

D E S I G N

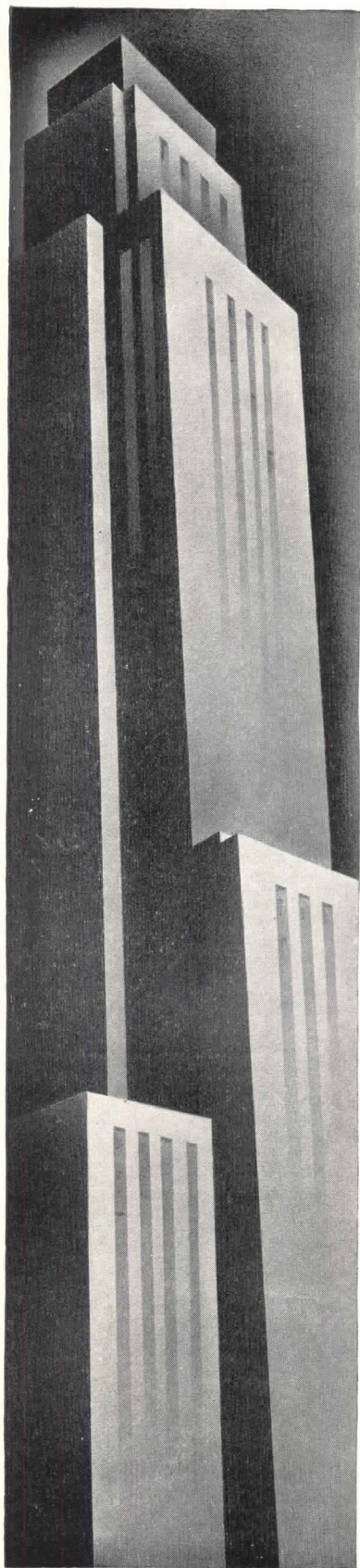
F. L. W.—AN ANALYSIS

BY T. F. HAMLIN

M A R C H

PENCIL
POINTS

1938



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CONCRETE JOIST CONSTRUCTION

D E S I G N

VOLUME XIX NUMBER 3

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PENCIL POINTS

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Published Monthly by REINHOLD PUBLISHING CORPORATION, *Stamford, Conn., U.S.A.*

RALPH REINHOLD, *President and Treasurer* H. BURTON LOWE, *Vice President and Secretary*
 PHILIP H. HUBBARD, *Vice President* FRANCIS M. TURNER, *Vice President*

Executive and Editorial Offices: 330 West 42nd Street, New York

50 cents a copy. Yearly subscription \$3.00, two years subscription \$5.00, payable in advance, to the U. S. A., U. S. Possessions, Cuba and Mexico. Foreign subscribers add \$1.00 a year for postage; Canadian, 50 cents a year additional. Remittances by International or American Express Money Order or by Draft on a bank in the U. S. should be payable in United States funds. Subscribers are requested to state profession or occupation. Changes of address must reach us before the 20th of the month to assure delivery of forthcoming issue. Be sure to give both your old and new addresses. *To Contributors:* Articles, drawings, photographs, etc., sent with a view to publication will be carefully considered, but the publisher will not be responsible for loss or damage. Copyright, 1938, by Reinhold Publishing Corporation. Trade Mark Registered. All rights are reserved. Entered as second class matter, March 10, 1930, at the Post Office, Stamford, Conn., under the Act of March 3, 1879. Volume XIX, No. 3, dated March, 1938. Indexed regularly in *The Art Index*.

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Any competitor may submit as many entries as he wishes in either part of this competition. All entries in Part I—the House Design Competition—must include not only the house plans, but also plans for the kitchen and basement or utility room. The program for this Competition will be sent you upon receipt of the entry coupon on the opposite page.

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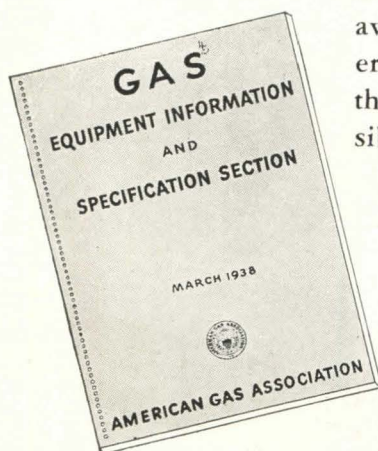
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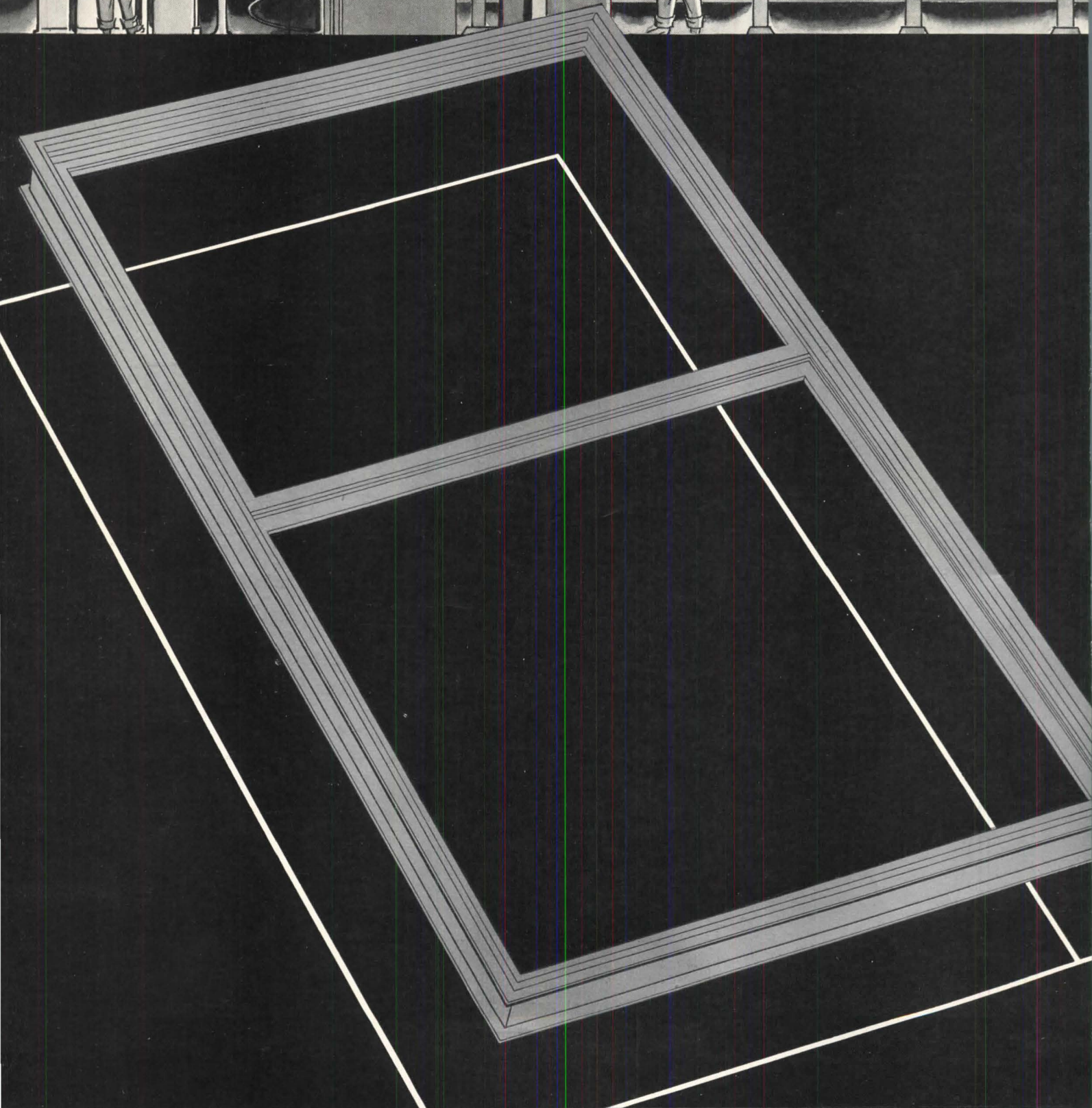
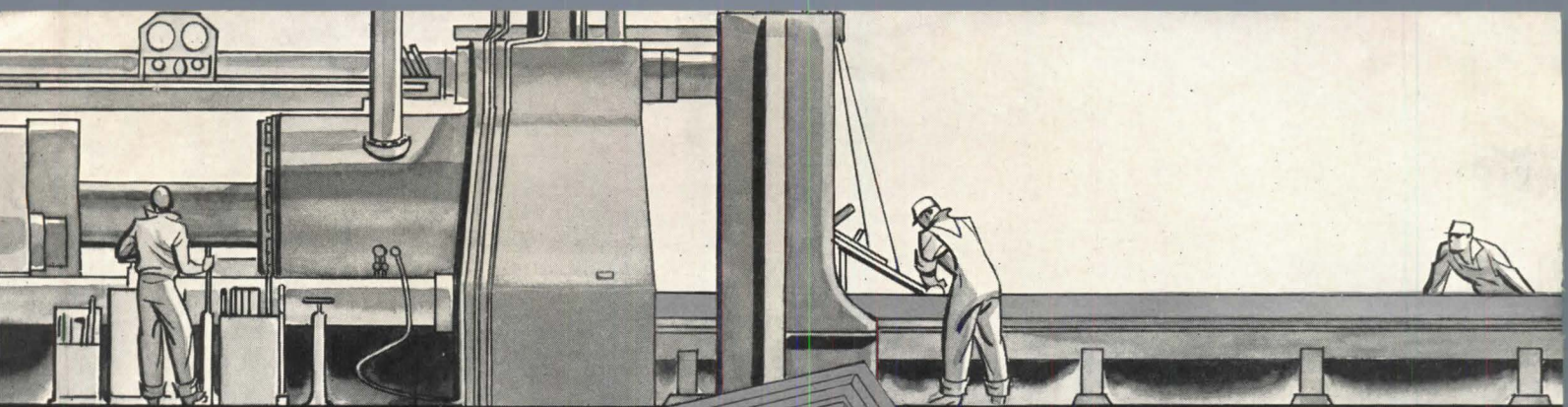
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PEN-1

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Light weight, low cost Aluminum windows, strangely enough, are possible only because of the heavy, powerful machines on which "window shapes" are made—the extrusion presses. Exerting many tons squeeze on heated Aluminum billets, they literally squirt through dies the intricate shapes employed in fabricating Aluminum windows. Thus, in a single operation, the expensive task of building up shapes is avoided.

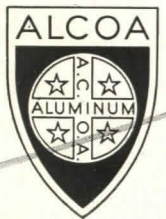
An extrusion press is pictured at the top of the page opposite; a few of the more common extruded window shapes are shown at the bottom.

Aluminum windows are light-weight for these reasons. Aluminum is naturally light. The design takes full advantage of the extrusion process which places metal only where it is needed. The result — windows are easy to handle when installing, easy to operate when in place; with minimum space required for framework, they give maximum visibility.

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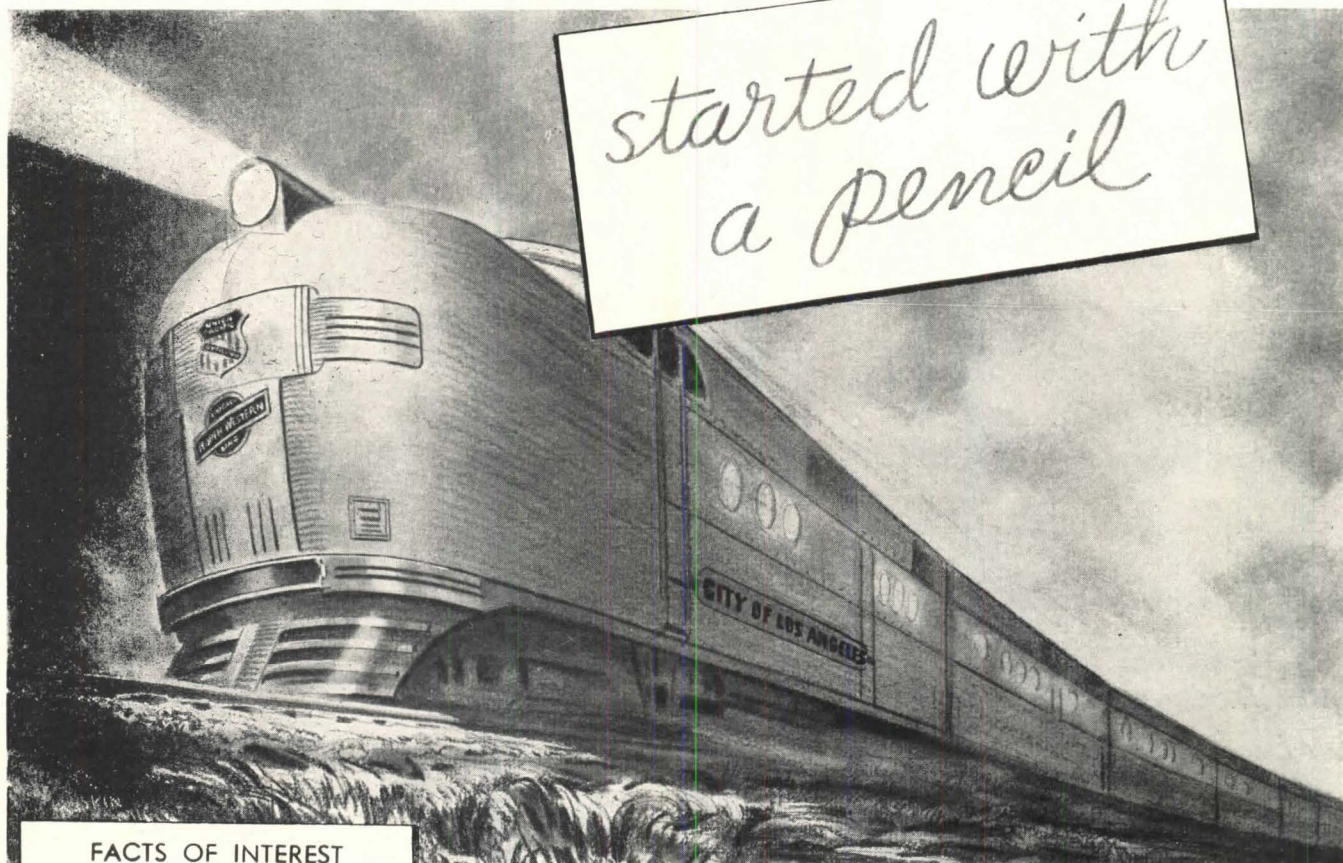
In comparing first costs remember that when the fabricator of an Aluminum window makes a quotation, the window is complete, ready to be set in place. You do not have to add the cost of assembling knocked-down parts, hardware, weatherstripping, painting, fitting and refitting. That is why the installed costs of Aluminum windows show up so favorably.

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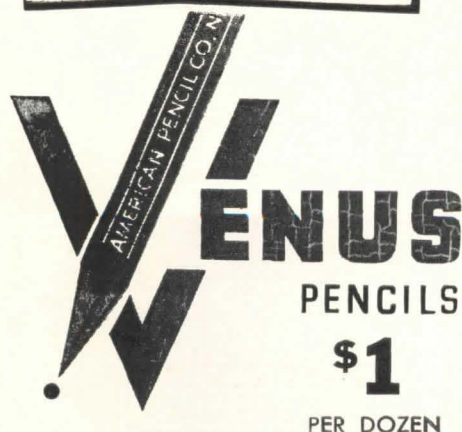
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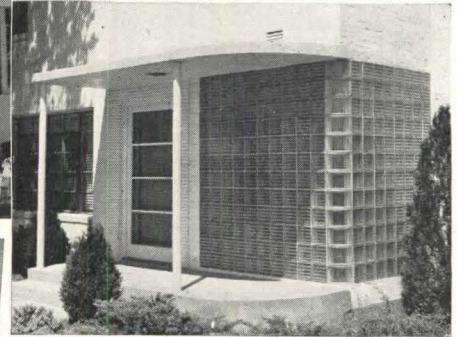
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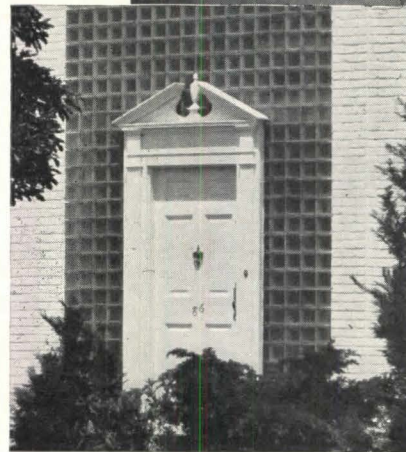


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HERE, THERE, THIS & THAT

A Letter on Competitions

The following letter was sent to us from the National Competitions Committee for Architecture and Allied Arts, P. O. Box 493, Grand Central Annex, New York, N. Y.

"The National Competitions Committee for Architecture and the Allied Arts has been formed, based on the belief that:

Architectural competitions are the best method of selecting designs for, and architects to superintend the erection of, buildings where the expenditure of public funds is involved.

"It is the belief of the Committee that competitions will encourage the progress of architecture and represent for both public and architect a distinct advance over the methods currently in use for selection of architects for public buildings.

"The Committee recognizes the need for working out details of competition procedure, but at this time the prime factor is to secure favorable Congressional action on a bill making the competition principle the law of the land. When that end is obtained the next step will be to develop in detail the actual workings of competitions along the following lines:

- a—competitions open to qualified architects;
- b—competitions anonymous;
- c—winning architect entrusted with the job.

"The Committee is now at work organizing sufficient support to assure favorable action by Congress when a competitions bill is introduced at the present session. We welcome the support of all individuals and organizations who are sympathetic with our aim.

"If you feel you can give financial support, we would welcome a contribution of \$5.00 to help defray the costs of mimeographing, mailing, etc. We sincerely hope you will want to join with us to make our efforts successful."

HENRY S. CHURCHILL, *Chairman*
WILLIAM LESCAZE, *Secretary*

Boston is Weary And so is Keach

It is with a vast weariness that one records the unmitigated slump which has been edging-in for several months.

No general abatement is discernible from this observation post.

Sometimes we ponder over the probable effect, on recent graduates, of such immediate frustration to professional endeavor, where the "emotional state" engendered by a transition from academic cloister to life (I seem to hear hisses) is climaxed by the discovery that nobody needs you.

A capable and ambitious young graduate from the "State of Maine" must have had typical experiences, a few weeks ago, when he landed in town with a diploma and no practical background, after having beat about Portland unsuccessfully. By zoning our Boston offices, the itinerary of a grand tour was mapped out, and, inevitably, it proved fruitless. Then, in an effort to earn quick-money for living expenses, while hammering away at return calls, he took a four-day salesman's course in a vacuum cleaner school, and emerged twice a graduate. During the ensuing week one of the company's transcendent machines was lugged into street-cars and up to unfriendly doors, until arms ached to no purpose. As the economic situation tightened he began shooting forward passes into the gathering gloom, and one blind ad after another turned out to be a call for commission peddlers in such as stockings or garter belts. At last a renovated production of W. S's. "Julius Caesar" asked for supers to wear overalls and pack automatics, so long before the appointed hour our architectural graduate presented himself at the stage-door recruiting office for the armies of Antony, and Brutus. However, the crush of aspiring supernumeraries had already swept in and brought both mobs to fighting strength. The while, against a currently acceptable background of soiled brick wall and exposed steam pipes, Flavius was probably rehearsing,

"—What! know you not,

Being mechanical, you ought not to walk,

Upon a labouring day, without the sign

Of your profession?—."

But Ralph Erskine rolled up his professional credentials and headed back into New England.

As a possible augury of improved conditions a new building code for Boston has been compiled at long last, and is now before the state legislature. Copies of the present code have been out of print for so many years that even Jim Curley couldn't obtain one, as the writer was once solemnly informed at the Hall. So it is a sort of "embarrass de richesses," as we french say, to find the rewritten code masquerading as "Document No. 1500," distributed free at the State House.

On February 4th the Boston Architectural Club held its scheduled Talk-fest. The subject, as previously announced, was accurate though textually incorrect. Exactly, it asked, "Is Architecture Shot to Pot?" Joe di Stefano shepherded the victualling, which repeated the triumphs of earlier meetings and exceeded them in one respect. For I am told on good authority that a six-fathom line (made up of all the strings Jack Forknall had saved, in neatly rolled little coils) failed to reach bottom in the beer reservoir. President Charles G. Loring, behind a tapman's apron, but without a union card, labored long and well at servicing an epidemic of parched throats.

The business of the evening ran in this wise. Ed Lynch, as Chairman, broadened the scope of the meeting by admitting a less lugubrious alternative topic relating to the respective merits of traditional and untraditional design, which is always good for a healthy row. But the initial speakers carried along the main line with stout and fortified optimism, only one of them inferring that while the boys were earnestly pitting cantilever against lintel some rank interloper might steal the last surviving job and leave them with nothing else to do but keep on talking. As speaker of the evening, Architect Harold Field Kellogg animadverted against a state of laissez-faire in a condition of broken bridges. He admitted to a "poetical" quarter-inch of dust on his copy of "Edifices de Rome Moderne," and argued that the present period of accursed inactivity should be devoted to stocktaking among architectural ideas. The paraphrase the gist of his plaint, progression is natural and desired, but it is patently indiscreet to put the skids under two thousand years of tradition, without making quite sure whether the new baby is another "technocracy," or a white hope in embryo. Still more briefly, "omit the whoops." Eventually the strains set up by juxtaposed ideas succeeded in faulting the party. Warming to their messianic task the modernists stood out against the inflexible stupidity of the conservatives, who might be ornery standpatters, or honest skeptics. Once the Fourth Dimension surged into the arena, while the crowd sat goggle-eyed, and briefly Giotto and the early Flemish painters reared their lovely heads, but what brought a pleasant meeting to its close was President Loring's admonition that that the poured beer would soon be stale.

On another evening the Club entertained students from local schools of the allied arts, but it was tacitly

(Continued on page 10)



AMERICA

Lives by Steel

The day begins, for the average American, with a signal by an alarm clock made largely of steel. Next his shower, in a steel tub, under a steel showerhead fed by water from steel pipes. Then he dries himself on a towel made on steel looms, shaves with a steel razor in front of a mirror rolled between steel rolls, and dresses for the day in clothes containing approximately 110 pieces of steel.

Then breakfast, cooked in steel pans on a steel stove, and perhaps including oranges from his steel refrigerator or mackerel from a steel can of tin plate.

He steps into his steel automobile, drives to a steel-framed building, is whisked up in a steel elevator, sits in a modern steel chair at a steel desk, uses a telephone containing steel parts, and signs letters typed on a steel typewriter.

Home again in his steel automobile, he sits beneath a lamp wired through steel conduit, and reads a magazine printed on steel presses. And then to bed—made comfortable by steel springs.

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YOUNGSTOWN

(Continued from page 8)

agreed that cerebation be kept at something less than concert pitch.

Among our multi-talented architects, Alexander F. Law has just turned in a fine portrayal of Lord Stormont, in Shipman's comedy, "Ben Franklin." As a member of the Brookline Amateurs, Mr. Law is often responsible for the accomplishment of effective staging, as well as for the acting of dramatic roles.

Bela Sziklas, another man of parts, has the astuteness to remain in enduring government service. His combined flair for Architecture, Engineering, and saber fighting makes him a good fellow to have out front in a tight place. As a matter of privy information, he owns the largest slide rule in private captivity, and boasts the execrable record of having bribed a Berlin hofbrau waitress to serve him a stein of water, with the lid down by way of concealment.

John Shea, who was seasoned and made fit in this fair town of the weekly bath, has returned to the fold, from Washington. We are banking on his traveled rationality and bland fearlessness to straighten out our provincial gaucheries, lest we should make bums of ourselves at the New York World's Fair.

Among Bostonians still out of port,

Norman Brazer is reported at an Austrian sports center. In particular, he is said to have been close to royalty, when an obscure square dance got the Duke of Kent tangled up between his own ski boots and the mazy routine, to the end that he measured his length on the T & G flooring, and pulled down his duchess, inadvertently. A capable witness says that Mr. B. rose to the occasion elegantly, and put the titled lady back into circulation, leaving the Duke to shift for himself. That is something serious to think about as we shove our noonday trays into the range of a descending sweet potato cutlet.—L. K.

This Month's Color Plate

The color plate facing page 176 in this issue (as well as the one printed as frontispiece in the December PENCIL POINTS) was especially prepared by Theodore Kautzky to suggest a type of rendering that many architects could use to advantage. In manner it is about half way between the too frequent type of stiff detailed rendering, in which an attempt is made to show every brick joint, every shingle and every window muntin, and the free water color sketch which is inaccurate and misleading. Kautzky believes, and rightly, that there is a happy medium

in which reasonable faithfulness to the subject may be combined with the informal charm of a skilful water color and that the average small house client would be enabled thereby not only to visualize his house satisfactorily but get a real kick out of the picture as well. The original of his sketch was made on a sheet of mounted water color paper of full Imperial size.


Consulting Service Announced

A. R. Clas, former Director and former Chief of Plans and Specifications of the Housing Division of the P.W.A., has set up the A. R. Clas Associates in the Shoreham Bldg., Washington, D. C. This office offers complete technical service in connection with all planning and financial phases of the building industry.

"T" Square Officers

The "T" Square Club of Philadelphia announced the election of the following officers for 1938: Paul P. Cret, Honorary President; Walter H. Poole, President; Herman Schuh, Vice-President; Earnest V. Johnson, Treasurer; Thomas S. Michener, Jr., Secretary; and John Carver, Lloyd Malkus, and J. Joshua Fish, Directors.

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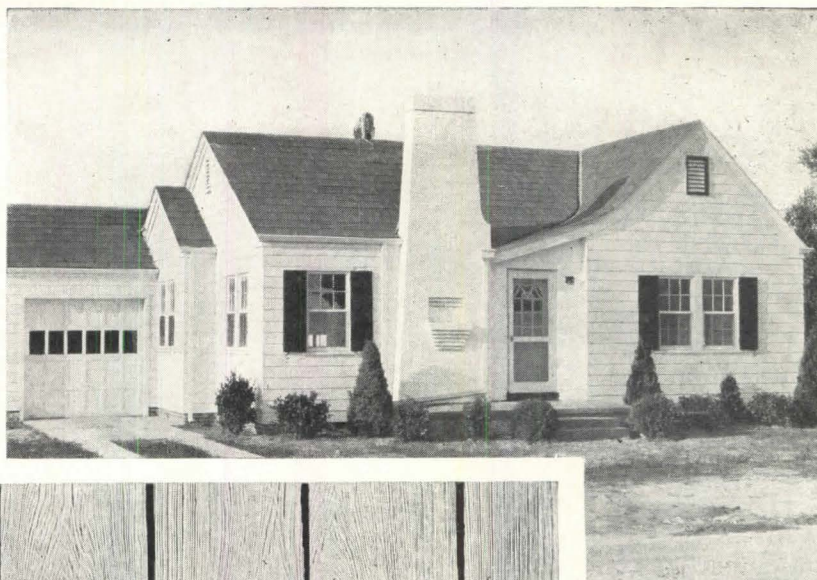
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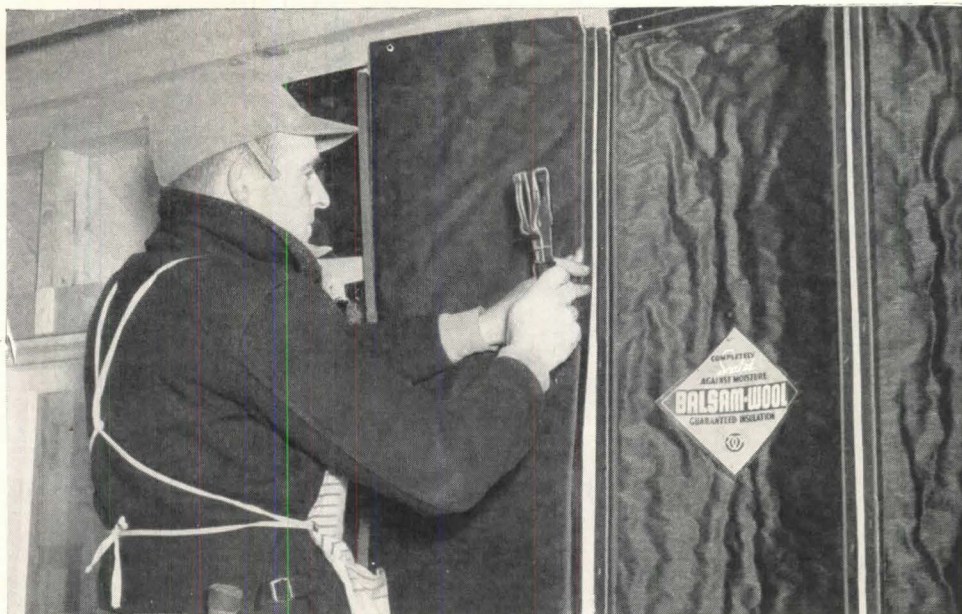
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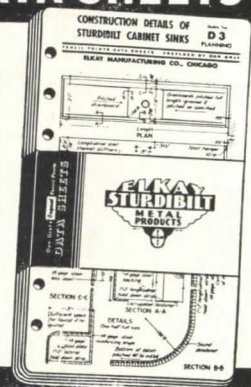
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Landscape Architects' Incomes

Professor Bremer W. Pond, Chairman of the Department of Landscape Architecture at Harvard, recently published an article, "The Incomes of Landscape Architects," in the *Harvard Alumni Bulletin* which brought out some interesting facts on this subject. The article, in part, follows:

"In order to find out whether or not this training of such a comparatively small group for a definite profession really had been worth while to its graduates, and thereby to the University, the Department sent out questionnaires last December to the 149 living graduates, known to be in professional work, regarding their income from the profession for the period June, 1936, to June, 1937. Of these, 133, or 90 per cent., answered the questionnaire; the results are most interesting. Based on the returns received, the average income of the 133 Harvard landscape architects was \$4,675 for that period; for those who have been in the profession three years or longer, the average income was \$4,875; for the younger graduates, in their first three years of experience, the average was \$2,500; at three to five years out it was \$3,200; five to

ten years after graduation, \$4,000; ten to fifteen years, \$6,300; and fifteen years or over, \$5,000. The range of the individual professional incomes was from \$1,200 to \$30,000.

"As would be expected, the largest group of the graduates are employed as experts and consultants by various Federal, State, and municipal governmental agencies in the planning of new towns, parks and park systems, recreational areas, and highway developments. Seventy-two are in this type of service . . .

"The next largest group, including 44 graduates, is in independent practice; this number will undoubtedly increase when conditions improve . . .

"Unpaid committee work and public commission service to State and national agencies such as various State and city planning boards, agencies like the American Academy in Rome, and the National Capital Park and Planning Commission are other important professional activities of many of the graduates.

"Nine of the Department's graduates are engaged in teaching, holding prominent posts in the schools and departments of this profession in the Universities of Pennsylvania, Illinois, Michigan, Syracuse, Ohio State, and Kansas State College."

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The Massachusetts Institute of Technology announces that for the academic year 1938-1939, a scholarship is offered for special students in the School of Architecture with an income equal to the tuition fee for the year (\$500.00).

The scholarship will be awarded to the candidate, who, having fulfilled all other conditions stands highest in a competition in architectural design to be conducted by the School of Architecture.

The competition is open to citizens of the United States of good character, who are between twenty-one and twenty-eight years of age, and who have had at least three years of office experience.

The program for the competitive design will be issued on Saturday, May 7, at a place in each city to be designated for each candidate by the School of Architecture.

Candidates must apply to Dean William Emerson, Head of the School of Architecture, 491 Boylston Street, Boston, Massachusetts, and file with him on or before Monday, April 11, a form of application which will be sent upon request.



1928

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Cass Gilbert, Architect

1938

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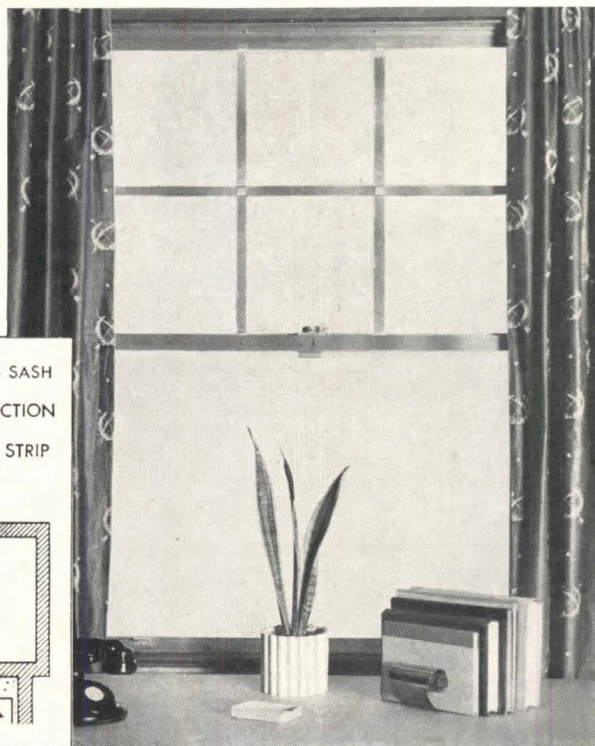
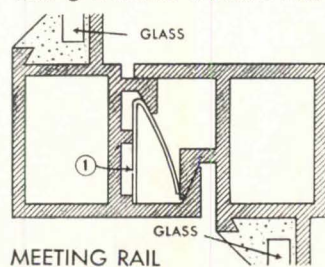
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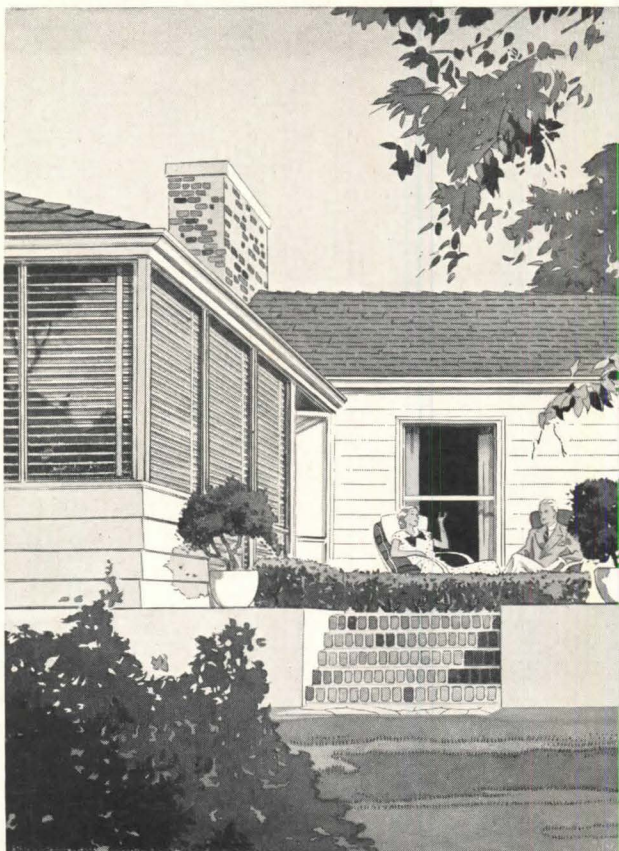
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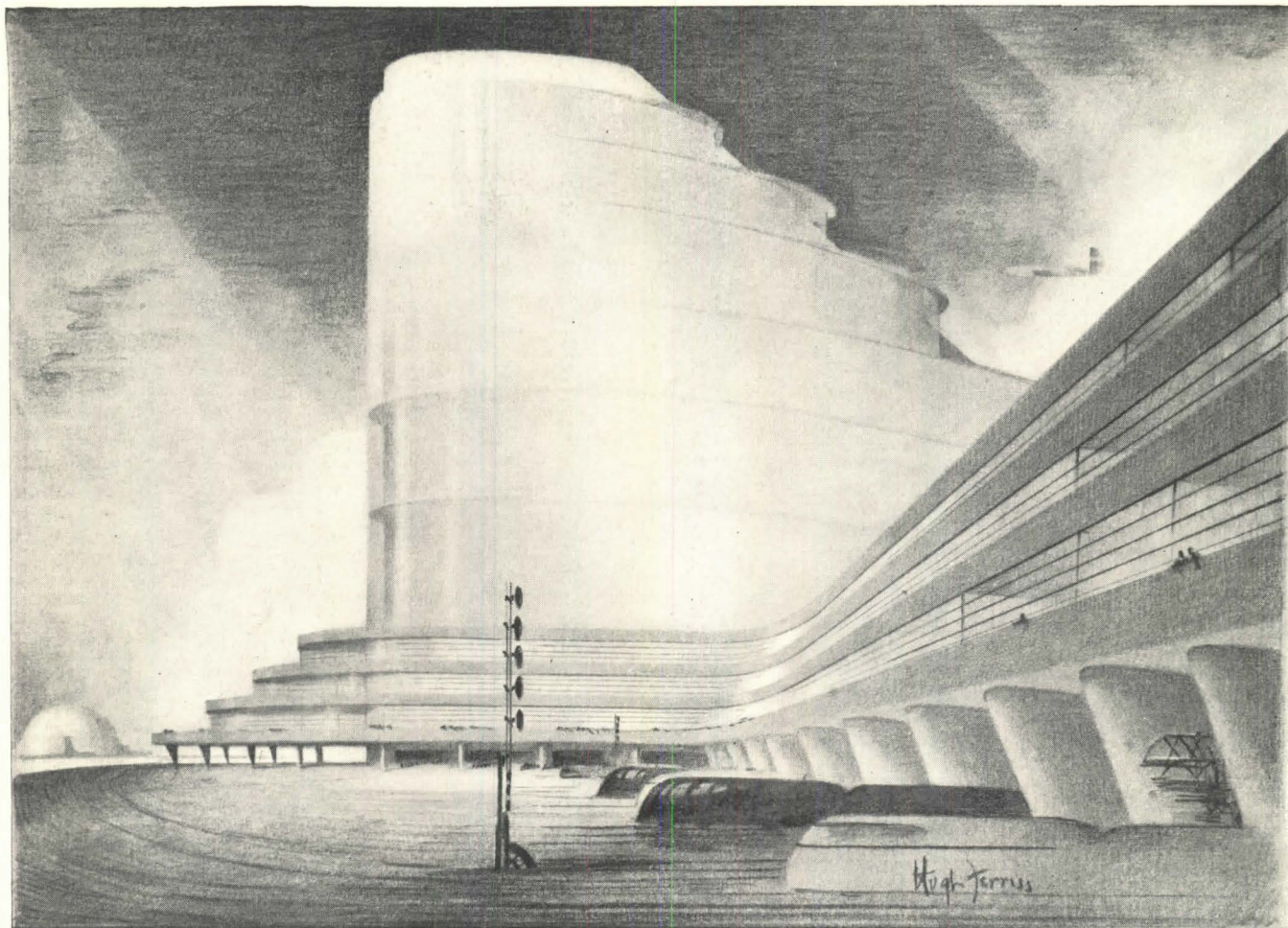
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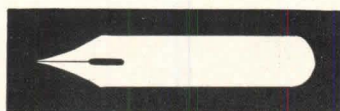


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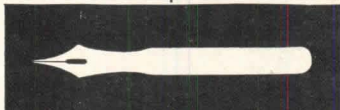
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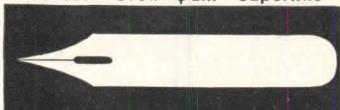
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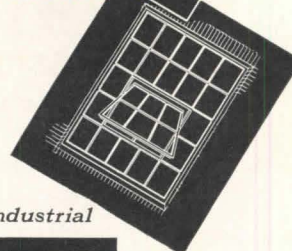
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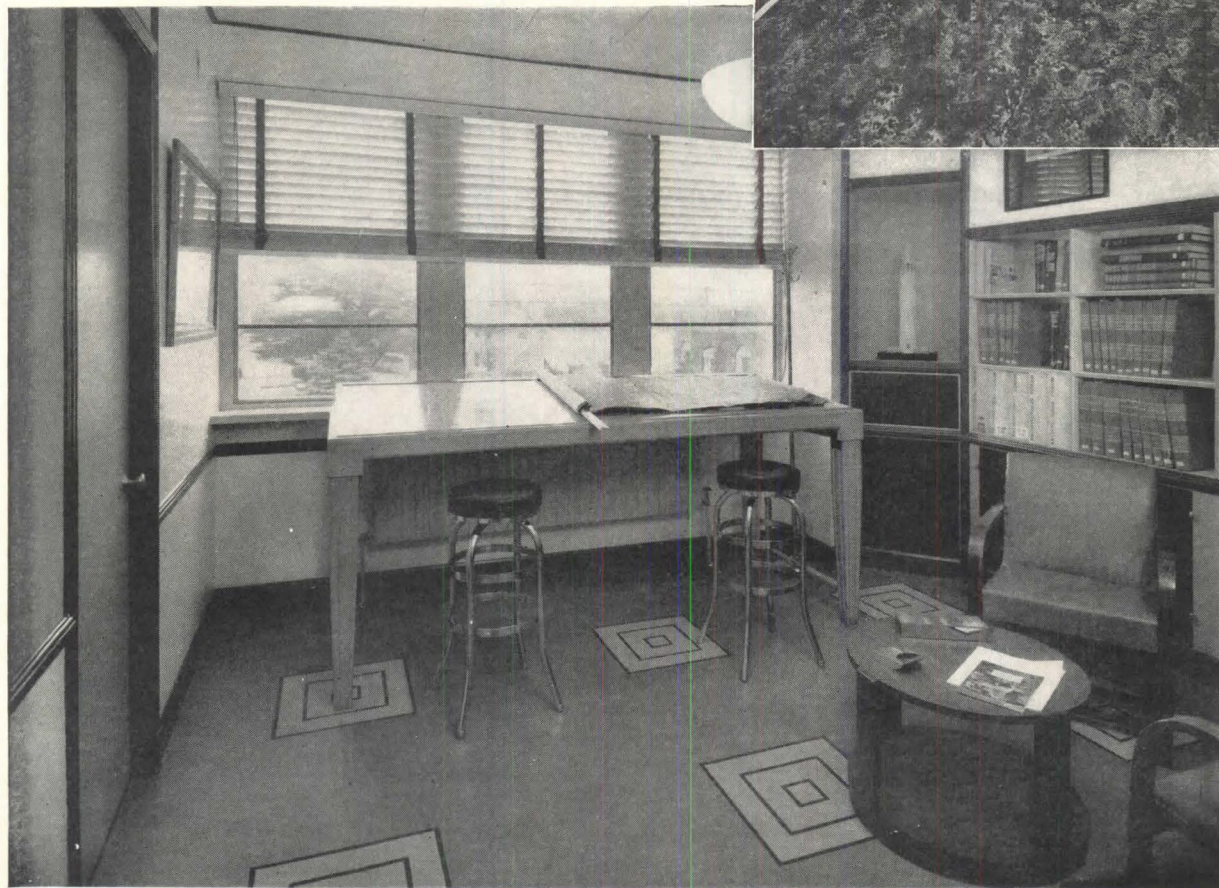
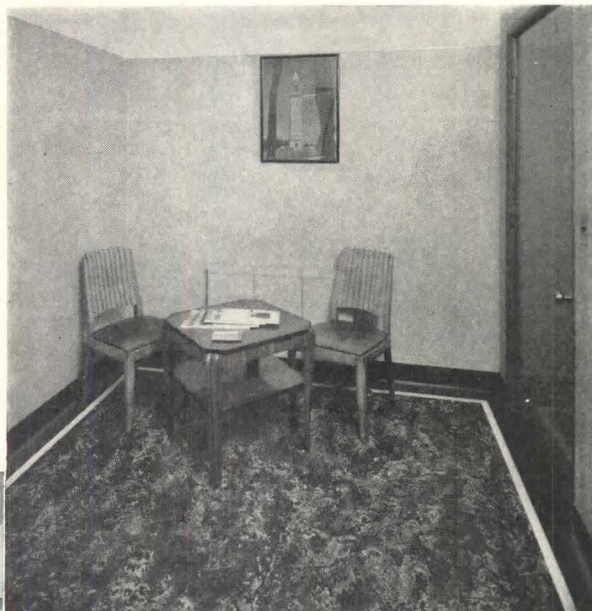
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A MATTER OF PRESENTATION

THE officials of the Schenley Corporation, about one year ago, found it necessary to rush a comprehensive prospectus of their proposed 1939 New York World's Fair Building to Paris so that a question concerning the imported liquor exhibit could be settled. There was a catch, however, for as yet no definite plans had been made.

Morris B. Sanders, New York Architect, who had previously done a few small jobs for them, was called in and the problem was placed squarely on his shoulders. When the *Queen Mary* pulled out of New York Harbor four days later, she carried the remarkable presentation shown on this and the following seven pages. It was so good it sold the importers on the World's Fair and, instead of

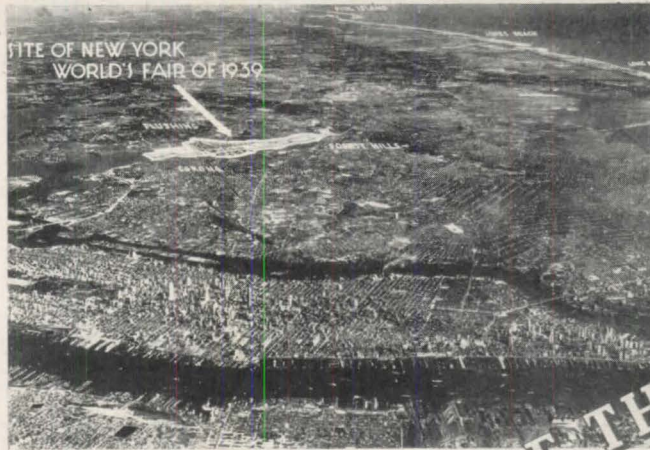
stopping there, sold the Schenley Corporation on Morris Sanders as their architect.

The presentation, consisting of twelve 24" x 20" pages and two covers, was executed in color by the use of photographs, photostats, airbrush, and pen. It discloses and drives home the major selling points so clearly that no explanation is needed here, except a reminder that it was intended to impress the importers. Pages 9 through 12 constitute the climax. It also should be remembered that the design for the building was hurriedly conceived and later was changed by Mr. Sanders to that illustrated on the last page of this article.

The front cover of the presentation is shown below. Successive pages follow in their logical and dramatic order hereafter.



1



THE LOCATION OF THE SCHENLEY

3

PLAN

SCHENLEY'S Building at the New York World's Fair will consist of four main elements as well as numerous minor ones. In Project #1 the STAR BAR is dominant. DOMESTIC and IMPORT displays flank this central form. RESTAURANTS will take an important part in the plan.

The STAR BAR encloses an intimate mobile stage. Cafe tables will surround the bar, offering indoor and outdoor service.

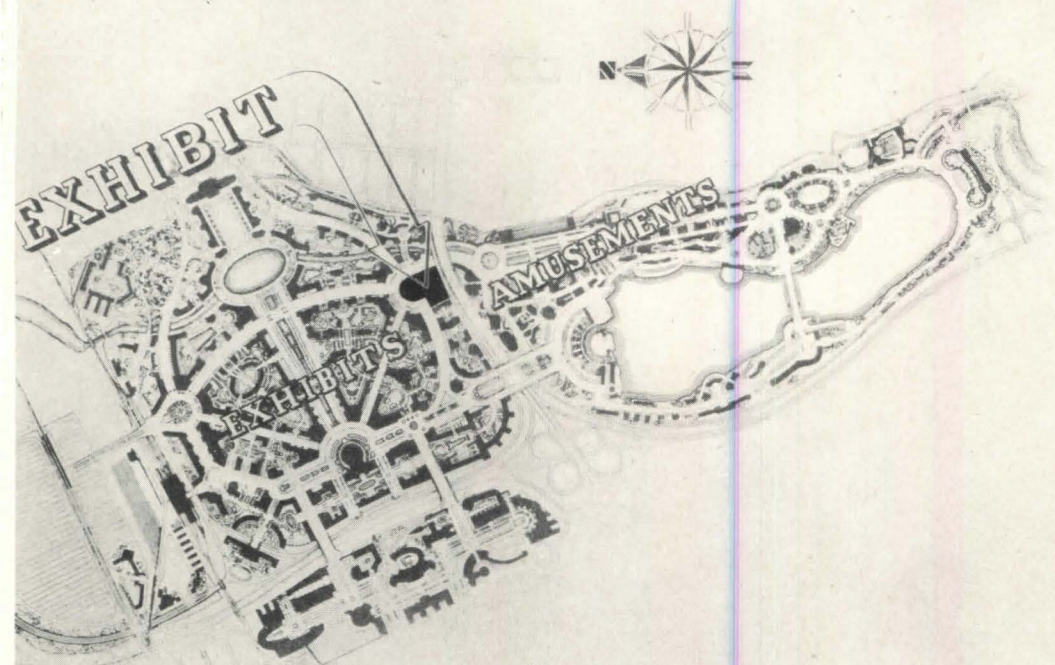
In the DOMESTIC HALL, Schenley's American plants and products will be displayed in a direct interesting way.

The IMPORT HALL will include separate display units, an exhibition wine — cellar and a "tasting — bar".

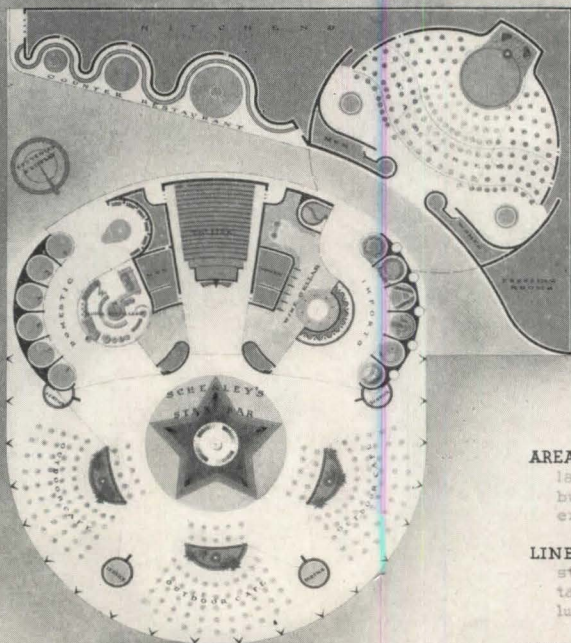
A large CABARET is planned in conjunction with a more moderate restaurant.

Because of the perfectly-planned circulation, visitors will find themselves pleasantly conducted thru all parts of the Schenley Buildings.

2



4



AREAS

land . . . 93,950 *
building . . . 77,800 *
exhibits . . . 19,700 *

LINEAR

star bar . . . 240'
tasting bar . . . 72'
lunch counter . . . 300'

SEATING CAPACITY

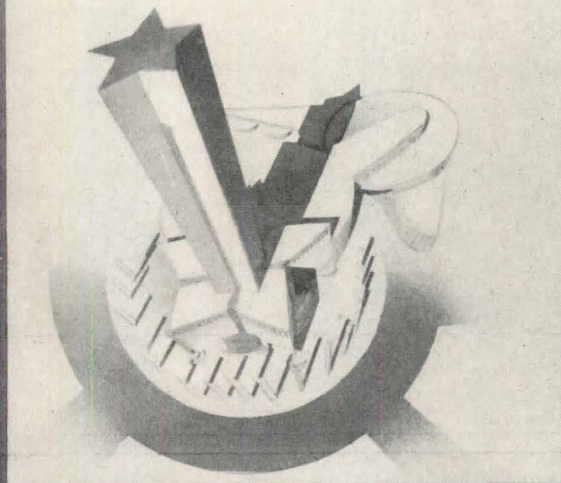
cabaret . . . 650
theatre . . . 480
bar & cafe . . . 980

Scale  meters

 feet

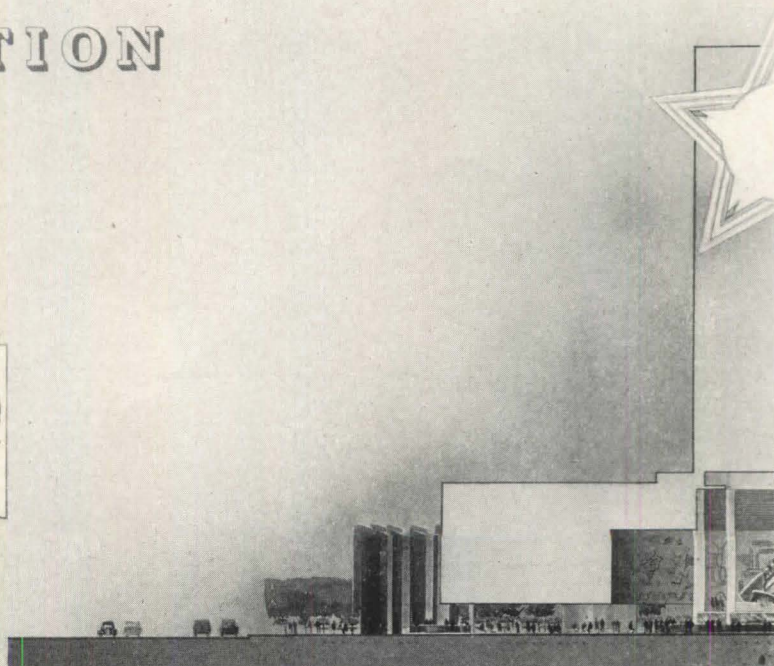
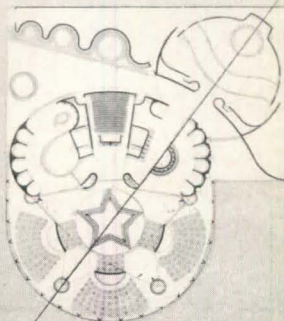
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PERSPECTIVE

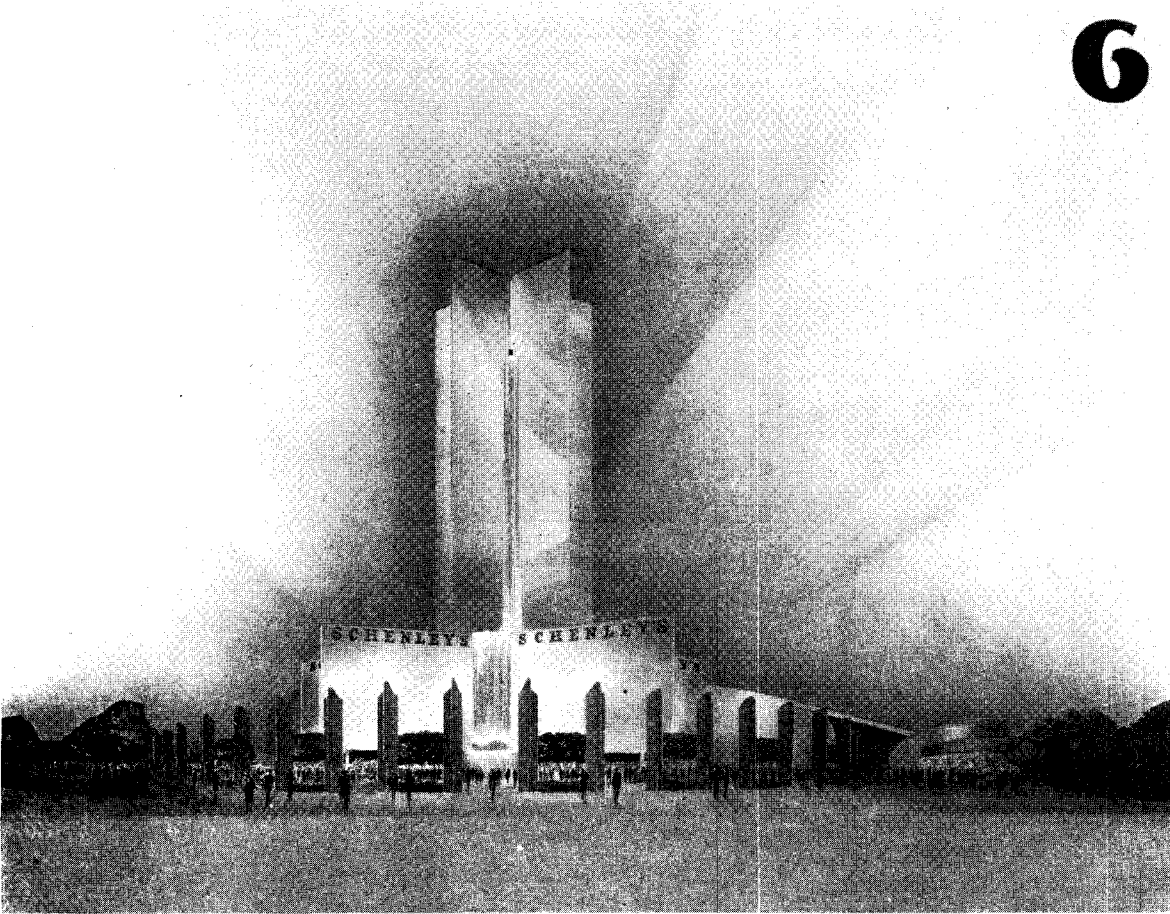


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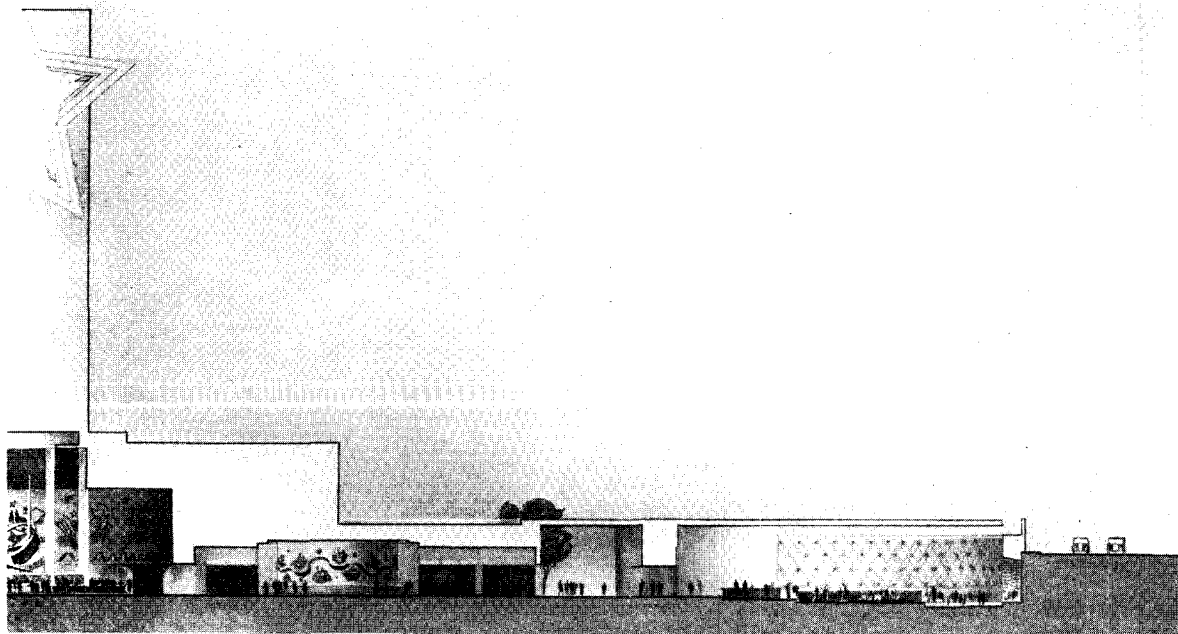
SECTION



6



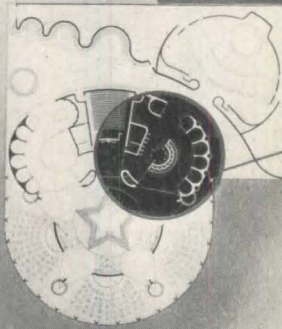
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9

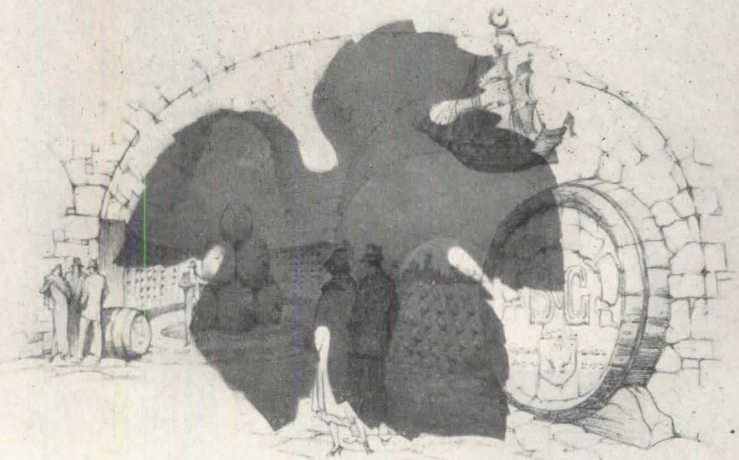
IMPORT PLAN

The IMPORT EXHIBITS are planned about a semi-circular tasting-bar. Which will in itself include novel display features. The outer hall provides for seven large units, each unit to contain about 350 sq. ft. The exhibition wine-cellar has ample space for numerous other units and will be developed in a manner that will interest and educate Americans. At the tasting-bar one may become acquainted with foreign wines and liquors in a gracious manner. SCHENLEY IMPORTS will be represented throughout the entire building through the media of murals, movies, entertainment and a variety of other ways.

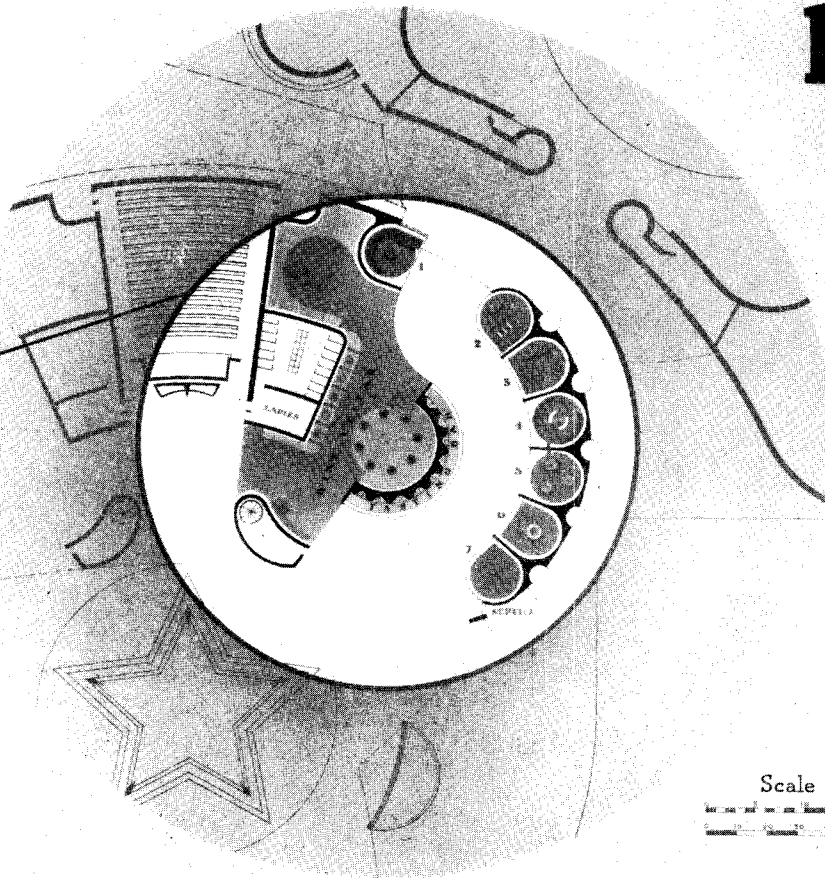


11

WINE CELLAR

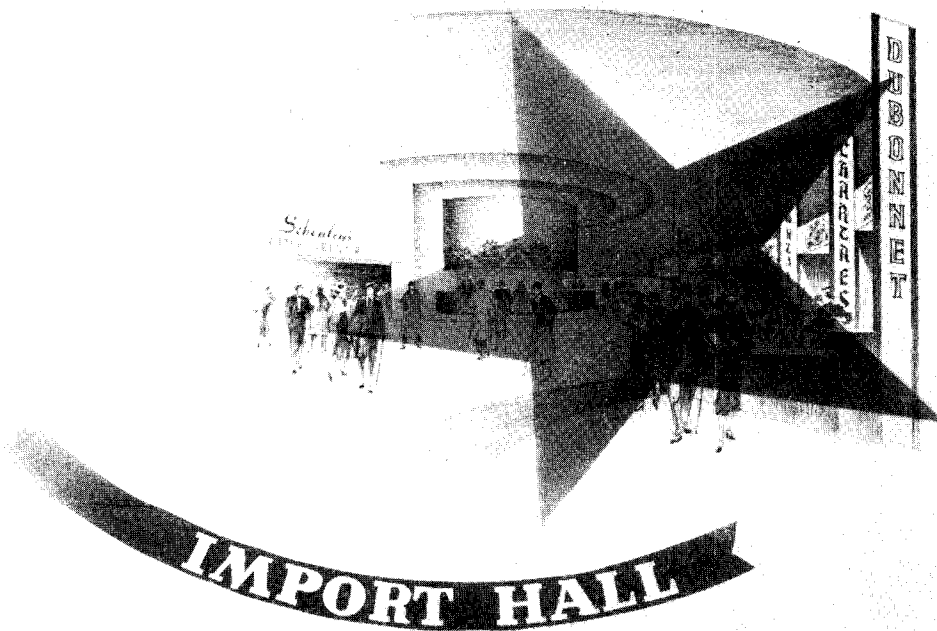


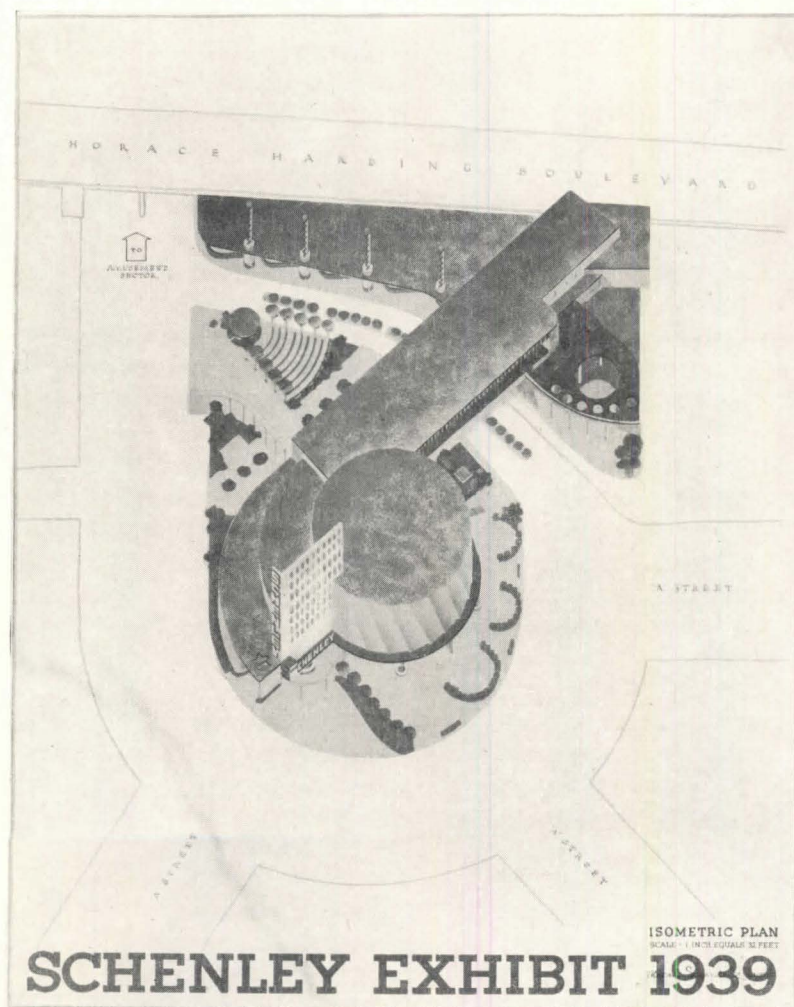
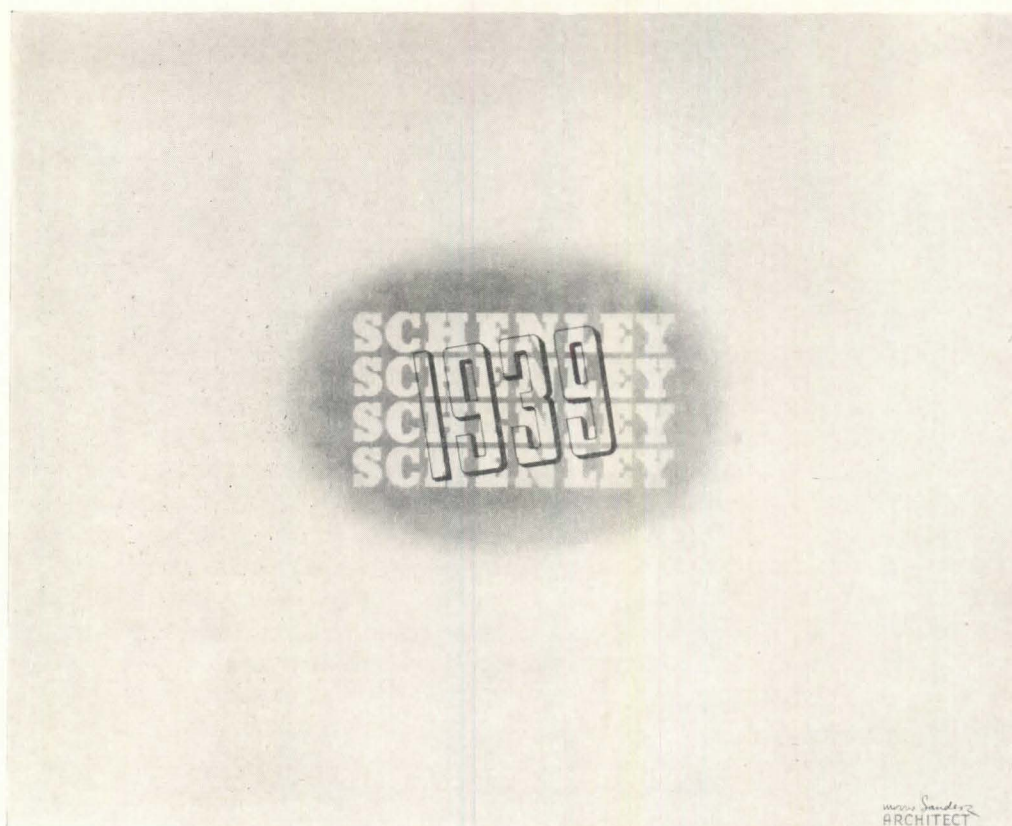
10



Scale
 0 10 20 30 40 meters
 0 10 20 30 40 feet

12





The back cover of Morris B. Sanders' Schenley presentation is shown above, while at left is a rendering of his final design of the Schenley exhibit for the New York World's Fair. The latter is quite different from the one used in the presentation, and was arrived at when there was more time for study

F. L. W.—AN ANALYSIS

BY TALBOT F. HAMLIN

IT is full time to take stock of Frank Lloyd Wright. His work, much of it, has been standing for over a quarter of a century, yet his recent buildings show no signs of a tired or an aging mind. It continues the work of a young man—eternally young as only a genius can remain young. It is peculiarly necessary to attempt an evaluation of this work because in the presence of genius frequently the reason is abashed, judgment swept away in the inspiring presence, and hero-worship (which, for all of Carlyle, may become dangerously fawning) takes its place. In the case of Frank Lloyd Wright the task is doubly difficult, and yet all the more pressing, because the intensity of his nature is such that it is almost impossible for us not to become either enthusiastic admirers or bitter enemies. Judgment of his work—and it is so important that it cries out for judgment—is too often colored by this effect of his personality, so that it is made on an emotional basis that may have little to do with the buildings themselves.

I have set myself the task, therefore, of trying to dissociate myself as much as I can from my general admiration of Wright. I shall try to forget the fact that he is a genius, whose influence is so largely responsible for the liberation of creative effort in architecture everywhere in the western world. Those are historical, not critical, facts. I shall try to examine some of this work, in all sincerity and in all humility, as though it were the work of Tom, Dick, or Harry, with offices across the street.

II

The first secret behind the extraordinary effectiveness of Wright's recent work is the secret of subordination. In each case he has chosen some basic idea—or some related basic ideas—and subordinated everything else to them. The ideas may be structural methods, or site, or some elements of space composition. Whichever idea is chosen, everything else is grouped around it, made subordinate to it. The result is a dramatic harmony which is of immense power.

This perfect subordination of all minor ele-

ments to some major motive need not be a conscious act on the part of the designer, nor its apprehension a conscious part of the observer's emotion. Even sensitive and appreciative people often find it difficult to explain why certain buildings please them. Designers, too, often develop their especial skills without knowing quite how they work; their minds get so accustomed to certain processes which result in a unified design that the act becomes almost automatic. Yet the consciousness or unconsciousness of the process does not vitiate the fact: in this case, the complete subordination of details to a controlling idea.

This particular type of selective subordination has for a long time been developing in Wright's work. Thus, in the early "Prairie Houses" of the period 1900-1910, it was, in his own words, "extension and emphasis of the planes parallel to the ground." (*Modern Architecture*, the Princeton Lectures, 1931.) In the California "textured block" work of twenty years later, it was the square shape and pre-cast character of the concrete tiles or blocks that furnished the theme. Little by little this idea of subordination has cleared, become surer, less concealed under the sometimes questionable richness of ornament that has in the past veiled the essential simplicity. Now, in the latest work, and especially in the Kaufmann house and the Johnson Wax Company building, the process has at last completely triumphed. In both there is a new clarity, a new power, a new poetry.

In the Kaufmann house, the controlling ideas have been two—the site and the structure: the site, a brook falling over stratified rock into repeated levels of quiet pool connected by the falling water from which the house gets its name; the structure, the highest development of the cantilever idea. These two themes, site and structure, are related by a common quality — horizontality — of rock strata, of water level, of cantilevered terrace and parapet. And horizontality sings through every detail of the house, like a great key chord.

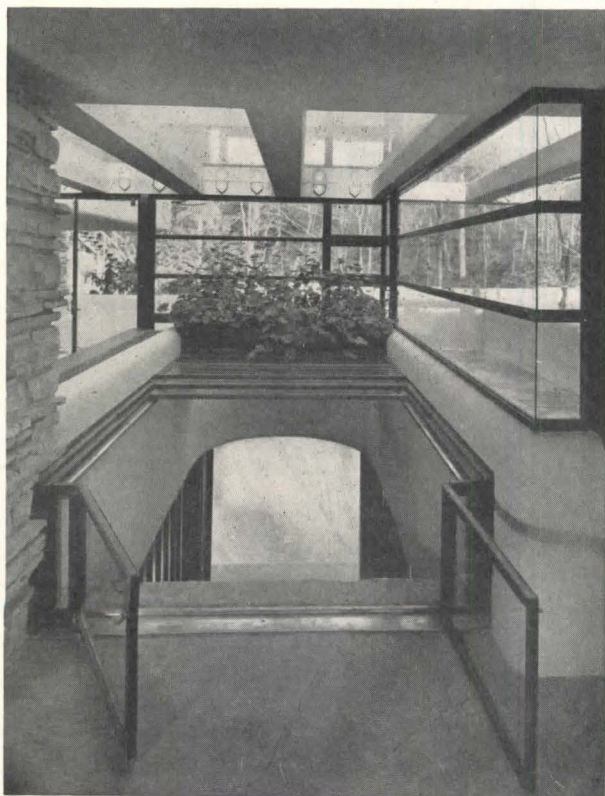
The relation of house and surroundings is not achieved through any romantic rusticity.



All photos by Hedrich

The Kaufmann house, "Falling Water," is not only magnificently wedded to the site by the use of beautiful native stone, but also by its rhythmical and powerful horizontal lines which harmonize with the water in the pools and contrast interestingly with the tree trunks

The stairs from living room down to pool, with glass in long horizontals around them and glass set in the roof slabs above, join indoors and outdoors in unity



It is honestly and proudly an artifact—the work of man. Even where the local stone is used it is laid in careful horizontal beds. The strong horizontals of the terraces make no concessions to natural curves. What, then, is the basis of the harmony? First of all, it is in material: in the stone walls and chimneys the beautiful textures and the horizontal beds of which somehow recall, harmonize with, the stratification of the ledges of the site; and in the glass areas, so beautifully run in long horizontal bands which pick up the same note and reflect the trees and the sky besides. Second, this harmony of house and terrain lies in strong contrasts of line. The repeated horizontals, the vertical tree-trunks, together make a symphony of contrast. But the horizontals of the house, like those of stratified rock, are not all the same length, nor do they begin and end exactly over each other; there is, as it were, a back-and-forth weaving of the planes that softens the ending of each and makes them all seem part of the natural site, a result as of the laws of nature.

The same urge to relate all the house to its site is carried into the plan; the whole house seems to invite the outside world in, and especially this particular part of the outside world, with its broken levels and flowing water and vertical trees. It is not only a matter of glass area; it is the whole interpenetration of the two worlds, achieved by an overhanging slab pierced like a glazed pergola, by knowing projections, by the most imaginative touch of all—the glazed stairs from living room down to pool, and the opening in the slab which receives them, half within the living room and half outside. That, in its treatment of metal and glass and view and shadow, in its use of indoor sunlight and indoor foliage, is perhaps the climax of the whole house, an extraordinarily free yet disciplined piece of architectural counterpoint.

The cantilevering is equally a controlling factor in the design. The whole structure is a fantasy on cantilevers, cantilevers on cantilevers, all running back to and as it were with the weights finally collected on the struts which wed the whole to the cliff side. Now, cantilevering has as its most obvious expression the continuous horizontal. And continuous horizontals dictate the design throughout. Notice how the glass is treated, in long suave lines, with uprights only for doors and ventilating portions, and every sense of vertical supports eliminated. Notice how the same horizontality controls the stone coursing, and even the interior furniture shows the same broad sweeps. Horizontal emphasis has been a

recognized means of architectural emphasis for years. Here at last, in the Kaufmann house, it has achieved, by the harmony of site and of structure, by the magic of the most rigid yet most winning subordination, perhaps its first perfect expression.

In the Johnson Wax Company building, Wright has taken one of the most common of industrial concrete forms as his theme—the concrete mushroom column. In the difference between this building's airy and graceful interior and that of the formless and ugly bulbousness of all too many present-day warehouses and factories lies all the difference between creative building and hand-book engineering.

It is, of course, a commonplace that America is far behind much of Europe in creative uses of reinforced concrete. There are many reasons for this—relative costs of labor and material, and the high costs of special form work, for instance—that need not concern us here. Now, in this building at Racine, we have concrete, almost for the first time in this country, seen as a noble material, creating its own forms, crystalline in their simple clarity.

The essence of the mushroom column is its spreading from the bottom upwards and the fact that it supports most efficiently an area of circular shape. The difficulty of much typical or "normal" (i.e., standardized hand-book) concrete construction has been its excess weight. By concentration on the spreading circular character, and by a daring lightening of the weights, Wright has arrived at a new column, graceful instead of ponderous, and a new concrete architecture is born.

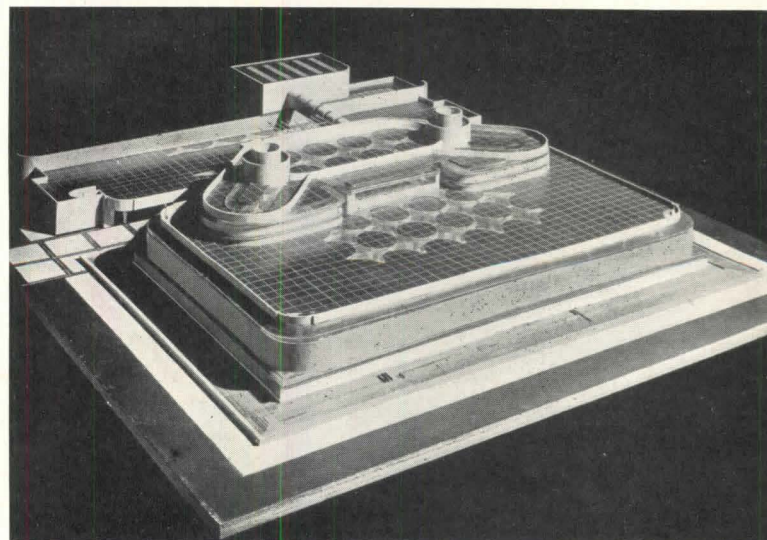
These two ideas have found expression in the entire design. The general framework of the plan is merely a series of these circular mushroom columns arranged on a simple pattern of square bays. The corners are all rounded—again the circle idea. The ventilation shafts are circular. Played into this is the mezzanine gallery, and above that the penthouse with the executive offices; and in all the elements of these the circular corner reigns, as though the larger element—the greater melody—were here repeated in a different key, and with a different, but related, rhythm. Again the analogy of musical counterpoint is felt.

And, as the basic idea defines the plan, the details are equally defined. The spreading idea, for instance—the gradual concentration of load at the smallest point, the foot, where the whole is received on a cast iron base of beautiful and powerful delicacy, a refinement that makes the columns almost the flowers Wright fantastically likens them to. The banding of



The light grace of the spreading columns which control the design of the Johnson Wax Company's new building

Looking down on the model of the Johnson Wax Company building, one sees how the circular form of the column heads is the basis for the entire design—vent shafts, pent-house shapes, and roof lights in the center





The "Honeycomb" house of Dr. Paul Hanna of Leland Stanford University, California, where every plan form results from the use of 60° and 120° angles

The hexagons seen on the terrace pavement run through all terraces and floors and form the framework of the plan. But they bring difficulties with them and the complexity of the gable-end and its windows is directly traceable to this honeycomb which controls the plan



the columns where the great spread begins and stresses are heavy, and then the light and delicate cones of the top—these are both expressions of the main idea.

Almost the most remarkable touch of all comes at the roof, and it is a touch so simple, so logical, so obvious that it seems strange no one has thought of it before. That last stroke of unconventionality is the omission of the flat slab between the "mushrooms" in the center of the building, and the substitution of ceiling and sky lights to flood the center of the building with day-time brightness. At once the merest child entering the building can see how it is built, and delight in it. The columns do not simply hold up the building—in a sense they *are* the building. That is clarity indeed.

The lighting of the outer portions of the building with a continuous banding of glass is another felicity. No form could more completely declare the mere screen quality of the walls, and few could give such a gleaming and lovely "cornice" band. The use of long tubes in this band should serve not only to diffuse the light, but also to emphasize the continuity of the whole. Most interesting, too, is the domed roof of the "car port" flanking the road entrance; this repeats still again the conical motive of the column tops, at a different scale and, as it were, in the musical sense, inverted—the cones of the roof receding up as those of the column tops project down. Thus, what might have been, in the hands of a less imaginative man, the stupidity of a flat and uninteresting slab ceiling, becomes light and form-full, and an integral part of the entire symphony.

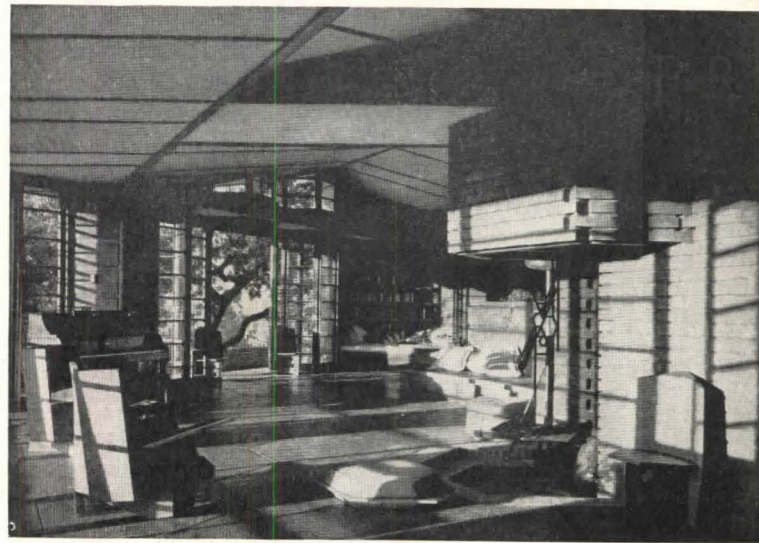
In the case of the California house for Dr. Hanna of Leland Stanford University, it is a shape conception—the hexagon—which has been the controlling motive; Wright calls this the Honey-comb House. Now, since the choice of preferred shapes is more a matter of taste, and less a matter of obvious structure or site or convenience, than is the choice of cantilevering or mushroom columns, the process of subordination is rendered just that much more difficult. With such a site as the Kaufmann house, "Falling Water," and for such a structure as the Johnson Wax Company building, the choice respectively of cantilevering and of mushroom type columns is self-explanatory. But for the Hanna house the choice of hexagons is not self-explanatory; more, it violates almost all accepted building conventions. Thus the architect has to "sell" us the idea of the hexagon before we can appreciate the perfection and clarity of the subordina-

tion. And just here personal opinions are bound to differ. At once questions come thronging for answer.

The great question is, roughly, what has been gained by a plan of 60° and 120° angles, demanding entirely special furniture, which could not have been gained in more usual ways? Spreading views from the living room and terraces, perhaps, and good orientation; a sense of size and yet of mystery in the living room-dining room area; but are these enough? After all, the 90° system of building has certain definite reasons behind it, besides custom—the entire simplicity of inclined planes for roofs and other elements, and the general shapes of the human body in repose, for instance. The roof problem pokes itself out at once; the main simple gabled roof is cut off at the end to the required angles, and the result seems oddly forced and harsh—a conflict with the lines of the flat projecting porch roofs that would not have occurred with the more usual 90° system. The whole gable end seems to have drawn to itself all the difficulties of the plan choice, and the result is complicated instead of simple and clear.

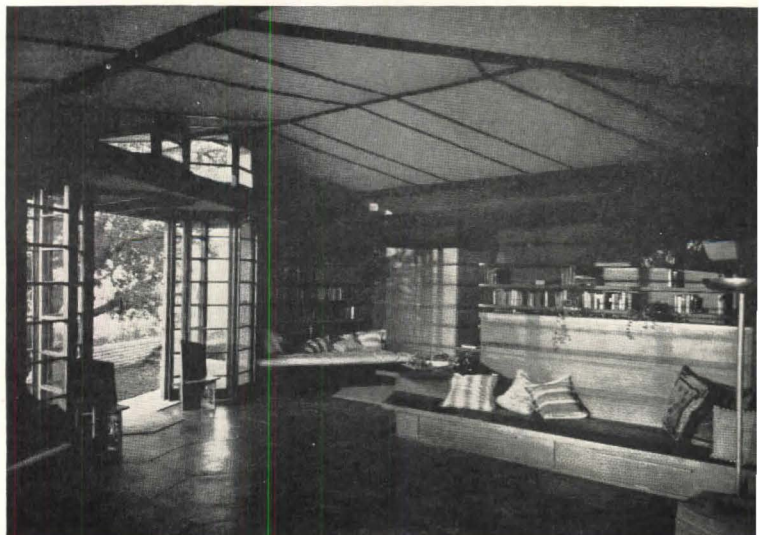
The matter of the furniture is even more serious. There are chairs shown in the living room interior which look awkward and uncomfortable. After all, most people's thighs are generally of the same length, and the natural plan of a seated figure is generally square or rectangular or trapezoidal—anything but triangular or hexagonal. The making of a hexagonal bed offers difficulties, and those who sleep with arms and legs flung out would do better on a star-shaped than on a hexagonal couch. Perhaps subordination, when it is pure shape subordination, must have other controls as a discipline. . . .

Yet the house is beautiful, poetic. There is a character to the hexagonal elements that has an imagination-stimulating quality which right angles do not produce. The softened angles at the corners are agreeable. There is a character of variety, of change, of invitation around corners that is endlessly fascinating. And, above all, there is an extraordinary definiteness of rhythm. The hexagonal unit, so regularly applied over floor and terrace pavement gives a measure to which the whole house sings. The honeycomb shape fills any area with regular units—a module infinitely repeatable, from which the whole house grows. There is undoubtedly an æsthetic geometry through the design, of amazing variety and power. One merely wonders whether it has been gained at too great a sacrifice. True subordination is never a sacrifice, but pure gain.



In the living room of the Hanna house where all the details—even the furniture—follow the 60° - 120° scheme

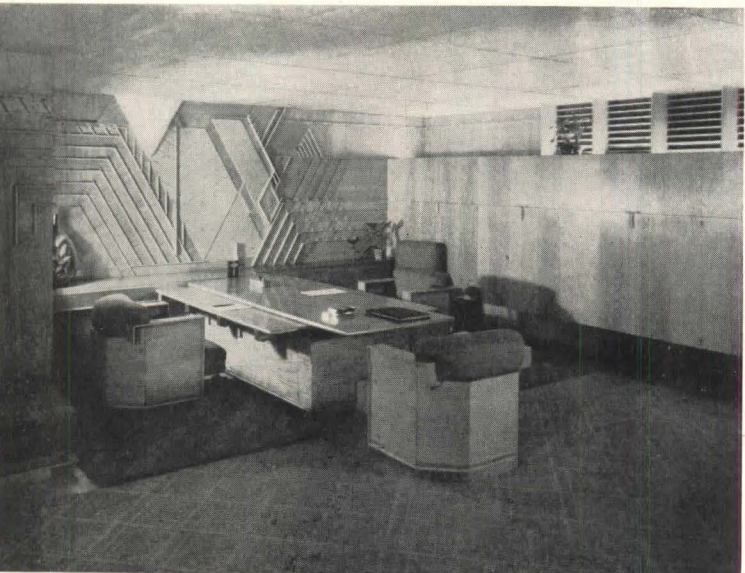
Another view of the Hanna living room which shows the sense of openness, of invitation around corners, of pleasant and rather mysterious space, all achieved by consistent use of the honeycomb basis through the plan





Wright's exquisite rhythm sense expressed in the south loggia of his own house, Taliesin, and achieving great poetic charm by the subtle repetitions and rhythmic relations of the slim vertical rectangles of the windows to the exquisite pierced Oriental screens set in them

Wright's rhythm sense in decoration: wooden wall treatment in the Kaufmann offices in Pittsburgh where he has employed 60° angles and repeated lines in a manner so emphatic as to appear almost painfully insistent



The Hanna house illustrates the second great secret of Wright's power as a designer—his varied and magnificent passion for rhythm. Basically, the Wright rhythms are simple and regular and strongly marked; he is a Beethoven rather than a Debussy or a Satie. His rhythms dance rather than flow; they tend towards the staccato type. His continual use in ceilings of what he calls "marking strips" is characteristic. Yet, just as Beethoven's Seventh Symphony shows to what variety simple and regular rhythms can give rise, so in Wright's work regularity of rhythm does not prevent enormous shape variety; it is the regularity which binds the shapes together. In the south wall of the Taliesin loggia there is a group of windows with pierced Oriental screens set in them that is a miracle of lovely vertical rhythms of exquisite delicacy; the Kaufmann house is full of such felicities. It is the rhythm sense that creates the power of much of his earlier work; it is the reason, perhaps, for his love of bands of small windows with rather heavy mullions between them; it is the reason for the brilliance and the warmth of the California concrete block houses.

The third great secret of Wright's genius is in some ways the most important of all. It is his deep appreciation of the fact that the architect is, above all, a *creative constructor*. That does not mean that the architect is an engineer. It does mean that the building design and the building structure are one unified thing. It does mean, therefore, that the architect must have a structural imagination and structural command. And it means, since the structure must be creative to become architecture, that the structural sense of the architect is almost the reverse of the hand-book mentality which industrialism has forced upon too many of our engineers. The cantilevering of the Kaufmann house and the columns of the Johnson Wax Company building may perhaps be checked by hand-books; they can never be designed by them. Again and again Wright has proved himself to have this sense—this structural intuition—and from the Imperial Hotel in Tokyo down to these last works its results are evident.

It is the great tragedy of modern American architecture that so many architects lack this sense, or, having it, let it be over-ridden by the hand-book rules. Engineering is less truly scientific than we think; except for the beam-girder theory and truss diagrams, most of the elaborate formulæ so impressively set forth by the routine engineers are merely trial-and-error empiricism. Much of the most beautiful construction of the past is not scientifically

analyzable — the Gothic vault, for instance, or the hammer beam truss. True engineering still remains creation, and the architect must reassert himself as the structural creator. Every empirical formula is at the mercy of the first exception; every empirical method in building should be a challenge to the architect's creative imagination. Check the result, test it as you please—as Wright does. Employ the best engineering talent you can command to examine it, vouch for it. But the conception should be an integral part of the building design.

III

A talent for creative subordination, a highly developed rhythm sense, and an extraordinary sense of creative structure—these, then, seem to me to be the greatest elements the combination of which makes Wright the genius in architecture which he undoubtedly is. And the first two of these seem to me also to be the sources of those few shortcomings which prove him human. To the impersonal, detached critic which I am trying to be, there are what the French so beautifully express as *les défauts de ses qualités*—the faults of his qualities. The clear amber of the whole does contain a fly or two. Perhaps that adds a certain piquancy to the effect . . .

At the first of these defects I have already hinted in talking of the Honey-comb House: the fact that complete subordination to one idea sometimes means subordination of the needs and the comfort of those who live or work in the buildings. Again and again this complication brings difficulties of detailing, points difficult to make tight, and so on. In the Kaufmann house, for example, the butting of glass at the corners, without a frame member, may be a danger point; the frequent use of terrace and interior floors on the same level certainly is. The problem of drips on overhanging slabs is another, and so is the way the metal and glass walls and the masonry of floor and parapet intersect. In our 110° annual temperature range strange things happen to building materials; and the greater the "cover" by rebate or some other device, wherever two differing materials join, the better. Wright's subordination tends to reduce this cover, again and again.

In plan, too, there are sacrifices. Why should the guest have to enter the open stair hall to get to his bathroom? Why an inside bath, even with a skylight, when that skylight opens on someone else's terrace? Why, too, the diffuseness of the living room, with little usable space to be cozy in around the fireplace?

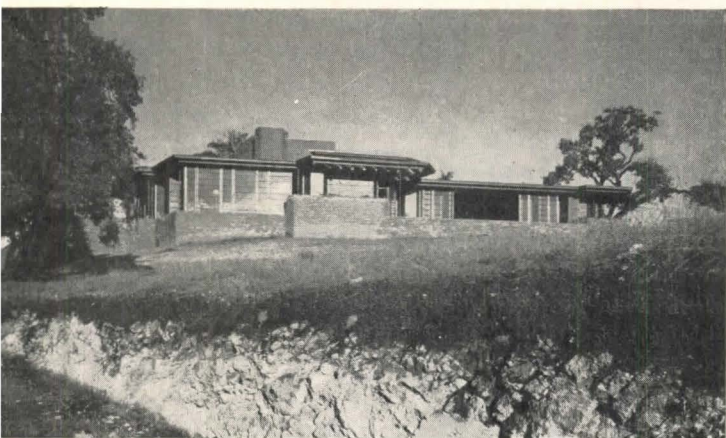
Why, in the Hanna house, hexagonal closets, which are difficult and wasteful spaces in which to hang clothes or store anything except other hexagons?

Now all of these are niggling and petty questions. Yet they are asked in good faith, because they are all at the heart of one major danger of "subordination" as a single end—the danger that in the course of the process the human being himself may become subordinated. Wright himself seems aware of this; at times he seems almost to grudge the human being any qualities or desires save the quality of æsthetic sensibility and the desire for æsthetic satisfaction. In "*The Cardboard House*," one of the Princeton lectures published in *Modern Architecture*, he writes,

"But I soon found it difficult, anyway, to make some of the furniture in the 'abstract'; that is, to design it as architecture and make it 'human' at the same time—fit for human use. I have been black and blue in some spot, somewhere, almost all my life from too intimate contacts with my own furniture. Human beings must group, sit or recline—confound them—and they must dine, but dining is much easier to manage and always was a great artistic opportunity. Arrangements for the informality of sitting comfortably, singly or in groups, where it is desirable or natural to sit, and still to belong in disarray to the scheme as a whole—that is a matter difficult to accomplish. But it can be done now, and should be done . . ."

Thus he admits the dangers of his own approach—the "confound them" shows the depth of that danger—yet he realizes it as a danger and something to be overcome.

Perhaps this sense of the dominance of the æsthetic approach is related to another quality which makes so much of his writing at once so stimulating and at times so irritating. Like many of the great artists, he has a profound innocence of human nature—an innocence so vast that it combines extraordinary intuition and extraordinary ignorance of what people really are. He sees them as he thinks they ought to be; the Welsh evangelical strain is strong in him; with such an innocence and such a conviction it becomes natural that all those who disagree are in his mind either hostile or wicked or both. This quality has served to isolate him unfortunately, and to circumscribe and limit the vast influence for good he might have been. Yet it, too, is the fault of a quality; perhaps we need more passionate and innocent artists today, and fewer tolerant and detached ones . . .



The Hanna house as seen from below

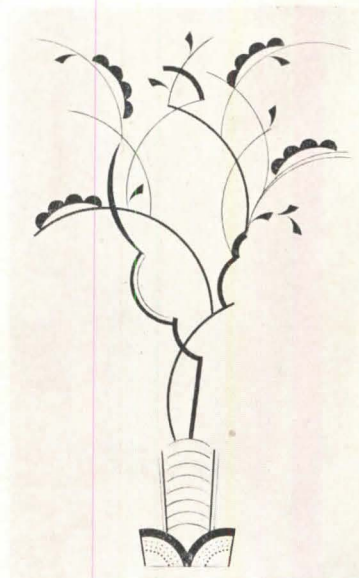
In the rhythm sense of Wright there is also danger of abuse, for insistent rhythms have a way, sometimes, of running away, out of control. It was so, at times, even in the case of Beethoven, whose tunes sometimes go suddenly tinkly and commonplace; the blood-beat of humanity leads to the mere jingle of a toy piano. So, occasionally, it seems to me, with Wright: the insistent rhythms of detail grow forced and thin. This is never the case with his major rhythms of plan, of void-and-solid, or of level; it is in the minor rhythms of the purely decorative that this takes place, and the rhythms seem to be riding him rather than letting him direct and control. For all the beauty of space composition, for all the loveliness of wall and roof, in the Tokyo hotel, in its ornament there is petty jingle here and there. And there is too much ornament; in this and some of his other buildings, Wright's love of rhythm has led him to thrust it at us with at times an almost painful insistence, till the eye and the mind weary and long for rest. It is this passion which has led him at times to over-ornamentation. Even his creative and always rhythmical detail would frequently be—at least to the taste of many of us—more effective if there were less of it, and some of his rooms more livable if their rhythmical basis were less obvious. It must be said, however, that such details are often more noticeable in photographs than in the actual work, for again and again he allows intuitively for that selectivity of human vision which no camera possesses.

IV

Such are the chief virtues, and the few failings, of the work of Wright as they appear to my perhaps artificially detached judgment. And from them both we can learn and profit and receive inspiration. It is a privilege to live at a time when such daringly creative work

as his is rising on our soil. It is, as he has said, a challenge to the architects of America. Such singleness of vision and such artistic integrity are the marks of only the greatest artists. Wright himself calls for seven qualities in architecture: Sense of the ground, sense of shelter, sense of materials, sense of space, sense of proportion, sense of order, and knowledge of technique. These are all simple qualities, and most of them are held at least in some degree by all true architects. It is not they, I think, that make his work unique. It is rather the genius he has for subordinating everything in each of his buildings to some controlling idea, and it is his exquisitely developed rhythm sense. And if sometimes even people and their comfort and their life are subordinated in the process (as various letters to the magazine *Time* seem to indicate), and if at times the rhythm loses its grandeur and becomes like a child beating a drum, it is not our part to shout, "I told you so," and deprecate the greatness because of the occasional failings, but resolutely to press on, ourselves; not to copy—for who can?—but to see that we avoid the dangers and aspire to the qualities.

And one last lesson, perhaps the most important of all: the architect is, and must always be, the creative constructor. To this conception all the formulæ, the hand-book tables, the expert advice are secondary—good helpers, essential aids—but, for architecture, fatal as governors. They follow; the architect must lead. Only so can architecture realize its own possibilities for serving society as it should. Only so can technical and mechanical skills serve progress instead of developing standardization and stagnation. And that is a lesson to be learned not only by the architects, but by all those people and corporations and government bodies which employ architects—and by most engineers as well. We have in America a great body of architects, educators, and students on fire with this great ideal of raising architecture from a status of mere exterior-decorating to its rightful position as the creator of built forms which are useful and strong and beautiful—useful for the soul as well as the body. To bring their talents into use, so that those who admire that quality of structural creation in Wright may be able, in accordance with it, to produce with greater ease and less friction than he did, will require an enormous popular education, as well as an expanded architectural training. To bring that about is a task we can all share. And, with every step of advance along that path, we can thank Frank Lloyd Wright for lighting the way ahead of us.



DESIGNS BY W. A. DWIGGINS

EDITOR'S NOTE:—*The following article constitutes the major part of a Foreword, written by Paul Hollister, to the catalogue for an exhibition of the work of William A. Dwiggins which was held by the American Institute of Graphic Arts at the Architectural League.*

DWIGGINS once disclosed to me the formula by which he endows words on paper with more force and color than most people (including the people who wrote the words) ever saw in them. Of course, Dwiggins claimed no such objective; he simply described, as to a humble pupil, a method. He said:

"You take the cork out of the top of your head, and you drop in a word like La Paz, or Congo, or Sindbad. One word at a time. If it's the name of a place, it need not be a place you know. If it's not the name of a place, but just a word, you need not know it so fine as to split hairs. Just put the word in. Then put in a couple of cocktails and some black coffee, and put the cork back in tight, and jump up and down for two or three days, and then the word will come out of your fingers onto paper. Then

you give the result—picture or pattern, or whatever it is—a high-sounding caption like 'Graphic Response to Verbal Stimulus: La Paz.' That's all there is to it. It doesn't mean a thing but it's a lot of fun."

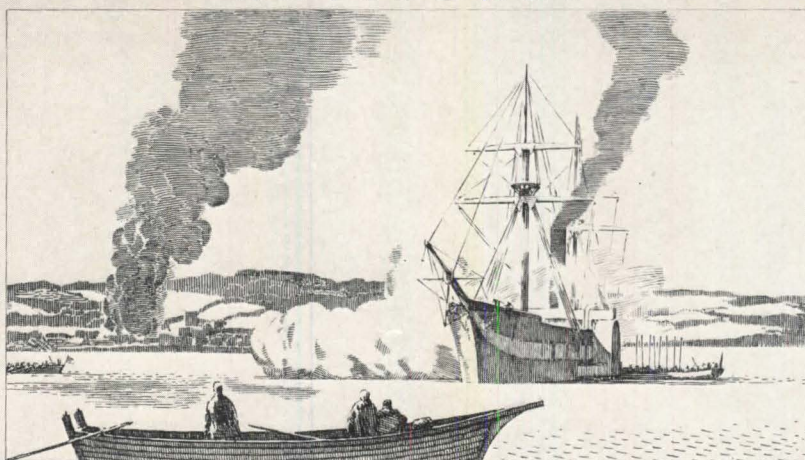
He has never seen La Paz, nor to his conscious recollection any picture of it. I happen to have seen La Paz and am here to state that his *pochoir* "graphic response" to the name of that town on top of the Andes is far more La Paz than today's news-picture. Sindbad, the Congo, I have not seen, but I'll take his "responses."

If Balzac could see what this American has done to his words, he would feel very much as Deems Taylor says Bach might feel suddenly to come upon the Philadelphia Orchestra playing Tschaikovsky's orchestral transcription of the Bach C-Minor Passacaglia, drawing out of it things Bach never knew he heard in the days of the hand-pumped tracker organ.

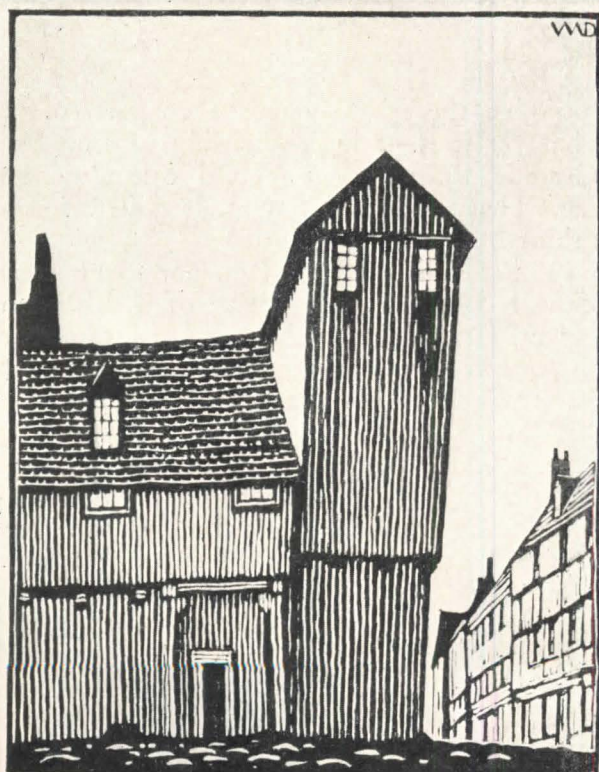
That little series of stencil "responses" he did for his own amusement. But the formula

(Continued on page 151)

ANTIPODES

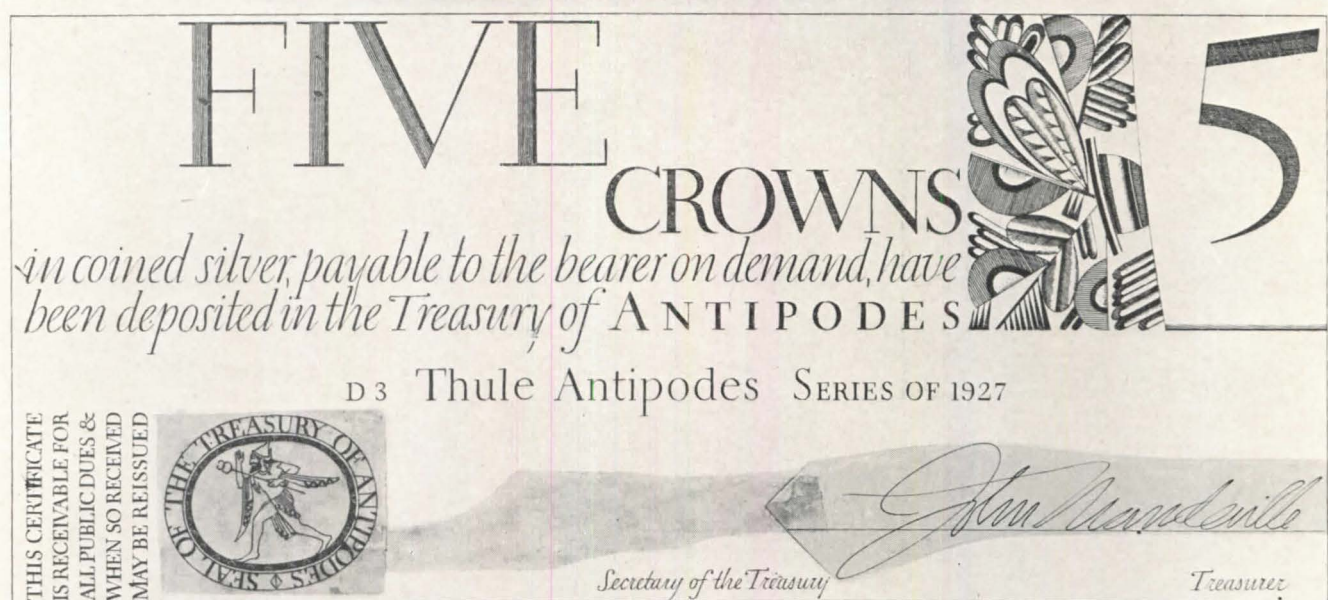


The landing from the corvette "Warspite", 5 March, 1859

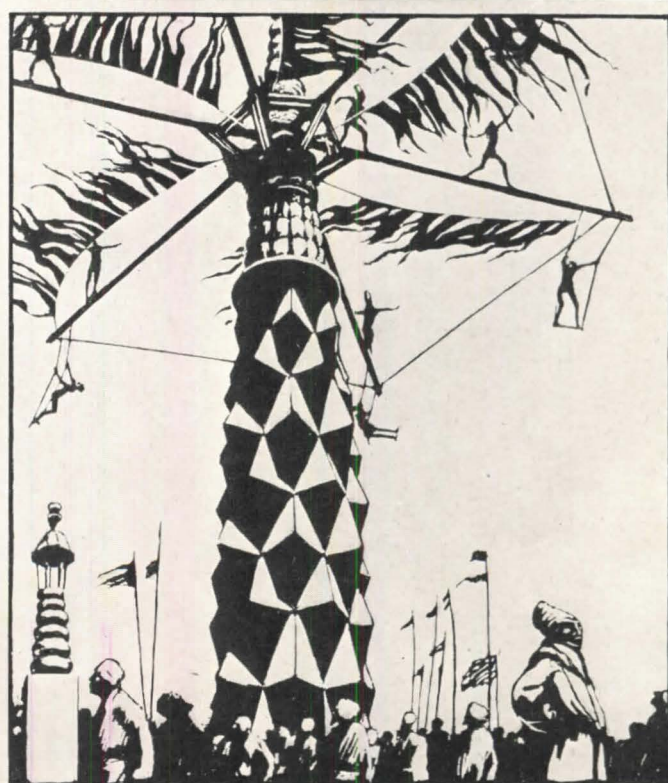


OMINOUS HOUSE

Dwiggins believes that paper money should be beautiful as well as useful and designed the bill above to demonstrate the possibilities of this little-explored field of endeavor. The book decoration at left shows Dwiggins' remarkable ability to create an illustration that will carry out, and even add to, the thought of its caption

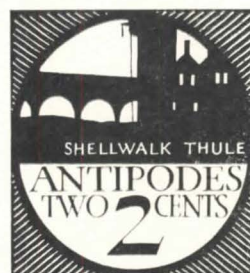
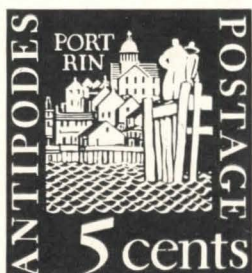


Besides serving as self-explanatory examples of why William Dwiggins is our number one typographer, the bill above, which is the reverse side of the one on the opposite page, and the book illustration at right serve as evidence of the man's pet delight — the mouth filling and exotic names of far places

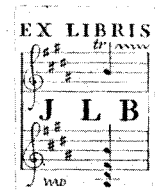
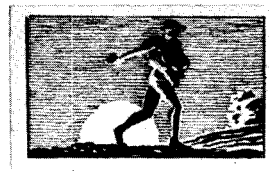
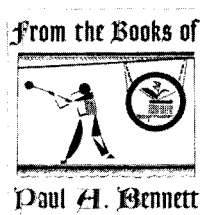
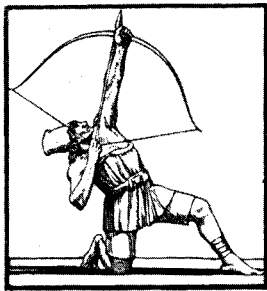
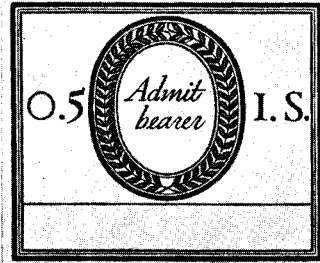


Fête in Sanadu

WAD

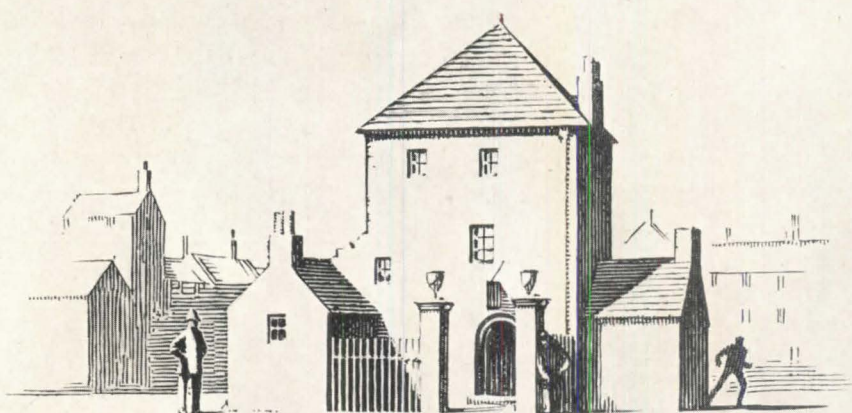


Postage stamps, a cigarette tax stamp, and Christmas seals designed by William A. Dwiggins, who believes that the former two items, like the paper currency of today, can stand a lot of improvement in aesthetic value



Included in this group of Dwiggins' book plates is a theatre ticket, top center, that is another of his endeavors to make all printed forms beautiful. Compare it with the typographical miscarriages now handed out by ticket offices

Strange case of
Dr. J E K Y L L and Mr.
H Y D E. *Robert Louis*
Stevenson. With illustrations
by W. A. D W I G G I N S.



R A N D O M H O U S E • N E W Y O R K 1929

Although it can never be said of Dwiggins that any one of his designs is typical of all his work—he changes his pace too often for that—it can be safely said that this frontispiece is typical of his ability to give old, well-worn words new meaning, new zest, a new lease on life

(Continued from page 145)

for them underlies, I believe, all his work. He uses literally neither the alcohol nor the coffee, but he jumps up and down with each task corked in his skull, and presently there drains off onto paper through his fingers a pattern, a page, a letter, a graph which puts new life into old thoughts. Just as all preachers should be forced to hear Charles Townsend Copeland read Scripture in order to know how to put the true Word back into the ears of the people and religion back into their hearts, so all "inspired reading" should first be required to be designed by this number one typographer of ours. Perhaps, if we had a permanent Secretary of Fine Arts and Education . . . but we shall not have that before we have a Reform of the Paper Currency. Let us not digress.

"Dwiggins? Who?"—say most people.

"Hingham, you say? *Really!*" cry the Brahmins who keep the altar fires to Thoreau, Parkman, Emerson, Lowell, for few of the right people in the Land of the Rising Inflection think much can be going on in Hingham.

Indeed, the world is cluttered with people who experience no graphic (or other) response to the verbal stimulus of the name of a figure certainly as valid in our society, as, say, Miss Myrna Loy.

Perhaps the simplest way to sketch the outline of the man is to reprint a thumbnail biography written in 1930:

A doctor's son, born in Martinsville, Ohio, in 1880. Out of Martinsville, Ohio, by way of Richmond, Indiana, Zanesville, Ohio, and Cambridge, Ohio, came to Chicago, Illinois, at nineteen, an Art Student, to hearken to Holme, McCutcheon, Leyendecker—and to serve as Goudy's dog-robber. In five years he dared Boston; has it almost licked today. As free lance artist, he put in rigorous service in advertising; in 1928 eschewed it, and is today probably our foremost book designer, and our hardly second calligrapher. New clothes for old magazines his specialty. Founder of the apocryphal "Society of Calligraphers" under nom-de-plume of Hermann Pütterschein; thorn in flesh of all book publishers for ten years, and now the spearhead of their lance. Winner of medals. Ferocious creator, mild companion. Writer of exquisitely lucid essays and of "Layout in Advertising." His likes? "Like to design type. Like to jiggle type around and see what comes out. Like to design ornament. . . . Like paper. Like ink on paper. Like bright colors. Handicapped by clock and calendar. . . . Twenty-four-hour day not long enough. Must work for a reform in the time system now used. Campaign against time only

form of crusading. Otherwise not much of a partisan or evangelist." (Just a genius who makes new music with letters.)

Because that sketch appeared in a book concerned with lettering, it chose to underscore his skill in that particular art. Philip Hofer wrote a broader and better one in the *Dolphin* (Number 2, 1935) to accompany the first Dwiggins "show" between the covers of a book. All those who do not know Dwiggins will please read it, for it remarks his other expertnesses. It will reveal to them that the man is not only the best man at "writing fair" on our continent, but also "a mechanical wizard, type designer . . . specialist in advertising layout . . . illustrator, mural painter, costume designer . . . sculptor . . . playwright, satirist, and perhaps beyond even the best of his art—a thinker and a poet in prose."

So if he is all these things, why have you not heard of him before?

Because the arts he practices are not widely talked about, nor practiced, nor taught, nor greatly encouraged, nor easily acquired.

Because a great measure of his skill is the sympathetic modesty with which his work effaces itself in the mood and texture of the page or book or document he is making: his type, his page, his picture, his ornament is (in his own words) a sort of *diagram* of what the author is trying to say, and at no time has the diagram ever shouldered in front of the author to demand recognition of the designer.

Again, you have not heard of him before because he has an acute distaste for personal puff. He will not judge a beauty contest for you, nor thump a lectern at Town Hall, nor give a course in college—even if a college were keen enough to flush him. He will not do a Chinese copy of an archaic type-form just to prove that modern typography can be as hard to read as traditional, nor even to please a trustee.

In 1930 "he had Boston almost licked." By 1937 he has quietly outstripped Boston, as Benjamin Franklin did, but has remained within its area of low atmospheric pressure, as Franklin did not. He is not without honor, and of the highest, in Boston's inky fraternity of printers, papermakers, publishers, designers, collectors and librarians, but as a class they are as bad press agents as the man down in Hingham. The small fraction of Boston that is alert to canonize a chic fellow of provable relatives, or a costly New York import, doesn't know that the head man of American printing design is having an elegant time right on the home lot—chuckling, whistling a tuneless treble, and whittling.

Some years ago Dwiggins wrote, printed and circulated a mischievous and telling tract called "An Investigation Into the Physical Properties of Books." It peeled the hide off the low standard then commonly set by what is called the American "book trade." It went to many of the book trade by mail, gave them mild apoplexy, and incited one of their number to go to this impertinent critic and challenge him either to put up better (and no more costly) specifications for better-looking books, or to shut up. The books that resulted helped this young publisher to develop in the book-buying public a mild curiosity about his titles; this curiosity, multiplied by mass and time, became an appreciable public preference. It had never before been thought possible that preference for the books of any publisher could be based on anything but (1) the name of the author, (2) the whiskers—or the extra discounts—of the publishing house. That the public might buy a book because it better pleased the eye, and might read it because its design better vitalized the text, came as a shock to the trade.

When they rallied from the shock, all other publishers either sent for Dwiggins, or set their designers to imitating him, or without copyism branched out along the lines of his principles. Take any fifty "trade books" of 1917, set alongside them their counterparts of 1937, Dwiggins or not, and you will see what has happened to the physical properties of books and how often today's books echo his innovations. You can thank him mostly for starting it. And that will explain why you have actually seen his work before, though he may not have drawn precisely what you saw.

No one ever complained that the first view of a book or a page of Dwiggins lacked impact. His design in any dimension is forcible and it is almost always unexpected. His most servile subjects have often picked up a new book of his design and wondered secretly whether maybe here, at last, the maestro hasn't slid out of bounds, or whether that old

clay foot of his hasn't kicked out from under the covers. His revolutionary discovery of the plain common sense that bookbacks are wall decoration and not much else, has caused those slim vertical strips to crackle and vibrate and sing, and austere bibliophiles don't want a bookback to sing until they can have a costly binder call the tune in leather. (Silk stockings were restricted to court wear for a long time, remember?)

Dwiggins will slash a title word across a page, or change the colors of paper of the illustrated pages in succeeding chapters, or head a paragraph with a dizzy ornamentation; he will lead you prancing through half a volume of typographic design as modern as tomorrow and suddenly bring you up sober against a chapter heading as austere as a tax-law poster of Louis XVI. He even refuses to make both halves of a bisymmetrical pattern identical. All this hocus-pocus is very disturbing to the deeply upholstered bibliophile, and it doesn't make you go for Dwiggins as you go for a standard package.

But he isn't caviar. He may startle you; you may be as normally indifferent to his technique as you are to the works of a fine watch. But from the moment your eyes first see his work an impression has been made upon your eye-record which you cannot erase, and which will plant the germ of a craving. He is habit-forming and you might well resign yourself to the fact that the habit will grow on you. He is no cultist; he wants you to take him as he strikes you only; he does not want you to read into his work anything that you do not see. He wants you to keep your eye not on the designer but on the author. All his life he has done his level best to become the perfect orchestral accompanist. Such an ambition is as rare as it is admirable. And in the year 2037, or the year 2137, when the Great Research digs into the Causes of the Trend away back in the first half of the 20th century, you and I will not be there to read what is written, but we have a clear idea of what the research will prove.



THE EVOLUTIONARY DILEMMA

BY ROBERT L. ANDERSON

IN the previous discussion it was pointed out that the 19th century is distinguished from preceding centuries by the emergence of the concept of evolving society; that, in consequence, art became not art, but an "expression of society."

Likewise it was pointed out that the art-as-social-expression idea was most flattering to the artistic ego. For over and above the multiple ant-hills of civilization it set up the artist as an infallible and omniscient bell-wether of all that went on beneath him. If one wanted an accurate estimate of any given civilization, one consulted the artist-Oracle . . . and got the correct answer.

Now all this is, of course, very gratifying to the artist. That is, it is very gratifying when the artist happens to be convinced that his particular civilization is a very satisfactory civilization. When the winds of morning sweep a world filled with Pippas and Robert Brownings caroling "God's in His Heaven, all's right with the world," a still more ecstatic carol bursts, or should burst, from the soul of the artist. For it's a great world; he's the expressor of that world; it follows automatically, therefore, that he is a great artist.

But what happens when it is not a great world? What happens when God very definitely is absent from His Heaven, and everything's wrong with the world? What happens to the artist who, believing that in the final analysis his art is simply an expression of civilization, believes as well that his civilization is indifferent, or superficial, or bad?

It follows automatically, then, does it not, that his art can never be anything but indifferent, or superficial, or bad? For if two plus two equals four, then two minus two must equal zero.

* * * *

The whole sorry business can be seen only too well in the first paragraph of Dr. Walter Gropius's "Toward a Living Architecture" in the January *American Architect*. Asked why "so many attempts at creating modern orna-

ment (were) doomed to failure," Dr. Gropius replies that "history shows" that ornament comes only as a result of an "established society." He asks: "Is our time congenial and ripe for this performance?" He answers: "No." The reason: "Because our social structure is still in a state of transformation."

So there you are, gentlemen. When they lower you into your last resting place, the relatives and friends gathered above you will murmur: "Poor fellow! He could never create good ornament. His social structure wouldn't let him." The only consolation any of us will have is that, since he is of our time, they will have to say the same thing over Dr. Gropius.

* * * *

Now as a matter of fact, Dr. Gropius doesn't like that intimation of immortality any more than do the rest of us. So he devises an escape which takes the shape of a "few creative artists": Nietzschean-Wagnerian-Shavian Superarchitects who will rise superior to their surroundings. Which is, of course, the same high romantic dramaturgy Louis Sullivan employed. The world remains the same distracted world, but the "true modern architect . . . who tries to shape our new conception of life" is to soar free.

But what is this "new conception of life" which the architect is to shape. It can't be that of our social structure, for that remains chaotic and distracted. Is it the conception of some future Superman? If so, who is he, and where is he to be found? Shaw's Dona Ana in *Man and Superman* isn't the only one who wants to find him. If Dr. Gropius has found him he should produce him at once.

Now I have read and reread Dr. Gropius's two pages and, as far as I can make out, Superman is Man himself. Which is exactly the contention of Bernard Shaw, as it was that of Louis Sullivan. It has been, I suppose, the contention of all the great philosophers.

Where does the architect come in? Well, man needs "quietness and repose" so that his shattered nerves can be restored. If the archi-

tect will give him "quiet surroundings, simplicity, and harmony of form and colors" he will "fit (Man) to relax, to contemplate, to think precisely, and to produce new ideas." In other words the architect, by providing the ambivalent quietness and repose necessary for gestation, is to take over Dona Ana's role of mothering the Superman who, as in Shaw's play, apparently is to be a philosopher.

But according to Dr. Gropius's opening paragraph "history shows" that the architect can do no such thing. He can't provide the ambivalence for anybody. On the contrary, it is society which provides the ambivalence for the architect, who is simply the creature of the "social structure" of his time. In other words history, as Dr. Gropius was careful to point out, proves that Dr. Gropius can't possibly do what he wants to do.

* * * *

As a matter of cold fact, history doesn't show any of the things Dr. Gropius thinks it shows. When he talks of "history," he is not talking of history, but of the evolutionary theory of art. He is simply repeating the Hegel-de Stael-Taine thesis that art is social expression.

There is just one trouble with all such dogmatic theses: they acknowledge only such facts as will support the particular thesis in question, ignoring all which tend to deny the thesis. Madame de Stael, for instance, was a great social critic, and in *De la Littérature* promulgated ideas which were to have tremendous consequences in literature. But as Mary Colum recently pointed out in *From These Roots*, de Stael had serious limitations because she understood best only that sort of writing which was the expression of society. She therefore thought that all writing was no more than this.

Applied to certain forms of literature, particularly to the novel, the Hegel-de Stael-Taine thesis worked wonders. Applied to poetry, however, the thesis "creaks ominously" to quote Mrs. Colum, who reinforces her point concerning de Stael with a quotation from Schiller: "of what we call poetry, she (de Stael) has no perception."

The thesis that art is the expression of society has been current for over a century. It produced the great novels of the 19th century. Where is the great architecture it produced?

If it be argued that it influenced Louis Sullivan; that it thus fathered "modern" architecture, the answer is that "form follows function" came out of Sullivan's scientific readings,

not from his reading of Hegel and Taine. Modern architecture was born of Darwinian biology, not of the Hegel-de Stael-Taine philosophy and literary criticism. Applied to architecture, their theories have been utterly useless.

* * * *

Frederick the Great once thought that the Germans could not produce great literature until they imitated the French. But along came Lessing who said that art was national; that the Germans could create without consulting the French. And the days of the great German literature began. Lessing, however, was awed by Aristotle, and thought it should be done by careful study of the Greeks. But then along came Herder who put wings to German poetry by announcing that after all the Greeks were only the Greeks.

Well, I hereby announce that the social-literary critics are, after all, only the social-literary critics. I also announce that the theory of art as social expression is, after all, nothing but a 19th century theory which, during the 19th century, worked wonders for the novel. I likewise substantiate Mrs. Colum's statement that "the truth is that . . . we are still living on the ideas, the literary doctrines, the programs of the 19th century." Which is the real reason, if any one asks, why we have had no great modern ornament.

Dr. Gropius has announced that he "is bored, at last, by the eternal masquerade of classical decoration." Well, I hereby announce that I am bored, very much bored, with the persistence of the ideas, the literary doctrines, the programs of the 19th century. What we need is a Lessing to snap his fingers once more in the face of a king; to reannounce that the plastic arts are not literature; to reaffirm that, whatever our betters think of our environment, we can still produce great art.

We also need a Herder to smite the harp of lyricism and put wings to ornament. Victorian *horror vacui* was bad enough, but *amor vacui*, which is what we have at present, is worse. What we need are theme buildings with sufficient ornament to bring them down to human scale; ornament which might keep them from being gigantically sublimated moth-balls.

Finally, may the devil fly away with the art-as-social-expressionists who say we can't have great ornament. And may he take the whole darn art-as-social expression theory with him. Whatever use it may have been to 19th century novelists and sociologists, it's no use whatever to 20th century architects.

OPEN SPANDREL BRIDGES OF ANCIENT CHINA—II

THE YUNG-T'UNG CH'IAO AT CHAO CHOU, HOPEI

BY LIANG SSŪ CH'ENG

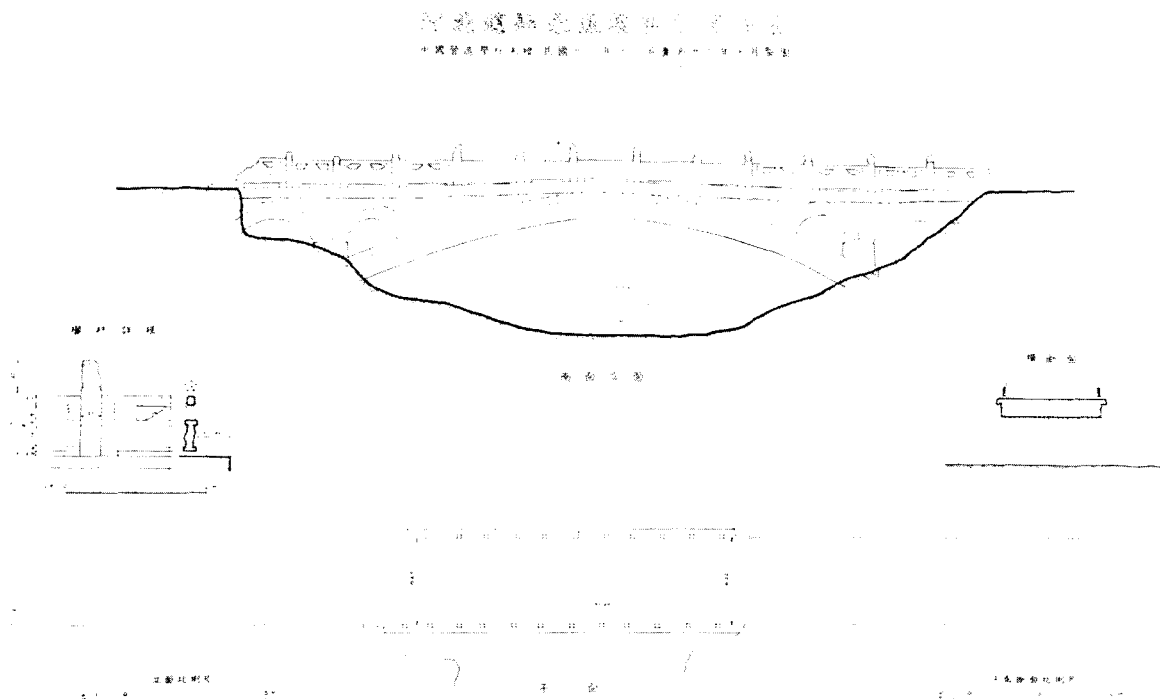
THE discovery of the Yung-t'ung Ch'iao, also called the Little Stone Bridge, spanning the moat outside the west gate of the city wall was a total surprise. It is an almost exact duplicate of the An-chi Bridge in miniature.

In the *Journal of the Search for Antiquities in Ho-shuo* by Na Hsin of the Yuan Dynasty (1280-1368), it is said that the bridge was built during the reign of Ming-ch'ang (1190-95) of the Chin Dynasty and the name of the builder is given as Pou Ch'ien-erh. Chapter XIV of the *Chao-chou Chronicle* contains a record of the restoration of the Yung-t'ung Ch'iao by Wang Chih-han of the Ming Dynasty:

"... The bridge has no columns but springs up like a rainbow. It forms a great hollow like the crescent moon. The ends carry four smaller arches. Along the top is a balustrade of thirty-two panels. The exquisiteness of its workmanship and the ingenuity of its

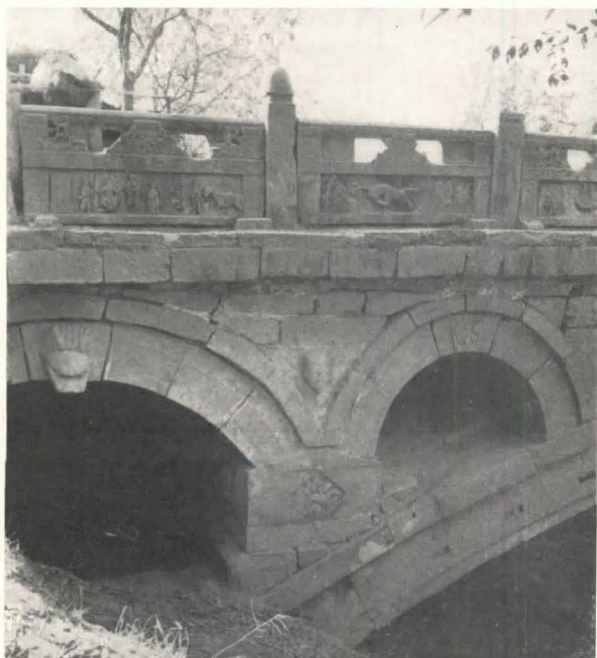
form is even comparable to the Big Stone Bridge. Together they may be accounted the two most difficult achievements under Heaven . . . In the year of *Ting-yu*, the Chang brothers . . . led a movement for the restoration of the Big Stone Bridge. In the year of *Wu-hsü*, the elders of the town, Sun and Chang, conceived the idea of repairing this bridge. Stones were quarried from the mountains . . . and the holes were filled until the roadbed was absolutely even. The displaced stones were reset as straight as a plumbline. The carved balustrades were decorated with design of monsters and mythological figures. The stones were properly laid, interlocking and binding like the

The Yung-t'ung Ch'iao outside the west gate of Chao Hsien is almost an exact duplicate of the An-chi Ch'iao in miniature. It was built by Pou Ch'ien-erh in the Ming-ch'ang period (1190-1195) of the Chin Dynasty





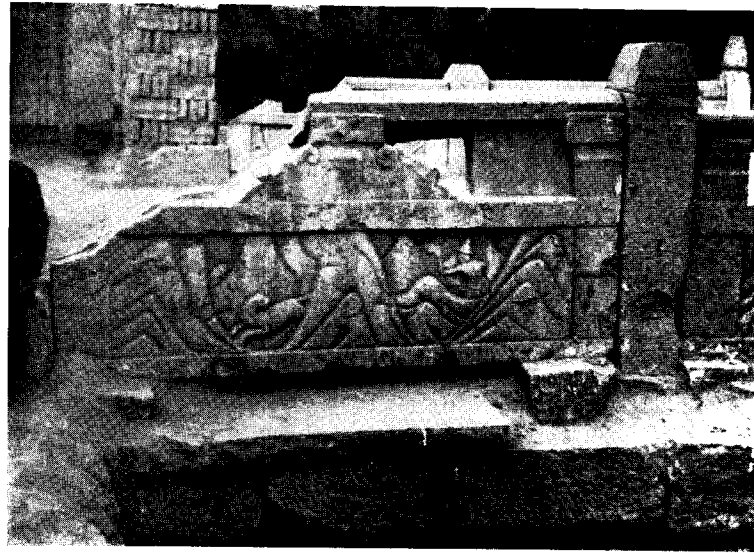
The arch shown above is like the arch of the larger bridge in that it is also made up of separate rings, 21 altogether. It is considerably deformed and the ends are partially buried in refuse poured down the banks. Each voussoir is joined to the next one with a key. The fu is used with books near the crown. The abutment and the impost block, below, and the shape of the smaller arches and their position in relation to the main arch are all similar to those of the big bridge. The designer, however, very ingeniously expressed his sense of scale by making the smaller arches proportionally larger than those of the An-chi Ch'iao, which Mr. Liang discussed in last month's issue



scales of a fish, making it very strong. The work was started in the autumn of *hsü* and completed in the summer of *hai*. Thus in three hundred days was the great work accomplished."

This bridge, then, was repaired in the year following the repair of the An-chi Bridge. It was begun in the autumn of 1598 and finished in the summer of 1599.

The construction of the small bridge is identical with that of the larger one. The distance between the abutments of the two final arches at either end is 25.50 metres; but the clear span of the main arch, which is today very much deformed, must of course be considerably greater than this. Like that of the An-chi Ch'iao, it is segmental, with a radius of approximately 18.50 metres. It is made up of twenty-one rings of separate arches placed side by side. The main arch is covered by a *fu*



The balustrade slabs, at right and above, with the "short post and a capital-block" at either end and a "camel's hump on a capital-block" at the center supporting the handrail are dated 1507. The lower panels are decorated with reliefs of exquisite design



The high relief head of the River God peeps out from the spandrel between the two smaller arches. It is strongly reminiscent of Gothic sculpture in its position and style





and at either end are two smaller arches. The use of the abutments and the impost block, the shape of the smaller arches and their position in relation to the main arch are all identical with the big bridge. Only in the relative sizes of the several arches is there a difference between the two bridges, the four small arches of the Yung-t'ung Ch'iao being proportionately larger than those of the big bridge. I take this to be an evidence of deliberation on the part of the designer, who, though building an imitation of the larger bridge, had the sensitivity to modify it in this manner, adding refinement and giving scale to the smaller bridge.

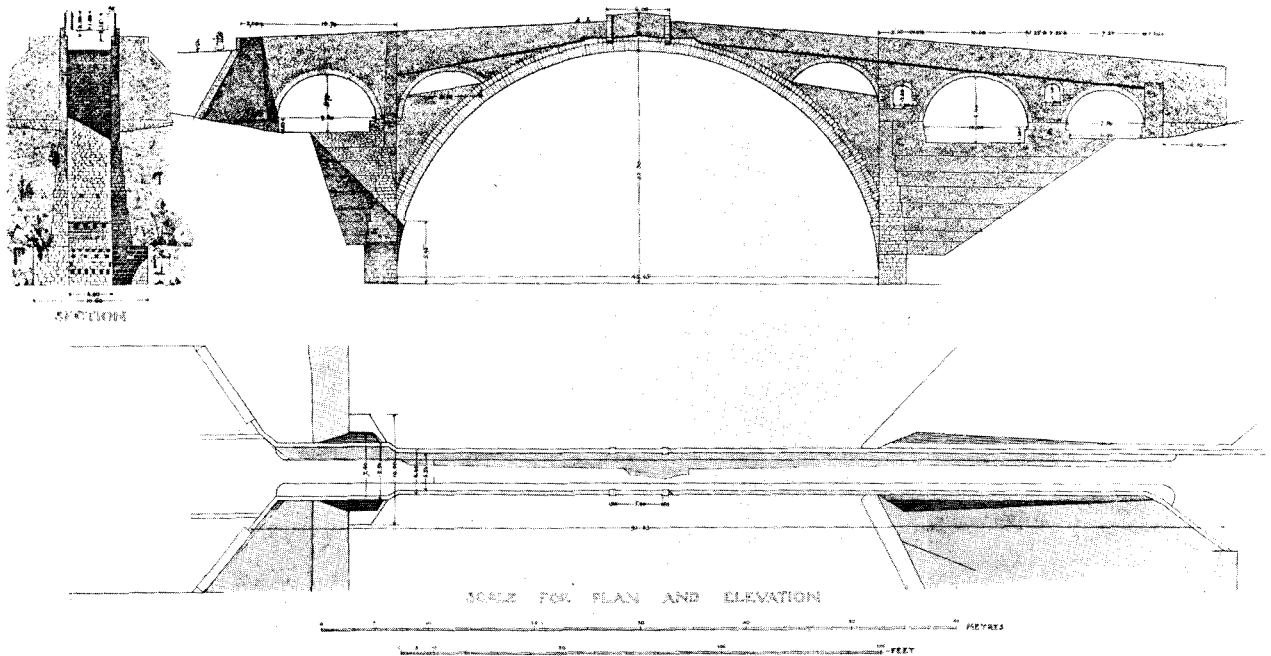
The roadway of the bridge measures roughly 6.25 metres in width. It is not divided into lanes like that of the large bridge. The pavement extends nearly 30 metres in each direction beyond the termination of the balustrades. Centuries of refuse and cinders have been dumped over the two banks of the river until today the greater part of both ends of the main arch is buried. Mud houses have sprung up on the dump heap itself, and from them in turn comes an unending stream of refuse, so that there continues even now the process of "changing the blue sea into a mulberry field."

This bridge has preserved to us some most beautiful bits of sculpture on the balustrades. The much praised balustrades of the An-chi Bridge we have heard of but can no longer

The slabs with the lotus leaf are not perforated. The lower part is divided into two panels with interesting animal designs. They are probably of the Ch'ing Dynasty

see; but those of the smaller bridge certainly warrant our special attention. The existing slabs of the balustrades may be divided into two types, which, from both architectural and sculptural evidences, differ distinctly in style and age. (1) Slabs with a *tou-tze-shu-chu* (short post with a capital-like block) at either end, and in the centre a *t'o-feng* (camel-hump) supporting a *tou* (block) which in turn supports the handrail: One carved panel occupies the entire space between the posts and is not subdivided. Of this first type there are two slabs on the northern side and one on the southern that bear the date Cheng-teh 2nd year 8th month (1507). (2) Slabs with the lotus leaf designs in place of the *tou-tze-shu-chu*: The panels are divided into two sections and are obviously of later date than those of the first type. Although possibly of the Ch'ien-lung or Chia-ch'ing periods of the Ch'ing Dynasty, they may be even later.

The *tou-tze-shu-chu* is a motif in use not later than the Sung Dynasty. As far as I know, in 1507 the *tou-tze-shu-chu* had already disappeared from the builder's vocabulary, which leads me to suspect that the slabs bearing that date are replicas of the originals of earlier date. The use here of the *t'o-feng* for support of the handrail is the first thing



Plan and elevation of a XIV century bridge at Céret taken from "Old Bridges of France" by Emerson and Gromort. This open spandrel bridge, probably the oldest in the west, was built 720 years after the An-chi Ch'iao

In contrast to the delicate flying horse on the next page, there is an angular animal mask and a fish crudely represented on the face of the smaller arch at the west end





On the northern face of the eastern impost block is carved in delicate relief a diamond-shaped panel showing a graceful flying horse against a background of mountains and a foreground of turbulent water waves

of the kind I have ever seen, for though this motif was by no means uncommon in the Liso and Sung Dynasties, it was applied as an intermediate block between successive tiers of beams.

On the spandrels between and above the smaller arches are heads of river gods in high relief. Two are represented as old and bearded; the other two, young and beardless. With large round eyes they peep out from just above the impost. The position of these sculptures as well as the carving is strongly reminiscent of Gothic. On the eastern impost of the pair of smaller arches at the north end is carved in relief a diamond-shaped panel showing a flying horse against a background of mountains and a foreground of water. In contrast to this delicate carving, there is an angular animal mask and a fish crudely represented on the face of the arch at the west end.

Conclusion

To the people of the neighborhood of Chao-chou, and no doubt to the majority of laymen who see the Big Stone Bridge, the size of the main arch will be of the greatest interest. But to the student of bridge architecture, greater will be his admiration for the two smaller arches at either end.

NOTE:—Part I of the article above was published in the January, 1938, PENCIL POINTS. It described in detail the An-chi Ch'iao, an older and larger open spandrel bridge than the Yung-t'ung Ch'iao discussed herein.

Mr. Liang, the author, is the son of the famous scholar and political reformer, Liang Ch'i-ch'ao, and received his education in the United States and Europe

It was not until comparatively recently that the open spandrel construction came into general practice in European engineering. In *A Book of Bridges*, Sparrow cites as an example the Pont Side Rached at Constantine in Algeria, completed in 1912, with four smaller arches at each end, as the first example of its kind in modern days. He traces its inspiration partly to the Roman aqueduct and partly to the two old bridges over the Tech at Ceret, France, one of which dates from 1321. Of the last mentioned, there is a good account in *Old Bridges of France* by Emerson and Gromort. It is a semicircular arch of 45.50 metres. The spandrel is pierced by an arch of 8 metre-span. The whole construction is one of remarkable boldness and lightness. Emerson and Gromort believe that though it is quite possible that the existing bridge replaced a Roman structure of similar appearance, its construction belongs definitely to the first half of the XIVth century, probably between the years 1324 and 1340. This is probably the oldest existing open spandrel bridge in the west, and it is about 720 years later than the An-chi Ch'iao and 130 years later than the Yung-t'ung Ch'iao.

Besides the open spandrels, something similar to the use of the *fu* is also found on the Ceret bridge. "The arch-vault of this daring piece of work is built of two entirely separate arches. The first, at the intrados, is of a uniform thickness of 95 cm.; the second varies in thickness from 37 cm. at the crown to 50 cm. at the sides." This "entire independence between the vault and the arches," which is analogous to the application of the *fu* on the *ch'uan* (arch), is believed to be an idea of Roman origin. But recent excavations show that it had been practiced by the Chinese even as early as the Han Dynasty.

Finally, the ingenious reduction of the width of the bridge at the crown deserves special mention. The engineer was fully aware of the weakness of his design, so, besides the different devices for remedy by the application of external forces, he created in structure itself a force to counteract the outward falling tendency of the separate arch-rings. This precautionary measure shows the designer's great foresight, without which the entire structure probably would have fallen centuries ago.

as well as in China. He has the degree of Master of Architecture from the University of Pennsylvania, helped found the first school of modern architecture in China, and is now residing in that war-torn country.

These articles were originally published in Chinese and are here made available for the first time in English in this translation by Mr. Liang and Wilma C. Fairbank.

HOW MARVELOUS! HOW WONDERFUL!

BY RALPH WALKER, F. A. I. A.

THE modern world genuflects to the term engineer.

He'll fix it. *It* being this sad world we live in but strangely enough though it grows more marvelous and more wonderful there continues to be no peace.

Of course, the emotion, that evil spirit of man's perversity, still rules and the mathematic, the new WORD, the new WAY of Life, must rapidly do away with all such nonsense—his Utopia is just beyond the Hill and around the turn of the road. Give him the world to plan and sit back, brother, sit back, prepared to chant—"How marvelous, how wonderful, are the fruits but let's forget the cannon and the poison gas."

The engineer in person—the individual—is just like you and me, bothered by the world, knows as much about that modern "mumbo jumbo" called economics as you and I do. Individually he may or may not believe in the gold standard; he either does or does not think that if the excess surplus tax was repealed the whole world, including Nazi and Communist, would lie down and purr contented marks and roubles into America's pockets.

In other words, the engineer (not the term) earns a living, manipulates a slide rule or two on an easily remembered formula, shuts up the office and goes home to his suburbia just as you and I do.

Meanwhile the engineer (the term this time) continues to design motor cars which kill 40,000 people a year and injure 200,000, all in the idea that excess power plus streamlining plus average intelligence means a safe combination in life. No! You say, the engineer is not at fault—it is the salesman-designer. The motor left to the engineer (term again) would be perfect. A form based on functionalism, a motor responsive to and controlled by automatic impulses, and nothing left to human imperfections.

But, nevertheless, he continues to design motor cars which are still too expensive relatively. He adds fifty horse-power, a better spring action, a little less perfect vision, and

says look!!! *How marvelous! How wonderful!* The car is cheaper.

One of those Spokesmen whose remarks shatter the evening's stillness was remarking the other evening — "How marvelous is the manufacture of a hub cap. Some thousands are made by one machine operated by one man; in contrast, the same thousands if made by hand would take other thousands of men or thousands of days." So, Q.U.E.D., the hub cap is most economically made by the method he was advocating, i.e., the machine.

Another shattering of the evening's quiet informed the waiting sycophants that there were twelve to fourteen millions of them, unemployed.

Should their lack of opportunity be added to the cost of those hub caps? Should we ask, foolishly perhaps, what engineer can allocate and justify the costs of that incredible and colossal idleness which without question exists. In the invoice of our civilization are they *reserve stock* or *scrap*.

Or has the engineer helped to substitute a hub cap for cake.

In truth, with few exceptions, the engineer, the individual, knows that the engineer, the term, has no real position resembling a god-head in this world.

Several years ago, I had the privilege of going through a famous industrial and engineering laboratory and coming suddenly upon a large group of men who were termed designer-engineers. They were packed in together like communists in a Moscow apartment.

I asked what these sardines were designing and found that regimentation was fully developed among the engineers for each had charge of a minute part in the complexity of a process without knowing what the entire problem was. Minds on just another type of assembly line.

I wondered then, and I wonder now, what sort of Utopia could come from such a line of individual insufficiency.

How marvelous! How wonderful, are the mechanical results. And yet! Because most of

the engineers, like other men, are complacent in their emmetic life, these results though admirably related within the Hill have no relationship with other group efforts.

No, this lack has nothing to do with the profit system. It has to do with what is called an engineer economy.

An engineer economy looks to the cost per unit, the hub caps of the machine, for example. The engineer economy takes no thought of the cost to the group. It is impatient of everything except the immediate cost.

The cheap automobile is cheap relatively to itself only. But in the world of the consumer it must be amortized so rapidly that in comparison to other purchases it takes too much of the consumer's income.

To automobile manufacturers. It is worth thinking of that it might be possible that for the same money a car might be built with twice the accepted life and at the same time giving a steady employment to some of these millions of unemployed.

* * * *

As an architect I am tired of being told that we have contributed nothing to our civilization, that if we had revolutionized the house and made it a machine everybody would now be living in a brand new house. *Just like that!* Presto! It must be a pink rabbit from Corbusier's hat.

In this land, the people who live in slums have the equivalent of slums in their motor car values, if indeed they have any cars at all; they have the equivalent of the slums in the quality of their radios, in their refrigerators, in their airconditioning, in their furniture, and their clothes. ALL OF WHICH ARE MASS DESIGNED AND MANUFACTURED.

At no time in the history of the world has the quality of middle class housing been as high, or middle class furnishing and comfort been so complete. But when you say that you have summed up our civilization; you have summed up the today's distribution of our wealth. If you ask for security, however, there is none.

Neither one nor the other of us has progressed further, not the scientist, not the engineer, not the politician, not the architect, nor can any one of them alone solve the difficulties confronting us at present. Even a house painter turned mystic seems to have difficulties.

When we all appreciate that we must distribute further the benefits of national wealth before we can solve our housing problems, and that the job is one of combined intelligence and understanding, we will begin to

move. Until then there will be confusion.

The housing problem in this country is entirely different from that of Europe because of the potential wealth of the country.

The establishment of a recognized and continually growing subsidized tenantry in Germany has done more to produce Nazism than the Peace of Versailles.

Not that I would be complacent about architectural development. Far from it. It is up to every architect to experiment with every whit of his intelligence, and with as true a scientific approach as he may develop.

And what that means in my mind is that there may develop different formulas for different parts of this country.

I have been impressed, for instance, by my observations while going through the beautiful mountain regions of the south, that prefabrication can mean little to the mountaineers but that a well directed self-respect, a sharp axe, a few tools, combined with a willingness to work, could establish a very high type of living standard and a type of shelter definitely in keeping with their surroundings.

The architect who thinks or who spreads the thought that the world's problems are being solved because *he* uses a formula of *lally columns* and *psuedo-concrete surfaces* and *cubical volumes* is deluding himself and the world at large.

HOW MARVELOUS! HOW WONDERFUL! STEEL CAN BE USED IN TENSION. THE WORLD IS REBORN. HALLELUJAH!

Ten to fourteen million unemployed erstwhile self-respecting souls looking to the engineer, the term, for leadership and for light; looking at least for one automobile and a double bed in every garage. But dear Lord, engineer—after all, the double bed is not absolutely necessary; the car alone will do, for we have been told through the pulp and the ether that the automobile is cheap at any price, and of course we always believe what we read in the papers.

* * * *

Through Germany the marching feet of children breed more exiles, more martyrs, as the machine philosophy continues to gain ascendancy.

The machine idea heads up to a political machine, and the nigger-boy in that bunch of rods is a dictator.

Believe it or not, some of the prophets abroad in the land have claimed that architecture will foretell a new society. *Then* we might well take heed and look well to the contemporary architecture of Europe and the ensuing societies.

CHRONICLES OF A EUPEPTIC—III

BY HUBERT RIPLEY

ON MY return from Philadelphia, I lived at home and was given a small room over the front-hall to work in. My first job was a new piazza on Father's house, including a new front door and entrance steps. The piazza took the form of a semi-octagonal Tuscan Temple, and was much admired by our neighbors, though they never asked me to design anything for them.

Father wanted to build a small house on an unoccupied plot of land he owned nearby. I was in Chicago at the time, and suggested Harry Pratt for the job. Harry designed a lovely little gambrel roofed cottage that was better than I could have done. Harry was a sensitive artist with a fine feeling for proportion and detail. He also excelled in Eurythmy and Oikonomia. The cottage was by far the best small house built in Melrose for many years.

Father was a printer and knew the Graphic Arts from the time of Caxton and Gutenberg. He looked upon my efforts at lettering, my attempts to follow the fine old Roman and Renaissance examples, with kindly tolerance. He even looked a trifle askance at the originals I'd tried to follow, said the E's and the R's varied, some of them being what he called "wrong font." He preferred printing done by a machine from type set by hand; accuracy, neatness, legibility, a well balanced page. If he'd ever lived to see the lettering on modern school projects and PENCIL POINTS competition drawings, he never would have let me study architecture. Father took great pride in his work and was familiar with all its branches. He loved the smell of printer's ink, and the rhythm of the great Hoe presses in his printing office was music to his ears. Father liked to play, too, sail a cat-boat in Buzzard's Bay, troll for bluefish, and fish for scup. He traveled rather extensively first and last, made the Continental tour a number of times, saw the midnight sun at North Cape, and was familiar with those sections of the United States that Raymond and Whitcomb included in their tours. Mother was unable, on account

of her rheumatism, to go with him, and I was too young when he first began these trips, though later I joined him once or twice. Father worked long and steadily from the age of thirteen, when he got his first job as printer's devil in the composing room of the Boston Transcript, until he retired at the age of 70.

Benjamin Franklin was Father's hero and he modeled his life somewhat on that of the author of Poor Richard's Almanac. Mother was a great reader, loved Dickens and Frank Stockton, but looked sideways at the works of Thackeray and Howells. This, not unnaturally, suggested the reading of Thackeray and I found him awfully good going. Howells, however, I did not care for. Evenings at home were devoted to reading aloud, sometimes metaphysical works, for Father was a bit of a mysticist outside business hours—liked the contrast, probably, between the realities and the speculatives. He never mixed the two though. Both Father and Mother loved Shakespeare, Oliver Wendell Holmes, Browning, and the poems of Thomas Hood. In this fashion I acquired a smattering of things not taught in school, and at odd times devoured Captain Marryat, Fielding, and Smollett.

As the big buildings in Andrews, Jaques, and Rantoul's office were approaching completion and no new ones coming in, some of us had to look for new jobs. Barrows found one in Chicago with Henry Ives Cobb who was then at the apogee of his career, and boasted that the work under construction from plans in his office aggregated \$12,000,000. This was stretching it a bit, as I found out afterwards, but there's no denying Cobb had a lot of work.

After Barrows had been gone for a month or so, he wrote me to come on out. Said he thought I could get \$150 a month. This prospect, combined with the lure of the World's Fair, then in its initial stages, was not to be withstood. I remember driving Mother down to the Public Library in Melrose to get Frank Stockton's latest book, "The Casting Away of

Mrs. Lecks and Mrs. Aleshine" the day Barrows' letter arrived. We were in the buggy, our old horse, Fanny jogging along, barping every once in a while, when I told Mother about this wonderful opportunity. "Just think," I said, "One Hundred and Fifty Dollars a month! That's almost \$35 a week. I could support a wife on that." Not that I had any intention of doing so at the time, but I liked to play with the idea. The artistic temperament is nothing if not imaginative, and I was not sure at the time (nor ever have been, as a matter of fact) which I was—a creative artist, or just dreaming.

I wrote to Cobb, modestly telling him about the first mention I'd received the second year at Tech for "A Casino on the Border of a Lake," and he telegraphed back, "COME AT ONCE, SALARY ONE HUNDRED AND FIFTY DOLLARS PER MONTH." I showed the telegram to Father, and he was much impressed. One hundred and fifty dollars a month in 1891 was equal to, practically, a hundred dollars a week in our money.

Mother called me aside on the eve of my departure and gave me \$20 in case of emergency, and going in on the train with Father the morning I started for Chicago he gave me \$50 for "expenses" until the first month's pay became due. After arriving in Chicago I lived with Barrows for a week or so in his flat in the South Side. It was summer time, hot and sticky, great boulevards running North and South, cross streets stretching from Lake Michigan to Idaho, no hills, not even a tiny brae for miles and miles, all very different from Boston. Chicago was in a state of transition, a city of towering buildings of massive masonry beside which stood dilapidated wooden houses or vacant lots, in front of which the sidewalks were of wooden planks resting on mud sills.

Mr. Cobb's office was on the 10th floor of the Owens Building, and that too, was unique to one who had never been more than five or six stories above the sidewalk. The Owens Building was one of Cobb's romantic structures with a Nuremburg roof and a tourelle on the corner like Azay-le-Rideau. On the ground floor was a sweet little bar, noted for its silver fizzes, where one might drop down on hot afternoons for a life saver. This all helped and I liked the office and some of the fellows in it, and got along fairly well for a while.

Henry Ives Cobb was a successful business man, and had an uncanny faculty of grasping the mechanics of architectural practice. While he liked to consider himself a creative artist

and toyed with tracing paper and six B pencils, he was in reality an organizer, the feller who sits in a big office at a huge desk equipped with push-buttons and two or three telephones. At his summons stenographers and clerks and messenger boys come and go, bending over to speak to the boss in low respectful tones. Cobb was a skilled technician at this sort of thing. He found that his clients liked it, and he let 'em have it. This was my first experience with the Architect as a Business Man, and I was greatly impressed and somewhat awed at our first interview.

Louis Christian Mullgardt was the genius of the office, the designer of many of the buildings that made Cobb one of the leading architects of Chicago. Lou had just completed the drawings for the Fisheries Building of the World's Columbian Exposition. It was a lovely romantic structure; full of the tang of the seven seas with a bit of Pisa added for good measure. Chambered nautili and conch shells, mermaids and crayfish ornamenting the capitals, replacing the traditional detail of Poncius Rebolii (*v.* epitaph in the cloister of St. Trophime at Arles bearing the date 1183). In plan the Fisheries Building followed more or less the outline of the Island of Nantucket; it was located in a picturesque setting facing a lagoon, a little outside the formal group. Certainly the Fisheries Building designed by Louis Mullgardt, and the Transportation Building designed by Louis Sullivan, were the only two of the larger buildings of the Fair that did not follow traditional lines. These two artists were searching for a spatial expression of the spirit and purpose of the structures they were commissioned to design.

Lou Mullgardt and I became pals at once. We had lots of fun together and neither of us took life too seriously. Louis was a little older and a much more experienced draftsman than I, and I admired him immensely. He came from Saint Louis, but his training was largely in the Boston offices of H. H. Richardson and Shepley, Rutan, and Coolidge. The most exquisite drawings, bubbling with delightfully unconventional detail, seemed to flow from the end of his pencil. All he did, apparently, was to hold one end and the pencil automatically did the rest. He taught me how to detail mouldings and ornament. "Don't try to make a finished detail until you've first blocked it out lightly," he said, "then put in the main accents a little stronger. Relax, take it easy, let the design grow. It'll draw itself if you give it half a chance." His draftsmanship was so sparkling, so full of spontaneity and allure, that perhaps even he didn't always

carry it far enough to reach the perfection it might have attained.

The man who ran the office and kept the fellows' noses to the grindstone was an unimaginative Scandinavian named Extrom. We were not sympathetic, Cobb and I even less so. After a few months in the Owens Building, I was fired and walked across the street to the office of the Director of Color of the World's Columbian Exposition. The director was an Englishman, Mr. Prettyman, a charming middle-aged gentleman and an awfully good sort. Here I got a job, at a somewhat lower salary, laying out perspectives for E. Eldon Deane to render. Deane, too, was an Englishman, skilled both in aquarelle and pen and ink, a fine draftsman and a darn good chap. I liked both men, and was quite happy poring over and putting onto large sheets of Whatman's paper outline views of the World's Fair Buildings. Deane had so much to do that Prettyman let me render an occasional pen-and-ink of some of the smaller buildings. Deane was paid \$300 a month, an enormous salary it seemed to me, but he thought he should have more. He threatened to leave if he didn't get it, but the World's Fair Office couldn't see it and Deane left rather peremptorily. This gave me increased opportunities for rendering some of the larger drawings and, thanks to Prettyman, I got a raise in pay, back to \$150 a month once more.

There were only three or four men in Prettyman's office, which was near the corner of Dearborn and Adams Streets (if I remember rightly my geography). One of these was a little chap named Bernitsky, a humpback, a jolly rollicking fellow, who taught me a lot of scabrous German folk songs. I learned these by ear and can sing some of them now—though my register isn't what it once was—but how to spell the words or what some of them meant, I never knew. Sometimes Prettyman would come in unexpectedly in the midst of a chorus, much to our confusion. Once he walked in on a penny-ante game, but he always pretended not to hear or see. He was an ideal boss. In the basement of our building was a California Wine Shop where a glass of any kind of wine, even Champagne-wine, was five cents. It was an educational institution, I might even call it an "Approved School of Viniculture." Sometimes we'd become absorbed in our research work, testing the 47 varieties and forget to return to the office. If Prettyman came in while we were out, he'd find a note saying, "Gone to the Rookery to get some drawings."

The main office of the Architect-in-Chief

of the World's Columbian Exposition was at that time in the Rookery Building. We went there frequently for drawings and instructions, and I made a lot of new friends and acquaintances. I also saw most of the Principal Architects of the World's Fair Group: R. M. Hunt, the Dean of his profession; Dan Burnham; R. S. Peabody; the great McKim; Van Brunt, a scholarly gentleman with a thin beard; George B. Post, a big man with a walrus mustache, always chewing a big cigar; Charles B. Atwood, perhaps the most brilliant of them all; the talented Eliot of Olmstead's who designed the plan of the Fair grounds, the disposition of the buildings, lagoons, circulation, and all that made the entourage of the White City a thing of beauty.

The plan of the Chicago Fair of '93 was a stroke of pure genius. The handling of the formal and the picturesque elements was so orderly that vast crowds were accommodated without confusion. No one got lost or had any difficulty in finding places. Here was a full-size demonstration of the principles of Vitruvius. It was a wonderful experience for a young feller to be even a tiny part of it all.

All the World's Fair architects—there must have been at least 40 or 50—sent their designs to the office in the Rookery Building and the engineers made the working drawings. I saw most of the work in progress, both in the office and in the field, and have a vague idea how the pieces went together. Very little steel and practically no concrete was used. The land was marshy, slightly above the level of Lake Michigan and all that was needed was to dig a few lagoons and estuaries, build some causeways and islands, and let the lake flow in. Due to the nature of the temporary construction the foundation loads, even for the larger buildings did not present any special problem. Except in the Art Building, which had to be fire-proof to protect the priceless loan collections that came from all over the world, the White City was like rather well-built stage scenery. The engineers, following the architect's outline, built a framework of wood to which the staff was nailed, and there you were. When the temporary office building was finished, we moved from the Rookery to Jackson Park.

I never had the honor of meeting Louis Sullivan, although we used to hear a lot about him and his draftsmen—two of whom, if I'm not mistaken, were Rasmussen, who could rattle off the intricate interlaces that were characteristic of the Master's Eurythmy, and Frank Lloyd Wright, who evolved what we called "Prairie Renaissance," and who after-

ward became the most celebrated architect of his time.

Louis Sullivan designed some striking store fronts, one for Carson, Pirie, Scott, which names I'd never in the wide world remember if it hadn't been for the extraordinarily beautiful detail that embellished the lower stories of their building. I don't believe anyone has created a better shop front, even in recent years, with all the stainless steel and glassless glass at the designer's command. In those days architects didn't have materials to work with whose names ended in "tex," and "ite." Louis Sullivan managed extremely well with bronze and iron and stone and plate glass. In another decade or two perhaps we'll catch up with him. His interiors were masterpieces. They had taxis, eurythmy, diathesis, oikonomia and everything else. The lighting of his audience halls was an integral part of the design, a beautiful soft glow, easy on the eyes, accentuating the ornament. We do that now in some of our best interiors, but it has taken us a half century to reach the point Sullivan did in 1890.

There was a reciprocal antipathy between the group of Principal Architects, the traditionalists, and Sullivan and his followers. They each believed they were as far apart as the antipodes in their conceptions of the fundamental principles upon which architecture depends. They weren't, really, and it was a great pity, for much good might have been accomplished in the service of the Muses, the Divine Goddesses who love harmony and light, by a mutual toleration among those striving for the same goal. The great Golden Door of the Transportation Building, the Chicago Auditorium, the Schiller Theatre, Atwood's Peristyle and his Art Museum, McKim's Agricultural Building, Peabody's Machinery Building, the Fisheries Building, all were "exceptional specimens" and all possessed in common the quality of beauty, at least to me they did, but Olmstead's work was more perfect than any of these; his and rich-haired Demeter's.

While working in the office of the Director of Color I lived on the North Side in the rooming house of a decayed gentlewoman. There were four or five of us lodgers, and for economy's sake, I shared a room with a chap who sold tickets in the great *salle des pas perdus* of the C. M. and St. P. R. R. Station. One week he'd be on duty nights; the next week, in the daytime. I thus had a large room all to myself one half the time. Sometimes I'd go into the station when he was on duty, and chat for a while. We didn't have anything in particular to say to each other, for we didn't

have much in common, but it gave me a feeling of superiority over others who knew no ticket agent, to be seen chatting with an official of a great corporation. The other boys in the lodging house were engaged in commercial pursuits, clerks in department stores and the like. The landlady's daughter was tall and dark and rather pretty, and we used to take turns paying her little attentions. Chicago possessed a number of splendid beer-gardens where excellent music was on tap as well as excellent beer. Fisher's Garden was a grand place on the lake not far away. In front of a great shell where the Orchestra played, a vast concourse of people sat at tables in the open air, listened to the music while drinking beer, eating roll-mops, and pumpernickel, and enjoying the play of moonbeams on the flickering waves of the unsalted sea.

At the Auditorium, a season of grand opera was on during the winter and Ellwood A. Emery, a "regular" I knew at Tech, a good deal of a musician besides being an indifferent architect, taught me an appreciation of music for which I am most grateful to him. We saw some splendid performances from the front row of the highest balcony. The Auditorium is well named. The acoustics of this vast hall were so perfect that, from our aerie perch, hundreds of feet from the stage, we could hear perfectly. I also saw, one Sunday night that winter, at the Chicago Opera House, the first performance in the United States of *Cavalleria Rusticana*. It was a notable occasion, and, when the famous intermezzo was played, the audience became delirious with enthusiasm.

The Chicago Opera House was largely given over to musical comedy and *opera bouffe* after the Auditorium opened. Eddie Foy, the elder, scored many successes there; so did Francis Wilson, Lillian Russell, Edna Wallace, Baranabee, Fay Templeton, a long list of most amusing entertainers. It was here I heard De Wolf Hopper recite "Casey at the Bat" and Maggie Cline sing "Trun 'Em Down McCluskey," while at another "music hall"—the name of which I fail to recall—Josie Gregory was singing to delighted audiences "Teaching McFadden to Waltz." I remember particularly Thomas Q. Seabrook in "The Isle of Champagne." That delightful skit tickled me no end. I'd like to see a revival of it. I'd also like to see "San Toy" once more.

When the bureau of the Director of Color folded up, I was transferred to the Construction Division. Organization charts showing how orders emanating from one master-brain filtered down through imbricated lanes to

sub-heads and assistant chiefs, finally trickling to the char-women who washed the floors at 4:00 o'clock in the morning, were unknown. The place was just called "The Office," and Dan Burnham told Ernest Graham what to do and it was done. The whole thing was something like the first chapter of Genesis:—"Et erant valde bona."

It was the largest office I ever worked in, literally hundreds of buildings on the boards. My classmate, Sophia Hayden, designed the Woman's Building—won it in competition. Everyone was pleased, foreseeing a brilliant future for Sophie till she went and got married and gave up the practice of Architecture. Perhaps we've lost a lady Callimachus!

Everything in Chicago was done on a big scale; the painters, sculptors, architects, and engineers were as the sands of the seashore. It was the first great collaboration of all branches of the Fine Arts in the history of the United States. I'd never seen so much statuary in one place before. I don't believe there ever *was* a larger collection of the plastic art since the time of Alexander and the Volsci. For example, on the Agricultural Building alone there were thousands of objects, birds of the air, and beasts of the field—great fan-tailed turkeys and enormous bulls, horses and sheep and eagles, the human figure in all its nobility.

Daniel Chester French's gigantic statue of Columbia, the gem of Lake Michigan, was 60 feet high, and Augustus St. Gaudens' Columbus was no pygmy. Paul Potter modeled splendid animals, and Frederick Macmonnies executed a beautiful Fountain of Youth with sea horses and Oreads and Tritons. Karl Bitter, Philip Martiny, Max Bachman, and a host of other statuary filled the White City with a profusion of ornamental sculpture the like of which has not been seen since the days of Myron and Lysippus and Praxiteles.

Among the mural painters, those whose names I recall were: Kenyon Cox; Edwin Howland Blashfield, delineator of bathukolpian goddesses; Will Low; De Leftwich Dodge; and brilliant fellows like C. S. Reinhart, J. Carroll Beckwith, J. Alden Weir, Walter MacEwen, Gari Melchers, and G. W. Maynard. In fact, they all seemed brilliant to me, and it was a joy to view their works, watch them grow from day to day on the vaults and domes of the stately colonnades. In the morning, the great Golden Door of the Transportation Building was like Dawn, the rosy-fingered; at dusk, with the lights turned on, a gorgeous opalescent sunset.

During a visit home I'd persuaded Harry

Pratt to return to Chicago with me. Father's little house was finished, the Boston offices quiet, so Harry and I joined the maelstrom in Jackson Park. We found lodgings in Rosalie Court within pleasant walking distance of the Fair Grounds. The lure of Chicago attracted many draftsmen from other cities: Henry Bacon, James Brite, Beuley, LeBoutillier, Harder; men from the Pacific Coast and the rolling prairies.

Julius Harder, Charles B. Atwood's right-hand man, was one of the first to come, and the work of these two was as fine, if not finer, than anything in the White City. When the drawings of the Art Building were first published, the design created a profound sensation. There were envious souls who pointed to a striking similarity between this design and that of a famous *Prix de Rome projet* published some years previously. A distinguished French painter—Montgomery Schuyler doesn't say who—remarked, "*On me dit que les bâtiments à Chicago sont les anciens concours des Beaux Arts.*" The Chicago newspapers took up the issue, publishing the two designs in parallel columns under great headlines, "Come off your perch, Mr. Atwood." They even said that, anyway, Julius Harder was the real designer and not Atwood. This made Julius mad and he told the reporters that he was merely the instrument for the interpretation of Atwood's ideas. "I sit at the feet of the Master," he said.

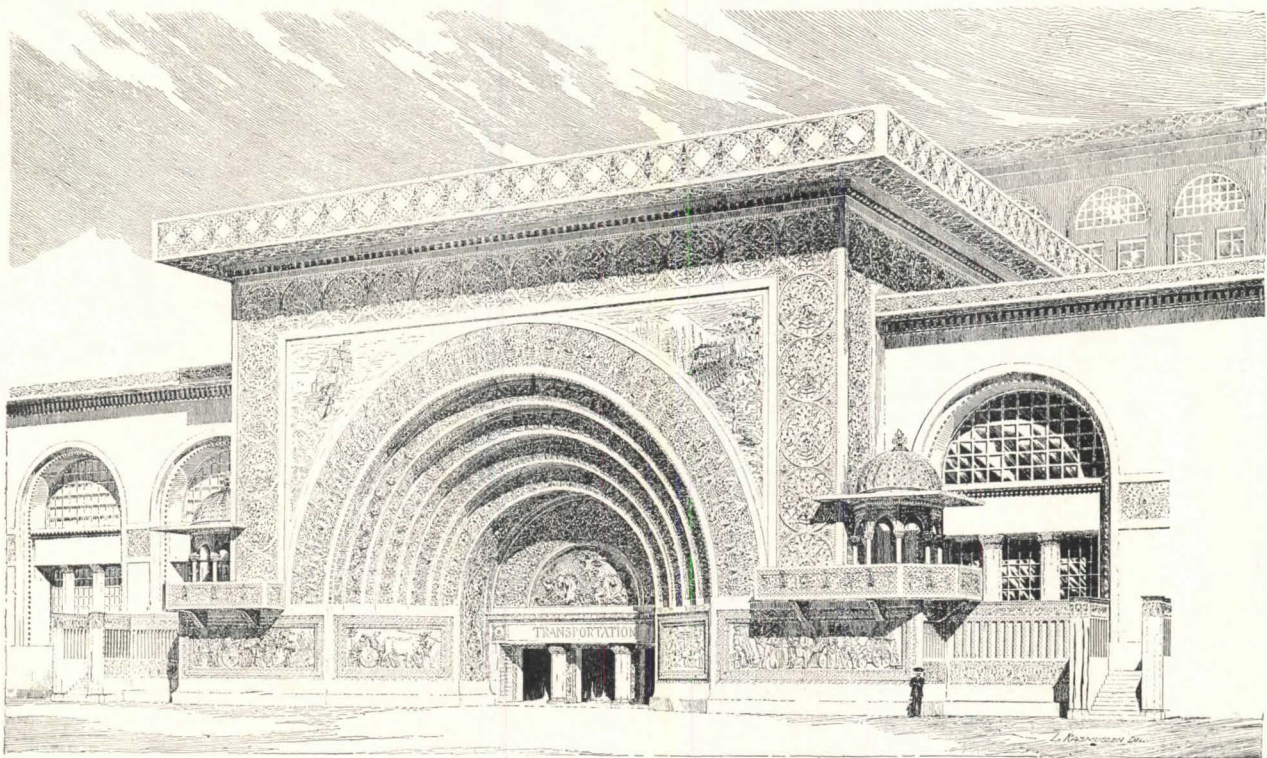
Julius was a big man, an athlete, an officer of the A. A. U. and a member of all sorts of *turnvereins* and *turnerbunds* back in New York, his home. He combined the thoroughness of his Saxon ancestry with the imagination of the artist. He was a wonderful draftsman and had positive convictions on every subject under the sun, displaying at the same time a genial tolerance for the ideas of others.

Atwood ignored the controversy and the Art Palace was finished as he planned it. The result was a beautiful building, as fine a piece of modern work as ever was. These things happen sometimes (*cf.* The Boston Public Library and the Bibliothèque Ste. Geneviève) and I've a conviction that when this occurs, glorious Apollo, The Far Darter, is mixed up in it somehow.

While the White City was under construction, Chicago architects' offices bubbled over with activity. I worked for a few weeks for Frederick Wainwright Perkins on the drawings for a large country house for Philip Armour. Perkins was a combination of the æsthete and the businessman. My salary was

\$6 a day and, if I was a half-hour late, at the end of the week I was docked 75c. There were quite a number of these half-hours during the week and, as we couldn't make up any lost time, pay day, due to my own carelessness, was apt to be disenchanting. Some twenty years later I heard that Perkins had become one of the leading residential archi-

tecs of Chicago, designer of many expensive country estates. I used to see him at Institute Conventions about 15 years ago, and at first did not recognize him. He'd shaved off his beard, his thick bushy hair had turned white, and he wore a purple velvet dinner jacket; as distinguished a looking architect as one would care to see.

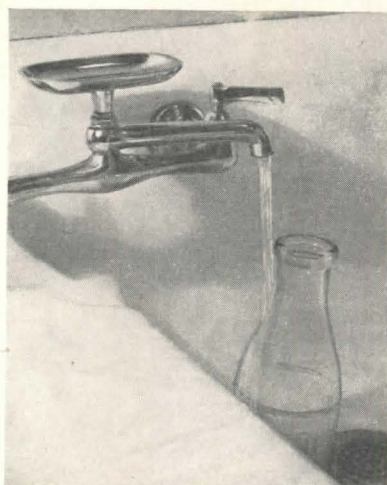


"The great Golden Door of the Transportation Building," Adler & Sullivan, Architects

PENCIL POINTS DATA SHEETS

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

THE DISREGARD OF THE OBVIOUS



On the left is a candid camera shot which we submit as illustrating more mistakes per square inch than any photograph ever published. It makes those drawings that they run in "What's-Wrong-with-This-Picture" contests look sterile and unimaginative by comparison.

If we were the Hitler or the Mussolini of any company who made equipment for kitchens we would make every designer in the organization spend one day a week in contemplation of a quart milk bottle. We once designed a 15-room house around a trick telephone niche which the client had seen illustrated in one of those ladies' magazines and had stipulated as the one thing she really wanted in her future home. Maybe it is just as fruity an idea to design a kitchen around the glass container of 32 ounces of the lacteal fluid! But we don't think so. Certainly the result could be no worse than it is under a system which disregards the lowly milk bottle—either as an object or as a symbol.

Somebody told the designer of this particular kitchen sink that water runs downhill. The poor chap was probably dropped on his head immediately afterwards so that he never learned any other useful facts or mitigating circumstances. In the illustration the milk bottle has been

U. S. S. GAGE FOR IRON AND STEEL SHEETS

Index No.
A 8 a
MATERIALS

PENCIL POINTS DATA SHEETS PREPARED BY DON GRAF

Number of Gage	Approximate Thickness In Inch Fractions	Approximate Thickness In Inch Decimals	Weight per Square Foot
0000000	1/2	0.5	20.00 lbs.
000000	15/32	0.46875	18.75 "
00000	7/16	0.4375	17.50 "
0000	13/32	0.40625	16.25 "
000	3/8	0.375	15.00 "
00	11/32	0.34375	13.75 "
0	5/16	0.3125	12.50 "
1	9/32	0.28125	11.25 "
2	17/64	0.265625	10.63 "
3	1/4	0.25	10.00 "
4	15/64	0.234375	9.38 "
5	7/32	0.21875	8.75 "
6	13/64	0.203125	8.13 "
7	3/16	0.1875	7.50 "
8	11/64	0.171875	6.88 "
9	5/32	0.15625	6.25 "
10	9/64	0.140625	5.63 "
11	1/8	0.125	5.00 "
12	7/64	0.109375	4.38 "
13	3/32	0.09375	3.75 "
14	5/64	0.078125	3.13 "
15	9/128	0.0703125	2.81 "
16	1/16	0.0625	2.50 "
17	9/160	0.05625	2.25 "
18	1/20	0.05	2.00 "
19	7/160	0.04375	1.75 "
20	3/80	0.0375	1.50 "
21	11/320	0.034375	1.38 "
22	1/32	0.03125	1.25 "
23	9/320	0.028125	1.13 "
24	1/40	0.025	1.00 "
25	7/320	0.021875	14 oz.
26	3/160	0.01875	12 "
27	11/640	0.0171875	11 "
28	1/64	0.015625	10 "
29	9/640	0.0140625	9 "
30	1/80	0.0125	8 "
31	7/640	0.0109375	7 "
32	13/1280	0.01015625	6 1/2 oz.
33	3/320	0.009375	6 "
34	11/1280	0.00859375	5 1/2 "
35	5/640	0.0078125	5 "
36	9/1280	0.00703125	4 1/2 "
37	17/2560	0.006640625	4 1/4 "
38	1/160	0.00625	4 "

SET
13
MAR
1938

1938 AUTOMOBILE DIMENSIONS

Index No.
D 4 a
PLANNING

PENCIL POINTS DATA SHEETS PREPARED BY DON GRAF

Make	*L.	*H.	*W.	*DW.	*T.D.
Bantam.....	10'-9"	5'-1"	4'-8"	8'-1"	29'-6"
Bantam.....	11'-2"	5'-1"	4'-8"	8'-1"	29'-6"
Willys.....	14'-10"	5'-10"	5'-10"	10'-0"	34'-0"
Fordor.....	15'-4"	5'-6"	5'-10"	10'-0"	40'-4"
Chevrolet Sedan.....	15'-5"	5'-9"	5'-11"	10'-1"	40'-9"
Chevrolet Coupe.....	15'-8"	5'-8"	5'-11"	11'-7"	40'-9"
Hudson 112.....	15'-8"	5'-11"	6'-0"	11'-3"	44'-0"
Ford Tudor.....	15'-10"	5'-9"	5'-10"	10'-10"	40'-4"
Oldsmobile 6.....	15'-11"	5'-7"	6'-1"	12'-3"	40'-7"
Pontiac.....	16'-0"	5'-7"	6'-0"	12'-2"	37'-10"
Studebaker.....	16'-1"	5'-7"	6'-0"	12'-2"	41'-2"
Plymouth Business 6.....	16'-3"	5'-8"	5'-11"	10'-10"	—
Pontiac 4-Door Sedan.....	16'-5"	5'-7"	6'-0"	12'-2"	38'-8"
Dodge.....	16'-5"	5'-9"	5'-11"	10'-10"	—
Packard.....	16'-5"	5'-9"	6'-2"	10'-6"	44'-6"
Nash-Lafayette.....	16'-5"	6'-0"	6'-3"	10'-0"	—
Oldsmobile 8.....	16'-6"	5'-8"	6'-1"	12'-3"	42'-0"
De Soto.....	16'-8"	5'-9"	5'-11"	10'-10"	—
Chrysler Royal.....	16'-8"	5'-9"	5'-11"	10'-10"	—
Graham.....	16'-9"	5'-8"	6'-3"	10'-6"	44'-6"
Buick 48.....	16'-9"	5'-10"	6'-1"	11'-11"	44'-0"
La Salle V-8.....	16'-10"	5'-8"	6'-4"	10'-5"	44'-8"
Studebaker.....	16'-11"	5'-2"	5'-7"	10'-0"	42'-3"
Nash 8.....	17'-1"	6'-0"	6'-3"	10'-0"	—
Hudson 87.....	17'-3"	5'-11"	6'-0"	11'-3"	48'-6"
Lincoln Zephyr.....	17'-7"	5'-8"	6'-1"	12'-0"	46'-0"
Dodge.....	17'-10"	5'-10"	5'-11"	10'-10"	—
Plymouth DeLuxe.....	17'-11"	5'-10"	5'-11"	10'-10"	—
DeSoto.....	18'-1"	5'-10"	5'-11"	10'-10"	—
Buick 90.....	18'-4"	6'-0"	6'-5"	11'-3"	48'-2"
Cadillac V-16.....	18'-5"	5'-10"	6'-6"	12'-1"	48'-9"
Lincoln.....	18'-8"	6'-4"	6'-3"	12'-3"	52'-0"
Chrysler Imperial.....	18'-9"	5'-11"	6'-4"	12'-7"	—
Packard 12.....	19'-3"	5'-11"	6'-3"	10'-10"	51'-8"

SET
13
MAR
1938

* (L.) Length overall including bumpers. (H.) Height. (W.) Width with doors closed. (DW.) Overall width of car with doors open. (T.D.) Turning diameter, i.e., diameter of smallest wheel-in circle in which the car will make a complete turn. Dimensions are given to the nearest whole inch above fractions.

Information has been supplied by the automobile manufacturers, thru whose courtesy they are hereby reproducing. Where makes are repeated, they refer to the largest and smallest models.

• = Smallest dimension in column. (Bantam excluded.)
† = Largest dimension in column.

RANGE OF SIZES FOR LAST FIVE YEARS†

Maximum length.....	1937 Cadillac (16).....	20'-0"
Minimum length.....	1936 Willys-Overland.....	13'-6"
Maximum width.....	1938 Cadillac.....	6'-6"
Minimum width.....	1936 Willys-Overland.....	4'-10"
Maximum height.....	1938 Lincoln.....	6'-4"
Minimum height.....	1937 Cord.....	5'-0"
Maximum turning diameter.....	1935 Packard (12).....	54'-9"
Minimum turning diameter.....	1938 Willys.....	34'-0"

† For companies reporting, Bantam excluded.

pushed as far toward the faucet as possible. Due to the slope of the bottom of this sink, the bottle stands, like the bell tower at Pisa, with its mouth removed an exasperating fraction of an inch from the stream of water. This self-same slope means that chinaware is stacked for rinsing at the owner's risk.

The beautiful chromium soap dish is without weep-holes. The third time that a bar of soap is placed in it, the dish is filled to the brim with water from dripping hands. Leave the soap in this puddle for two hours and the cook has a nice sloppy mess of soft soap whose only usefulness might be if some member of the household takes poison regularly and requires frequent emetics.

Perhaps there are virtues appertaining to enameled metal drain-boards over the laundry tub compartment. If there are they have failed to reveal themselves to this researcher. The two skeletons who tap-danced on a tin roof could be spotted several decibels in a competition with a busy dishwasher clanking dishes down on one of these machine age contraptions. From which you may gather we favor wood drain-boards.

Although the photograph cannot indicate it, the hot water is not recirculating. For the sake of a few feet of plumbing pipe the owner of this building pays for a good many gallons of water every time the hot water faucet is turned on. Cool water must travel all the way from the outlet at the sink back to the hot water storage tank before hot water flows out.

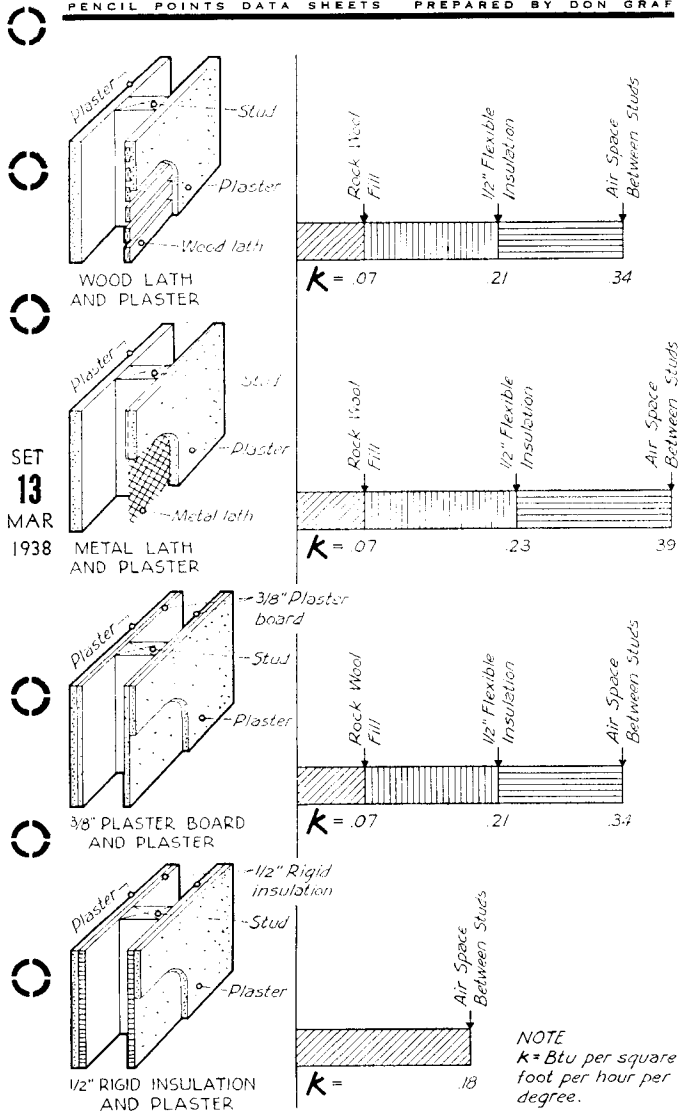
Is it necessary to point out the ugly crack at the top of the splash back where the fixture meets the plaster wall above? For years and years sinks and other plumbing fixtures have been placed against plaster walls. Perhaps the plumbing ware manufacturers have not discovered the need for it but some method certainly should be worked out for making this junction a neat and sanitary joint.

There are other points too numerous to mention which might be touched upon. In our humble opinion, both the manufacturer of this vitreous-chromium abortion as well as the architect who consented to its installation should have their chewing tobacco taken from them until they develop a sense of function.

HEAT LOSS COEFFICIENTS INTERIOR PARTITIONS

Index No.
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MECHANICAL

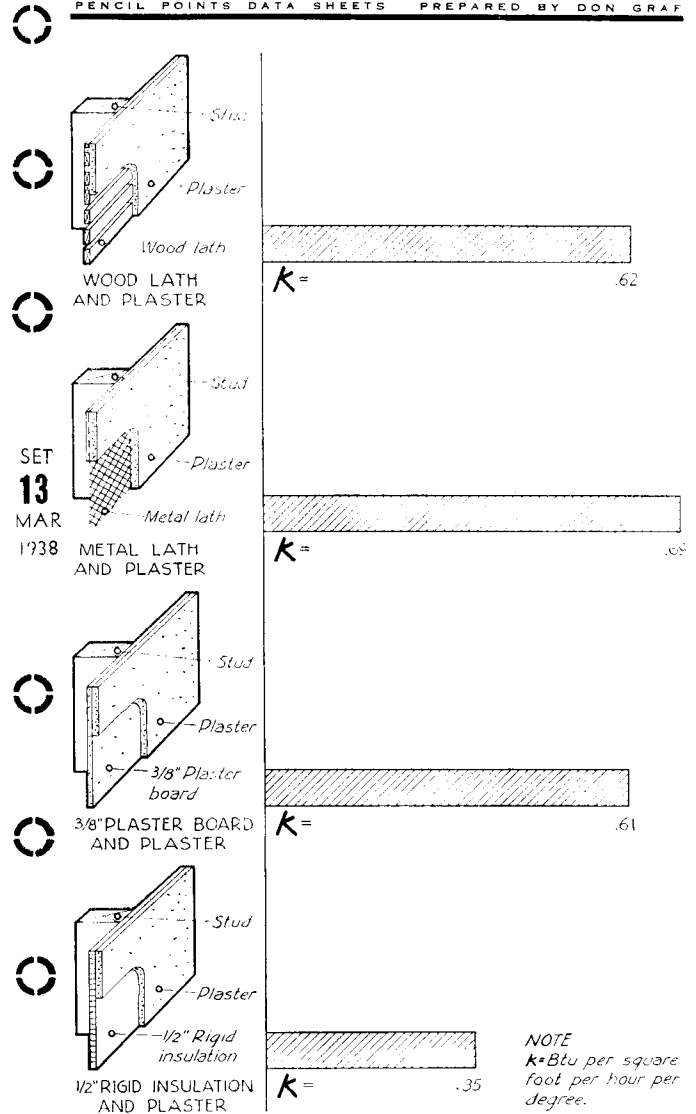
PENCIL POINTS DATA SHEETS PREPARED BY DON GRAF

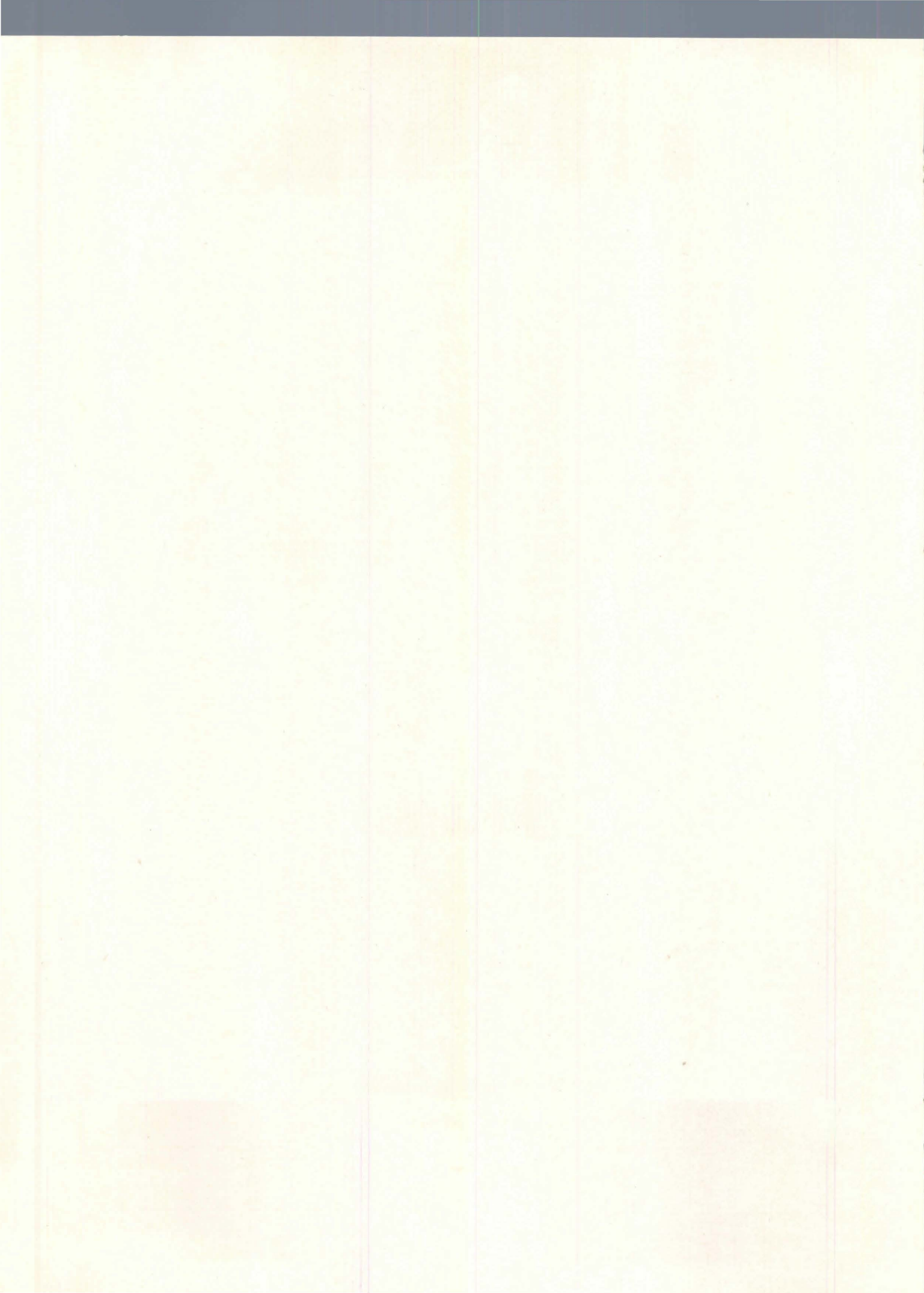


HEAT LOSS COEFFICIENTS INTERIOR PARTITIONS

Index No.
E 2 n
MECHANICAL

PENCIL POINTS DATA SHEETS PREPARED BY DON GRAF





CRITICISING THE CRITIC

THOUGHTS PROMPTED BY TALBOT HAMLIN'S ARTICLES

BY ROBERT L. ANDERSON

EDITOR'S NOTE:—*The first response to Talbot Hamlin's critical writings which began in January came from Robert L. Anderson, whose articles are also a regular feature of PENCIL POINTS. Mr. Anderson's comments, which follow, seem to us and to Professor Hamlin so pertinent and understanding that we have made room for them here so that all may benefit. The bulk of what Mr. Anderson says here was prompted by the January criticism. You will note at the end an addendum which was written after the February criticism appeared. In it Mr. Anderson notes a change in the critic's approach and voices his approval of this change. The editors will welcome further discussion as Professor Hamlin's series continues and will set aside space for comments by readers wherever they appear significant and of general interest. You are invited to try your lance in this verbal tournament.*

I CAN BEST indicate my disagreement with the thought expressed in Professor Hamlin's discussion by beginning with a quotation found at the top of page 7 in the January PENCIL POINTS.

"It (architecture) may be saved from (esotericism) by seeing to it that buildings talk to people in clear simple language, expressing the purpose for which they were built and what they mean to these people . . ."

This is a simple abstract statement with which the average person, I suppose, would have no quarrel. Therefore to raise the objection that buildings cannot, in the literal sense, talk, is to incur the protest that nothing more than a simple figure of speech has been intended.

I am not at all convinced, however, that it is just a simple figure of speech.

Suppose we accept for the moment the argument that buildings are to talk to people, expressing their purpose and their meaning. Just how much talking must the materials and forms of architecture do to satisfy the requirements set up? How much purpose

must they express? How much meaning should these architectural materials and forms have for people?

Dropping down three paragraphs in Professor Hamlin's article we find:

"Number One is the great criminal court center and jail of Manhattan Island. Here are not only court rooms, and all their services, but also all the myriad parts of a jail—cells, and visiting rooms, and services galore. How, from the simple size and arrangement of the masses of this building, could the observer get any of this, unless he were told?"

In other words, Professor Hamlin is suggesting, I am forced to conclude, that the observer should get a complete notion of the complex functioning of a criminal court.

My point is that the observer can't get any of this complicated and exact picture of a complex organization from any building. Further, that he couldn't get it in the past; that he can't get it in the present; that he won't be able to get it in the future. Finally, that the contemporary notion that he can, or should be able to get all this from any architectural form is nothing more than the most recent variation of what Mary Colum refers to as an "ancient heresy."

Of course the observer could get all this if the artist selecting the criminal, or domestic relations, court as his object of attention happens to be a *literary* artist, and can produce a novel, or play, or poem, or essay—legal, political, social, or purely literary. But for the architect to attempt to do this is sheer folly.

It will continue to be sheer folly until such time as stone or paint literally speak aloud. Which, I might add, will never happen outside the covers of a book, all the Ruskinian disciples to the contrary.

* * *

Why is it, then, that informed and intelligent people persist in the notion that architecture can speak as can literature?

One answer is, I suppose, that for the last century and a half the great art criticism has been primarily *literary* criticism.

People have forgotten that Lessing's great critical contribution in *Laocoon* was the thesis that each of the arts has a province peculiar to itself; a province whose boundaries should not be crossed. They have forgotten it because his second great critical contribution put wings to poetry and, above all, eventually created the novel.

As yet I am the rankest amateur in these matters. But in her recently published "From These Roots" Mary Colum has shown how Lessing's thesis that art is national but wings to German literature, particularly to poetry; how the subsequent Hegel-De Stäel-Taine thesis that art is social (that is, a product of race, milieu, moment) created the great novels of the 19th century.

(Frank Lloyd Wright's "Texas should have a Texas house" is, of course, nothing more than a third-rate rehash of this 19th century Hegel-De Stäel-Taine thesis expressed in egotistic, hortatory terminology.)

It is ridiculous, however, to expect architects to adopt a thesis and employ a method and a technique which will enable a Flaubert to write a *Madame Bovary*. (If architects like the thesis, the method and the technique, no law as yet prohibits them from becoming novelists.) Yet Professor Hamlin somehow expects the architect of the criminal court to explain to the observer the same minute details a Flaubert alone could give them!

In other words, the great new artistic creation in the 19th Century was the novel. Awed and impressed by this spectacular development, the other arts have, consciously or unconsciously, aped the novel.

Nor can they, I suppose, be greatly blamed. All of the arts aspire to the same end: expression of the individual's reaction to his environment. In the novel the literary artists pushed such expression to include practically total environment.

Who can blame the other artists for being impressed? And, being impressed, who can blame them for trying to emulate the literary artists? Even to the extent of forgetting that in the arts there are degrees and kinds of articulation.

* * *

Let me give you an amusing instance of the way in which "art" is taken to mean literary art.

Some few years ago Christian Gauss, Dean

of Princeton and Chairman of the Department of Romance Languages, had an article in the *Saturday Evening Post*. "Why Don't College Graduates Stay Educated," I believe it was. In it he made passing reference to the great artist—"master in the art of living."

I wrote a brash letter, asking if he didn't mean "great philosopher." He replied that he didn't, but said that of course he was thinking "primarily of the literary artist!"

A large part of the time I feel like saying "the - - - with the literary artist, particularly the literary critic." For as Mary Colum says of De Stäel: they can appreciate only such artistic activity as they, with their very complex but limited abilities, can understand.

* * *

Returning to Professor Hamlin's discussion. To my mind at least, the "character" he is after is possible only in literature.

For myself, I follow Magonigle's definition of character in architecture: "the transmutation of the mere raw materials of research into fresh forms, seen primarily as light, and shade, and color."

For surplus value I quote Magonigle again: "In nearly every epoch there are a few works which, by their character, by their possession of permanent, because fundamental, structural traits, survive. These are those in which the artist did not yield to the pressure of ephemeral fashion but plucked a feather from the wing of beauty as it brushed him in passing."

And if beauty needs defining, I would go back to the "light, shade, color" quoted above. For these are the only possible products (plus forms, of course) of those particular "raw materials" with which the architect must create his art. The literary artist deals with different raw materials and hence can, and must, arrive at different ends than the architect.

Of course this forces architecture, as well as architectural criticism, into the "superficial æsthetic pattern" which Professor Hamlin dislikes. That particular quote is, of course, a very nice demonstration of the point I made on page 18 of the January issue: that the pursuit of simple beauty is, today, largely considered an infantile preoccupation.

But again I quote Magonigle:

"Architecture, like painting and sculpture, is the product of the craft itself to a degree undreamed of by the layman." And, I might add, to a degree undreamed of, above all, by the literary.

"Art is art, and it isn't democracy, or socialism, or sociology, or theories of life—it is

art, to be worked in as art . . . " And, I might add, architecture isn't literature.

* * *

If one wants to let one's mind operate on the vast complicated mechanisms of a criminal court building in the manner suggested by Professor Hamlin, one should write a novel about it.

If one wants to let one's mind operate on the great quiet dignity of court houses set in cool shady spaces, one should paint it—or write such poetic prose as Professor Hamlin actually wrote.

If one wants to secure such open spaces in the middle of great cities for the erection of such placid, dignified courthouses, one should join civic leagues and enter politics that such spaces may be set aside by legislatures.

If one wants to recreate in the minds of citizens the prestige of courts, one should become a professor of intellectual and social history, and show to undergraduates the historic position of the courts; or become an evangelic professor of jurisprudence; or give away to all one's friends copies of Walter Lippmann's "Good Society," which defies the Law; or organize a boycott of those intellectuals who have lost faith in the legal procedure.

As a matter of fact, I am perfectly willing to grant that there is a too cynical regard for Law. But in heaven's name why blame the architect for any of it?

In addition, to ascribe any cynicism regarding Law to the particular form of the building in which the Law sits is the rankest cynicism of all. For that says that it isn't the spirit of the Law which counts, but the form of the building in which the Law is housed!

Somewhere in his Autobiography, H. G. Wells records how, hating the Church intellectually, he would pull down all churches because they affected him emotionally. Yet in Russia, when they burnt the churches, the devout went into the forests and into caves. And in early Christian times they went into the Catacombs. And when Jefferson was elected President the farm-women of Massachusetts hung their Bibles down the well because they believed Jefferson's first official act would be to confiscate them.

Religion is *not* a matter of the housing. Neither, contemporary transcendental theories of art to the contrary, is the Law.

And architecture is *not* a way of life. As Magonigle said, it is an *art*. It's a damn fine art, and will be so long as you don't try to make it poetry, or music, or painting, or a novel, or religion, or law, or philosophy, or morals, or social salvation.

Do these people have no religion but architecture? Do they have no law, no philosophy, no morality, no government, no economics, but architecture? Do they know nothing of poetry as poetry, literature as literature, music as music, that they can make no distinction between the arts? Do they view the world only through architecture?

Who, I should like to ask, is wrapped up in esotericism—Magonigle or Hamlin?

In other words, I insist that the definition of Talbot Hamlin's father, "architecture is the art of building beautifully," is the only proper definition for *architecture*. His father's school emphasized the *beauty* and minimized the *building*. Shift the emphasis and you have a definition which works.

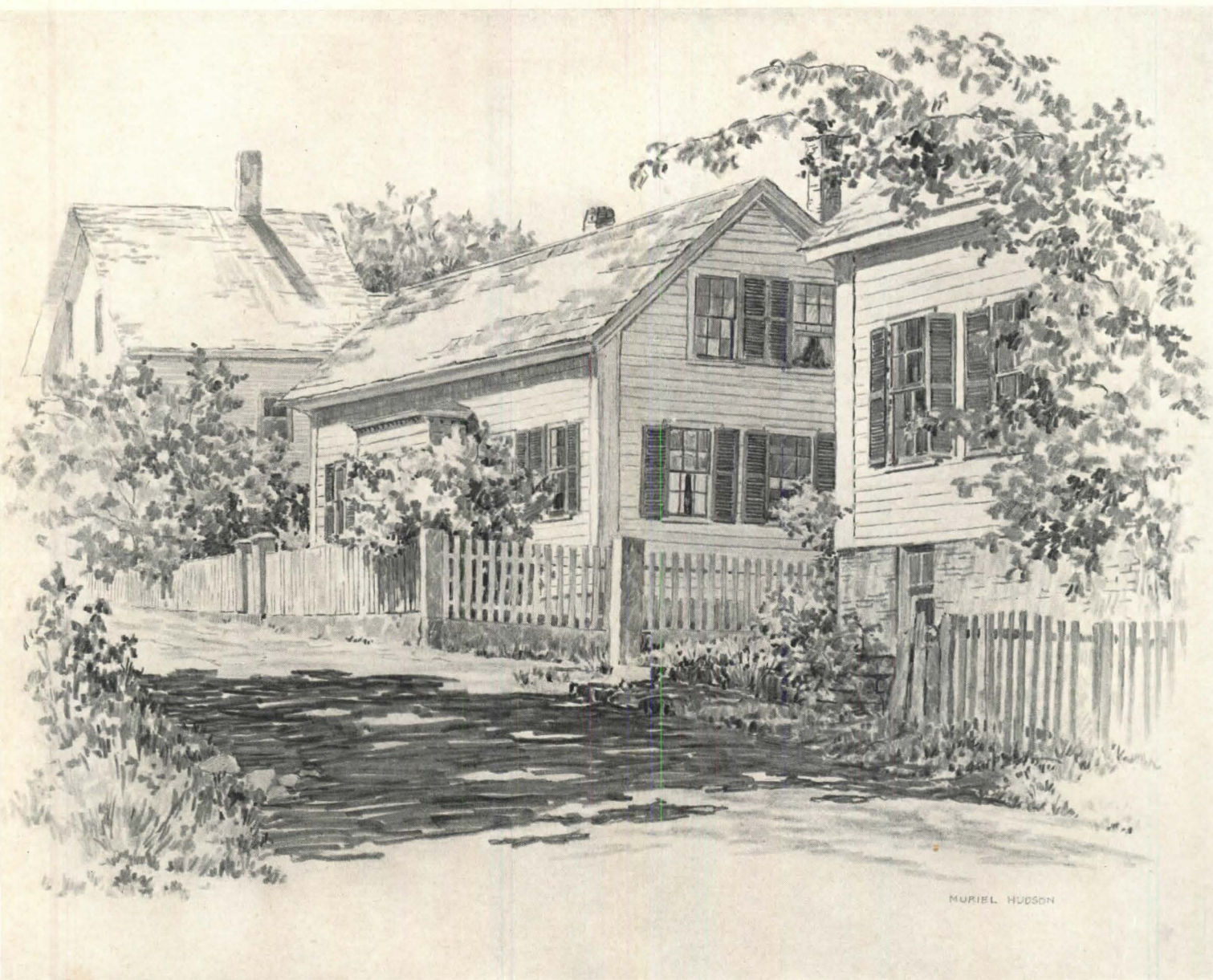
The trouble is that in shifting the emphasis our modern world has lost its balance and plunged head over heels into every kind of irrelevant theorizing—irrelevant, that is, for architecture.

My objection to the point of view expressed by Professor Hamlin in the January issue centered upon his argument that the three court buildings illustrated did not express "all the myriad parts of a jail." Therefore "shape-character," as he phrased it, was absent.

Now so long as this point of view persists I shall welcome every opportunity to attack it vigorously as mis-directed literary criticism. There is, however, practically none of this literary-critical point of view in Professor Hamlin's article in the February issue. On the contrary, it is straight architectural criticism; that is, it is primarily a discussion of the physical forms of architecture.

The difference in point of view can be seen by comparing the thought of section II of the January article with that developed in the third paragraph of the February issue. In the first case, there is a suggestion that the three buildings illustrated should "tell all," down to the minutest detail. In the second case, there is a discussion, for which the same three buildings would serve as admirable examples, of the primary characteristics (physical and non-confessional) of the emerging American style of architecture.

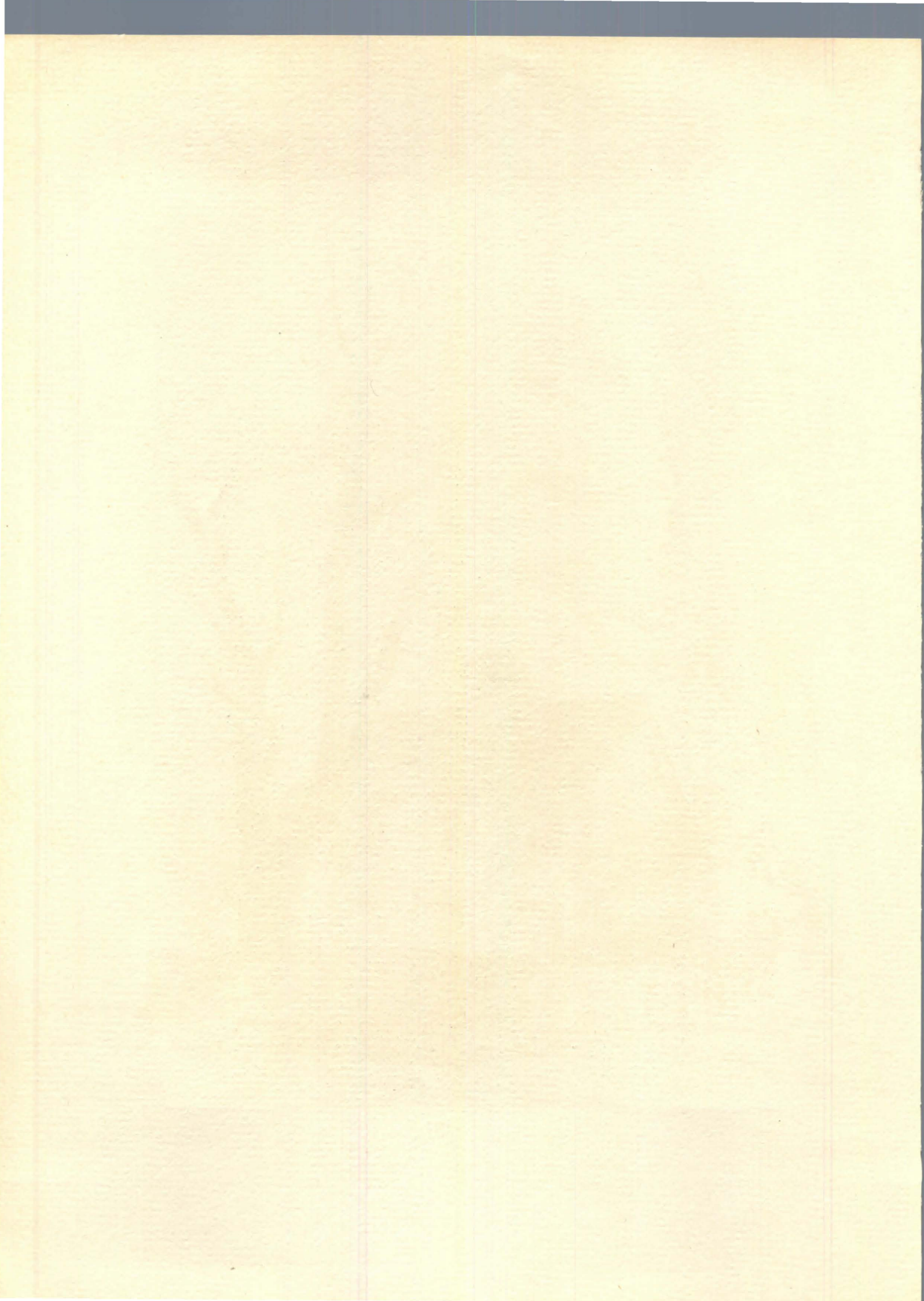
In other words, Professor Hamlin appears to have forsaken the literary-critical in favor of the architectural-critical point of view. And in the latter he has done, it seems to me, a very fine piece of work. So I say "Long live Hamlin of the February article."



This pencil sketch by Muriel Hudson has caught the spirit of the little old New England communities along the Massachusetts "North Shore." We are not certain, but we think the subject is in Marblehead, the same general locality which furnished the inspiration for the sketch opposite



A water color sketch by Theodore Kautzky of a cozy New England farmhouse nestled in a grove of trees and spotted with bright sunshine. This scene was an invention and has no counterpart in reality



THE MONOGRAPH SERIES

Records of Early American Architecture

Edited by RUSSELL F. WHITEHEAD, A. I. A.

Measured Drawings by FRANK CHOUTEAU BROWN, A. I. A., *Associate Editor*

Photographs by ARTHUR C. HASKELL, *Architectural Photographer*

Volume XXIV . Number 1



Courtesy Soc. Pres. N. E. Antiquities

BEACON STREET, LOOKING UP THE HILL FROM JUST ABOVE
CHARLES STREET—NOS. 54 & 55 IN MIDDLE DISTANCE

[97]



OLD SENATE AND COUNCIL CHAMBER—"BULFINCH STATE HOUSE"—BEACON HILL

[98]



Beacon Hill, Boston, Massachusetts

by FRANK CHOUTEAU BROWN, A. I. A.

BEACON HILL," in Boston, refers always to a somewhat undefined area, including a portion of the older and better residential district facing south toward the Common: while "Back of the Hill" has precisely the same connotation as is usually conveyed, in less altitudinous circles, by the equally descriptive phrase, "the other side of the railroad tracks." The entire Hill area is now bounded by the northern side of Boston Common—Beacon Street: its westernmost margin now ends at the Charles River Embankment, but in olden times Charles Street was as far as the land extended in that direction: Cambridge Street marks its northernmost—if less distinguished—limits; and where about the year 1800 its residential area extended as far east as Pemberton Square, or thereabouts,—it is now more strictly limited in that direction by Somerset Street.

In earlier, and some recent, numbers of this publication; something has already been written—as well as shown*—both of the history and the structures within this limited area. It will now be attempted to give, somewhat more in detail, but nevertheless still an overmuch condensed record of, its history and development.

In the early history of this region, the fact that the Reverend William Blaxton (or Blackstone) was probably its original settler has been given, as well as something of his history† after he turned over his orchard and farmstead—as well as his cow pasture (now Boston Common) to the too rigorous and closely crowding Puritans. His dwelling was probably located near the present intersection of Chestnut and Spruce Streets; while his orchard probably extended north easterly, up over the then wild and steeply rugged slopes of the Hill that protected his dwelling from the coldest winter storms, about where Mount Vernon, Pinckney, and Chestnut Streets now are, in the area immediately east of present Louisburg Square.

The old "Trimount," with its highest summit di-

vided between three peaks, stood much as it had been in Blackstone's time very nearly up to 1790, at which time the original brick-stuccoed column from designs by Charles Bulfinch was erected upon the highest peak, with its base very nearly level with the top of the present State House pediment (see *The Monograph Series*, Vol. XXIII, No. 1), to mark the location of the Beacon, that had occupied that position from 1635 until it was demolished by the November storm of 1789. The old Blaxton orchard still stood upon the western slope of the Hill; here and there an excavation had been made to obtain gravel; the western peak had been partly cut down to build-up Charles Street and extend the Hill's area to the West; a Reservoir was located near the top, and a Ropewalk or two had sprung up along the northern base of the slope, nearly parallel with the present Cambridge Street. An inclined gravity railroad, set up in 1803 to facilitate conveying the gravel of Mt. Vernon Hill down to the west, was called "the first railroad built in this country." In 1811 the highest summit of the Hill was reduced about sixty feet, to something approximating its present level, the old monument replaced by the present stone copy (the tip of which is just about the height of the old hill); and, about 1835, the third and easternmost peak, Cotton Hill, was finally leveled off to help build up the grades of Pemberton Square.

Probably the earliest dwellings were built along the northern slope,—small wooden cottages for the families of workingmen, servants, and slaves. After the building of the new State House in 1795, fronting south upon the Common lands, Squire Otis and Sen. Mason tried, about 1802, to start a better class of residential building west of the State House. Before that time, only a half-dozen scattered dwellings were located upon the southern margin of this area, probably mostly wooden farmsteads,—with the single exception of the stone mansion of Thomas Hancock, built in 1737, and torn down in 1863. This was the first important dwelling facing on Beacon Street,—which then did not exist except as a rutted country lane. Later, at the time of the Revolution, there were probably stand-

(**The Monograph Series*, Vol. XXIII, No. 1)

(†*The Monograph Series*, Vol. XXI, No. 2)

ing at the east of the State House, three or four wooden dwellings—and about as many to the west. Of these, the first was the Hancock Mansion, next beyond it were three wooden dwellings, belonging to the Copley family, the middle one being about on the site of the Somerset Club,—and the one furthest west dating possibly from as early as 1694. They all appear in an old water color view looking across the Common, painted in 1768.

This westernmost slope of “the Hill” was the property purchased by the “Mount Vernon Proprietors,” organized probably in 1794 or 1795, and at first consisting of William Scollay, Charles Bulfinch, Jonathan Mason, Jr., Joseph Woodward, and Harrison Gray Otis. Of these, Messrs. Mason and Otis were the largest holders, and some of the others were shortly bought out by Benjamin Joy and Mrs. James Swan. The first of the new streets for this extensive real estate development were begun in 1799,—and it would appear that Mount Vernon Street—laid out along the natural ridge running nearly East and West, along with Chestnut Street—were the first planned to be built up,—and by 1805 and '06 a number of fine dwellings had been erected. It was at first the intention to develop the area in a semi-suburban manner,—with large houses, looking out over the slope to the Common, surrounded by ample yards, with stables at the north. (One of the latter, belonging to the Mason house, located at the head of Walnut Street is still to be seen placed back of the old house and now made into the dwelling numbered 24 Pinckney Street.) Just to the east of the Mason yard the two houses at Nos. 57 and 55 Mt. Vernon Street were built in 1804 with fronts and doorways looking west down the hill toward the water and across the driveway east of the Mason mansion, which was a wide three story brick house, built with central bay and pilasters in 1802, and torn down in 1836. The Thomas Bailey Aldrich dwelling (59 Mt. Vernon) was built, in 1839, over a portion of this driveway and yard, and the house and grounds extended to the west as far as No. 67. Other houses were built on the east up to Joy Street, as well as a number then being located along the east side of Charles Street,—which was then being graded—of which one, No. 85—built in 1809-10—still stands, with few exterior changes.

Meanwhile, the upper end of Chestnut Street was building up with “blocks,” along with upper Mt. Vernon; which type of dwelling within the next score of years replaced most of the open yards along Mt. Vernon, Chestnut, and Beacon Streets. No. 87 Mt. Vernon (the Higgenson-Payne House) was built from Bulfinch designs in 1805; but most of the building on the Hill was arrested after 1807 by a business depres-

sion that set in about then begun or deepened by the Embargo placed upon U. S. Shipping at that time. The effect of a “depression” upon building in those days, seems hardly to have been distinguishable from that of a “recession” today!

Probably the grandest “Mansion” on the Hill was the house that Capt. Richard Crowninshield of Salem, built where the Theological School Chapel now stands on Chestnut Street. According to old legends it had a trick floor in the Dining Room through which the table could be made to disappear. Possibly this made the disposal of those gentlemen who might be peacefully reposing beneath it at the end of the evening all the easier and less conspicuous! It is a device that might even come in rather handy in these gate-crashing banquet days!

The block of three houses built by Mrs. Swan in 1806 for her daughters at 13-15-17 Chestnut Street (See Monograph Series, Vol. XXIII, No. 1) fortunately still remains; and their stables are also clearly shown at the rear, on the South side of Mt. Vernon Street, on the back of the old Chestnut Street house lots. Although long since made over into Studios or Clubrooms, the wide openings through which the old carriages rolled out may still be traced,—along with the archway (although now closed) that formerly stood open, with stone paved ramp to the level beneath, up which the horses were brought from their stalls below for harnessing.

During the succeeding years, the lower western slopes of Beacon Hill were gradually being graded and redeemed from vacancy and wild pasturage, until by about 1825, this side of the Hill was also built-up down nearly as far as Louisburg Square on Mount Vernon Street, and on Beacon and Chestnut Streets houses had been built in as far west as Charles Street,—which had been filled and completed about 1805, along the margin of the basin flats. The last half-dozen houses on Beacon Street were destroyed by a fire that burned also the houses backing them on Chestnut; but fortunately did not affect the pair of dwellings built for James Colburn in 1807 at 54 and 55 Beacon Street. No. 58 was built the same year for Asher Benjamin, “housewright and architect”; and later, in 1833 and 34, he built the block of three houses on West Cedar Street between Acorn and Mt. Vernon, of which one, No. 9, was for his own occupancy. Benjamin lived in Boston from 1803 until his death in 1845.

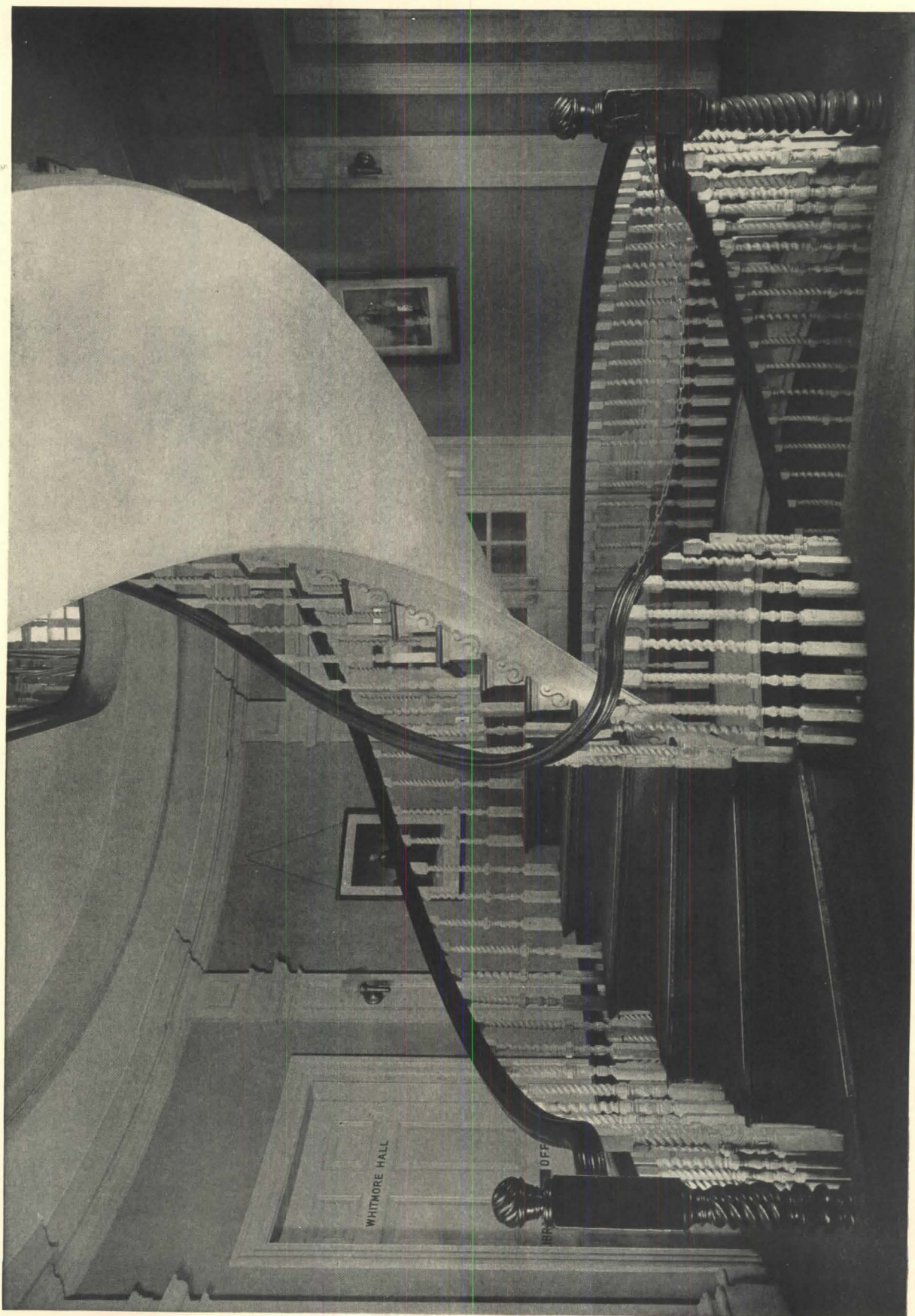
It was not until 1834 that Louisburg Square was laid out, although it is recorded that it was not “adorned” (probably by the central enclosure of trees and fencing, along with the statues of Aristides and Columbus)

(Continued on page 109)



CENTRAL DOOR, COUNCIL CHAMBER TO HALL
THE OLD STATE HOUSE—BOSTON, MASSACHUSETTS

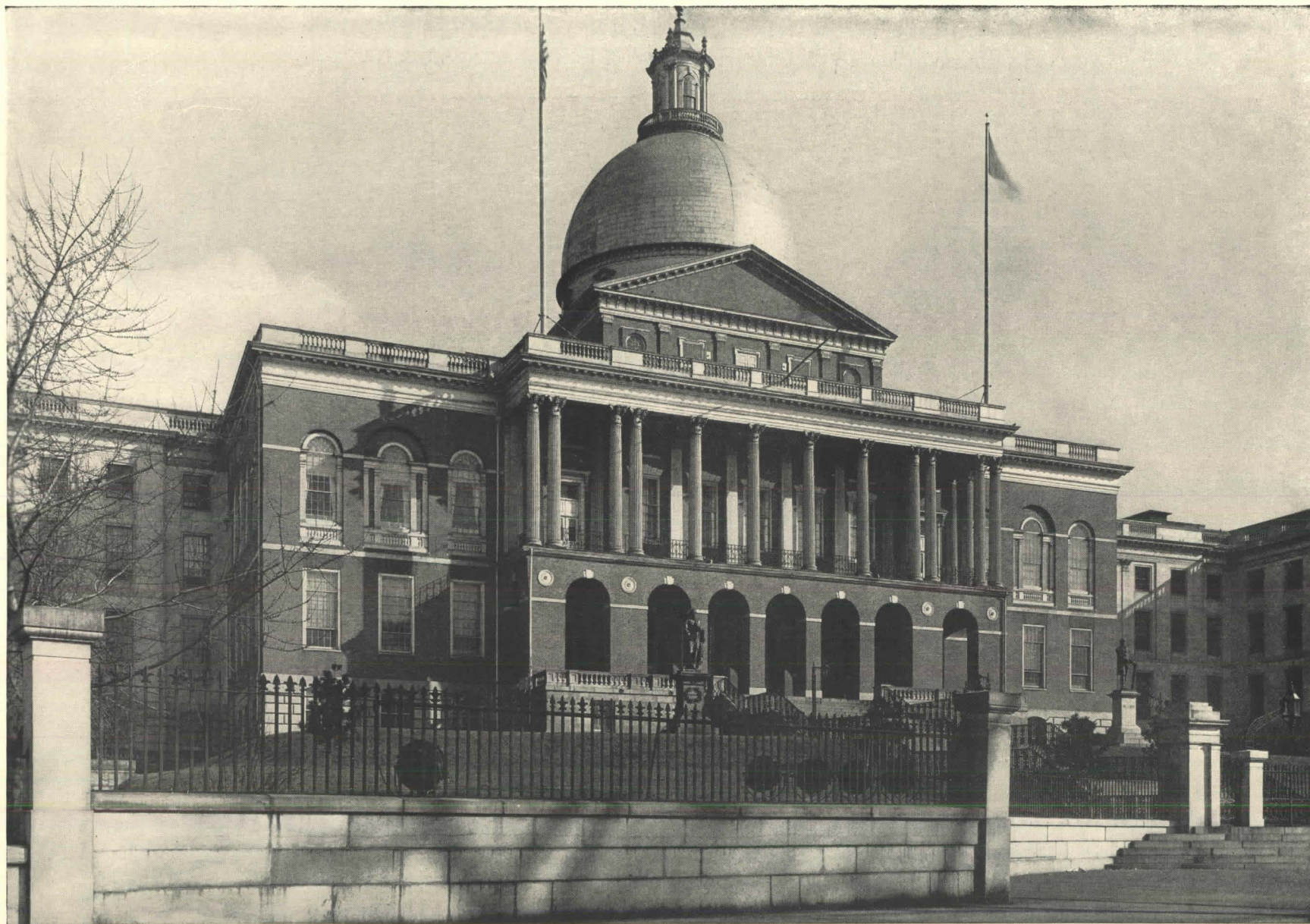
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STAIRCASE—OLD STATE HOUSE, BOSTON, MASSACHUSETTS

[102]

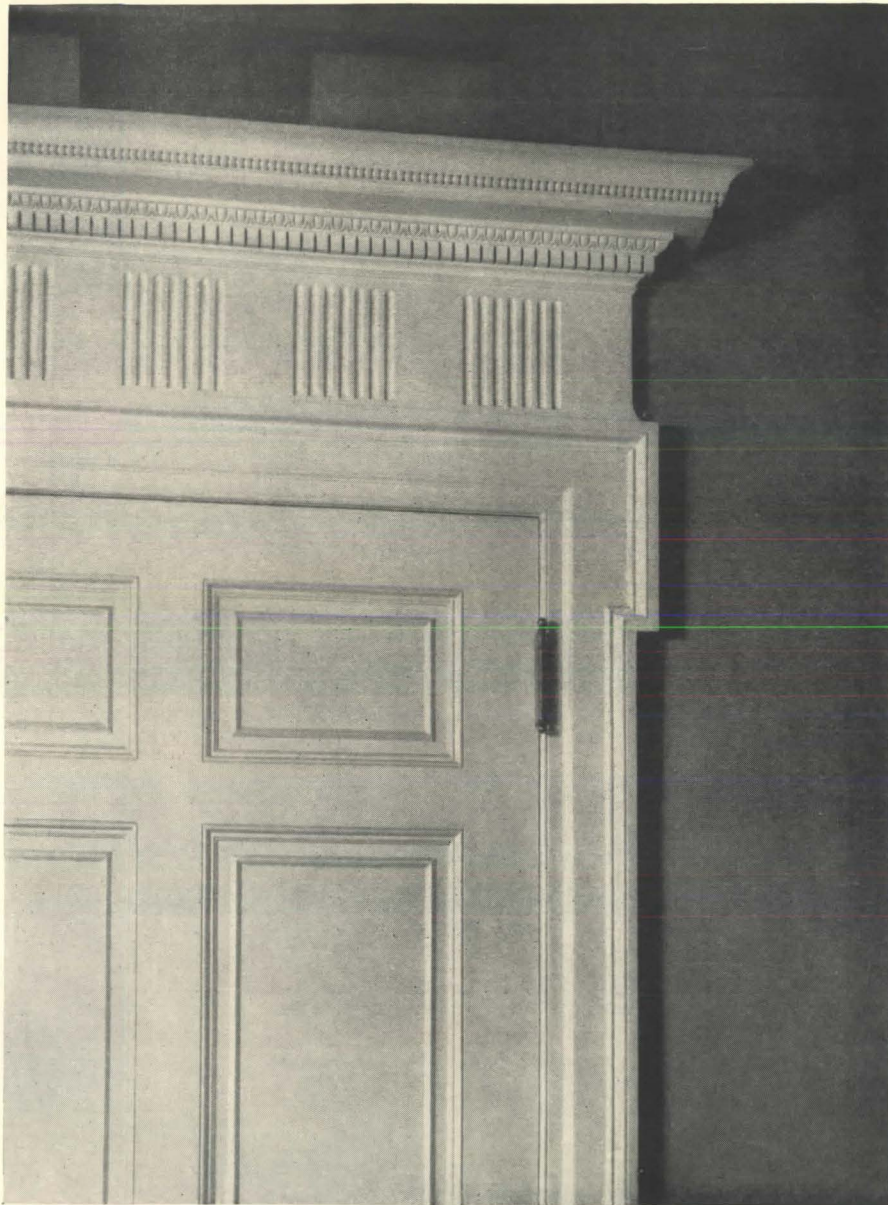
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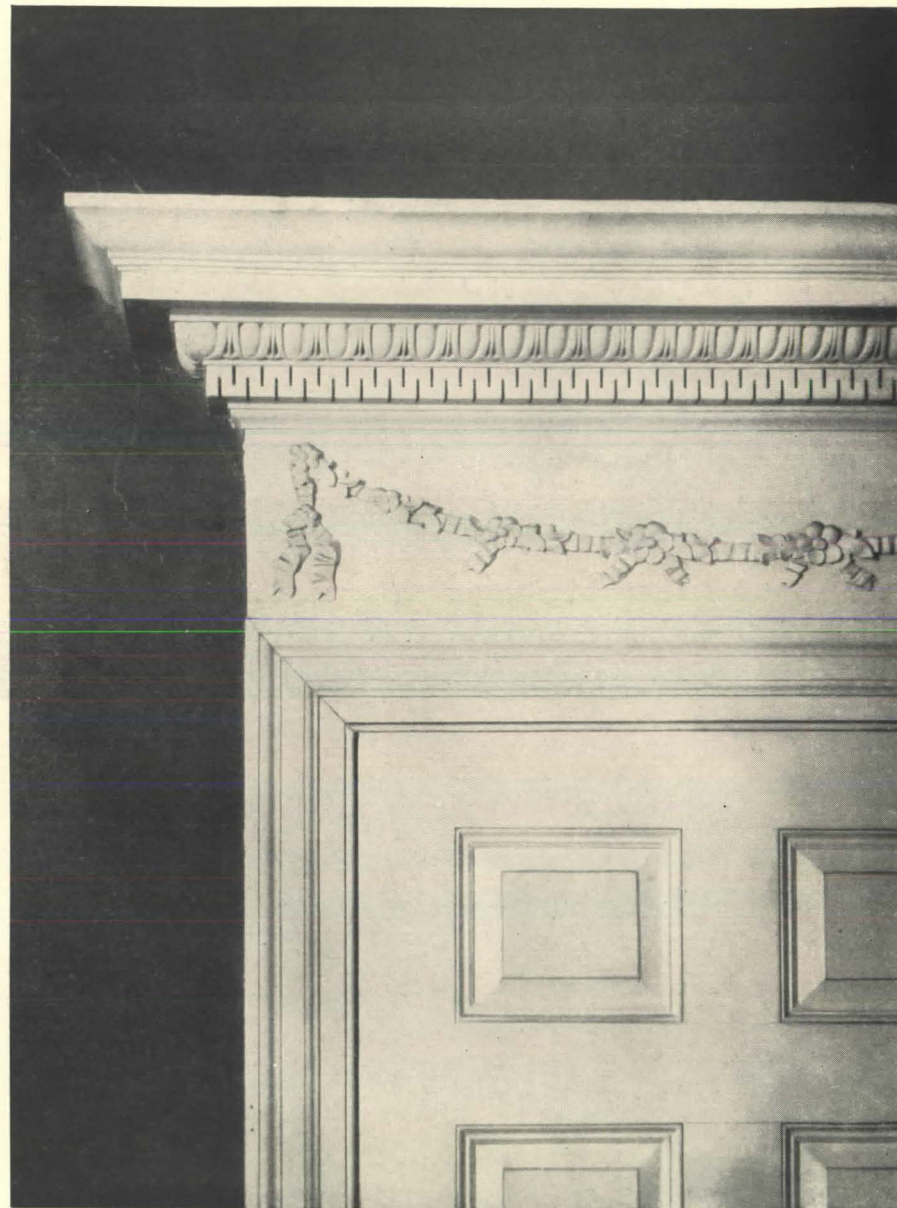
The surroundings were regraded and redesigned by Alexander Parris in 1826 at which time the granite and iron fence was erected and the basement wall faced with granite. Grading revised and new steps at front by Solomon Willard in 1833.

THE STATE HOUSE—1795—BEACON HILL, BOSTON, MASSACHUSETTS—CHARLES BULFINCH, ARCHITECT

[104]

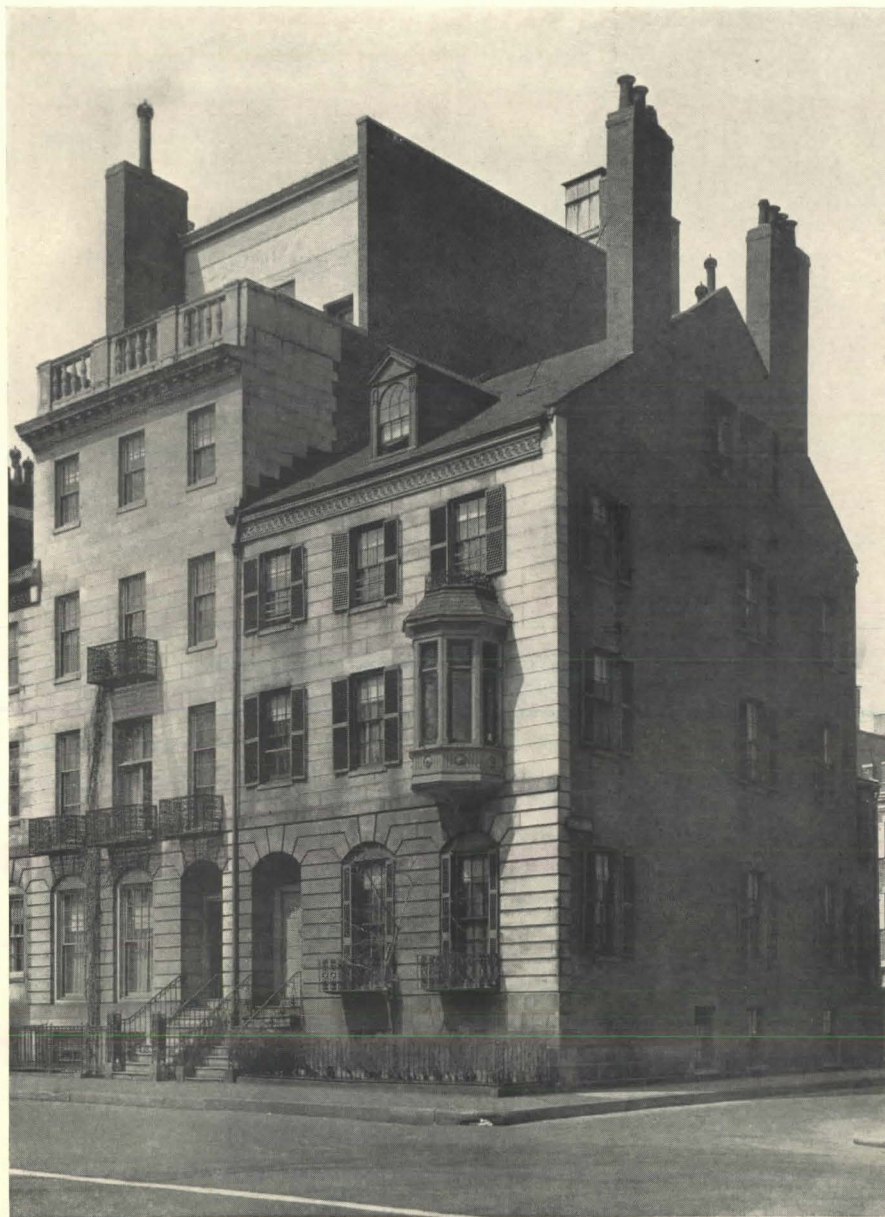


DETAIL DOORHEAD—GOVERNOR'S OFFICE



DETAIL DOORHEAD—COUNCIL CHAMBER

THE STATE HOUSE—1795—BEACON HILL, BOSTON, MASSACHUSETTS



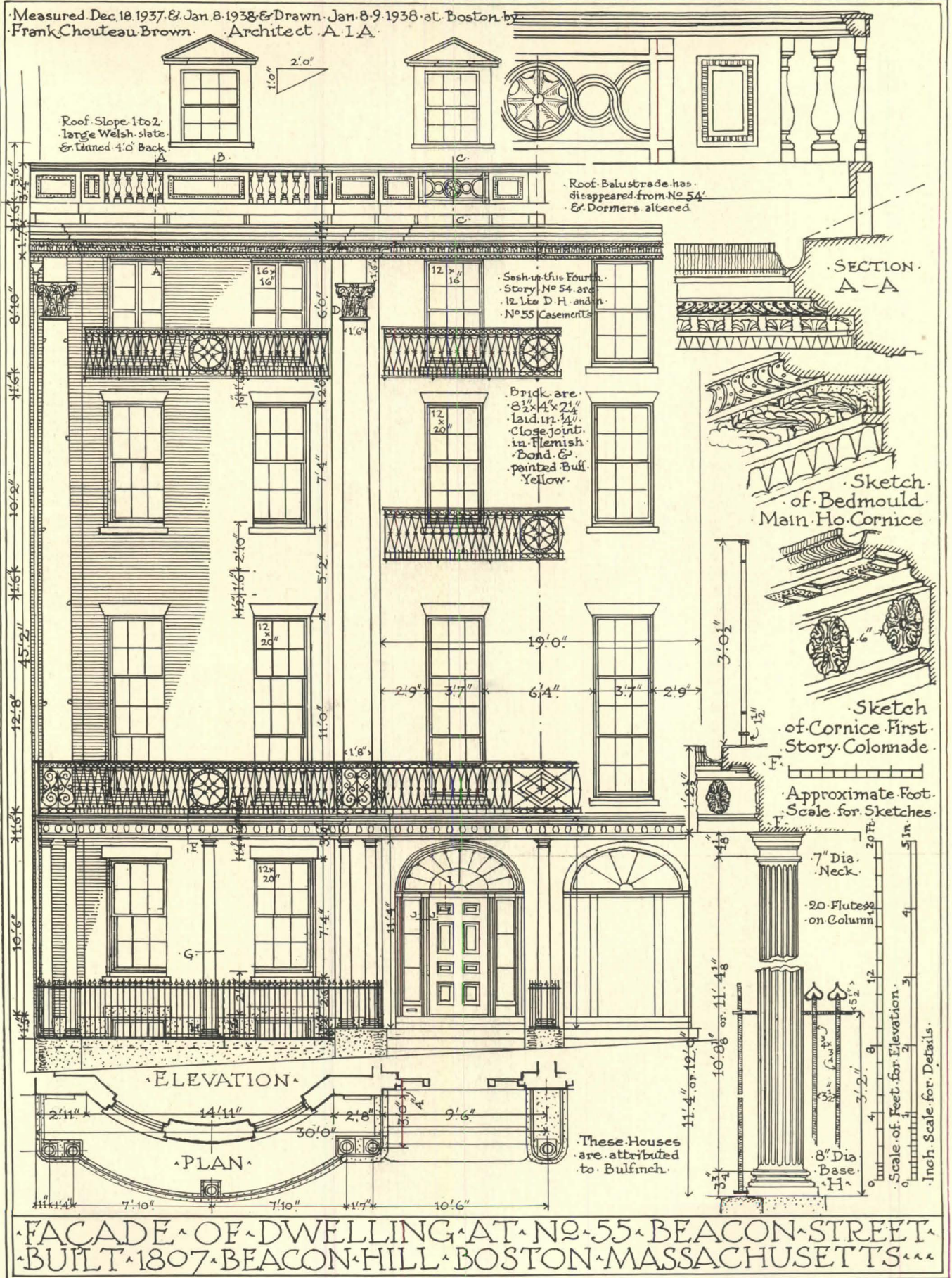
73-75 BEACON STREET—ABOUT 1844



55 MOUNT VERNON STREET—1804

DWELLINGS BEYOND CHARLES STREET AND WESTERN SLOPE OF BEACON HILL, BOSTON, MASSACHUSETTS

Measured Dec. 18, 1937 & Jan. 8, 1938 & Drawn Jan. 8-9, 1938 at Boston by
 Frank Chouteau Brown Architect A. I. A.





(SEE MEASURED DRAWINGS—PAGES 106 AND 108)
DWELLING AT 55 BEACON STREET—1807—BEACON HILL, BOSTON

[107]

Boston.



until 1844,—by which time all of the front areas of the Hill had been pretty well built-up; as well as most of the narrower streets running down toward Cambridge Street upon its nether northern side. It was at about this same time that a few houses were built further west along Beacon Street, beyond Charles, of which the two shown at Nos. 73-75 are part of a granite block of six dwellings, most of which have since been considerably altered or enlarged.

A great many of the Hill houses have been altered on the interior, either to provide more comforts and

is visible of it, sandwiched between its two marble wings, with its Brobdingnagian rear extension to the north. On its interior, the three or four most important rooms have fortunately also been preserved,—including the domestic and charmingly detailed old Senate and Council Chamber; the bolder and more monumental old House (now used by the Senate) with its stone derived details carried out in wood, and the fine and dignified “Doric Hall” beneath it, with one or two old staircases.

While six of the historic older churches of Boston



INTERIOR OF ABOLITION CHURCH—(1806)—SMITH STREET, BOSTON, MASSACHUSETTS

advantages for their inhabitants—or to meet the changing styles and house fashions of later years. A very epidemic of marble mantels overflowed the elevation, for instance, while succeeding waves of decoration—of many styles and differing fashions—have elaborated the former chasteness of these earlier dwellings,—until, from all the flood, it sometimes seems that their Colonial detail had been entirely swept away—except the fine old staircases, the very craft of making which has in some cases also vanished.

The Hill's principal adornment still remains, of course, in the “Bulfinch State House,”—or what now

stand upon the very margins of the Hill, only one modest church structure was—so far as is known—ever built wholly within its sacrosanct area; and that—oddly enough—is the little Abolition Church, still to be seen in Smith Court, which was built in 1806 as an “African Baptist Church” with a school room upon the first floor,—in which was born, from the efforts of William Lloyd Garrison, the New England Anti-Slavery Society, in January of 1832. The building bears a marble tablet reading, “A Gift to Cato Gardiner, First Promoter of this Building, 1806.” It is now occupied, interestingly enough, as a Jewish Synagogue!



STAIRCASE IN GOVERNOR'S OFFICE—THE STATE HOUSE—BEACON HILL, BOSTON, MASSACHUSETTS

[III]



STAIRCASE—WOMEN'S CITY CLUB—1818—NO. 40 BEACON STREET, BEACON HILL, BOSTON, MASSACHUSETTS



DOORWAY DETAIL—(SEE MEASURED DRAWING—VOLUME XXIII—NUMBER 1—PAGE 9)
FIRST HARRISON GRAY OTIS HOUSE—1795—141 CAMBRIDGE STREET, BOSTON, MASS.

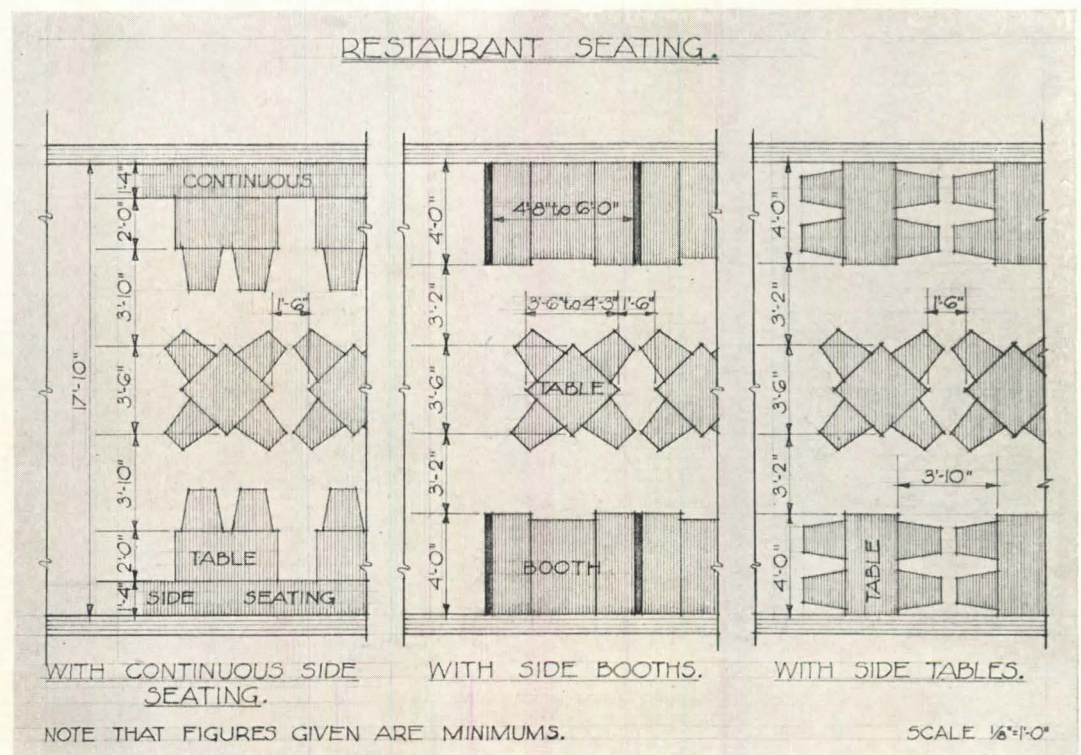
[112]

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5TH INTERNATIONAL HEATING SHOW

A FEW NOTES ON 1938 AIR CONDITIONING EQUIPMENT

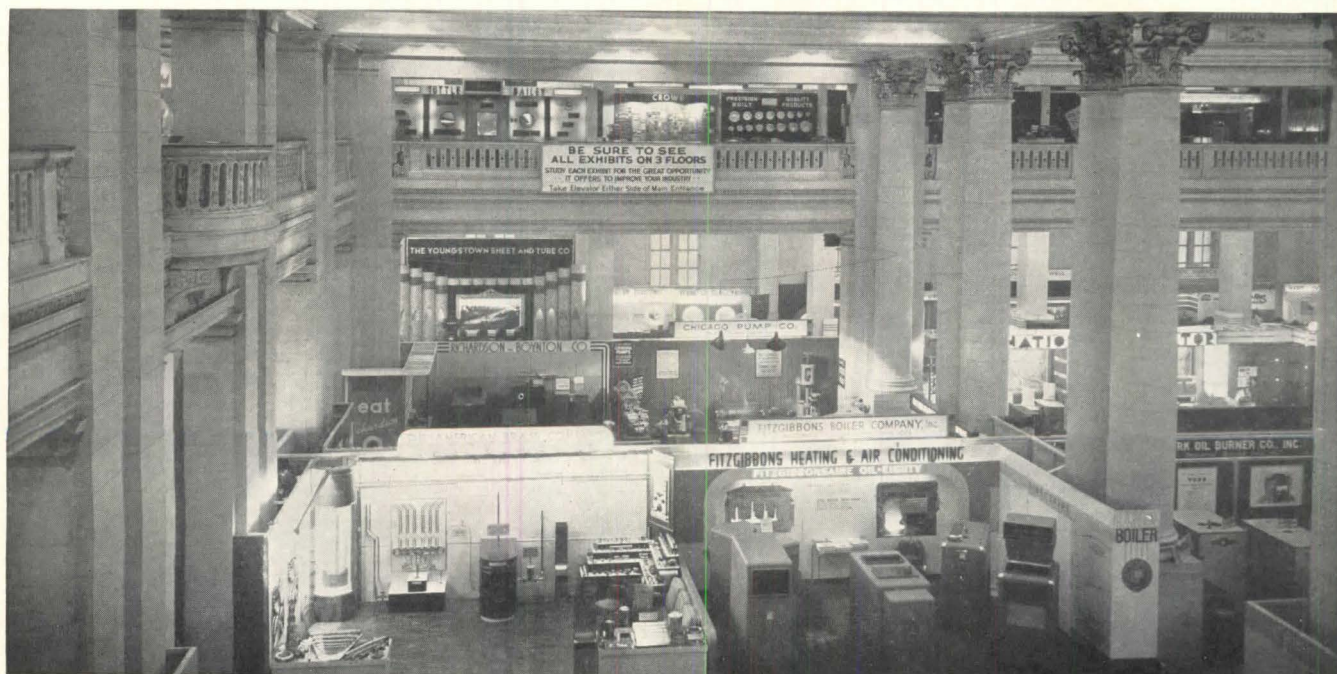
IN ATTENDANCE the 5th International Heating and Ventilating Exposition (known to the trade as the Air Conditioning Show) was a marked success. During the five days from January 24th through the 28th, more than 44,300 people came to New York's Grand Central Palace and inspected the products of the 327 exhibitors that made up the Exposition. This is about a 25% increase in attendance over the last Heating Show held in Chicago in 1936 and is taken by the American Society of Heating and Ventilating Engineers, sponsors of the Exposition, as an indication of the increase of the public's interest in air conditioning.

Of the exhibits as a whole, it is safe to say they contained nothing basically new, except that for the first time year-round air conditioning for residences came within, or at least more nearly within, striking distance of the man with a moderate income. There were eight manufacturers who exhibited such equipment: Nash-Kelvinator, Delco-Frigidaire, Sunbeam, Waterman Waterbury, General Electric, Timken, Mueller, and Utica Radiator. Each of these, a good, honest product, measured up favorably

against the American Society of Heating and Ventilating Engineers' definition of air conditioning as "The simultaneous control of all or at least three of those factors affecting both the physical and chemical conditions of the atmosphere within any structure. These factors include temperature, humidity, motion, distribution, dust, bacteria, odors, toxic gases, and ionization, most of which affect in greater or lesser degree human health and comfort."

The Sunbeam year-around air conditioning equipment exhibited stood out in the show as the best the engineers had to offer. It comes in four sizes, has honeycomb filters, an efficient blower, and a fine zone control system that automatically closes or opens ducts leading to different sections of the house as required by conditions there. This latter is made up entirely of Minneapolis-Honeywell apparatus, except the thermostats and

A portion of the main floor and mezzanine of Grand Central Palace during the time the Air Conditioning Show was being held there. This scene is typical of the entire Exposition and gives a general idea of the manner in which products of the 327 companies present were exhibited



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2. VOLK BROTHERS—From basement to roof, this attractive new store keeps temperature and humidity under control all year 'round—and again it's a Carrier System.

3. NIEMAN-MARCUS CO.—"the finest women's store between New York and Los Angeles" has already installed Carrier Air Conditioning for its third floor—and it is so arranged that the system can be extended to all floors as modernization is continued.

4. LA MODE—Modern from the word "go"—this attractive dress shop composed of two buildings, is kept cool, clean and comfortable by Carrier equipment located on the roof, between the two buildings.

5. DREYFUSS & SONS—five floors of this building which, incidentally, received a prize for its beauty, are completely air conditioned by Carrier—for winter and summer.

Consulting engineers for all five stores—Kribs & Landauer.

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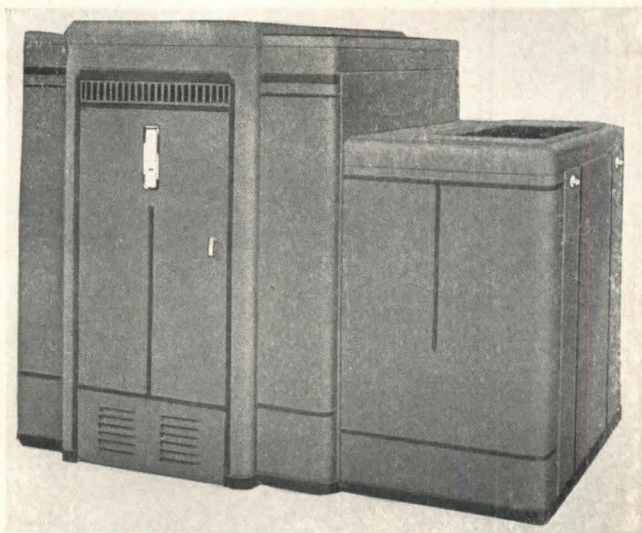
Name.....

Company.....

Address.....

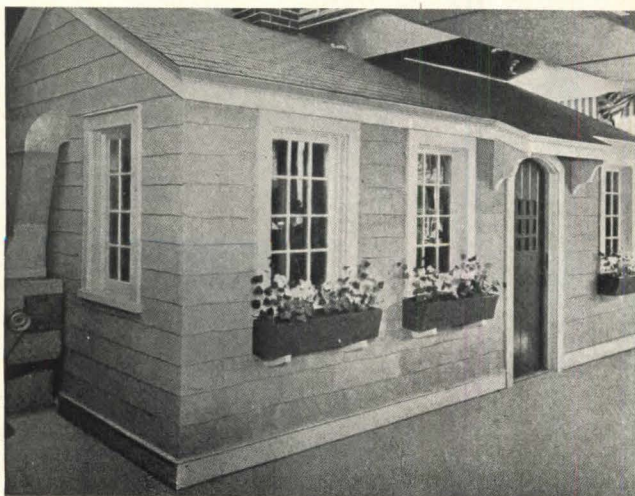
City.....

HEATING SHOW (Continued)



The Sunbeam year-around air conditioning unit above is for residences and is described on page 28. Besides being rather nice to look at, it is among the best of its type exhibited that the engineers had to offer. It is finished in green

The two-room bungalow below is equipped with year-around air conditioning and is literally an air conditioned house within an air conditioned house where problems on this subject may be created and studied. It is part of the Refrigeration and Air Conditioning Institute, Inc., a school located in Chicago which had an exhibit at the Show



humidistats which are the products of the Freiz Company. For humidification purposes, there are nozzles that throw jets of water against porcelain plates in such a way that the water is literally broken into a fog and carried away by the passing air current. The Sunbeam apparatus can also be installed in the "split system"—that is the use of radiators instead of circulated air for heating the garage, kitchen, and bathroom. This for the obvious purpose of preventing cooking odors, etc., from being circulated throughout the entire residence. Summer cooling is taken care of by a sturdy compressor and cooling coils.

Stepping down a rung on the air conditioning ladder, one finds the Quiet May equipment. This is typical of the residential outfits for winter air conditioning only. It is oil fired, performs the important functions of heating, humidifying, filtering, and circulating air, and is so made that it can be installed as a "split system." It is the sort of equipment most in demand and was thus the kind most often found in the Show. Many other manufacturers demonstrated products adopted for oil, gas, or coal firing that varied from this one only in minor points.

And in the Filteraire one finds what can be termed as the least common denominator in air conditioning. This little gadget fits into the lower part of a window and boasts three simple functions: circulation and filtration of 500 cubic feet of air per minute, and the elimination of any raucous street noises that would ordinarily come through an open window.

The coolers for air conditioning use exhibited by Ingersoll-Rand seemed to be attracting a lot of attention from the more technically-minded persons present. It is notable in that it uses the cheapest and safest of all refrigerants—water.

The principles upon which this equipment works are simple, yet warrant a rather lengthy description now that they have been successfully applied to air conditioning. A centrifugal vapor compressor powered by a steam turbine or electric motor reduces the atmospheric pressure from about a normal 30" of mercury to, say, .36" in an evaporation chamber. Part of the water sprayed into this chamber flashes into vapor by reason of the high vacuum maintained there and, in vaporizing, heat is extracted from the remaining water which is thereby chilled 50°F.* The chilled water is then used for refrigeration purposes, picks up heat during circulation and is returned to the evaporator where a small proportion of this relatively warm water evaporates, thereby cooling the remainder to 50°F. again. It

* Although a chilled-water temperature of 50°F. was assumed in the foregoing description, the Ingersoll-Rand equipment is capable of delivering lower temperatures.

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HEATING SHOW (Continued)

is interesting to note that evaporation of only 1% of the water entering the evaporator is capable of lowering by 10°F. the temperature of the remaining water.

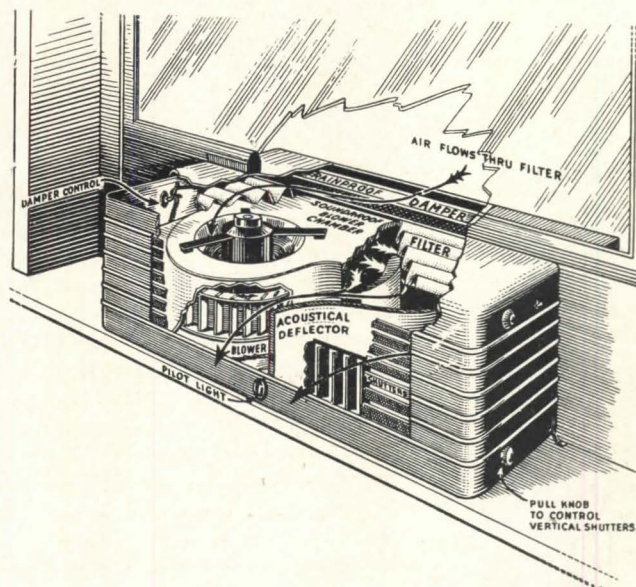
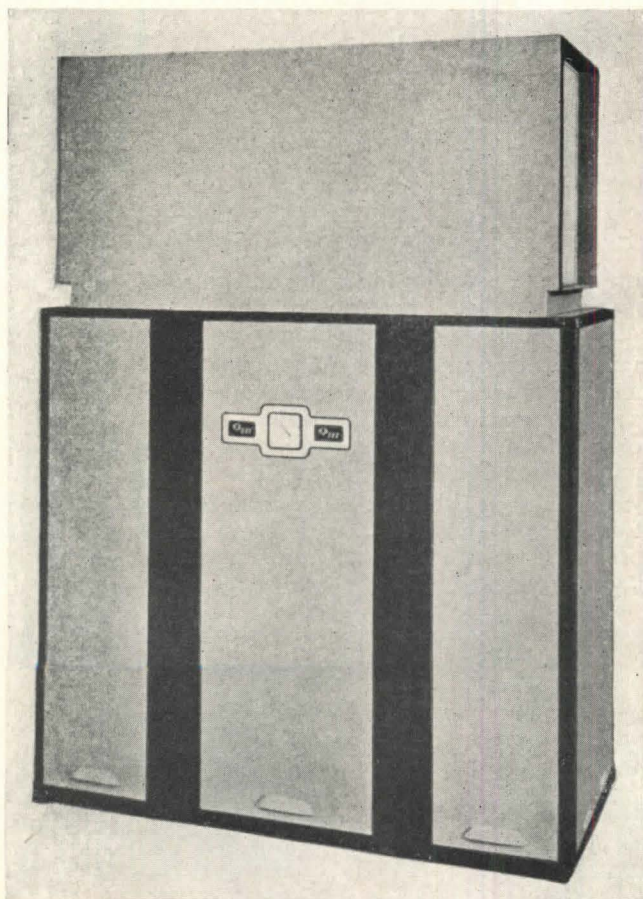
But to pass on to other things. An innovation of importance was the cooperative exhibit of solid fuel burners featuring the equipment of 32 different companies, almost half of whom had had separate displays of their own in other sections of the Exposition. In this group of stokers, furnaces, regulators, and burners, which occupied a whole section of the second floor, several were in full operation—their doors open for inspection. To the foot-weary and not unjustifiably confused layman spectator, this condensation of one type of product in one place must have been heartening.

Air conditioning instruments and controls were displayed in such bounty that only summary mention of them can be made here. Streamlined designs and a certain boldness in the use of colors were in evidence in practically all the visible parts of these products. And most of them advertise the advantages of health, comfort, and ease-of-mind achievable through what is laughingly called "fully automatic control." One wise manufacturer, however, had evidently discovered that people's reactions to tempera-

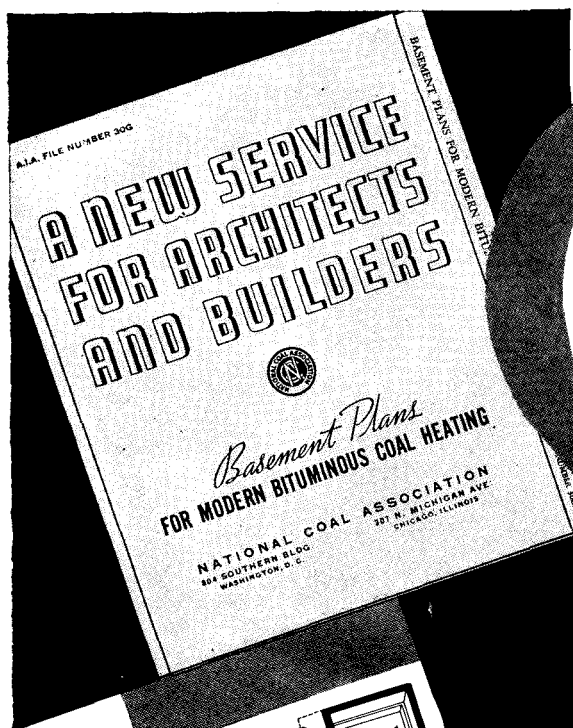
ture and relative humidity are often too individual to be fixed by any set formula, and had the courage to disagree with public opinion on this point to the extent of bringing out a fully manual control. It sells for \$600 and is made by Warren Webster who deserves credit for realizing that there is many a person who goes around adjusting his "fully automatic" heating control by hand.

Another instrument in this field that attracted attention was one of the humidistats put out by the Freiz Company. This little piece of apparatus was made for the express purpose of avoiding ice encrusted windows in attics, etc., in air conditioned homes during the winter. It is attached to the vulnerable spot, or spots, and any time that the humidity there shows signs of condensing so that it might freeze, this apparatus automatically cuts it down at its source, the furnace. In relation to this problem, it has been learned that any relative humidity higher than 35% to 40% is dangerous.

Insulating materials were given significance by one exhibit in which an actual size model of a roof, attic floor and outside wall was cut open to show the rock wool insulation. An operating exhibit of acoustic-lined ducts proved to the listener the sound absorbing properties of the insulating medium. Other insulating materials that were exhibited included glass wool, asbestos,



The clean-cut Quiet May winter air conditioning equipment at left is described on page 30 and is the type most often found at the Show. Above is a cut-away drawing of the Filteraire which constituted the least common denominator in air conditioning exhibited. It is also described on page 30. Its only purpose is to filter and ventilate air



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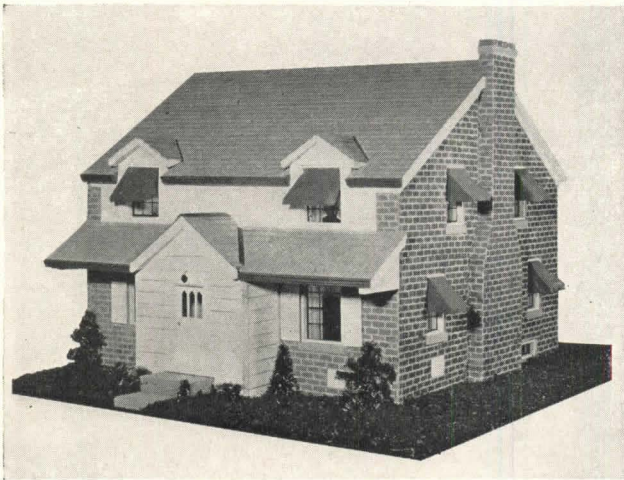
PP-3

HEATING SHOW (Continued)

cork, silicon carbide blocks, and fire-brick.

A variety of other equipment in the auxiliary fields of air conditioning included splash-proof motors, compressors, sheet metal tools, electric metal shears, corner-lock-forming machines, decorative metal parts for ranges and refrigerators, boiler cleaners, V-belts, electrical tools, ignition transformers, and a wide assortment of

This model was part of the Nash-Kelvinator exhibit. One side of it can be taken off, disclosing a furnished interior completely equipped with Kelvinator air conditioning, refrigerators, electric ironer, and other of their products



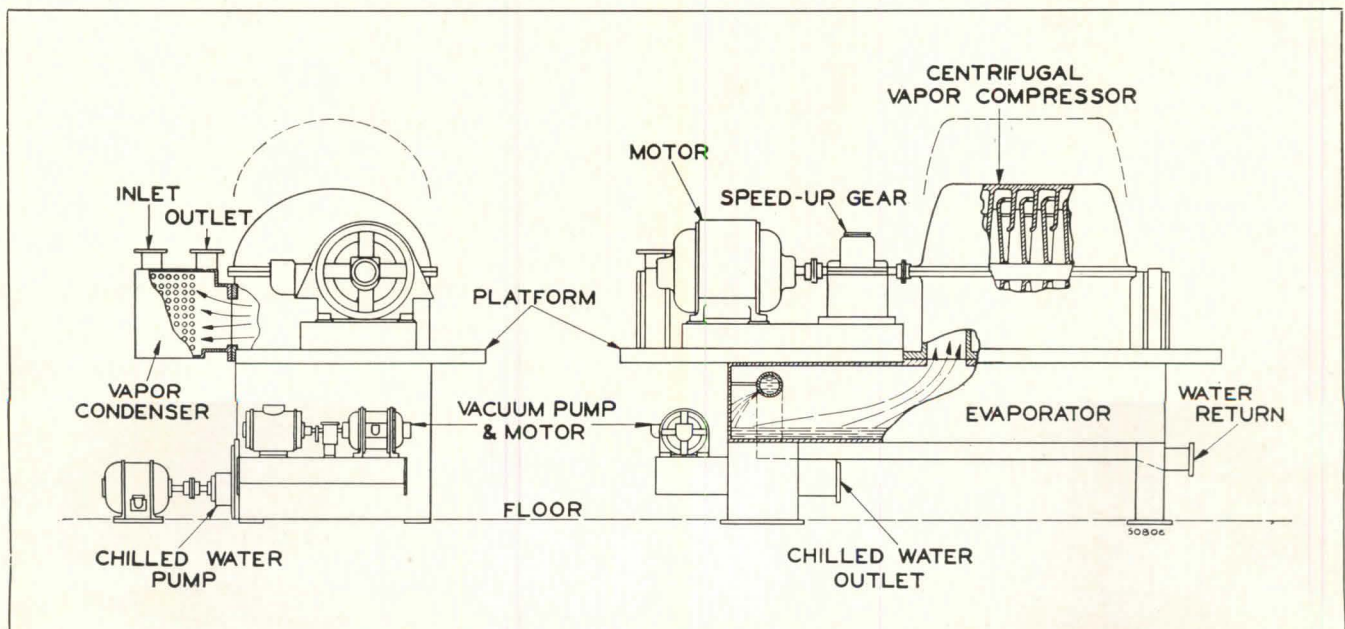
metals. The various metals and alloys were shown in terms of use. Valve and pipe manufacturers offered fabrication in the following: copper, stainless steel, nickel, everdur, polished stainless steel, plain steel, aluminum, monel, and brass.

Grilles and louvres lent themselves to colorful arrangements, and were enhanced by decorative lighting effects. Visitors were able to see automatic control of the grilles and at the same time feel the air flow. Filters likewise were open for manual inspection of materials, and service engineers always were at hand to explain their construction. Registers followed the general modernistic trend with trim lines and color selections.

In closing, a few words about the general aspect of the Exposition might be enlightening. The exhibits were set up in a practical manner with little thought for effective showmanship. Cut away sections of equipment, neon tubes tracing air circulation in models, and strips of cellophane floating at the mouths of blowers were much in evidence. The backdrops for the booths were, for the most part, simple plywood affairs of no great consequence.

And one last point. Although the Exposition took for its theme "perfect indoor weather the year 'round," the "indoor weather" at the Grand Central Palace could not, by the longest stretch of the imagination, even be called "fair." Air conditioning manufacturers please take note. There is a crying need here for a good selling job by one of you.

A cut-away drawing of the Ingersoll-Rand equipment described on page 30. This unit drew a great deal of attention because it uses water as a refrigerant





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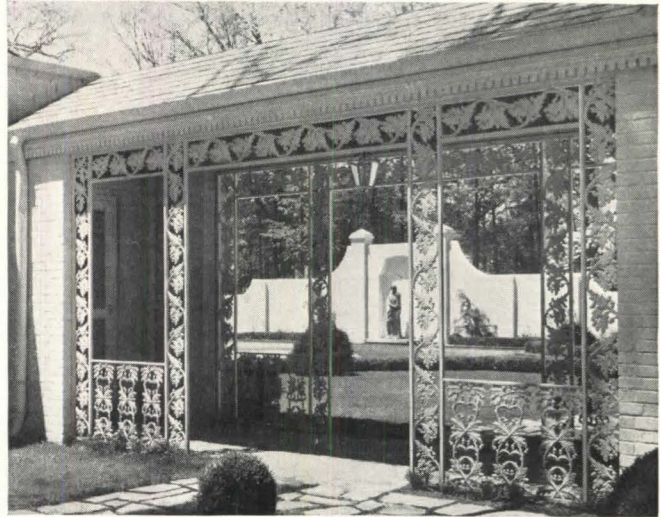
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THE MART

Mrs. A. H. Stem, St. Paul Hotel, St. Paul, Minn., has for sale the following books: *Monuments Antique*, 4 vols., *Fragments of Architecture, Antique*, 1 vol., *Fragments of Architecture, Middle Ages and Renaissance*, 1 vol. in 2 parts. All by D'Espouy. These are in portfolio, 100 pages in each, in very good condition. Please make offer.

S. Smith, 391 Beacon Street, Boston, Mass., would like to obtain the following: Standard and obscure publications dealing with New England architecture; *Colonial Architecture of Salem* and *The Woodcarver of Salem*, Cousins & Reilly; *The Georgian Period*; back numbers of periodicals containing articles on the subject; *The Early American House*, Isham. State price and condition.

William L. Bencker, 610 E. Allen Lane, Philadelphia, Pa., has the following copies of **PENCIL POINTS** for sale: From June, 1920, to March, 1933, with the exception of December, 1922, November, 1923, May, 1926, and April, 1932. Any reasonable offer on the entire lot will be accepted.

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F. D. Darling, 10241 Lowe Avenue, Chicago, Ill., would like to purchase back issues of **PENCIL POINTS** from March to October, 1937, inclusive. Will pay 35c per copy.

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PERSONALS

PAUL MEREDITH SPEAKE, *Architect*, has opened an office for the practice of architecture at 505 Times Building, Huntsville, Ala.

RANDOLPH F. WARE, *Architect*, has moved to Suite 402, Newport Finance Building, 4th & York Street, Newport, Ky. Otto D. Wolff will be associated with him.

JULIO CARDENAL, JR., *Architect*, is opening an architectural office at Granada-Nicaragua, C. A.

SAMUEL A. LICHTMANN and **IRA J. BACH**, *Architects*, are practicing architecture under the firm name of Lichtmann & Bach, with offices in the Hyde Park-Kenwood National Bank Building, 1525 East 53rd Street, Chicago, Ill.

STANLEY McCANDLESS and **EDWARD B. KIRK** have taken offices in the Architects' Building, 101 Park Avenue, New York, in an association as lighting consultants. Consultation will be given on all lighting problems and Mr. McCandless extends his services to designing with light as well as the mechanical problems.

THEODORE DE POSTELS, *Architect and Delineator*, has recently moved his studio to 64th Riverside Drive, New York, N. Y.

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POSITION WANTED: Available at once, architectural draftsman, age 23, single. Graduate Pratt Inst. 4-year course. Three years' experience. Architect's or builder's office preferred. Moderate salary. Box No. 315.

(Continued on page 37, Advertising Section)

FREE EMPLOYMENT SERVICE FOR READERS OF PENCIL POINTS

*Replies to box numbers should be addressed care of
PENCIL POINTS, 330 West 42nd Street, New York*

POSITION WANTED: Young man desires position with architect, builder or contractor. Graduate of Mechanics Inst. in architectural drafting, now attending Pratt Institute in architectural construction. Two years' experience on drawing board in architect's office and six months with builder as timekeeper. Willing to take position any place in U. S. Box No. 300.

POSITION WANTED: Architectural student (2 years at University of Illinois) desires experience in architectural and construction work. Write or phone Arnold Peterson, 8259 Morgan St., Chicago, Ill. 'Phone Vincennes 6109.

POSITION WANTED: Junior draftsman, renderer and designer, age 22, attending Cooper Union. Willing to start in any capacity with opportunity for advancement. Emanuel Turano, 245 West 27th Street, New York. LAc. 4-1483.

POSITION WANTED: Young man, 24, 3 years' experience as architectural draftsman on residences and apartment houses, engineering training in college, desires position in architect's office or with construction firm. Box No. 301.

POSITION WANTED: Young woman desires position in vicinity of Philadelphia, as secretary to an architect or engineer. Experienced in specification writing and taking charge of office. Box No. 302.

POSITION WANTED: Young man, 22, Christian, seeks part time position (mornings until 1:00 p. m.) with firm connected with building or related fields. Architectural School graduate. Box No. 303.

POSITION WANTED: Architectural student, 20 years old, year and a half at Iowa State, desires apprenticeship. Good personality, intelligent. Will work hard to become a good investment. Free to travel. Bill McKay, 1009—21st Street, Des Moines, Iowa.

POSITION WANTED: Excellent stenographer-secretary desires position with engineering or architectural organization. College graduate, psychology and economics major; also knowledge of accountancy. Young, over six years' experience. Salary \$25 to \$30. Box No. 304.

POSITION WANTED: Connecticut registered architect, good designer, detailer, quick and neat draftsmanship, 20 years of best experience, student of University of Penn., wishes to associate with practicing architect in Connecticut or any of the bordering states. Will come well recommended. Box No. 305.

POSITION WANTED: Beaux Arts training—top to bottom contact with standard practice. Experience of at least 100 buildings designed and erected and of all dimensions. Salary as may be adjusted. Box No. 306.

POSITION WANTED: Architect's assistant. New Yorker. Thorough knowledge of architecture and architectural practice. Responsible positions with reputable firms. Experience in U. S. and abroad on all types of buildings, town planning, slum clearance, etc. Rapid, accurate and conscientious. Registered in home state. Box No. 307.

(Continued on page 39, Advertising Section)



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From "Modern Caricaturists" by H. R. Westwood, L. Dickson, Ltd., London



ART INSTRUCTION'S CARICATURE AND CARTOON CONTEST!

Join us in our fun! Be among the hundreds who will now take up their pencils, pens and brushes for a graphic mass attack on man's pride and dignity. Draw some droll pictures or try a gag or two! Most anything will go in this contest, and you stand as good a chance as the next to win one of the!

CASH PRIZES!

Yessir! There are real prizes, mentions and everything! Best of all, you'll have the joy that comes from trying your hand at a thing which you've doubtlessly been longing to get at for some time.

And we'll help you! In our April, May and June numbers you'll find articles on Denys Wortman and his Metropolitan Movies, Auerbach-Levy, one of America's great caricaturists, Gluyas Williams, Aaron Sopher, Gregory d'Alessio and other contemporaries. You'll find something important on Daumier, Gavarni, Forain and other masters in the art of graphic humor—a veritable course of study in caricature and cartoon.

The April issue (out about the 15th of March) gives you the contest rules. We're reprinting 'em, too, for any who want them.

4 SPECIAL CARTOON ISSUES for \$1.00!

These four special numbers are yours for \$1.00. Just put a dollar bill in a letter and write to this effect, "Send me those four cartoon feature numbers of ART INSTRUCTION." While you are at it, why not make it a one year subscription at the \$3.00 rate? Don't delay and risk missing a single issue—the demand may exceed the supply.

ART INSTRUCTION
330 West 42nd St. New York, N. Y.

ANNOUNCEMENT

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Competition for Scholarship

A SCHOLARSHIP of five hundred dollars is offered in the academic year 1938-39 for special students in the fourth or the fifth year of the course in Architecture at the Massachusetts Institute of Technology. This will be awarded as the result of a competition in design under the direction of the Committee on Design of the School of Architecture.

The competition is open to citizens of the United States of good character, who are between twenty-one and twenty-eight years of age, and who have had at least three years of office experience.

The competition will be held from May 7 to May 16.

Competitors are allowed to prepare their drawings wherever conditions conform to the requirements of the Committee, but these drawings must be sent to Boston for judgment.

Applications should be received on or before April 11, addressed to Dean William Emerson, 491 Boylston Street, Boston.

FREE EMPLOYMENT SERVICE FOR READERS OF PENCIL POINTS

(Continued from page 37, Advertising Section)

POSITION WANTED: Specification writer for alterations and new construction. Expert knowledge of plumbing and steam heating, specifications and supervision of installations. Eight years' experience as superintendent of construction and specification writer on alterations of old law tenements and new construction. Excellent knowledge of New York Building Code and Multiple Dwelling Laws. A-1 references. James Eichler, 146-11 56th Road, Flushing, L. I., N. Y.

POSITION WANTED: Engineering graduate, B.S. and C.E. degrees from Columbia Engineering School. Age 28. Single. Well versed in structural analysis and design. Neat draftsman. Desires part-time position for evenings and Saturdays as designer or draftsman. A. DiLorenzo. 555 10th St., West New York, N. J.

WANTED: A first class designer and site planner for low cost housing projects. Must have proper educational background and be of proven experience in this field. Salary commensurate with ability. This position is open in a city of the middle west. Box No. 316.

EMPLOYMENT DESIRED or Partnership Preferred: Licensed New Jersey and Florida architect, age 46, married, white, Christian (Protestant), war veteran, present home, Greater Philadelphia area. University graduate, also structural engineering schooling and miscellaneous allied schooling. Broad experience, architecture, both office and field, structural engineering and city planning. Loyal, industrious and efficient. Box No. 317.

POSITION WANTED: Secretary-stenographer, Protestant, single, cultured. Long and varied technical experience. Desires permanent position. Box No. 318.

POSITION WANTED: Young man, desires position in architectural or building construction office, in Westchester or New York City vicinity. Willing worker. Salary very modest. Box No. 319.

POSITION WANTED: All around draftsman on general work. Checker of shop drawings and architect's superintendent on alteration and new work. Box No. 320.

POSITION WANTED: Young man, 21, desires position with architect, engineer, builder or building products firm. J. M. Rodriguez, Jr., 446 42nd Street, Brooklyn, N. Y.

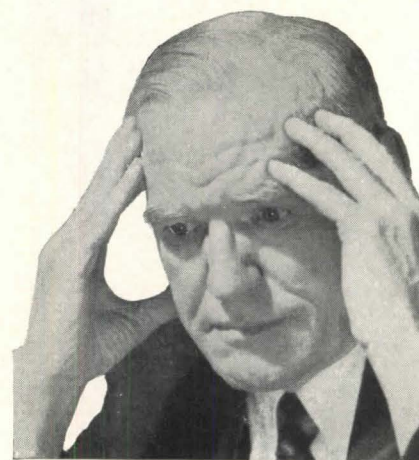
POSITION WANTED: Draftsman, location southeast. All around man, large and small office experience. Registered engineer. Box No. 321.

POSITION WANTED: Young man, seeks practical training as junior draftsman. Willing to start in any capacity with opportunity for advancement. Box No. 322.

PERMANENT POSITION OPEN for competent draftsman and designer in Springfield, Mo. Must be competent to take measurements, make plans and details, and superintend if necessary. Give qualifications and salary expected. Box No. 323.

POSITION WANTED: Junior draftsman, 22, beginner, mechanical and structural. Tarbert Chalmers, 526 West 147th St., New York City.

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CAN'T
STAND



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No Smudge

GRITTY graphite grates! Gr-r-r—the sound drives draftsmen wild. No wonder more and more pencil craftsmen switch to "Castell"—the drawing pencil with the chemically-prepared soft, natural graphite which possesses a purity between 99.5% and 99.8%. Our patented "microlette" process produces a fine graphite particle and a remarkable deepness of tone for which "Castell" is famous. Switch to "Castell"—it helps you do better work and is easier on the nerves. 18 unvarying degrees.

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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.*

WALL-TEX FABRIC WALL COVERING.—A.I.A. File No. 28-c-1. New reference guide for architects, dealing with the subject of Wall-Tex fabric wall covering, explains its advantages, where to use it, how to apply it and how to figure it. Included is information on Wall-Tex stiffened canvas and lining cloth. Several actual samples of wall covering in different decorative patterns are attached to folder. 12 pp. 8½ x 11. Columbus Coated Fabrics Corp., Columbus, O.

K & E GRAPH SHEETS, COORDINATE PAPERS AND CLOTHS.—New catalog containing valuable information on the subject of K & E graph sheets, coordinate papers and cloths, and illustrating the use of typical graph forms in a clear concise manner. 88 pp. 5¾ x 8¾. Keuffel & Esser Co., Hoboken, N. J.

PATTERNED HARDWOOD FLOORS—FOR DISTINCTIVE DECORATION AND LASTING BEAUTY.—New brochure, dealing with the subject of Bruce finished blocks, presents nearly 100 photographs and illustrations showing the many decorative effects that can be achieved with patterned hardwood floors, and portraying the adaptability of this flooring to various architectural styles and room schemes, to business interiors, institutions, etc. Included are pages illustrating the six steps in finishing Bruce blocks, the methods of installing them, and panels in natural color showing how the different woods, grades and finishes look. 28 pp. 8½ x 11. E. L. Bruce Co., Memphis, Tenn.

MARKS BROS. COLORED GLASS BRICK.—Folder illustrating and describing a new line of colored glass brick suitable for a wide range of architectural and decorative purposes. Blueprint details, setting and specification data. 4 pp. 8½ x 11. Marks Bros., Inc., 470-80 East 133rd St., New York, N. Y.

BURT FREE-FLOW FAN VENTILATOR.—A.I.A. File No. 12-K. Folder announcing and giving detailed description of the construction of a new line of electrically powered fan ventilators. Dimensions, details and table of capacities. 4 pp. 8½ x 11. The Burt Mfg. Co., Akron, O.

HART & HUTCHINSON HUMIDIFYING RADIATOR.—Folder presenting suggested specifications, construction and installation data covering a humidifying radiator, which is a combination of an extended surface type radiator with copper water pans suitable for homes, offices, schools, hospitals, halls, etc. 4 pp. 8½ x 11. Hart & Hutchinson, New Britain, Conn.

ROBINSON NEW LAP-LOK WALL COPING.—A.I.A. File No. 5-K. Folder describing and illustrating a new and improved vitrified clay wall coping for parapet walls. 4 pp. 8½ x 11. Robinson Clay Product Co., Empire State Bldg., New York.

THE NEW HERMAN NELSON AIR CONDITIONER FOR SCHOOLS.—Attractive new brochure, illustrated in colors, announcing and describing in detail the design and construction of an entirely new air conditioning unit for schools made in two types for either damper or radiator control. 24 pp. 8½ x 11. The Herman Nelson Corp., 1724 3rd Ave., Moline, Ill.

G-K WINDOW OPERATORS.—Folder describing the design and construction of a line of mechanical sash operators and special hardware suitable for all types of windows of wood or metal construction. 6 pp. 8½ x 11. The Gibson & Kirt Co., Baltimore, Md.

NEW IMPROVED BALSAM WOOL-SEALED INSULATION.—Bulletin describing the advantages of a new improved Balsam-Wool sealed insulation made with a new spacer flange along the edges of the insulating mat and a new fiber cleat. Specifications, application details, etc. 8 pp. 8½ x 11. Wood Conversion Co., St. Paul, Minn.

EAGLE CHEMI-SEALED TURQUOISE DRAWING PENCILS.—Bulletin prepared especially for architects and engineers explaining the advantages and manufacture of a line of graphite drawing pencils and colored pencils. 4 pp. 8½ x 11. Eagle Pencil Co., 703 E. 13th St., New York, N. Y.

THE REINFORCED CONCRETE HOUSE.—New profusely illustrated book attractively presents the latest developments of this type of concrete house construction. Homes in all price ranges and varieties of climate are illustrated, most of them accompanied by floor plans. Graphic illustrations show the various types of concrete floors available and how they are built. Photographs of actual wall surfaces show the wide range of finishes possible in exposed concrete, plain or painted. Included in the book is a recent photograph of a reinforced concrete house built in 1883 attesting to concrete's durability, rigidity and permanent beauty. 24 pp. 8½ x 11. Portland Cement Association, 33 W. Grand Ave., Chicago, Ill.

Published by the same organization, "Architectural Concrete for Small Buildings." Brochure especially prepared to assist the building profession and owners to secure full value from the use of architectural concrete in small buildings by presenting a few examples and offering some suggestions about the use of the material. Included are a collection of plates presenting form details and layouts. 36 pp. 8½ x 11.

SELECTRON AUTOMATIC CONTROLS.—Brochure giving detailed description of a method of remote control for gates, sliding doors, garage doors and traffic signal lights from a rapidly moving vehicle. Specifications. Selectron Co., Inc., 5525 Sunset Blvd., Los Angeles, Calif.

(Continued on page 41, Advertising Section)

ARCHITECTURAL ENGINEERING

A practical course (HOME STUDY) by mail only
Prepares Architects and Draftsmen
for structural portion of

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For many this is the most difficult section of the examinations. Qualifies for designing structures in wood, concrete or steel. Successfully conducted for the past five years. Our complete Structural Engineering course well known for twenty-six years.

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CAMBRIDGE, MASSACHUSETTS, U. S. A.

PUBLICATIONS ON MATERIALS AND EQUIPMENT

(Continued from page 40)

KOPPERS SPECIFICATIONS.—New edition of the Koppers standard roofing specifications book, written in blank and ready for inclusion in architectural and engineering master specifications. Diagrams illustrate each set of specifications. Included is data concerning spray pond roofs which permit the re-use of water in air conditioning systems, and watercooled roofs to insulate the upper floors of buildings. Complete specifications for all types of coal tar pitch and tarred felt roofs are shown, as well as sections devoted to applications over wood decks, concrete or poured gypsum, pre-cast concrete or gypsum, book tile, steel deck or under promenade tile. A large portion of the book is devoted to illustrated descriptions of various methods of waterproofing and dampproofing residence and deep foundations, highways, sidewalk vaults, shower baths, swimming pools, tunnels, etc. Other sections deal with insulation, flashing specifications and metal finishing strip details. Included are six Don Graf data sheets on the subject of waterproofing. 36 pp. 8½ x 11. Koppers Co., Tar and Chemical Division, Pittsburgh, Pa.

ARROW WIRING DEVICES. — Looseleaf catalog, No. 26, just issued lists and illustrates a complete line of Arrow wiring devices. Index, price list, wiring diagrams, etc. 66 pp. 8½ x 11. Arrow Electric Division, The Arrow-Hart & Hegeman Elec. Co., Hartford, Conn.

Published by the same firm, "Your Home With Adequate Wiring." A.I.A. File No. 31-c-7. Brochure showing pictorially the benefits of adequate wiring in residences. 16 pp. 8½ x 11.

MODERNFOLD DOOR STUDIES AND SPECIFICATIONS.—A.I.A. File No. 19-e-61. Architects' filing folder with detail drawings, specifications and series of installation photographs covering a type of folding door suitable for hotels, clubs, homes, restaurants, stores, offices, beauty parlors, schools, churches, etc. 8½ x 11. New Castle Products, Inc., 56 W. 45th St., New York, N. Y.

COPPER TUBE FOR PLUMBING AND HEATING.—A.I.A. File No. 29-b-41. Valuable new handbook by T. N. Thomson for architects and engineers dealing with the subject of copper tube for plumbing and heating. Divided into three chapters, the first describes the physical properties, types and uses of copper tubes and the art of making solder joints. The second chapter devoted to plumbing presents design and installation data for copper tubes, layout of a plumbing installation and plumbing layout details. Included in the third chapter on heating is data on copper tube house heating systems accompanied by blueprint layouts of a steam heating system and two-pipe and one-pipe hot water systems. 44 pp. 8½ x 11. Copies of this book may be secured by writing on business letterheads direct to Copper & Brass Research Assn., 420 Lexington Ave., New York, N. Y.

SPENCER STEEL OIL BURNING BOILER.—Bulletin covering a line of steel oil burning boilers for steam, vapor or hot water heating systems. Dimensions, capacities, etc. 8 pp. 8½ x 11. Spencer Heaters, Division of Lycoming Mfg. Co., Williamsport, Pa. *Published by the same firm, "Spencer Steel Stoker Boiler." Bulletin describing and illustrating a type of steel boiler especially designed for use with stokers. Capacities, dimensions, etc. 8 pp. 8½ x 11.*

OWENS-ILLINOIS INSULUX GLASS BLOCK. — Useful reference manual for architects, designers and draftsmen, on the subject of Insulux glass block, gives detailed description of its features and advantages and illustrates numerous applications in residences, offices, schools, hospitals, banks, stores, restaurants, hotels, etc. Included are data on patterns, sizes and erection procedure, together with panel sizes, specifications and construction details. 24 pp. 8½ x 11. Owens-Illinois Glass Co., Industrial and Structural Products Div., Toledo, Ohio.

ANTICO AND TRENT RUBBER FLOORING.—New brochure covering a line of rubber flooring, including marbled rubber tile, granite rubber tile, rubber tile in plain colors, marbled sheet rubber flooring and sheet rubber wall covering. Variety of patterns are reproduced in full colors. 12 pp. 8½ x 11. American Tile & Rubber Co., Trenton, N. J.

AUSTRASTAT DIMMERS.—A.I.A. File No. 31-F-17. Bulletin No. 76 presents detailed description of the construction and operation of an improved device for controlling lamp brilliancy in theatres, auditoriums, churches, lodge rooms and dance halls. Dimensions, wiring diagrams, prices, etc. 8 pp. 8½ x 11. Ward Leonard Electric Co., Mount Vernon, N. Y.

TUTTLE & BAILEY GRILLE SELECTION SYSTEM.—A.I.A. File No. 30-e. Useful reference manual presenting engineering data and a complete selection system for determining proper sizes and constructions of Airline and Flexair design grilles, also Hivelair grilles, to satisfy various conditions on an air conditioning system. 12 pp. 8½ x 11. Tuttle & Bailey, Inc., New Britain, Conn.

H & H WIRING DEVICES.—Catalog W, in loose-leaf form, shows a full line of wiring devices accompanied by brief descriptive data, wiring diagrams, etc. Price List. 66 pp. Hart & Hegeman Division, The Arrow-Hart & Hegeman Electric Co., Hartford, Conn.

MAJESTIC CIRCULATOR FIREPLACE. — A.I.A. File No. 14-e-5. Filing folder announcing and describing a type of circulator fireplace equipped with radiant blades. Included are specifications, detail drawings and dimensions. Scaled cardboard model of fireplace is contained in pocket of folder. 8½ x 11. The Majestic Co., Huntington, Ind.

MANUFACTURERS' DATA WANTED

CHARLES E. JOHNSON, *Architect*, 709 New Holland Avenue Lancaster, Pa. (Data for A.I.A. file.)

R. S. COLLEY, *Architect*, Jones Building, Corpus Christi, Texas.

JULIO CARDENAL, JR., *Architect*, Granada-Nicaragua, C. A. (Data on construction materials of all types.)

J. H. JOHNSON, *Structural Engineer*, Itasca, Ill.

PARK COMMISSIONER, City Hall, Cleveland, Ohio, desires all types of data—architectural, engineering and landscape. Comprehensive data is needed for their files for selection and use of construction, planting and operation materials.

ALLEN T. SPEER, *Draftsman*, 2 John Street, Pine Brook, N. J.

ELIS CIESCA, *Student*, 10407 Indiana Avenue, Chicago, Ill.

JOS. A. BIALKOWSKI, 2702 Nueces, Austin, Tex. (Data for A.I.A. file, especially concerning homes and small commercial buildings.)

American Gas Announces Two Competitions

The American Gas Association has announced two competitions; one for architects and the other primarily for builders.

The architectural competition is in two parts and carries \$13,700 in prizes. The first part calls for either the designs of a house containing 18,000 to 24,000 cubic feet with plans for kitchen and basement or utility room, or the design of a house containing 24,000 to 32,000 cubic feet with plans for kitchen and basement or utility room. The second part, which may or may not be entered by the competitor as he sees fit, calls for the plan of a neighborhood for families with incomes ranging from \$2,000 to \$7,000.

The competition that is primarily for builders is open to those who shall have completed, before July 1st, 1939, one or more houses utilizing gas for cooking, refrigeration, water-heating, and house heating. \$10,000 in prizes will be awarded to the builders and their architects, if any, for the best houses in this group.

An entry blank for these competitions will be found on page 3 in the advertising section of this issue.

Potomac Patter

Colleague Keach writes from Boston about things winter and registration laws. Of Potomac winter this year, we've "heardsay" there was one, but like February 29th, it didn't show. Apparently Jack Frost gets cold feet when approaching this sector; and old Jup Pluvius, a dank amateur, takes over. Basement damp-proofing does a thriving business. As for registration laws and the licensing of architects, while, to be sure, we have a registration law, we might just as well be without—for the law only requires the licensing of registered architects and at the same time permits, as Cass Gilbert, Jr., points out — "any one may file plans—without sanction of architect provided no reference is made to the word 'architect.' A registration law such as this (District of Columbia is not the exclusive owner) is of no consequence. Taking cognizance of the fact that there are about 80 registered architects, paying an annual license fee, competing with about 50 so-called architects (under a 'grandfathers' clause) and about 600 architects and draftsmen in the Government service (of whom a percentage participate in private work, Government ruling notwithstanding), none of whom pay a plugged ruble, the Washington Chapter of the American Institute of Architects is now

taking corrective steps to put our own registration and licensing law on an indisputable and proud professional plane. (Other states take note.) This revision is being capably directed by Phil Schrier who claims that if our revised law is put into effect this year, we will have bettered New York's attempt at the same thing. It took New York 15 years to come to their senses. We are only in our 14th.

"Just as the creation of the architectural gems on the Acropolis was overshadowed by the more romantic and spectacular military victories of Greece: just as the growth of Roman Imperial architecture was submerged by the political and imperialistic achievements of Rome; just so have the accomplishments in the realm of Federal Architecture in these United States of America remained unsung amidst the clamor of stupendous technological progress.

"Nevertheless there has been real, vital, advancement in our Government architecture—in the design of structures for civil administration, for naval, military, and hospitalization purposes, and even unto the lowly farm buildings; a progress not at-

tended by acclaim, nor ostentation, but unnoticed and unheralded; it has been evolutionary rather than revolutionary and therefore rests upon a firm foundation; the variable influence of the extremist has been absorbed and by a process of conversion is reflected in modified form, thus enriching the architectural expression . . .

. . . "There is one right here amongst us, the Supervising Architect of the Treasury Department, the first President of this Association, who has been more definitely identified with the progress and development of Federal architecture, and over a longer period of time, than any living man; whose influence in shaping its character while extensive, has been, I dare say, unevaluated by himself, and, who, working through subordinates has performed his task without thought of self or reward. By attainment in his chosen profession, his high ideals, his keen appreciation of the beautiful, he has been an inspiration and an example to others, thereby creating a friendly spirit of cooperation and competition throughout the Government service, which is widely reflected

(Continued on page 43)

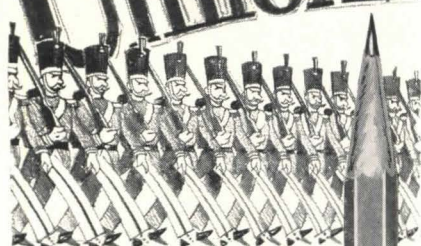
HEZZY



Bill Newcombe

"HAS IT GOT ANYTHIN' ON CHICKEN COOPS IN THERE, SAMSON?"

Uniform



as Grenadiers of the Guard!

YOU cannot afford to use drawing pencils which are not accurately graded — nor pencils that are not uniform. Even a speck of grit in your pencil may ruin the effect of your drawing.

That is why Mars Lumograph is the standard of so many artists, architects, draftsmen, engineers—Mars Lumograph can be depended on for perfect work—always—without a thought being given to the quality of the pencil while you are working.

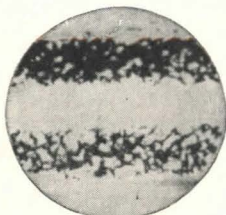

BETTER Reproductions Direct From Drawings

Mars Lumograph contains a secret light absorbing element that adds to the natural opacity of its finely ground, perfectly mixed, choice graphite particles. The result is more solid, denser lines—approaching ink in their opaqueness—and producing perfect reproductions direct from pencil drawings without inking in.

This one feature alone makes Mars Lumograph the superior pencil where time, work and money savings are important. But Mars Lumograph is also a strong, long lasting, non-smudging, clean erasing pencil that will delight you to use. Try one or a dozen—from your dealer or us. 17 true degrees—from ExExB to 7H—15¢ each—\$1.50 the dozen.

J. S. STAEDTLER, Inc.
53-55 Worth St., New York

Photomicrograph of Lumograph line (upper), and other drawing pencil (lower); Proving Lumograph's superior opacity.

MARS LUMOGRAPH

(Continued from page 42)

in the improvement of Federal Architecture."

These were some of the words spoken by Arthur L. Blakeslee, President of the Association of Federal Architects.

Thus were the whys and wherefores that on January 27th, marked, in simple ceremony, the occasion on which the simultaneous award of the A. F. A. Gold Medal and the title of First Fellow of the Association of Federal Architects was bestowed upon Mr. Louis A. Simon, Supervising Architect of the Public Buildings Branch, Procurement Division, Treasury Department. (See photograph of illuminated testimonial next month.)

With the approval of the sketches and models for the Federal Building of the New York World's Fair, Architect Max Dunning, Liaison Officer between Procurement Division and the New York World's Fair Commission, gave the signal for full speed ahead. Consulting Architect, Howard L. Cheney, augmented his group with some re-called "temporaries." They are now in the throes of completing working drawings for the U. S. Government Building by the middle of March. At the same time studies are now being made for the Foreign Nations' Group which will complete the Government Building Unit. From this angle it looks like one of the largest and most interesting architectural units ever conceived in America, by Americans, for Americans. If, as many architectural writers claim, there is coming into being a "style" known as American, I say, this is it.

For bigger and better American architectural creations, watch Charles M. Goodman, now with Procurement.

With the local registration examinations coming in April, some of the Government lads are making plans to tackle this "toughy." Unless I am misinformed, the local exam is one of the longest, hardest, and most nerve-racking in this fair land of ours. Youth and ambition will prevail—so Ruel S. Walker, Louis A. Nathan, Edward M. Pitt, and A. Waranoff—are cracking the books again.

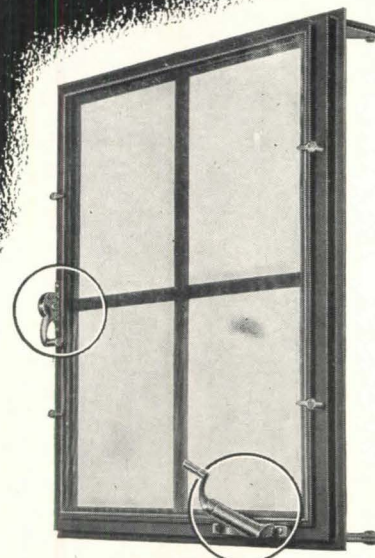
Oh! "Golden haze of Student Days."

RED

Booth Traveling Fellowship

The College of Architecture, University of Michigan, announces that the George G. Booth Traveling Fellowship in Architecture will be offered again this year, and the competition in design will be conducted during the two weeks beginning April 8. This competition is open to all graduates of the school who have not reached their thirtieth birthday on that date.

Only
MESKER
GUILDHALL
CASEMENTS
are Standard
Equipped
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SOLID
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HARDWARE



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for the free, illustrated folder "Solid Bronze Hardware"... it shows the definite advantages of Mesker Solid Bronze Feathertouch Hardware that cost you no more. It lists many standard types and sizes of Mesker Guildhall Casements.

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Latest Stewart Cafeteria, Broadway at 96th Street, New York, relies on Armstrong's Corkoustic to reduce noise, insulate, and decorate.

ARMSTRONG'S CORKOUSTIC HELPS CONTROL NOISE IN LATEST STEWART UNIT

CAFETERIA clatter can be hushed with cork ceilings. Stewart Restaurants of New York have found this out. That's why the latest unit in the Stewart chain has a ceiling of Armstrong's Corkoustic. These cork ceilings absorb noise, insulate, decorate.

Corkoustic's distinctive texture blends well with other interior trim. Its high light-reflection value cuts lighting costs.

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Corkoustic is also useful for correcting acoustics in churches, theatres, broadcasting studios or auditoriums.

See *Sweet's* for details—or write now for your file-sized copy of *How to Reduce Noise*. Armstrong Cork Products Company, Building Materials Division, 1227 State Street, Lancaster, Pennsylvania.



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For Noise-Quieting or Acoustical Correction

Robert W. Gardner Exhibition

An exhibition of drawings by Robert Waterman Gardner (1866-1937), architect and archaeologist, will be held at the Architectural League, 115 East 40th Street, New York, March 7th to 12th, inclusive. These drawings represent Mr. Gardner's research in the field of proportion in the arts. The *London Times* once remarked, "Mr. Gardner disarms criticism by saying that he is not attempting to formulate a method of design, but only trying to solve the question whether or not, in addition to an innate feeling for beauty and art, the Greeks possessed a scientific basis for their work in architecture, a definite law of order—a canon, not of design, but of proportion."

Mr. Gardner's forthcoming textbook, *A Primer of Proportion in the Arts of Form and Music*, completed in 1936, and planned by him for high school and college students and for the lay reader, will be published within a few months. It carries his studies in proportion through the Renaissance, and on to the present day, with more than 100 illustrations. Mr. Gardner's last architectural drawings, made in 1937, and included both in the "Primer" and in the exhibition at the Architectural League, are plans for St. Mark's Church and Rectory, Westhampton Beach, Long Island.

Red Hook Houses Will Have Elevators

The projected \$19,000,000 low-cost housing development in the Red Hook section of Brooklyn, N. Y., designed by the Red Hook Project Associated Architects, of which Alfred Easton Poor is Chief Architect, will be composed of six-story buildings of steel and masonry construction equipped with automatic elevators.

In giving a detailed description of the project which ultimately will house more than 3,000 low-income families, Alfred Rheinwein, Chairman of the New York City Housing Authority, explained that the automatic elevators would make only two stops. They will discharge passengers at the 4th and 6th floors. The Authority found it would be too expensive to provide elevator stops at each floor.

Estimates showed, however, that it would be possible to build six-story elevator buildings at a slightly lower cost per room than non-elevator four-story buildings.

This year the Authority will acquire the necessary land for the entire project, but will build only about 1,300 apartments containing about 5,000 rooms and housing approxi-

mately 5,500 persons at an estimated cost of more than \$9,000,000, which includes the cost of land later to be developed. When additional funds become available, the remaining apartments will be built.

The construction costs per room must fall within the \$1,250 limitation imposed by Congress. By refining the present preliminary plans, the Authority hopes to reduce costs so that the rents will range between \$4.75 and \$7.50 a room monthly. The average for the project in all likelihood will be about \$6.50, less than the prevailing rental at the Williamsburg and Harlem houses.

Joseph V. Horn Fellowship

The University of Pennsylvania takes pleasure in announcing the Joseph V. Horn Fellowship, carrying a stipend of \$1,000.00 to be awarded for the year 1938-1939. The holder of this fellowship will be selected by competition from candidates qualified for graduate study in Architecture.

The competition will be conducted from May 16th at 9:00 A. M. to May 28th at 6:00 P. M. by local supervisors who will issue the program and receive the problems.

Applications must be made by letter, not later than April 16th to the Chairman of the Committee on Prizes, Professor Harry Sternfeld, School of Fine Arts, University of Pennsylvania, Philadelphia. Applicants will submit, with their applications, credentials as to character, and scholastic attainment, at the same time applying for admission as students on regular application blanks supplied by the School of Fine Arts of the University of Pennsylvania; this act, of course, not committing them to attendance in case they should not be awarded the Fellowship. Address all applications for admission as students in the University of Pennsylvania to Professor George S. Koyl, Dean of the School of Fine Arts, University of Pennsylvania.

Rotch Travelling Scholarship

The Rotch Travelling Scholarship will this year be awarded for a term of not less than 15 months of study and travel abroad, the amount of the prize being \$2,500, payable quarterly beginning October 1st.

The examination of candidates will be held early in April, but candidates are requested to register themselves before March 15, 1938, and fill out application blanks which will be sent on request. Applicants must have either worked or been educated in Massachusetts.

For registration and further information apply to C. H. Blackall, Secretary, 31 West St., Boston, Mass.

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Investigating Committees of Architects and Engineers is a national association of committees organized to investigate anything of interest to an architect or an engineer in connection with the construction or equipment of buildings. The members of the committee, whose report follows, have been selected from the offices of practicing architects and engineers of high standing in their respective professions for the express purpose of this investigation. They have served without compensation, and are competent and absolutely unbiased. The activities of the organization are financed from the profits on the sale of bulletins to manufacturers who have won approval. The addresses of the members of this committee will be furnished any architect or engineer upon application to Ralph Moreton Hooker, General Secretary, Box 72 Church Street Annex, New York.

Full approval of Eagle "Chemi-Sealed" Turquoise Drawing Pencils and other "Chemi-Sealed" pencils used in the architectural and engineering field is hereby granted to the Eagle Pencil Company of New York by the investigating committee of New York architects and engineers.

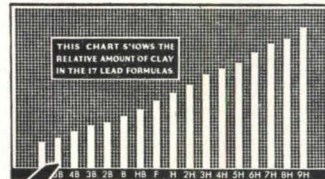
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The committee also noted the uniformity of the spacing of the 17 unvarying degrees of hardness, which are uniformly spaced in 17 unvarying degrees of hardness, from two degrees of hardness to the hardest. This great improvement upon the method of grading, and especially the uniformity of the line which they make, were especially impressed with the methods of manufacture, methods of testing, and general laboratory control.

grinding by which the particles of graphite and clay are reduced to such microscopic fineness and so thoroughly dispersed in the lead mixture, that it passes through a screen of 40,000 meshes to the square inch.

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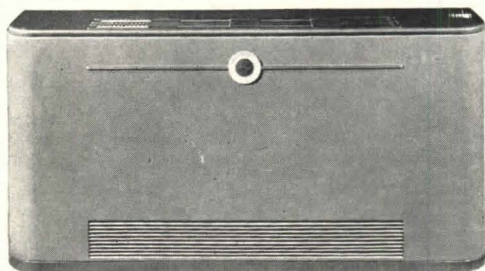
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NEW PRODUCTS

Changes in Personnel, etc.

THE NEW HERMAN NELSON AIR CONDITIONER

Announcement is made by The Herman Nelson Corporation, 1724 3rd Ave., Moline, Ill., of the marketing of the new Herman Nelson air conditioner. It is made in two types for either damper or radiator control. These air conditioners are said to be not only attractive in design and economical in the use of space, but provide even greater operating economy than obtained by

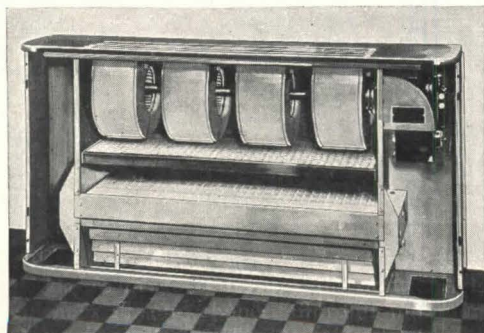


the various Herman Nelson unit ventilators produced in the past.

The exclusive design of the new Herman Nelson air conditioner for schools—in which the motor is located in the end compartment and the blower assembly above the heating element—permits full utilization of the suction chamber for the housing of larger fans. This makes quieter operation possible because the fans operate at slower tip speeds.

The damper-controlled type of Nelson air conditioner is arranged with a heating element at the bottom of the unit. The air filter is immediately above the radiator, and the fan is at the top so that the air is drawn through the wall intake, the control dampers, and the filter before it is projected into the room.

The new Her-Nel-Co alternating-current motor which operates the fans is placed at one end of the unit so that the delivery of air is uniform. Automatic regulation is provided to permit complete damper control, uniform mixing of warm and cold air and positive prevention of cold drafts in severe weather as well as overheating in mild weather. The outlet grille is stream-

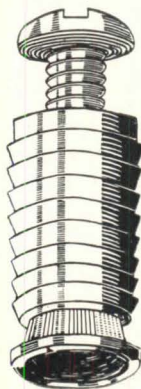


lined so that the air may be directed at any angle into the classroom for uniform distribution. The heating element is all solid copper, affording minimum air resistance, quiet operation, and complete drainage.

The second new type of Nelson air conditioner is the radiator-controlled type and is so arranged that all air passes through the radiator before it is projected into the room. It has all of the advantages of the damper-controlled type.

NEW MACHINE SCREW ANCHOR

The Rawlplug Co., Inc., 98 Lafayette St., New York, has added to its line of anchoring devices a machine screw anchor known as Rawls for use in concrete, stone or brick, etc. As illustrated, it is a special lead alloy



tapered anchor with rows of grooves or serrated teeth, one under the other. A chamfer is provided at the opening so as to align the screw when inserting it.

The machined threaded nut is made of malleable iron in sizes 5/16 in. and larger, and brass in the smaller sizes.

When caulked, the lead grooves or corrugations are forced out against the surface of the hole and fold over one another wedging the metal into any vacant space thereby obtaining a grip that defies the greatest vibration, shock or pull.

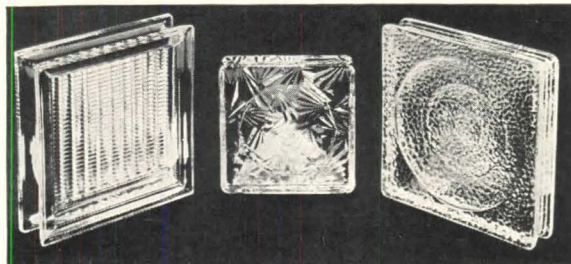
The lead is so designed at the top where it comes in contact with the caulking tool as to practically eliminate the tool sticking in the lead.

The collar or flange on the bottom of the cone also acts as a stop to prevent the cone being drawn through the lead when heavy overloads are applied. Rawls are made in sizes from 6 x 32 to 5/8 x 11.

COLORED GLASS BRICK

The introduction of a complete series of glass brick in seven colors and in a full range of sizes is announced by Marks Bros., Inc., 470-80 East 133rd St., New York, N. Y.

Flexibility of design, blended and varied color effects and interesting surface patterns are made possible by a great variety of practical shapes and soft colors offered exclusively in these brick.



The transmission and diffusion of light, the elimination of heat rays from the sun, the reduction of heat loss, and insulation against sound are said to be additional outstanding advantages of these glass bricks. They are impervious and in consequence, highly sanitary.

Storefronts, facia, doorways, windows, patios, sunrooms, partitions, fireplaces, alcoves, bars, walls, panels for indirect lighting, stair wells, and an almost endless number of architectural and decorative purposes can now be executed, it is stated, in perfect harmony, with the most exacting specifications.

Marks Bros. glass bricks are manufactured in seven colors: crystal, rose, amber, blue, dark brown, light green and dark green. In addition to the "Radium," "Dalle Vertica," "Radium Cintre," "Radial," and "Glava" patterns, there are fluted, prismatic, hammered and smooth surface patterns available in attractive treatment.

Among the set-pieces is the "Radium Curvus," a group of nine parts which forms a square 16" x 16" x 2". This set is said to be very desirable as a substitute for costly stained glass windows.

The Marks Bros. glass bricks are of solid construction and range in size from 6" x 6" to 9 1/4" x 9 3/4" and in thicknesses from 1 3/8" to 2".

SIGHT LIGHT DRAFTING BOARD LAMP

The Sight Light plus lamp, being marketed by the Sight Light Corp., Essex, Conn., is a scientifically designed light source that delivers the proper quantity and quality of light on the working area. The SL 19-DB shown in illustration is especially designed for the drafting and plan tables in architects' and contractors' offices. The offset arm is screwed to the underside of

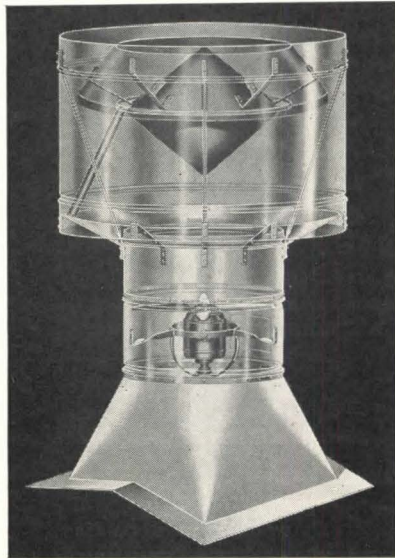


the table, and with the two-joint movable arm can be placed in the correct position to light the working area, without interference to material or work on table. Among the advantages claimed are greater comfort; reduced eye fatigue; correct light intensity for the seeing task and the elimination of glare and shadows.

BURT FREE-FLOW FAN VENTILATOR

The Burt Mfg. Co., Akron, O., has announced a brand new line of electrically-powered fan ventilators.

In designing the new Free-Flow fan unit Burt engineers have endeavored to study conditions encountered



in the field and adapt construction as closely as possible to meet them. Three distinct condition types were found: (1) Ordinary ventilating problems where no adverse conditions are existent and the primary requisite is a high movement of air, (2) A large discharge of air of temperatures higher than electric motors are constructed to withstand and (3) A high discharge of air containing fumes

which are destructive to electric motors and metal parts. Three separate types of construction were developed to meet these conditions: (1) Regular Type, (2) Heat Resisting Type and (3) Acid Resisting Type.

Free-Flow fan ventilators are constructed in three parts: base, head and fan barrel. Base and head are the same as supplied in the gravity unit with the exception of additional stiffening in the bases of the larger sizes to support the added weight of the fan assembly. The fan barrel consists of a section of round airshafting of sufficient length to house the motor mounting, motor and fan. Three types of motor mountings are used in standard construction.

All motors used are in totally enclosed frames equipped with ball thrust bearings, rated at 55 deg. C. temperature rise. Single phase ratings are either split-



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phase, repulsion start—induction run or capacitor, the type supplied depending upon the rating. Polyphase ratings are squirrel-cage induction; direct current ratings are compound or shunt wound.

Fan wheels are of two types. In ventilator sizes from 12 in. to 36 in. the hubs are cast steel, the spiders stamped steel and the blades stamped aluminum riveted to the spiders. In the 30 in. and 36 in. sizes the aluminum blades are laminated and riveted to a steel reinforcing back.

In sizes from 42 in. to 96 in. the hubs are cast steel, the spiders are machine steel bars riveted and welded into the hub. The blades are heavy gauge sheet metal cut and rolled from accurate templates and riveted to the spiders.

The Pecora Paint Co., Philadelphia, is now maintaining a warehouse stock in Birmingham, Ala., to expedite service to customers in the South. This warehouse will be under the supervision of the company's Southern resident representative, W. J. Bach, 2321-2329 North 29th Ave., Birmingham.

F. B. Kennedy, 1200 Oak St., Kansas City, Mo., has joined the sales force of the Soss Manufacturing Co., Roselle, N. J., manufacturers of Soss invisible hinges, replacing S. M. Hawkins. Mr. Kennedy will cover the western half of Missouri and the states of Kansas, Nebraska and Iowa.

A. S. Bull has been appointed technical assistant, vice president's office of The Insulite Company, with headquarters at 1100 Builders Exchange Bldg., Minneapolis, Minn.

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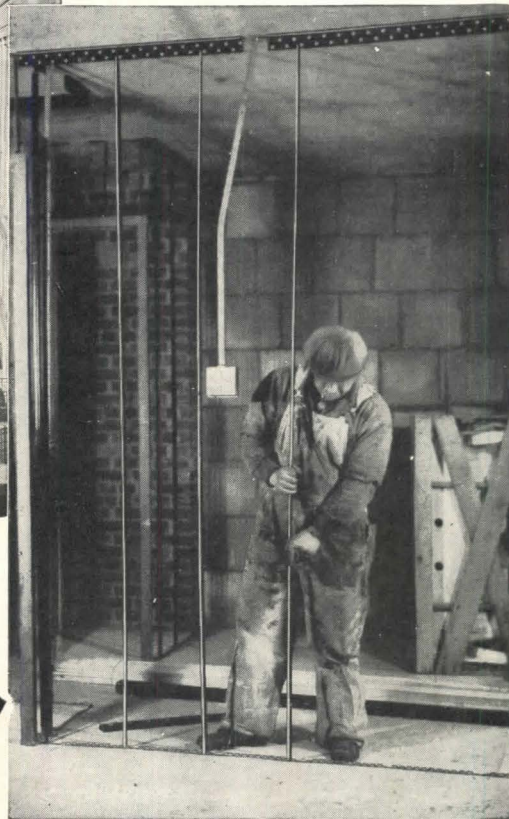
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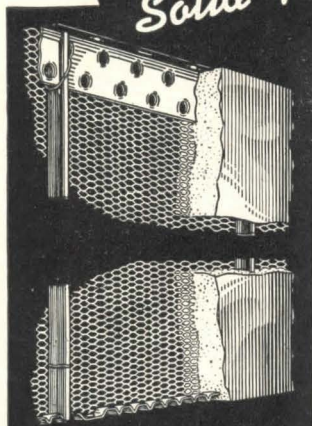
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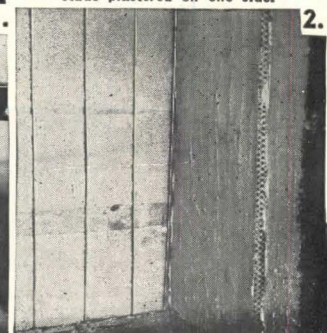
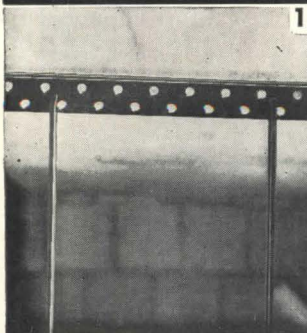
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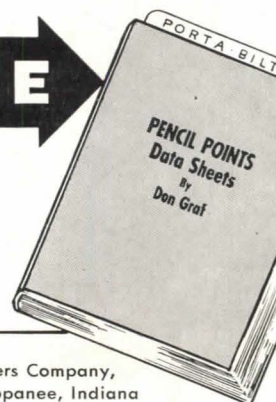
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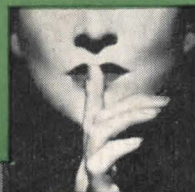
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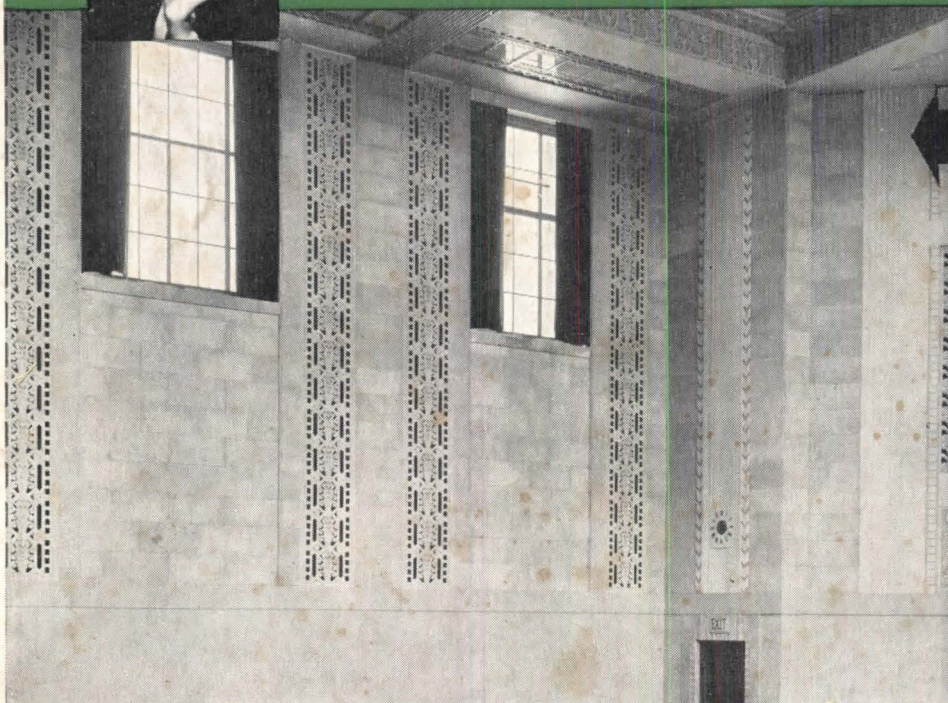
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Address.....
City.....
County.....State.....