'6" clear above asphalt

Furred ceilings

Sub and finish floors

Studs

Waterproofing membrane Concrete beams at openings

Section with Masonry Veneer

Studs, sheathing, paper, veneer "Irish" mopped on Masonry, 3" minimum above grade Flashing and angles at openings

Section with Porch Slab Supporting ledge, 2"

Slab, 3", welded mesh, pitched to drain

Finish surface: cement, 3/4"; flagstone, 2"; brick flat, 31/2" brick edge, 5"

Stud Partition Foundation

Masonry wall to plate 4" to 6" above floor

Cement base

Underbinning Walls

Pier Footings

Wood Post and Steel Column Footings

Basement Walls

Crawl holes and scuppers

Special Sections

Stair slab Door thresholds

Area and opening

Area grating

Concrete beams and columns Steel beams carrying wood or con-

crete floor

Retaining walls, weep holes

Wood chute

Garden walls and steps

Incinerator

FIRST AND SECOND FLOOR PLANS

Title, Scale, Compass

Section Lines

Dimensions

Continuous closed about and building

To face of concrete and masonry

To edge of studs

To center line of doors, windows, bays

Radii of arcs

Walls

Stud sizes

Studs placed flatwise

Furred walls dimensioned

Veneers crosshatched

Joists above, size and direction Special joist framing (dotted)

Beams, 2" members Overhangs (dotted)

Nailing schedule

Beams, size and number Columns, size and number

Chimneys

Material indicated

Flue and ash drop, sizes

Furnace, water heater, and incinerator flues, sizes

Hearth, ash dump, gas lighter and

valve

Stairs

Number of risers

Height of riser, width of tread (run)

Handrail

Doors and Windows see Schedule

Type, swing, and number Swing of screens (dotted) Trimmed or plaster openings noted

Mirror doors noted

Threshold material noted Sliding door and screen pockets Curtain and blind pockets

Window seats

Rooms

Title and number

Floor material and pattern Reflected ceiling beams

Closets Shelf and rod

Number of shelves

Card table rack Scuttle

Wardrobes

Cleaning closet Service sink

Cedar closet Fur safe

Decks and Balconies

Title and number Drain and scupper

Railing

Plumbing

Gas meter room

Gas outlets; range, water and

unit heaters

Special soils, wastes, and vents

Water softener

Electrical

Legend of symbols

Meter and panel boards

Ceiling, recessed ceiling,

venience and power outlets Outside lights

Switches, number Bells, pushbuttons

Annunciator

Telephone Radio

Heating

Risers, floor and wall registers

Unit heaters

Dumbwaiter

Porches, Terraces, Patio

Floor material, pattern, and drain-

Hoods, soffit Pergola, reflected plan

Door mat

Lattice and trellises

Flower case and sink Planting pockets

Walls, Walks, Steps, Drives

Material and pattern

Dimensions

Garage Finish of floor and base

Floor to pitch 2" to 3"

Sandtrap or drain Work bench

Sink

Hose bibb Work pit Cases

Roof Plan

Ridge and hips

Decks

Metal roofs

Chimneys and saddles Gutters and downspouts

Metal diverters

Door and Window Schedule Sash-Number, size, type, thickness, material, glazing, muntin Screen-Type, thickness, material

EXTERIOR ELEVATIONS

Title and Scale

Dimensions

Finish floor lines

Head of door and window open-

Roof plate heights

Natural and Finish Grades

Footings, areas, openings below grade (dotted)

Cooler vent

Brick, stone, concrete, plaster, siding, boarding, shingles

Angles over openings in veneered walls

Masonry grilles

Fireplaces and flues (dotted)

Wood posts and beams, size and finish

Carved ornament

Gas and electric meter openings

Doors and Windows

Panel and glass cut up

Shutter types Doubled shutters

Wood and masonry trim

Metal grilles

Roof

Material and pitch

Gable ends

Louvre vents, screen, and pan

Cornice and gutter

Downspout, size and shape, hub

or splash block Dormers

Cupolas

Metal roofs and flashing

Metal copings

Decks and Balconies

Railings Scuppers

Chimneys

Material

Concrete cap

Spark arrestor

Flashing, reglet

Saddle

Porches, Terraces, Patio

Pergolas, Lattice

Garden Walls, Gates, Fountains

Electrical Outlets

SMALL SCALE SECTIONS

Title and Scale Finish Floor Lines Natural and Finish Grades Foundation Walls and Piers Floor Framing Stairs Furred Ceilings

Decks and Balconies

Roof

Truss

Dormer

Hood

Dumbwaiter Shaft Chimney Fireplace and Flue

Porch and Terrace

INTERIOR ELEVATIONS

Title and Scale

Dimensions

Ceiling heights

Wainscot heights

Cases and seats

Radii of curved openings

Fireplace openings

Electrical outlets

Special fixtures

Walls

Material and finish-plaster, paper,

wood panels, boards

Doors, Windows and Openings

Material of jambs and soffits

Concealed doors

Curtain and blind pockets

Seats and back

Bays and Recesses

Material of jambs and soffits

Special rough framing

Ceilings

Furred, clipped

Exposed beams and rafters

Base and shoe

Wainscot

Door and window casings

Cornices, quarter rounds

Beams, wood lintels

Carved mouldings

Cases

China cases

Book cases

Trophy cases

Wood boxes

Mantels

Fire box facing and pattern

Masonry facing

Mantel and shelf

Overmantel treatment

Carving-submit sample

Stairs

Strings, treads, risers

Railing and handrail, newel

Wainscot Soffit

Plaster

Run plaster cornices and beams

Ornamental plaster

Reflected ceiling patterns

Electrical

Convenience outlets, switches,

brackets, pushbuttons

Telephone, radio

Heating

Registers

Control switch

Kitchen

Sink, sink back, soap dishes, re-

cess for plumbing fixtures

Removable panel below sink

Towel racks and vent

Counter tops and backs Case drawers, doors, toe space adj.

shelves, case ends

Cutting blocks, hardwood block

Metal lined bins

Spice cabinet Drop leaf table

Recipe desk

Sliding pass door to Pantry

Cornice mould

Typical case section, 11/2" scale

Cooler, vent

Refrigerator, vent

Range, hood, vent, grille, fan, tile

back

Pot closet, shelves, lid racks, brass hook strip

Glazed light in Pantry door

Convenience outlets, clock, annunciator

Incinerator, tile

Sink, counter tops, cases, similar

to Kitchen

Cupboard doors glazed

Felt lined silver drawers, 6

Linen drawers

Platter shelves

Tray compartments Table leaves compartment

Plate warmer

Service Porch

Vegetable drawers

Counter

Storage Garbage disposal

Laundry

Laundry chute

Wash trays

Ironing board

Gas plate

Hanging pole

Cases

Linen Room Cases, glazed doors, adjustable

shelves

Pull out boards, counter

Height Counter, sink

Ironing board

Hanging pole

Dressing and Powder Rooms

Dressing table, glass top Mirror door, triplicate mirror

Hanging closet Shoe closet

Hat closet, pegs

Tray cupboard Pullout rods

Baths

Lavatory, soap and tumbler holder, marble top and splash, conven-

ience outlet

Medicine cabinet and lights

Towel case and clothes hamper, vent

Tub, tile or marble surround and splash, access door, soap and grab bar

Toilet recess, paper holder Towel bars, robe hooks

Electric or gas unit heaters

Shower

Door Curb Drain

Soap holder Spray head

Ceiling vent Marble seat SCALE DETAILS

Exterior Details

Cornices Dormers

Bays

Overhangs

Front entrance Porches and hoods

Balconies and railings

Louvre vents

Grilles Flower sink

Lattice and trellis work

Fountains

Doors and Windows

Typical door and window frames

Elevation of all detailed doors

Elevation of all sash and shutter types

Full size of metal sash

Door, window, and shutter sticking and panelling

Half screens, felt strip

Double door astragal or meeting

Meeting of sliding doors

Interior Details

Typical master and service trim,

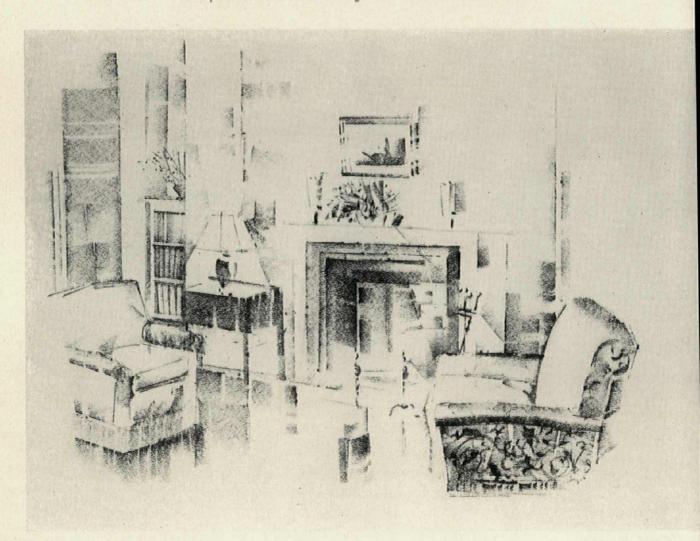
full size

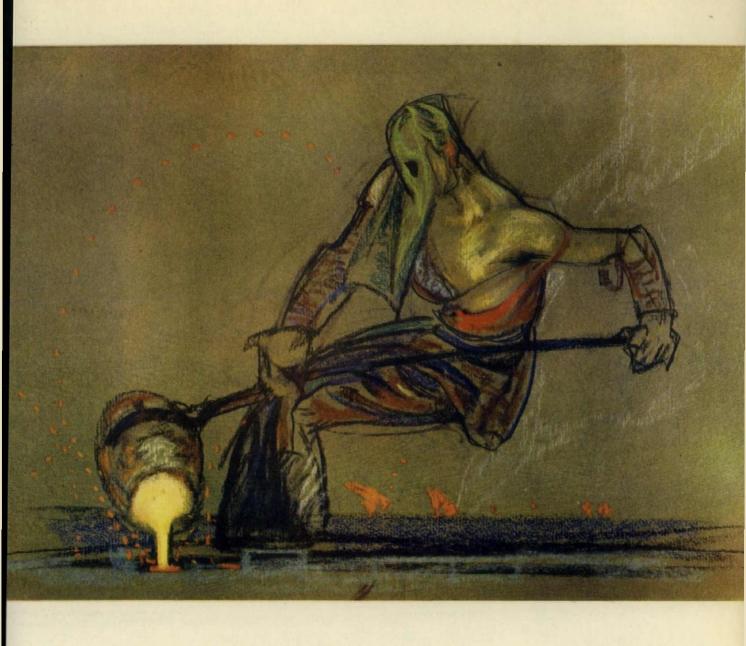
Run plaster moulds

Start of stair

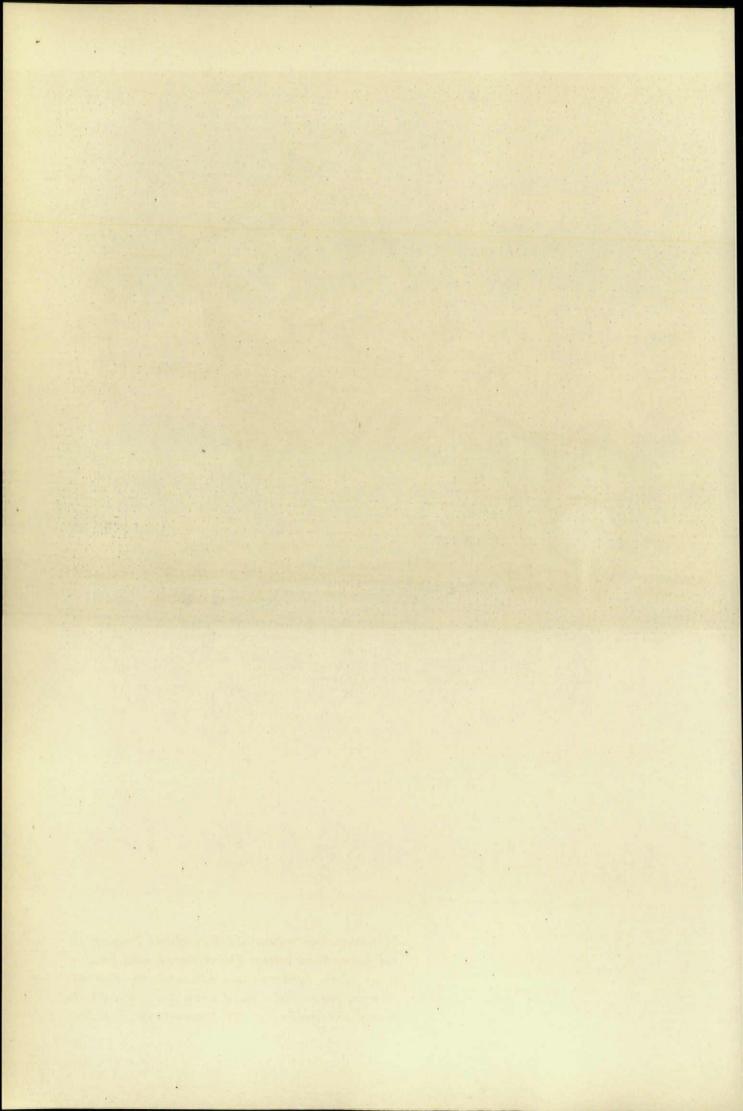
Mantels

This stylized sketch of a focal point in a living room was made by William H. Bertkau. It was done with the popular square crayon sticks which permit both broad and sharp strokes when held flatwise. The method is effective when restraint is used





"Crucible Teemer"—Pastel sketch by Edward Trumbull, the well-known Mural Painter. This sketch was made from life in one of the Pittsburgh steel mills while the artist was gathering material for a mural which he executed for the Pennsylvania Building at the Panama-Pacific Exposition





FOUR WOOD GRAVURES BY MACOWIN TUTTLE

The late Macowin Tuttle—engraver, painter, illustrator, teacher, lecturer—developed during the latter part of his career an entirely new and original form of artistic expression—the Wood Gravure. We are privileged to reproduce here, through the courtesy of Mrs. Tuttle, four examples of his remarkable skill and command of the medium he devised and perfected. Hereabove is his rendering, engraved on wood, of a scene in Rock Creek Park, Washington, D. C. It was cut directly on a sheet of plywood, about 23" x 27½", after which the surface was inked, leaving the tool marks to catch the light and shadow and produce a work of art which has a vibration unobtainable in a print



Macowin Tuttle's skill at rendering the essence of Nature with his chosen medium of Wood Gravures is nowhere better exemplified than in a series of four small panels, designed to be used as overmantel decoration. Two of these are shown. It is hardly necessary to say that the subjects were the Four Seasons, so perfectly are Winter and Spring expressed here and opposite



The two panels measure, each, $12\frac{1}{4}$ " x 10", including the carved frame. Mr. Tuttle turned out about 130 of these Wood Gravures, many of which are now in the possession of his widow. Both the Smithsonian Institution and the Library of Congress are fortunate enough to have several panels in their permanent collection. Recent exhibitions of groups of panels have been held in the Yale Club, New York; at Syracuse, New York; and in Montclair, N. J.



The archway across High Street, New Haven, with the adjacent Art School and Museum buildings, gave Macowin Tuttle a subject for one of his finest Wood Gravures. The original of this measures 20" x 31" from a visualization of which some idea may be gained of the range of tool strokes necessary for the expression of the various textures involved and the unerring precision with which each stroke was made

THE ROLLING CLASSROOM

STUDENTS OF TODAY LEARN ABOUT MATERIALS

BY ST. ELMO TOWER PIZA*

The problem of keeping architectural education abreast of architectural practice has been a recurrent topic in the profession and its schools for three-quarters of a century. Seventy-five years ago, Viollet-le-Duc threw down the gauntlet to the hierarchy of French tradition, offering in his "Entretiens" a structural-synthetic approach to design, based upon the working-knowledge of material which comes only to the hand that wields the tool. His reward was the shelf to which radical departures are most often consigned, where the smoke and soot of the industrial age thickened and settled alike over his work and over the Paris ateliers.

With the dawn of the twentieth century, the profession in the more highly industrialized countries had already sensed the discrepancy between the increasingly complicated, technical demands of actual practice and the meagre portfolio of æsthetic and structural theory, with which the schools provided the armies of young job-applicants. The differences between a soil-pipe and a lally-column, if appreciable at all to the youthful aspirant, were likely to be regarded as too remote to merit the attention of one imbued with the importance of his high mission as a "designer."

With the power age, attended by the growth of standardized mass-production, and the virtual extinction of individual craftsmanship, the dilemma of the architect trained only in theory has become acute. The iron-worker and the stone mason have been superseded by the steel mill and the cement plant; and the carpenter (rough, even when finished) works his seven hours at assembling units cut and sized in Oregon, or millwork prefabricated in some distant, prairie state. The constructive individualism of a Viollet-le-Duc falls short of its mark, without even a trial, for what avails it to the architect-craftsman to design

that which the builder knows and cares only to approximate in "stock" material?

The schools of Wright and Gropius have each formulated their carefully-considered answers to the problem of adjustment. If it is possible to isolate a common denominator between their two approaches, one largely humanistic, the other preponderently mathematical, one must find it in the acceptance of the machine as the modern architect's tool. How best to utilize it and subjugate it to his will remains the burden of their differences.

Diagrams and classroom demonstrations may serve to acquaint the beginner's mind with the principles involved in a technical process or an operating mechanism; but the limitations of a process and the potentialities of a machine can be gauged only by one who has known the process intimately, or has sensed, with eye and ear and mind, the order and tempo of the machine.

Two years ago, the School of Architecture and Allied Arts of New York University launched its first experiment in this field. A tour was organized and a series of visits scheduled to representative factories engaged in the manufacture of common architectural materials and commodities. The response and the results were so gratifying as to warrant establishing the event as a feature of the regular curriculum. The Rolling Classroom has proved its worth.

The purposes of the venture were originally three: (1) to acquaint the student with the nature and processing of a chosen list of basic commodities, (2) to enable him to see and compare, from analyses and flow-charts, the plan-efficiency of various types of factory design, and (3) to study, in passing, such examples of typical or unusual construction, of the industrial type, as might be encountered. All of these fields have yielded abundant results. This year the Rolling Classroom added a one-day sojourn in Washington to see the

^{*}School of Architecture and Allied Arts, New York University.

l'Enfant Plan from the top of the Washington Monument, and to survey the trend of monumental architecture in America from Hoban and Thornton to Paul Cret.

The trip is scheduled during the week between mid-year examinations and the beginning of the second term. The timing has undoubtedly been an important factor in the success of the experiment, for the freedom of the road and the open air offer a welcome, beneficial break from the long tension of a semester's work.

The motor-bus provides comfortable, flexible transportation for the ideal group of thirty. Group reservations made in advance at selected hotels have allowed the students substantial reductions from single, nightly rates. Two or three visits are planned for each day. On two occasions this year, the extent of a plant and the hospitality of our hosts so greatly exceeded our calculation that it was necessary to cancel one visit ahead.

It is impossible here to acknowledge adequately the painstaking cooperation of all the companies we visited, or the generous hospitality that greeted us wherever we stopped.* In every instance we were met by an officer or appointed representative of the company, who devoted himself unsparingly to the business of instruction from the moment of our arrival, answering all questions with patient good humor. The faculty members, bringing up the rear, were sometimes embarrassed by the barrage of questions from every side, but never once did our hosts allow us to feel that any inquiry was too small to merit consideration or too broad to allow of full discussion. Secret processes or ingredients were in a few instances frankly designated at the outset, with a short, factual explanation of the effect of

Plant diagrams and flow-charts had, in several cases, been prepared, and were distributed to the visitors. Elsewhere, the students made their own diagrams and sketches, with notes, as we moved from one step to the next. These notes and sketches, with camera-shots taken on the wing, were subsequently compiled and edited in a complete report of the trip, submitted by each student after our return.

that process or ingredient, demonstrated in the

The group, this year, under the direction of Messrs. DeWitt C. Pond and Karl J. Fairbanks, included nineteen undergraduate students from the School of Architecture and Allied Arts.

Our first stop, on a damp Tuesday morning last January, was at the Sherwin-Williams paint factory in Newark. Raw pigments were exhibited and their chemical constituents noted. Various methods of grinding were shown and explained: the obsolete stone mills with huge revolving discs of imported stone, the more recent pebble and ball-mills, in which stone or steel balls, in a rotating drum, grind the semi-liquid ingredients to required fineness, and the roller-process where the finest pigments are passed between the surfaces of revolving steel mangles. Thinning, mixing, testing and canning on successive levels, with gravity feed, were seen in turn, and a testing machine in which samples were subjected to strong arc-light for extended periods, while sprayed continuously with water. The many different types and uses of paint were explained by catalogue.

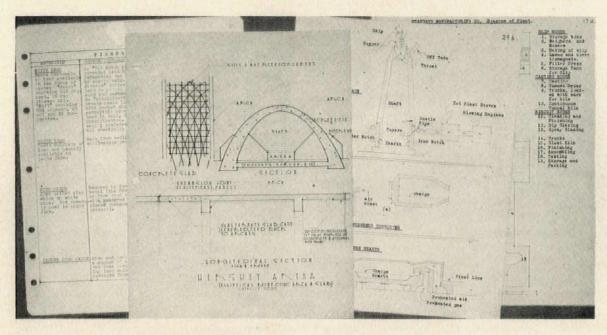
The making of shellac and varnish afforded opportunity for many interesting questions, and when we were shown the racks in the cellar, where carboys of varnish were ageing, "just like old wine," we were made to feel that old-world pride in quality had not altogether disappeared from the American industrial scene.

After lunch, a visit to the I. T. Williams Company at Carteret, gave us a complete picture of the making of wood-veneers. Mr. Miller, the Plant Superintendent, showed us machinery designed and installed by himself, for vertical and rotary slicing of veneers of any thickness. The making of Flexwood was explained and the students came away laden with samples of woods from every corner of the earth.

Our third call that day was at the Atlantic Terra Cotta Company at Perth Amboy. There, because of the late hour and failing light, Mr. Fidler, Engineer of Standards, elected to start our tour at once and defer, until after closing, a most informative discourse upon the history, uses, and limitations of architectural terra cotta. The storage bins, the pug mills, and the extrusion tables were visited in turn, then the drying process and glazing and the final firing for fourteen days, in beehive kilns ranged in rows outside the building. We saw, through peepholes, the incandescent blocks stacked in tiers inside the white-hot kiln, and watched the indicatorcones slowly fuse as the required temperature of 2300°F was reached. Sculptural pieces were being cast and colored by hand in an ad-

product itself.

^{*}We wish here to acknowledge our indebtedness to the following companies who have received us in past years and whose invaluable assistance has made the Rolling Classroom possible: American Bridge Co., Armstrong Linoleum Co., Alexander Smith Carpet Co., Carpenter Steel Co., Corning Glass Co., Federal Seaboard Terra Cotta Co., Lone Star Cement Corp., National Lead Co., Structural Slate Co.



Lessons of the Rolling Classroom go into students' notebooks

jacent department, destined shortly for their baptism of fire. Just at dusk, in a drizzling rain, we clustered devotionally around three voluptuous terra cotta ladies in the courtyard, for a testimonial picture and a little later were rolling on to dinner and rest at Trenton.

Wednesday, crisp and clear, was a crowded day. Mr. William H. Kelly, General Manager, welcomed us while the employees of the Standard Sanitary Manufacturing Company were filing past the time-clock. Starting from the chemical laboratory where all ingredients are analyzed, we followed Mr. Maggot, the Plant Superintendent, through the successive stages of straight-line production in a model plant. The several ingredients of the carefully prepared "slip" were first examined. Then the intricate business of models, with their successive block moulds, master moulds and case moulds were shown in the making. Mixing, pouring, drying, firing in an automatic tunnel kiln, finishing, glazing, and re-firing take place in a chain of horizontal operations, beginning at one railroad siding and ending at the shipping platform with another. Nowhere does any traffic line cross another, and the atmosphere of the plant was one of quiet efficiency. The pièce de resistance of the collection was a hand-painted faience johnny, resplendent in many colors, with bold, all-over decoration of a marine character, suggesting Late Minoan II. It was ordered, we were told, for an expensive bachelor, who later changed his mind. Presumably he met a lady of more provincial tastes.

The various steps in the making of linoleum were next explained and exhibited in the

greatest detail by our very kind hosts at the Sloane-Blabon factory nearby. Even the practicing faculty members, versed in the blurb of sales representatives, were glad to learn the exact differences between calender or "battlelinoleum and the inlay and printed varieties. We saw vats of linseed oil oxidized into shapeless, flabby chunks of "cement"; these in turn, shredded and mixed with woodflour, ground cork and pigment, and fed to the rollers on a continuous belt of burlap. The inlay process, with its series of jig-saw template-tables, came next under our inspection, and finally, the block-printing machines, with their uncanny ability to stamp the right color where it belonged on a continuous roll of impregnated felt. After a delicious lunch as guests of the company, we took our leave and, late in the afternoon, rolled into Manville, New Jersey.

The tremendous extent of the Johns-Manville plant proved a formidable hazard for one short afternoon, but Mr. Hughes and Mr. Edward Manville did more than their best. At selected stops in the endless succession of production units we saw the manufacture of roofing felt, asphalt shingles, transite in its various forms, and finally the furnaces where roaring jets of live steam transform streams of white-hot slag into snow-storms of rockwool. Late that evening, we found our way over winding roads into Bethlehem, Pennsylvania, for the night.

At the offices of the Bethlehem Steel Company next morning, our reception committee seemed momentarily embarrassed by our arrival. They explained with regret that the presence of ladies in a group of potential architects had not been foreseen, and that ironclad regulations barred all women from the shops. The company's museum was placed at the disposal of our fair members, while the males, in groups, were shown the successive steps from the blast furnaces, through the open-hearth process to ingots; then through the rolling mills and into the fabricating shops. The display of super-human power and scale which dwarfs the individual everywhere to insect-importance produced their intended effect even upon those superficially acquainted with the processes; and the grim safety warnings that studded the narrow run-ways between hot surfaces, moving conveyors, and swinging tackle overhead left us at least reconciled to company rules, feeling that a fluttering skirt at any point of our journey might have been less dangerous to the wearer than to some virile beholder, working where split seconds count. Back to the museum, where types and formulae of steel and their purposes were discussed, lunch at the Bethlehem offices, and off across the hill country of Pennsylvania to Lansdale.

Here, on a beautiful site, in rich, alluvial farm country, stands the model factory of the Franklin Tile Company. The serene atmosphere, the perfect order and immaculate cleanliness of the plant and the contented, rhythmic purpose of its white-garbed workers brought us needfully back to human scale and



The students see how a worker of the Franklin Tile Company, Lansdale, Pa., decorates the product by band

human values. We were received by Mr. Swikert, the President, and given an introductory course in tiles, dry pressed and wet pressed, vitreous, non-vitreous, and faience; and in the character, uses, and costs of each. We were then divided into groups and taken, each in tow of an able guide, on a straight line through each step of every process. The preparation of the clay and the firing offered analogies to products previously seen, but the dry-pressing, the deft, mechanical sorting, the grading for color and quality, by nimble feminine hands and eyes, was stimulating to every sense. We watched the careful hand-coloring of special orders of glazed and faience tile, and came out, satisfied with the knowledge that somewhere in America there were contented people, working together, each getting a "kick" out of doing his job as well as it can be done.

Late that night the staff of the sumptuously architectural hostelry at Hershey received us with cordiality and courtesy which our scanty baggage hardly warranted, and virtually presented us with the freedom of the establishment including the golf courses and the bridle paths, and with only certain restrictions as to the wine cellar. Here we were met by Mr. Wagner, of the Portland Cement Association, and, early Friday morning, were taken by him to the new Hershey Arena, an impressive enclosure, seating 30,000 people. The building is entirely concrete with a segmental roof of Zeiss-Dywidag construction. Mr. Whitmer, architect-in-charge, gave us detailed information as to the reinforcing, acoustics, and water-proofing and then took us to see the partially completed stadium, and the modern, windowless office building of the Hershey Company. Perfect air-conditioning and modern lighting are demonstrated there. Some of us speculated as to the effect of natural daylight upon the eyes, after the comfortable, uniform illumination of the interior, but were relieved to find that emerging into bright sunlight caused no perceptible shock or strain. The writer confesses to being intrigued, even worried, by the barometer signals in every room - the only indicator of wind and weather conditions without. They served, it seemed to him, to accuse rather than to alleviate one's sense of cut-off-ness from all the world. What, he wondered, compensates in these workers' lives, for the merry sight of an umbrella turned inside-out on a foul day, or of a hat blown across the path of an oncoming automobile? How, without actually watching the ominous darkening of the sky on a hot summer afternoon, could one get



Operation of a veneer-slicing machine is watched by the students of the Rolling Classroom, visiting the plant of the I. T. Williams Company, Carteret, New Jersey

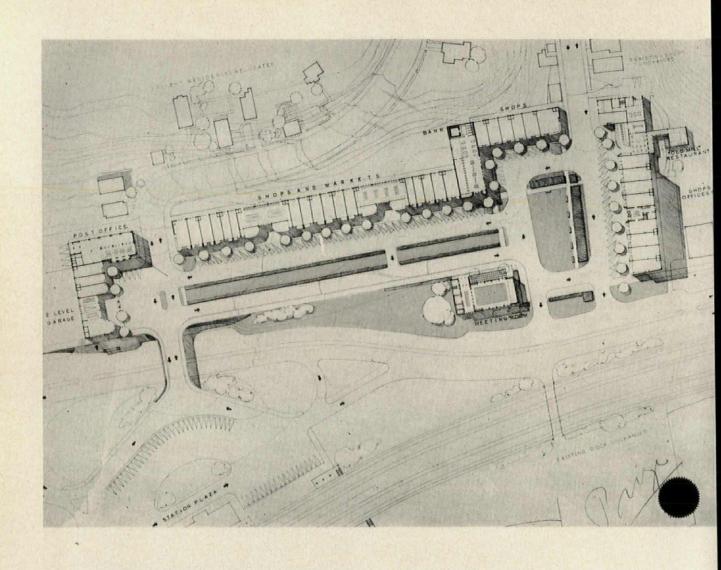
one's courage up and leave ten minutes before closing time? These and other questions were never actually voiced in Hershey-town, but left one with an agnostic attitude toward progress and its price.

We arrived at the offices of the Medusa Portland Cement Company at York, Pennsylvania, to find a sumptuous beefsteak lunch awaiting us. At the plant Mr. Whitlach, Superintendent, spoke concisely of cement, its history, ingredients and uses, and described the wet and dry processes of making it. Then to the ball-mills, grinding the stone and the clay to a "slurry" of uniform fineness, up and over a skywalk to the ingenious vacuum driers and, finally, to the long revolving kiln where the clay, now dry, is calcined into cement. Patented paper containers, proof against water and against refilling, brought us back to the consumer's world. By the time we were under way again, the sun had set. Dinner, a shore-dinner, in Baltimore, and into Washington much later, but not too late to drive once around the Mall and see, close up, the majesty of Lincoln, floodlighted in his marble shrine, under a starry sky.

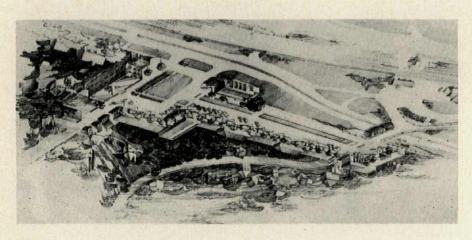
Saturday went rapidly but so did we. A view of the city plan from the top of the Washington Monument, then hasty external glimpses of the Mills' Treasury and Hoban's White House, remodeled, a more intimate appraisal of the Pan-American Building and then, out to Arlington where the Lee Mansion and the Amphitheatre were seen, while the sentries paced their eternal vigil at the Tomb in front. Back again to the Capitol, through the Supreme Court, the Folger Library, and even half way to the Freer Gallery, when the gong sounded and our time was up!

* * *

Saturday was almost Sunday when we pulled into New York and extricated ourselves from the week's accumulation of samples, overshoes, catalogs, fruit-rinds, cameras, and miscellaneous refuse. A week of much needed change and stimulation, a semester's equivalent of first-hand field information, one equivalent point towards the coveted degree, and a gloriously happy experience for twenty-three interesting people. Possibly the university of the future may be built on trailers. For us, at any rate, the Rolling Classroom is an accomplished fact. Certainly, "et baec olim meminisse iuvabit."



This design for a "suburban shopping center, developed out of an existing business center in a small town that had become blighted by a main highway passing through it" won for Harvey P. Clarkson of New York the \$1,400 LeBrun Traveling Scholarship of the New York Chapter, A.I.A., for 1938. His solution separates the functions of the town center and the express highway, by slightly diverting the latter and providing an overhead pass for the shoppers. More information about the prize-winner may be found in the news, on page 24



CULTURE CITIES"

DOLLARS T THIRTY WEEK

RALPH WALKER, F. A. I. A.

Y EARS ago Lewis Mumford wrote a little book called "Sticks and Stones." It was fresh, clear cut, with an idea relatively new in architectural criticism. It justly met with acclaim and a wide audience. It is not too much to say that every architect should read it with un-

derstanding and appreciation.

I wish I could say as much about Mumford's latest book-"The Culture of Cities." It seems a monument of confusion. It is very difficult to understand to what audience it is being addressed. Certainly the technician needs no such book, and the lay public, that great audience which needs to have a clean exposition of the background and benefits of democratic planning, can get but little except the weight of word piled uselessly upon word.

It fails as an encyclopædia and is much too long as a piece of opinion. It is simply amazing that in a book concerned with cities there is no mention of either D. H. Burnham or Eliel Saarinen's plans for Helsingfors. The work of Burnham was important, whether you agree with the ends achieved or not, while Saarinen is a force in training young men.

The book is based on the philosophy contained in the following sentence, which, in the contents, is raised by Mumford with italics to a high position of its own. It is an opinion which basically breeds all the faults within the

work.

"In order to make collective production and distribution possible on a scale that will embrace a whole society, economy must be a regulating principle in all design: for it is only by saving on the means and instrumentalities of life that a community can command the necessary abundance at the higher levels of art, science, education, and expression."

That sentence is an example of the baroque language throughout the work; and another:

"Much of the current demand for murals today is asthetically and socially atavistic: the mural that goes with the modern building is the poster: a form that can be duplicated,

broadcast, and frequently renewed."

Mumford is offering us a world of relative poverty, both in distribution of wealth and in art. His Utopia, his biotechnic civilization, is something so lacking in the joy of life we wonder what it has to offer to compensate for the beauty and comparative riches and color lost in the handicraft world.

Which brings up the question: Why does Mumford start with the middle ages (that colorful world)? For certainly city planning, with all the words he uses to the contrary, was practically non-existent and not even in the consciousness of the burghers who built the walled towns.

A large part of the romance which Mumford sees in Rothenberg and Magdeburg was due to the romanticists of the nineteenth century, who either tore down walls or repaired them, making them national monuments, or made parks out of released space or of the land once barren just beyond the moats.

The beauty of the present foliage comes from the baroque time of planning-one of its gifts to modern life. The garden in the sense of public enjoyment is wholly nine-

teenth century.

Mumford too often makes a period a scapegoat without admitting the good points it may have had. This often gives to his work a quality of unfairness, of trying to prove a point of view regardless of whether it is scientifically worth proving or not. One comes finally to question statements as being propaganda rather than accepting them as having merit.

The work is one that scholars will read fearing to miss something, only to find that they

haven't.

P.S. I have read the book!

I have read with a great deal of interest the article in "Fortune"-"The House Not-So-Beautiful," and was particularly interested in

the opening paragraph, which pronounced:

"Regular employment at \$30 a week is what is known as 'pretty good money.' It is pretty good money in almost any section of this country. It is \$1,500 a year-a level that less than half of the nonfarm families of the U. S. ever achieve. In fact what \$30 a week will buy is a somewhat glorified definition of what must be meant by 'The American Standard of Living.' With an income of \$30 a week a man can eat meat six days a week and fish on the seventh. He can provide his family with clothing adapted to the climate in which it lives and to the mores around which its social life revolves. He can offer his children education more than equal to their capacities to absorb and use knowledge. He can surround his wife with electrical and mechanical gadgets to make her work easier and her temper more amiable; and he can drive an automobile that no amount of money could have purchased fifteen years ago. In his leisure time, of which he has fair amount, he can and does spend a good deal for entertainment and gets a good deal in return. When he is ill he can as a rule obtain some sort of medical care and hospitalization. And when he dies his insurance will provide a 'four-coach funeral with metal casket,' and a backlog of cash to tide his widow over the aftermath.

Of course this idea is in direct contrast to the slum he lives in—the poor shelter supplied him by the most backward industry of them

all. (sic)

It so happens that I earned thirty dollars a week and started married life on that income. You will all remember that before the war in cities such as Boston that was "good money." But that was twenty-five years ago when meat and food was in abundance and inexpensive, when good clothing was cheap, and when, however, there were no automobiles to speak of, no radios, and the "jumping pictures" cost ten and fifteen cents.

We, being New Englanders, lived on a careful budget. We lived carefully, worked and studied, and paid twelve dollars a year to go to Boston Symphony Concerts. We saved a little, we had a small amount of insurance, but had there been a funeral it would have been lacking a "racketeer" casket. Had anybody suggested we could have afforded even a Ford, we, being New Englanders, would quite prop-

erly have said—"If we do we can't make ends meet." We found recreation in a simpler way.

When we contrast the difficulties of housing in this country with the apparent ease with which it is accomplished in Europe, we fail to admit that in Europe practically no one has an automobile, that they are content with a life which has not as yet been maladjusted by advertisements of the world's riches.

An honest and proper budget for a thirty-dollar-a-week family would probably find that somewhere between thirty and sixty dollars a year residue is supporting the automobile industry, the mechanical and electrical gadget industries, the entertainment industries, etc., and that the expenditures for these industries are the real difficulties facing the building industry.

I forgot to mention that twenty-five years ago I had no difficulty in finding a decent house within the budget of twenty-five per cent of yearly income, which every New Englander would agree was reasonable, a house with a bathroom, central heat, and enough land to be a bother to a hard-working drafts-

man.

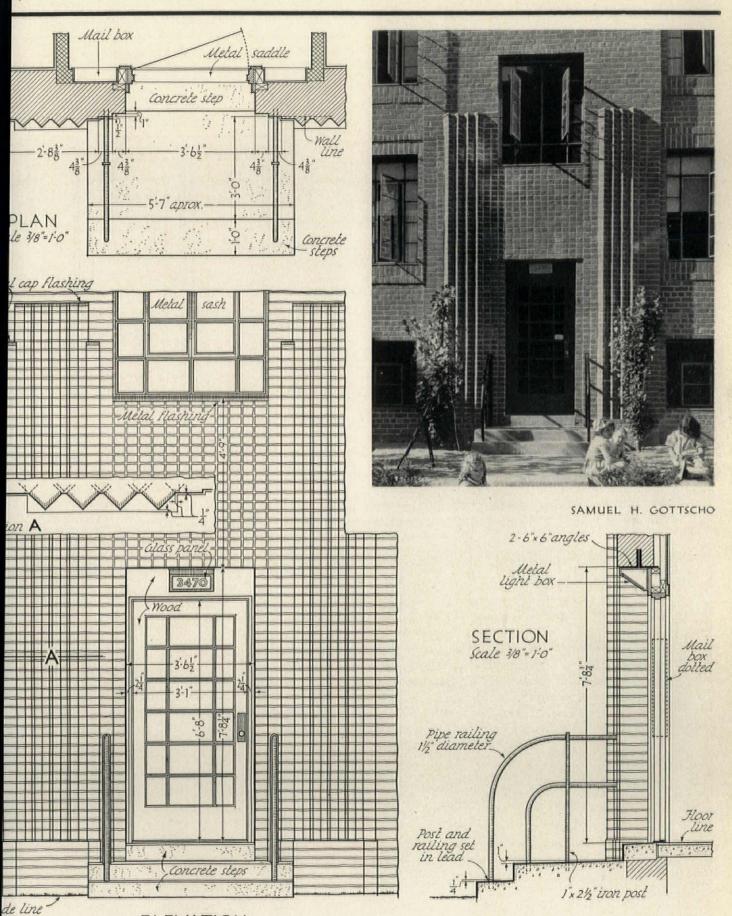
Here is the crux of the situation. The people of this country prefer to have an automobile or gadget rather than strive for good shelter.

Nowhere else in the world has this ideal of life developed as it has here in America. No, it is not democratic ineptitude, but a different type of desire which makes our shelter problem so difficult. The average American family having come by a piece of luck into a small inheritance will think first of an automobile. They prefer movement, jazz, "nowhere in particular," to a home, culture and direction in life.

A very interesting news item in a recent paper said that Ford employees were requesting a guaranteed minimum of fifteen hundred dollars a year, and that if Ford would agree they would "kick back" every two years and purchase a car. Unless they expected to sell it and make a profit, which of course would not be permitted, the wholesale price of a car would be a large proportion of yearly income spent for transportation.

Fifteen hundred dollars a year may be "good money," but it is not in the nature of

Aladdin's lamp.



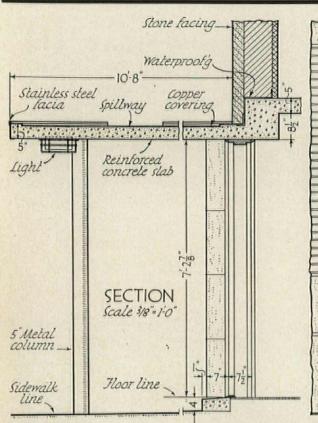
CLARENCE S. STEIN Architect

ELEVATION

Scale 3/8"=1-0"

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COMPARATIVE DETAIL



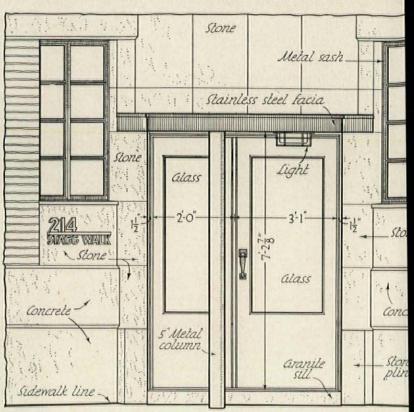
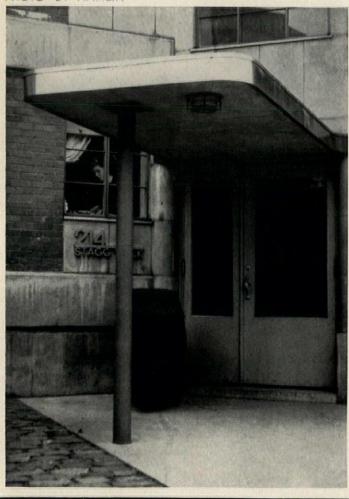
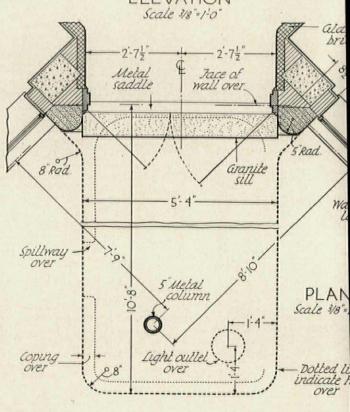


PHOTO BY HAMLIN



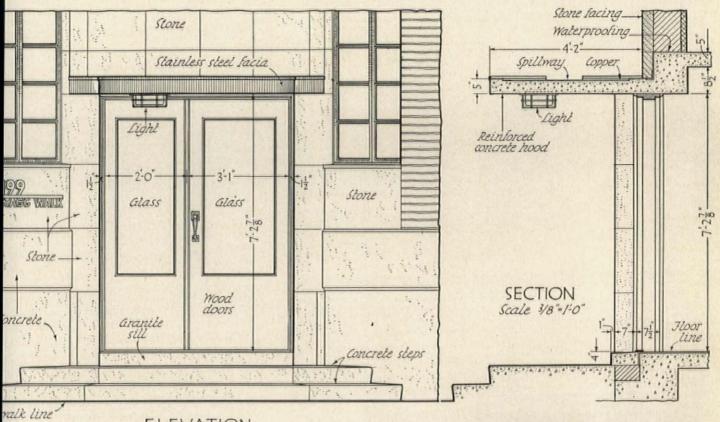
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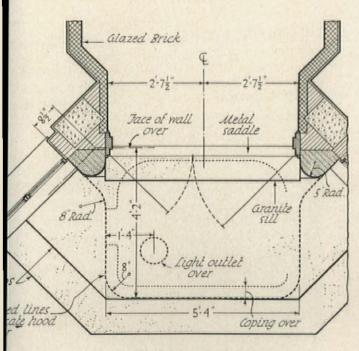
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ELEVATION Scale 3/8"=1-0"



PLAN Scale 3/8"=1-0"

Shreve, Chief Architect Arthur C. Holden, Gurney & Clavan, ngren, Volz & Gaardstein, M.W. Del Gaudio, Harry Leslie Walker, am Lescaze, John W. Ingle, Jr., Paul Trapani, James F. Bly Associates for the

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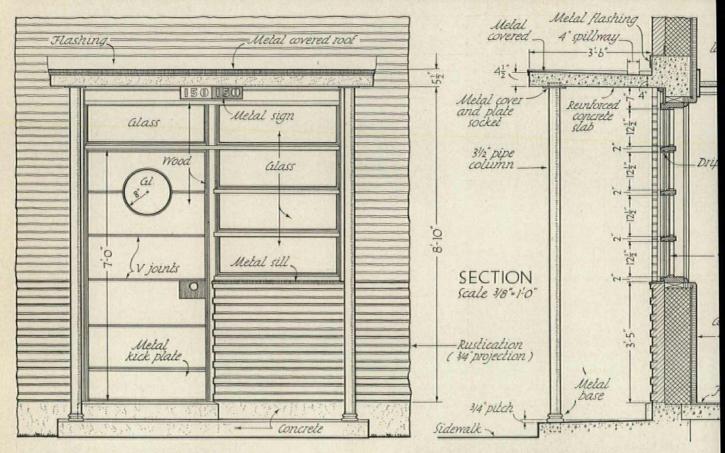


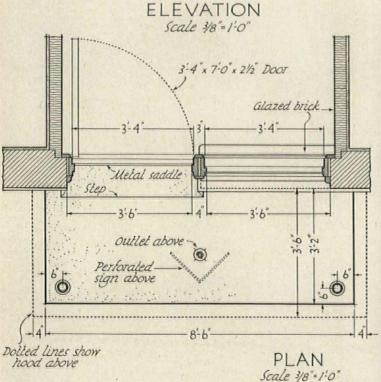
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COMPARATIVE DETAIL

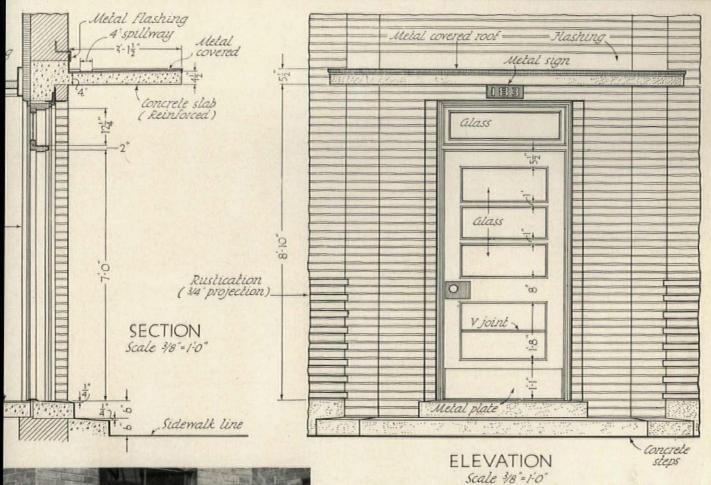




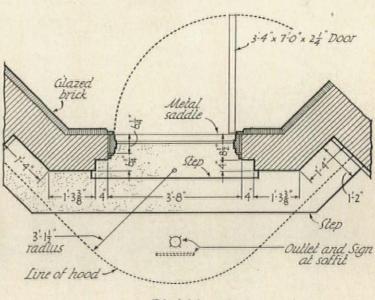
Archibald Manning Brown, Chief Architect. Richard W. Buckley, John Louis Wilson, Will Rice Amon, Charles F. Fuller, Horace Ginsbern, Frank J. Forster, Associates.

PUBLIC WORKS ADMINISTRATION









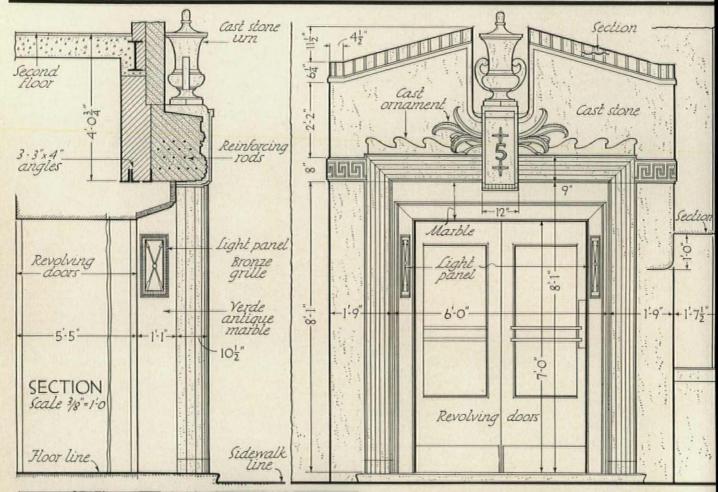
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Archibald Manning Brown, Chief Architect. Richard W. Buckley, John Louis Wilson, Will Rice Amon, Charles F. Fuller, Horace Ginsbern, Frank J. Forster Associates for the

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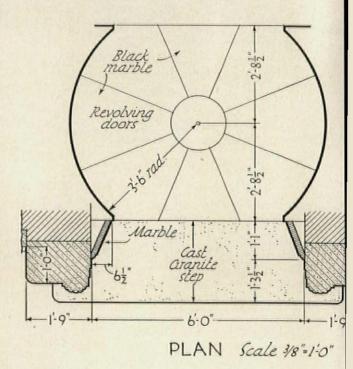
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BOAK & PARIS, INC. Archite

THROW THAT LEGACY AWAY

BY ROBERT L. ANDERSON

IT SHOULD be evident by this time, I think, that architects should give up the idea that

"art is the expression of society."

In the first place, the idea is only partly true. As a matter of fact, art very often is an expression, not of society, but of an individual. Has any one, for instance, ever argued that Louis Sullivan's Transportation Building was an accurate and authentic expression of the actual state of American society in 1893 instead of being what it really was: an authentic expression of Sullivan himself? Has any one attempted to argue that Frank Lloyd Wright's Falling Water is an accurate expression of contemporary American society instead of a monument to the genius of Wright himself? Why, then, should we continue to insist that architecture be an expression of society, simply because we conned that notion from 19th century philosophic primers?

In the second place, even when true, the idea is utterly incomprehensible until decoded by philosophers and historians. Without extensive knowledge of Greek civilization, could any one prove the Parthenon to be an adequate and authentic expression of its age? We are accustomed to accept the Cathedral of Chartres as a glorious expression of mediæval civilization. Can any one prove it to be such without first defining the nature of mediæval civilization? The truth of the matter is that "art as expression of society" is a generalization which owes its validity not to the activity of artists, but to the researches of the historians in fields outside the province of art.

Now it is bad enough to have contemporary architects accepting such generalizations as absolute fact. For by so doing they mistakenly attribute to their particular field knowledge which has been gleaned from quite different fields. The only possible consequence of such action is the creation of erroneous notions concerning the nature and duties of their own profession.

From such error, graver errors arise. For it must be recognized that the idea of the Parthenon and Chartres as adequate and authentic expressions of the society which produced them is a generalization doubly untrustworthy because it is itself based on a generalization. No man can pronounce concerning these buildings, as adequate expressions of the civilizations which produced them, without having first generalized concerning the civilizations in question. Only after the Hellenic and mediæval civilizations have been simplified into broad generalizations can one proceed to the generalization that the Parthenon and Chartres are adequate expressions of these simplified civilizations.

It must be remembered, however, that generalized simplifications concerning any age give but an imperfect picture of that age. As Walter Lippmann pointed out in his *Preface to Morals*, fifth century Greece was imperfectly Hellenic, and the Middle Ages were only partly Christian. Nor do I borrow from Mr. Lippmann anything but the phraseology. These are facts which any man with any pretension even to minimum education must

recognize as reality.

I do not mean that generalizations are not necessary. They are. But they must be recognized for what they are: intellectual conveniences by means of which men are enabled to gain some intelligent comprehension of what in reality is not simple, but complex and highly contradictory. Unless men can remember that it is the contradictory complexity, not the simplified generalization, which is the reality, we shall mis-educate not only ourselves but the generations who follow in our footsteps.

Nor are these abstract matters which have little or no connection with our lives. Educators can and do argue that because civilizations of the past have been summed up in simple generalizations, our own civilization must thus simplify itself if it is to survive. They can and do argue that because Greek civilization developed one simple form-pattern (the temple); the Roman civilization another simple form-pattern (the forum);

the Middle Ages still another form-pattern (the cathedral); we, too, must immediately develop our one simple form-pattern lest we perish.

I can imagine no more pernicious doctrine to promulgate to the young. For it not only misinforms them concerning the civilizations of the past, it misinforms them concerning what may reasonably be expected in the present, as well as hoped for in the future.

In the first place, civilizations and formpatterns of the past were not as simple as all that. In the second place, our own civilization being somewhat more complex than any preceding civilization, it can hardly be hoped that our form-patterns would be as simple as before. Therefore, to continue to present such simplified concepts concerning the past as programs for the present is to deceive the student as to the possibilities of his own civilization. Grant that the intentions are of the highest order. The fact remains, nevertheless, that deception is the result.

There is another reason why architects should give up the notion that their art is an expression of society. As has been pointed out above, such notion becomes comprehensible only when decoded by philosophers and historians. The further difficulty arises from the fact that such philosophic and historical decoding is possible only after a protracted interval of time.

To be sure, each of us can pronounce emphatically that our art does express our society; a curious custom at present quite fashionable in certain circles with respect to the work of architects whom they happen to admire. Such pronouncement remains, however, no more than a pious hope. For who among us is sufficiently clairvoyant to recognize the full and exact nature of contemporary society? True, history undoubtedly will show some of us to have possessed to some extent such clairvoyance. Who these favored mortals may be, however, posterity alone will know.

In any case, it is true, I think, that much of our present difficulty lies in the fact that contemporary men are uncomfortably aware that they lack a clear conception of the exact nature of our civilization. Yet if we have no clear conception of our civilization, is it not foolish to continue to insist upon a doctrine whose first requisite is accurate knowledge of that which we do not know?

* * * *

As a matter of fact, contemporary conditions being what they are, continued insistence upon the idea that art is the expression of society leads only into the blind alley of frustration. For if there is one thing contemporary men are agreed upon it is the thought that society is in the throes of a transition.

But a society in transition is not great. It follows, therefore, that there can be no great art. If any one doubts it, let him consult the quotation from Walter Behrendt on page 301 of the May issue of PENCIL POINTS, or the quotation from Walter Gropius on page 304 of the same issue.

Now it may be that these gentlemen are right. It may be that there can be no great art in our day. I for one, however, have no intention of thus committing suicide. Not when I can escape such disaster by the simple expedient of throwing "art is the expression of society" into the waste basket. Particularly when I know that in so doing I am discarding nothing but 19th century philosophies of art.

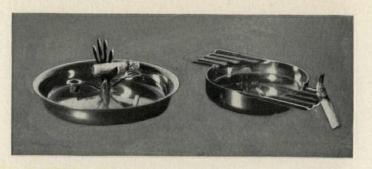
We seem to have forgotten that all the great art of the past was produced by men totally unconscious of the fact that they were expressing society. Only in our time have artists had to struggle with the 19th century philosophic legacy which insists that art is the expression of society; a legacy which, for this generation at least, spells only self-consciousness and pessimism.

As I say, I may be wrong, but from the bottom of my heart I beseech you, gentlemen, Throw that legacy away!

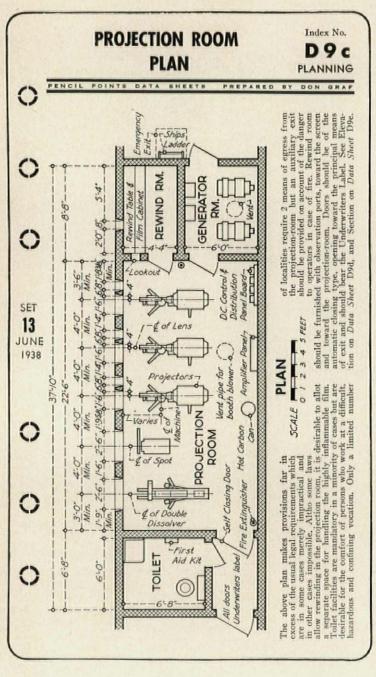
PENCIL POINTS DATA SHEETS

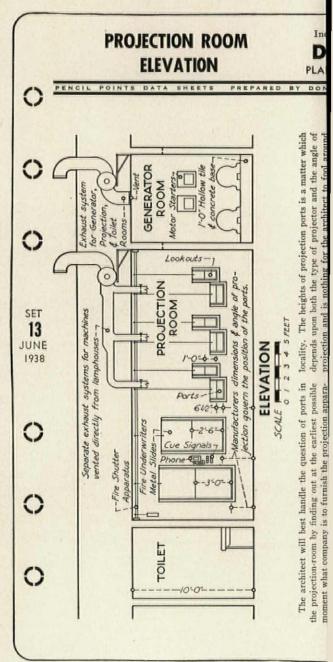
Prepared by DON GRAF, B.S., M.Arch.

OF THE OBVIOUS



In the *Perfumed Garden* of the Chiekh Nefzoui, there is a chapter on the qualities possessed by the praiseworthy man. The good chiekh probably smoked a hooka if he smoked at all, since the cigarette at that early age was not in popular favor and people had not yet learned to be nonchalant, have steely nerves, cure throat irritation, get rid of coughs, improve digestion, whiten teeth and prevent halitosis by smoking 3 or 4 packs of butts a day. The chiekh was a man of analytical mind and had he been a





cigarette smoker he surely would have mentioned the gentlemen who designed and produced the ashtray shown in our illustration at the left.

This God's Gift to Cigarette Smokers consists of a generous bowl and a metal hand with 5 outspread fingers projecting out of its center. Cigarettes are parked in between these fingers and if forgotten, will burn down and fall safely into the metal container. A snuffer and a flicker for ashes is optional at no extra cost. It is true that the design is not all that might be hoped for æsthetically, but when a choice lies between function and beauty, there can be only one choice when beauty may exact its penalty by burning down your house or at least a nice, big, charred hole in the furniture.

The right-hand tray in the illustration is all that the ultra-modernist could wish for. It is made of shiny chromium, completely streamlined and thoroughly unfunctional.

Having read Don Marquis' immortal essay on the immorality of fruit jars and the shameful way in which they multiply when a pair is put on a cellar shelf, we have placed the 2 ashtrays in the corner of a dark closet—with mixed emotions. Whether ashtrays have the same cosmic urge as fruit jars remains to be seen. But we are inclined to entertain the hopes of the great Duse that union she suggested with George Bernard Shaw might bring forth issue with the beauty of the mother and the brains of the father—rather than that of G. B. S. who said he dared not attempt such an experiment lest the result be the body of the father and the brains of the mother.

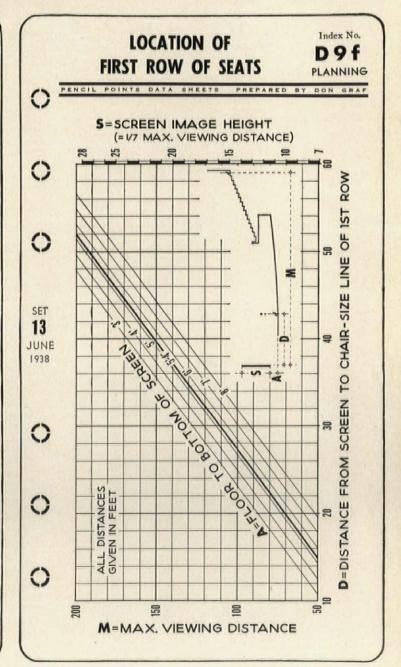
Index No. PROJECTION ROOM D9 e SECTION PLANNING Exhaust duct for -Exhaust Horizontal projection of machines is 4'-0" from floor to & of lens. Generator, Projection and Toilet duct for machines Angle of projection & manufacturers dimensions govern position of ports & distance machine is from face of wall. -Vent duct PROJECTION ROOM 10,0 Angle of projection -3° to +33° 12° recom, max 8-0-Min-----//'-0"----Last row of seats if there is no rear cross-over Balcony Cross-SECTION

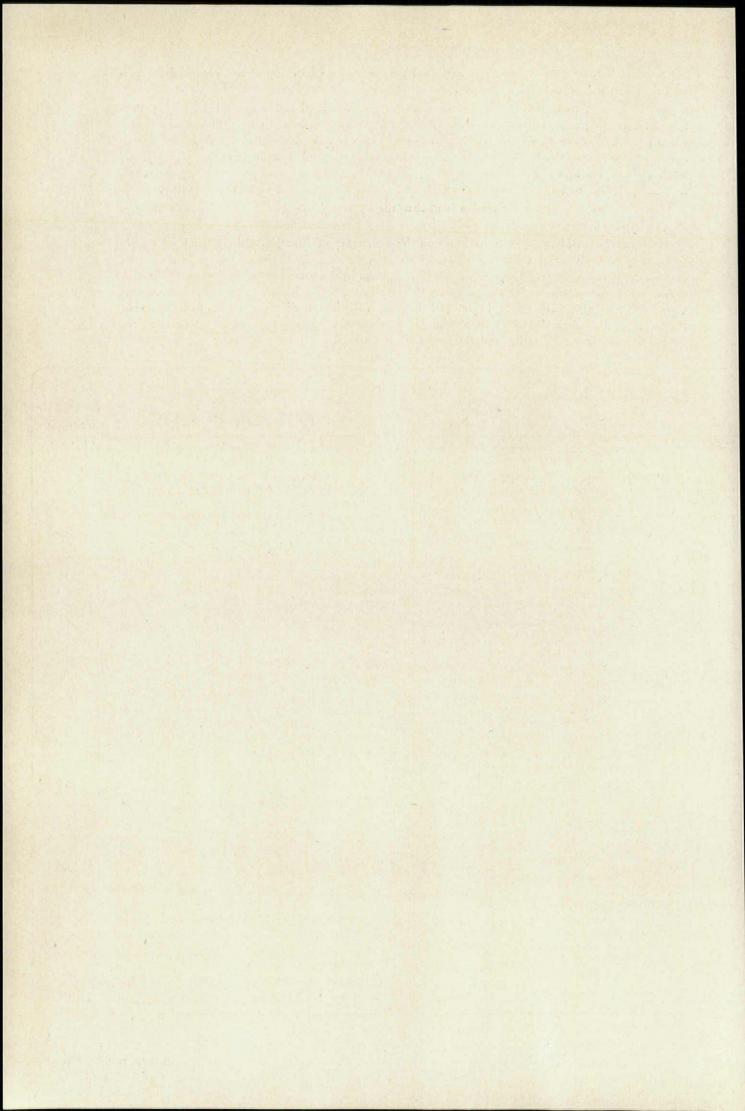
Some building laws allow ceiling heights as low as 5'-6" but this is ridiculously inadequate both as a room in which normal size operators are expected to work and is also insufficient to house some of the more modern projection machines. A ceiling height of 8'-0" may well be taken as a practical working minimum and can be increased to 10'-0" or 12'-0" if construction allows.

The general lack of legal requirements for proper ventilation is fully as startling as the lack of consistency in those requirements which have been established. Complete lamp-house ventilation, projection-room exhaust capacity which will change the air not less than 6 times per hour, the venting of the generator room by mechanical means—all should be considered as practical minimum conditions whether or not they are legally mandatory. Satisfactory ventilation of the projection-room itself presupposes the placing of fresh air inlets near the floor on at least 3 sides of the projection-room.

To prevent willful obstruction of the light beam from the projector to the screen, sufficient height must be allowed to the last row of balcony seats so that a full-grown rowdie cannot reach high enuf to intercept the light, as shown on the drawing above.

For the projection-room plan, see Data Sheet D9c, for the elevation, see Data Sheet D9d.





THE DESIGN OF THE CINEMA

2. DEBUNKING THE FLOOR SLOPE MYSTERY

BY DON GRAF

EDITOR'S NOTE: This is the second of a series of articles to appear in Pencil Points on the design of motion-picture theaters. The next will be published in the July issue. The Society of Motion Picture Engineers has not found it feasible to release the paper upon which this second article was to have been based in time for this June issue, so we have rearranged the sequence in which the information is given in our series. Next month we will take up the sight-lines in plan, and other basic data together with excerpts from the SMPE paper if it is released at that time.

The greatest bugaboo in the design of a motion-picture theater is, without doubt, the matter of the correct floor slope. So much has been written on this subject that it seems foolhardy to add another treatise to extant material. However, a careful perusal of the existing literature of theater design will reveal a common characteristic in all the writing—the explanation of floor slopes doesn't explain!

There is a story that a number of architects, not specializing in theater design, at various times have offered sizeable financial inducement to obtain a simple series of a couple of dozen figures, representing the floor slope elevations used by a prominent New York theater architect. If this is true (and it could be true), it shows that the hitherto published information on the working out of sight-lines did not divulge all the required facts. The author of the article you are now reading is about to break an unwritten law—by debunking the great floor slope mystery!

Only three things affect the sectional contour of a movie theater auditorium floor.

- The height of the bottom of the screen-image above the eye-level of the occupants of the first row of seats.
- Horizontal distance from the screen-image to the occupants of the first row of seats.
- The back-to-back distance decided upon for sight-line clearance and row spacing, and the head clearance.

By leaving out of an essay, which purports to explain floor slopes, any one of these three points, the entire explanation is valueless. We shall attempt to present the influencing factors for all three of the governing conditions.

It must be borne in mind that a "standard" theater floor slope can no more be established for universal application to any theater problem than can a sundial be constructed to read correctly in every latitude. Every theater problem will be different. Luckily, the establishing of the floor slope is a relatively simple matter and can be quickly worked out for any theater problem.

Let us take up the three points in detail.

1. Bottom of Image Above Eye Level

Some of the most successful theaters in the country, nominally to provide moving-picture entertainment, depend to a considerable extent for patronage upon complementary performances with live actors. The stage business of the live actors may consist of raffles for dishes, Screeno or bank nights, feature orchestras, amateur nights, Bingo, or vaudeville. Even in the presentation of straight moving pictures, there is a certain amount of theatrics borrowed from the legitimate theater, such as the dropping and parting of curtains before the feature picture, the raising and dimming of lights, etc., designed to create audience suspense, impressiveness, and the illusion of action actually occurring on the stage.

There is a tendency on the part of those allied with the motion-picture industry to attempt the divorcement of screen entertainment from that provided by living actors. It is intimated that an ideal presentation of movies is impossible or impractical in a theater designed for the offering of "legitimate" entertainment.

In very, very small theaters of the intimate type, seating from 100 to 200 or 300 spectators, it involves only a small risk to disregard the likelihood of actors appearing. But the prospective owner of a large theater property would be injudicious indeed to assume that public preference in entertainment has reached







Reading from left to right, the photographs show the eye levels and top-of-head points for a woman of more than average height, a short man and a short woman. Note that the distance from horizontal eye line to the top of the head varies between 43/8" and 51/8". Even the maximum shown may be exceeded with the next fad in coiffures

a static point and that no consideration need be given, during the life of the proposed building, to the necessity for a stage and its equipment. The following clipping is from the New York World-Telegram of May 14th:

Would Get Back to Days of Vaudeville

By CHARLES DAVIS

Six or seven years ago we paid 50 cents to see one motion picture and five vaudeville acts. Even if the vaudeville performers were not of the finest, we felt that we had been entertained.

Now, for the same price, we see two long motion pictures. After the performance most of us feel that we have been through an ordeal.

Mrs. R. K. in her letter to the "Mail Bag" must have struck many a responsive chord when she asked for the return of vaudeville.

Let us get back to the days of real entertainment. If you will compare the reactions of patrons in motion picture houses of today with the patrons of the old Keith and Proctor's theaters you will understand what I mean.

New York.

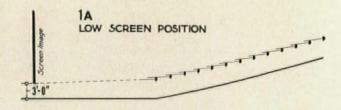
Fortunately, an analysis of desirable conditions for the viewing of motion pictures is not so inconsistent with a regularly designed and equipped stage as might be supposed. Various authorities have voiced opinions regarding the level of the floor at the first row of seats with respect to the stage for living-actor action. In European theaters this will vary from about 2'-3" to 3'-0". The standard practice in America has been to fix this dimension as 3'-4". Action taking place either too high or too low with respect to the spectator's level mitigates against the illusion of reality. If this is true of living actors' performances wouldn't it also hold true to a limited extent with action projected on a screen?

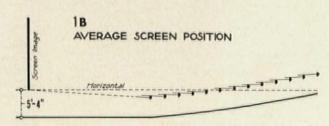
The bottom of the motion-picture image is very close to 2 feet above the stage level, making the total distance from the floor to the bottom of the picture image 5'-4". If we may

now assume that the eye-level of the average adult theater patron is 3'-8" from the floor, we find that the distance from the eye-level of an occupant in the first row of seats will be 1'-8" below the level of the bottom of the screen-image. The illustrations show that the 3'-8" figure is reasonable, any error being on the side of better vision.

The figure may be taken either more or less without affecting the resulting floor slope appreciably or influencing the following discussion in any way.

It is desirable that all the patrons in the theater be able to see the entire height of the





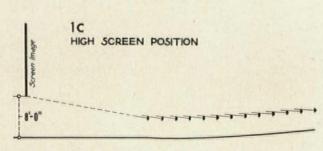


FIGURE 1. If the sight-line focus is taken at the bottom edge of the screen image, these diagrams show that, other things being equal, the floor slope gets steeper as the position of the screen image is progressively lowered

screen. This ideal becomes possible only when we take a hypothetical condition in which all the spectators are of exactly the same anatomical dimensions. No practicable design has ever been conceived which will allow a 5-foot woman to see the entire screen when sitting behind two rows of 6-foot men. The best we can possibly hope for is a satisfactory average condition.

In the diagrams, Figure 1, is shown the influence of the vertical position of the moving-picture image. At 1A the bottom of the screen-image has been taken at 3 feet above the floor, making it 8 inches below front-row eye-level. With the sight-lines from each succeeding row clearing the heads of the row immediately in front, we obtain a slope of floor which allows each anatomically-average spectator to see the bottom of the screen image.

In 1B, the floor-to-bottom-of-screen-image distance is taken at 5'-4". This results in a floor slope of more gradual rise and is an additional reason for always adopting this dimension as a starting point for the design of a theater floor.

At 1C, the floor slope becomes more nearly flat as a result of raising the position of the screen image.

We may formulate our Rule 1, therefore: The focus of sight-lines is taken at the bottom of the screen-image, 5'-4" above the level of the first row of seats.

2. Distance to First Row

Many rules have been attempted to establish the position of the first row of seats. Some of these proceed from merely empirical guesswork—others have a more sound basis in a knowledge of the human optical system.

There is a yellow spot (Macula lutæ) on the retina just above the optic nerve. The yellow spot is approximately 1/25th of an inch in its vertical dimension and about 1/8th of an inch horizontally, producing visual angles of 4° and 12°. Stimulus of the yellow spot provides the most acute and readily assimilable impressions, although visual stimuli can be transmitted to the brain from the entire retina. However, a distinct effort of will power is required to concentrate the consciousness upon blurred images formed outside the yellow spot. The human eye, when focused on any given point, is by no means the extremely wide angle instrument one might suppose. It is because the eye is constantly roving and scanning objects over a wide field, combined with the persistence of retinal impressions lasting from 1/50th to 1/30th of a second, that we are able to comprehend a large area.

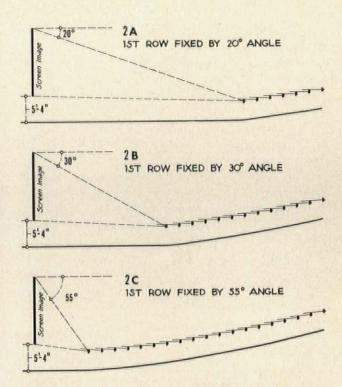


FIGURE 2. These diagrams indicate that the position of the first row of seats affects the point where the floor slope starts but does not greatly influence the steepness of that slope. The condition shown in Diagram 2B will be found a safe guide since it conforms with known facts of visual comfort determined by investigation

Theoretically, the human field of monocular vision extends 90° outwards, 60° inwards, 70° downwards, and 50° upwards. However, the psychical field of static vision is about 6° corresponding with a 25-cent piece held 10 inches from the eyes. When the angle which we attempt to scan by rapid point-to-point adjustments approaches 45°, we become conscious of discomfort from the mental effort. The angle of 30°, which is normally taken as desirable in the construction of architectural perspectives, is based upon the logical maximum which we can employ without ocular discomfort and this angle may well be taken as the upper limit for the satisfactory viewing of motion pictures.

In London, England, the city code provides that the first row of seats be located so that a line from the eye makes an angle of 30° with the borizontal when viewing the top of the screen-image, which we may establish as Rule 2. This canon is in accordance with our knowledge of optical comfort and is one which may be safely taken as a guide to the location of the first row of seats.

Tables giving the size of the screen-image have appeared from time to time, based upon the capacity of the theater, but this is not a proper index to be used since the proportion of the width of seating area to the depth is one of wide variation. It should be obvious that the figures moving on a motion-picture screen must be of such scale as to create the illusion of reality to the greatest number of patrons. A moving-picture screen-image whose height is 1/7th of the distance from the screen to the most remote row of seats will be found correct for all except the very smallest and the very largest moving-picture houses.

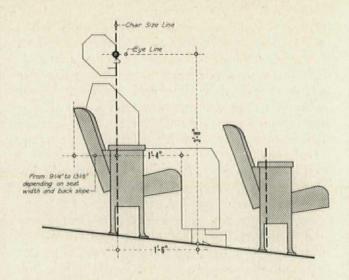
The larger the theater becomes, the greater is the disparity between the image size as seen by the nearest spectator and that seen by the most remote spectator. The problem of voice reproduction enters into the design of gargantuan auditoriums. Even the price of admission influences the decision as to what proportion of the seats are to be favored with the most desirable viewing and hearing conditions. The whole problem of the design of gigantic, stupendous, colossal temples of the moving shadows becomes too involved and too specialized for the scope of this article. We may assume that theaters larger than 1400 to 1600 seats present special difficulties, in the design of which the rules we establish herewith may have to be revised.

In addition to the maximum optical angle of approximately 30°, there is another factor which prevents the viewing of a moving picture from too close a distance, that of the creeping effect of the grain in the picture. The large magnification of a frame of motion-picture film, measuring roughly 1 inch by 1½ inches, to a screen-image many feet high, shows the grouping of silver salts in the structure of the film. Since each successive still picture has different grain structure and the still pictures change at the rate of 24 times per second, the image seems to creep or crawl when viewed from too near a position.

3. Back-to-back Distance for Sight-Lines

We have illustrated steps 1 and 2 with diagrams in which the anatomically-average spectator sees over the head of the person immediately in front of him—or what may be termed first row sight-line clearance. This is an extremely desirable situation but one which unfortunately can be obtained only in relatively small theaters having a short distance from the screen to the most remote row of seats, unless an excessively high screen position is adopted.

In Figure 3 is shown the effect upon the steepness of the floor slope of first row, second row and third row sight-line clearances. The



Theater chairs are arranged with legs to fit all floor slopes in ½" intervals from 0" to 2¾" per foot for conventional inclines, and from 0" to minus 2½" for reversed inclines. The legs are shortened or lengthened so that the theoretical eye level will come 3'-8" above the level of the heel, as shown in the drawing above. In calculating the floor slope, the eye is assumed as 3'-8" above the floor on a vertical line through the eye, involving an apparent discrepancy. However, no important error results since it is only the equivalent of moving the entire floor as designed a distance of 1'-6" nearer the screen. Lines in plan and section to indicate seat rows should represent "chair-size" lines rather than the backs of the seats as is customary, because on this line nominal chair width coincides with actual width

first row sight-line clearance necessitates such a rapid increase in the floor slope as to limit its application in the average theater.

Rule 3 is: It is customary and satisfactory in the usual theater to design a floor slope for second row sight-line clearance and an eyelevel-to-top-of-head distance of 5 inches. Seats are normally arranged in concentric rows in plan. This usually means that every row is of slightly different length than its immediate neighbors in front and behind. In this way it is rare that one seat falls directly behind another except on the center axis of the auditorium. On the center axis a staggered arrangement can also be arrived at with the loss of only one seat in every other row by the simple device of using 13 seats in one row, 14 in the next, then 13, then 14, etc.

With the second row sight-line clearance, the spectator looks between the heads of those in the row immediately in front of him and over the heads of those in the second row in front of him. This results in a floor of average steepness and is the basis for the floor design

in most theaters which have satisfactory viewing conditions.

One of the first steps in determining the floor slope thus becomes a decision as to the back-to-back seat spacing in the theaterregardless of the sight-line clearance that is ultimately worked out. Many building laws specify that 30 inches from back to back of seats is the minimum allowed. For extremelylow-admission-price theaters equipped with veneer-wood-back seats, this distance probably represents an economic feasibility. However, for the average theater employing paddedback seats and enjoying an average to highclass clientele, the back-to-back spacing of 2'-8" is little enough, 2'-10" would represent a better normal condition and 3'-0" might be regarded as an attainable ideal.

Possible Combinations of Influencing Factors As we stated originally, the floor slope for any theater will depend upon the three given

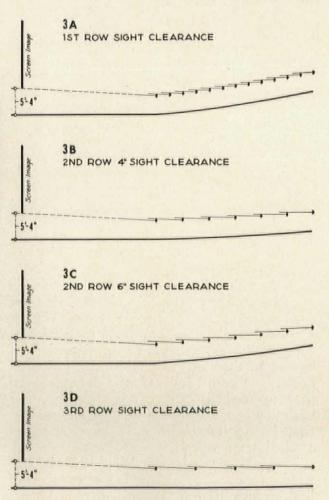


FIGURE 3. The diagrams show that the floor slope decreases as greater distances are taken for sight-line clearance. The recommended design condition lies between those shown in drawings 3B and 3C, i.e., second row clearance, assuming 5" from eye-level to top of head

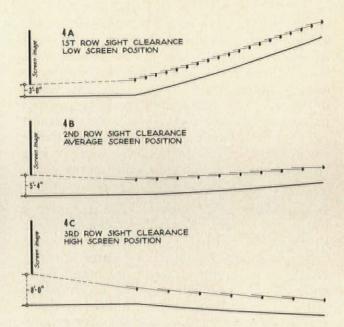


FIGURE 4. By combining the factors of screen image position with various sight-line clearances, we can produce floor slopes which are very steep, moderately pitched—or even running downhill with undesirable sight-line clearance and excessively high screen position

factors. An analysis of the diagrams shows that the steepness is affected most by (1) the vertical position of the screen-image, and (2) the sight-line clearance dimensions. It is interesting, therefore, to see what will happen when we combine the two factors representing minimum, average and maximum conditions.

Referring to Diagram 4A, we have taken first row sight-line clearance and a low screen position. The resulting floor slope is so steep as to be impractical for commercial purposes.

In Diagram 4B, recommended vertical screen position has been combined with recommended second row sight-line clearance. The floor slope obtained is practical, satisfactory and accords with well-established standards for proper presentation of living stage entertainment.

Much has been written concerning the desirability of a high screen position. In a former diagram, 1C, it was demonstrated that high screen position alone produces a relatively flat floor with first row sight-line clearance. But when undesirable third row sight-line clearance is added to high screen position, the floor reverses itself and runs downbill!

The statement has been made that high screen position is desirable from a physical comfort standpoint. Your author respectfully suggests that this hypothesis is false. Without the benefit of anthropological counsel and advice, a very elementary series of observations appear to reveal that the human animal finds his head most comfortable when in an approximately horizontal position. The semi-reclining posture, as necessitated by a high screen position, sustained for several hours without head support, would not seem to be conducive to relaxation. The movie plots generally give the customers enough of a pain in the neck!

What To Do About It

It must be remembered that the design of a theater is a *practical* problem—not an idealistic one. We can theorize in order to arrive at basic principles, but when a theater operator comes to an architect there are many influences at work which may be incompatible with ideal conditions. The architect is therefore confronted with the necessity for arranging the seats so that the greatest number will have the most nearly ideal vision.

How then shall we use the basic rules that govern sight-lines? It is certain that the place to start would be upon these assumptions:

 The focus of sight-lines should be taken at a distance 5'-4" above the level of the first row of seats.

 The first row should be located to create a 30° angle from the eye of a first-row spectator to the top of the screen-image.

 The sight-line clearance should be based upon a 5" eye-to-top-of-head distance with second row sight-line clearance.

The resultant floor slope may, for a number of reasons, be found (a) satisfactory, (b) too steep, (c) too flat. Street and passageway levels must be recognized, maximum floor slopes as determined by law or function must not be exceeded, soil conditions affecting excavations may limit the floor slope. These are only the most common factors which necessitate a departure from the floor slope determined by recommended rules.

We have already seen the three influences on the contour of the floor slope. Where better viewing conditions are desired than those obtained by our recommended rules, we may do any of these things:

Increase the eye-level-to-top-of-head distance.
 Lower the sight-line focal point. This does not mean that the actual image would be lowered but that a lower position of the focus would be assumed for the determination of the floor slope.

The floor slope resulting from the recommended rules should be regarded as an absolute minimum condition for satisfactory viewing of the screen entertainment. Occasionally the architect may encounter situations where the proposed theater is not intended to furnish the audience with a view of the screen action

but is merely an artifice for collecting coin of the realm from an astonishingly gullible public without giving anything in return. In such a case the minimum conditions must be violated. The floor slope may be flattened by:

-Raising the screen-image.

-Reducing the eye-line to top-of-head distance.

-Using third row sight-line clearance.

To get more seats in a given auditorium the architect will do one or both of these things:

—Bring the front row closer to the screen-image than the 30° angle would allow.

—Use a closer back-to-back spacing of seats with chairs of steeper pitch of back and thinner back construction.

The architect will be forced to display a certain amount of ingenuity in reconciling his conscience with the exigencies of the problem in many cases. The only real difference between a so-called theater specialist and an ordinary architect is one of self-confidence in exercising judgment and making decisions. Only simple laws of geometry are involved and a reasonable amount of horse sense.

Designing the Balcony

The old saying "playing to the gallery" has no significance for present-day theatergoers. The gallery seats in the English theater some centuries ago were the most desirable locations in the auditorium. With the American tendency to crowd more and more of an audience within a given plan area, the balcony slopes became steeper and the seats became more undesirable than those on the main floor. Balcony slopes in many cases were increased to such an extent that the spectator literally held on to his seat to overcome the feeling that he would pitch forward to the stage.

A healthy reaction against unsatisfactory balcony seating set in some years ago. It is here the chief difference between the design of a theater for motion pictures and that for entertainment provided by live actors occurs. A much steeper slope is possible for performances of live actors than for motion pictures because of the limit imposed by the projection angle. On the other hand, the distance from the stage to the last row of seats can be greater with movies than for legitimate stage productions because of the limits in carrying power of the human voice.

The adopted balcony design will be one which results from observing a number of limiting conditions.

First. The projection angle for reasonably distortion-free images on the screen should not exceed 12° with the horizontal. This limit is often set at 20° and projectors are made which allow as steep as a 30° angle. However,

12° can be taken as the ideal maximum which, with a given screen-image height, determines the lower line of light from the projector to the bottom of the screen, as shown in the diagram as line A. People walking in the balcony should not interfere with the light from the projector, giving us a line A' parallel to line A, above which no balcony nosing should project. The clearance is often established as 8 feet but if rowdies with a perverted sense of humor are to be expected as balcony spectators, this distance is often increased to 10 feet so that a hat or hand cannot deliberately be raised to interfere with the picture projection.

Second. A person standing 2 feet behind the last row of seats, known as a standee, should be able to see the top of the screen-image with a 2-foot factor of safety, as shown in the diagram by line B. The balcony should not fall

below this limiting line.

Third. The laws of acoustics impose another limiting factor, which is that the ceiling height under the balcony at its front edge should not be less than 1/3rd the overhang (D), with respect to the last row of seats on the main floor. Hearing becomes difficult in

the rear, if this height is reduced.

Fourth. The slope of the balcony D should be such that the steps in the aisles for ascending and descending the slope are both legal and comfortable. Building laws usually limit the height of a single step to $7\frac{1}{2}$ " or 8". With two such risers for each row of balcony seats, the maximum slope would be between 15" and 16" in height for each 32" to 36" horizontally. Older theaters for legitimate perform-

ances often had three steps for each seat platform, making a rise of 21" to 24" per platform. Such a pitch can only result in discomfort to the spectators.

Fifth. Last but not least, the sight-line E must allow first row sight-line clearance to a focus at the bottom of the screen image. Because it is extremely dangerous to change the riser tread proportion anywhere in a flight of steps, the balcony cannot be "dished" as is the main floor with its ramps. The balcony must be of uniform slope. This means that the sight-lines will be determined by the last two rows of seats in the balcony. Each succeeding row nearer the screen has a better sight-line condition because of the uniform slope. The occupants of the second row of balcony seats will thus be able to see a hypothetical point several feet below the stage at the screen line.

Notes on the Balcony Design

The most common system employed in the past for the determination of the balcony slope was to assume a point 7'-6" below the level of the stage at the curtain line or the screen line, and to project a sloped line from this point to somewhere on the rear wall of the balcony. The nosings of the balcony seat platforms were made to touch this line and no regard whatsoever was paid to sight-lines. This method has resulted in some extremely unsatisfactory balcony layouts and is a method that should never be employed. People come to the theater to see the action taking place on the screen and only sight-lines can locate seats which will accomplish this objective.

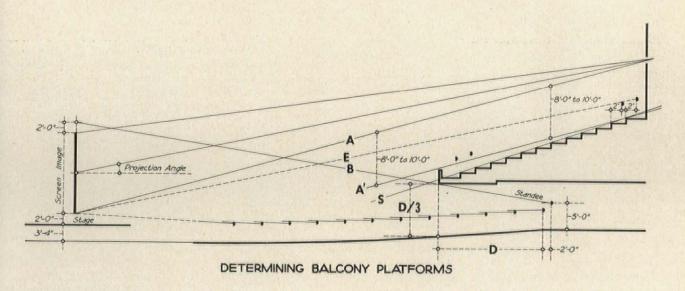


FIGURE 6. This sectional drawing shows factors which determine the balcony slope and the proportioning of the balcony platforms for the seat rows. The recommended method takes the sight-lines into consideration—a precaution sometimes disregarded with the result that an extremely unsatisfactory balcony condition is produced

The architect may wonder why first row sight-line clearance is recommended for the balcony whereas second row sight-line clearance is recommended for the main floor. It must be remembered that the center of the motion-picture screen is well above the evelevel for the spectators sitting on the main floor. This means that they are most natural when reclining slightly backward. To see over an obstruction such a spectator needs only to sit up more nearly to a vertical position in his seat. But in the balcony, the center of interest on the screen is below eye-level and the spectator is sitting more nearly in a vertical position than are his fellows on the main floor. The only way he can increase his eye-level elevation is to raise himself bodily in his seat, since leaning farther forward benefits him very little. So we can conclude that the balcony patron needs first row sight-line clearance and the distance from the eye-level to the top of the head should be assumed as 5"or even 6".

There is no rule that can be fixed for the distance from the motion-picture screen to the first row of balcony seats. This distance will naturally be limited by the governing factors already detailed. Most theater designers, however, will sense any violation of good design when they have drawn their section. To cover up too much of the main floor with the balcony overhang is undesirable.

The choice of chairs for the balcony is a question that deserves considerable thought. Chair-back slopes will vary from roughly 15° to 25° with the vertical. The usual chair slope for the balcony is 5½" in the height of the seat back (making an angle of 14°-8'). In the illustration, Figure 7, A refers to the aisle room and K to the knee room. Obviously the higher the platforms are, the wider they must be to provide a minimum knee room of 8½" and a minimum aisle room of 6½". Platforms from 2" to 11" high should never be less than

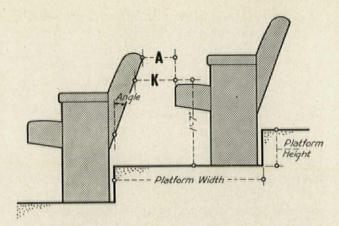


FIGURE 7. The knee room for balcony seats is measured on a line 1'-7" above the platform. Whereas raising the platform height does not affect the aisle width "A" for any given platform width, it does reduce the knee room "K." Thus it becomes important to have definite chair dimensions in mind before deciding on the platform width. "A" must be not less than $6\frac{1}{2}$ " and "K" must be not less than $8\frac{1}{2}$ " to achieve a passable condition

31" wide for a 15°-back seat. Platforms 11½" to 16" high should have a platform 33" wide as a minimum for 15°-back seats.

The first row in the balcony requires additional platform width for toe room and so that people passing between the balcony rail and the seat occupants will not feel any danger of tripping and falling. The platform width for the last row of seats, whether or not there is a rear cross-over, should be determined with consideration for the seat-back location. If these seats are against a rear wall, a clearance of 1" should also be allowed to prevent pinching of fingers when using the seat-back as a handrail in passing across the row.

Grateful acknowledgement should be made to Mr. Phil Alexa of the American Seating Company for help in the preparation of this article, as well as to the same company for use of drawings prepared by Mr. A. Larson. The opinions expressed, however, are the author's.

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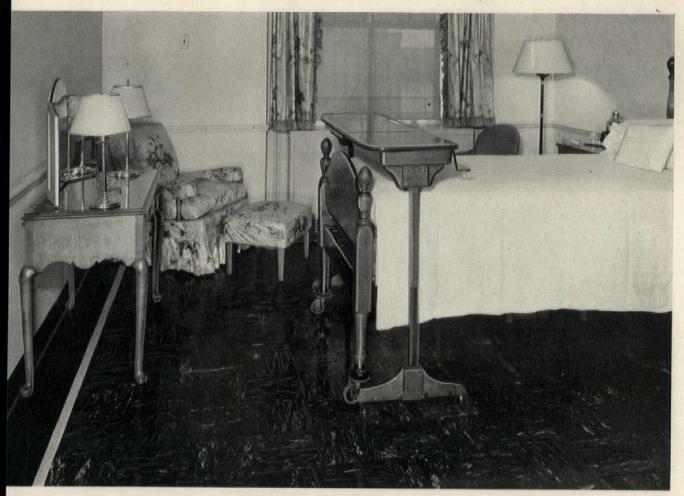
PERSONALS

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- CASS GILBERT, INC., Architects, are now located at 342 Madison Avenue, New York, N. Y.
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- SAMUEL SPERLIN ABRAMSON, Architect, has opened an office at 62 West 45th Street, New York, N. Y., for the practice of architecture, and as a designing and planning consultant for store and business installations.
- DAVID LUDLOW, Architect, has located his office in the Commercial Building, Summit, N. J.
- GEORGE W. MORRIS, Architect, has moved his office to larger quarters at 11 West 42nd Street, New York.
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- W. E. Field, 22721 Marlboro Street, Dearborn, Mich., has the following for sale: Decoration and Paintings of Antoine Watteau, Ernest Wasmuth, Berlin, 60 plates 12" x 18", text in German; Architecture of Great Britain and Ireland, Constant Uhde, 1894. Ernest Wasmuth, Berlin, 6 folios, 175 photographic plates 9½" x 13"; Architecture of Spain and Portugal, Constant Uhde, 1889, Ernest Wasmuth, Berlin, 6 folios, about 105 photographic plates 9½" x 13½", double color plates 13½" x 18½" of Alhambra, Cordoba and Guadalajara decorations; Baroque and Rococo in Germany, Cornelius Gurlitt, 4 folios, photographic plates 10½" x 13", Ernest Wasmuth, Berlin; Architecture Toscane, de Montigny and A. Tamin Ducher & Co., Paris 1875 edition. Good condition. Make offer for all or part.
- Karlheinrich Beutler, Cranbrook Academy of Art, Bloomfield Hills, Mich., would like to obtain the following copies of the Architectural Forum: August, September, November, 1935; April, 1936; January, February, April, November, 1937. Please quote price.
- Chas. Jagemann, 45 Aberdeen Street, Brooklyn, N. Y., would like to obtain the November, 1936, Bulletin of the Beaux Arts Institute of Design.
- W. N. Jewett, 3526 N. Marshfield Avenue, Chicago, Ill., has for sale all copies of *The Metalcraft* from April, 1929, to June, 1931.
- Hilbert G. Frisch, 2851 W. Walton St., Chicago, Ill., has copies of PENCIL POINTS for sale from the years 1929 through 1933, complete. Please make offer.
- John H. Camblin, Industrial Arts Department, Ridgewood Public Schools, Ridgewood, N. J., would like to obtain a copy each of the January, 1935, PENCIL POINTS and *The Architectural Record*. He has for sale the following magazines: PENCIL POINTS for September through December, 1935, and January and February, 1936; *The Architectural Record*—February, March, October, November, 1935, and January through April, 1936.
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SAGER AUTHENTIC PERIOD HARDWARE.—S of authentic period hardware detail plates prepar as a special service to architects on the followin periods: Adam, Colonial (Georgian and Early En lish), Contemporary, Gothic (English, Germa Tudor), Mission, Moorish, Renaissance (Frenc German, Italian, Louis XIV). Standard filing siz Sager Lock Works, North Chicago, Ill.

ELECTRICAL CONSTRUCTION MATERIALS C WALKER OF CONSHOHOCKEN. — A.I.A. Fi No. 31-c-62. Useful reference manual for architec and engineers covering a complete line of underflodistribution systems, rigid and flexible steel conduitarmored and non-metallic cable, rubber covered building wire, flexible and portable cords and special pupose wires and cables. Details, weights, dimension typical layouts, etc. Indexed. 74 pp. 8½ x 1 Walker Brothers, Conshohocken, Pa.

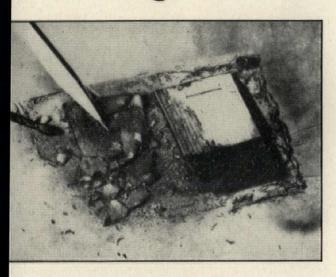
RU-BER-OID AIR-MET INSULATION. — A.I.A. File No. 37-b-7. Architects' filing folder giving detailed description of a new type of insulating material for use in home construction. Sample of materiand sheet giving application instructions accompanie folder. 8½ x 11. Ruberoid Co., 500 Fifth Ave., Ne York, N. Y.

CONCRETE FORMS OF DOUGLAS FIR PLY WOOD.—A.I.A. File No. 19-e-5. D. F. P. A. Technical Bulletin No. 4. Useful handbook for architect and engineers dealing with the subject of Douglas find plywood panels, describes their manufacture, physical characteristics, general adaptability for concret forms, etc. Profusely illustrated with photograph and detail drawings. 24 pp. 8½ x 11. Douglas Find Plywood Assn., Tacoma Bldg., Tacoma, Wash.

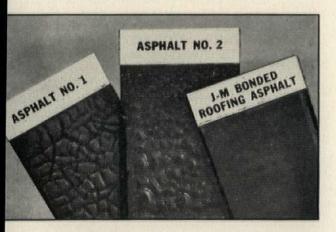
H & C AIR CONDITIONING REGISTERS ANI GRILLES.—Catalog No. 37 AC describes and illus trates a complete line of air conditioning griller registers and intakes. Included are installation details prices and engineering data covering selection of type size and location of grilles, velocity of air, etc. 44 pp 8½ x 11. Hart & Cooley Mfg. Co., Holland, Mich Published by the same firm, "Air Conditioning Grille of Distinction." Attractive brochure featuring seven distinct designs of air conditioning grilles for use in homes. 10 pp. 8½ x 11.

(Continued on page 38, Advertising Section)

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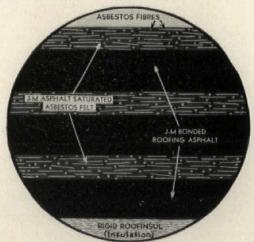
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OMICRON MORTARPROOFING.—A.I.A. File N 21-d. Bulletin discussing the advantages of a type of waterproofing material for use in brick mortar an stucco installations. Specifications. 8 ½ x 11. The Master Builders Co., Cleveland, O.

BRYANT GAS HEATING AND AIR CONDITION ING EQUIPMENT.—A.I.A. File No. 30. Looseles filing folder prepared especially for architects, containing series of data sheets covering the Bryant residential line of boilers, winter air conditioners, force air heaters, unit heaters and humidifiers. Specifications, ratings and capacities, dimensional drawing 26 pp. 8½ x 11. The Bryant Heater Co., 17825 S Clair Ave., Cleveland, O.

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CABOT'S BLUE GLOSS COLLOPAKES.—A.I.A. Fil No. 25-b-2. Standard filing size card with descriptiv data and chart showing range of colors of Cabot blue gloss collopakes for blinds, doors, trim and stor fronts. Separate color chart shows brown and recollopakes. Samuel Cabot, Inc., 141 Milk St., Bostor Mass.

IDEAL AIR-CELL INSULATION.—Booklet explain ing the advantages of a type of air-cell insulation fo use in home construction. Blueprint details. 12 pp The Hinde and Dauch Paper Co., Sandusky, O.

ROCKTITE WATERPROOFING PROCESS.—Folde describing the Rocktite process for waterproofing masonry walls, above or below grade, against seepag or water under pressure for both interior and exteriouse. 4 pp. 8½ x 11. The Rocktite Co., East Boston Mass.

HOME INTERIORS OF CHARM AND BEAUTY.— Handsome brochure illustrating in full color numerous home interiors designed in birch, hard maple brown ash and elm. Useful reference data for architects on these woods is included, 24 pp. 8½ x 11 Northern Hemlock & Hardwood Mfrs. Assn., E. R. A. Bldg., Oshkosh, Wis.

AUER REGISTER BOOK NO. 38.—New catalog listing and illustrating a complete line of registers, intakes and grilles for gravity heating and air conditioning systems. Included are numerous new models recent additions to the Auer line. Installation suggestions, dimensions, prices, etc. 72 pp. 8½ x 11. The Auer Register Co., 3608 Payne Ave., Cleveland, O

(Continued on page 40, Advertising Section)

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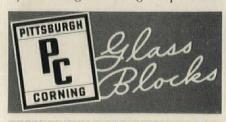
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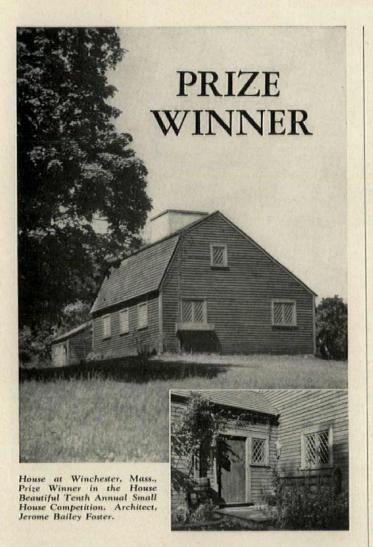
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In contest after contest, you will notice that prize winners are stained with Cabot's Stains (or painted with Cabot's Collopakes). For years, Samuel Cabot, Inc., has been making products especially to meet the strict requirements of the architectural profession. Cabot's paints and stains are found on many prize-winners simply because these products are so widely used by leading architects In addition to Cabot's Creosote Stains, manufactured for more than half a century, we now offer a new line of Heavy-Bodied Stains, which give a more opaque, uniform appearance, and are especially valuable where the shingles are old and weathered. Write today for new booklet, Stained Houses. Samuel Cabot, Inc., 1293 Oliver Building, Boston, Mass.

Cabot's Shingle Stains

Creosote

Heavy-Bodied

PUBLICATIONS ON MATERIAL AND EQUIPMENT

(Continued from page 38, Advertising Section)

FAMILY PLANNED KITCHENS BY CRANE. New two-color brochure describes in detail the ent Crane line of kitchen sinks—the new Kitchen Quee Sunnyday, Kitchen Pride and Homemaker. Importa dimensional details are provided. Packaged kitch units are also described and illustrated. Included is work sheet in the form of a large insert on which thousewife can outline what she will require of I new or remodeled kitchen. A color scheme table a is included. A unique innovation pictured in the bois a "breakfast bar" for a hurried cup of coffee in the morning or a more leisurely beverage in the evening 16 pp. 8½ x 11. Crane Co., 836 S. Michigan Av Chicago, Ill.

STURTEVANT ATTIC VENTILATION. — Set two bulletins describing the advantages of the Sturvant attic ventilating system. 8½ x 11. B. F. Sturvant Co., Hyde Park, Boston, Mass.

WILSON DOORS FOR INDUSTRIAL AND ARCH TECTURAL USES.—New catalog dealing with t subject of Wilson rolling steel doors and grilles, ro ing wood doors, Airkore fire doors, rolling steel from and sectionfold overhead doors. Construction and i stallation data and details, dimensions, etc. 12 pt. 8½ x 11. The J. G. Wilson Corp., 1841 Broadwa New York, N. Y.

AMERICAN VIBRATION ELIMINATORS.—Fold illustrating and describing a type of vibration elir inator for use in the refrigerant lines of any commercial, industrial or domestic air conditioning un 4 pp. 8½ x 11. The American Brass Co., Americ Metal Hose Branch, Waterbury, Conn.

TREMCO MASTIC GLAZING COMPOUND.

A.I.A. File No. 26-b-2. Research bulletin No. 23 d cussing the advantages of a type of mastic glazin compound for wood or metal sash. 8½ x 11. T Tremco Mfg. Co., 393 East 131st St., Cleveland,

JOHNS-MANVILLE BONDED BUILT-UP ROOF -Revised edition of this book includes information on the latest types of built-up roofing; and contai more than forty complete detailed specifications of J-M built-up roofs. Twenty-two pages are devot to these specifications and plentiful drawings illu trate the manner in which the roofing materials a applied to various types of roof decks. A feature the revised edition is a newly organized table of codensed specifications which is a convenient source quick and accurate information. The important su ject of roof insulation is discussed in detail, and var ous methods of base and cap flashing are given, t gether with diagrams which show how flashing shou be installed. Included is a complete explanation of t various types of roofing materials and their qualities 36 pp. 8½ x 11. Johns-Manville, 22 E. 40th S New York, N. Y.

OTIS FINGER-TIP CONTROL SIDEWALK ELI VATOR.—Revised data sheet No. B-549, intended for inclusion in general Otis catalog, presents descriptive and specification data covering the Otis finges tip control sidewalk elevator. 8½ x 11. Otis Elevat Co., 11th Ave. & 26th St., New York, N. Y.

Published by the same firm, "Otis Hall Buttons an Lanterns." Set of new data sheets for general catalocovering several types of Otis hall lanterns and buttons. 8½ x 11.

(Continued on page 43, Advertising Section)

JBLICATIONS ON MATERIALS ND EQUIPMENT

(Continued from page 40, Advertising Section)

IE STANLEY MAGNETIC GARAGE DOOR OP-ERATOR AND LIGHTING CONTROL.—Folder etting forth the advantages of the newly-developed stanley magnetic operator which opens upward-actng garage doors automatically. 4 pp. 8½ x 11. The stanley Works, Garage Hardware Div., New Britain, Conn.

RAN-STEEL ARCHITECTURAL AND ENGINEERING DATA.—Useful reference manual for architects and engineers dealing with the subject of Stran-Steel, a steel framing material for houses, partitions, and all other light load-bearing structures. Included are specifications, construction tables, load bearing tables, etc. 16 pp. 8½ x 11. Stran-Steel Division, Great Lakes Steel Corp., Detroit, Mich.

Published by the same firm, "Stran-Steel Residential and Industrial Construction Data." Set of two bulletins giving data on the use of Stran-Steel for the construction of residences and industrial buildings. 8 ½

LLER MER-TUNG LIGHTING EQUIPMENT.— New catalog, Section 2D, describes and illustrates a complete line of direct, indirect and semi-indirect fixtures and indirect portable torcheres utilizing both mercury vapor and mazda lamps. Included is information covering spacing and mounting heights, foot candle intensities, along with general data on the mercury lamp. 28 pp. 8½ x 11. The Miller Co., Meriden, Conn.

ANUFACTURERS' DATA WANTED

DSEPH A. PARKS, Architect, 519 Metropolitan Bank Building, Washington, D. C.

MUEL SPERLIN ABRAMSON, Architect, 62 West 45th Street, New York, N. Y. (Data on building materials for use in interiors and exteriors.)

MITH & OLSCHNER, Architects, Columbus, Miss. ILTON SHERMAN, Architect, 111 East 26th Street, New York, N. Y. (Data for complete A.I.A. file.)

LLEN V. ROTHERMEL, Architect, 1426 Derry St., Harrisburg, Pa.

ARTON & MARTIN, Engineers, Architects' Bldg., Philadelphia, Pa. (Data for A.I.A. and engineering

T. WOODBURY, Architect, 649 So. Milledge Avenue, Athens, Georgia.

RED W. BUCKY, JR., Architect, 2025 Park Street, Jacksonville, Florida. (Data for A.I.A. file.)

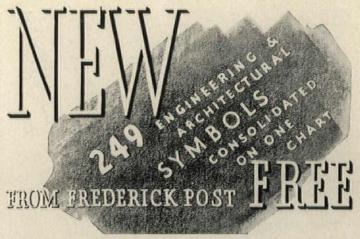
EORGE LARSEN, Designer, P. O. Box 950, Pharr, Texas. (Data for A.I.A. file, especially on the planning of modern homes.)

IAROLD TIEBER, Designer, 74 Guernsey St., Brooklyn, N. Y. (Data on small house construction, concrete, brick and tile, wooden and steel stairs.)

EW YORK CITY HOUSING AUTHORITY, 10 East 40th Street, New York, N. Y., Attention Mr. George D. Brown, Jr., Asst. Technical Director.

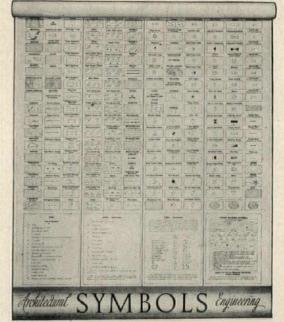
OHN H. FALLS, General Contractor, 1677 62nd Avenue, W., Vancouver, B. C. (Data on construction materials and equipment, and names of Canadian representatives.)

E. LAWRENCE, Architectural Drawing Instructor, Peabody High School, Pittsburgh, Pa.



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[Limited space permits only partial illustration of chart]

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CONSTRUCTION superintendent for national ret chain. Must be thoroughly capable of handling wo from start to finish, neat, practical draftsman, w familiar with store fronts and interiors in appa field. Home office New York City but work will a quire considerable travelling. Write in detail incluing salary desired. Box No. 602.

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YOUNG man, several years' experience in architect office, who knows manufacturers and contractors. Philadelphia area. Start small with fine prospects establish agency in line allied to architecture. Mu have best character and ability references from arch tects. Same position for man in Boston area. Inte view in New York. Box No. 617.

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ARCHITECTURAL draftsman and designer. Age 2: graduate University of Penn., 3 years' residentia commercial, school, rendering and perspectives experience. Box No. 607.

YOUNG woman, 27, outstanding personality, secretarial work, interior decorator or adviser. Capable of producing excellent perspective renderings. Virgini Bettea, 7410 Greenview, Chicago, Ill.

DRAFTSMAN specializing in small house work, regis tered architect, formerly practiced, at present teach ing house planning in leading college. Also intereste in research work. Box No. 608.

ARCHITECTURAL designer and draftsman, 13 years experience. Working drawings handled from sketche to completion. Box No. 534, Covington, Ky.

CHITECTURAL designer wants free lance work, esign sketches, rendering or drafting of any archiectural or artistic nature. Chicago location. Telehone, Kildare 4394 or Box No. 609.

CHITECTURAL draftsman, 8 years' experience, nowledge building construction. One year day colge and one year night college and 4 years night thool in architecture. References. Box No. 610.

CHITECT will consider offer on promotional work rom manufacturer requiring proper presentations nowing adaptability of products. Box No. 611.

LLEGE graduate, ten years with architects, nine ears with contractor. Position with either above or oncern maintaining draftsman for layouts, studies, c. Married. Box No. 612.

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NIOR architectural draftsman, age 22. Neat, acurate, rapid drafting, also type. Familiar small house onstruction. Walter J. J. Phane, 141 Wilbraham ve., Springfield, Mass.

W YORK Registered architect, good designer, deneator, detailer. University graduate, 16 years' exerience. Possess good working library. Wishes assoiate with practicing architect in mid-west. Box No. 14.

CHITECTURAL student (N.Y.U.) Drafting, letering, rendering and designing. Very neat, clean and mbitious. I. Richard Dickens, 3593 Bainbridge Aveue, New York City.

PABLE checker shop and working drawings, drafting on general work, field inspection, also inspector f real estate, maintenance, trust company experience.

CHITECTURAL draftsman, 15 years' experience vith commercial and industrial buildings, housing nd apartments. University graduate, good designer nd all around man. Box No. 616.

NIOR draftsman, 23, seeks practical training with rchitect's office or construction company. Willing o work in any capacity with opportunity for adancement. Salary secondary. Box No. 604.

CHITECTURAL draftsman and estimator, some xperience as job superintendent and time-keeper. ocate anywhere. Everett Rader, 377 Ocean Parkvay, Brooklyn, N. Y.

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CHITECTURAL and structural designer, M.I.T. Masters degree. Industrial buildings, plant layout, ewage disposal systems and swimming pool design. Public school and residential experience. Box No. 606. CHITECTURAL draftsman. Ten years' qualified xperience. Photographic equipment and car. Conider any position in any locality. Box 618.

UNG man, 24, candidate for degree of B.A. this une. Accept employment anywhere. Box No. 619. UNG man, 17, architectural, mechanical, engineering or lettering. Specialized in drafting. Any offer ccepted. E. F. Hubert, 238 Thatford Ave., Brookyn, N. Y.

GISTERED architect, designer, delineator or draftsnan. 26 years old, married. 5 years' practical experince, school, commercial, residential, etc. Box No. 520.

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Eight Students Win Steel Institute Prizes

Eight of the elevated highway designs in the Tenth Annual Competition held by the American Institute of Steel Construction have been chosen as the best of 49 entries from architectural and engineering students at 17 colleges of the country. Three of the winners received cash prizes and the other five, honorable mention and certificates.

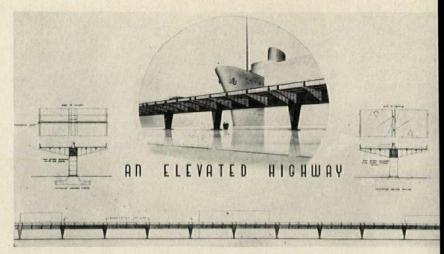
The first prize of \$500 was won by a design submitted by Erling F. Iversen of Princeton University, Pratt Institute and New York University. The second prize of \$100 went to Robert H. Hose of the Massachusetts Institute of Technology and the third prize of \$50 to James H. Walsh of Iowa State College. The three designs are shown herewith for comparison.

Honorable mention and certificates were awarded to Robert L. Abbott and Harold F. Bianco, also of Iowa State College; Brandt Gessell of the University of Idaho; Charles E. Lex, III, of Ohio State University; and Vincent W. Seebach of New York University.

The problem submitted to the students for solution was to design an elevated highway to carry through express passenger vehicular traffic along a marginal avenue. It was to provide for four lanes of traffic, two in each direction, divided by a suitable curb along the center line of roadway. This problem was a simplification of the problem recently submitted to practising engineers and architects in the A.I.S.C. international competition, the results of which were announced in the May issue of PENCIL POINTS. The successful contestants in both competitions were honored at a dinner given last month in New York by the A.I.S.C.

"From the first glance at these designs, it was obvious that the subject was popular and that the design of an elevated highway could be conceived in many different styles and from many different angles," said C. M. Pinckney, Consulting Engineer, New York, one of the speakers at the dinner who also had served on the Jury for the recent international competition. "The principles of steel design, as we understand it, were generally carried out in the submissions."

Adequate provisions for traffic safety, many types of illumination, preference for cantilever construction to avoid columns in the street below, and suitability and economic soundness of the designs all were noted by Pinckney. He also found "a great difference of opinion as to the type of access to and egress from the elevated highway by means of ramps," in which



Iversen's Design Awarded First Prize

he observed that the exterior type prevailed.

The Jury for the students' competition was composed of Frank M. Masters, Consulting Engineer, Harrisburg, Pa.; E. H. Praeger, Chief Engineer, Madigan-Hyland, New York; Aymar Embury, II, and Randolph Evans, Architects, New York; and George Nelson, Associate Editor of The Architectural Forum.

Potomac Patter

Perhaps it was some unwise "philosufferer" who once said that the world owed him a living and in more recent times our own demagogues have argued that the government owed them a living but, gentlemen of architecture, we have not remained forsaken—at least not too long. Your correspondent had once written in these columns that the employment of architects and draftsmen on the grand scale is a thing of the past. Very poor prognostication!

Your Uncle Sam is again doing business-of course it's all part of the pump-priming process but nevertheless it's business-and we are needed. In fact, if too many of our pencilpushing brethren have thrown in the sponge there is a danger of even your U. S. becoming short-handed. Roughly, it may be estimated that about 150 men have been recalled since the recent "rush" began but this is only the beginning. It is known on good authority that every government agency performing architectural services has been in need of men. Now don't rush away from your present bread and board until you are called -unless you have a relative in Washington-and who hasn't?

The activities of the Federal Architects during the months of April and May usually are numerous, exciting and interesting: with their office work on one hand demanding a concen-

trated effort to finish the year's p gram while, on the other hand, Association of Federal Architects' fairs must be arranged and attend When the Annual Meeting, with election of officers, and the Ann Exhibition are finally crossed off calendar, the chairmen of the vari committees are ready to be psyc analyzed.

The Annual Exhibition was divisinto two classes: Individual, limito work of members of the Assotion executed in connection with the official duties or otherwise, and in partmental, not limited to work members of the Association but work produced by the exhibiting partment. As usual, the Association Bronze Medal and Certificates Merit were awarded to the respect winners; the Navy Department in reau of Yards and Docks receiving Bronze Medal.

The prize for official work by Association member was won by rendering of the Fresno, Calif., P Office and Court House, by Rees W son, of the Treasury Department P curement Division. The prize for dividual work in color went to a wa color study of the Federal Rese Fountain by H. S. Chandler, Jr., the Treasury Department Procument Division. The prize for individual work in monotone was awarded William C. Suite, of the War Department, for his lithographic craysketch of Horsetail Falls, Villa Santiago, Mexico.

The Annual Meeting, held on A 26, provided some interesting and citing moments. At long last, Constitution of the Association finally revised and accepted.

For the coming year, the Association elected W. R. Talbott, Vetera Administration, president; Norm D. Monfalcone, Construction Divis O. Q. M. G. War Department, president; G. E. Chappelear, Veter Administration, secretary; and R.

Hartig, of the Bureau of Yards Docks, Navy Department, treas. He vows to keep the re-apted Chairman of the Committee Arrangements, A. Waronoff, of curement, from losing the Assoon's funds by hiding them in a am-lined depository.

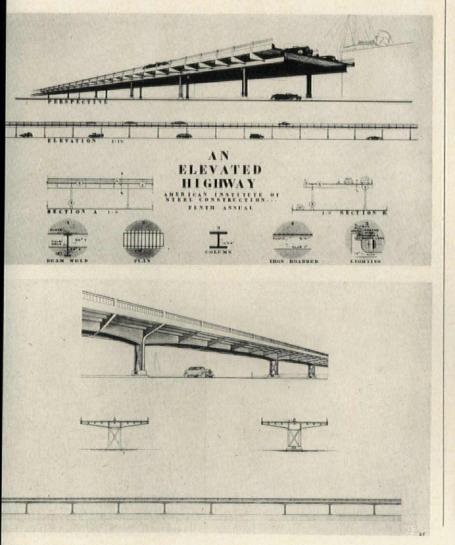
7ith the return of the delegates n the A.I.A. Convention, it was be expected that the monthly ting of the local chapter would be t and heavy." However, it was not nd the only important item called our correspondent's attention was fact that Francis P. Sullivan, irman of the Public Works Comtion Committee of the A.I.A., had gned. It is sincerely hoped that his ellent work has not been in vain, wing as we do that through his rts the relationship between the A. and the Federal Government been brought to a much better ding. The meeting was really a

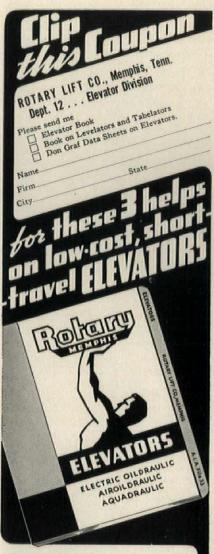
effective presentation distinguishes se's second prize design in the S.C. competition, shown below b the third prize design by Walsh. detailed story on preceding page

sight-seeing tour followed by a dinner and regular chapter session. Finally, Waddy B. Wood prevailed upon his brothers in the chapter to visit his Interior Building, recently completed.

The Federal Civil Service Division. FAECT, holding a conference of representatives of the Denver, Pittsburgh, New York, Brooklyn, Philadelphia, Norfolk and Washington Chapters at the Powhatan Hotel on May 14 and 15, favored expansion of the President's building program, annual administrative increases, an appeal board and other legislation now before Congress. At a pre-conference meeting, the evening of May 13, Ismar Baruch, Chief of Personnel, Classification Division of the Civil Service Commission, addressed the assembled delegates. Much satisfaction was expressed with the expansion in membership of the architects and engineers in the Government Departments in the past year and particularly in the first quarter of this year. Although the conference was of serious mien, a bit of relaxation was furnished Saturday night at a party given by the Washington Chapter to visiting delegates.

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DELEVATORS...freight, passenger, sidewalk. For a travel of 30 feet or less. Lowest in first cost, installation, operation and upkeep cost. Safest. Oildraulic—electric or air powered. Also water powered.

2 LEVELATORS... (ramp eliminators), with an average rise of 2 to 5 feet. For loading and unloading trucks, equalizing different floor levels. TABELATORS—(elevating work tables) for feeding and receiving materials at machines.

3 DON GRAF DATA SHEETS on Rotary freight, passenger and sidewalk elevators.

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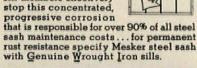
It must be built to outwear all the other bars 10 to 1 because it bears the

brunt of over 90% of the total damage caused by rust ...

Only MESKER STEEL SASH

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Genuine Wrought Iron sill members effectively stop this concentrated,





Competition for Cuban Memorial Announced

An Inter-American Competition for a \$500,000 monument to Jose Marti at the focal point of the proposed Civic Square in Havana is announced on behalf of the Cuban Government by a Central Committee for the Marti Monument, which offers prizes of \$22,000 to the winning architects and sculptors.

Proposed as a symbol of "human freedom in the universal sense" as well as a memorial to the revered Cuban patriot, the Marti Monument is to occupy the center of a plateau in the capital city designated as the site of a group of important Government buildings. The plateau is now an uncultivated area and the Committee leaves the final decision on the dimensions and shapes of the plaza and adjoining areas to the designers. Structures proposed for the plateau, which is intended to become the cultural and civic center of Havana, include a National Library and Museum, a School of Fine Arts, an Academy of Arts and Letters, an Academy of History, the National Archives, a National Conservatory of Music, and a National Auditorium to accommodate 20,000 persons.

The designs and models of the monument may be filed with the Committee until midnight, Saturday, October 8, 1938, according to the official program issued by the Committee with an invitation to all architects and sculptors resident or visiting in any of the 22 countries of America, to par-ticipate in the competition. The embassies, legations and consulates of the Republic of Cuba are directed to furnish to interested persons copies of the Bases with registration blanks in English, Spanish, Portuguese or French and any other information desired about the program or the competition.

The eight prizes to be awarded are as follows: \$10,000 first prize with gold medal and diploma plus the architect's fee for the execution of the project; \$5,000 second prize with silver medal and diploma; \$2,000 third prize with silver medal and diploma; five \$1,000 prizes with bronze medals and diplomas; and ten honorary mentions with diplomas. All competitors will receive Certificates of Attendance from the Committee.

The Jury to select the winning designs, announce the awards and place the designs and models on public exhibition in Havana for the week following the presentation of the prizes, Wednesday, November 9, 1938, will be headed by General Rafael Montalvo Morales, chairman of the Central Committee, and will be composed of the twelve members of the Commit-

tee assisted by representatives of Havana University School of Arc tects, the National Academy of Pa ing and Sculpture, the Cuban Er neers Society, the National School Architects and the National Acade of Arts and Letters. Dr. Roberto Netto Garcia is secretary of the C tral Committee and of the Jury.

The Cuban Government has auth ized work to begin on the M Monument prior to December 1, 19 requiring completion on or bef January 22, 1940, in time for the veiling and dedicatory ceremon Sunday, January 28, 1940, on eighty-seventh anniversary of Marti's birth.

Scholarship Announced

Young architects and students of Midwest are invited by the Chica Architectural Club to compete to month for a \$1,000 traveling schol ship, to be used toward defraying penses of a "tour of observation architectural study in the Americas in Europe, as the successful compe tor chooses," with the approval of club. The esquisse will be done "loge" at the club, June 18, with t rendu to be completed at the club August 1.

Funds for the traveling scholarsh were acquired by the Club through first annual Beaux Arts Ball.

Ion Lewis Winner

Edward M. Hicks, Portland, O. (below) has been awarded the \$1,0 Ion Lewis Traveling Scholarship Architecture, of the University Oregon, for 1938. Hicks finished the University in 1934, and wawarded a scholarship at M.I.T. whe he did his graduate work. He the spent a year in Washington, D. C., the employ of Kenton Hamaker, ar later worked in the offices of Troy bridge and Livingston in New Yor



dvertising Campaign beaks for Profession

he profession should benefit mateilly from the advertising which is ing run in the magazine, *Time*, by bbey-Owens-Ford to give the puba better understanding of the serves rendered by architects. A series of is nature has undoubted value to e profession, providing a new means reaching the public, and it is hoped at more manufacturers of building aterials will find it possible to oaden this campaign.

Such advertising is at once beneial to the advertiser and to the prossion spoken for in such a direct ay. Comments from the architects d evidence of interest in this atmpt to promote better understandg doubtless would encourage a sinre effort. The series of four articles aphasizes the value of the architect's rvices to the family building a home.

cond Competition or a Memorial Design

ne National Alliance of Art and Inistry, influenced by the nationwide sponse last year to the Cemetery emorial Competition which it sponred, announces a second annual comtition for the design of a memorial moderate cost, with prizes ineased to \$1,500 by the Barre Graneased to \$1,500 by the Barre Granton of Arts has joined with the Alince this year in approving the comtition.

The prizes, which will be anunced on December 1 at a convenon of the Memorial Craftsmen of merica, at Chicago, will be awarded three distinct sets at three sucssive judgings and exhibitions. At ch judging, awards will include a st prize of \$200; a second prize of 00; a third prize of \$50; and six onorable mentions, each carrying a onetary award of \$25. The collabotion of two or more designers in the bmission of a design is permitted in e competition. An illustrated bookcontaining all the rules and other formation for competitors may be stained from the Barre Granite Asciation, Barre, Vt.

Vew Art Director

he appointment of Guy Gayler Clark art director of Cooper Union is anounced by Dr. Edwin S. Burdell, dictor of the Union, effective July 1. e succeeds Austin Purves, Jr., who cently resigned after seven years of rvice, and will assume executive rection of the art schools.

Clark now is executive art director the National Process Company, c., and has been active in the fields advertising and stage design.



Today's modern kitchen must not only be smart in design and inviting, it must be "built" to withstand the day-in-and-day-out use and abuse to which it is subjected. That is why architects, builders, and home owners who KNOW Quality, prefer and specify

ELKAY "Sturdibilt" STAINLESS STEEL Cabinet Sinks and Tops

The sectional view illustrated here shows more clearly than words can describe the many Exclusive Features of ELKAY construction.

ELKAY "Sturdibilt" Sinks are built of 18-gauge (.050") standard U. S. Stainless Steel.

The Stainless Steel tops are reinforced with and bonded to standard 14-gauge (.078") steel plates, making a total thickness of over ½ inch of solid metal. These solid metal tops are reinforced with heavy longitudinal steel channel plates which run the full length of drainboards, preventing buckling, warping and sagging.

Drainboards, Sink Bowls, Rims, and Splashers are welded integral into one sheet of metal. There are no joints, visible seams, overlapping flanges, or soldered joints or crevices to catch dirt, filth, particles of food or germs.

All corners in sink bowl—horizontal, lateral, and vertical—are rounded to 13/4" radius.

All intersections where sink bowls meet drainboards are rounded to 3/8" radius. Drainboards are pitched full length to sink bowls insuring positive drainage. These are the exclusive ELKAY Features which assure a lifetime of beauty, charm and service.



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Competitions Announced For Federal Buildings

Ten designs for small Post Offices costing approximately \$50,000 each and the design for a \$450,000 Post Office and Court House building in Covington, Ky., are sought by Secretary of the Treasury Morgenthau in two competitions announced May 23.

The first competition asks designs only, to be accepted until June 29, for which the ten winners are to receive \$1,000 each with \$100 additional if the design is duplicated for use within a year. In the second competition, the winner will receive \$3,000 for his design and an additional \$3,000 for consultation services during preparation of the drawings and construction of the building. A second prize of \$2,000 and a third prize of \$1,000 also are offered. This competition opens June 21 and drawings will be due July 26.

Applications for the programs of either competition will be acceptable by letter or telegram to the Supervising Architect, Procurement Division, Washington, D. C., so that the names of all contestants will be of record.

of all contestants will be of record.

Louis A. Simon, Supervising Architect of the Treasury Department, will act as architectural adviser and the Jury will be composed of the following noted architects: Charles Z. Klauder, Philadelphia; Aymar Embury II, New York City; Philip B. Maher, Chicago; Henry R. Shepley, Boston; Gilmore D. Clarke, New York City; Paul P. Cret, Philadelphia; Richard J. Neutra, Los Angeles; and Edward Bruce, Washington, D. C., member ex-officio.

Plaques to Mark Most Beautiful Steel Spans

For the tenth consecutive year, the American Institute of Steel Construction will award prizes this month to the most beautiful steel bridges built in the United States and opened to traffic during 1937. Photographs for the competition, in the Institute offices not later than June 11, will be judged by a Jury of nationally-known architects and engineers. An innovation is the introduction of a fourth class to include movable bridges of all types and of any cost: the other three classes including spans costing \$1,000,000 or more; spans costing from \$250,000 to \$1,000,000; and spans costing under \$250,000 to build.

The Jury will be composed of Professor H. E. Wessman, College of Engineering, N. Y. U.; William H. Yates, Consulting Engineer; L. Andrew Reinhard of Reinhard & Hofmeister, Architects; William Lescaze, Architect; and Kenneth Reid, Editor of Pencil Points, all of New York.



JEDD S. REISNER

Given Plym Fellowship

Jedd S. Reisner, who conducts own architectural rendering service New York City, has been announce as the recipient of the 25th Francis Plym Traveling Fellowship in Architecture for graduates of the University of Illinois. The Fellowship provides funds for the winner to study travel and sketch in Europe for a yellow. Reisner's winning design for Natatorium is shown on page 54.

Theatre Auditorium Competition Judged

The first prize in the Seventh Annu Architectural Competition sponsor jointly by the Beaux Arts Institute Design and the Illuminating Eng neering Society was won by A. Pawlan, architectural student at t University of Illinois, it has been a nounced. Co-chairmen of the Ju were Dean J. W. Barker of the Colege of Engineering, Columbia University, and Otto Teegen of the Beau Arts Institute.

Pawlan's cash award was \$300. To second place and a cash award of \$20 went to B. H. Bradley, also a U. of student, while three cash prizes a \$50 each went to S. E. Sanner at R. A. Strauch, both of the U. of and to V. A. Girone, an atelier student of Orange, N. J. The proble called for the design of a theat auditorium in a residential section.

Fairs Are Discussed At Arts Convention

Discussion of the New York World Fair and the Golden Gate Intern tional Exposition at San Francisc the major expositions of 1939, opens the Twenty-ninth Annual Convention of the American Federation of Arts, May 23-25, at Washington.



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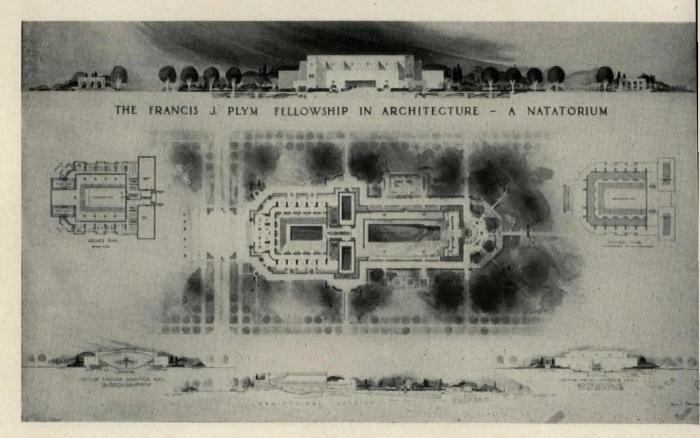
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This design for a Natatorium with both exhibition and outdoor pools won for J. S. Reisner, New York, the 25th Francis J. Plym Fellowship in Architecture





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NEW PRODUCTS Changes in Personnel, etc.

NEW DOUBLE-HUNG STEEL WINDOW OFFERED BY TRUSCON

Construction features said to be found in no other window of similar type are offered in the new Truscon residential double-hung window (Series 138) just introduced by the Truscon Steel Co., Youngstown, O. It is claimed by the manufacturer that from the standpoint of cost to the owner, the use of this new steel window adds nothing to contemplated building costs and costs no more than ordinary windows.

One of the most important features of the new Truscon double-hung steel window is that the sash members are of tubular construction, which adds greatly to the strength, durability and finished appearance of the window. Weights and cords are absent from the window,

operation being controlled by spring balances equipped with tapes of Enduro stainless steel. Quiet, positive action and long trouble-free life are assured.

Each window is completely factory weatherstripped with spring bronze. Due to the type of weatherstripping used, loose, leaky and rattling windows are avoided.

Hardware accompanying this new window is a special design and is available in brush cadmium finish as standard equipment or in Enduro stainless steel or solid bronze at very slight extra charge.

Screening is easily and attractively accomplished through the inclusion of a rebate on the exterior of the window frame, which permits flush installation of screens and Tempryte storm windows.

Truscon residential double-hung windows are rustresistant due to the Bonderizing process through which they pass at the factory. In addition a primer coat of paint is baked on each window. So that the finish on these windows might not become damaged in shipment or storage, they are packaged, completely assembled, in heavy box-board cartons.

Five window types in 24 sizes cover all requirements from clear pane upper and lower sash to many standard arrangements of vertical or horizontal muntin bars, this lending the new Truscon window to any type of architectural design.

ADDITIONS TO KENNEDY FLOORING LINE

David E. Kennedy, Inc., Brooklyn, N. Y., announces the addition of two new items, X-ite and cork insulation, to its line of resilient floorings and allied products.

X-ite, formerly a product of E. L. Bruce Company, is a moulded material of wood fibre, binder and color pigments. It is said to combine the warmth and workability of wood with the durability and appearance of polished stone or marble. It is used for walls, ceilings and for floors where traffic is not heavy.

X-ite walls act as an insulator against heat and cold and absorb noise to an appreciable extent. It is fire-resistant. It is installed by nailing against wood furring or bonding against masonry or plaster. As a flooring it is said to be non-slippery, resilient and, although tough, has a tendency to give slightly without scuffing, slipping or dusting.

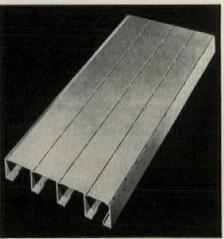
X-ite is available in a wide variety of colors simulating stone or marble and in a great number of standard sizes.

Kennedy cork insulation is oven baked, permitting a thorough binding of the cork particles with the natural resin. Slabs are 18 in. x 36 in. which means that $4\frac{1}{2}$ sq. ft. are set each time, effecting a labor saving important in the face of today's increased hourly wages.

NEW TYPE FLOOR AND ROOF SYSTEM

The introduction of the Wheeling Long-Span Steel Floor and Roof System by the Wheeling Corrugating Co., Wheeling, W. Va., offers architects a lightweight, longspan system of steel floor and roof construction, which, it is stated, combines high strength with low cost.

The basic unit of the Wheeling Long-Span Steel Floor and Roof System is a channel-shaped joist whose top flange is considerably wider than the bottom flange. These joists are available in depths of 5", 6", and 8", and 14 gauge steel.



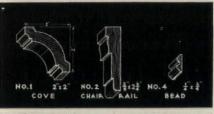
A shelf, about 11/2" in width and equal in depth to the thickness of the metal, is provided at the top of all joists directly over the web, for the purpose of providing a shelf for the reception of the edge of the top flange of adjacent

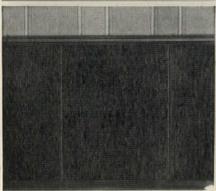
As each joist is laid, the edge of the top flange is supported by the above-mentioned shelf of the adjacent joist, and welded to it with welds ½" long, and spaced at 6" intervals for the entire length. The result is a series of correctly spaced joists, completely welded together to form an integral unit. A smooth level floor or roof surface of solid steel is thereby provided, ready to receive any desired type of floor or roof finish. Metal Lath may be applied directly to the underside of the joists for ceiling construction by means of lath clips furnished for this purpose by the company.

The use of the Wheeling Long-Span Steel Floor and Roof System is said to shorten the time required to complete a particular project due to the fact that a safe floor is provided for other trades immediately after the floor or roof has been installed. Ordinary delays, such as those caused by the use of temporary planking or waiting for concrete to set, are entirely eliminated. Manufactured in lengths capable of spanning the distance from girder to girder or from truss to truss, the use of intermediate beams and purlins is entirely eliminated, thereby reducing the cost of the structural steel frame work considerably. After fabrication, each unit receives a dip coat of high-quality protective asphalt paint as a protection against corrosion.

KOLOR-TRIM MOLDINGS, NEW WAINSCOT ANNOUNCED BY WOOD CONVERSION CO.

An entirely new idea in the treatment of insulating interior finish has just been announced by the Wood Conversion Co., St. Paul, Minn. In addition to standard Nu-Wood moldings, Kolor-Trim pre-decorated wood moldings have been introduced to achieve special color effects and treatments with Nu-Wood interior finish.





These moldings, available in three patterns, cove, bead and chair rail and in a variety of glossy enameled colors, take the place of ordinary trim. They are so designed that each pattern can serve several purposes. Chair rail, for instance, can be used as such, as a picture molding, base, for window and door trim, and so on.

With Kolor-Trim bead moldings there is said to be no problem of joint treatment. Joints are made a part of the interior design, covered with one of the contrasting colored moldings. The same pattern can be used to carry out any desired design where joints do not occur. Kolor-Trim moldings may be used in groups and in combinations to achieve attractive effects to harmonize with the warm shades of Nu-Wood. To assure complete color harmony and true design, both colors and patterns have been especially developed by nationally known authorities.

Also announced was a new Nu-Wood wainscot which, too, has been developed in color and texture to harmonize with Nu-Wood tile, plank and board. It is mahogany brown in color with a rough grained surface. The material is surface hardened for use on wall areas which must stand abuse.

NEW TYPE OF J-M INDUSTRIAL CURTAIN WALL

Johns-Manville, New York, N. Y., announces a new type of insulated industrial curtain wall for steel frame factory buildings. This method of wall assembly is suitable for practically all types of industrial buildings —such as warehouses, factories, light manufacturing buildings, etc.

J-M Industrial Curtain Walls consist of an application of encased insulating board (1 inch of insulating board with a ½-inch veneer of asbestos Flexboard or flat Transite) over which is applied a wall of corrugated Transite. Between the windows, the wall is constructed from encased insulating board to which is cemented a ¾-inch sheet of flat Transite to form the exterior surface.

Since a special cementing process at the factory provides a bond between the veneer sheets and the core, the units are ready to be erected when they arrive on the job.

Johns-Manville states that the use of Transite and Flexboard surfaces—both of asbestos-cement composi-

tion—provides fireproof walls which not only are incombustible but also are capable of withstanding high temperature without melting, cracking or buckling — a quality which assures maximum protection against the spreading of flames to or from adjoining buildings.

NEW DOUBLE HUNG METAL WINDOW FOR RESIDENCES

A new metal window for residences in the traditional American double hung design is announced by Campbell Metal Window Corp., Div. of American Radiator & Standard Sanitary Corp., Baltimore. Features of this window are its low cost, its complete weatherstripping and its skyscraper construction. It is called the Model 101.

The new Model 101, it is stated, carries the same guarantee of weathertightness as the Campbell windows used in Rockefeller Center. The 101 is a direct development of the windows used in that project.

Mode head can lit if the and fact of Hantory produced blin erat A the

Being all metal throughout, Model 101 is immune to dampness, heat or other weather conditions. It cannot warp, shrink, leak or rattle. It is completely weatherstripped at the sides, the top, the meeting rail and the sill. Bonderizing at the factory and baked on prime coat of paint make it rust resistant. Hardware and accessories are factory attached. Special brackets are provided on specification for window shades, curtain rods, Venetian blinds, awnings and hinges for operative or decorative shutters.

Among the other features which the manufacturer points out is the greater glass area of Model 101. This, resulting from extremely nar-

row frame and muntins, results in more daylight for the house interior from each opening.

Model 101 is available in a wide selection of opening sizes to conform to nearly every residential building requirement. Storm sash and three types of screen are provided by the manufacturer for the Model 101.

Stockholders of the Barber Company, Inc., at the annual meeting held recently approved a change in the corporation's name to Barber Asphalt Corporation.

Jas. P. Marsh Corp., Chicago, announces the removal of its offices from 551 Fifth Ave. to larger quarters located in the Commerce Building, 155 East 44th St., New York, N. Y.

General Cable Corp. announces the change in address of its Chicago office from 20 N. Wacker Drive to 111 N. Canal Street. The consolidation of office and warehouse provides complete facilities for the continuation of prompt and satisfactory service.

John R. Cassell, for many years active in sales promotion work within the engineering reproduction field, was recently promoted from the position of general sales manager to that of vice president in charge of sales of the Ozalid Corp., New York, N. Y. Mr. Cassell was at one time associated with the Chicago office of the McGraw-Hill Publishing Co. and has been identified with the architect and engineering supply industry for many years.



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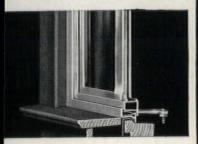
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Cross sections show positive action of built-in metal weatherstrip







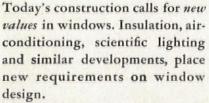
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The principle involved is one which has long been successfully put into practice with Celotex Vapor-seal Sheathing in "breathing space" construction. Now Celotex adds another and final safeguard for homebuilders with the new Celotex Vapor-seal Lath, which has a heavy coating of asphalt and aluminum to halt the passage of vapor.

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*This guarantee, when issued, applies only within Continental United States



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New Celotex Vapor-seal Lath

is covered on the back side with a

factory-applied asphalt-and-aluminum coating

which provides an effective vapor barrier,

preventing condensation within the walls.

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