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FEBRUARY 1936



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PENCIL POINTS

A Journal for the Drafting Room

FEBRUARY, 1936



VOLUME XVII, NUMBER 2

RUSSELL F. WHITEHEAD, *Editor*

KENNETH REID, *Managing Editor*

Something for Everyone in the Architectural Profession

Cover Design "Fisherman's Shanty, Marblehead, Massachusetts" by Samuel Chamberlain

	ARTICLES	READERS' COMMENT for future reference
EXPOSITION DESIGN	Texas Has Its Centennial	<i>Selected Drawings</i> 61
COMPETITION	Programme, 1936 PENCIL POINTS Competition	67
PERSPECTIVE	Designing in Perspective	Richard S. Buck, Jr. 71
DRAFTING TECHNIQUE	The Technique of Air Brush	William J. Aull, Jr. 79
INTERIOR RENDERING	A. L. Gupitll's Corner	Arthur L. Gupitll 89
PRECEDENT	A Norwegian Folk Museum	Rodger L. Simons 91
	THE MONOGRAPH SERIES	
DESIGN SOURCES	Volume XXII, Number 1	
	A Providence, Rhode Island, Georgian Mansion	Frank Chouteau Brown 97
	Research and Measured Drawings by the Author	
	PLATES	
DRAFTING TECHNIQUE AND DESIGN	RENDERINGS, Opaque Color—Exposition	J. B. Larrinaga 60-66
	A SMALL DENTAL BUILDING	R. B. Wills 83
	Renderings by Hugh Stubbins	
	DATA SHEETS—Prepared by Don Graf	
OFFICE DATA	Check List of Culinary Equipment	86
	Area per Seat for Theaters	86
	t _o = Outside Temperatures	87
	Relative Cost of Material and Labor	87
PERSONAL AND NEWS	HERE, THERE, THIS, AND THAT	
	Letters from Readers, News from the Field, etc.	11

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THE MAGAZINE OF ARCHITECTURE AND DRAFTSMANSHIP

20066



TWO SIMULTANEOUS ARCHITECTURAL COMPETITIONS

for designs of

FIRESAFE CONCRETE HOUSES

AUTHORIZED BY PENCIL POINTS

SPONSORED BY THE PORTLAND CEMENT ASSOCIATION

This Competition closes at 8 P. M., Standard Time, Monday, March 9, 1936. For complete details write to Russell F. Whitehead, A. I. A., Professional Advisor, 330 West 42nd Street, New York, N. Y.

THE Portland Cement Association believes that the trend toward permanent firesafe houses will continue because of its economic soundness. True low costs are obtainable only through permanence.

Growing acceptance of this idea offers the architectural profession the greatest opportunity it has ever had in the housing field. When people think of their new home as something

that will last for generations, problems of layout, style and detail take on new importance. The permanent house needs the touch of the architect if its beauty is to survive current modes and last with the physical structure.

For these reasons, the Portland Cement Association welcomes the opportunity of sponsoring the 1936 Pencil Points competitions for designs of firesafe concrete houses. It believes that the trend

toward better construction will be lasting if strongly influenced by the architectural profession.

There have been numerous recent developments in the use of concrete for houses. The competitor need not confine himself to more familiar types of construction, but is welcome to use any sound design for concrete floors, walls or roofs. An extra stimulus is thus provided for refreshing the knowledge of this important building material.

It is hoped that the results of this competition will show the home buyer in modest circum-

stances that the architecturally trained man can solve his small house problem from the practical as well as the esthetic point of view.

The Portland Cement Association is emphatically not in the business of selling or furnishing plans. While the Association intends to publicize the designs widely, those who inquire for detailed plans will be referred to the architects who furnished the designs.

Designers who do not have a complete file of literature are invited to write for any of the following free booklets or data sheets:

IT PAYS TO OWN A FIRESAFE HOME—
HERE'S HOW IT'S BUILT

•
CONCRETE MASONRY CONSTRUCTION

•
CONCRETE ASHLAR WALLS

•
PORTLAND CEMENT STUCCO

•
KEY TO FIRESAFE HOMES (FLOORS)

•
HOME GARAGES

•
CONCRETE FLOORS FOR RESIDENCES

•
PRECAST JOIST CONCRETE FLOOR CONSTRUCTION DETAILS

•
REINFORCED CONCRETE HOUSES—CONSTRUCTION DETAILS

•
WALLS THAT WHISPER HAPPY LIVING (ASHLAR)

•
BUILDING WATERTIGHT MASONRY WALLS

•
PAINTING EXPOSED CONCRETE ASHLAR MASONRY WALLS

PORTLAND CEMENT ASSOCIATION

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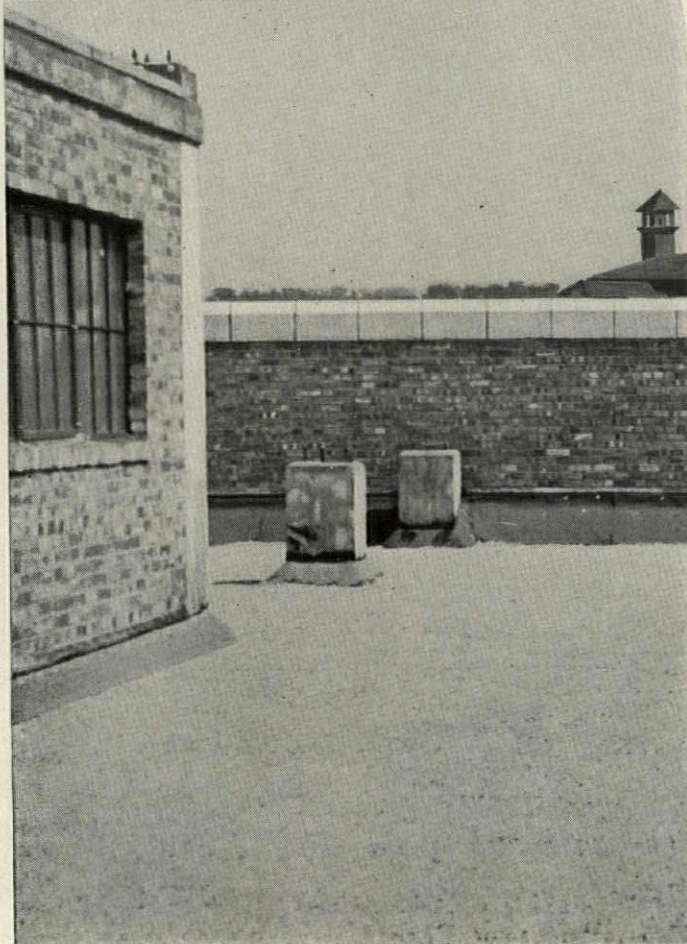
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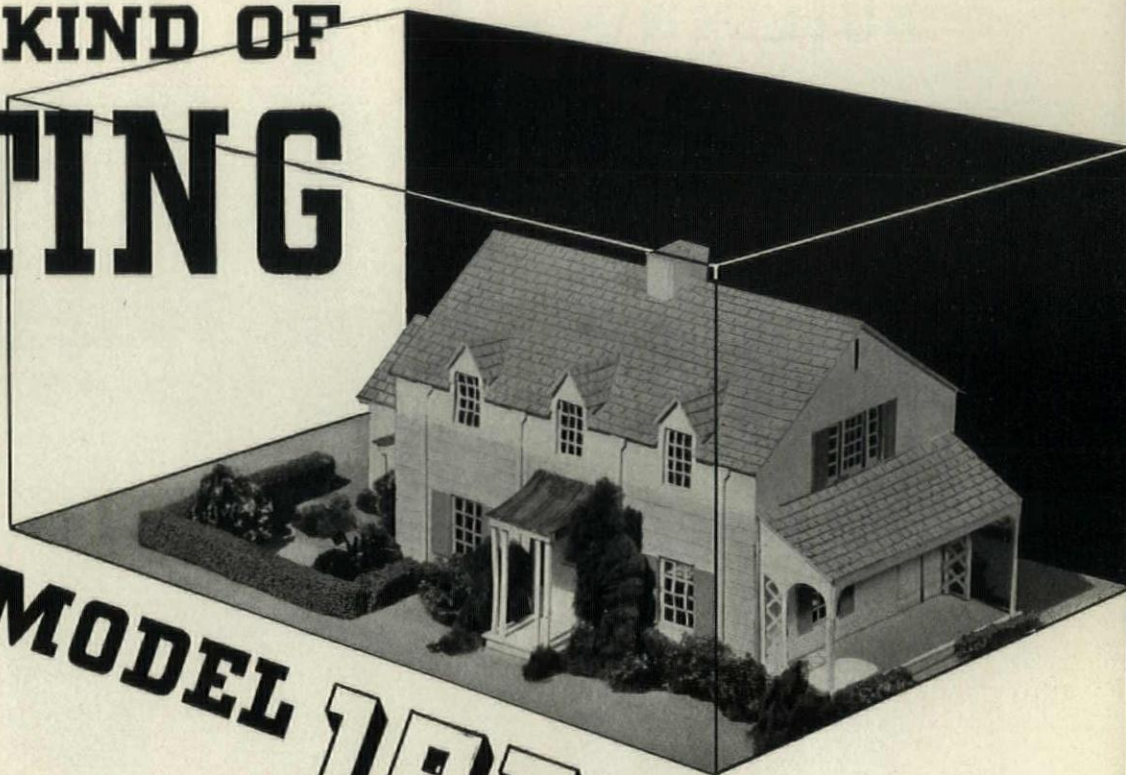
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- Into your 1936 homes must go 1936 comfort through this new,

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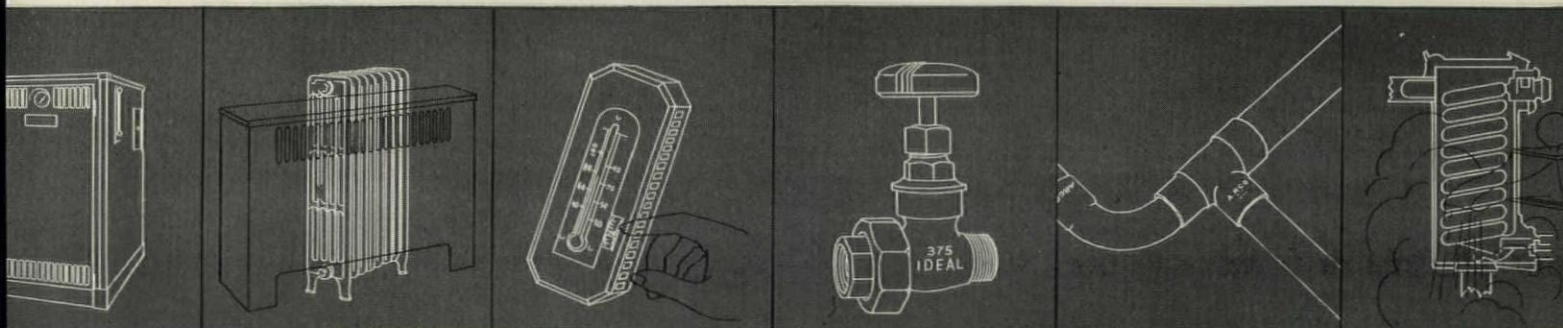
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tronage, eagerly accept it. New lighting effects in modern homes, new and better ways of lighting basement rooms, the obscuring of an unsightly view without sacrificing light, all are made possible by the intelligent introduction of glass masonry into residence design. It is truly a bright, new world which glass block invites you to help build and prosper thereby. For full details write for the new O-I Glass Block brochure. Owens-Illinois Glass Company . . . Structural Materials Division, Muncie, Indiana.

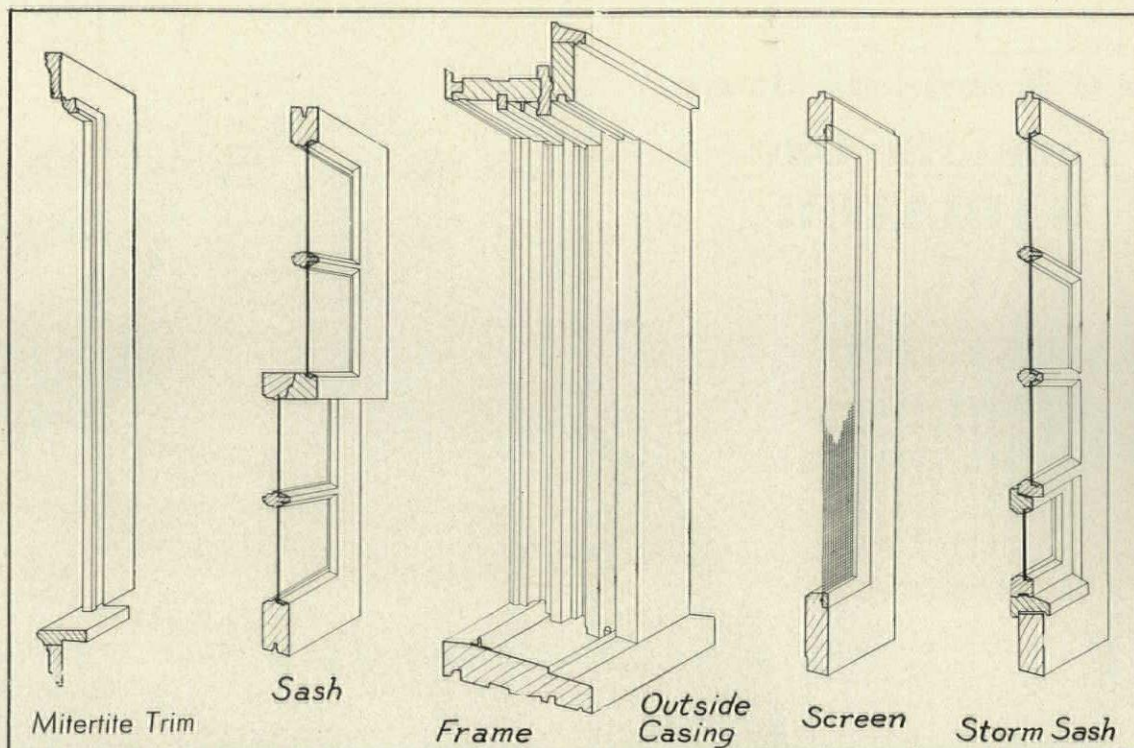
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Glass

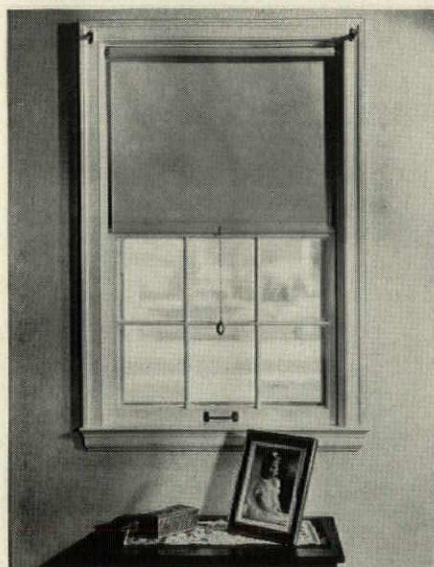


Masonry

Other Owens-Illinois Building Materials—Dustop Air Filters, Industrial Insulation and Red Top Insulation Wool (United States Gypsum Company, distributors)



GETTING RID OF ARCHITECTURAL LOOSE ENDS



Note the narrow, graceful trim, which, with mullions and outside frame, is far less cumbersome than in ordinary windows. Trim is the new Curtis Pre-Fit Miterite, a companion product to Silentite.

● Here's a window that is truly a single unit: Frame, sash, trim—even storm sash and screen—have all been harmonized into a single, integrated unit in the new Silentite Window, built by Curtis.

And every single part is pre-fit at the factory. You know when you specify Silentite that frames will be tight and true, that sash will operate easily and smoothly, that trim will fit snug and firm. You know that less reliance need be placed on the skill of workmen, that installation costs will be lower. All sizes are controlled and harmonized by a single manufacturer. Think of what that means in simplifying specifications!

Silentite is a sturdy, double-hung wood window designed in sound architectural style. Yet, it achieves new beauty in the

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Jacksonville Sash & Door Co., Jacksonville, Fla.

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Dept. 402, Curtis Bldg., Clinton, Iowa

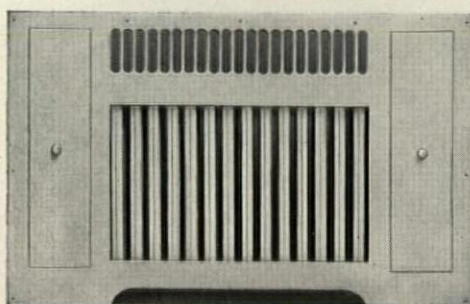
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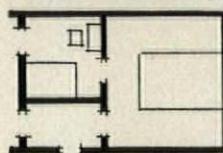
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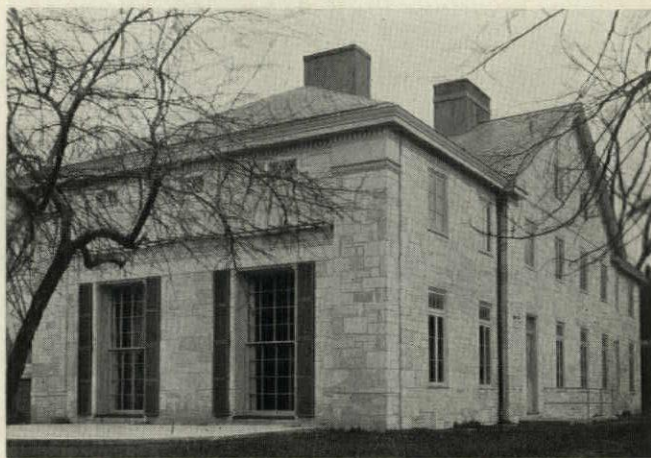


LIVING ROOM . . .



KITCHEN . . .

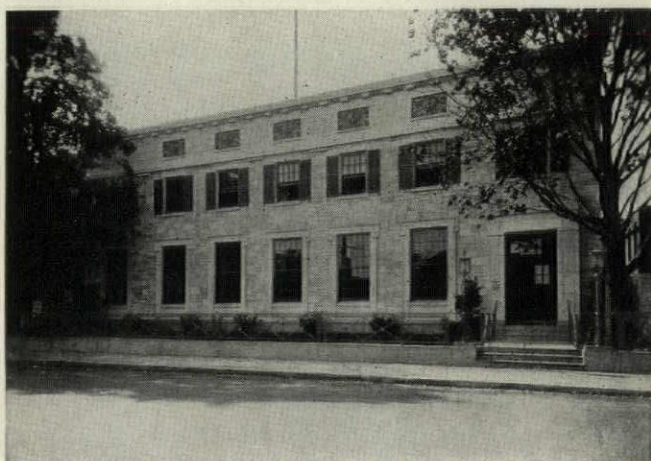
where **COST** is a consideration



Phi Delta Theta House,
University of Vermont,
Burlington. Architect,
William McLeish Dunbar.

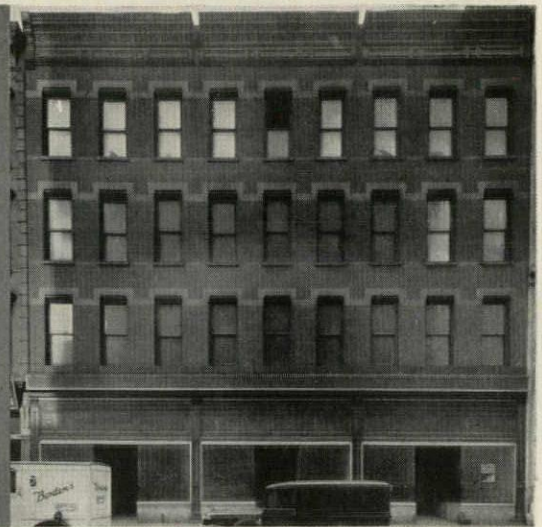
FOR buildings where the enduring beauty of marble is required and, at the same time, material costs must be kept as low as possible, the architect can make no better choice than Random Ashlar, which is ashlar made up in random sizes and varying shades. This form of marble work requires no matching, except for the trim, which is used in the normal way. The unstudied effects obtainable with Random Ashlar add to the beauty of this construction. And the cost is very reasonable, particularly when construction is near the quarries. The possibilities of Random Ashlar for exterior walls are suggested by the two buildings illustrated.

Vermont Marble Co.
PROCTOR, VERMONT



Office of the Southern
New England Telephone
Company, Bristol, Conn.
Architect, Douglas Orr.

WHAT A DIFFERENCE
A GOOD
"Face-Lifting"
MAKES!



Before modernizing. An old undesirable Sixth Avenue tenement.



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PREPARED
STUCCO IS
PREFERABLE

After modernizing. Fine apartments and stores that rented rapidly. Architect for Studio Apartment Building, 1393 Sixth Avenue, New York City—William L. Rouse. General Contractor and agent, Klein & Jackson Construction Co., Inc. Plastering Contractor, Morell Plastering Co., Inc., all of New York City. Cream colored exterior stucco furnished by Artstone Rocor Corporation of Brooklyn.

● From an old Sixth Avenue tenement to fine, rentable, studio apartments and stores! That's what happened in this splendid modernization job.

The interior was completely modernized. The interesting facade was worked out in black glass, stainless steel, and Atlas White portland cement.

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STUCCO *made with* ATLAS WHITE
PORTLAND CEMENT



HERE, THERE, THIS & THAT

The Big Broadcast

Well, we attended the big broadcast sponsored by the Johns-Manville Company at Radio City, New York, and sent out over a nationwide hookup of fifty or so stations on January 13, from 11 to 12 in the morning. We were much impressed with it all and had a swell time listening to the speeches, music, and other forms of entertainment. 'Twas the first opportunity we'd had to get a close-up of such radio celebrities as Graham MacNamee, Edwin C. Hill, Tom Howard, and Kate Smith in the flesh, so to speak. And just think, they were doing their stuff for the benefit of the building industry, exerting every ounce of their audible charm to touch the hearts of folks in every part of the land and get them in the mood to listen to the more serious part of the program in which leaders of the several branches of the industry (including our own Steve Voorhees) urged upon them the advantages of home ownership and the importance of building *now* both for their own sakes and for the sake of recovery. The whole thing was very nicely managed and run off with all the snap and exactitude one is used to expecting from the National Broadcasting Company. The speeches were neatly sandwiched in between adjoining slices of music and comedy so that they might have a maximum of palatability along with their content of economic vitamins.

We hope that there were a large number of lay listeners, but of course the bigger part of good was accomplished by giving the little groups of builders, real estate, bankers, material men, architects, and other interested parties who gathered around their radios at the sponsor's invitation in all their far flung communities, a bit of renewed enthusiasm to go out and do a selling job on all possible prospects for home building in 1936.

A Kind Word for Beauty in Architecture

Veteran newspaper readers were no doubt startled during this past month by a press release sent all over the country by the A.I.A. public relations man, quot-

ing the Committee on Education to the effect that the time has come to make an appeal for beauty in architecture. So little has been said publicly on behalf of this almost obsolete element of our mother art during recent years and so much has been printed about the necessity for cheap construction, functionalism, modernisticism, and whatnot that this modest statement from the A.I.A. Committee must have created a mild sensation.

In the language of the Committee, of which Dean William Emerson of the Massachusetts Institute of Technology is Chairman, "In view of the prevalent preoccupation with function rather than design, and the tendency to regard composition as little more than the assembling of pre-fabricated units, the Committee believes that the time has come to make an appeal for beauty in our architecture—for the expression of something more in the exterior of a building than the mere portrayal in diagrammatic form of the structure as shown in plan." Brave words those! Let us read on.

"With full recognition of the research and reasoning so logically expressed in plan and structure, we believe that something more is needed, something beyond the purely utilitarian, that might be called either charm or beauty, but without which our creations fail to realize their full possibilities. Our appeal is that this is worth striving for and that it is more likely to be embodied in our architecture when we recognize our debt to the past and the value of its lessons in meeting the problem of today."

We are listening for an echo from the right and left.

Aluminum Anniversary

Know all ye PENCIL POINTERS that this month of February, 1936, marks the fiftieth anniversary of the discovery of the electrolytic process for the manufacture of aluminum, the process which has converted the whitest and possibly the lightest of metals from a rarity, used for jewelry, into a most useful and widely used architectural and ornamental material. In honor of the anniversary our friend, Sam Chamberlain, the well known etcher, sketcher, and vintner, has dry-pointed our cover design, not on the familiar and customary copper, but on a plate of aluminite, one of the most recently developed aluminum products.

We hope to present in an early issue a group of drawings and photographic details showing how aluminum has developed architecturally since the early days.

Harry E. Weeks, A.I.A.

1871—1935

Harry E. Weeks, 64, of the architectural firm of Walker & Weeks, which designed and directed the construction of many of Cleveland's most imposing buildings, died on Saturday, December 21st, 1935, after having been in ill health for the last two years.

The death of Mr. Weeks ended 40 years of professional association with the senior partner in Walker & Weeks, F. R. Walker. As youths just graduated from engineering school they worked together in architects' offices. In 1911 they formed their business partnership.

F. R. Walker and Harry E. Weeks were the architects on the Federal Reserve Building, Severance Hall, the main building of the Cleveland Public Library, the new Cleveland Postoffice, First Baptist Church, First Church of Christ, Scientist, at 2200 Overlook Road, Cleveland Heights, Euclid Avenue Baptist Church, the Guarantee Title Building, Cleveland Stadium, University and Hathaway-Brown Schools, all of Cleveland, and the nationally famous Indianapolis World War Memorial.

Mr. Weeks was active in the firm until two years ago when the condition of his health compelled him to spend much time away from Cleveland.

Born at West Springfield, Mass., October 2, 1871, Mr. Weeks lived there as a boy and then moved with his family to Pittsfield, Mass. There he entered the office of H. McNeill Wilson, Architect, as a student when he was 16. Later he attended Massachusetts Institute of Technology. He then returned to Wilson's office, where he remained until 1902, when he started his own practice of architecture and continued it until 1905.

In that year he came to Cleveland and entered the office of J. Milton Dyer, Walker, who had worked with Mr. Weeks in New England, had preceded him here the year before. They both were in Dyer's employ until their partnership in 1911.

Mr. Weeks married Alice B. Tuggey of Pittsfield in 1896. She survives, as do two sons, Ellis F. Weeks, who is in his father's firm, and Dr. Donald C. Weeks, Instructor in English at American University, Washington.

Mr. Weeks was a member of the American Institute of Architects, the Cleveland Engineering Society and the Technology Club of Northern Ohio, and was a trustee of the Euclid Avenue Baptist Church.



Mural painting by Allan Thomas in the studio of Station WIBM at Jackson, Michigan. The three panels cover a space 38 feet long by 7 feet high. The pictures symbolize the art of Radio Broadcasting as it is done today

Prizes and Scholarships Open to Draftsmen

This appears to be the season for scholarship and prize announcements and there are several this month that will be of interest to the eligible students and draftsmen.

First there is the American Institute of Steel Construction with its Eighth Annual Bridge Design Competition, open to students of architecture and engineering and carrying cash awards of \$100 and \$50 for first and second prizes respectively. The program is now available from the offices of the Institute at 200 Madison Avenue.

Then comes the Princeton Prizes for 1936-37, open to unmarried male citizens between 21 and 27 (as of September 1, 1936) who have been employed as draftsmen in architects' offices for not less than three years or who have otherwise demonstrated their ability in architectural design. There are two of them, each for \$500, to be applied in the School of Architecture, Princeton University. Applications must be filed on or before March 2, 1936, with Professor M. L. Beck, McCormick Hall, Princeton, N. J., for the Competition which takes place between April 2 and April 14.

Finally there is the announcement from C. H. Blackall of 31 West Street, Boston, who is Chairman of the Rotch Traveling Scholarship, that this year's Rotch prelims will be held April 13, the *en loge* sketches April 20 and 22, and the sketch for the finals on April 25. Applications are necessary on or before April 1. Further information is available *chez* Mr. Blackall.

Rubber Murals for "Rubbertown"

A brilliant idea flitted through the mind of S. R. Real, proprietor of the Hotel Portage in Akron, Ohio, the world's largest rubber manufacturing center. "What could be more appropriate to my hostelry than a Rubber Room," thought he, "and what more suitable as a decoration therefor than murals made of bits of colored rubber fitted together to make a picture? And what subject could be better for the picture than the rubber industry itself?"

Accordingly, he made inquiry of the Goodyear people and learned that his dream was quite feasible, that the rubber flooring material could be compounded in practically any color, and

that it would, when fitted together and placed upon a wall, be susceptible of cleaning at will and without damage.

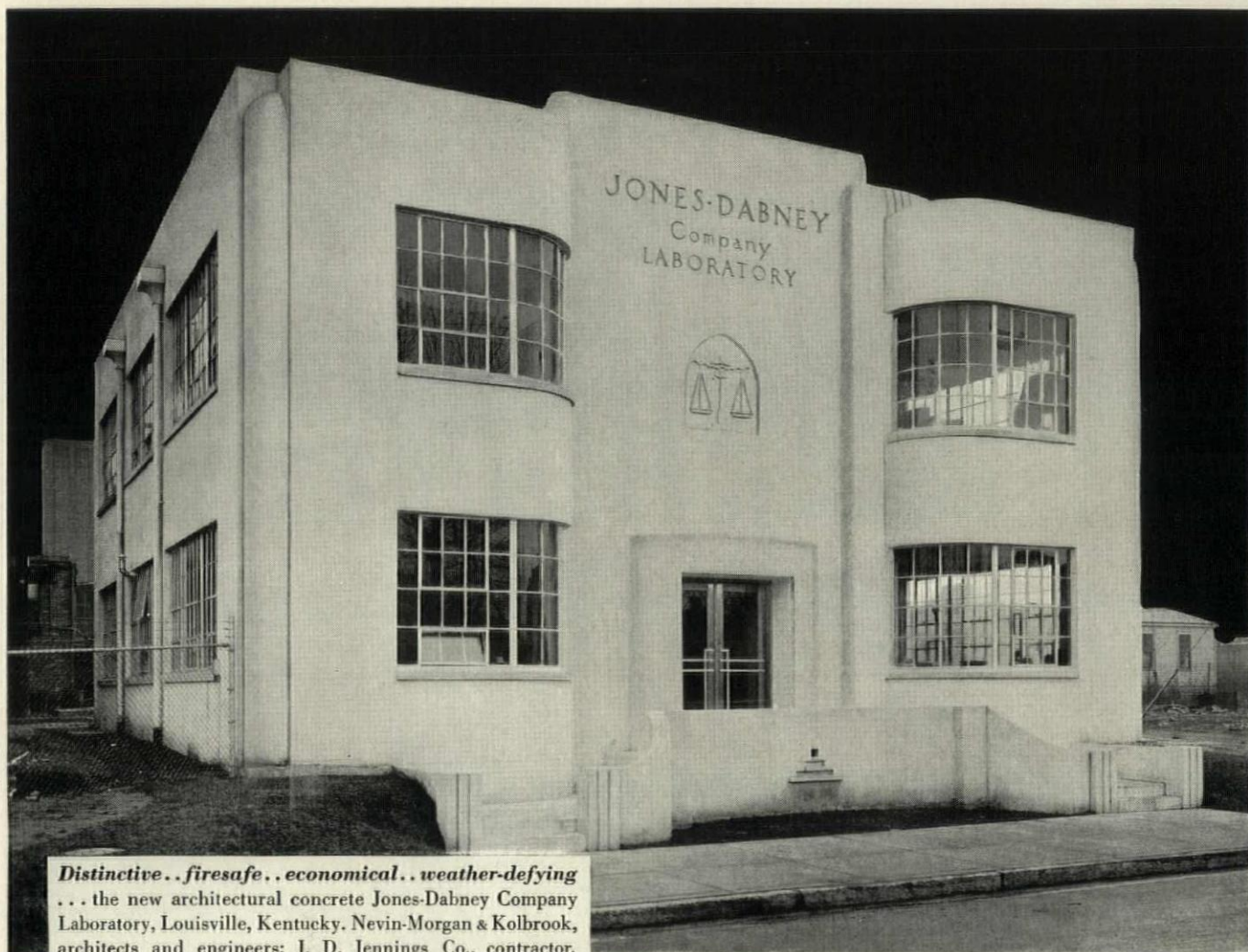
The next step was to engage the well known Cleveland artist, Ivor Johns, to compose the pictures and execute the murals. The originals were painted and from them cartoons were made, much as in the case of stained glass, on heavy wrapping paper with charcoal. The pieces were numbered to indicate the colors desired for each, then cut apart and used as templates for cutting out the flooring material itself. The assembly was made and mounted on fibreboard with rubber cement, the pieces being so well fitted together that the joints were hardly visible. Each panel was then erected into place on the walls.

The material used was one eighth of an inch thick, a weight that was found easy to cut and fit. In the seven panels a total of approximately one ton of rubber was used. Three more tons went into the entrance door and frame, the table tops, floors, wainscoting, bar top, bar facing, and chandeliers, together with the rubberized fabric and hair used for the upholstery and padding of the seats and cushions.

The success of the venture is indicated by the accompanying illustrations.



Rubber Room, Hotel Portage, Akron, Kenneth C. Welch, Architect, showing tire chandeliers, murals, bar, tables, chairs, and flooring all of rubber. The proprietor makes it plain, however, that he wants no rubber checks



Distinctive... firesafe... economical... weather-defying
... the new architectural concrete Jones-Dabney Company Laboratory, Louisville, Kentucky. Nevin-Morgan & Kolbrook, architects and engineers; J. D. Jennings Co., contractor.

Concrete gives the designer a welcome new freedom

Architectural concrete gives plane surfaces without conspicuous joints or markings . . . gives curved surfaces that *melt* into surrounding areas . . . aids the architect at every turn in developing modern designs.

On the other hand, concrete can be moulded into the most intricate sculptured detail at low cost . . . forms irregular surfaces without waste . . . gives the designer a wide choice of pleasing textures: smooth (plywood or fiberboard forms); grain marked (unfinished or dressed lumber forms); rough textures with exposed aggregates; dash-coat or trowelled stucco.

Among the scores of recent architectural concrete schools, churches, factories, commercial buildings and

other structures, you'll find every architectural type. Some of the most notable of these buildings are being featured in national advertising in *Fortune* and *Business Week* throughout 1936.

To help you design in concrete, let us send Information Sheets covering specifications, construction details and textures.

PORTLAND CEMENT ASSOCIATION

Dept. A2-25, 33 W. Grand Ave., Chicago, Ill.

Please send ☐ Architectural Concrete Information Sheets 1 to 12;
☐ "Beauty in Walls of Architectural Concrete."

Name.....

Position.....

Address.....

City.....

State.....

Architectural Concrete



One of the rubber murals depicting various manufacturing processes of the rubber industry. Designed by Ivor Johns of Cleveland and executed under his direction in the Hotel Portage Rubber Room

A.I.A. Supports F.A.E.C.&T. Stand

Those who attended the National Executive Council Conference of the F.A.E.C. & T., recently, will remember a resolution calling on all chapters to seek the cooperation, in specific campaigns, of organizations of technical professionals.

Acting according to this resolution, the New York chapter communicated with the American Institute of Architects on the question of wage rates on WPA projects. The following letter, addressed to Mr. Victor F. Ridder, Director of the WPA in New York, indicates the Institute's interest in the "Security Wage."

My Dear Sir

We are in receipt of a letter from the Federation of Architects, Engineers, Chemists and Technicians asking our support of their stand in the matter of a minimum salary for "technical men" employed on Works Projects.

While we appreciate that it is the desire of the Administration to help as many of the "technical men" as possible within a given appropriation, the result is that lower salaries are being offered to these men than is customary in usual practice. This tends to work against rather than to assist the profession as a whole for the reason that the salary standards adopted by the WPA are taken by those who employ this type of man, as the standard throughout the field, and works a hardship upon many who are not employed by the WPA.

We believe that the salary standards for "technical men" should be raised to at least the minimum rate of pay set forth by the Civil Service Standards. I may say that such a resolution was adopted upon the floor of the National Convention of the A.I.A.

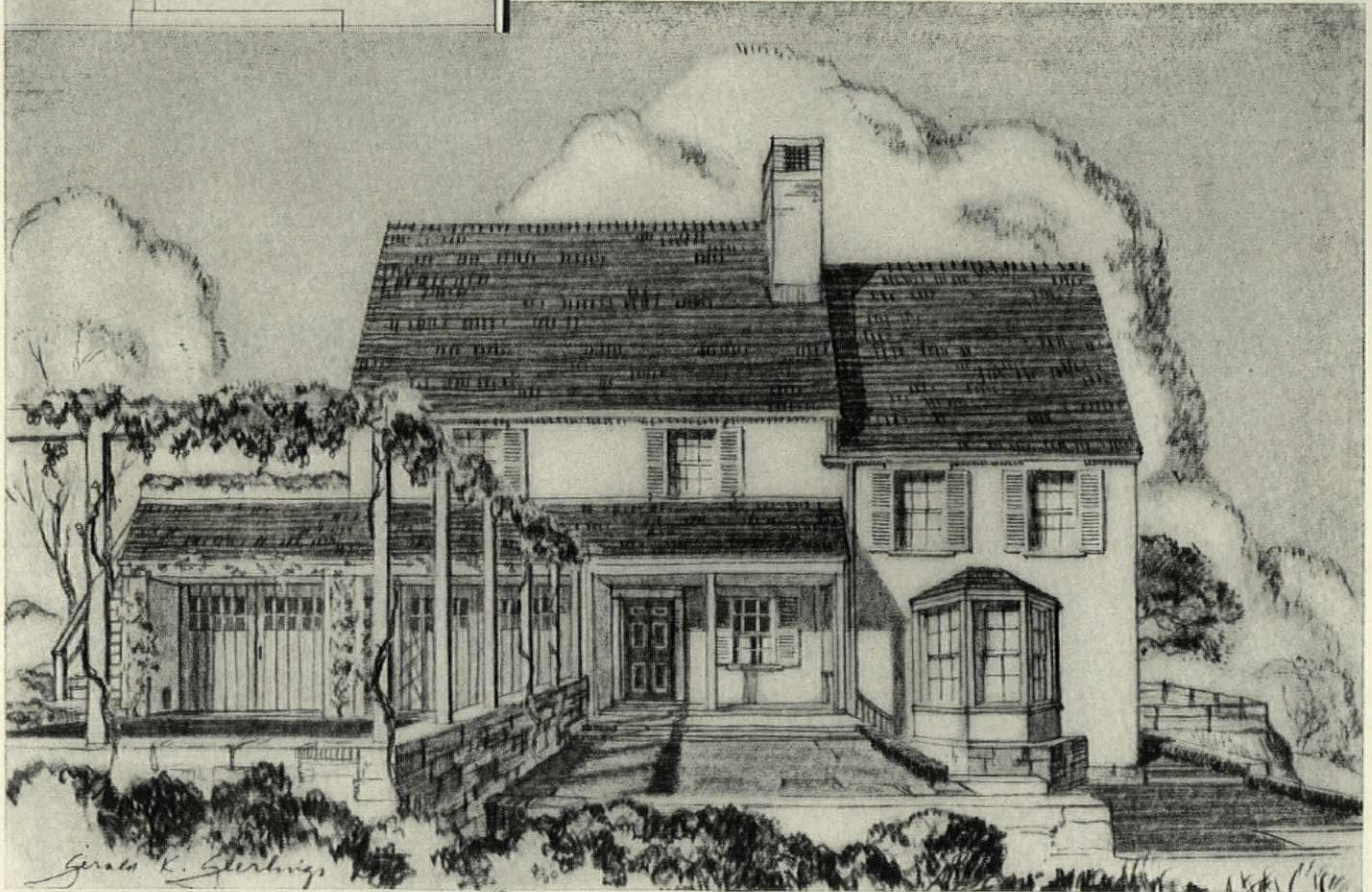
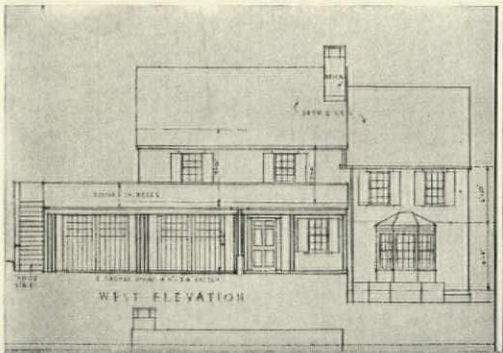
We, therefore, solicit your good offices in furthering the establishment of a proper minimum wage to this class of professional man.

(Signed) HOBART B. UPJOHN
President, New York Chapter, A.I.A.



Entrance to Rubber Room, Hotel Portage, Akron, Ohio. Kenneth C. Welch, Architect

Working Drawing into Rendering



ONE-POINT PERSPECTIVE

"Even the most imaginative of clients does not understand an elevation as thoroughly as a perspective, but the expense of a series of renderings is often disproportionate with the architect's fee for a residence. An inexpensive and rapid solution is to sketch over elevations and so transform them into one-point perspectives. Above is an eighth-inch scale (preliminary) working drawing of my own house, and below a perspective traced over it. The vanishing point for the house was selected near the center, in this case at the right jamb of the front door, while the vanishing point of the roof was located on a line above the former. The first step in any case is to trace such portions on the face of the house as main cornice, windows and doors. Next, the main roof can be blocked in, and the chimney fitted. In this example, then the roof over the porch and the garage entrance was projected forward with the aid of the vanishing point. A feature such as a bay requires a little experimentation. A low horizon will simplify foreground problems, and simplified trees will concentrate the interest on the house."

GERALD K. GEERLINGS.

Whether you are evolving a working drawing or a rendering, the interruptions caused by callers, clients and contractors are more than enough without adding others due to faulty pencils. When on the verge of pinning down an illusive idea on paper, nothing is quite so discouraging as to have a scratchy piece of lead, or one that breaks into short lengths on sharpening. Probably the most desirable quality in any pencil is that its *performance* be so satisfactory its *presence* can be forgotten. However, use the Microtomic Van Dyke Pencil and you will never forget that the lead is uniform for each of the 18 degrees, as well as strong beyond expectations. The lead will wear down very slowly even in the softest grades, requiring the wood to be sharpened only infrequently.

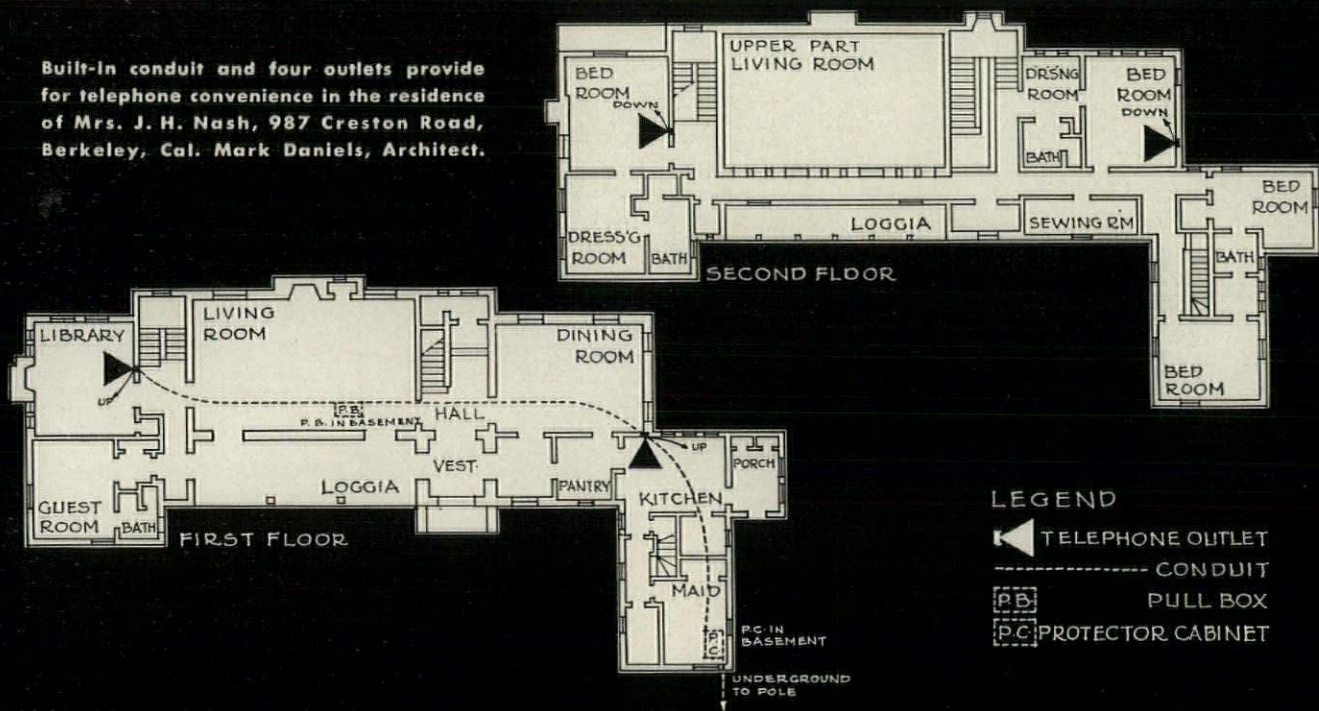
MICROTOMIC VAN DYKE
EBERHARD FABER



Today's house is a machine for living AND TELEPHONE CONVENIENCE MAKES IT MUCH MORE LIVABLE



Built-in conduit and four outlets provide for telephone convenience in the residence of Mrs. J. H. Nash, 987 Creston Road, Berkeley, Cal. Mark Daniels, Architect.



NOT NEW, but given new significance by today's push buttons and thermostats, is the concept of home as a machine-to-be-lived-in. And telephone convenience is very properly an important part of it.

Pre-planned in the blue prints, included in walls and floors during construction, telephone conduit helps make any home a smoother running machine. It permits outlets to be placed at strategic, step-saving points. It prevents exposed wiring and certain types of service interruptions.

Outlets may be installed in excess of immediate needs to provide for future requirements. Then

telephones can be moved without piercing walls or woodwork—and portable instruments plugged into sickroom, guest room, game room or other "occasional" quarters.

Your telephone company will be glad to help you develop efficient, economical conduit layouts on any of your projects. Just call the Business Office and ask for "Architects' and Builders' Service." There is no charge, no obligation.

• For further information on Bell System telephone services and equipment, see Sweet's catalogue.





VITROLITE THE *Colorful* STRUCTURAL GLASS

The value of color is recognized by every architect. Vitrolite, the colorful structural glass, furnishes a medium through which the ability of the modern designer is given great opportunity for expression.

For structural work in store fronts, lobbies, interiors, bathrooms, kitchens, etc., it provides opportunities of wide scope. For fixtures such as bars, back bars, soda fountains, counters, and table tops, it offers an enduring brilliant surface that complements the most advanced ideas.

The new era of gracious living centers around glass. Vitrolite, in its variety of colors and shades, plus its surface effects obtained through sandblast and inlay, challenges the imagination. In combination with chromium and stainless steel, it is stunning. Ease and economy of installation make it particularly desirable. Once installed there is no upkeep cost. It will not check, craze, or grow dull with age. The results obtained with colorful Vitrolite will be most gratifying.

Ask any of our distributors about the Libbey-Owens-Ford MODERNIZATION BUDGET PLAN which makes it easy to pay for improvements.

Vitrolite Division

LIBBEY • OWENS • FORD GLASS COMPANY



Mail coupon today **VITROLITE**

Vitrolite Division, Libbey-Owens-Ford Glass Company (J-2)
208 W. Washington St., Chicago

Please send New Vitrolite Color Chart of 16 colors—10 solid hues, 6 agate shades, and variety of surface effects—and your new literature for ☐ Bathrooms and Kitchens, ☐ Store Fronts, ☐ Construction Details.

Name

Address

City State



**HOSPITAL
CLEANLINESS**
*calls for floors
like this!*

FOR HOSPITALS—where even the floors have to meet extra-rigid sanitary requirements—more and more architects are specifying Armstrong's Linotile.

Linotile floors are sanitary. The smooth surface of the tightly bonded tiles is easy to keep free of

dust and germs. Spilled things wipe right up without leaving a trace or stain. And the resilience of the tiles prevents the formation of unsanitary cracks. Simple daily sweeping and occasional washing and waxing keep Linotile spotless even under the heaviest traffic.

In addition to cleanliness, Linotile offers a combination of other advantages that makes it highly suitable for hospital service. It is quiet and comfortable underfoot. It is colorful. And it is exceptionally durable, being twice as resistant to in-

dentation as battleship linoleum.

Linotile is not expensive to install, and it is economical to maintain. Leading hospitals have found it an attractive, practical floor for private rooms, corridors, wards, and offices. The next time you're working on a hospital job, turn to Sweet's for a complete description of Linotile's advantages. Or write now, on your letterhead, for file-sized "Individuality of Handlaid Floors of Armstrong's Linotile." Armstrong Cork Products Company, Building Materials Division, 1206 State Street, Lancaster, Pennsylvania.



Armstrong's LINOTILE FLOORS



RALPH T. WALKER BECOMES EDITORIAL ADVISER

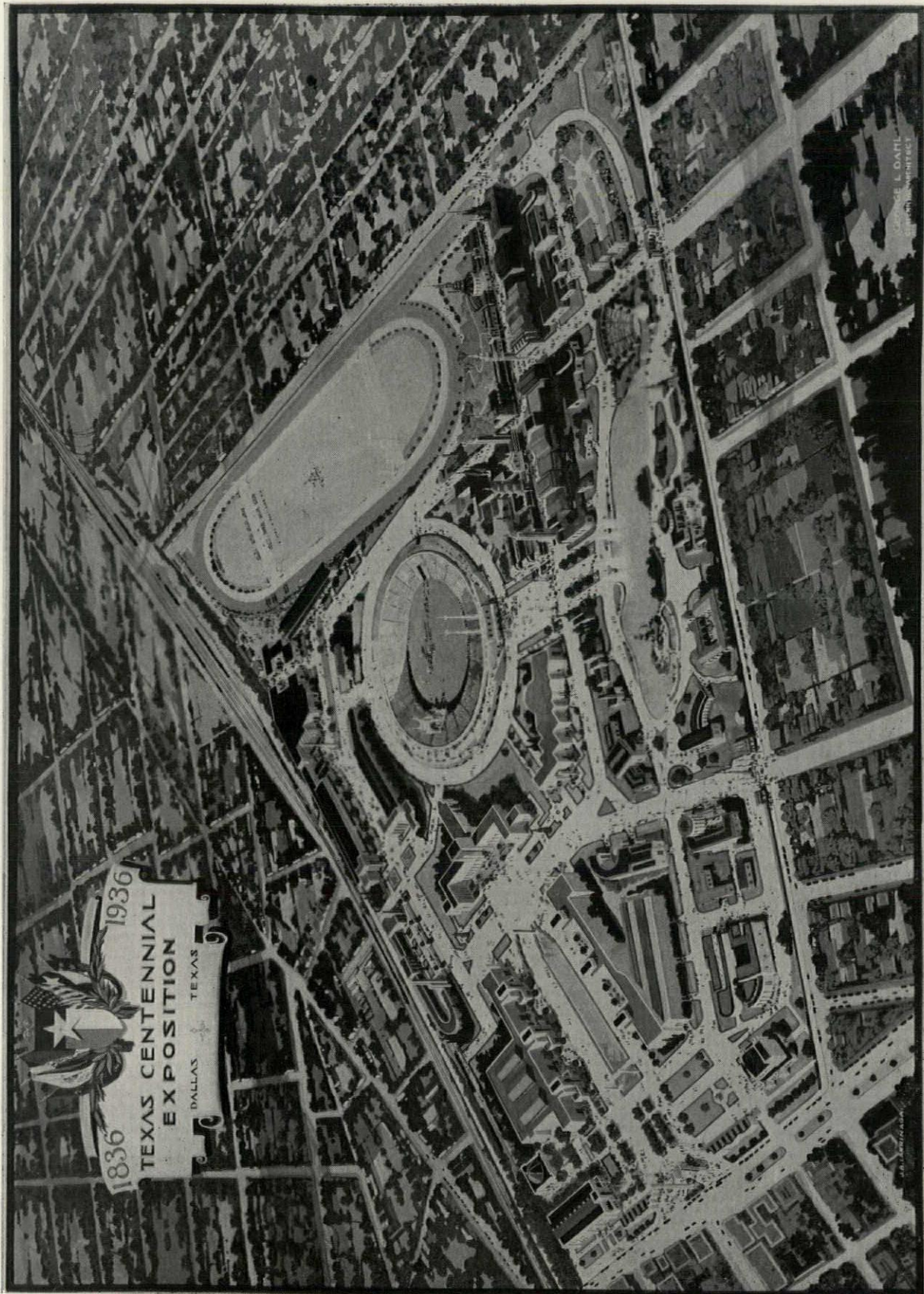
MR. WALKER, whose likeness appears on the opposite page, requires no introduction to the architects and draftsmen of America. However, a brief outline specification may not be amiss at this time when Mr. Walker joins the PENCIL POINTS staff as Editorial Adviser.

Born in Waterbury, Connecticut, 1889; attended the Classical High School in Providence, Rhode Island; entered the Massachusetts Institute of Technology to engage in the study of architecture; in 1916 won the Rotch Traveling Scholarship in Architecture; started his architectural career in Providence in the office of Hilton and Jackson, architects; during the World War served as a Lieutenant in the Engineer Corps, Camouflage Section, A E F; at the expiration of his military service located in New York in the office of Bertram G. Goodhue, as a designer; in 1918, entered the offices of McKenzie, Voorhees, and Gmelin, and became an associate member of that firm in 1919, during which association he was responsible for the design of the New York Telephone Building (Barclay and Vesey Streets, New York); in 1926 became a partner in the firm of Voorhees, Gmelin, and Walker, who have to their credit the Western Union Telegraph Building (Worth and Thomas Streets, New York), the New Jersey Bell Telephone Building (Newark, N. J.), Irving Trust Company Building, One Wall Street, New York—the No. 17 Central Row Building—Travelers' Insurance (Hartford, Connecticut). Voorhees, Gmelin, and Walker are the architects for the New York Telephone Company and the New Jersey Bell Telephone Company and serve in the capacity of consultants on telephone buildings throughout the United States for the American Telephone and Telegraph Company and also for the Bell Telephone Company of Canada on Headquarters Buildings. At the Architectural League Exhibition in 1927, Mr. Walker was awarded the Gold Medal in Architecture for the New York Telephone Building (Barclay-Vesey). He is one of the American architects appointed by the Board of Trustees of the Chicago World's Fair Centennial Celebration of 1933, to serve as a member of the Architectural Board Commission of the Exposition. He is also Past President of the New York Chapter, American Institute of Architects; Vice-President of the Architectural League of New York; Trustee of the Bronx Art Institute of Design; Member of the Advisory Board of the Architectural School at Columbia University and Massachusetts Institute of Technology; Member of Mayor's Committees on City Planning—Multiple Dwelling Law—Real Property Inventory, New York.

Probably no man identified with the practice of architecture is better qualified than is Mr. Walker to step actively into the field of architectural journalism and be of service as an interpreter of the changing conditions by which the architectural profession is faced. At no time has there been greater need for clear thinking and guidance. Mr. Walker, by his schooling as well as his actual experience on the firing line as a draftsman and as a member of one of our leading architectural firms, seems peculiarly well fitted to evaluate the different trends and cross currents and to discuss and clarify many of the problems which are of the utmost importance to all architecturally trained men in all parts of the country.

So it is with a feeling of gratification that we are able to inform our readers that Mr. Walker, beginning with the March issue, will play an important part, in collaboration with Russell Whitehead and Kenneth Reid, in shaping the future policies of this journal.

RALPH REINHOLD



Aerial Perspective by Juan B. Larrinaga of the broad acres of the Texas Centennial Exposition which will open in Dallas on June 6. Construction on a score of great exhibit halls is in progress, while the great athletic stadium and the attractive race track and clubhouse have already been completed. George L. Dahl is Centennial Architect and is assisted by Senor Larrinaga, F. E. Morehead, and Donald Nelson

TEXAS HAS ITS CENTENNIAL

To be Celebrated in Dallas

EXPOSITIONS just now are very much to the fore in public interest. This summer will see one in Dallas, Texas, and one in Cleveland. In the offing are the World's Fairs to be held in New York in 1939 and in Paris in 1937. The drawings presented on the accompanying pages should therefore be of interest to architects in many places who are working on plans for these and other similar affairs.

The Texas Centennial, which opens in Dallas on June 6, has been designed under the general direction of George L. Dahl, Centennial Architect, who has been assisted not only by other Texas architects but by a strong array of talent imported from other parts of the country, notably Senor Juan B. Larrinaga, Spanish artist and colorist from California who had much to do with the San Francisco and San Diego Expositions, F. E. Morehead, who worked with Larrinaga at San Diego, and Donald Nelson, who was responsible for much of the splendor of Chicago's Century of Progress. The architecture they have produced is described as "something new and different and as breezily typical of the open spaces as the sage brush, the sun, and the plains." While the historic past has been drawn upon for inspiration, particularly the Aztec, Spanish Colonial, and Mexican styles, the buildings will be definitely contemporary, depending upon the display of large masses, simple openings, color, and illumination for their effect.

Of the major buildings of the exposition, eight are being erected by the Exposition Corporation, seven by the City of Dallas, two by the United States Government, and one by the State of Texas. Sixty per cent of the structures are designed to be permanent and will remain for posterity.

The key to the exposition will be set immediately for the visitor when he passes between the massive, flag-bedecked pylons which are to form the entrance to the grounds. This key will be two buildings, almost twin-like in appearance, which will flank the central reflecting basin of the Esplanade of State which is to run, 300 feet wide and a thousand feet long, to the Hall of State. The flanking twins are the Transportation and Petroleum Building and the Varied Industries and Electrical Communications Building. Each will be approximately 800 feet long and the basin between will be of equal length. Six heroic-sized poly-

chrome statues, three against each of these buildings, will stand in niches facing the esplanade. These will represent the six flags which have flown over Texas in the past four centuries—the gold and crimson banner of Aragon, the lilies of France, the flag of the Republic of Mexico, the Lone Star of Texas, the Stars and Bars of the Confederacy, and the present Stars and Stripes. Access to high loggias between these statues will be obtained by broad monumental steps. On the back walls of the loggias, Senor Larrinaga will present symbolical murals, a procession of figures in contrasting tones running the length of the esplanade.

The pageantry and splendor of the esplanade will lead directly into the Court of Honor, which fronts the Texas Hall of State, where the sacred relics of Texas' past, the glories of her present, and the promise of her future will be suitably shown.

Though the accompanying drawings are reproduced in black and white, they indicate that a considerable amount of color will be used on the buildings. Simple decorative bands and areas of flat color will serve to enliven the simple masses of the architecture, while frescoes will occur in appropriate places to tell the story of the state and its arts and industries. At night, colored floodlights will be used freely to get spectacular effects impossible in the daytime, spreading their rays beneath the waters of reflecting pools, above them, and against trees, shrubbery, and the buildings themselves.

The designers of the landscaping are collaborating with Senor Larrinaga, the colorist, towards the end of making the exposition grounds one of the beauty spots of the United States. Native trees and shrubs are to be used exclusively, more than 100 varieties of trees being available. An exception to this rule will be found in a display showing the official trees and flowers of other states in the Union.

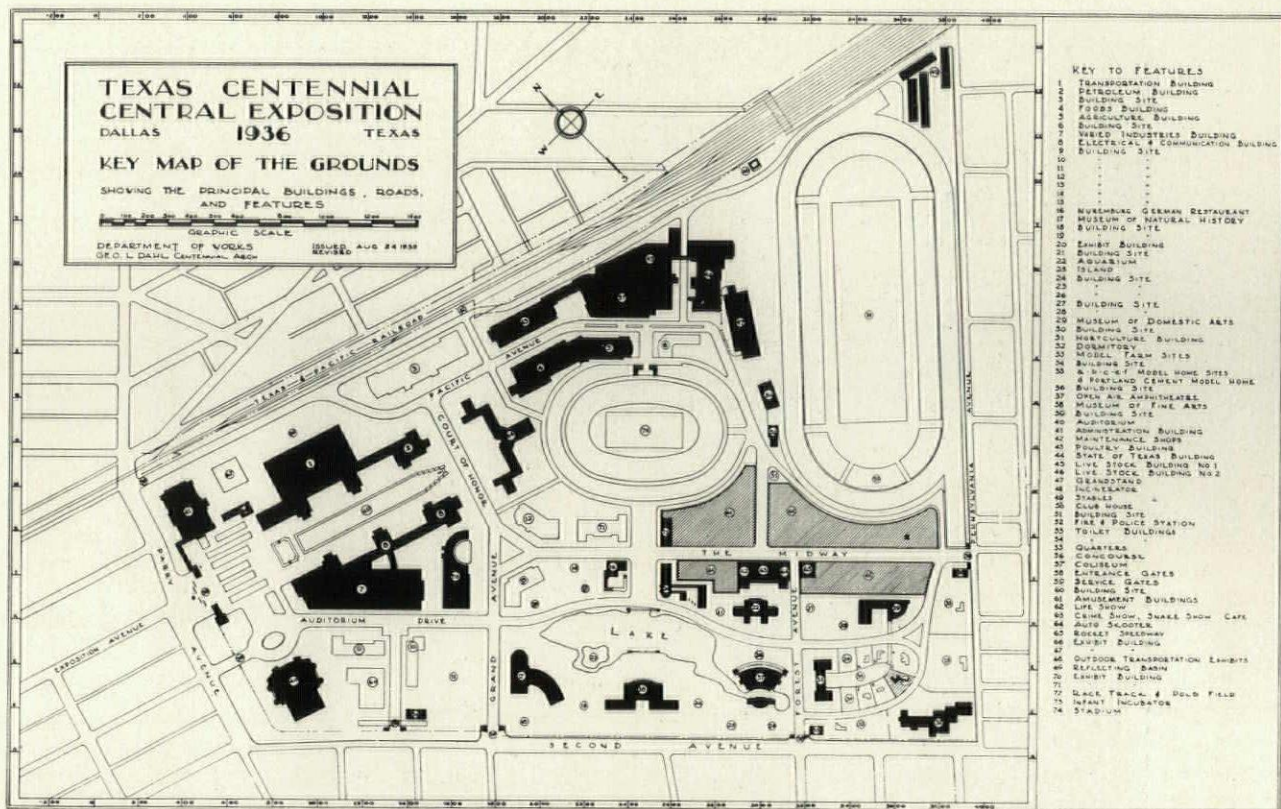
The drawings here presented, and which show the general character of the architecture and the arrangement of the whole exposition, are, with a few exceptions, the work of Senor Larrinaga. They were mostly done with opaque water color. They are obviously done with such skill that perhaps a brief outline of the artist's career will be of interest. He was born in the village of San Antonio in Lower California in 1885. His grandfather was one of the many Spanish colonists who came south from San Francisco during the gold rush and settled. The young Juan was educated in Sonora and at St. Vincent's College, which is now the Loyola University in Los Angeles. Later he studied Aztec art at first hand in Mexico City and finished his art education in the Scenic Studios at Los Angeles under the tutelage of such outstanding artists as Hanson Putthof, Arthur Hurtt, and Edgar Payne. His ancestry and experience combine to make it particularly fitting that he should have been chosen to portray the spirit of the Southwest as expressed in the designs for this exposition.



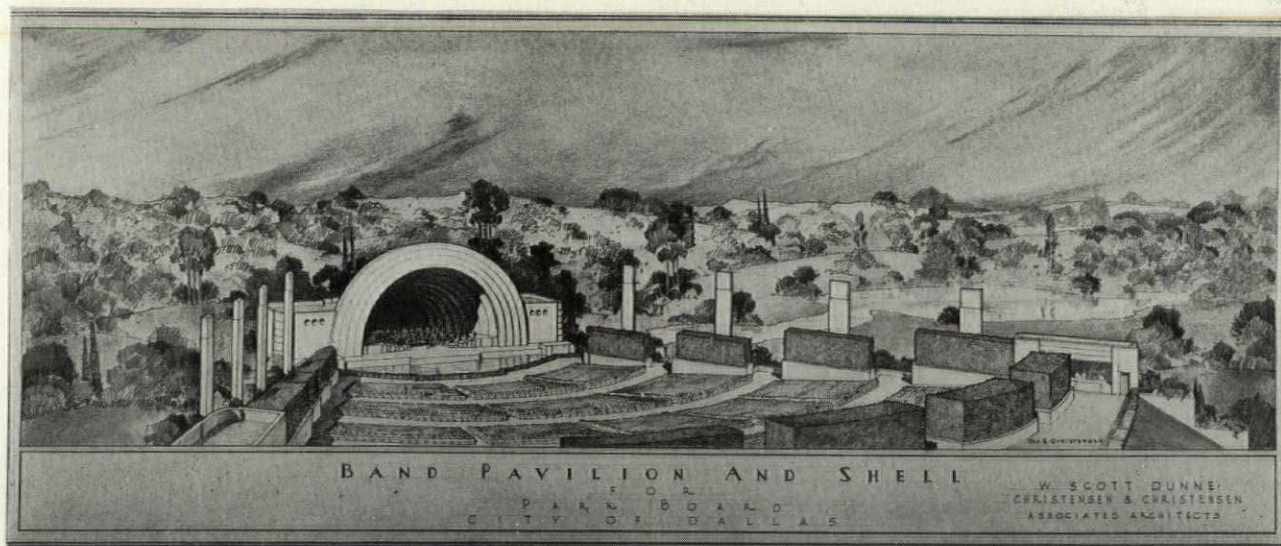
The Administration Building, the first structure which will be erected by the Texas Centennial Exposition, Dallas, adjoins the main entrance to Centennial Park. The building will be fronted by a lagoon lined with sparkling fountains. Its great foyer will be decorated with murals depicting scenes from Texas history. At night it will be beautifully illuminated by flood lights concealed in the shrubbery



The second section of the Live Stock Building to be erected at the Texas Centennial Exposition for the exhibition of swine, sheep and goats at a cost of \$130,000. It will occupy approximately 42,000 square feet. The building will be equipped with every modern device for the sanitary exhibition of live stock. There will be a spacious judging ring with balconies for spectators. George L. Dahl, Centennial Architect

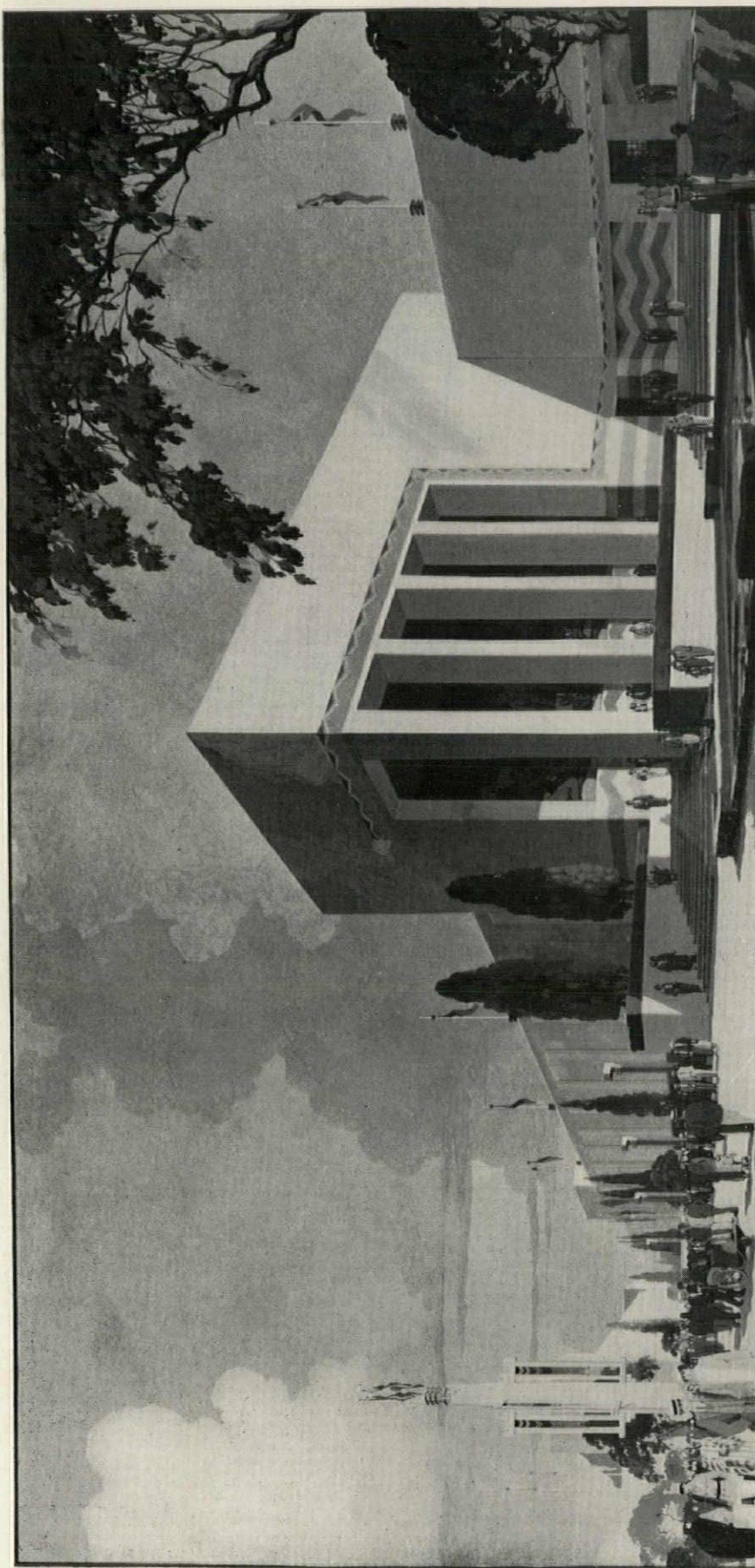


Key plan of the Texas Centennial Central Exposition which is going to be opened in Dallas on June 6

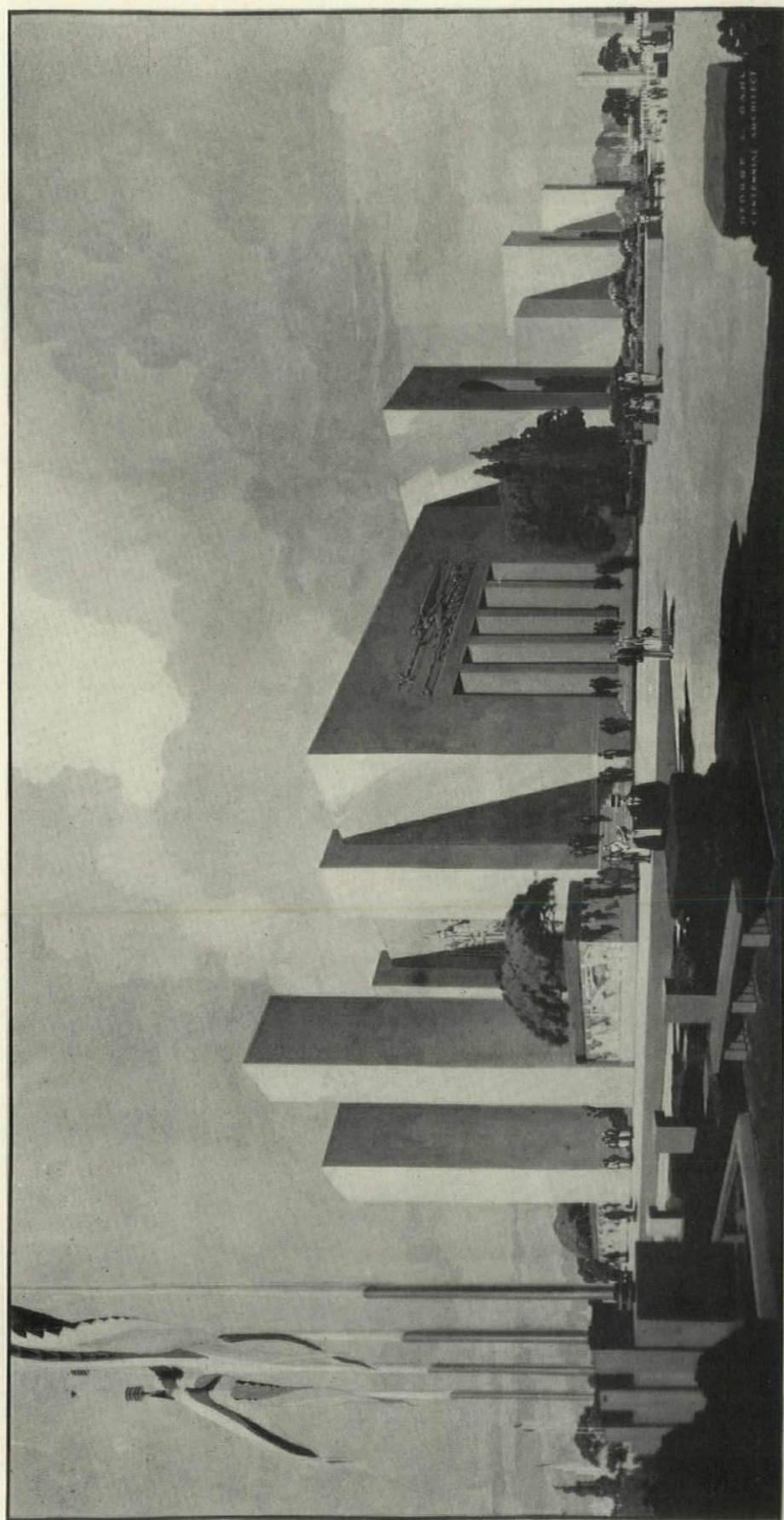


The open air band shell and amphitheater, located on the banks of the lagoon in Centennial Park, will be the center of musical activities at the Texas Centennial Exposition. The amphitheater will seat 5,000 people and the shell and stage will accommodate a 150-piece band. The stage is arranged so that it can be extended for ballet purposes. The musical center is being constructed by the City of Dallas as a permanent feature of the Civic Center at the Centennial Exposition. W. Scott Dunne, Christensen & Christensen, Associated Architects

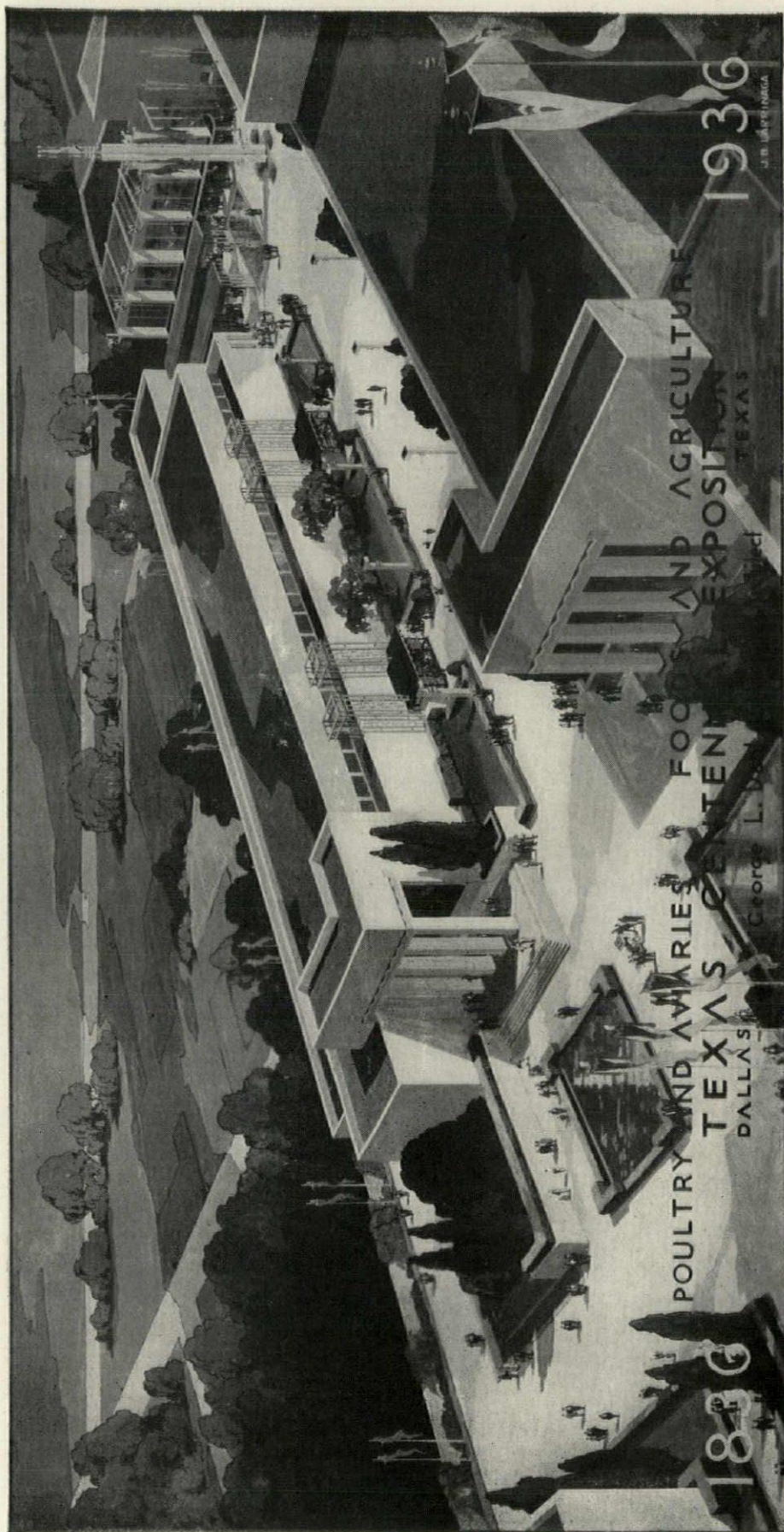
From a drawing by George E. Christensen



The Food Products and Agricultural Building, one of the main units in the Texas Centennial Exposition, will be one of the most colorful buildings in Centennial Park, Dallas. One section of the building will be devoted to agricultural products raised in Texas. The other section will display food products. The building will have 67,000 square feet of space. Opaque water color drawing by Juan B. Larrinaga



Rendering by Juan B. Larrinaga of the Varied Industries, Electrical, and Communications Building which will be the second largest building erected by the Texas Centennial Exposition. George L. Dahl, Architect. It will cost \$400,000 and will be 800 feet long with widths varying from 100 to 300 feet. The building will be in three sections and will be located on the South side of the Esplanade of State. Communications Hall, in the front of the picture, will be occupied by the exhibit of the American Telephone and Telegraph Company. Courts separating the various sections will be terraced to provide effects of hanging gardens. Fountains and illuminated basins will feature the grounds



The \$115,000 Poultry Building at the Texas Centennial Exposition will be one of a group of agricultural exhibit structures which will display the achievements and resources of farmers and ranchers of the Southwest. The building will accommodate 7,500 poultry coops and is to be equipped with lecture halls and meeting rooms for exhibitors. Outside the building large aviaries will exhibit native Texas birds, and adjoining pools will accommodate thousands of water fowl. Design is by George L. Dahl, Centennial Architect. Drawing in opaque water color by Juan B. Larrinaga

PENCIL POINTS - PORTLAND CEMENT ASSOCIATION PROGRAMME

TWO SIMULTANEOUS ARCHITECTURAL COMPETITIONS

For Designs of

FIRESAFE CONCRETE HOUSES

Each not to exceed 24,000 cubic feet total cubage, including Garage

Problem "A": A HOUSE SUITABLE FOR "NORTHERN" CLIMATES

Problem "B": A HOUSE SUITABLE FOR "SOUTHERN" CLIMATES

Authorized by Reinhold Publishing Corporation
Publishers of PENCIL POINTS
330 West 42nd St., New York

Sponsored by Portland Cement Association
33 West Grand Avenue
Chicago, Illinois

Conducted by RUSSELL F. WHITEHEAD, A.I.A., New York, *Professional Adviser*
DAVID J. WITMER, F.A.I.A., Los Angeles, California, *Associate Professional Adviser*
KENNETH REID, P.C.R., New York, *Assistant Professional Adviser*

THE AWARDS

46 Cash Prizes Totaling \$7,500.00

REINHOLD PUBLISHING CORPORATION agrees to pay the winners, immediately after the Judgment, the following Prizes in Cash:

First Prize—Problem "A"	\$1500.00
First Prize—Problem "B"	1500.00
Second Prize—Problem "A"	750.00
Second Prize—Problem "B"	750.00
Third Prize—Problem "A"	500.00
Third Prize—Problem "B"	500.00
20 Mentions—Problem "A" each \$50	1000.00
20 Mentions—Problem "B" each \$50	1000.00

The above Prizes are *net*—no further drawings will be required of any competitor as a condition of receiving an award.

ALL ARCHITECTS AND DRAFTSMEN IN CONTINENTAL U.S.A. ARE CORDIALLY INVITED TO PARTICIPATE

A competitor may submit any number of solutions for either or both Problems. All designs entered by any competitor are eligible for Prizes.

NOTE: Under a ruling by the A.I.A. Committee on Competitions, THE AMERICAN INSTITUTE OF ARCHITECTS does not oppose participancy of its Members in this Competition.

THE JUDGES

Atlee B. Ayres, F.A.I.A., *San Antonio, Texas*
William D. Crowell, A.I.A., *Saint Louis, Mo.*
Edmund B. Gilchrist, A.I.A., *Philadelphia, Pa.*
Carl F. Gould, F.A.I.A., *Seattle, Wash.*
C. Herrick Hammond, F.A.I.A., *Chicago, Ill.*
Robert D. Kohn, F.A.I.A., *New York, N. Y.*
Howard Major, A.I.A., *Palm Beach, Fla.*

REINHOLD PUBLISHING CORPORATION, PORTLAND CEMENT ASSOCIATION, and the COMPETITORS agree that the Judges have sole and complete authority to make the awards and that their decisions shall be final.

The Jury of Award will begin its deliberations March 19, 1936, continuing as long as necessary for careful consideration of the submitted designs. Each Problem will be judged separately.

This Competition closes at 8 P. M., Standard time, Monday, March 9, 1936

THE PURPOSE OF THIS COMPETITION

THE annual architectural competitions, authorized by PENCIL POINTS, the magazine of Architecture and Draftsmanship, present an opportunity and an incentive to the members of the profession to exercise and develop their skill in solving contemporary architectural problems. By contesting with his peers, with brain and hand, the architect or the draftsman gains strength for his private practice. These competitions

are frequently the means of discovering new talent. They also furnish encouragement to those of proven ability. They offer the possibility of gaining, through the wide publicity that is given the authors of the winning designs, added professional prestige in the eyes of potential clients.

The 1936 Competition is sponsored by Portland Cement Association, "a national organization to improve and extend the uses of concrete." This Association believes that the results of this Competition will show the man in modest circumstances that the architecturally trained man can solve his small house problem from both a practical and an aesthetic point of view.

The competition provides an extra stimulus for architects to refresh their knowledge of an important building material—CONCRETE—and an opportunity for the profession to demonstrate the many, as yet unrevealed, design possibilities and advantages of Portland Cement products in house construction.

THE PROBLEMS, MANDATORY

Truman Foresight and Conrad Crete were "Bud-dies" in the American Expeditionary Force. "True" hailed from California and "Con" called "Down-East" his home. After the Armistice they traveled together in Europe and finally landed in New York. A firm of Certified Public Accountants gave "True" a job while "Con" worked for a general contractor, popular with architects. After several years, Foresight went South as an Accountant. He married the girl from his home town on the Pacific Coast and now has two children, a boy seven and a girl four years old. Crete became a Quantity Surveyor for his firm, which operated throughout the Northern Section of the United States. He continued his friendship with True Foresight, and it so happens he has kept pace with him in the matter of a family. "True," in his letters to "Con," has urged the sound economics of home ownership, while "Con," from his knowledge of the value of an architect's services, has insisted that when the time arrived to build "True" should commission an architect to design his home.

Each man, urged by his "better-half," has now decided to build a small concrete house in a suburb of the town in which he has been "doubling-up" during the 1930-35 depression. Each has his eye on several lots and the funds to pay for the one most suitable for his needs. Both families explain their problems to an architect, remarking that they are not prejudiced either for or against any particular architectural style. They want a smart looking, substantial, up-to-the-minute house, designed for comfortable, convenient, and healthy living.

"Con" and "True" have discussed FHA insured loans with their local lending agencies and are convinced that they can finance the kind of homes they wish to build and be in full possession of them at the end of twenty years by paying regular monthly installments. The lending institutions are happy to do business with these borrowers, for their plans show houses built of concrete. They know they will be permanent, firesafe, proof from the ravages of termites, and that well designed houses of this character are a sound investment. "True" and "Con" realize that cheap first cost does not assure low operating and maintenance costs. Looking ahead in point of time, all parties

to the transactions insist upon sound construction, using stock sizes insofar as possible, so that after years of use the houses will remain as valuable to new owners, should the occasion to sell arise, as they were when first built.

Both clients are confident they will soon be able to purchase small automobiles and want to provide for garages. They express no preference about location on the lot, leaving it to the ingenuity of the designers to provide connection with the houses which will afford protection in inclement weather.

The space requirements of both families are practically the same. They do not think, positively, in terms of the number of rooms and the necessary circulations and accessories and their arrangement. They insist that the children be provided with adequate sleeping quarters and a place to play indoors, when occasion demands. Rooms serving more than one major purpose would not be frowned upon, if planned for such specific uses. Both clients know the importance of having places "to put things," for both run their households without full-time servants.

Mr. Foresight's problem ("B") differs from Mr. Crete's problem ("A") only in that his house is to be built in a section of the country where the so-called "Southern" climate prevails, while Mr. Crete's must take into consideration the average "Northern" temperatures and precipitation of rain and snow.

Several level, inside, rectangular lots, each 50 feet front by 150 feet deep, facing various points of the compass, are available to each of the clients. The orientation of the houses, therefore, may be established by the contestant. It must be made clear to the clients on the drawings which lot should be purchased for the proper development of the project. In all cases, no building can be placed closer than five feet to the side and rear lot lines.

CONSIDERATIONS OF THE JURY OF AWARD:

1. The architectural merit of the design and the ingenuity shown in the development of the plans to fit the requirements of the Problem.
2. The adaptability of the design to the materials of construction.
3. Practicability and economy of construction.

4. The value of the house as an investment during a twenty-year amortization period. Excellence of delineation, while desirable, will not have undue weight with the Jury as compared with the above considerations.

COMPUTATION OF TOTAL CUBAGE: Mandatory. The cubage shall be the entire cubic space enclosed within the outer surfaces of the outside or enclosing walls and contained between the outer main surface of the roof and a plane six inches below the finished surfaces of the lowest floors. Garage, penthouses, enclosed porches and porches within the bearing walls and other enclosed appendages are to be included as part of the cube of the building. Any permanently roofed porches or terraces outside the bearing walls shall be computed at one-fourth their gross cubage, measured from outside face of wall, outside face of columns or posts, finished floor, and finished roof.

Designs found, upon checking, to exceed 24,000 cubic feet total cubage, including the garage, will not be considered.

PRESENTATION DRAWINGS: Mandatory. The drawings shall be made in full black ink and shown on one sheet of opaque white paper trimmed to exactly 26" x 36". Single border lines are to be drawn so that space inside them will be exactly 25" x 35". Diluted ink, color, or wash; cardboard, thin paper, or mounted paper is prohibited. The sheet shall be composed with its long dimension vertical.

The following drawings are required:

1. *Perspective* of the house, rendered in pen-and-ink, clearly indicating the character of the exterior finish and the surrounding landscape. Heights are to be measured on the corner of the building nearest the spectator at scale of $\frac{1}{4}"$ equals 1'-0".
2. *Plans* of each floor, at scale of $\frac{1}{4}"$ equals 1'-0". When portions of the basement or roof form a part of the living quarters, the corresponding plan or plans shall be shown at scale of $\frac{1}{8}"$ equals 1'-0". The use of each room or space must be indicated and the dimensions clearly set out in numerals. The walls and partitions are to be solid black. Lettering must be large enough to be easily read when original drawing is reduced to one-quarter size.
3. *Elevations*, at scale of $\frac{1}{8}"$ equals 1'-0", of the two façades not shown by the rendered perspective.
4. *Details*, at scale of $\frac{3}{4}"$ equals 1'-0", of Wall, Floor, and Roof Sections. Bearing walls shall be of reinforced concrete, concrete masonry or any other practical concrete system. *Non-Bearing Partitions* shall have a fire resistance rating of at least one hour. *Sub-Floors* of either reinforced concrete or precast concrete joists with concrete slabs or a combination of these. The type of floor covering or finish is optional with the contestant. *Roof* of any approved concrete construction or if pitched the roof may be built of frame construction covered with fire resistant material carrying Class A label of the Underwriters Laboratories. *Exterior Finish*, the concrete may be left untreated or given any finish which the contestant may select. If painted or stuccoed, should be painted with portland cement paint or stuccoed with portland cement stucco.
5. *Plot Plan*, at small scale, showing location of house and garage on the lot and suggesting the development of the property to add to the completeness and attractiveness of the design.
6. *Cubage Diagrams*: (1) A small, clearly drawn, dimensioned *Section*. (2) Single line *Plan Diagrams*. (3) A *Tabulated Schedule*, in a space not to exceed 4" x 2" surrounded by single border lines, showing the calculations of the total cubage figures.
7. The drawing shall bear the title, *Design For a Fire-safe Concrete House* with a sub-title, *Pencil Points-Portland Cement Association Architectural Competition*, and shall be signed by a *nom de plume* or device. Immediately below the *nom de plume* or device

must be the indication of the Problem of the Competition in which the design is submitted, as Problem "A" or Problem "B."

COMMUNICATIONS: Mandatory. As this is an open competition, no queries will be answered. The contestants shall not communicate on the subject of this competition with either the Professional Advisers or any member of the Jury or any other person in any way connected with the Jury except anonymously and in writing.

ANONYMITY OF DRAWINGS: Mandatory. The drawings submitted shall contain no identifying mark other than the *nom de plume* or device. No competitor shall directly or indirectly reveal his or her identity to the Professional Advisers or to any member of the Jury of Award. With each drawing there must be enclosed a plain, opaque, sealed envelope containing the true name and complete address of the contestant. The *nom de plume* of the contestant shall be placed on the outside of the envelope. The envelope will be opened by the Professional Adviser in the presence of the Jury only after all the awards have been made.

DELIVERY OF DRAWINGS: Mandatory. The drawings shall be securely wrapped, in a strong tube, not less than $2\frac{1}{2}"$ in diameter, or flat and addressed to Russell F. Whitehead, Professional Adviser, PENCIL POINTS-Portland Cement Association Competition, 330 West 42nd St., New York, N. Y. Contestants sending drawings by registered mail or by express must obliterate the return name or name on express label and must not demand return receipt.

Drawings shall be delivered to PENCIL POINTS office—330 West 42nd Street, New York, or placed in the hands of the post office or express companies not later than 8 P. M., Standard time, Monday, March 9th, 1936. The receipt stamp will serve as evidence of delivery. Drawings will be accepted at any time before the close of the competition. They will be fully insured from the hour of their receipt.

Drawings submitted in this competition are at the competitor's risk. Reasonable care will be exercised, however, in their handling, safekeeping, and packaging for return.

EXAMINATION OF DESIGNS: The Professional Adviser will examine the designs and records of their receipt to ascertain whether they comply with the mandatory requirements of this Program. The Jury will place out of the competition and make no awards to any design not complying with mandatory requirements.

The Professional Adviser alone will have access to the drawings until they are placed before the Jury of Award. No drawing, whenever received, will be shown or made public until after the Awards by the Jury.

ANNOUNCEMENT OF THE AWARDS: The Professional Adviser will send, by mail, to each competitor, the names of the winners of the Prizes and Mentions as soon as possible after the awards have been made and the envelopes have been opened. The announcement will be published in the April, 1936, issue of PENCIL POINTS. Requests for this information by telephone and telegraph will not be answered.

REPORT OF THE JURY: The winning designs and a full report, stating the reasons for the awards and offering helpful criticism and comment upon designs not premiated, will be published in PENCIL POINTS. A copy of the Report will be sent to each competitor. Meritorious designs, selected by the Jury, will also be published in subsequent issues of PENCIL POINTS.

THE PRIZE DESIGNS: The designs awarded Prizes and Mentions are to become the property of PENCIL POINTS. The right is reserved by the Publishers and by the Sponsors to exhibit or to publish any or all of the designs premiated or non-premiated. In every case where a competitor's design is shown it will be clearly and fully identified as his or her work.

RETURN OF DRAWINGS: Non-premiated designs which are not reserved for exhibition or publication will be returned to the competitors within a reasonable time, postage and \$50.00 insurance prepaid.

NOTICE TO COMPETITORS

ANY Architect or Draftsman who has any difficulty in securing a sheet of paper of the size called for by the mandatory requirements of the foregoing programme will be provided by PENCIL POINTS with a sheet of Whatman's or some similar brand of paper Hot Pressed, Double Elephant size, for fifty cents. This price includes the paper, shipped prepaid, in a tube suitable for mailing the finished design. Address your remittance to PENCIL POINTS, 330 West 42nd Street, New York.

DESIGNING IN PERSPECTIVE

From Sketch to Layout

By RICHARD S. BUCK, JR.

ANY intelligent architectural designer, dealing with the problem of the mass and layout of a building, will attack simultaneously on two fronts. By geometric plans and elevations, he expresses the practical conditions that rule his problem, and his practical means for meeting those conditions. At the same time, by means of freehand perspectives, he tells himself and his client what he hopes the finished result will look like. He finally produces plans and elevations that work (we hope) and a perspective study that looks satisfactory. In order to find whether the perspective really belongs to the diagrammatic drawings, he will next prepare a mechanical perspective from the latter—that is, he will if he is honest and careful. And now comes the shock; the building looks too thick or too thin, or the roof slopes seem odd, or the wings and chimneys stick out too far or not far enough, or what have you. The mechanical perspective doesn't look like the freehand study, and the designer can't be sure whether the trouble lies with the station-point and picture plane of the plotted drawing, or whether the de-

sign itself is at fault. For all he knows, the original perspective study may correspond to a view in which the building subtends an impossibly wide angle of vision, or (more probably) to one in which the building lies far off to one side of the field of view. The usual means of answering this question is the laborious one of laying out several perspectives by trial.

All this fuss and uncertainty can easily be avoided by the application of a simple form of the "inverse problem," provided that the mass of the building is based, as all good architectural masses should be, on a simple rectangular block. Once the designer has decided tentatively on the three dimensions of this basic block, he can sketch freehand a block perspective which shows how he hopes it will loom against the sky and the horizon (Fig. 1). This partial perspective necessarily represents the block accurately as it will appear from some point of view. It may be that the station-point is absurdly far below the grade-line, but it actually exists somewhere out in front of the picture-plane, and finding it constitutes the proper next step in the operation (Fig. 2).

If the designer's hopes have led him to a poor guess about the apparent proportion between the two visible faces he can make a simple revision and quickly find a revised station point (Fig. 3).

He next finds the position of his grade line in his tentative perspective (Fig. 4) and if this is not satisfactory, he revises the skyline of his block (Fig. 5).

He now has a block sketch which accurately represents the general bulk of his building as seen from some reasonable point of view. He is ready to place his architectural plan and elevation in position for developing the sketch into a finished perspective (Fig. 6).

It will be noted in the figures that the original

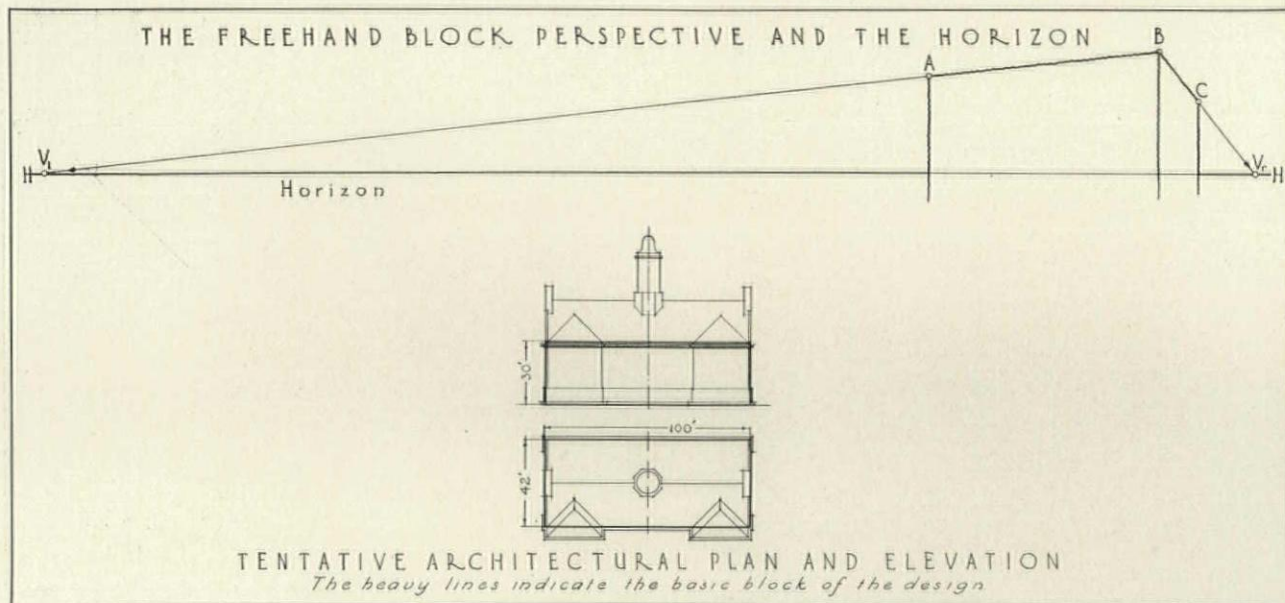


Figure 1—The Freehand Block Perspective and the Horizon

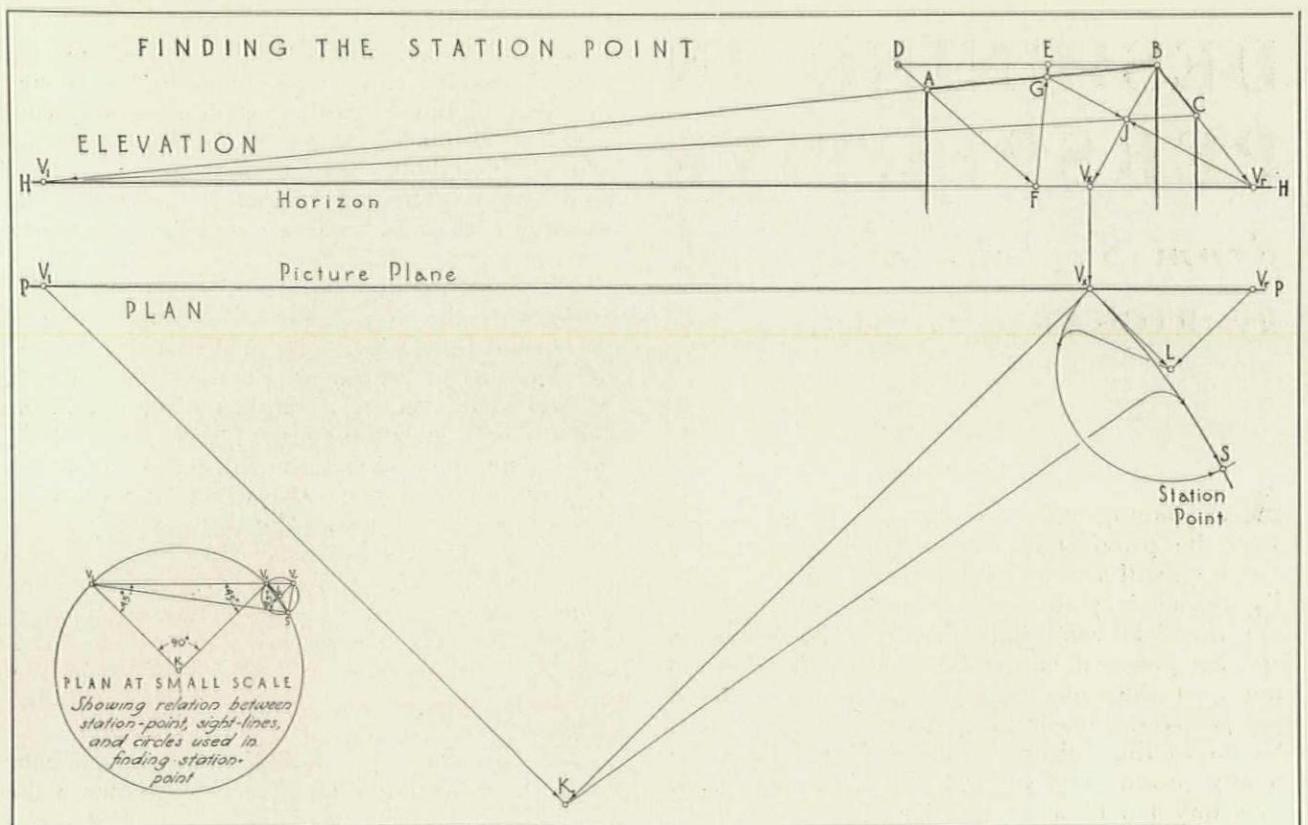


Figure 2—Finding the Station Point

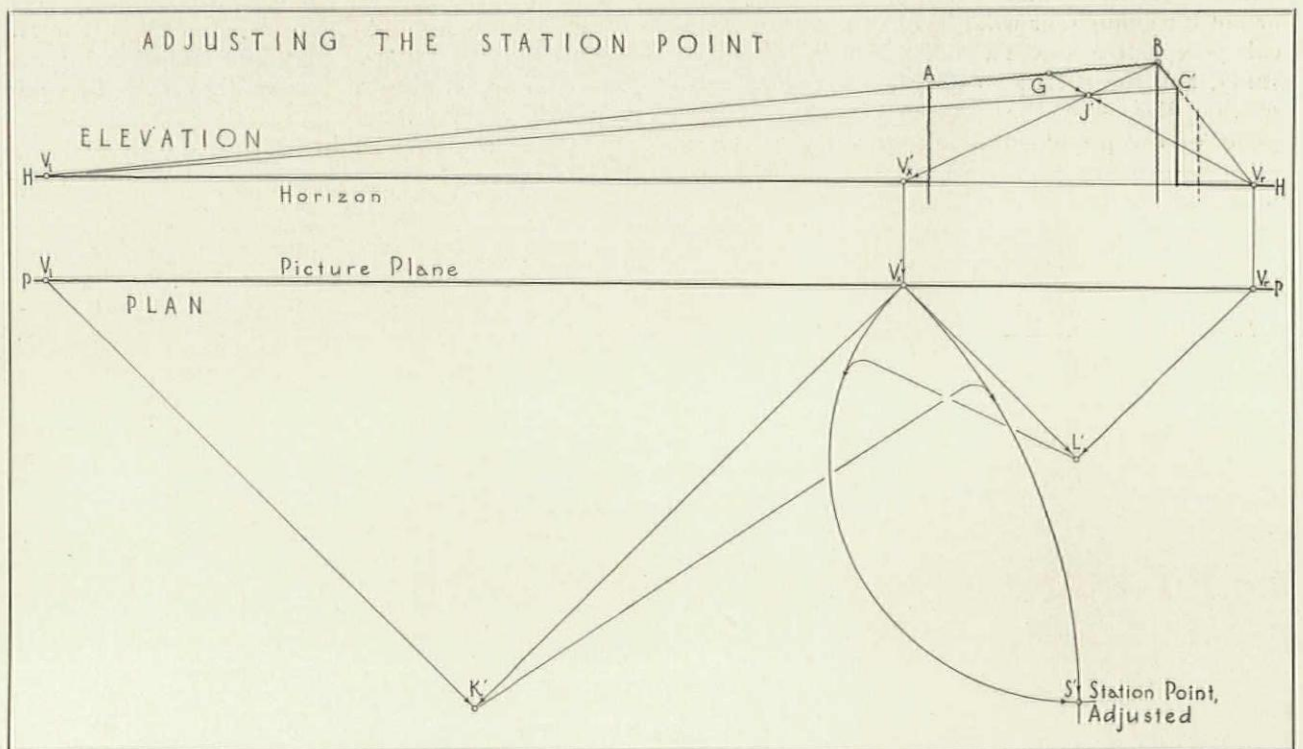


Figure 3—Adjusting the Station Point

- d. Draw FE crossing BA at G . Then BG is the perspective of a 42' length of AB , and BGC is the near half of the horizontal square you are after.

If you are interested in the mathematics of this construction, see note 1, page 75.

Now complete the square: draw CV_1 and CV_r , meeting at J , the far corner.

Draw the diagonal BJ , and continue it to meet the horizon at V_x , which is the "45° vanishing point" sought.

Now transfer operations to plan: lay out the three vanishing points along the picture plane PR .

point of diagonals V'_x ; transfer to plan, and there, from V_1 , V'_x and V_r , find the new station-point S' . S' is fairly near the middle of the block, and at such a distance from PP that the building will not take up an excessive visual angle; it may therefore be considered satisfactory.

IV. *Finding the Grade Line* (Fig. 4). The next question is whether your tentative view of the building is taken at the right level; in other words, whether the part of the perspective block above the horizon is too tall or too squat. The best method of answering is to plot in perspective a diagonal of the short face BC' of the revised block.

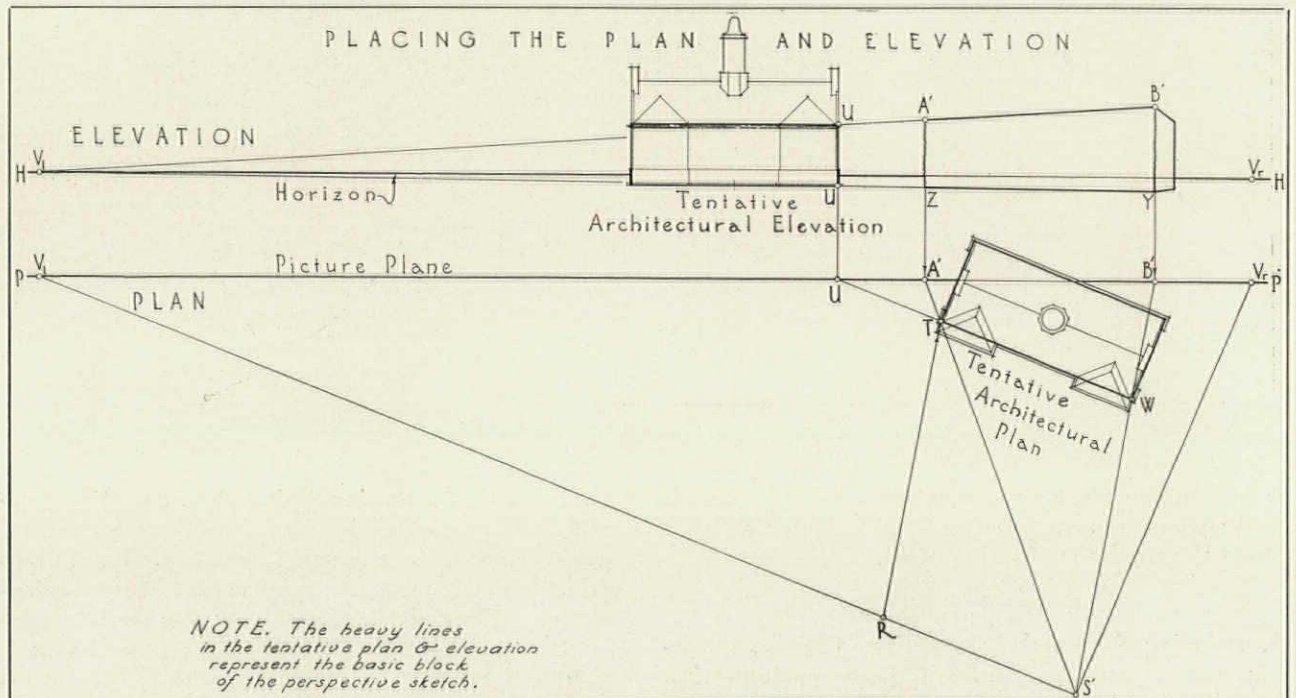


Figure 6—Placing the Plan and Elevation

Through V_1 and V_x , draw on the observer's side lines at 45° to PP , meeting at K , and similar lines through V_x and V_r , meeting at L .

With K as a center and KV_x as a radius, strike an arc; with L as a center and LV_x as a radius, strike an arc meeting the first at S ; this is the station point that corresponds to our original assumptions.

For the proof of this construction, see note 2, page 75.

III. *Adjusting the Station Point* (Fig. 3). It is obvious from Fig. 2 that station-point S is much too close to the picture-plane and much too far to the right; your original sketch, that is, exaggerates the length of the short face BC . Revise your assumptions by shortening BC to BC' , leaving the principal face AB and the vanishing points V_1 and V_r undisturbed. The position of corner G of the horizontal square is likewise unaltered.

As before, find corner J' and the new vanishing

In elevation, draw vertical horizon through V_r .

In plan, revolve station-point S' about V_r into picture-plane PP , giving measuring-point M_r .

Project M_r to elevation, and through it draw a line up and to the right at a slope equal to the true slope of the diagonal of face $BC' = 30$ vertical: 42 horizontal. This line will meet the vertical horizon at V_s .

Draw V_sC , and continue it to meet vertical edge B at Y . Then Y is in the grade line, which may now be plotted by drawing YO and YQ toward the principal vanishing points.

V. *Adjusting the Grade Line* (Fig. 5). As shown in Fig. 4, the grade line is above the horizon, and unless the building is to be set on a considerable rise of ground, the view is impossible. The height BY of the block as plotted is, however, correct. All you need to do is to drop the perspective block to a reasonable level. Suppose you wish the view taken 5' above the ground:

In elevation, along edge B lay off BY below the horizon $5/30$ BY .

Lay off $Y'B' = YB$, and complete the revised block ABC as shown; this gives a fair summary of the appearance of the mass of the building. If you don't like it, you may safely guess that plans and elevations need to be restudied.

VI. *Placing the Plan and Elevation* (Fig. 6). You are now ready to develop the detailed perspective. The first step in this development is placing the architectural plan and elevation in the proper relation to your perspective layout.

Project corners A' and B' of the perspective block to plan, and there draw sight lines $S'A'$ and $S'B'$.

Along $S'V_1$, lay off $S'R$ equal to the long side of the block (100') at the scale of your architectural drawings.

Through R draw a line parallel to sight-line $S'B$ meeting sight-line $S'A$ at T .

Through T draw a line parallel to $S'V_1$, meeting sight-line $S'B$ at W . Then $WT = S'R = 100'$.

Set the architectural plan with the near side of the basic block along WT , as shown.

Extend WT to meet PP at U , and project U to elevation, where it appears as line UU between the continuations of edges $B'A$ and YZ of the perspective block. If the layout and construction have been executed accurately, UU will equal the true height of the basic block (30") to scale.

Now set the elevation with one edge of the block coinciding with UU . Heights of lines that lie in the face of the block can now be "vanished" directly from UU to their places in the perspective block.

From this point the development proceeds in the usual manner.

Conclusion

In our illustration, all the original guesses about the apparent shape of the basic block went wrong. This trouble will be largely avoided if you lay out the principal face of your perspective block equal to, or slightly less than, the scale length of the same face in plan; and if you make the height above the horizon of the far corner A just a trifle greater than the scale height of the same corner above eye level. The slope of the upper edge AB should of course be moderate; that is, the distance out to V_1 should be generous; you want a good square look at the main façade. Conversely, the return façade BC will be strongly foreshortened; unless the view is taken unduly close to the usually unhappy 45° angle, the block will look surprisingly thin.

Note 1. Perspective Division.

The edge BA and line BD are the perspectives of horizontal intersecting lines.

DF and EF are horizontal parallel lines (for they vanish in the horizon) and they lie in the plane of BA and BD .

That is, in triangles BDA and BEG , in space,

BE lies along BD ,

BG lies along BA , and

EG is parallel to DA .

Therefore the triangles are similar, and their corresponding sides are in proportion. That is, in plan, whatever the scale at which BE and BD are laid out,

$$\frac{BG}{BA} = \frac{BE}{BD} \quad (42 \text{ as constructed})$$

$$\frac{BA}{BD} = \frac{BD}{100}$$

This method is useful for laying out openings, pilasters, and minor features in perspective along a straight run of wall; as compared with the office method it involves fewer operations and shorter projections.

Note 2. *Position of the Station Point in Plan.* (See plan at small scale, Fig. 2.)

The proposition in geometry that we need to recall here is that given a circle and a chord of the circle, any angle with its vertex on the circumference and its legs meeting the ends of the chord will equal one-half the central angle based on the same chord. (An angle inscribed in a circle is measured by one-half the arc that subtends it.)

In the circle struck from the center L ,

$V_r V_x$ is the chord,

$V_x LV_r$ is the central angle, which, as constructed, $= 90^\circ$

$V_x SV_r$ is an angle based on the same chord, with its vertex on the circumference $V_x S$

Therefore angle $V_x SV_r = \frac{1}{2}$ angle $V_x LV_r = \frac{1}{2}$ of $90^\circ = 45^\circ$

In the same way, angle $V_1 SV_x = 45^\circ$

And angle $V_1 SV_r = 90^\circ$

That is, the sight-lines from S to the right and left vanishing point meet at right angles, as intended, and the sight line to the vanishing point of diagonals is at 45° to both, which it should be. Given the three vanishing points, S is the only station point that fulfills these conditions.

This construction is very useful for plotting plans and elevations from photographs of rectangular buildings. In such work, all that is needed is one horizontal measurement along each wall from the near corner.

SECOND METHOD

In the method just described of laying out a perspective drawing, we started the operation with what seems the natural initial step: a sketch perspective of the entire skyline of the basic block. But when we dealt at the start with two faces of the block at the same time, certain difficulties came up. In the first place, in order to avoid redundant assumptions, we had to leave the grade-line off the initial drawing, and work it out and adjust it after finding the station-point. In the second place, we found that guessing the apparent length of the return face of the building was an uncertain business, and that our guess was likely to need revision—though there is no excuse for going as far astray in the matter as did the sketch perspective in Fig. 1.

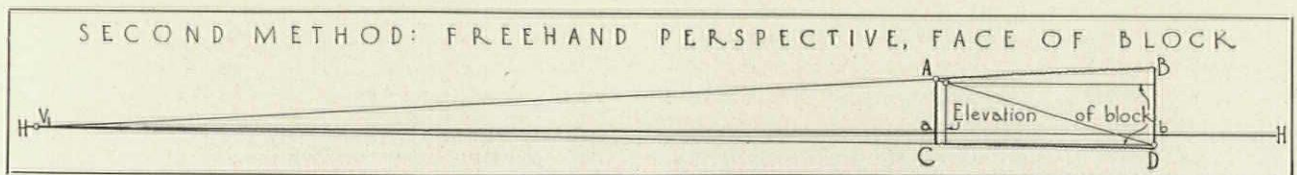


Figure 7—Second method: Freehand Perspective, Face of Block

If one face of the building is vastly more important in your perspective than the other, why not leave the return face off your initial sketch of the block, and start with a view of the principal façade alone, as in Fig. 7?

If your initial sketch shows only one face of the block, you can put in the grade-line of that face without making redundant assumptions; in fact, the layout in Fig. 7 limits but does not fully determine your choice of a station-point, as we shall see presently. Let us take the same building that we used before, and lay out the drawings to construct a perspective based on a sketch of one long face of the basic block.

I. Drawing the Block Perspective (Fig. 7).

In elevation, draw the horizon HH .

Sketch the perspective $ABDC$ of the near face of the basic block. So long as you show your vertical edges vertical, and your horizontals AB and CD vanish in the horizon, this perspective is valid for any one of a series of station-points, no matter what proportions you have chosen.

In the matter of proportions, however, you will find it convenient, and you will avoid distortion if you follow certain rules which are as follows:

1. Make the far edge AC slightly greater in the perspective than in elevation—say two or three per cent. This enlargement will make it possible to arrange the architectural elements conveniently for projecting heights to the perspective. (See below.)

2. Make the proportion between the far vertical AC and the horizontal length ab of the perspective rectangle the same or nearly the same as in elevation.

3. Needless to say, the left-hand vanishing point should be kept well out—make $aV_1 =$ four or five times ab at least.

4. Given the setup as described above, segment aC of edge AC represents very nearly to scale the distance from horizon to grade-line.

II. Determining the Station-Point (Fig. 8).

Now that you have fixed the shape in perspective of the 30'x100' face of your block, and also the

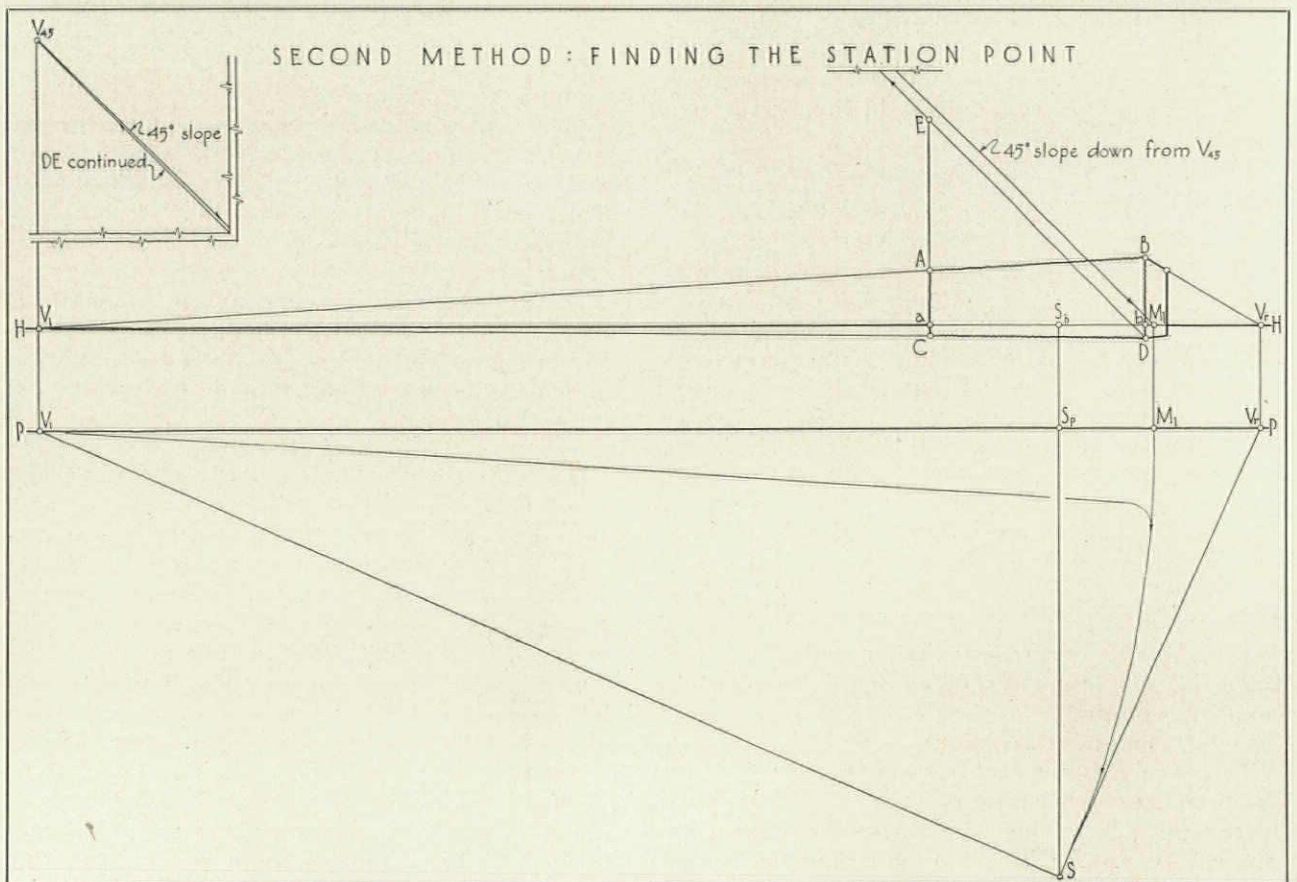


Figure 8—Second method: Finding the Station Point

left-hand vanishing-point V_L , your left-hand measuring point is fixed: the next step is to find it.

1. In perspective, along vertical edge CA lay off $CE = 100$ of CA . Then CE is the perspective of a $\frac{100}{30}$

100' vertical, as CD is of a 100' horizontal.

2. Draw DE , and continue it to meet the vertical horizon through V_L , at V_{45} . Then DE represents a line in the plane of face $ABDC$ having a slope of 45° to the horizontal.

3. Through V_{45} draw a line down and to the right at 45° , meeting the horizon at M_1 ; this is the left-hand measuring-point.

4. Decide on the center of the picture, S_h —this will lie a little to the right of the mid-point of AB .

Transfer to plan: lay off V_L , S_p , and M_1 along PP .

5. Through S_p draw a line normal to PP on the observer's side; station-point S will lie on this line.

6. With V_L as a center, and a radius $= V_L M_1$, strike an arc, meeting the normal at S , the station point.

7. The right-hand vanishing-point V_1 is of course found by drawing through S a normal to SV_L and the plan and elevation are placed as shown under the first method (Fig. 6).

III. *Another Method of Finding the Station Point* (Fig. 8).

Instead of assuming the center of your picture, you may choose the slope of the top edge of the right-hand face of your block, but not the apparent length of that face.

Following this scheme you find measuring point M_1 , just as before (steps 1, 2, 3); then

4. Draw edge BV_r at the slope which you judge will give the best appearance to the finished drawing.

Transfer to plan: lay off V_r , M_1 and V_L along PP .

5. With V_L as a center and a radius $= V_L M_1$, strike an arc (as in step 6 above).

6. Through V_r draw a tangent to the arc, and through V_L draw a normal to the tangent, meeting arc and tangent at S , the station-point.

These two methods of locating the station-point employ the same construction lines, but so far as the latter part of the work is concerned, their processes start from opposite ends.

THE INVERSE PROBLEM IN THE OFFICE

A friend of the writer's was recently confronted with this problem: He had made a semi-freehand preliminary perspective sketch, along with preliminary plans, for a certain town hall (Fig. 9). The building committee liked the perspective all too well; the tower especially took their eye, and they said, "Those proportions are perfect—execute it just like that." This was most gratifying, but the tower had never been conceived except in perspective; only the plan dimensions of the square lower

block had been definitely determined. The office finally spent considerable time preparing tentative elevations and putting them in perspective. The effect of the original sketch was reproduced by successive approximations.

In the light of the previous discussion, we see that all this trial and error was needless. The sketch had of course been constructed with the aid of the horizon HH and the right and left hand vanishing points V_r and V_L . The square block of the tower determined the vanishing points of miters V_x without calling on the draftsman to invoke the method of perspective division.

There were, then, three points to be determined:

First, the actual amounts of the main offsets,

Second, the relative heights of the offset blocks,

Third, the actual height of the base block, or of some convenient portion of it; from this the other absolute heights are readily found by proportion.

FINDING ACTUAL AMOUNT OF OFFSETS

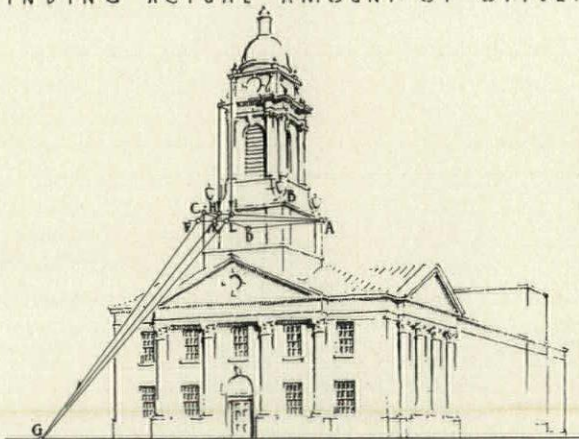


Figure 9—Finding Actual Amount of Offsets

1. *The Offsets.* In the base block, complete the horizontal square $ABCD$ (Fig. 9), and draw the diagonal AC (the long one in perspective).

In the present design, each main element of the tower is based on a square centered over the square of the base block.

For each principal offset block, find the corner of the basic square that corresponds to C .

Project these corners down to H and I on diagonal AC . This gives in perspective the relation between the diagonals of the successive squares. The actual relation to AC may readily be found by the method of perspective division, in inverse.

Through A draw a line parallel to the horizon, and on this line lay off, at any convenient scale, the diagonal of the base block $= AF$.

Draw CF and continue it to meet the horizon at G .

Draw GH and GI , cutting AF at K and L .

Then FK and FL are the diagonals of the offsets, at the scale of FA .

2. *The Relative Heights of the Blocks* (Fig. 10).

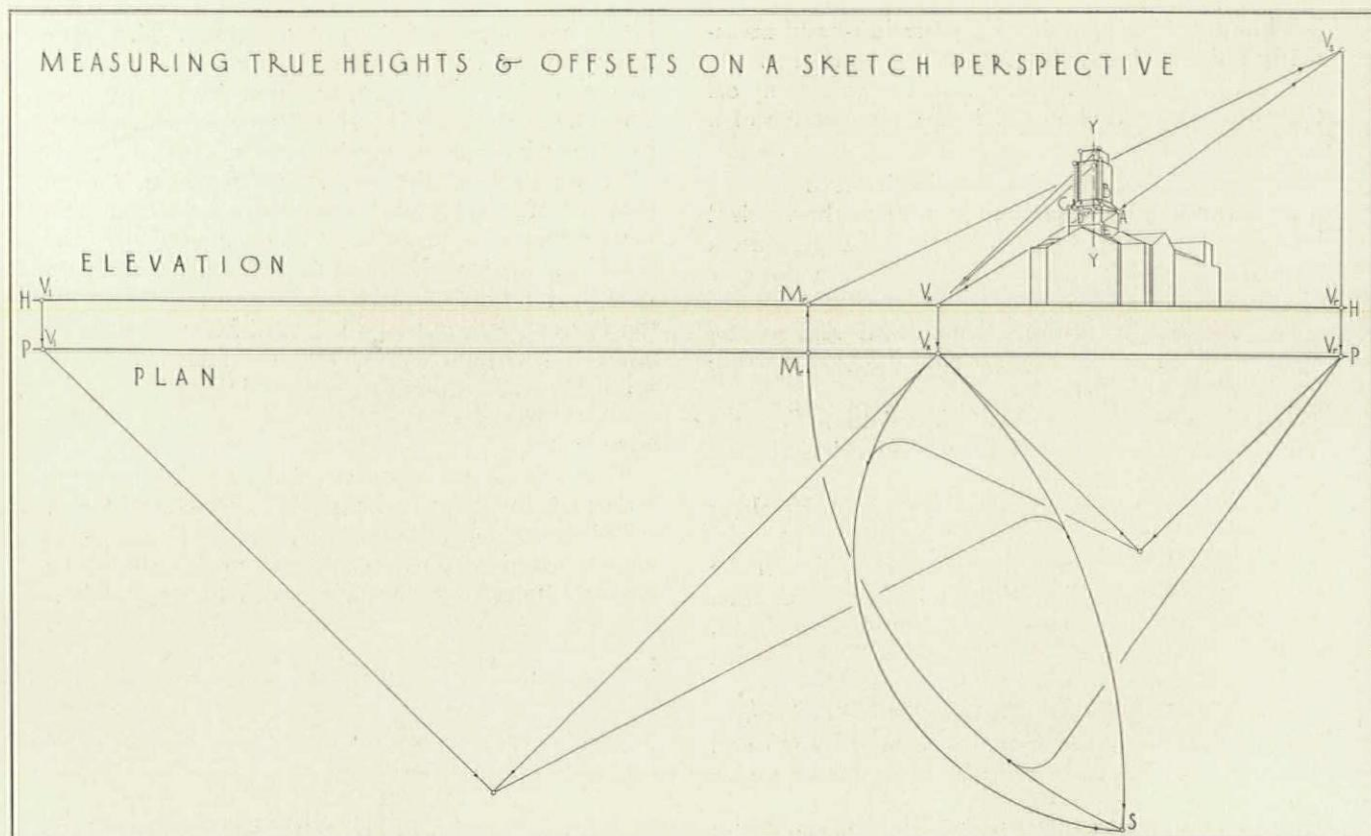


Figure 10—Measuring True Heights and Offsets on a Sketch Perspective

Through the intersection of diagonals AC and BD draw the vertical axis YY of the tower. Then the diagonals of the basic squares of the main blocks of the tower meet on this axis.

Continue BD to meet the horizon at V_x .

At any elevation which you wish to determine, find the corner of the basic square which corresponds to B , and draw the diagonal toward V_x . These diagonals divide axis YY in segments which are in true proportion to the actual heights.

3. *The Actual Height of the Base Block.* Transfer V_1 , V_x , and V_r to plan, and find station-point S just as in Step II, above (Fig. 2).

The next step corresponds closely to step IV above (Fig. 4): finding the true proportions of the right-hand face (Fig. 10).

In elevation, through vanishing-point V_r draw the vertical horizon.

Draw the diagonal EA of the right-hand face of the block, extending it to vertical horizon at V_s .

In plan, rotate station-point S about vanishing-point V_r into picture-plan PP , to give M_r ; project M_r to horizon HH in elevation.

In elevation, draw $V_s M_r$; the slope of this line represents the slope of the diagonal of the vertical face of the square block; and this slope, together with the known length of the face in plan, immediately gives the actual height of the block, corresponding to BE in the perspective.

If it turns out that V_s is inconveniently far off, instead of using point E , take a point midway between B and E , and measure half the height of the block.

In either case, you now have the actual height of one block, and the relative heights of all; the other actual heights can be found by proportion.

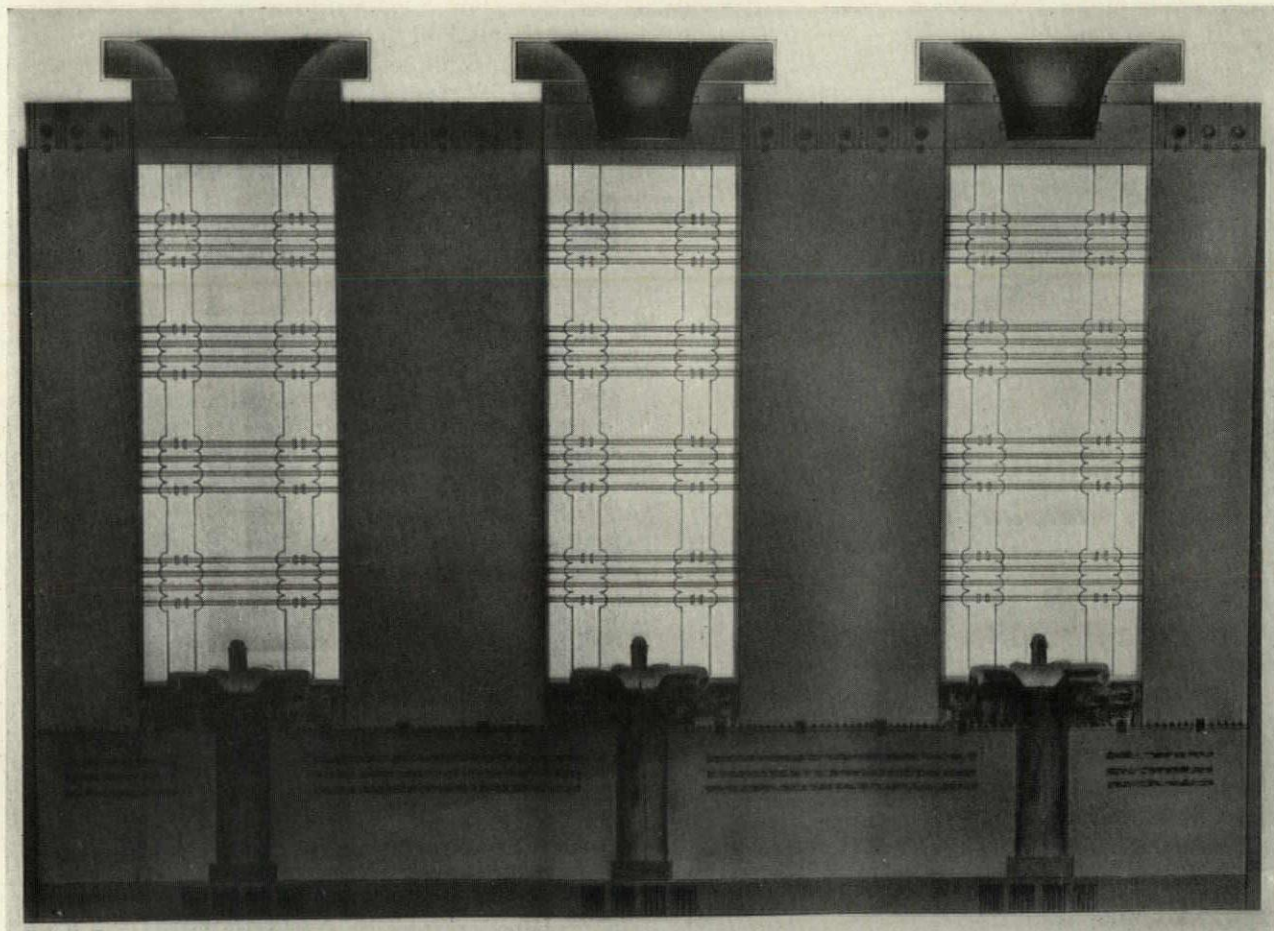
THE TECHNIQUE OF AIR BRUSH

By WILLIAM J. AULL, Jr.

NEW tools and new buildings; young men with new ideas—and we have to keep up with them all. Templates, “Smooch,” dust, rouge, and now comes the air-brush—perhaps the swiftest method of securing fine architectural renderings. In times past you have looked in awe at prize-winning drawings and wonderingly exclaimed, “How is it done?” Those beautiful graded sky washes; perhaps an interior or a plan rendered without a pencil or an ink line showing. Maybe you have been looking at the graduation of color and the delicate fusion of one color into another. How is it ac-

complished, you wonder. The answer perhaps is: the air-brush method.

With the trend of building turning towards masses and large plain surfaces, the delineator is handicapped with the older methods because he cannot render correctly the different surfaces. His modern brother, equipped with the air-brush, can color these surfaces with the correct tone, at the same time utilizing the newest of paints such as opaque, water, oil, Duco, enamel, and metallic colors, and still give the tonal graduation on rounded surfaces. Time, too, is an important factor in the completion of most drawings. The academic brother using Chinese ink and laying one wash on top of another until the desired shade is reached never has the time left to render detail and the more important parts accurately. By the older methods he is forced to wait many hours for washes to dry. With the air-brush technique, the drawing does not have to be traced or rubbed onto the final sheet, but may be rendered directly from the enlarged tee-square and triangle study. This makes for the particular softness so greatly desired in the modern renderings. The wash itself is laid on with one short blow and dries immediately. A variety of effects may be produced de-

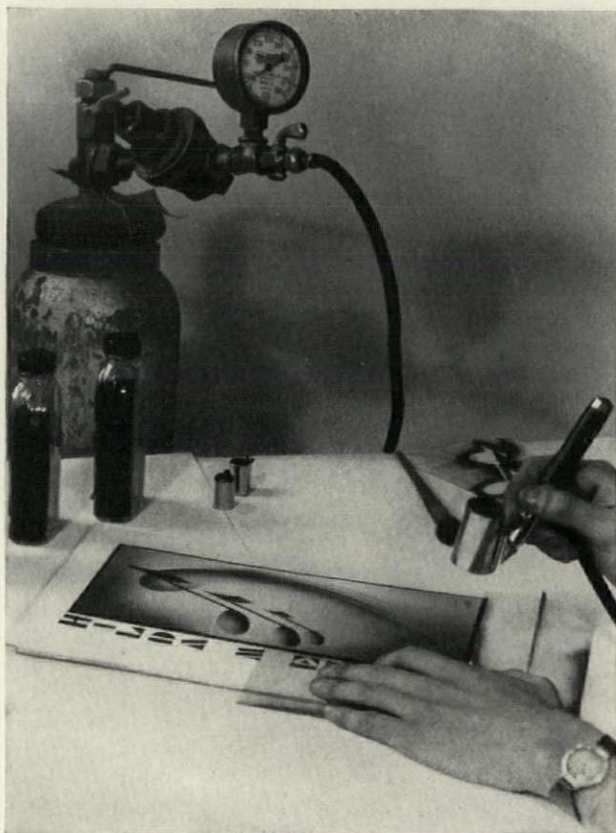


Rendering made by the author with an air brush, showing some of the effects that may be obtained with this flexible and modern medium. Even the decorative line work of the windows was done this way

pending on the colors used, the nature of the paper, and the manner in which the operator handles his equipment.

The required equipment for air-brush rendering is simple and easily obtained. If one wishes to spend the money for a new outfit, any good artist's supply house will furnish it. However, some of us are not so flush with money; we must purchase otherwise, or make the parts ourselves. In the end, one appreciates an outfit more when he has had a part in assembling it. In general, the plan is to purchase a new or second-hand air-brush. This instrument, new, will cost between twelve and fifteen dollars. It should be capable of painting a hair line or a swath up to four inches in width. Any good make will do; there are three on the market.

The subject of air pressure comes next. If there is not a compressed air supply in the building where you work, either buy a compressor or rent a tank of carbonic gas (the same as used in beer parlors, and not bad for whiskey and soda in your studio). The compressor is "out of sight" in price, but the tank may be rented for about four and one-half dollars (tell them what you want it for, and avoid a tax). This tank is only rented and must be returned when the gas is gone. My container lasts from eight to ten months, using the air-brush almost every day. Attached to the top of the tank there must be an air gauge and a pres-



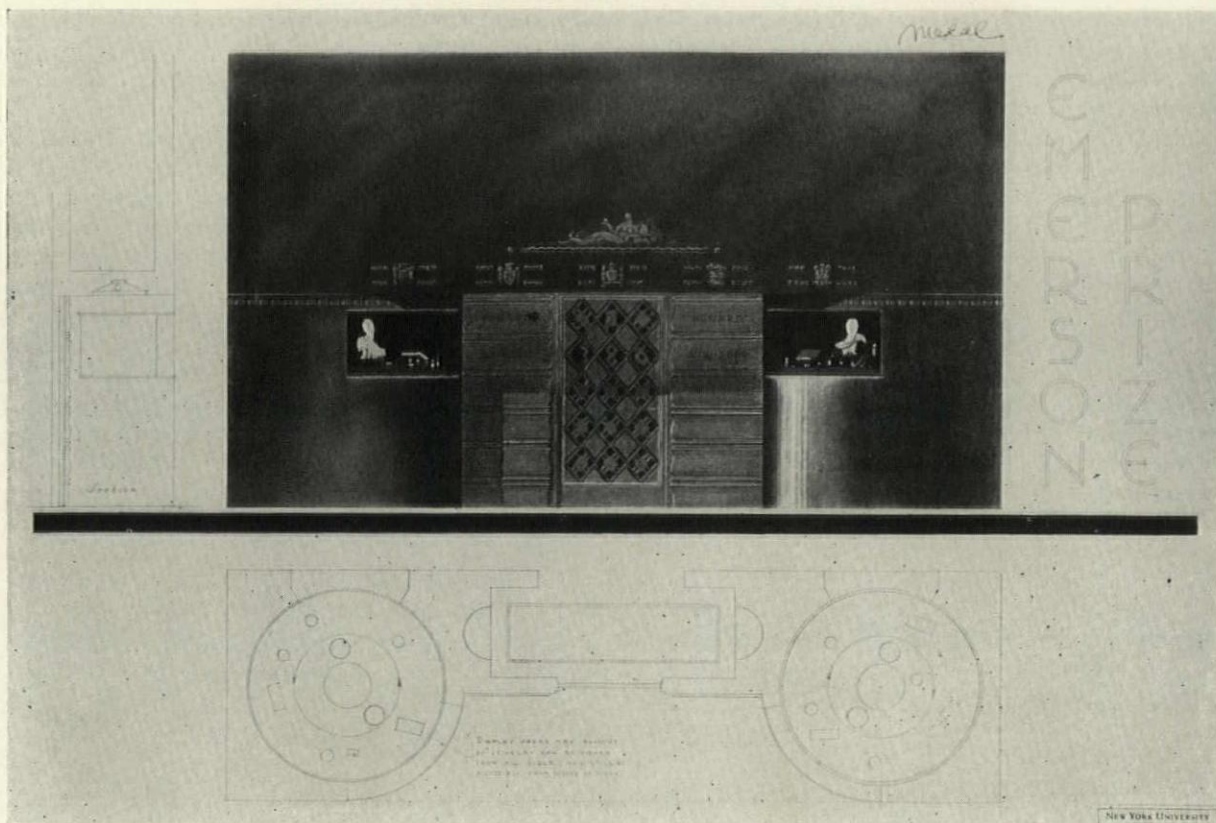
A close up view showing the author's air brush in action

sure valve. The pressure used at the air-brush is only 25 pounds to the square inch, while in the tank itself the pressure will run between 200 and 400 pounds. This gauge will give a reading of the pressure at the brush. Unless one wishes the added expense of another gauge, there is no method of telling the actual pressure within the tank. There is really no need for this reading so that a second gauge is not essential. A new gauge will cost twelve dollars or more. I suggest going to an automobile repair shop which deals in radiators, talking sweetly to the manager, and getting him to sell you a second-hand gauge, accurate enough for air-brush operations. A note of warning—do not pay more than five dollars for the used gauge. Take the outfit to the store where you purchased the carbonic gas and allow experts to fit the gauge with washers and necessary couplings. All that is needed now is a hose to lead from the tank to the air-brush. This is a special cloth-covered air hose, and can be purchased at the store where you bought the brush. It will cost about ten cents a foot. The hose should be at least eight or ten feet in length. The outfit is now complete and ready for operation. From now on it depends on the ingenuity and artistic ability of the operator. Suggestions can be made and one person's method followed, but as time goes on a certain technique peculiar to the operator is developed.

The actual application of paint to the drawing is simple. Merely hold the air-brush a short distance away from the paper and press the release valve. When you keep the air-brush in one position small gobs of paint will form; if the instrument is held too close to the paper a heavy dense line or blurb results. It is well to make a few practice strokes on an old sheet of paper until you acquire a delicate finger touch on the valve. Perhaps it will be necessary to adjust the paint release with the thumb tip to make the desired width of swath. After a short time the operator can achieve any of the results common to older methods, and with a little confidence and skill he will be able to complete many more effects.

Most of us have employed templates when blowing sky-washes or in using chalk dust or charcoal. With an air-brush the procedure is much the same. Several templates will be needed; all of simple form; some with rectangular or angular cut-outs; others with irregular curves, circles, etc. Templates cut to fit, say one egg and dart of classic molding, will serve for the entire run. Merely move it along, blowing each part until the entire mold is completed.

These templates should be cut from a good weight drawing paper or, better still, from a thin, transparent sheet of celluloid. The paper has the disadvantage of being opaque, while with the celluloid the artist is able to look through the



This drawing by Erling F. Iverson of New York University shows a skilful use of the air brush technique in rendering a modern elevation

template at other portions of the drawing and judge tonal values. Some small weights are a great help in holding down parts of the templates while you are blowing a wash. There are many times that two matts or templates may be used together to form an odd angle. If the operator will but bear in mind the technique of matt work in the use of dust, he will be able to apply many of the tricks to air-brush work. Irregular holes torn in paper and held a short distance from the drawing while the paint is sprayed through the aperture will make excellent trees in plan or elevation, while long irregular tears in a blotter, used in the same manner, will render attractive clouds.

Differently textured papers will give as many differently textured renderings. One is not limited here as in many other mediums; air-brush will work on anything. One of the finest drawings I have ever seen was rendered with Duco paint on a window shade. Black paper with opaque whites, and colors, will make splendid night scenes if well executed with air-brush. A very rough or laid paper will give a subtle effect. The illustrator's "Ross" board may be pressed into service with the whites scratched through.

No need is there to make a labored rubbed-on drawing. Simply lay the tee-square-triangle-tracing paper study over the clean stretch and place the templates or matts accordingly. Then blow through

them with the brush. There will be no sharp edges and the entire effect will be soft and attractive. Stronger darks may be picked out later with the pen or pencil.

Another advantage of the air-brush technique is that it allows an operator to pick out the highlights after the air-brush work is completed. Bring out the long highlights of cornices by running the ruby eraser along the side of the straight-edge or erasing shield. Keep in mind that the large graded shadow washes are where the air-brush "comes into its own." Different colors may be used here. The wash may start down in a definite blue and gently grade to a blue-black or purple. To accomplish this you change the colors in the paint cup on the side of the air-brush. The operator need not fear to stop a wash and complete it later, for there is no limit to the colors which may be worked over each other. Many interesting and different effects may be created in this manner. The rendering of glass areas may be done so convincingly that it would tax an expert to prove there was not a piece of glass pasted on the drawing.

Chinese ink is a medium which of late has been in the discard. Try using some of this ink mixed with a small quantity of burnt sienna for a drawing that is going to be reproduced. You will be amazed at the finished quality of the reproduction. It is well to remember that the more potent

and dense an ink, the better the wash. One stroke with a dense ink in the brush will cover an area where with a lighter and more dilute ink you must wait for one coat to dry before applying another. One should bear this in mind when mixing paints for use with an air-brush. There is no need to mix several cups of paint varying in depth of tone because the length of spraying on any one part with a dense ink will determine the depth and transparency of the wash.

Water colors are the paints most easily used by the amateur. Fountain pen ink, show card colors, and dyes all have their place and are useful after one becomes skilled in the operation of the air-brush. Some dyes, however, are poison to the lungs.

In the booklet of directions which the manufacturers supply with each air-brush you will find a warning to clean the instrument at the comple-

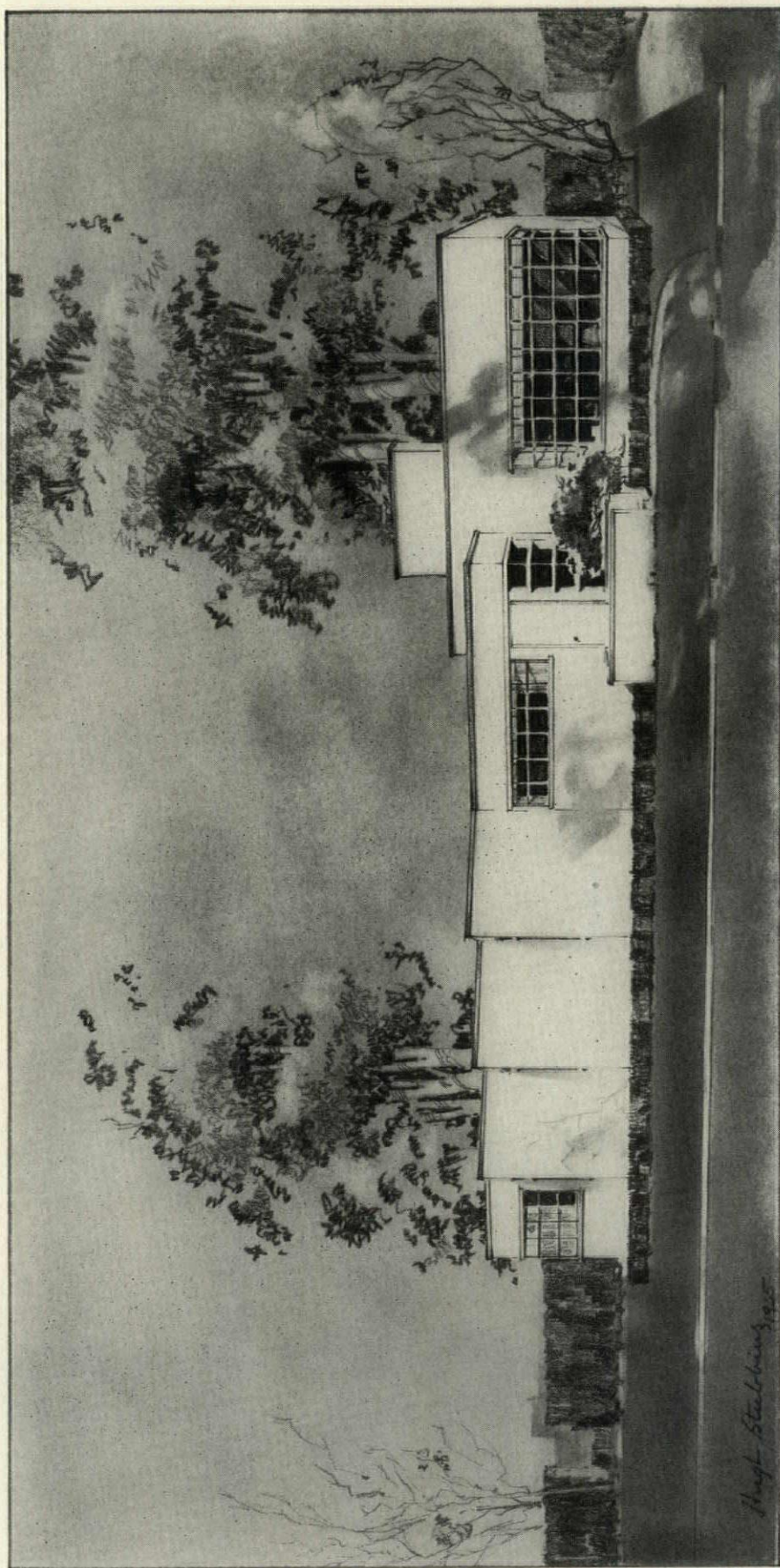
tion of each day's work. This advice is easily forgotten but in following the directions you will prolong the life of the brush and simplify its operation on the following day.

Remember to turn off the gas tank outlet when finished with the air-brush as gas will leak out unless all connections are closed tightly. Leakage costs the operator money and many a heart-ache when he finds all of his gas has escaped during the night. As a word of warning, never attempt to oil any part of the apparatus because oil is highly explosive when subjected to high pressures!

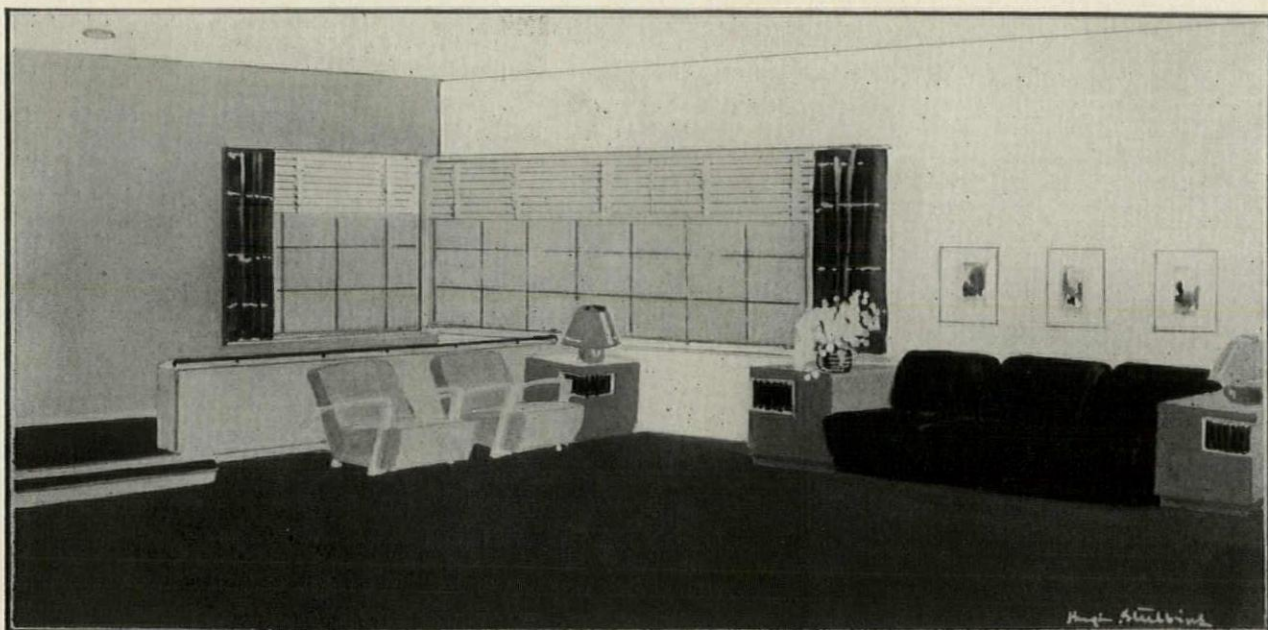
A little practice and a little time with this exceedingly interesting medium will prove so worthwhile to the delineator that he can afford at least to try it. And if a wager is in order, I will say that the artist who tries the air-brush will never relinquish the instrument for twenty times its cost.



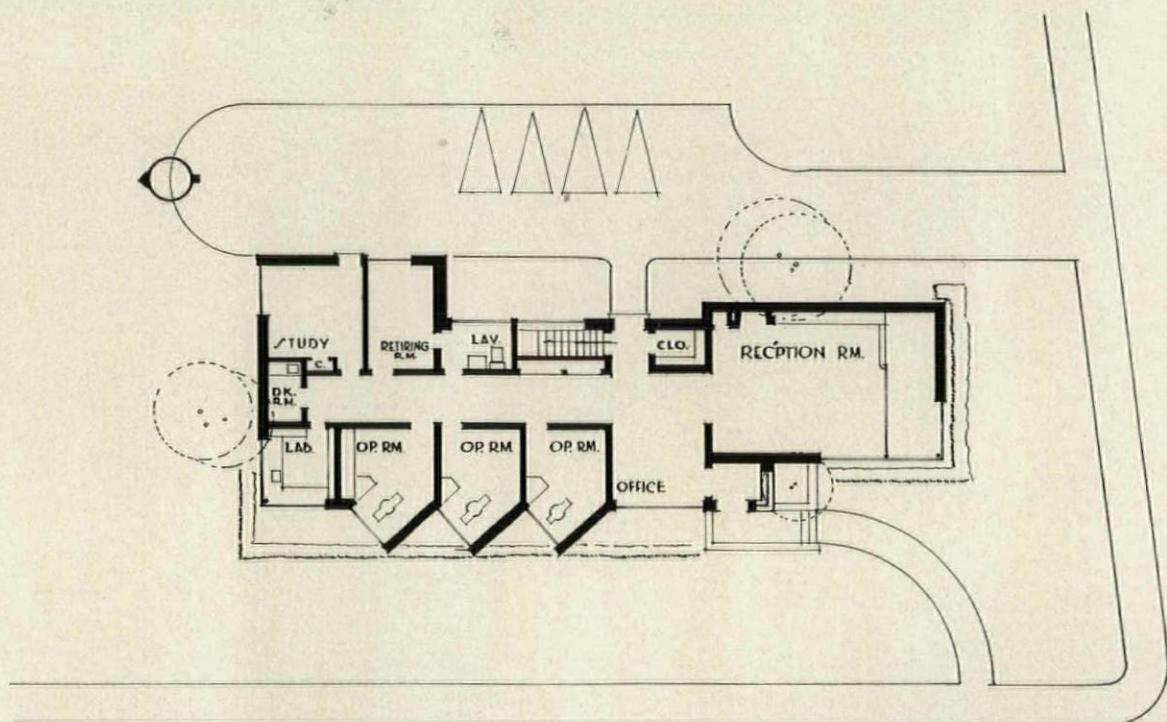
A plan rendering by Arnold A. Arbeit of New York University suggests how successive layers of frisket paper templates may be used advantageously with the air brush technique to bring out topographical contours



A small building for the Dental Office of Dr. F. A. Trevor, Melrose, Massachusetts. Royal Barry Wills, Architect. Rendering by Hugh Stubbins. A modern trend in doctors' offices is toward individual buildings centrally located but on the edge of residential neighborhoods. Such a professional building may serve both the doctor and his patients more adequately than an office building suite or a part of a residence. Much greater freedom of plan is permitted and opportunity is afforded for all the latest requirements for a professional man without involving excessive cost



Reception Room in Dental Office by Royal Barry Wills, Architect. This is a pleasant sunny room decorated with admirable simplicity and furnished with comfortable contemporary furniture. The corner window looks out across the street upon a neighboring lake, a fact which justifies its odd location



Plan of Dental Office at Melrose, Massachusetts, by Royal Barry Wills, Architect. The operating rooms are arranged in sawtooth bays on the front of the building where they get the desired north light. Beyond is the laboratory, arranged for experimental and general practice. Then there is the dark room for developing X-ray photographs, adjoining which is the doctor's private study. At one end of the reception room is a raised platform enclosed by a railing. This serves both as a lecture platform and as a place for children to play while parents are being operated on by the dentist. The whole plan is simple

PENCIL POINTS DATA SHEETS

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

FACTS AT YOUR FINGERTIPS

Each month 4 *Data Sheets* appear in *Pencil Points*. They present those facts which are constantly needed in the drafting room in telegraphic form for quick reference. The *Data Sheets* are designed to save your time and your tempers in searching for elusive facts. Readers are urged to write to Don Graf, *Pencil Points*, with criticisms or suggestions.

Last month 8 manufacturers announced free sets of *Data Sheets* on their products. We had quite a job on our hands to prepare all this material for these manufacturers. All the manufacturers received floods of inquiries for their *Data Sheets*. So, if you did not receive these sets you wrote for as promptly as you expected, you know the reason why. Almost 800,000 separate *Data Sheets* were printed to answer the inquiries received by these 8 manufacturers. The *Data Sheet* Department had been on *charrette* in dead earnest to make the drawings and prepare the text.

If you have not already done so, send now for all the manufacturers' *Data Sheets* that have been published to date. Do not send to *Pencil Points* for these as the sheets are only available from the individual manufacturers who sponsored them. In the advertising section of this issue you will find a 2-page description of the *Data Sheet* plan. This contains a complete check list of all the manufacturers' *Data Sheets* which have been issued.

The manufacturers' *Data Sheets* contain a wealth of information on basic principles of planning and mechanical design. They are fully as valuable

PENCIL POINTS DATA SHEETS CHECK LIST OF CULINARY EQUIPMENT

Prepared by Don Graf, B.S., M.Arch.

Sheet No.
D3d
Feb., 1936

SINK EQUIPMENT

- 1 set kitchen cutlery
- 2 teaspoons for tasting
- 2 wooden spoons (10-inch and 14-inch)
- 1 corkscrew and bottle opener
- 1 chopping bowl and knife
- 1 cake turner (if no bread spatula in cutlery set)
- 1 breadboard
- 1 utility tray
- 1 colander
- 1 rolling pin
- 1 potato ricer
- 1 flour sifter
- 1 bread box
- 1 cake box
- (last three items only if they are not part of the cabinet)
- 2 wire strainers (3-inch and 6-inch)
- 2 sets measuring spoons

GLASSWARE AND CHINA

- 8 service plates
- 8 dinner plates
- 8 dessert or salad plates
- 8 cereal dishes
- 8 breakfast or luncheon plates
- 8 soup plates
- 8 bouillon cups
- 8 cups and saucers
- 8 egg cups
- 8 sherbet glasses
- 2 vegetable dishes
- 1 sauce or gravy bowl
- 16 glasses (water and iced tea)
- Relish, candy and nut dishes
- 1 teapot and stand
- 1 cream pitcher
- 1 water pitcher
- 1 sugar bowl
- Salts and peppers
- 1 large platter
- 1 medium platter

- Other glasses for wines, cocktails, and beer may be added according to needs.

FOR KITCHEN CABINET OR WORK TABLE

- 1 coffee-making device (percolator, filter, etc.)
- 1 set storage jars (spices, cereals, teas, coffee, etc.)
- 5 mixing bowls, nested, ½-pt. to 2-quart capacity
- 2 standard measuring cups (1 glass, 1 aluminum)
- 6 custard cups
- 1 grater
- 1 dough blender
- 1 fruit juice extractor
- 1 set cookie cutters
- 1 set muffin pans (6 or 8 in set)
- 2 or 3 casseroles or baking dishes, 1 quart, 2 quarts
- 1 egg beater

- FOR STORAGE CABINET
- 1 Dutch oven
- 1 square cake pan, 10 x 10 inches
- 1 oblong loaf-cake pan, 10 x 5 inches
- 2 layer cake pans, 9-inch
- 1 griddle, 10-inch
- 2 pie plates, 10 inches
- 1 roasting pan, 15 x 10 inches
- 1 saucepan, straight or convex (covered), 6 to 10 quarts
- 2 wire cake coolers
- 1 food chopper
- 1 steamer or waterless cooker
- 1 roll waxed paper, (covered)
- 2 or 3 waxpans (covered)
- 2 to 4 quarts
- 1 funnel
- 1 beater (whip)
- 1 toaster
- 1 set refrigerator dishes (including 1 large covered vegetable container)

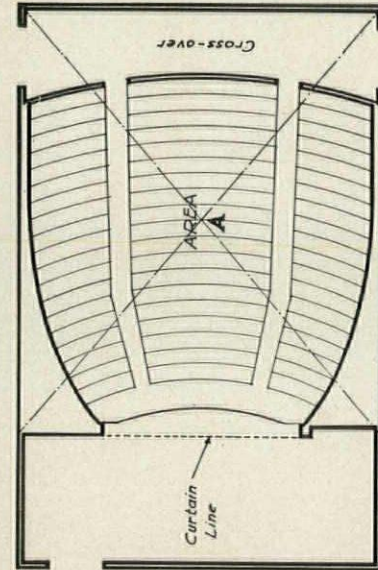
TO KEEP NEAR RANGE

- 1 salt and pepper and flour shaker
- 1 potato masher
- 2 frying pans, 4 inches and 8 or 10 inches
- 1 double boiler, 1½ quarts
- 1 basting spoon
- 3 lipped saucepans, 1 pint, 1½ pints, 1 quart
- 1 tea kettle

PENCIL POINTS DATA SHEETS AREA PER SEAT FOR THEATERS

Prepared by Don Graf, B.S., M.Arch.

Sheet No.
D9a
Feb., 1936



The following table gives the seating area of a number of auditoriums. It will be seen that the square feet to be allowed for each seat varies between fairly wide limits. The highest figure shown represents a 25% increase over the lowest. In making rough seating calculations it would be safer to allow 7 square feet per seat than the usual 6 square feet that is recommended by some authorities. Note that the seating area has been taken as the distance from the curtain line to the rear wall of the cross-over. The plans from which these calculations were made were loaned by Heywood Wakefield Co.

Name of Theater	Floor	Area "A"	No. of Seats	Sq. Ft. per Seat
Fred W. Wahrenburg Theater, St. Louis, Mo.	Main Floor	8,549	1,308	6.53
Ritz Theater, Baltimore, Md.	Main Floor	7,484	1,004	7.45
25th St. Theater, Newport News, Va.	Main Floor	3,278	549	5.97
Teatro de Comedia, Mexico	Mn. Fl.	3,662	490	7.47
Junior and Senior High School, Dobbs Ferry, N. Y.	Balcony	2,134	349	6.11
Ritz Theater, Columbus, Ohio	Balcony	4,666	627	7.44
Virginia Polytechnic Institute, Blacksburg, Va.	Main Floor	1,737	257	6.75
		4,669	702	6.65
		21,098	3,003	7.02

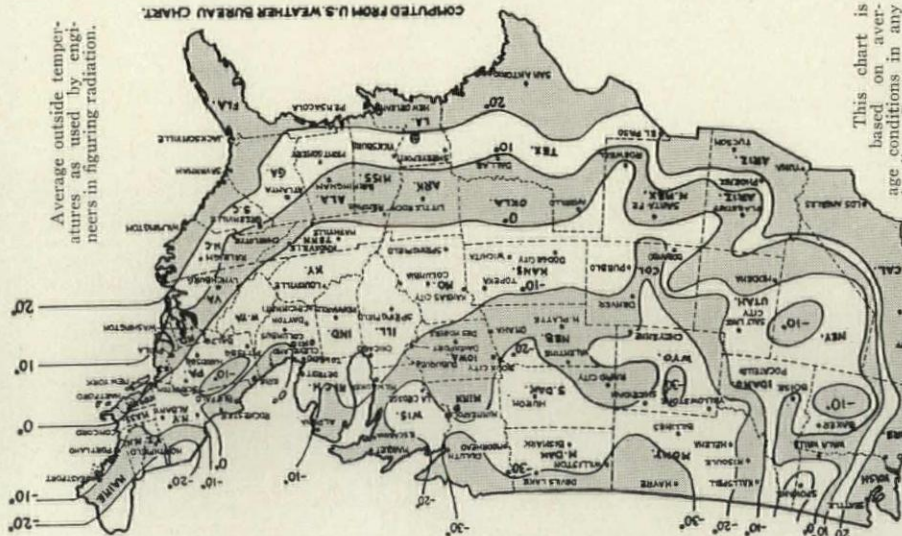
as reference material as are the sheets appearing on these pages. No *Data Sheet* library is complete without all of them. None of these manufacturers' sheets contain sales talk for the manufacturer's product—they tell you in a straightforward way how wide, how thick, how heavy, and the principles which govern the use of that type of product. There are no superlatives. To say that a manufacturer has had his product *data-ized* is the same as saying he has had his literature on them *debunked*.

DATA SHEET NO. D3d.
In planning the kitchen and in designing drawers and cabinets, this check list will serve as a guide to determine their adequacy as well as their location.

DATA SHEET NO. D9a.
The area to be allowed per seat for theaters depends upon the width of seats that is used, their distance back to back, the number of aisles that are required by law and by the peculiarities of the lot—so that no hard and fast rule can be determined. However, this Data Sheet will serve as a rough guide in making preliminary calculations on sketches.

DATA SHEET NO. E2g.
Last month we printed 4 Data Sheets on the calculation of heat losses by the Btu method. The Data Sheet presented here forms a part of this series.

DATA SHEET NO. G8b.
This Data Sheet for your section on estimating is printed to show the relative costs of the various items that go to make up a building and should serve as a guide when it becomes necessary to design and specify with the greatest economy.



This chart is based on average conditions in any locality. It does not cover special conditions such as high elevations in a normal level district.

Example: Knoxville, Tenn., usually figures 0° to desired inside temp.
Portland, Me., 10° to desired inside temp.

Courtesy Hoffman Specialty Co.

WHERE THE BUILDING DOLLAR GOES

Contract price	\$1,875,178	100.0%
Pay rolls on the job	505,134	26.9%
Cost of materials on the job	1,055,130	56.3%
Overhead and miscellaneous*	314,914	16.8%

* Includes such items as office work, rent, insurance, workmen's compensation, depreciation of equipment, etc.

Data compiled from reports by contractors on 54 small and medium sized buildings erected in various parts of the U. S. Types of buildings covered were schools, office buildings, barracks, officers' quarters, Coast Guard stations, etc. The percentage paid to labor varied on different jobs from 12c to 49c, material ratios from 38c to 84c.

VALUE OF MATERIALS USED IN 54 BUILDINGS

All materials	100.00%
Aluminum manufacturers .....	.19%
Brick, hollow tile, and other clay products	11.01%
Cast-iron pipe and fittings	7.70%
Cement	7.35%
Coal .....	.15%
Concrete products	2.98%
Copper products .....	.81%
Crushed stone .....	.25%
Doors, windows, molding and trim	1.59%
Electric wiring and fixtures	3.68%
Electrical machinery, apparatus, and supplies .....	.08%
Elevators and elevator equipment .....	.05%
Explosives .....	.07%
Foundry and machine-shop products	1.25%
Furniture	2.63%
Glass .....	.56%
Hardware, miscellaneous	2.40%
Heating and ventilating equipment	6.66%
Limoleum .....	.20%
Lumber and timber products, not elsewhere classified	11.08%
Marble, granite, slate, and other stone products	3.36%
Nails and spikes .....	.19%
Nonferrous-metal alloys and products .....	.16%
Packing, pipe and boiler covering and gaskets	1.39%
Paints and varnishes .....	.09%
Paving materials and mixtures .....	.20%
Petroleum products	6.27%
Planing-mill products	6.78%
Plumbing supplies, not elsewhere classified .....	.36%
Pumps and pumping equipment	2.82%
Roofing materials, not elsewhere classified	3.80%
Sand and gravel	1.21%
Sheet-metal work	2.51%
Steel products, not elsewhere classified	11.68%
Structural steel and ornamental metal work .....	.05%
Stoves and ranges, other than electric	1.39%
Tiling, floor and wall, and terrazzo	1.87%
Wall plaster, wall board, and floor composition .....	.01%
Window and door screens and weatherstrip .....	.09%
Window shades and fixtures .....	.44%
Wire products, not elsewhere classified	1.41%
Other	

A. L. Gaptill's Corner

A LITTLE DEPARTMENT OF ARCHITECTURAL ESTHETICS, WITH EMPHASIS ON **SKETCHING AND RENDERING**



A NIGHTMARE(?) ABOUT COWS, ETC.

I'm not a person to be influenced or affected by dreams, as a rule, but I had one the other night which is still surprisingly vivid in my mind.

For the most part I was floating along without effort—I don't recall my conveyance, if any—over my familiar New England and New York states. And the building boom had arrived! And how! Whether in village, city, or country, every existing building—yes, even each armhouse—was being demolished for obsolescence and replaced with new. Government decree! And the new were all substantially alike, a stereotyped form of the flat-roofed, pipe-railed, angular, barren, factory-like modernistic stuff.



A MODERNISTIC KINE STABLE

Out of this haze of memories comes another side impression. I recall watching with keen interest the demolition of a large cow-barn, and the substitution, apparently in a few minutes, of a flat-roofed affair of prefabricated type so designed as to roll along under its own power (that couldn't be horse power, could it?). It was explained to me that its chief virtue was that the cows, comfortably housed, could eat the grass over which they passed while, simultaneously, new seed, manure, etc., was automatically planted to insure another crop.

And so the dream went on, far, far into the night. It had no significance, of course, and I relate these bits only because they had me so worried that I vaguely recall thoughts of leaving the U. S. A. for some less regulated country. And, honestly, ever since this dream even the worst of our old architecture looks pretty good to me.

But now to serious business. In the interior rendering projects of the past two issues, attention was given to the means of obtaining a suitable viewpoint, angle of vision, etc. This month we return to the all-important matter of values. Let me repeat that all of us need more

understanding of this vital matter; values can make or break any rendering.

In rendering interiors, it is not enough to have the values naturalistic. In fact natural values vary greatly; not all natural arrangements would serve our purpose to advantage. Most interiors, as we view them and live in them, are inadequately lighted from the renderer's viewpoint. What does the photographer do when he comes to photograph them? Uses artificial light? Exactly. And that is what the renderer often has to do.



VALUE JUGGLING IS IMPORTANT

Sketch 1, Sheet 5, shows an effect of natural lighting, such as is often observed when, in the daytime, we turn towards a room's only source of illumination. The light outside appears relatively so bright that the sash, even if white, looks dark against it, as do the other surroundings. To paint such an interior impression truthfully it would be necessary, as here, so to darken the walls and furniture that they would be almost lost in gloom. Natural? Yes, but of little value as an interpretation of architecture. Consequently the renderer usually selects values better suited to his need. These are sometimes a mere modification of what nature offers, as at 2, though frequently he, like the photographer, arranges his lighting to his own advantage, throwing it from any desired direction, and with any intensity.

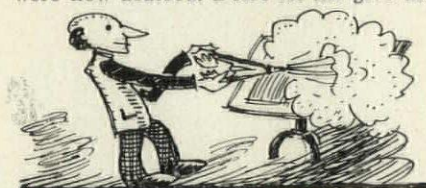
Sketches 3 and 4 offer another key to logical value juggling. If you look in a single direction (as at a quick glance) towards some portion of a room, those areas directly opposite the eye, and so in clear vision, normally appear distinct. You can see all their details. Their colors show plainly. You are aware of all their contrasts of light and shade. But whatever the condition of other parts of the room—those areas outside this field of focus—unless you shift the eye they will gradually grow less and less distinct as they become more distinct from the center of vision. The delineator sometimes renders in exactly this manner, mainly because it proves convenient. He includes within his field of focus the elements which are vital to his purpose. Things outside of this area, if he shows them at all, he blurs or fogs. A striking

illustration of this method is shown at 3, where, in order to maintain interest in the center, sharp contrasts were used, the tones outside them being graded to very strong dark. Thus a sort of spotlight (yet without unnatural shadows) was thrown on the essential areas.

The scheme at 4 is based on the same natural law, but here the whole fades to white paper at the edges instead of grading to dark.

In short, the renderer is able to place his main force wherever he wishes by use of strong contrasts of tone, as in these sketches. He can gain added strength through confining his brightest colors, or strongest color contrasts, to these same limited areas; likewise he can create extra interest by working up considerable detail in such parts.

Let us see again that this emphasis and subordination, wherever needed, can be secured by this controlled system of contrasts. In Sketch 5 the eye was turned towards the window, and so saw the contrasts as shown, those parts which appeared at the left being blurry. At 6 the eye was swung towards the fireplace, instead, which, with its surroundings, became definite, while the areas which were most distinct in the previous sketch were now blurred. Don't let me give the



FOG PART OF YOUR RENDERING

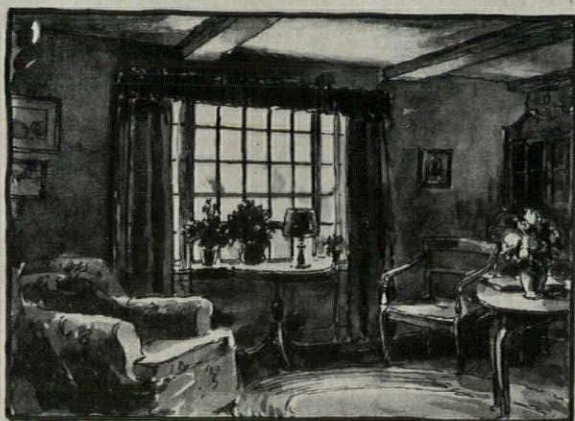
impression that either of these sketches is supposed to be an improvement on the other; the only point is to show that the renderer has it within his power easily to suppress or emphasize whatever he wishes. There are cases somewhat like this one illustrated at 5 and 6 where there is danger of developing two competing centers of interest, each demanding so much attention that their antagonism destroys the unity of the whole.

Doesn't this all demonstrate beyond doubt that values are a thing you must learn to master? In actual practice the way to decide which tones to stress and which to subordinate is by trial. Once your instrumental layout for a rendering is finished, think of some of these possibilities which we have described. Then make a preliminary study over it on tracing paper, perhaps in charcoal or soft pencil (or in pastel if the final is to be in color). When it gives about the effect you desire you can proceed with the final with the assurance of producing a better job than without such a plan, and in less time.

I might add that when you have quite a large drawing to render, and your time is short, you can often concentrate on a vital but limited area and render that quite fully, then extending a bit of rendering outward gradually into the rest, which can be left practically unrendered.

RENDERING INTERIORS AND FURNITURE

SHEET 5 • VALUES ARE OF THE UTMOST IMPORTANCE •



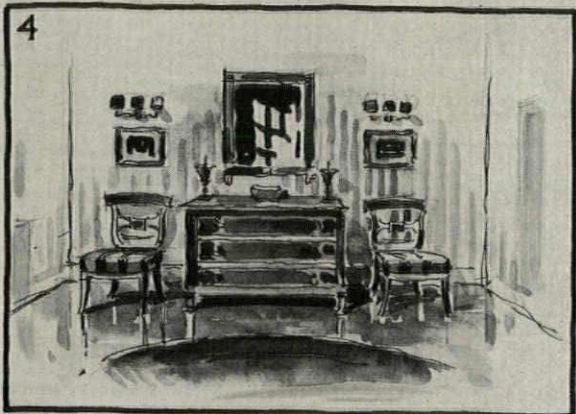
INDOOR VALUES ARE ACTUALLY DARKER THAN THOSE WITHOUT



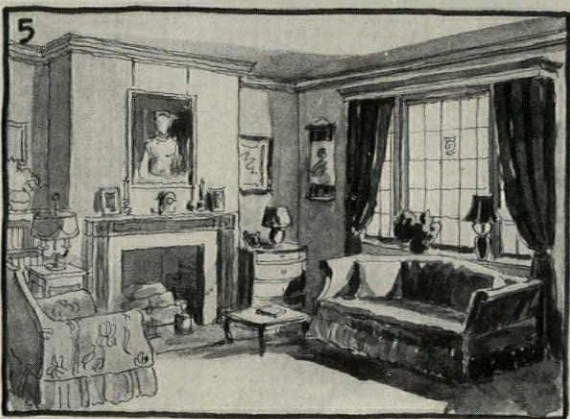
THE RENDERER THEREFORE NORMALLY READJUSTS HIS VALUES



INTEREST IS HERE CENTERED BY DARKENING THE CORNERS



HERE, INSTEAD, VALUES FADE TO NOTHING AT THE OUTER EDGES



INTEREST IS STRONG AT WINDOWS THE FIREPLACE BEING SUPPRESSED



THE VALUES HAVE NOW BEEN ADJUSTED TO "FORCE" THE FIREPLACE

A NORWEGIAN FOLK MUSEUM

By RODGER L. SIMONS

THAT familiar trick by which movie directors are wont to indicate a time lapse, the visible speeding of clock hands, is the sensation one feels at intervals during a stroll through the Norwegian Folk Museum, near Oslo. Relics and reminders from the lusty days of Viking conquest are at peace amid cupboards, tapestries, utensils and other domestic fragments of a thousand years ago, while the timber houses in which they rest are richly poetic memories of a truly distinguished past.

In the fjord lying just west of Norway's capital city is the charming suburb of Bygdøy, a small, tree-blanketed peninsula flanked by mountain heights and surrounded by terraced estates. More precisely speaking, it is really an island and may be reached by either a ferry or a fine motor road.

If you elect to go by the latter route you will have the fun of driving past the modest and curious Summer Palace of the King, and not far from it, in the interior of this little dot of land, amid apple trees and forest giants, is the Norwegian Folk Museum, an open-air collection of Norse antiquities. To this area, a delightful natural park, have been transplanted a great many ancient homesteads and farmhouses, representing various parts of Norway, various schools in her early architecture, various epochs in her national history, and various social categories in her citizenry. Houses, barns, store sheds, and other structures have all been set up again in exactly the forms and the relative positions they occupied in their original sod, with the interiors complete in every detail as to furniture and fittings. The entire group forms an amazing and inexhaustible wealth of Norse lore and legend. An even greater point of delight is found in the eight-hundred-year-old timber parish church on a fir-clad hill and commanding the various buildings which cluster about and below it. The Museum is under the curatorship of Hans Jacob Aall, its founder.

Peasant girls of the different districts, resplendent in their colorful and traditional native costumes, act as guides in conducting visitors about the paths and lanes of this miniature Norway.



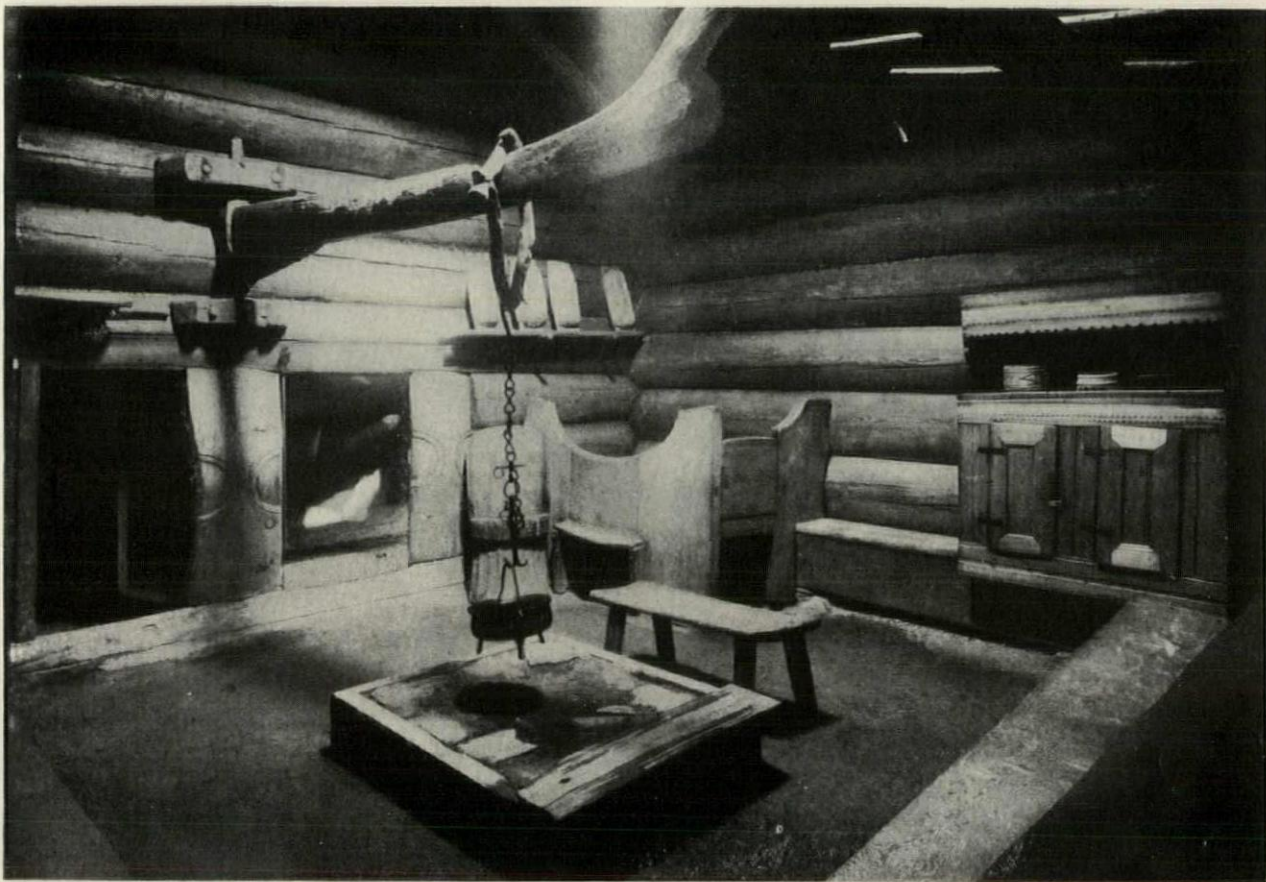
Exterior and interior of the "Stavkirke" or stave church built in 1100 in the village of Gol. Constructed of heavy logs and hand hewn timbers, it will stand for other centuries in its new location near Oslo



Heavy timber construction combined with simple proportions and rich carving at focal points give a strong architectural character to these buildings in the Norwegian Folk Museum near Oslo



Details of the peasant ornamentation suggest the richness and human quality of the old Norse handicraft work. The desire for beauty is rooted deep in the past as these lovely carvings testify



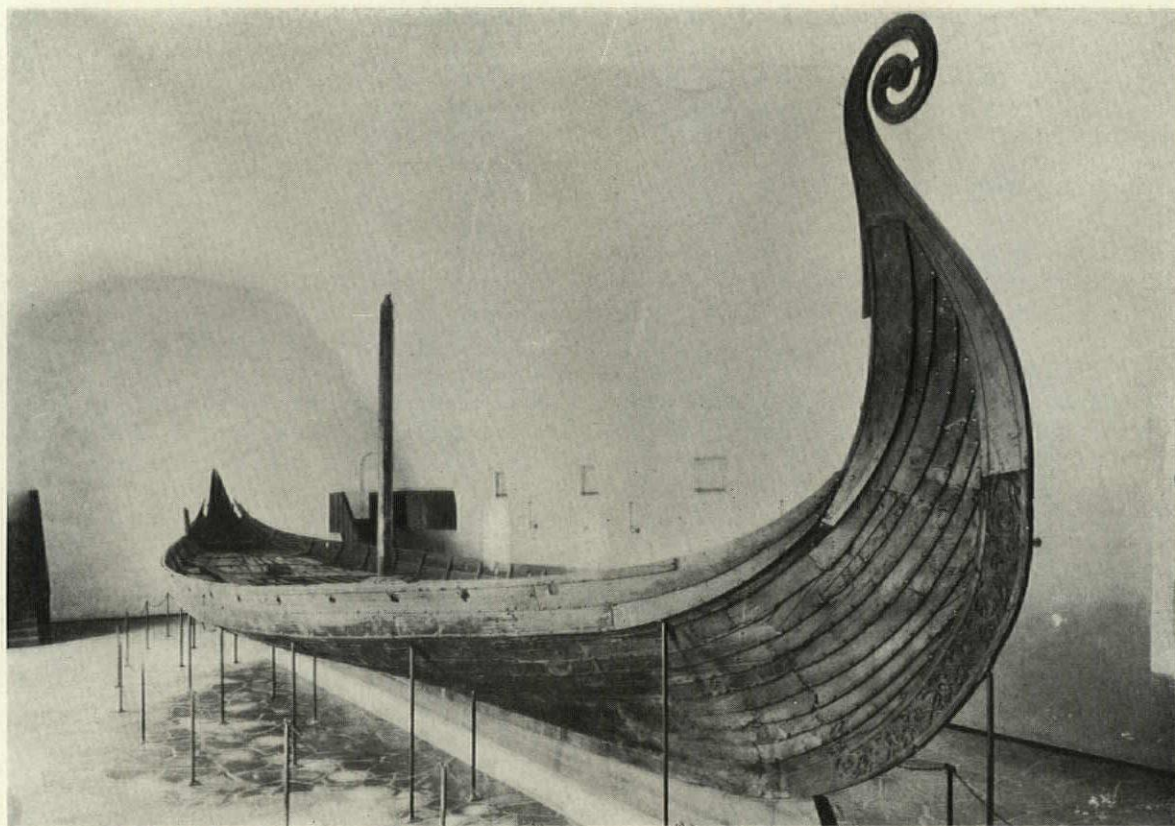
Interior of a Setesdal house. Note the central fireplace. The smoke escapes through a hole in the roof

Here are found the sturdy mountain chalets of Gudsbrandsdal, the richly carved beams of Telemark, the square hewn cabins of Osterdal with their neatly framed windows, and, at the other extreme, the stern, windowless houses of Setesdal. The buildings of Numedal mingle with fishermen's cottages from the neighborhood of Trondhjem and farm homes from Hallingdal. And all form a rugged yet not indelicate pantomime of Norwegian folk history. Though the houses are heavy and solid, built for the most part of massive round logs stretched horizontally, there is a richness of decoration to the structural members. Thus the cottages from Telemark have boldly carved door frames and lintels and are supported at the corners by huge logs relieved by rudely artistic turning, while the group from Setesdal has daintily stalwart wrought iron hinges which would make an American connoisseur of this art leap and howl with envy.

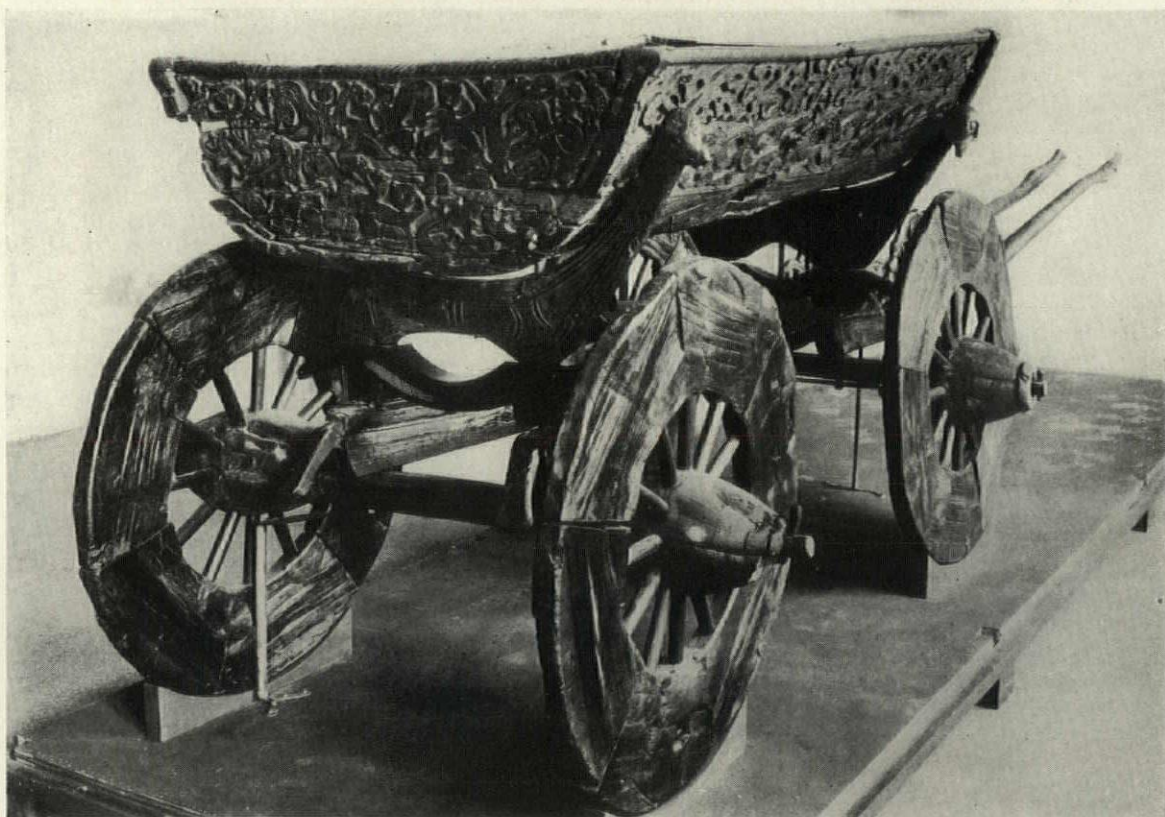
Either "in the flesh" or in the photograph it is hard to make correct deductions as to the exact size and layout of the houses, for many of them have along one side or more a balcony or corridor called a "svalgang." Primarily it is a protection against the rigors of the Norse climate, though the women often sit out on the "svalgang" working with loom and needle. The interiors of the

houses are quite as distinctive as the outsides, a notable feature being the built-in furniture which is characteristic of many. Usually in the form of bedsteads and benches, it is often as boldly carved as the exterior surfaces and, blending with the beamwork of the inside, it seems to achieve a structural unity with the building itself. In the oldest form of Norwegian domestic architecture, represented in the house from the Setesdal valley, the absence of windows is offset by a hole in the roof for the escape of smoke, much in the manner of the Indian teepees of familiar legend. Over a fireplace in the center of the room swings a stout log in the form of a boom or crane from which hang kettles. As you squat on one of the rough benches at the wall there is just enough sunlight drifting through the smoke vent to invest the simple interior with a semblance of delicate shadow. Amid the strong, earnestly utilitarian furnishings it seems to suggest the poetic soul which built these gracious dwellings. The extravagantly stylized architecture of continental Europe loses savor and you rejoice quietly that here is a civilization whose peoples have been more concerned with the preservation of their racial spirit than the erection of musty monuments.

And in a paragraph by itself is the "stavkirke," as it is termed, the stave church, built in 1100 and



The Oseberg Ship—a marvel of early naval architecture and the skill of the Norse builders



A richly ornamented wagon from the Oseberg ship dates about 800 A.D.

transplanted to its present pine-bowered spot from the remote village of Gol in the district of Hallingdal. Of height out of all proportion to its rather limited area and with curious pointed shingles, at first glance it gives the bewildered impression of gables piled on top of gables as they vanish into the clear northern sky. Lusty logs form its main structural members and it is owing to their strength that the old church has remained firm and intact through the rolling centuries. The interior, no less than the outside, is a law unto itself. The vertical logs and huge, stoutly hewn corner brackets would, except for the ecclesiastical mementoes, suggest an American mountain hotel, profane though that comparison may be.

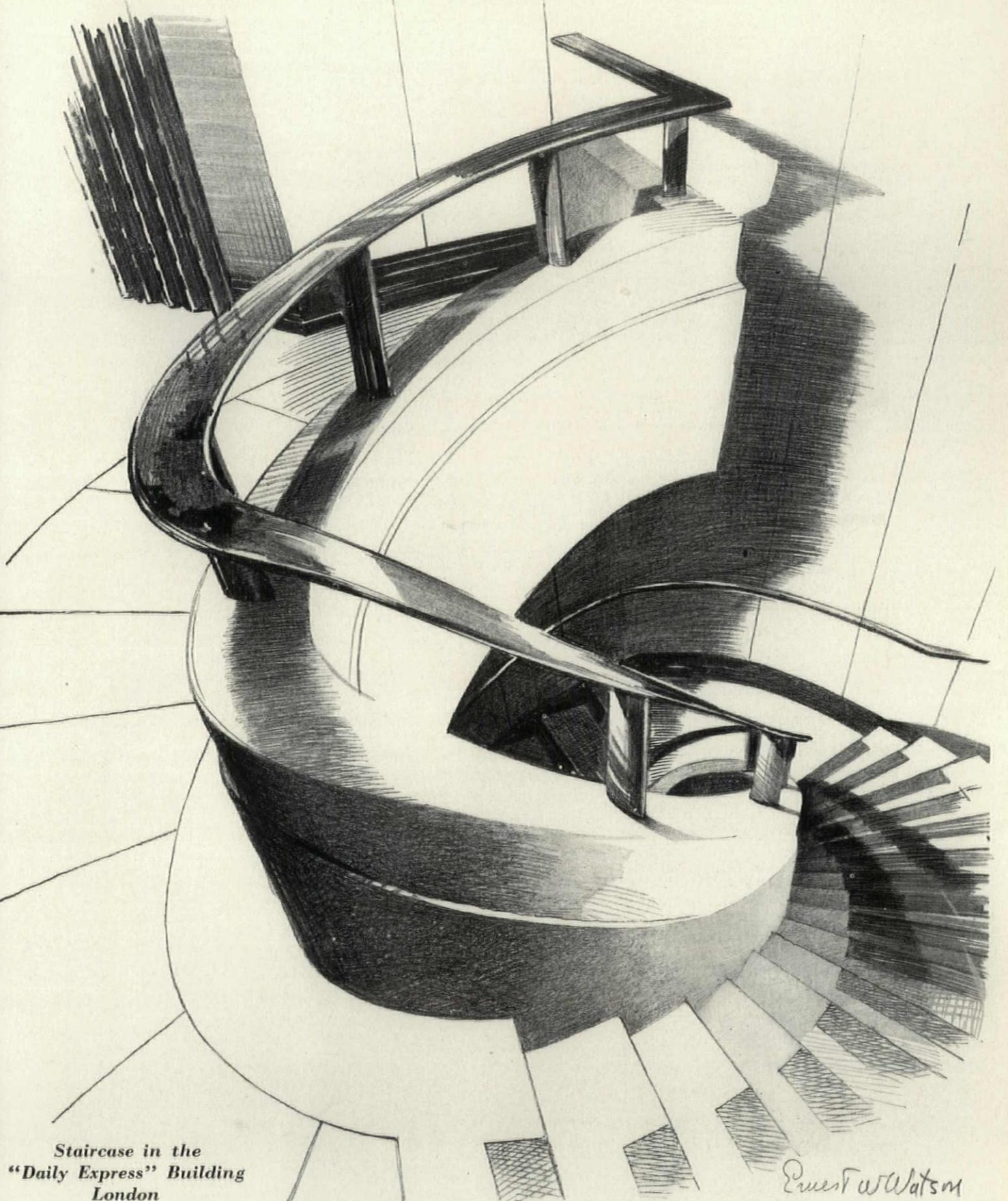
Oddly charming examples of old Norwegian textile work are to be examined in the capacious store rooms of the Folk Museum, chiefly tapestries which, for dignity of design and vigor of decoration, draw their inspiration from the earliest days in Norwegian life. Another feature of the Folk Museum is an open-air theater dedicated to ancient peasant dances, while nearby is a delightful tea room where for the equivalent of 40 or 50 cents you may give your 'tummy the time of its life.

East of the Folk Museum is a building which houses what Norway calls her National Collection of Antiquities, at present comprising three exhumed Viking ships, one of them reassembled and set up as it was in ye olden tyme and the other two in fragments, awaiting the benison of further funds. The former, about which there is

much of historic interest, is named the Oseberg Ship, while the two latter ones are called the Tune and Gokstad ships. Like the peasants themselves, all are of the broad-beamed, shallow draft type which, mystery of mysteries, the Vikings used in conquering the most turbulent seas. They offer abundant testimony to Norway's early and long-established seafaring prowess.

Built at about the year 800 A.D., the Oseberg Ship was Queen Asa's private yacht and the tomb in which her highness was interred. A remarkable instance of the skill of the northern shipbuilders, the craft is more than 64 feet long and 15 feet broad, with accommodation for fifteen pairs of oars as well as a mast and the familiar square sail of the Viking sea rovers. Sweeping aft in graceful lines from her delicately curved bow, she is notable for richly carved stem and gunwales and a strength and cleverness of planking. She was every inch a queen's ship, and within the old hull were found many of the queen's private effects. These included a sleigh and wagon, as elaborately ornamented as the ship herself, and a quantity of kitchen utensils, dining services and chests of varied toys, traps and trinkets.

These relics, no less than the folk village a few steps distant, are ample evidence that however bloodthirsty and hard fighting the Vikings may have been professionally, they were not in any sense a barbaric people and they represented and gave inception to an art sense that has become a worthy and fascinating tradition.



Staircase in the
"Daily Express" Building
London

Ernest Watson

ELDORADO CONTEMPORARIES

In this drawing Watson gets the effect of the design and the suggestion of materials with the least possible use of tone.

The metallic quality of the aluminum alloy hand-rail is the result of direct and vigorous pencil strokes. Stone is indicated with tones which almost hide the individual strokes. A sharp thin line used on the treads and elsewhere gives a pleasant technical contrast.

Cameo paper and the softer Eldorado leads were employed here,—5B, 4B, 3B and B. Pencil Sales Dept. 167-I. JOSEPH DIXON CRUCIBLE COMPANY, Jersey City, N. J.

SERVICE DEPARTMENTS

THE MART. In this department we will print, free of charge, notices from readers (dealers excepted) having for sale or desiring to purchase books, drawing instruments, and other property pertaining directly to the profession or business in which most of us are engaged. Such notices will be inserted in one issue only, but there is no limit to the number of different notices pertaining to different things which any subscriber may insert.

PERSONAL NOTICES. Announcements concerning the opening of new offices for the practice of architecture, changes in architectural firms, changes of address and items of personal interest will be printed free of charge.

FREE EMPLOYMENT SERVICE. In this department we shall continue to print, free of charge, notices from architects or others requiring designers, draftsmen, specification writers, or superintendents, as well as from those seeking similar positions.

SPECIAL NOTICE TO ARCHITECTS LOCATED OUTSIDE OF THE UNITED STATES: Should you be interested in any building material or equipment manufactured in America, we will gladly procure and send, without charge, any information you may desire.

Notices submitted for publication in these Service Departments must reach us before the fifth of each month if they are to be inserted in the next issue. Address all communications to 330 West 42nd Street, New York, N. Y.

THE MART

Two drawing boards for sale: 36" x 60". First grade, standard make, perfect condition, never used. Cost \$17 each. Will accept reasonable offer. Box No. 214, care of PENCIL POINTS.

Joseph M. O'Neil, 135 Larkspur Street, Springfield, Mass., has the following copies of PENCIL POINTS for sale: January, February, July through December, 1923; all except October, 1924; all except August, 1925; February, 1926; July, September, October, December, 1933; February through June, August through November, 1934. Price for the lot, \$5.00. He will also include, gratis, a copy of *Home Builders' Catalog*, worth \$10.00, and other architectural books, for this \$5.00 price.

Elmer Grey, 170 East California Street, Pasadena, Calif., has for sale, at a greatly reduced price, a few sketches in oil of California mountain and canyon scenery, by Elmer Grey, F.A.I.A. 12" x 16" in size, framed in suitable hand-carved, metal-leaf frames. Small reproduction will be mailed for the purpose of selection.

PERSONALS

ALBERT J. GRAESSER, *Architect*, has moved his office from 199 Main Street to 17 Fairview Street, Huntington, N. Y.

CLARK & CROWE, *Architects*, Lynchburg, Va., have dissolved partnership. They will practice individually as follows: Pendleton S. Clark, 610 Krise Building; Walter Rogers Crowe, 609 Krise Building.

CARL J. KASTRUP, *Architect*, has opened an office for the general practice of architecture at 7346 Madison Street, Forest Park, Ill.

FOR RENT: Desk, drafting room space with use of attractive reception room in an architect's private office. Also suitable for agent of building supplies. Stenographic, telephone service. Phone VANDerbilt 3-2350. Room 1002, 19 West 44th Street, New York.

RAYMOND J. PERCIVAL, *Architect*, has reopened his office for the practice of architecture at 49 Pearl Street, Hartford, Conn.

MANUFACTURERS' DATA WANTED

PENDLETON S. CLARK, *Architect*, 610 Krise Building, Lynchburg, Va.

WALTER ROGERS CROWE, *Architect*, 609 Krise Building, Lynchburg, Va.

CARL J. KASTRUP, *Architect*, 7346 Madison Street, Forest Park, Ill.

ALFRED A. BLOCH, *Architect*, Somers Trade School, Webster Avenue, Pittsburgh, Pa. (Data on residential and commercial buildings).

WILLIAM A. GANSTER, *Architect*, Waukegan, Ill.

EMILIO G. VITO, *Architect*, P. O. Box 308, Baguio, P. I. (Data on modern plumbing fixtures, different terrazzo finishes, hospital furnishings and standards, indirect lighting methods and fixtures, also other building materials and equipment).

CHARLES W. ERTZ, *Building Service*, 323 N. Beverly Drive, Beverly Hills, Calif.

JULIAN SYKES, JR., *Student*, 11126 South Wallace Street, Chicago, Ill.



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PUBLICATIONS ON MATERIALS AND EQUIPMENT

*of Interest to Architects, Draftsmen
and Specification Writers*

Publications mentioned here will be sent free unless otherwise noted, upon request, to readers of PENCIL POINTS by the firm issuing them. When writing for these items please mention PENCIL POINTS.

22 LOW-COST HOMES.—Brochure showing a series of twenty-two designs intended to suggest what can be accomplished with concrete as the principal construction material for the low-cost, fireproof home. 32 pp. 8½ x 11. Portland Cement Association, 33 West Grand Ave., Chicago, Ill.

Published by the same association, "Forms for Architectural Concrete." Valuable new handbook for architects and contractors giving a wealth of information pertaining to form work for architectural concrete buildings. Among the subjects covered are: Structural design; mill for making forms; erection accessories; planning the job; detailing; kinds and grades of lumber and where used; form linings; wood, plaster waste and metal molds; typical forms; erecting, estimating; etc. Profusely illustrated with photographs and drawings. 64 pp. 8½ x 11.

PERFORATED ROCKLATH.—Descriptive bulletin covering a type of gypsum lath in which have been made circular perforations, spaced four inches apart, which act as a mechanical key to hold the plaster. 4 pp. 8½ x 11. United States Gypsum Co., 300 West Adams St., Chicago. *Published by the same firm, "Weatherwood Reinforced Insulating Lath." Folder describing the advantages and application of a new steel reinforced, tongue and grooved insulating lath. 4 pp. 8½ x 11.*

THE NEW GENERAL ELECTRIC RADIAL WIRING SYSTEM.—Publication with series of wiring diagrams and descriptive information covering a new wiring system utilizing the recently announced G-E primary circuit breaker for outlet-box mounting which provides short circuit and overload protection for 125-volt a-c or d-c circuits and can also be used as a switch control for branch circuits. 20 pp. General Electric Co., Schenectady, N. Y.

FLEXLOCK PIPE JOINTS.—New folder describing the advantages and applications of a type of pipe joint which represents a new development in coupling U. S. Stoneware bell-and-spigot pipe. Dimension tables. 4 pp. 8½ x 11. The U. S. Stoneware Co., 50 Church St., New York.

"PECKY" CYPRESS.—A concise story in booklet form of the nature and value of "Pecky" cypress as a decorative and utility wood. Included are craftsmen's working drawings for making eleven original and distinctive furniture pieces. Southern Cypress Manufacturers' Assn., Jacksonville, Fla.

VENTO STEEL CASEMENTS.—Catalog CW-36, just issued, covers a complete line of casements for residences, apartments, etc., including Vento Insulpanes, designed for air-conditioned houses or for use as storm panels in severe climates. Specifications, standard types and sizes, detail drawings, etc. Included is data on utility and basement windows and coal chutes. 36 pp. 8½ x 11. Vento Steel Sash Co., Muskegon, Mich.

NATIONAL WILLIAMS OIL-O-MATIC BOILER BURNER UNIT.—New folder presenting general information on a line of boiler burner units. 4 pp. 8½ x 11. National Radiator Corporation, Johnstown, Pa.

NATIONAL ASBESTOS WIRES AND CABLES.—New catalog giving specifications and engineering data for National asbestos wires and cables. 16 pp. 8½ x 11. National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa.

CRANE KITCHEN GUIDE.—New publication containing much helpful information on the subject of modern kitchen planning, whether for remodeling work or new construction. Included are floor plans, cabinet dimensions, scaled work sheets for laying out plans according to room arrangement, a variety of illustrations of well-planned kitchens and many types of modern sinks and labor-saving appurtenances. 40 pp. 8½ x 11. Crane Co., 836 S. Michigan Ave., Chicago, Ill.

JOHNS-MANVILLE CEDARGRAIN ASBESTOS SIDING SHINGLES.—Descriptive folder covering a new line of siding shingles, made from asbestos fibres and portland cement. 6 pp. 8½ x 11. Johns-Manville, 22 East 40th Street, New York, N. Y.

GOLD LEAF IN ARCHITECTURE.—A.I.A. File No. 25-1-d. Attractive brochure presenting a detailed description of the history, romance, manufacture and application of gold leaf. Included are photographs of numerous interesting gold leaf architectural applications. 16 pp. 8½ x 11. Hastings & Co., 817 Filbert St., Philadelphia, Pa.

SIZES WE ROLL.—New edition of handy reference guide containing complete size data on all sheets, strip, bars, plates, structurals and semi-finished steel produced by Inland, and several reference tables useful in ordering steel. 64 pp. Inland Steel Co., 38 South Dearborn St., Chicago.

SEDGWICK ELEVATOR CAR FINISHES.—Looseleaf filing folder containing color reproductions of Sedgwick elevator car finishes. Sedgwick Machine Works, 150 West 15th St., New York, N. Y.

EXTRUDED ARCHITECTURAL ALUMINUM MOULDINGS.—A.I.A. File No. 15. Catalog No. 32 illustrates a large number of architectural shapes in Alcoa aluminum, including astragals and pilaster sections, handrails, mouldings, door saddles, window sills, nosings, storefront sash, casement and sash sections, etc. Detail drawings. 12 pp. 8½ x 11. J. G. Braun Co., 537 West 35th St., New York, N. Y.

Published by the same firm, "Braun Baluster Spindles." A.I.A. File No. 15. Supplement No. 2 to catalog No. 30, superseding supplement No. 1, contains not only all items previously shown, but also several new features including genuine puddled wrought iron and forged baluster spindles. 8 pp. 8½ x 11.

"Handrail Terminals." Supplement to catalog No. 30 and 31 shows handrail terminals that have since been added, both in architectural bronze and aluminum.

NORTON DOOR CLOSER.—Catalog No. 21 describes and illustrates a complete line of door closing devices. Dimension tables, specifications, etc. 32 pp. 8½ x 11. Norton Door Closer Co., 2900 North Western Ave., Chicago, Ill.

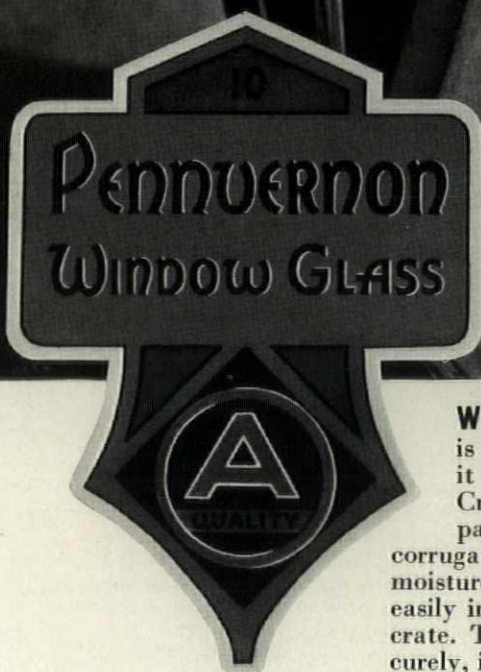
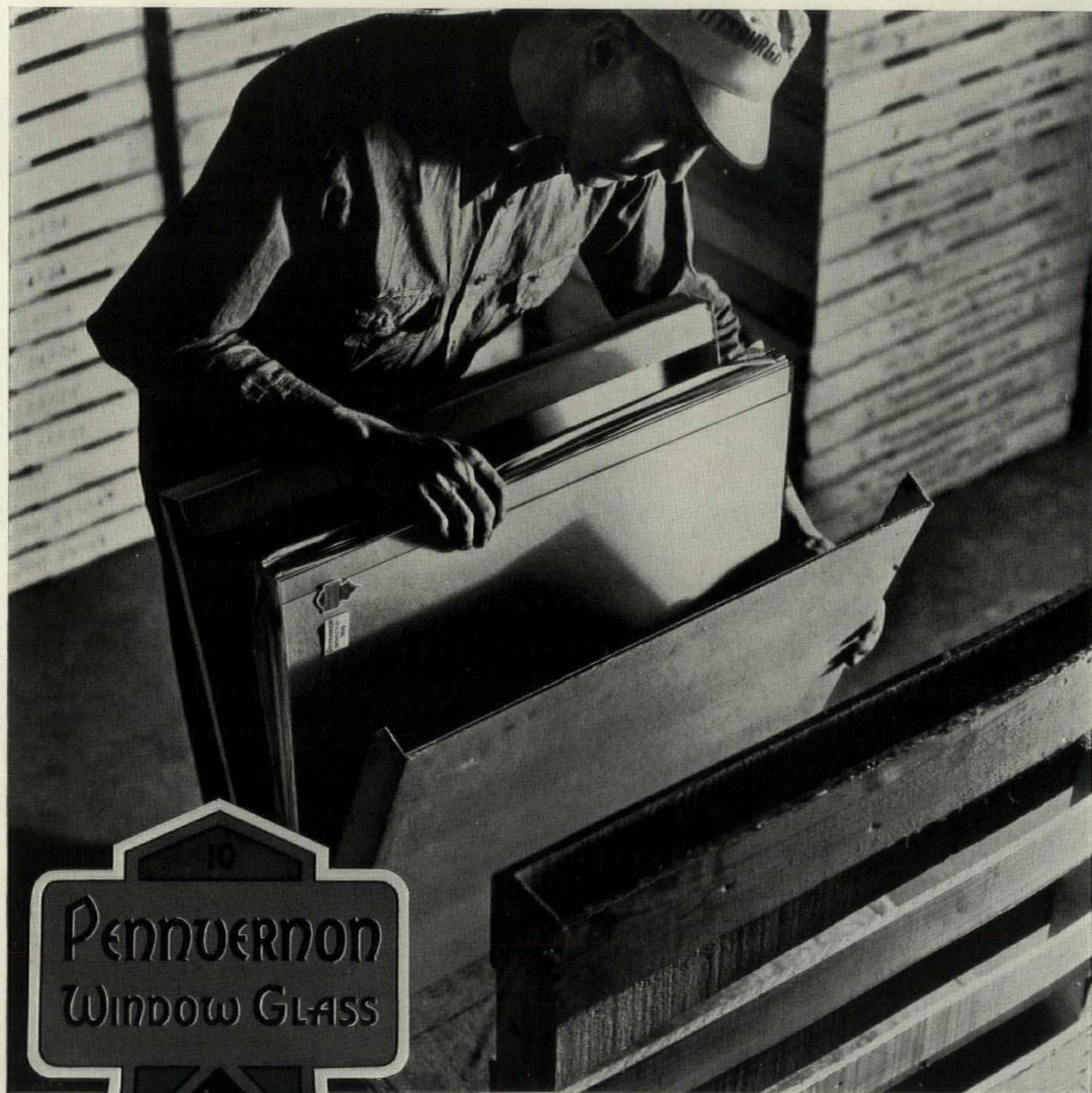
GENASCO STA-RITE ASPHALT SHINGLES.—Folder describing the outstanding features and method of applying a new line of asphalt shingles. The Barber Asphalt Co., 1600 Arch St., Philadelphia, Pa.

EBERHARD FABER ARTISTS' MATERIALS.—New catalog covering the Eberhard Faber line of artists' materials and drafting supplies. 16 pp. Eberhard Faber Pencil Co., 37 Greenpoint Ave., Brooklyn, N. Y.

KERNERATOR AIR-TORCH INCINERATION.—Folder illustrates and describes in detail the air-torch principle embodied in a new line of incinerators. 4 pp. 8½ x 11. Kerner Incinerator Co., 3707 No. Richards St., Milwaukee, Wis.

BENJAMIN HIGH INTENSITY MERCURY VAPOR LAMP FIXTURES.—Supplement section XI-A to catalog No. 26 gives complete data on the new 400 watt high intensity mercury vapor lamp—how it operates, its color composition and its advantages—for various types of interior and exterior illumination. It gives complete description, illustrations, dimensions and list prices on Benjamin lighting fixtures for the high intensity mercury vapor lamp with tables on illumination calculations applying to the various fixtures and outlines a method of designing a general lighting system with these fixtures including design of a combination lighting system consisting of mercury vapor and incandescent lamps. It also shows two open type floodlights for the lighting of gasoline service stations and outdoor play areas. 28 pp. 8½ x 11. Benjamin Electric Mfg. Co., Des Plaines, Ill.

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POSITION WANTED: Sales type executive with engineering background. Former contact man for organization of national repute. \$10,000 a year sales executive with sales training extraordinary wishes to represent a manufacturer marketing a building product of merit in Northern New Jersey. P. O. Box No. 7, Cliffside, N. J.

POSITION WANTED: Young man, 4 years of practical shop experience in store fixture manufacturing company, would like position as draftsman. Graduate of High School and Architectural School. Capable of making colored elevations, perspectives and also working drawings. Box No. 200.

POSITION WANTED: Apprentice, 18 years of age, 3 years' experience, wishes position where knowledge of architecture can be extended. Location immaterial. John G. Ochser, 8 North Head Avenue, Audubon, N. J.

POSITION WANTED: As sales representative of manufacturer of a good reliable building material or equipment. Am a registered architect in New York and New Jersey, 44 years old and married. For the past 24 years have been connected with architects, builders and contractors and have had a thorough architectural training in all its branches, in the office and in the field. Have done some promotion work, consultant and contact man to architects and have had sales experience. Am well acquainted in New York and New Jersey. Can furnish best of references. Box No. 201.

POSITION WANTED: Draftsman, age 26, four years' college architectural course, wishes position in architect's office or large company as draftsman or junior draftsman. Box No. 202.

POSITION WANTED: Junior draftsman, 7 years' experience rendering and designing residences. Box No. 203.

POSITION WANTED: Man who has been contacting architects and engineers in New England territory for many years and is very well acquainted desires position representing manufacturer of reliable building product or products. Box No. 204.

POSITION WANTED: Architectural designer and draftsman, married, age 33, ten years' experience with prominent architects on churches, schools, residences, also 4 years as designer and detailer of church furniture. References. Location immaterial. Box No. 205.

POSITION WANTED: Junior architectural draftsman, High School graduate and graduate of Mechanics Institute. Have had experience in architect's office. Can furnish references on request. Salary reasonable. Box No. 206.

POSITION WANTED: Young man, graduate of University of Detroit in architectural engineering, desires work with designing architect or structural engineer or firm. Experienced in steel and construction details and residential work. Salary easily arranged. Employed at present part time. Raymond A. Lopez, 210 W. Amelia, Tampa, Florida.

POSITION WANTED: Architect, age 45, married, 25 years' experience as superintendent, chief draftsman, specification writer with architects and contractors and have had a thorough training in the office and in the field, and am a good all-round man. Would be glad to grant an interview at your convenience. Can furnish the best of references. Box No. 207.

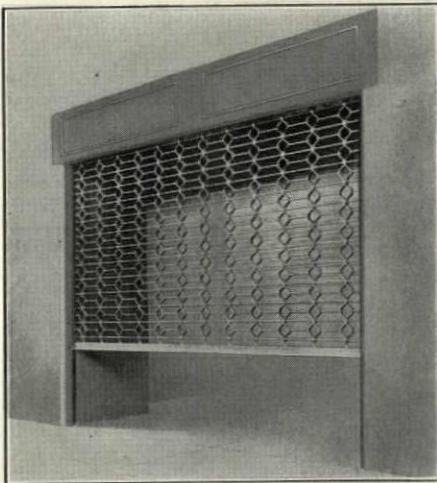
POSITION WANTED: Architect with considerable experience in hospital design and construction wishes position with firm having hospitals on the boards. Three years' university training in architectural school and one year with Mr. Eliel Saarinen at Cranbrook Academy of Art. Three years' drafting experience and two years' resident architect for midwestern sanitarium. Will go anywhere. Age 28 and in excellent health. Salary a minor consideration. Box No. 209.

(Continued on page 42, Advertising Section)

EVERY DAY DISCLOSES NEW USES FOR KINNEAR ROLLING GRILLES

Give Protection With Advantage of Air Light and Vision

True to Kinnear tradition, the new design of Kinnear Rolling Grille offers another outstanding contribution to the building industry. Innumerable situations requiring protection against trespassing, burglary and intrusion can now be successfully met . . . with the added advantages of full vision and admittance of air and light. Like a window blind, coiling above the opening and spring counterbalanced it operates easily, conveniently and with space economy. When closed and securely locked, it provides an impassable barrier. And when open, it is an unnoticed guard which is always on call.



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Those responsible for new or modernization work of any type will find the suggested application and details of the Rolling Grille in Kinnear's A. I. A. File Folder No. 35-P-8 of real interest. It will be sent upon request. Also a Kinnear Engineer will be glad to discuss any specific problems.

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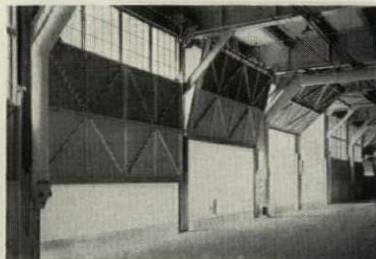
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The Kinnear RoL-TOP ends garage door troubles . . . and is ideal for many commercial uses. Raises upward easily and quickly over snow and ice. Out of the way. A neat, convenient, remarkably long-lasting door that is economical in every respect. Suited to old or new structures and built in any size in wood or steel.



The most outstanding development in pier door construction made in many years—Kinnear's No. 3 Bi-folding Door. Composed of two sections that telescope and then raise overhead. Accurately counter-balanced and provided with ingenious safety features. For heavy-duty purposes there's nothing to compare with it.

Modern building practice is reflected in doors. So you'll find this 1936 catalog valuable. It completely describes the many developments made in the famous Kinnear Line . . . developments that mean new uses . . . and even greater economy of installation, operation and maintenance than for which Kinnear Doors have established an unsurpassed record for the past half century. Whether you're working on a residence garage or a gigantic power project . . . new building or modernization job . . . you can adapt the convenience, space economy and durability of upward-operating Kinnear Doors and Grilles to any opening condition. For Kinnear Doors are individually built for the particular service or fire protection need. A Kinnear Engineer will gladly consult with you at any time.

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Please send us a copy of your 1936 catalog, giving details of Kinnear's full line of "money-saving" doors. No obligation.

☐ Also send Grille Folder No. 35-P-8.

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A Letter from the Architectural Guild of America

"Every sign indicates that this year will find more architectural men employed than at any time since 1930. In one important sense, however, it will be a more critical period than that of the worst part of the depression. Either the debased wages of the depression will be wiped away and the Guild Schedule established, or the relief wage will set the standard and many years will elapse before draftsmen receive a just wage. The answer depends wholly upon whether architectural men seek security through organization or act individually and accept compensation based on a law of 'supply and demand.'"

"Architectural men were shocked into organization when representatives of employer groups presented an NRA code establishing a minimum rate of 50 cents an hour for draftsmen. But the shock of a relief-wage offer will be individual and its effect will only be felt gradually."

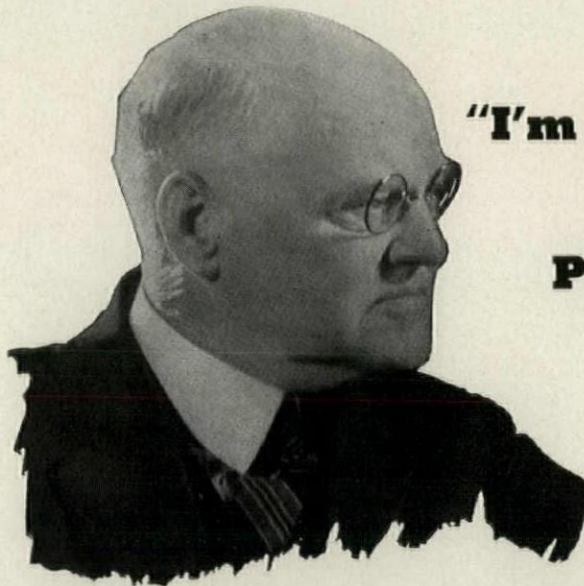
"The Guild has directed its efforts to keeping the standards on relief work and other government work as high as possible. While primarily the reason is that architectural men deserve prevailing wages regardless of the name of the government agency, it was also considered an important influence on wages paid by private firms. The relation of relief rates to those of private architectural firms was accurately predicted by Senator Wagner in this admirable comment: 'If the public projects under this resolution (Relief Act—WPA) set rates of pay for full time below those prevailing elsewhere, private business will find this lower level with the certainty that the river finds the sea.' Many men in private or regular government employment do not appreciate the importance to them of WPA standards. WPA (so-called relief) architects perform exactly the same services as private firms and civil service. Examples of 'relief' work are the following: University Buildings, Libraries, Bath Houses, Zoo Buildings, School and Hospital Work, Apartment Houses, PWA Housing Projects, Park Buildings, Models, Swimming Pools, etc. For this work they are paid less than half the rate of a building mechanic, and were it not for continuous organizational activity, the wage would be much lower. On PWA the wage is, in many cases, \$1.00 per hour for the best architectural men with a work week from 60 to 70 hours. It is interesting to note incidentally that 'overtime' has achieved a new use; namely, to permit a draftsman to earn a regular weekly wage, but with twice the work period."

"The New York Chapter has had many meetings with the WPA administrator on the payment of Guild wages. After a long period of negotiations the justice of the claim for payment of prevailing wages is admitted but a new obstacle prevents the immediate establishment of our schedule—a lack of funds. However, we know this to be a last stand and feel certain of removing this final argument in a short time. There has arisen a rumor that a shortage of draftsmen exists in New York. This is wholly inaccurate, for not ten per cent of men in New York

are employed on architectural work other than WPA or temporary government work. There is only a shortage of men who will work for private firms for relief wages. For the benefit of men who might come to New York City in the hope of employment it should be clearly understood that there is no indication that private firms will absorb unemployed architectural men here for a long time. Even the prospects of work for the World's Fair are not bright. At present the preliminary work is being done by WPA architects and Victor Ridder, WPA Administrator in New York, told a Guild committee that he was working to have all private firms, which may have commissions on this work, take their employees from WPA rolls."

"One of the important policies of the

Guild is that it opposes granting of commissions for the design of public buildings to private firms unless Guild wage schedules are included. Architectural firms would not consent to this condition and the A.I.A. answered by submitting a plan to the government whereby draftsmen would be pauperized permanently. The present practice of firms having PWA work is generally to pay a wage equal to or slightly above that paid on relief. There is a bill before Congress requiring provisions for maximum hours, minimum wages, and collective bargaining guarantees in all government contracts. Whether this measure will protect architectural men, or whether a new policy on public work must be adopted by the Guild is a question now before our membership."



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"The Architectural Guild was formed in New York in 1933 and its membership extends to every section of the country. While most of its activities have centered on the improvement of the economic status of architectural men on emergency work, it has carried on a successful program of civic and professional work and developed as a permanent association for architectural men who are not employers. Although the Guild cooperates with other technical and professional groups, it believes that the only acceptable permanent organization of architectural men is one composed of members of our own profession only. Activities and policies of the Guild have been reported in most copies of PENCIL POINTS. The Guild has successfully opposed many conditions and policies detrimental to the interests of the employee, ranging from the NRA Architects' Code to the recent attempt to farm out relief architects to private firms receiving regular architectural fees. This association has raised the standards of men on emergency government work and one of its chief objectives is to establish its wage schedule on all types of work.

ARCHITECTURAL GUILD WAGE SCHEDULE:	
Senior Draftsmen	\$65.00
Junior Draftsmen	\$45.00
Sub-Juniors	\$35.00
Apprentices	\$30.00

"These are minimum wages and the scale is based on a thirty-hour week.

"The following is an outline of Classifications: *Senior*: Graduate of an Architectural School and four years' experience; or eight years of professional architectural experience. *Junior*: Graduate of an Architectural School and one year's experience; or five years of professional architectural experience. *Sub-Junior*: Graduate of an Architectural School; or four years of professional architectural experience. *Apprentice*: Two years of architectural experience; or its equivalent in architectural education.

"A more detailed classification is found in the Guild Constitution and will be furnished by the undersigned on request."

JOHN F. ST. GEORGE

Executive Secretary

Architectural Guild of America
15 East 40th Street, New York City

A.I.A. or F.A.E.C.&T.?

Harry Lucht, of Cliffside Park, New Jersey, writes in to tell us of a subject that provoked animated discussion at the January 16 meeting of the Architects' League of Northern New Jersey. He says:

"Most of the professional architectural societies and the A.I.A. have been representing the profession as exemplified by the office of the private practitioner on whose behalf and on behalf of the public the latter has established standards of

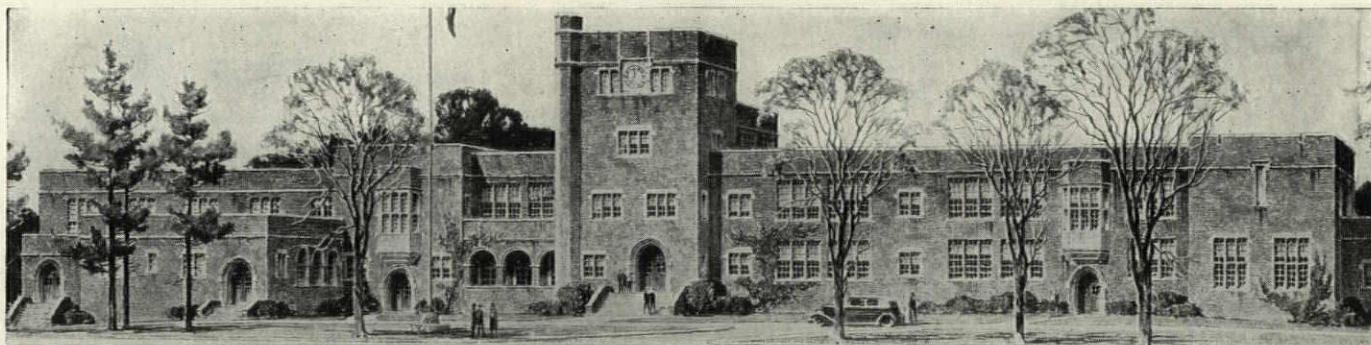
ethics and practice as well as codes of public relationship and business procedure.

"These societies have strenuously opposed the invasion of the field of the private practitioner by the government and other private agencies in direct competition with the architect.

"In the last few years, however, we have a situation where a large proportion of their membership are now holding jobs with various government bureaus and in the 'Architectural Departments' of real estate offices, banks, mortgage institutions, big corporations and chain organizations. In all of these they are in direct competition with the offices of private practitioners.

"The A.I.A. and the other societies cannot well represent a membership whose interests are thus conflicting and competitive with one another. It therefore seems to me that so long as these members are employed as suggested above, their rightful place is as members of the Architectural Guild or the Federation of A.E.C. & T., both of which groups are organized to represent the interests of such employees properly.

"This would leave the professional societies with a membership opposed to reducing what was once a noble art and profession to the level of the underpaid engineer and chemist or the 'Yes men' of big business and united in offering unbiased service to the public."



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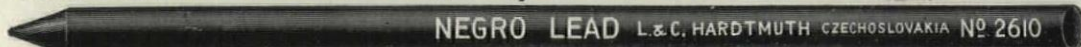
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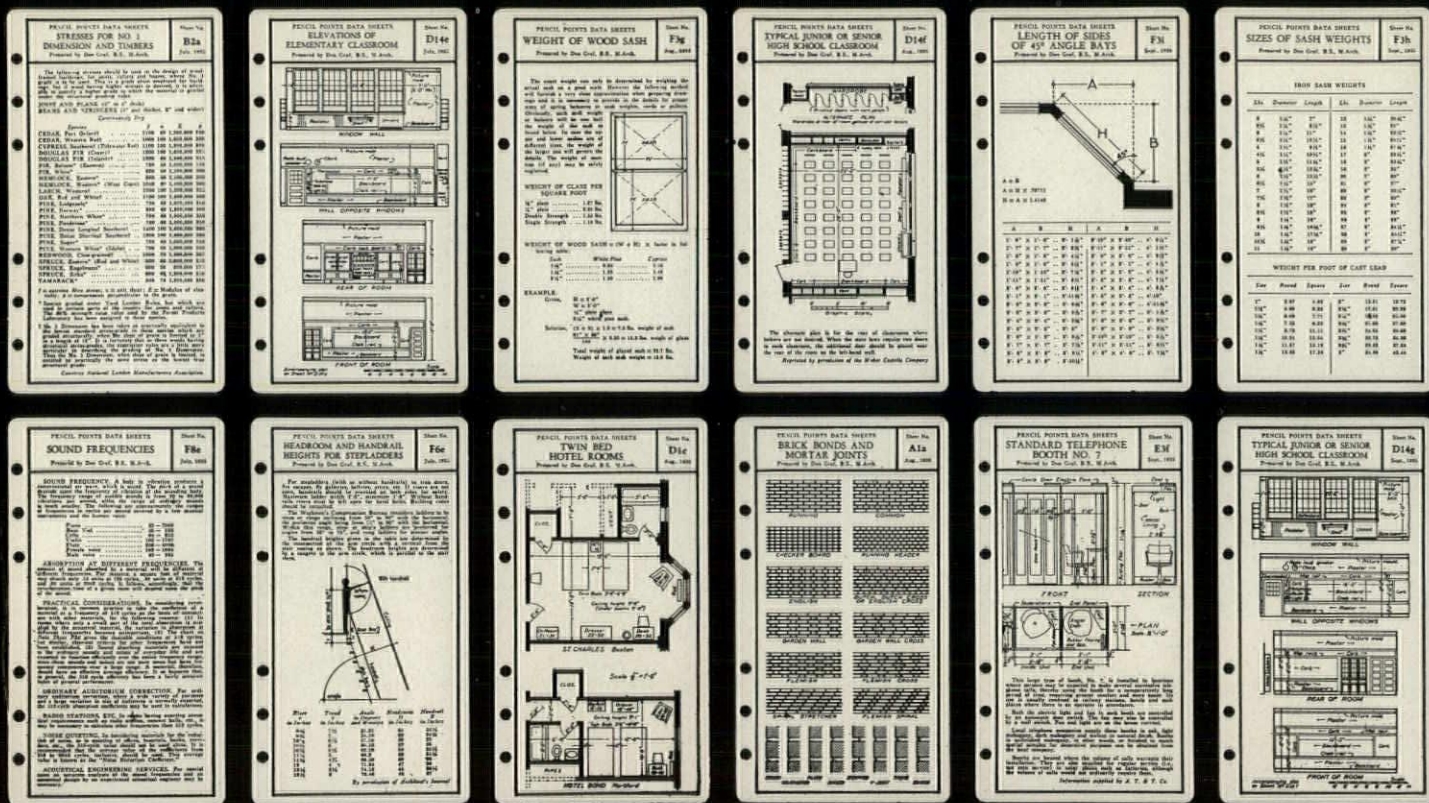
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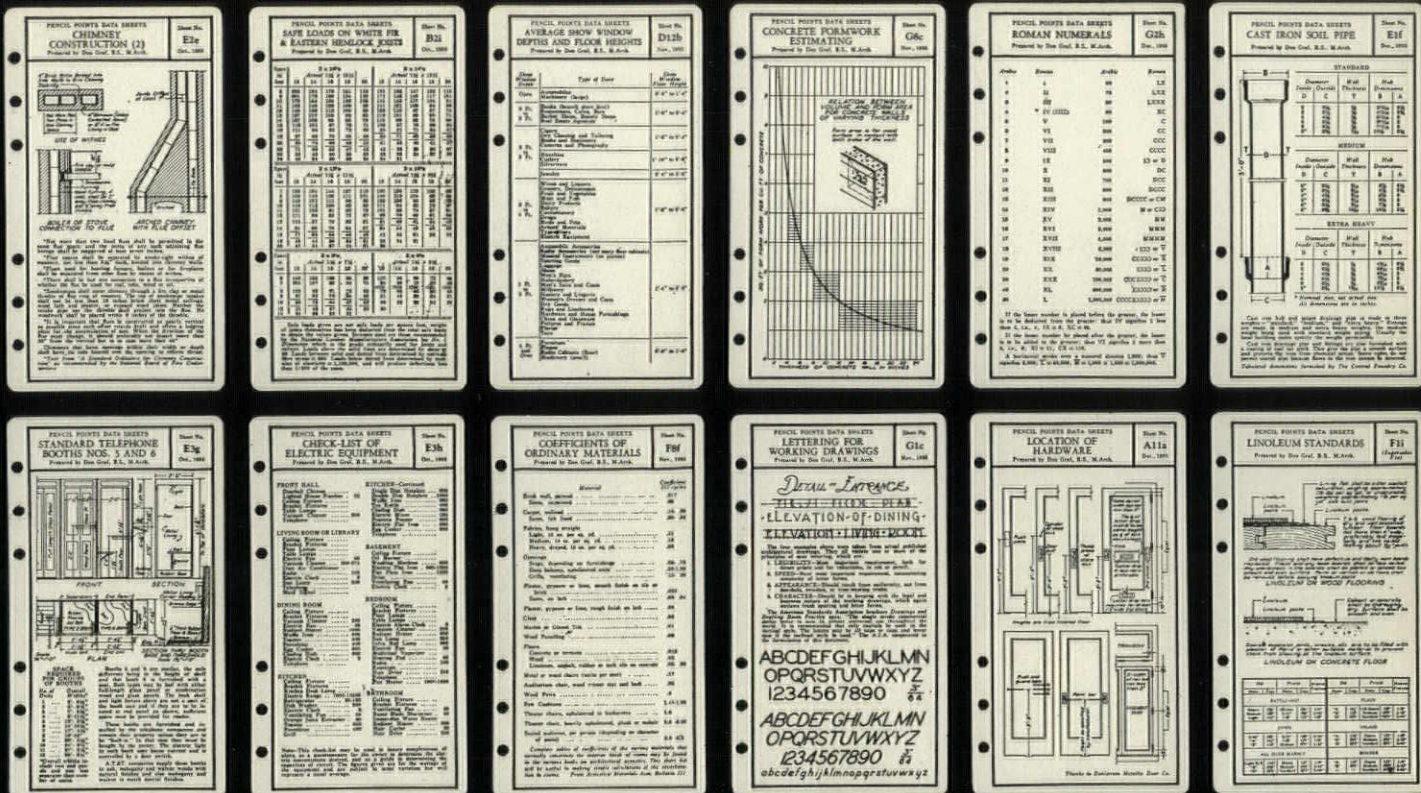


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70 TEXT ILLUSTRATIONS; drawn by the author to clarify points brought out in the text as to materials, equipment and methods of working in **COLOR** with brush, air-brush, pastel, etc. They also bring out graphically and vividly the tricks of technique and refinements of composition that might otherwise escape one's attention.

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tory itself, and a harmonizing color for the cabinet. The spout is elevated high enough above the rim of the lavatory to prevent any danger from back-siphoning.

The cabinet is made of furniture steel, reinforced throughout and electrically welded to form a rigid, substantial unit. The new slide-hinged doors open wide, giving full access to all parts of the interior, and the shelves in the doors are convenient receptacles for bottles, boxes, jars, etc. It is ventilated by holes in the sides and back permitting free circulation of air throughout. The cabinet is furnished with a recessed sub-base, two inches high, allowing toe space for the user who prefers to stand close to it.

MILCOR ANNOUNCES A NEW PLASTER BASE INSULATION

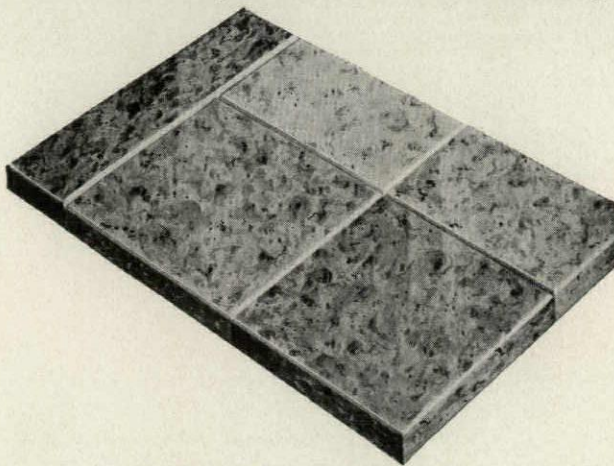
The Milcor Steel Co., Milwaukee, Wis., is announcing an entirely new type of plaster base insulation known as "Milcor-Silvercote."

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REVERE COPPER AND BRASS TO HANDLE CHENEY FLASHING SALES

In order to make Cheney flashing more readily available to the building trade in all sections of the country and to put this product on a commodity basis, rather than on a made-to-order one, the Cheney Company has announced the following change relative to the distribution of its flashing.

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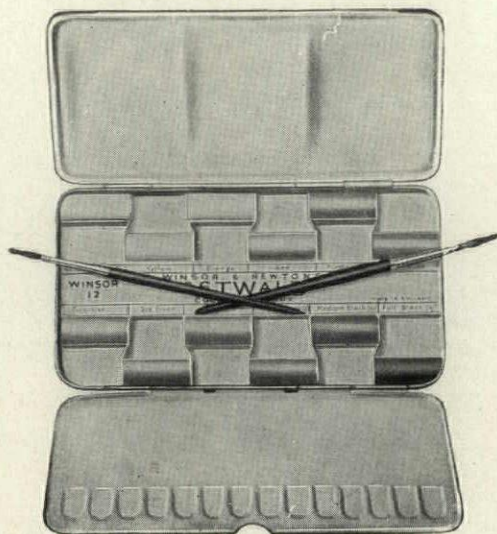
The Cheney Company will continue to manufacture the flashing, and Cheney engineers will continue to be available as heretofore for consultation on problems arising in connection with the use and installation of Thru-Wall flashing.

REPUBLIC STEEL MOVES GENERAL OFFICES TO CLEVELAND

The general offices of the Republic Steel Corporation have been removed from Youngstown to Cleveland, Ohio. The offices will occupy floors 13 to 16 inclusive in the former Medical Arts Bldg., recently renamed the Republic Bldg.

The move consolidates the general offices which have been located in Youngstown, the executive and Cleveland district sales offices formerly in the Union Trust Bldg., Cleveland, and the advertising department, Massillon, Ohio. The sales offices of the Newton Steel Co. will also be located in the Republic Bldg., Cleveland. The sales offices of the Alloy Steel Division of Republic will remain in Massillon, Ohio.

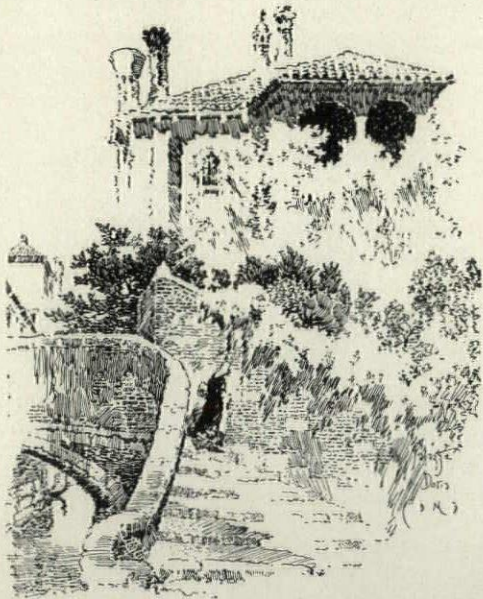
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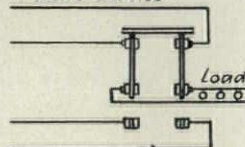
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(Continued from page 30)

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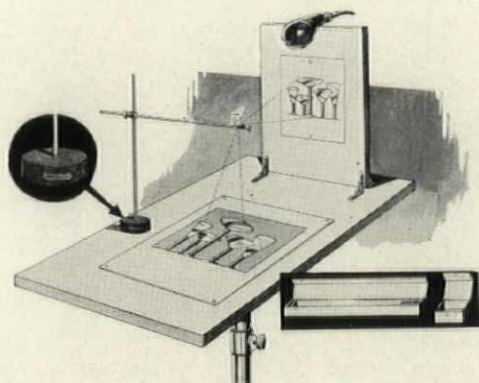
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American Laundry Machinery Company	35
American Radiator Company	5
American Telephone & Telegraph Company	16
Armstrong Cork Products Company, Building Materials Division	18
A. W. Faber, Inc.	32
Barber Asphalt Company, The	33
Bruning, Charles, Company, Inc.	8
Burnham Boiler Corporation	8
Carew Manufacturing Company	43
Congoleum-Nairn, Inc.	Back Cover
Crane Company	44
Curtis Companies Service Bureau	7
Dixon, Joseph, Crucible Company	25
Eberhard Faber Pencil Company	15
Elliott, B. K., Company	43
Field, Alfred, & Company, Inc.	41
General Electric Company	3rd Cover
Hart Manufacturing Company	41
Hotel Coronado	42
Kinnear Manufacturing Company	31
Koh-I-Noor Pencil Company, Inc.	35
Koppers Products Company	4
National Electric Products Corporation	30
Owens-Illinois Glass Company	6
Pittsburgh Plate Glass Company	29
Portland Cement Association	2, 3, 13
Sloane, W. & J., Selling Agents Division	9
Staedtler, J. S., Inc.	43
Stevens Hotel	43
Truscon Steel Company	2nd Cover
Universal Atlas Cement Company	10
U. S. Steel Corporation Subsidiaries	10
Vermont Marble Company	9
Vitrolite Division, Libbey-Owens-Ford Glass Company	17
Wilson Engineering Corporation	42
Winsor & Newton, Inc.	41
Wood Conversion Company	27

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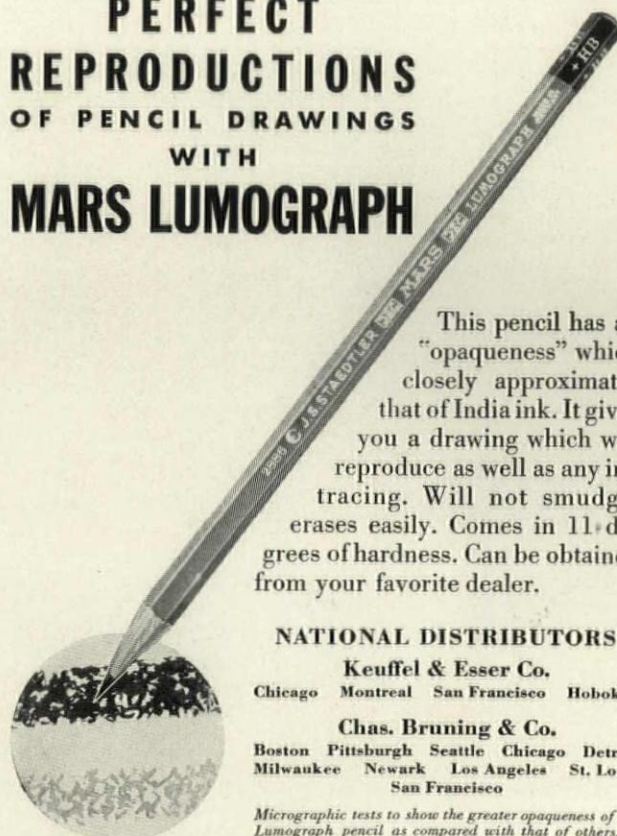


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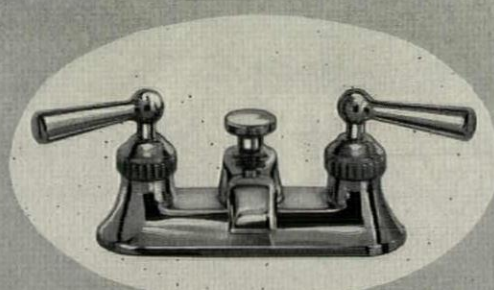
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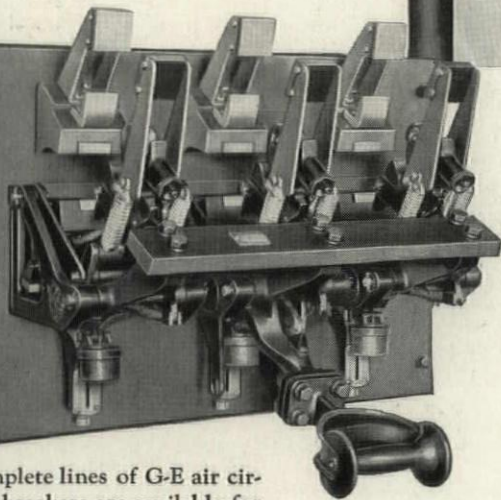
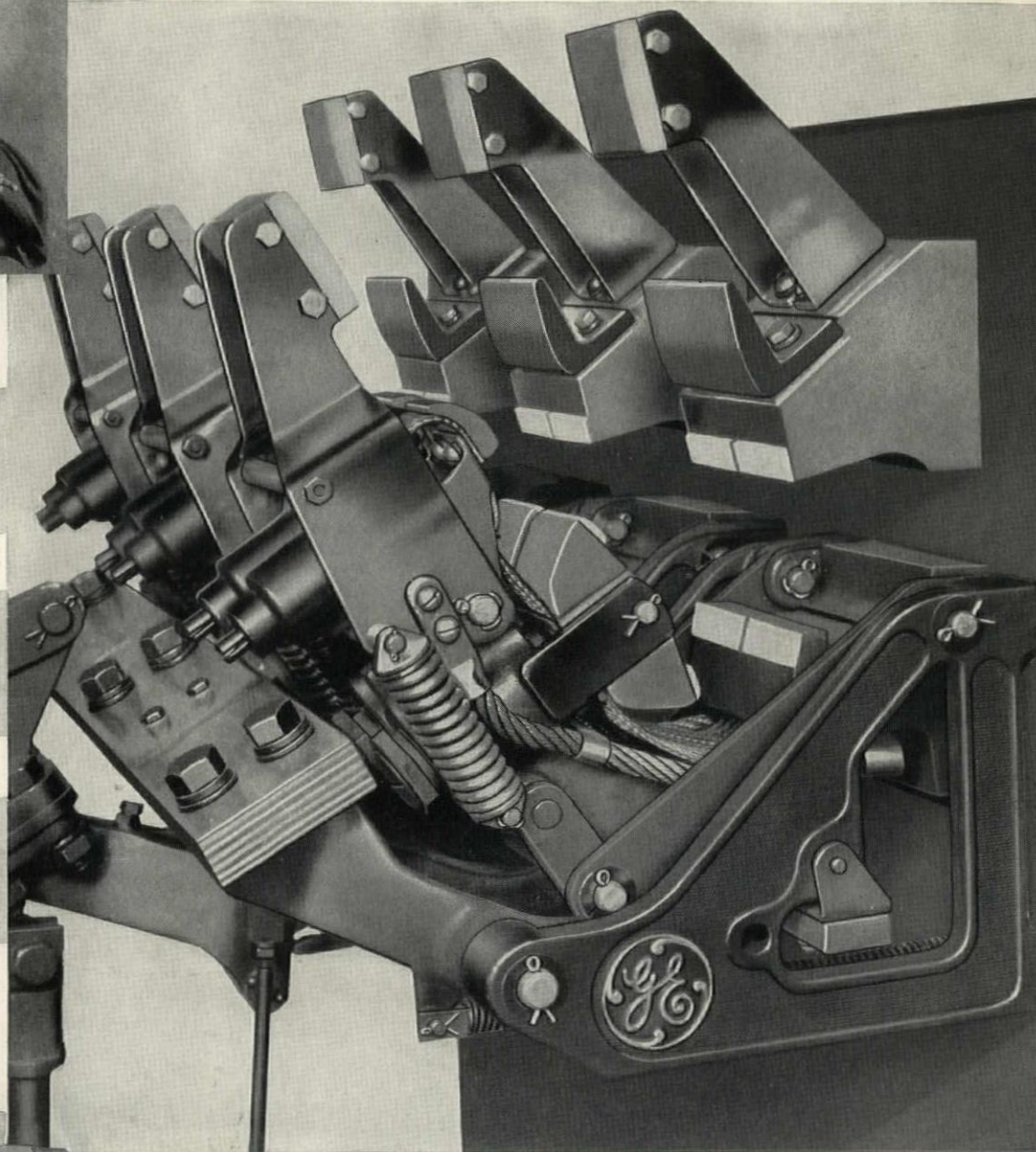
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