

The AMERICAN ARCHITECT

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The Cover

A row of old houses at Uzerche, France," by Julius Delbos, is the title of the water color used on the front cover this month.

Mr. Delbos began to paint at the age of ten, when he used to go out into the country and paint from nature. He had no instruction in art until he was twenty years old, when he began to study in various studios in France.

When twenty years old, he exhibited at the Royal Academy in London and sold his first picture. Since then he has exhibited regularly in Paris, London and, since the war, in New York, Chicago, Philadelphia, and other American cities.

For many years Mr. Delbos taught art and music. He is now established in New York, where he devotes himself entirely to painting. He recently exhibited water colors at the Architectural League of New York.

Next Month

SPACE SAVING—A story of how to make every inch count in residential work.

LOUIS LE BAUM—Tells what he likes about architecture.

RADIATORS—A notable authority presents some interesting facts.

BENJAMIN FRANKLIN BETTS, A.I.A., *Editor*

ERNEST EBERHARD, *Managing Editor* H. J. LEFFINGWELL, *Advertising Manager*

RAY W. SHERMAN, *Editorial Director* EARLE H. MCHUGH, *General Manager*

In This Issue

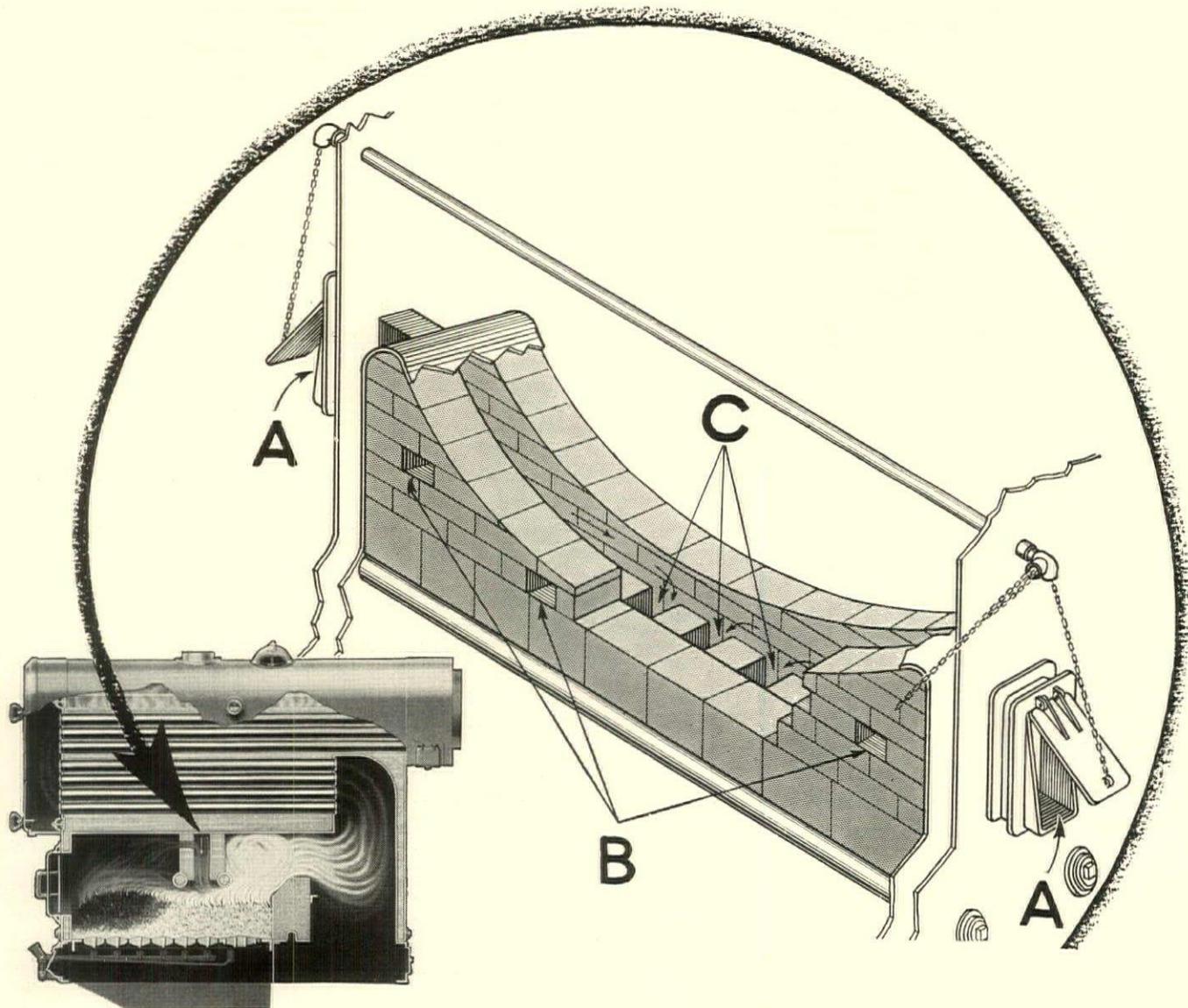
Cover, a water color by Julius Delbos

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Heat—but No Smoke from Soft Coal



IT furnishes plenty of air—*heated air—over the fire*. Admits it at the right point! Produces just the right mixture. That is why this Heggie-Simplex Boiler burns soft coal smokelessly!

The additional oxygen essential to smokeless combustion, but which cannot be drawn through the fuel bed alone, is introduced through the *refractory chamber* illustrated above.

Air is drawn through intake doors (A) on both sides of the boiler. Volatiles rising from the fresh

fuel are admitted through the ports (B). These inflammables are thoroughly heated by the hot refractories of the chamber before passing through the jets (C) down onto the fire.

Here they mix with the soot-laden gases streaming under the chamber. The refractory baffle wall to the rear throws this mixture into a turbulent, incandescent eddy. Oxygen and gases unite. All combustibles are burned. The space beyond assures ample room for completing combustion before entering the flues.

For full details write Heggie-Simplex Boiler Co., Joliet, Ill.

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HEGGIE-SIMPLEX

SMOKELESS HEATING BOILERS

IF 10,000 architects went to work...

By Benjamin F. Betts, A.I.A.

MORE serious consideration has been given the question of advertising architecture during the past five years than at any time in the history of the profession. The time has now arrived when scattered, independent efforts should be coordinated into a properly conceived and directed nation-wide publicity campaign to inform the public as to what constitutes good architecture and how it may be obtained.

Publicity is commonly associated with advertising campaigns conducted over a period of years and costing thousands of dollars. The danger of a program of this nature would be the temptation for individual architects to contribute to the fund and then sit back expecting results that would probably not materialize. This type of campaign might come later as a logical development but it is not essential as a starting point.

The business of architecture generally speaking, while dealing with but relatively few clients, does demand an ever widening circle of potential purchasers of architectural service. Before a costly advertising program is adopted there must come many months of personal effort on the part of architects to establish in the public mind a correct attitude toward architecture. Professional standards must be raised to the point where the public can be reasonably sure of receiving the service to which it is entitled.

ARCHITECTS must interest themselves in the social life of their communities. They must become important factors in every question involving the architectural development of their town or city. Building code matters should be the signal for local architects to assume leadership. No opportunity to address local clubs or societies should be permitted to pass. Architecture should be carried to the public schools and a true appreciation of the art instilled in the youth of this country. The acquaintance of editors and reporters of local newspapers should be cultivated so that matters of public interest will receive the attention they deserve.

No loss of dignity or prestige need necessarily be incurred through these activities. It does not mean an overly aggressive attitude. It simply means that the profession must be alive to its opportunities and ready to grasp them for the good of the community. Unselfish service will do much to impress the public.

RESULTS can only be accomplished through a degree of personal inconvenience, hard work, and often doing the things that one does not particularly enjoy. Architects must become so identified with the building industry that the words "architect" and "building" are synonymous. Advertising that is not backed up with individual effort will not pay dividends. Individual effort, nationally coordinated, will produce results—money alone will not.

SELLING the

A SURVEY of what is being done by 44 Chapters of the A.I.A.

by Ernest Eberhard
Managing Editor, THE AMERICAN ARCHITECT

16 Famous Experts to Rouse Interest in Fine Architecture

Herald and Examiner Will Publish Series of Timely Articles on Building in Co-operation With American Institute of Architects

(This is the preliminary article in a series by notable experts, sponsored by the Chicago Chapter of the American Institute of Architects, to be published in The Sunday Herald and Examiner on timely and interesting subjects connected with architecture.)

BY ARTHUR WOLTERS DORF,
Chairman's Committee on Public Information of the Chicago Chapter, American Institute of Architects.

King Solomon built a temple that was the wonder of the age, so the Bible tells us. A German archaeologist's exhaustive studies of Bible records are shown in a model of this temple exhibited in Jerusalem, and Harvey Wiley Corbett, architect of New York, has likewise delved in the records, producing drawings, models and speeches.

Buildings Basis of Civilization

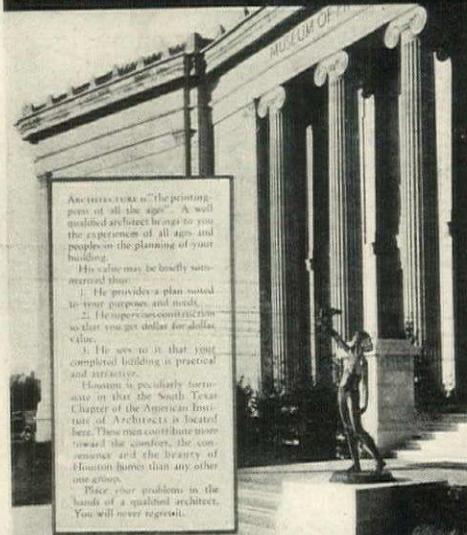
These studies are meant to enlighten on the customs, habits—how we say it—of our forefathers at about 1600 B. C.

That is the permanent use of architecture: how a people lived and worked and



View of Acropolis at Athens, showing various buildings.

CONSULT AN ARCHITECT



SOUTH TEXAS CHAPTER
AMERICAN INSTITUTE OF ARCHITECTS

Hints on Correct Architecture



The Kansas Architect

PUBLISHED BY THE KANSAS CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS
222 N. WEST, CHICAGO

HISTORY OF THE KANSAS CHAPTER
While these would undoubtedly have been members, three of whom are associate members, a number of former members have moved to other states, so that Kansas has presented nearly thirty members to the Institute on account with the ten Institute members in the state ten years ago.

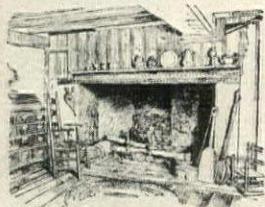
Paneling in Colonial Interiors

CHARACTER, DIGNITY AND REPOSE ARE AMONG ITS DERIVATIVES

BY RAYARD TURNBULL, A. I. A.

To the successful working architect the paneling of a room is a matter of great importance. It is the character, dignity and repose of the interior that are among its derivatives.

Paneling is a decorative art which has been practiced in every age and in every clime. It is the character, dignity and repose of the interior that are among its derivatives.



A ROOM IN THE WHITE HOUSE. The base of the fireplace is of the same material as the mantel.

Five examples of Chapter advertising and publicity which build confidence in the architectural profession

THE sentiment of the various Chapters of the American Institute of Architects is unquestionably wholeheartedly in favor of public education that will result in an increased appreciation of the value of architectural service, according to a five months' survey conducted nationally by THE AMERICAN ARCHITECT. Sixty-three Chapters were written to for information, forty-four replied at length. In many cases the matter was discussed at Chapter meetings and the secretary directed to inform THE AMERICAN ARCHITECT of the prevailing sentiment.

Only one Chapter is against concerted action for the benefit of the profession—and the reason given is that no equitable means of financing seem apparent. That Chapter would undoubtedly be in favor of concerted action if a logical and equitable plan were presented for its approval.

Another Chapter feels that the whole matter should be referred to the Directors of the Institute. Logical, but the Directors will probably act only in accordance with the expressed wishes of the majority of the Chapters.

Those wishes are revealed by the survey of THE AMERICAN ARCHITECT as strongly in favor of concerted action. There is no question as to that.

The results of this survey are backed up by a questionnaire of the Institute itself, which was answered by forty-one Chapters. More than half of the Chapters reported that among the topics of greatest interest discussed in Chapter meetings were those of publicity and public education.

Naturally the directors of the Institute have sensed somewhat the wishes of individual Chapters and the necessity for concerted action. In response to this, a journalist of high calibre was engaged by

"Man in the Street"



Booth which the Wisconsin Chapter had at a local Home Building Show. A Chapter member was always in attendance to answer questions and explain the value of architectural service

● Many Chapters of the American Institute of Architects are firm believers in the power of publicity and paid advertising. Their sentiment and what they are doing to further a wider employment of the architect's services is told in this article, based upon a five months' investigation conducted by THE AMERICAN ARCHITECT.

How far the Institute will participate in such activities will be largely determined by proceedings at the annual convention next month.

A tabulation of the survey made by THE AMERICAN ARCHITECT, showing the sentiment and activities of individual Chapters, will be found on pages 22-27.

the Institute to handle publicity nationally, to supplement this by keeping each Chapter informed of what other Chapters are doing, and to suggest ways and means by which individual Chapters may secure valuable publicity.

This work has been well handled and productive of good results. But it is not enough. Much of the publicity done by individual Chapters is unfortunately of far more interest to architects than to their clients or to the general public. And naturally so, for the architect is just about as good a publicity man as a publicity man is an architect.

There seems to be a growing sentiment among the various Chapters that free publicity in the shape of

newspaper items is not enough, and that paid advertising should be done. This is a healthy sentiment. It is well recognized in the advertising world that valuable though intelligent publicity may be, yet it can not take the place of paid advertising.

An objection to paid advertising, raised by several of those answering the survey of THE AMERICAN ARCHITECT, is that from eighty-five to ninety per cent of the advertising literature received by the architect goes into the waste paper basket. This does not mean that advertising is at fault, but merely that only about ten per cent of the literature received by the architect is of sufficient interest to secure his immediate attention. In addition, many architects state definitely that they pay as much attention to the advertising pages of the architectural journals as they do to the editorial text.

The power of paid advertising, well done in carefully selected publications or through the use of direct mail, has been demonstrated so often that there can be no valid argument against its use by the Institute and by Chapters acting individually. The question, in this day and age, should not be whether to use advertising or not—but how to use it to best advantage.

One trouble with Chapter publicity, revealed by the survey of THE AMERICAN ARCHITECT, is that much of it is done without a definite objective having been set. That is, the matter of getting *something* in the newspapers seems to be the objective rather than first finding out what the publicity is

(Continued on page 84)

what 44 A.I.A. Chapters are doing

According to a Survey Made

CHAPTER	EDUCATIONAL WORK, LECTURES, EXHIBITS, ETC.	NEWSPAPER PUBLICITY
BALTIMORE	None	Supply an article in the Sunday magazine section once a month.
BUFFALO	None	Some
CHICAGO	Has a committee on public education and gives addresses in high schools. Two boys from each high school with architectural department invited to each regular Chapter meeting.	Articles appear in news sections instead of real estate pages. Series to be brought out in book form by publisher who takes financial risk and gives percentage of profits to Chapter.
CENT. NEW YORK	None	Yes
CINCINNATI	Are in touch with school authorities to work out a series of lectures on architecture.	News items.
CLEVELAND	Sponsored one lecture last year.	House designs and articles.
COLORADO	None	Yes
DAYTON	Two members teach at Dayton Art Institute and other classes. One member gives talks on art and architecture before women's clubs monthly.	Frequently
DETROIT	Chapter members lecture on various subjects before civic organizations.	Yes
FLORIDA NORTH	Talks on architecture and work of architects before junior high schools and civic clubs.	Yes
FLORIDA SOUTH	Annual exhibit in lobby of Miami Daily News.	Yes
GEORGIA	None	Now under consideration.
INDIANA	Exhibited for past five years at John Herrin Art Institute, Indianapolis. Considering making this a travelling exhibit.	Yes
IOWA	Very little.	Some, but find newspapers difficult to interest as they want advertising.
KANSAS	Exhibit open to the public.	
MINNEAPOLIS	None, although effort made for public schools to teach appreciation of architecture.	Yes
MONTANA	By individual Chapter members—too scattered for collective action.	No

to sell the "Man in the Street"

by THE AMERICAN ARCHITECT

PAID ADVERTISING	RECOMMENDATIONS	SENTIMENT TOWARD CONCERTED ACTION
None	Keep constantly before the public by excellent work and public spiritedness; encourage public confidence.	Favorable
Some		Favorable
Series of letters to banks, mortgage houses, realtors, states-attorneys, building commissioners, lawyers, judges, and members of legislature.		Favorable
Favors it, but funds not available.		Anxious for it.
Two years ago published a magazine intended to further public appreciation of architecture and of the architect's place in the building industry; now taken over by private interests.		Favorable
None		Opposed, because they know of no method of equitable financing.
None	Chapters should appoint committees to work with the newspapers.	Favorable
None	Profession, locally and nationally, should bring itself to more notice.	Favorable, but no extensive advertising campaign felt desirable.
None	That the A. I. A. materially increase its budget for advertising or publicity.	Heartily approves.
No	Group advertising either by individual Chapters or A. I. A.	Favorable
None		Favorable
Now under consideration.		Anxious for it.
By individual groups, particularly Evansville. Are considering expenditure of \$10,000.		Favorable
None	Unanimous that A. I. A. should carry on a vigorous public campaign.	Favorable
Chapter bulletins used by members and sent to private mailing lists.		Favorable
Did some seven or eight years ago.	Awards, competitions, exhibitions, etc.	Beginning to realize educational and even paid advertising has value.
No		Favorable

what 44 A.I.A. Chapters are doing to

CHAPTER	EDUCATIONAL WORK, LECTURES, EXHIBITS, ETC.	NEWSPAPER PUBLICITY
NEBRASKA	None	None
NEW JERSEY	Lectures by individual members but nothing by Chapter as a whole.	Considering it.
NEW YORK	None	Yes
NORTH CAROLINA	None	Formulating plans for it.
NORTH TEXAS	None	Yes
NORTHERN CALIFORNIA	Individuals talk before Parents Association, luncheon clubs, etc. Traveling exhibit of awards being sent through schools.	In cooperation with state association; arranging to continue.
OREGON	Two years ago tried to reach the younger generation with lectures and exhibition of pictures in cooperation with Teachers Association. Had competition among school children of guessing contest of 25 famous buildings.	Intensive publicity campaign, furnishing newspapers with articles and information of general public interest.
PHILADELPHIA	Lectures in schools and has traveling exhibition in high schools. Creating public appreciation by public service and advice to municipal authorities and commissions and civic organizations. Had an exhibition February, attended by 14,000 people (see March A. A.)	Yes
PITTSBURGH	None	Yes
RHODE ISLAND	No regular program but occasionally exhibit recent work of members, either in galleries of the R. I. School of Design or at Providence Art Club, with accompanying lecture.	Contemplating series of articles by members of the Chapter.
ST. LOUIS	None—but think it should be done.	Some—number of members are anxious to do more.
ST. PAUL	None	None
SANTA BARBARA	Speakers supplied to high school and state teachers college.	Mostly publicity for speakers at meetings.
SCRANTON-WILKES-BARRE	Planning to place exhibit in high schools of Wilkes-Barre and Scranton similar to Philadelphia Chapter.	Negotiating with Sunday newspapers to carry architectural section every three months, material to be supplied by Chapter.
SHREVEPORT	None	No
SOUTH CAROLINA	None	No
SOUTH GEORGIA	Handled by individuals rather than as Chapter activity; talks before public organizations.	Newspapers cooperate on individual building projects but no general publicity sought.

sell the "Man in the Street" . . . continued

PAID ADVERTISING	RECOMMENDATIONS	SENTIMENT TOWARD CONCERTED ACTION
None		Might be favorable; when taken up formally reaction rather apathetic.
None		Strongly inclined towards it.
None		In favor of it.
None, though groups within the Chapter have done some.		Thoroughly in accord.
Considering it.		Favorable
None	Ask manufacturers and material men to mention in their advertising "Consult your Architect."	Favorable
Are running paid advertising as part of a greater Portland development movement. Consists of a slogan expressing definite policy or proposing civic improvement, signed by Chapter members.		Feel each Chapter must solve its own problems.
None		Strongly in favor of it, but opposed to paid advertising.
None		Advisable to create appreciation of architect's work.
Once a year advertise names of newly elected officers and Chapter members.		Interested in it.
None	Feel the Institute should foster active and well directed publicity campaign.	Favorable
None		Favorable but not by advertising.
None	Cooperation with local organizations of building contractors.	Favorable
None	Architects should devote more time to public affairs, as their lack of interest places them in background.	Heartily endorsed.
Several years ago advertised services rendered by profession.		Not answered. Waiting discussion at next meeting.
Has been done.	Newspaper articles.	Favorable
None	Chapters and Institute to encourage members to talk before organizations about profession as a whole, explaining functions of architect.	Greatly interested and would cooperate heartily.

what 44 A.I.A. Chapters are doing to

CHAPTER	EDUCATIONAL WORK, LECTURES, EXHIBITS, ETC.	NEWSPAPER PUBLICITY
SOUTH TEXAS	Last year sponsored three lectures addressed to the Forum of Civics. Three or four exhibits each year under auspices of chapter at Museum of Fine Arts. Helped a Civic body to select architects for an important building.	Yes, but not as a program.
SOUTHERN CALIFORNIA		
SOUTHERN PENNSYLVANIA	None	No
TENNESSEE	Not as a Chapter but branch Chapters do so. Held an exhibit (see Jan. A. A.)	Through branch Chapters.
TOLEDO	None	None
VIRGINIA	Are splitting up in five different Chapters and intend Richmond Chapter to lead in all activities with exhibits, newspaper educational programs and possible advertising.	No
WASHINGTON D. C.	Limited	None
WEST TEXAS	No definite program, although individual members have given talks to general public. Are planning an exhibit.	Yes
WEST VIRGINIA		
WISCONSIN	Talks to schools and other organizations. Have slides of Old World architecture and local work. Exhibited at Home Show.	Yes

To make the public value, understand and want architectural service

ACTIVITIES OF EACH

Annual exhibits, well publicized, conveniently located for public visitation

Traveling exhibits in public schools, colleges, and places visited by the general public

Booth in Home Building Shows, with a Chapter member in constant attendance to answer questions and explain the value of architectural service

Local exhibits, generally in combination with other exhibits, showing planning of a building from the start to visualize to the public of what competent architectural service consists

Talks by Chapter members before schools, colleges, and various organizations, on present day architectural subjects of practical value

Members to place a sign with their names on every building under construction which they design to show an architect is handling the work

Newspaper publicity in the form of houses or other buildings designed by Chapter members, with suitable description, to replace present syndicated plans in newspapers. News items to be submitted at once before news value is lost

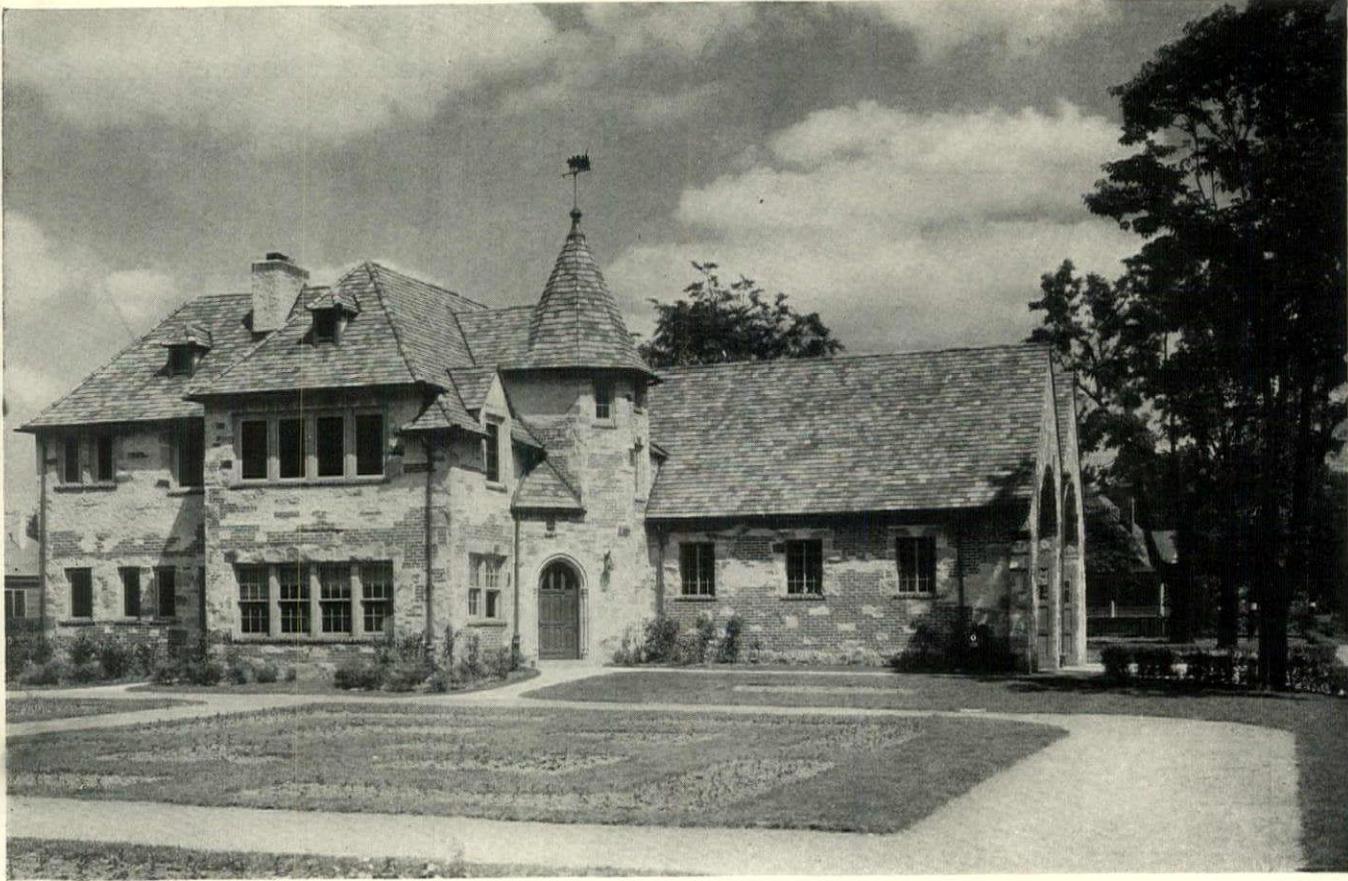
sell the "Man in the Street" . . . continued

PAID ADVERTISING	RECOMMENDATIONS	SENTIMENT TOWARD CONCERTED ACTION
None, except once in a publication issued by developers of city's outstanding residential subdivision.	Institute publicity activities should be continued with special emphasis on magazines of popular circulation. Chapters should publish pamphlets for those likely to build.	Interest just awakened.
None	Subdivision of Chapter where membership covers a large area.	Cooperates closely with A. I. A. and feels it should handle matters.
None	Chapters should take advantage of A. I. A. publicity articles and obtain publication in local newspapers.	Think kindly of it.
None	No	Very worth while.
Giving serious consideration.	Chapters should have definite programs of publicity to inform public about their work and services they render. Recommends exhibitions; film produced by a Chapter, perhaps of work of individual members, shown at public meetings and local theatres; talks, lectures, and articles by individual members on architectural subjects and community interests such as city planning, zoning, registration laws, preservation of old landmarks, restoration work, etc.	Favorable
Spent \$900 on a 30 week series, once a week. Advertising contained names of all members and featured sketch and description of house done by a member. The newspaper reproduced the drawings and descriptions in a booklet, "Book of Better Homes."	Feel advertising should be done by Chapters, but expense prohibits.	Necessary
Sometimes		Favorable
		Realize it is badly needed.
		Annual meeting referred matter to Board of Directors A. I. A.
		Decidedly favorable.

CHAPTER SHOULD INCLUDE:

- Newspaper articles by Chapter members on topics of interest to the general public, such as the restoration of old buildings, decoration, planning, etc.*
- Chapters to exert influence in order that local newspapers will make full use of Institute publicity material*
- Letters and other literature sent to a selected list of prospective clients, bankers, mortgage houses, and others in a position to influence the employment of architectural service*
- Chapter pamphlet describing architectural service and its value, to be distributed to possible prospective clients by Chapter members*
- Monthly Chapter bulletin, containing suitable information, sent to names furnished by Chapter members*
- Paid newspaper advertising*
- Urge that manufacturers and material men in their advertising suggest consultation of an architect*
- Invite architectural students or other interested parties to Chapter meetings*
- Cooperation between Chapter and local organizations of building contractors or others*
- Active participation in public affairs*

(Continued on page 82)



A TWO-TRUCK FIRE STATION

for the city of Birmingham, Alabama

TURNER & SLATER, architects

THE PROBLEM

- *A fire station located in a park.*
- *Station to be provided with space for two engines, living room, kitchen, and dormitory.*
- *Service yard for drying hose and doing other necessary work to be concealed from the surrounding park.*
- *Toilet facilities to be provided for boys and girls visiting the park.*
- *Boiler and coal room service to be handled without a separate driveway to that portion of the building to avoid the necessity of an extra driveway through the park.*



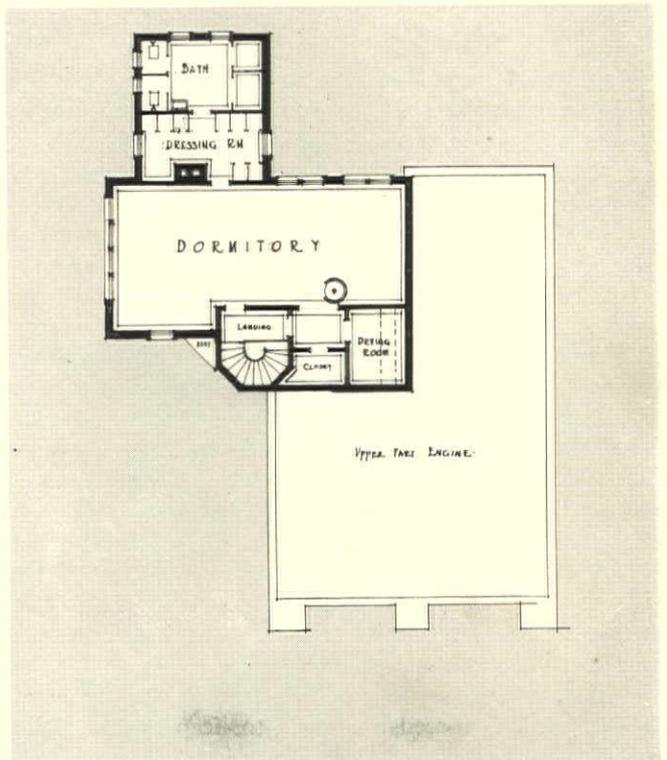
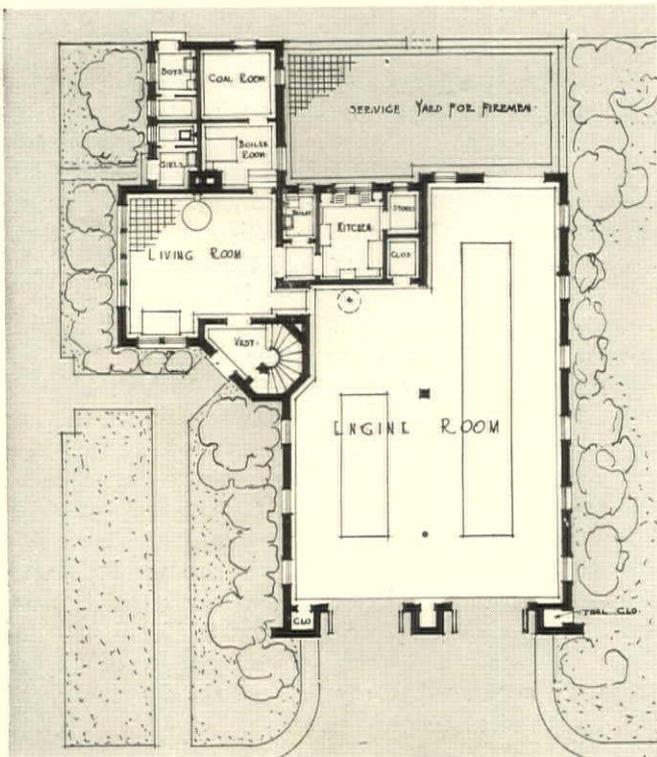


BRICK AND STONE

THE combination of materials and general handling of the design are reminiscent of residential rather than commercial work. The building therefore fits well into park surroundings and becomes an added attraction rather than a detriment to the beauty of the park. It is evident that the architects strove to combine beauty with utility

PLANS

The requirements of this building have been handled with sufficient freedom to result in an interesting exterior that clearly expresses the function and purpose of the structure



The TIME CARD

Note that the week ends on Thursday night. The payroll is made up Friday morning and employees paid by check. These can be cashed or deposited during Friday noon hour, as checks issued Saturday cannot be banked or cashed until Monday. Time is recorded separately for various kinds of work

TIME RECORD OF John Triangle, Jr
RESIDENCE ADDRESS 1420 - 14th St. PHONE Emp 0124
FOR WEEK ENDING Feb. 27 1930

JOB NO.	TITLE	KIND OF WORK	FRI.	SAT.	SUN.	MON.	TUE.	WED.	THUR.	TOTALS
2984	Roe Residence	PR. SK.	4	4			3	6		17
2972	All Saints' Church	WK. DW.	4						8	12
2932	John Doe Stores	SUPVSN				3	2	2		7
do	do	DETAILS				5	5			10
OVERHEAD		GENERAL								
		HOLIDAYS					Sup.			1 Supper
TOTALS			8	4		8	10	8	8	46

Under "KIND OF WORK" Use the following Symbols:
 PROM: SALES PROMOTION. SPEC: SPECIFICATIONS. REVSN: REVISIONS.
 PR. SK: PRELIM. SKETCHES. DETAILS: ALL DRAWINGS MADE AFTER CONTRACT IS LET.
 WK. DW: WORKING DRAWINGS. SUPVSN: SUPERVISION. MARK SUPPERS IN HOLIDAY LINE.

AN EASY WAY TO KEEP JOB COSTS

By Lancelot Sukert, A.I.A.

Mr. Sukert describes in this article a simple bookkeeping system developed by himself, that can be kept up-to-date each week-end by the average stenographer in ten or fifteen minutes. It is not a theoretical or experimental system, but one that has been successfully used

FOR every architect who keeps accurate records of his costs there are nine who do not—nine professional men—think of it!—who profess to keep accurate cost records for their clients, yet keep none for themselves!

Nine out of every ten architects close the year wondering where their profits are. Among the nine may be found those who so glibly offer to undercut the fees quoted by their competitors. There is nothing surprising in this fact. How can they quote proper fees for work concerning the cost of which they have accumulated no real information.

If architects could be made to learn their production costs there would be no price cutters. Certainly no one would be so foolish as to offer to perform services for a price below that which it costs him to produce them. I am perfectly honest in stating my own suspicion that, if accurate costs were kept on every single job, there would be little or no work done for a 6% fee on buildings costing less than \$75,000.

The income-tax measure has been a blessing in disguise. It has forced architects to keep books. While

not required to keep an elaborate set of records, one must now be able to produce, upon the government's request, a set of accounts showing money received and spent — and how it was spent.

The only profit which the average architect can show at the year's end is no more nor less than the amount he drew out of his business to pay for the support of himself and family. In business parlance, this represents salary, but not profit. Profit is what one makes in excess of salary. In the average office practically all of the money collected as fees is spent in turning out work. Far too many architects maintain an employment agency for draftsmen and a collection bureau for their wages. If there are no profits, then where does the money go? Into the jobs, yes — but into which jobs? There must have been profit in some of the work done. It was spent upon the others, true, but how?

Can anyone answer such questions without keeping costs on every job? How many architects, having passed through a year of loss, can sit down before their cost records and analyze their mistakes? How many continue to base their fees upon what they guess is "about right" instead of upon the true cost of a similar job previously done? Cost records are vivid pictures of money expended, pictures which carry real lessons. Last year a Gothic Church, costing \$125,000 was designed and supervised by my office for a fee of six per cent. It was studied thoroughly and the drawings were accurately and thoroughly made.

TITLE *All Saints' Church* JOB NO. *2972*
 OWNER *ditto* CARD NO. *1*
 LOCATION *Horace & Jones Sts.* KIND OF WORK *All Except Supervisory Revisions*
 ATTENTION OF *Rev. John Doe* ADDRESS *612 Henry St.* PHONE *Ar. 1234*
 AUTHORIZED *Jan 2 1930* COMPLETED *8-25 1930*

NAME	WEEK ENDING	HRS	RATE	COST	DATE	ITEMS	COST	
				Carried Forward 1323-		Carried Fwd	32 17	
<i>Arch</i>	<i>2 20 30</i>	<i>32</i>	<i>4-</i>	<i>128-</i>	<i>2 20 30</i>	<i>Paper</i>	<i>6 20</i>	
<i>Steurg.</i>	<i>2 20 30</i>	<i>24</i>	<i>80</i>	<i>19 20</i>	<i>" " "</i>	<i>Misc.</i>	<i>3 20</i>	
<i>Fred</i>	<i>2 27 30</i>	<i>44</i>	<i>50</i>	<i>22 -</i>				
<i>Total Specifications</i>							<i>169 20</i>	<i>9 40</i>

See Card No. 2 for Supervision and Revisions

JOB COST RECORD AND HISTORY								
NAME	WEEK ENDING	HRS	RATE	COST	DATE	ITEMS	COST	
<i>Arch</i>	<i>1 3 30</i>	<i>15</i>	<i>4-</i>	<i>60-</i>	<i>1 10 30</i>	<i>Bl. Pnts.</i>	<i>1 80</i>	
<i>"</i>	<i>1 10 30</i>	<i>6</i>	<i>4-</i>	<i>24-</i>				
<i>Total Promotion</i>							<i>84 00</i>	<i>1 80</i>
<i>Arch</i>	<i>1 16 30</i>	<i>22</i>	<i>4-</i>	<i>88-</i>	<i>1 16 30</i>	<i>Bl. Pnts</i>	<i>2 40</i>	
<i>Johnson</i>	<i>1 16 30</i>	<i>41</i>	<i>2-</i>	<i>82-</i>	<i>" " "</i>	<i>Photost.</i>	<i>3 50</i>	
<i>Total Prelim. Sketches</i>							<i>170 -</i>	<i>5 90</i>
<i>Arch</i>	<i>1 23 30</i>	<i>44</i>	<i>4-</i>	<i>176-</i>	<i>1 24 30</i>	<i>Bl. Prints</i>	<i>3 20</i>	
<i>Tri. Jr.</i>	<i>1 23 30</i>	<i>44</i>	<i>1 50</i>	<i>66-</i>	<i>1 30 30</i>	<i>" "</i>	<i>1 15</i>	
<i>Johnson</i>	<i>1 23 30</i>	<i>44</i>	<i>2-</i>	<i>88-</i>	<i>2 6 30</i>	<i>" "</i>	<i>1 72</i>	
<i>Arch</i>	<i>1 30 30</i>	<i>12</i>	<i>4-</i>	<i>48-</i>	<i>2 13 30</i>	<i>" "</i>	<i>15 40</i>	
<i>Tri. Jr.</i>	<i>1 30 30</i>	<i>44</i>	<i>1 50</i>	<i>66-</i>	<i>2 13 30</i>	<i>Suppers</i>	<i>7 50</i>	
<i>Johnson</i>	<i>1 30 30</i>	<i>44</i>	<i>2-</i>	<i>88-</i>				
<i>Arch</i>	<i>2 6 30</i>	<i>18</i>	<i>4-</i>	<i>72-</i>				
<i>Tri. Jr.</i>	<i>2 6 30</i>	<i>44</i>	<i>1 50</i>	<i>66</i>				
<i>Johnson</i>	<i>2 6 30</i>	<i>31</i>	<i>3-</i>	<i>93-</i>				
<i>Arch</i>	<i>2 6 30</i>	<i>40</i>	<i>2 50</i>	<i>60-</i>				
<i>Arch</i>	<i>2 13 30</i>	<i>14</i>	<i>4-</i>	<i>56-</i>				
<i>Tri. Jr.</i>	<i>2 13 30</i>	<i>44</i>	<i>1 50</i>	<i>66-</i>				
<i>Johnson</i>	<i>2 13 30</i>	<i>31</i>	<i>2 00</i>	<i>62-</i>				
<i>Johnson</i>	<i>2 13 30</i>	<i>20</i>	<i>3-</i>	<i>60-</i>				
<i>Total Working Drawings</i>							<i>1069 -</i>	<i>31 97</i>
TOTAL PAYROLL COST				<i>1323 00</i>	TOTAL MISC. COST			<i>39 67</i>

TOTAL		<i>1492 20</i>	TOTAL		<i>41 57</i>
PROMOTION					
Payroll		<i>84 00</i>			
Misc.		<i>1 80</i>			
Total		<i>85 80</i>			
OVERHEAD @ 60%		<i>51 48</i>			
TOTAL		<i>137 28</i>			
PRELIM. SKETCHES					
Payroll		<i>170 00</i>			
Misc.		<i>5 90</i>			
Total		<i>175 90</i>			
OVERHEAD @ 60%		<i>105 54</i>			
TOTAL		<i>281 44</i>			
WORKING DRAWINGS					
Payroll		<i>1069 00</i>			
Misc.		<i>31 97</i>			
Total		<i>1100 97</i>			
OVERHEAD @ 60%		<i>660 58</i>			
TOTAL		<i>1761 55</i>			
SPECIFICATIONS					
Payroll		<i>169 20</i>			
Misc.		<i>9 40</i>			
Total		<i>178 60</i>			
OVERHEAD @ 60%		<i>107 16</i>			
TOTAL		<i>285 76</i>			
SUPERVISION					
Supvsn Payroll		<i>472 50</i>			
Details Payroll		<i>280 25</i>			
Misc.		<i>14 20</i>			
Total		<i>766 95</i>			
OVERHEAD @ 60%		<i>460 17</i>			
TOTAL		<i>1227 12</i>			
REVISIONS					
Payroll		<i>37 50</i>			
Misc.		<i>4 20</i>			
Total		<i>41 70</i>			
OVERHEAD @ %		<i>25 02</i>			
TOTAL		<i>66 72</i>			
DATE		<i>8-27 1930</i>	TOTAL JOB COST		<i>3759 87</i>

JOB COST RECORD CARD

Time card items (left) are entered here, as are bills for blueprints, photostats, suppers, etc. On a similar card, marked "General Overhead" are entered all non-productive payroll costs as well as all non-productive blueprints, etc. On reverse side of Job Cost Card space is provided for total cost. In practice the totals are carried out on the last card upon which entries are made. The space given to totalling may be reduced to allow more item-lines on the upper portion of the card. The figures are entered for illustration only.

When the scheme had been definitely decided upon, the work proceeded without interruption. There were no drastic changes. Things worked out so well that I felt certain that the job would show a nice profit. Despite the fact that the building was erected by a contractor of high calibre, who required a minimum of supervision, the cost records showed that the entire fee had been used up in wages and overhead. My cost records have taught me this lesson:— I shall not do another similar job for six per cent.

Cost recording must be simple. Accountants have, from time to time, offered in the various architectural magazines more or less involved cost-keeping systems. These have usually seemed far too complicated to be easily understood, much less kept up, by anyone other than a trained accountant. Therefore I invented one of my own, simple enough to be brought up-to-date each week-end by the average stenographer in ten or fifteen minutes' time. After trying it out for a year

and finding that it worked, I had some cards printed from a cut made from a drawing prepared in the office. My system has three divisions:—

1. Overhead percentage
2. Time cards
3. Cost record cards

I shall try to explain each briefly.

Overhead:—When a draftsman or the architect himself works one hour on a job for which the office is to be paid, that hour is classed as *Productive Time*. Productive time also includes whatever time the architect himself may spend on selling, conferences, designing, drafting, supervising, travelling, or what not, so long as the time is spent on a job for which the office is to be paid. Productive time also includes the stenographer's time spent in typing specifications and the office boy's time running the duplicating apparatus.

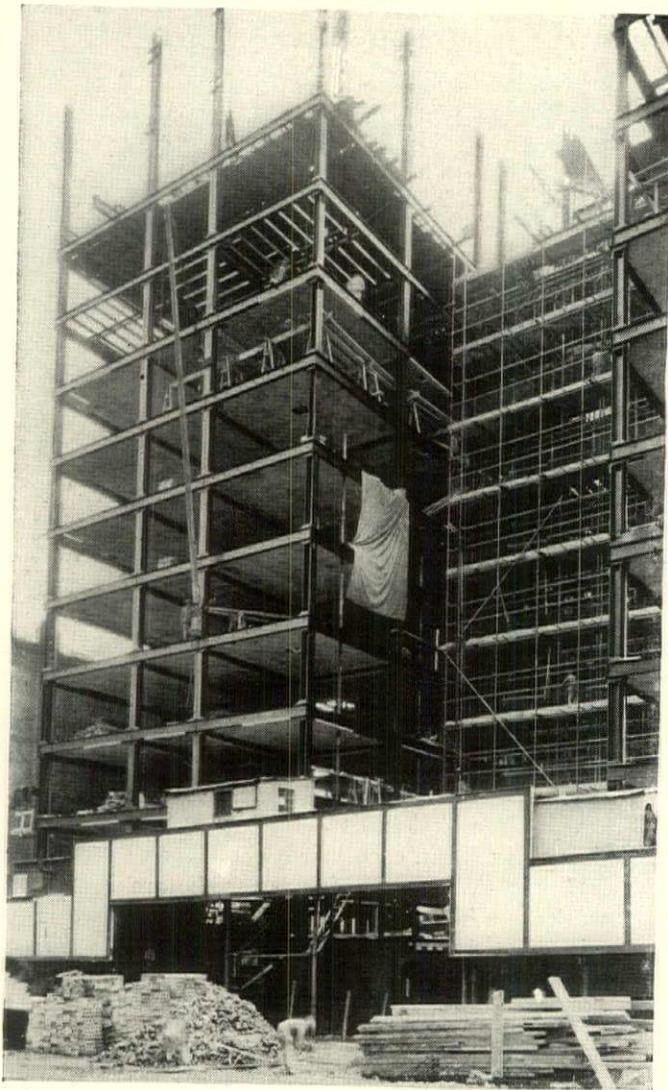
When blue-prints, photostats, long distance calls and similar items are charged (Continued on page 90)

First New York installation
of pre-cast slab construction

8 FLOORS

erected in

Nine Days



Progress photograph of the apartment house at Park Avenue and Seventy-ninth Street, New York. Eight stories of ceiling and floor slabs were laid in nine days. Sloan and Robertson, architects; Lange and Noska, consulting engineers



Slabs are easily bored. One or more slabs may be omitted as desired and laid later when circumstances require

A TYPE of floor and ceiling construction light in weight, quickly erected, and conforming to the New York Building Code is being used at Park Avenue and Seventy-ninth Street, New York. This is the first installation throughout an entire building in that city, although the system has been frequently used there for additions and parts of structures.

The system consists of two types of slabs, one for floors and another for ceilings, used in conjunction with the ordinary supporting members of steel construction set 2' 6" o. c. The ceiling slabs are hung first. They are 30" x 24" in dimensions and 2" thick, made of gypsum and reinforced with two $\frac{3}{8}$ " x $\frac{1}{4}$ " flat steel bars which project beyond the slab and are slipped into hangers. These hangers are flat steel bars with a slot at one end; they are hung from the floor joists by having one end bent over the top of the joist to form a "U". The bars of the ceiling slabs are then placed in the slot, which is just large enough to hold the two bars of abutting slabs. A thin grout of gypsum is run into the cracks between the ceiling slabs before the floor slabs are laid. Plaster work is two coat, the first or brown coat being of gypsum mortar; any type of finishing coat may be applied.

Where the webs and flanges of the girders project below the ceiling slabs, the flange is fireproofed by a 2" thick soffit slab that fits against the underside of the

by
Ernest
Eberhard

LAYING FLOOR AND CEILING SLABS

FLLOOR slabs are laid directly on the steel supporting members; then the projecting reinforcing rods are tied together and hammered down into the rabbett between the slabs

Below: Projecting rods of ceiling slabs are set in hangers, each hanger taking care of the corresponding rods of adjacent slabs which are slipped through a hole in the hanger



flange and is tightly clamped to it by steel straps. The haunches are then formed with 2" solid gypsum blocks.

The floor system consists of gypsum slabs 30" x 24", the same dimension as the ceiling slabs, but 2½" thick instead of 2". They are reinforced with cold drawn steel rods 3/16" in diameter spaced 4" o. c., each rod projecting from the slab about 2½". These slabs are laid on the top flange of the steel supporting members and the rods are bent up at right angles to the slab so the adjacent slabs butt tightly against each other. A specially designed tool twists the ends of the rods of adjacent slabs together, forming a continuous tie. The ends of the twisted rods are then hammered down and lie in a rabbett so that they do not project above the surface of the slab. A gypsum grout is finally run into the rabbett and smoothed off flush with the top surface of the slabs. This completes the floor construction except for the finished floor, which is laid on a cinder fill with sleepers nailed direct to the gypsum slabs.

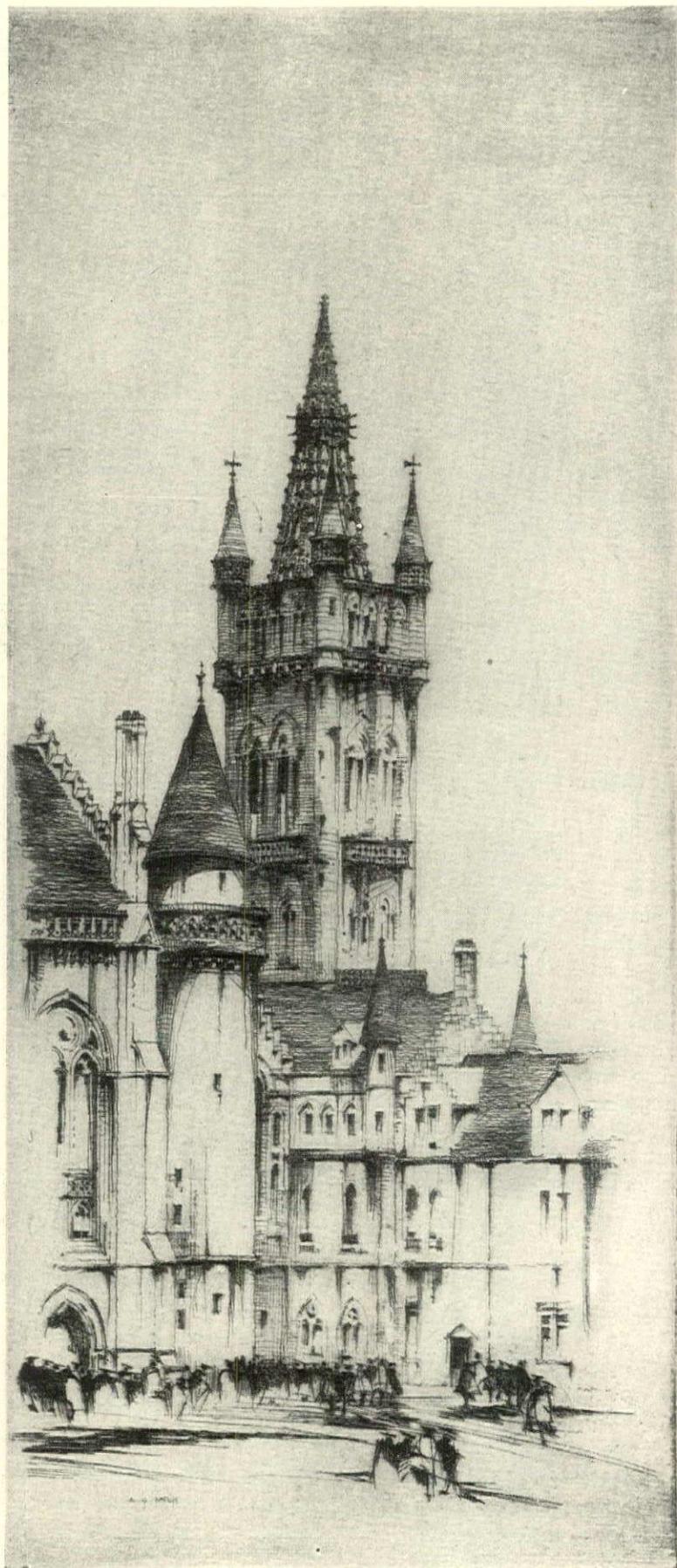
Where projecting columns or other construction makes the use of the ordinary rectangular slab impossible, the slabs are readily cut on the job to fit, then laid as usual.

As soon as the slabs are laid and before the reinforcing rods are twisted together, the floor is ready to walk on. The combined weight of the floor and ceiling slab is 21 lbs. per square foot. To this lightness is added the advantage of sound proofing, not only because of the dead air space between the slabs but because gypsum itself is a round deadner.

The system is speedy in erection, as since there is neither form work nor mixing—except for the small amount of gypsum grout used—the contractor can put as many gangs to work as he wishes and so place as many slabs as may be desired.



SKETCHES



"Glasgow University"

by ARCHIE G. PATON

Glasgow, Scotland
at left

•

"Hudson Bridge"

by MAX FELDMAN

New York City
at right

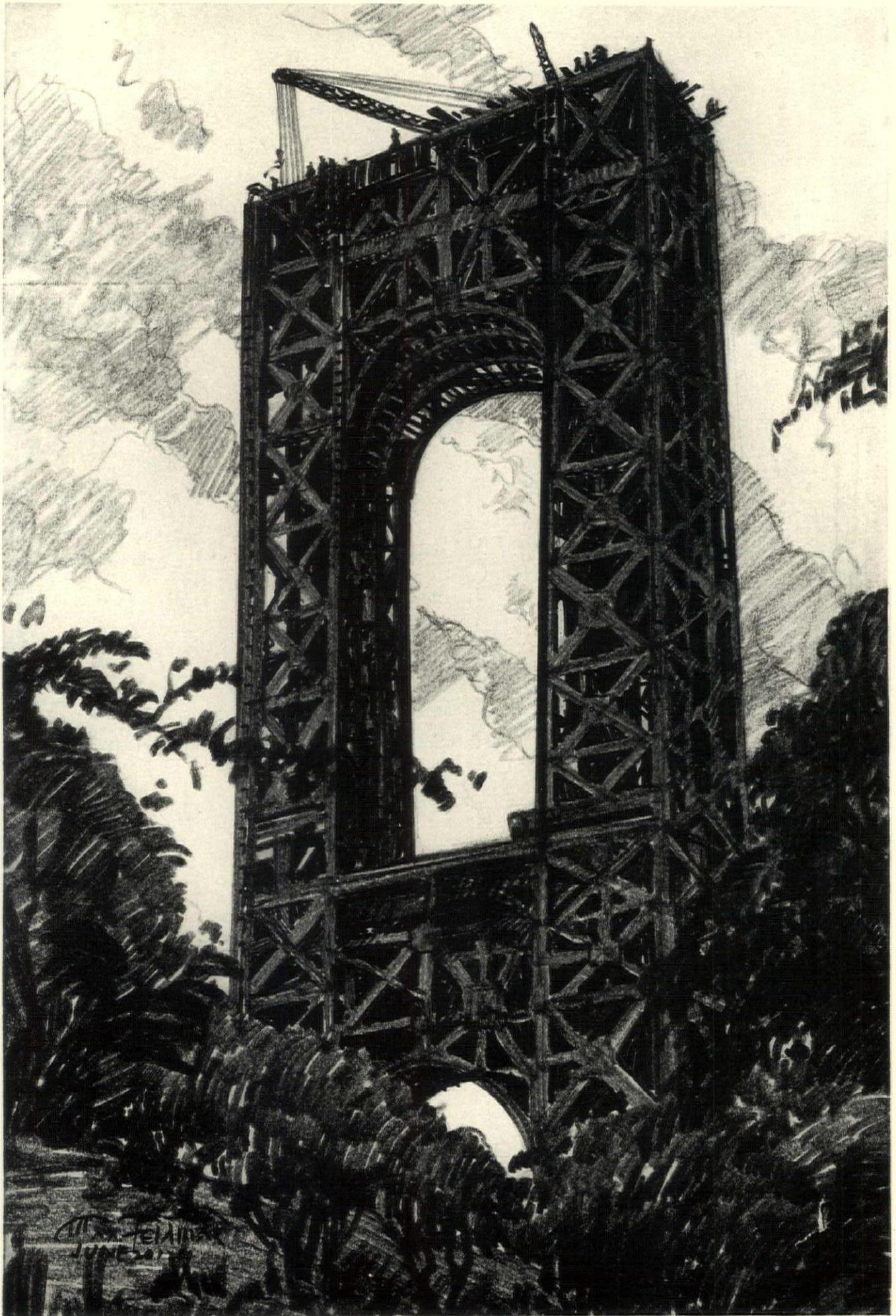
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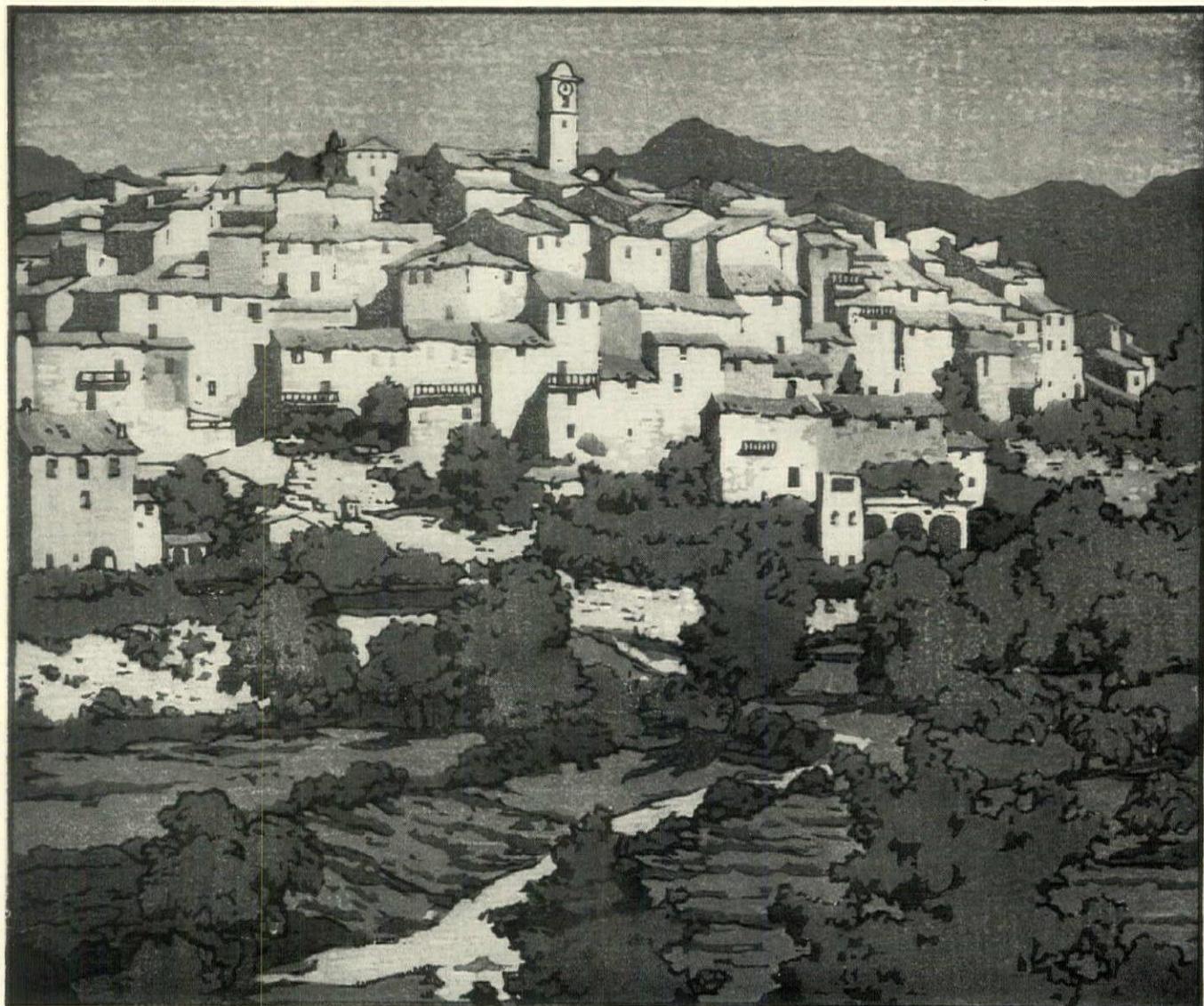
"Rothenburg"

by ARTHUR DRIELSMAN

Chicago
below







Gattiers, France

BLOCK PRINT IN COLOR

by NORMA BASSETT HALL

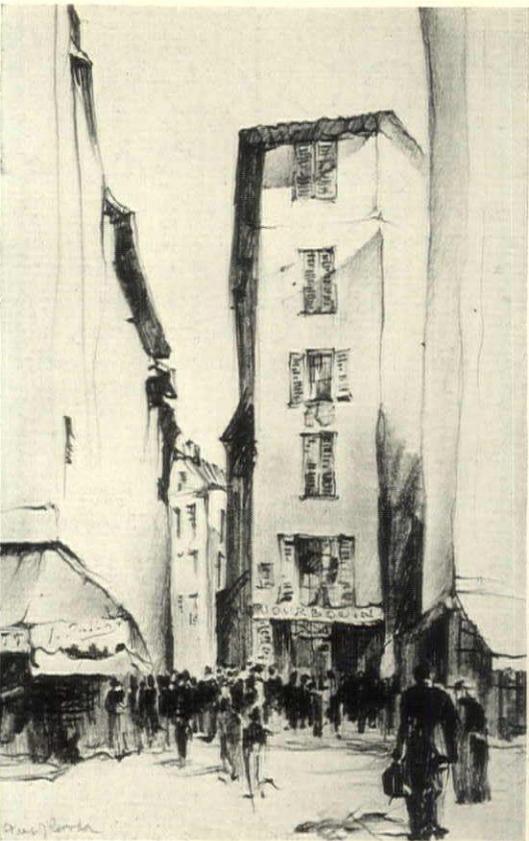


From Europe
and the
American Northwest

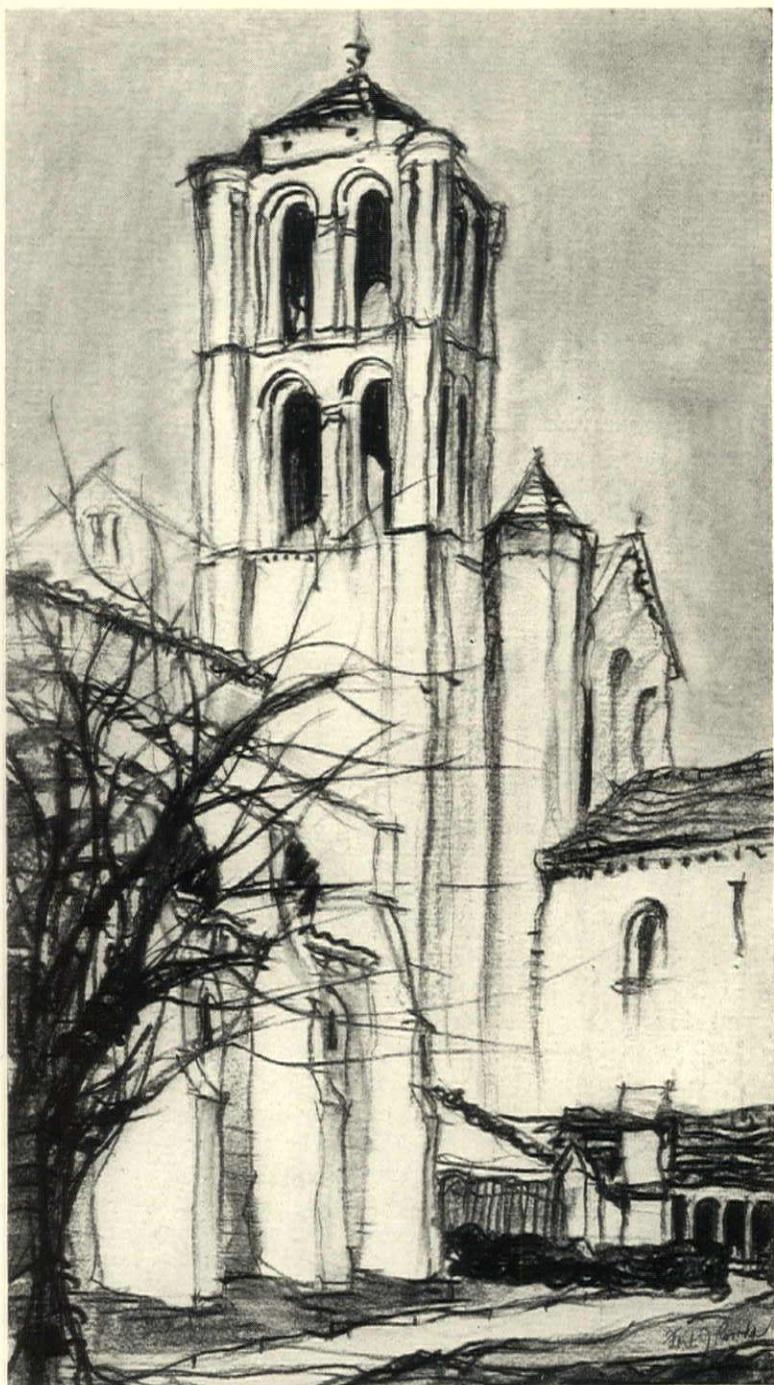


Three pencil sketches on cameo paper, above, below and at right, by Ralph Bishop, Tacoma, Wash.





Street scene in Nice. Made with a 6 B pencil on cameo paper by Frank J. Roorda, New York City, of the office of Shreve, Lamb & Harmon, Architects



Abbey Church at Vezelay, eleventh century Romanesque. Made with charcoal on white drawing paper by Frank J. Roorda



. . . As It Looks

A Job for the Institute

Architects. But we do know that there is one problem which it should, nay must, make an effort to solve. That problem is to insure that the profession receives the public understanding and respect to which it is entitled.

The Institute has done some publicity work. Individual chapters have done some. But what has so far been done is a mere drop in the bucket. Much of it has been scattered and illy directed. Much of it has been of the type which interests architects but is of little effect on the man in the street. Indeed, on the contrary, many publicity items published merely tend to confirm the opinion of many unfamiliar with architectural service—that an architect is a friendly, harmless soul with dandruff on his collar, who spends his leisure moments browsing around old Greek and Italian ruins:

Certified Buildings

MORE protection for the owner is proposed in a system of rating buildings according to their quality, first conceived by D. Everett Waid, and successfully applied to western dwellings by an organization called Certified Building Registry. The idea is to have engineering bureaus pass upon plans submitted to lending institutions, to furnish an inspection service during construction, and to certify concerning the quality of design, workmanship and material used in the structure. The result of such a service is said to be that loaning institutions can make larger loans on approved construction at less risk. As one saw manufacturer used to advertise—and maybe still does—“Remembrance of quality remains long after price is forgotten.” It is trite but true to say that the more agitation there is for better building, the more better building will be done.

Certified Houses

HALF a million dollars worth of houses sold in Essex County, New Jersey, from May 15 to October 1, 1929, is the record of a national organization formed to promote quality building among speculative builders. It is called the National Better Home Builders Association and operates through local chapters; the presidents of the local chapters form the governing board of the national association. Each chapter has a code of ethics and a construction standard which, lived up to, permits the house to be certified, inspection assures the use of quality materials and sound construction and makes the certification mean something. No restriction is placed on plan, design or use of materials. Sale of the houses is accomplished by a national sales organization called National Certified Homes, Inc., which forms and supervises local sales companies to work in conjunction with the local chapter. The certification plan

extends to remodeling work as well as to new construction. Architects, realtors, financial institutions, material dealers and subdividers are invited to become members of the local chapter. This idea is another step towards protecting the home owner from the jerry-built speculative house. Such ideas may or may not work, but every one of them tends to place the entire building business on a higher plane and to give the public more confidence in the construction industry.

But Why Certify?

ALL talk about the certification of buildings comes down to one fundamental fact:—That certification is a make-shift to force quality construction on the builders of buildings where there is no architectural supervision. The talk about certification, the undoubted necessity for some means of driving the jerry-builder out of the picture, all simmers down to the fact that were architects of ability employed on every job there would be no necessity for such certification. The reputation of a reputable architect should be—and is—sufficient certification of quality in plan, design, and construction. But when will the architectural profession get down to brass tacks and sell this idea to the public at large?

Exhibitions in Schools

EXHIBITS of architecture are to be placed in public schools throughout the United States, according to an announcement made by the American Institute of Architects. Professor William Emerson, chairman of the Institute Committee on Education, states that the idea was originated by the Philadelphia Chapter. The seventy chapters of the Institute will, it is hoped, continue the idea in their various localities and thus foster in the public an appreciation of architecture that will be helpful in the development of our towns and cities. This idea is fundamentally sound and important, for it is to the youth of the country that the development and maintenance of our future cities must one day be left. Incidentally these exhibitions can be made the means of informing the public as to the particular functions of the architect.

Separate Circuit for Stairs

PROTECTION of human life in emergencies is a definite duty of the architectural profession. We therefore present the experience of Charles L. Eidlitz, chairman of the board of the Structural Steel Board of Trade, Inc., New York, as worthy of serious consideration. He says: “With an experience gained in the recent fire at 270 Park Ave., I am convinced that apartment house builders and owners should, for their own protection and that of their tenants, provide an electric light circuit for supplying the fire stairways, which is entirely independent of the main supply to elevators and

to the Editors . .

the general lighting of the building. When the sun shines brilliantly through the fire stair windows the necessity for such a precaution coupled with the slight additional expense is not so evident, but when you try to pilot women, invalids and children down eight or twelve floors of stairways which are entirely unfamiliar, in the pitch blackness plus smoke, and the natural excitement which comes with engine after engine swinging into action and the feeling that your accumulation of odds and ends of a life time are about to be wiped out, the idea expressed above becomes most popular. I am passing this on for the consumption of architects, owners, and engineers in the hope that my experience may be the means of helping others who may be faced with the same problem.

Manufacturer Urges Use of Architect

IF more manufacturers would follow the example of the Herman Nelson Corporation, they would increase the architect's good will and incidently secure the more satisfactory installation of their equipment that comes from intelligent selection and supervision. The company, in its advertising states: "Consult your architect or heating engineer, or get in touch with our nearest sales office." The idea is not brand new; at least one A. I. A. chapter is urging it. But wider use of it would quite likely help manufacturers to better serve the public.

Steel Industry to Govern Selves

ANOTHER step forward in the efficient organization of an industry is presaged by the announcement that the American Institute of Steel Construction is to set up a system of self government with the sanction and approval of the Federal Trade Commission. The structural steel companies have already voted on rules which are intended to eliminate unfair and uneconomic practices within the industry, and are awaiting the action of the Federal Trade Commission upon them. One group of rules will be enforceable under the federal law regardless of the approval of the individual companies; another group is aimed at uneconomic practices and will be applicable only when agreed to individually. This action is in line with present day conditions, where it has become a matter of competition between industries rather than between individual companies. Organization, effective and aggressive, is the best weapon which any industry or profession can have, tending to benefit the public by higher standards and frequently lower prices.

Dangers of Modernism

PROFESSOR Gleadowe, in a lecture at Manchester University, England, said the danger of modernism in buildings and the allied arts lies in the dehumanizing of buildings and their decorations. He contends that at the present time there is a tendency to depart from building and the builders' craft as related to contem-

porary life and that there is danger in leaving a record of our present civilization that is too mechanical, too dehumanized and devitalized—a danger always present where a machine is involved. The human element is essential to the production of any art that lives.

Bills to Nullify State Registration

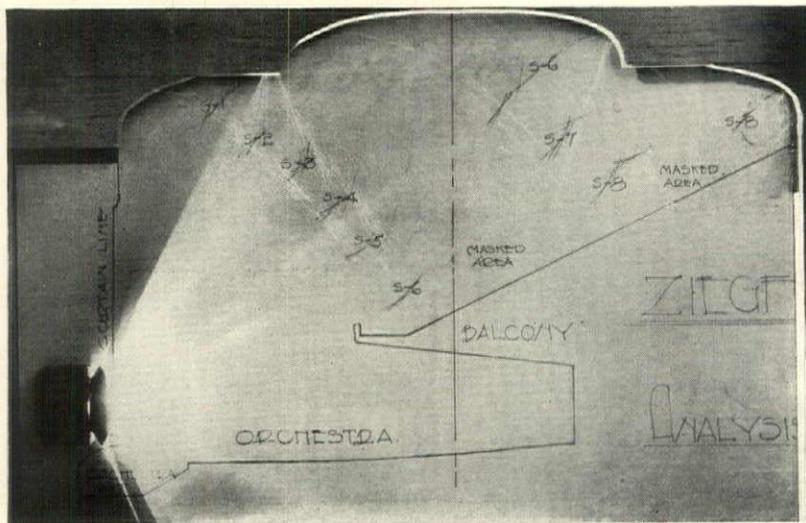
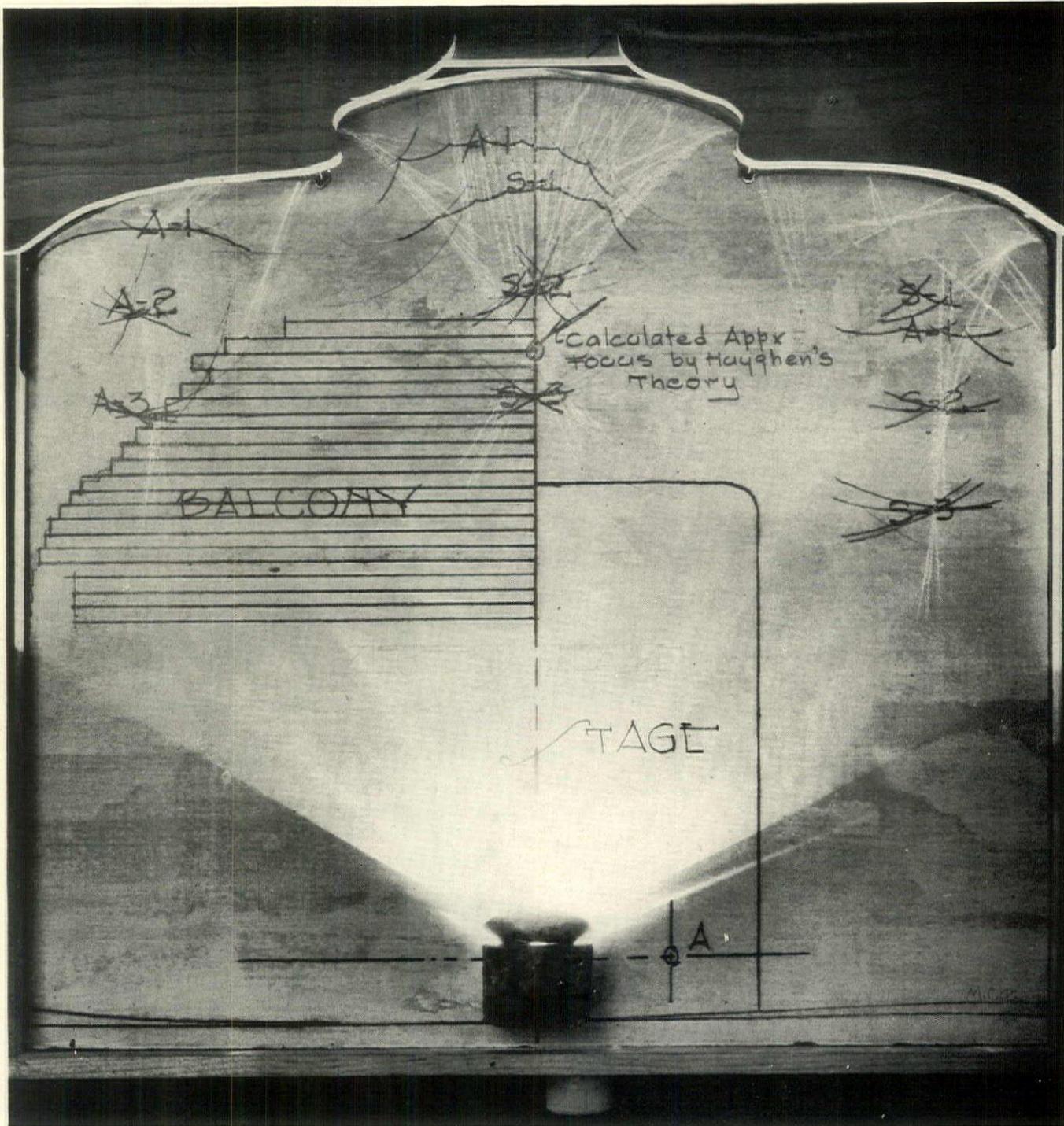
APERNICIOUS attempt to undermine the New York State law governing the practice of architecture is the object of four bills now in committee at Albany. These bills would allow engineers to file plans for any type of building on the same basis as an architect—and under the term "engineer" is legally included chemical engineers, heating and ventilating engineers, and over two hundred other varieties of engineers. New York architects have publicly stated that they are quite willing that engineers whose attainments are such as to warrant their ability to design buildings should be properly licensed to practice as architects. But they feel, and logically so, that when architects are registered only after meeting stringent requirements, protection to the public should not be cast to the winds by allowing those with standards not so high to become, in effect, licensed architects.

The prompt action of New York architects, combined with the sound and logical position which they have taken, will undoubtedly insure the failure of the present bills. The situation, however, points clearly to the necessity for guarding against legislation which may work untold harm not only to the profession of architecture, but to the welfare of owners and the general public. Architectural societies should by all means appoint some man to watch state legislation in order that the interests of the public may be protected against ill advised efforts which would nullify the good work so far accomplished.

The situation further suggests that the membership of architectural societies should be enlarged and the activities of the various societies coordinated in order that the profession may receive the benefit of unified effort.

Church Business Buildings

CHURCHES were once churches and nothing else. Today the sweeping wave of commercialism seems to make them more and more alive to the profit possibilities of real estate. Another combination church and commercial building has been announced for New York City. It is to be a twenty-five story apartment house and church at Thirty-fourth street and Park avenue. Much as such projects may be deplored, they are more or less inevitable where plots are involved which have a value out of all proportion to their use for church purposes alone. The question naturally arises, however, should such church properties be free of tax and so have the edge on their less fortunate neighbors? Or should they be taxed on the income producing part of their property out of simple business fairness?



TWO VERTICAL SECTIONS of the Ziegfeld theatre auditorium, showing how the acoustical defects were visualized by light rays on a plane model. Mirrored metal strips placed on the section lines represent the wall and ceiling surfaces. An electric lamp replaces the origin of sound on the stage. Intersecting reflected light rays indicated distortion centers which agreed with the calculated theoretical location of sound distortion in the theatre

Acoustical Defects Visualized by Light Rays

by Maurice C. Rosenblatt, M. E.

Correction of acoustics in the Ziegfeld Theatre, New York City, demonstrates that reflected light can be utilized to prevent defective design by forecasting acoustic quality from plans



THERE is a certain intangible factor not yet solved by acoustical formulae which frequently crops out disturbingly, as in the Ziegfeld Theatre, New York. The difficulty in treating this factor lies in the peculiar individuality of auditoriums, an individuality that is as varied as that of human beings and as difficult to forecast as the way of a man with a maid.

While the architect of the Ziegfeld Theatre endeavored to secure good acoustical qualities in the auditorium, the theatre had not been opened long before audiences began to complain of the acoustics at certain points.

The usual expedients were resorted to in an effort to improve the acoustics, including the hanging of approximately two thousand square feet of heavy draperies upon the walls under the balcony. Nothing that was tried, however, produced noticeable improvement.

It became evident that a careful analysis would have to be made to locate the trouble. This analysis is interesting not only because it shows how the particular difficulty in the Ziegfeld Theatre was found and corrected, but also because it indicates how the acoustics of auditoriums may be tested before being built.

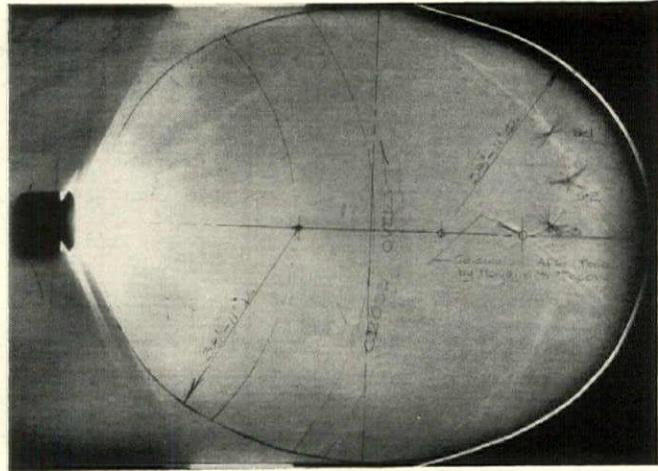
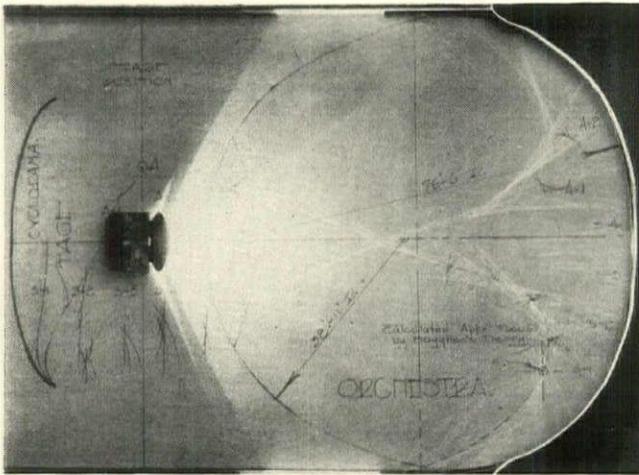
Two different lines of investigation were pursued to locate and eliminate the trouble. One was by the means of formulae which determined the factors of reverberation. The other was based upon Huyghen's theory of optics and the use of models of the plan, vertical and horizontal sections of the theatre auditorium, with walls of mirrored surfaces; an electric light bulb taking the place of the human voice, and the light waves being con-

sidered as sound waves. Each method was used as a check on the other, and resulted in the sources of the reverberations being located. That these sources were accurately located was shown by the fact that the theoretical areas of disturbance corresponded with the locations reported by observers and marked on the seating plan. Consequently, it is evident that much expense and lost patronage may be eliminated provided these calculations are made before building any but the simplest auditorium.

The accompanying illustrations will serve to indicate the unusual physical characteristics of the Ziegfeld auditorium. There are no plane surfaces except the stage floor and the orchestra floor. The latter is masked by the seats and the audience. The wall surfaces of the auditorium were covered with an overall decoration painted upon studio burlap and glued smoothly to the plastered surfaces.

MOST complaints about auditoriums simmer down to an excess of reverberation. The proportions of the Ziegfeld auditorium are such that it was logical to assume that the reverberation factor was too high. Tests showed that this factor, accurately computed, was the least of the possible contributing causes.

In passing, we might mention that there is a too common impression that if the reverberation factor of an auditorium is adjusted within reasonable limits, no further consideration need be given to the acoustic quality. Although where this factor is correct, it may be a sufficient safeguard within reasonable limits, yet



BALCONY AND ORCHESTRA PLANS, with mirrored surfaces representing the walls, showing the intersections of light rays which agree in location with the theoretical location of areas that were acoustically defective

it is often an inadequate guide, particularly in the case of auditoriums of unusual shape and plan.

In calculating reverberation in the Ziegfeld Theatre, the Sabine formula for reverberation was adopted with the modification that the common coefficients of absorption were increased 20 times for convenience and the Sabine parameter .05 cancelled out.

$$T = \frac{.05V}{\sum a} = \frac{V}{\sum (20)a}$$

Where T is time of audibility in seconds; a is the surface coefficient of absorption and V is the volume in English units.

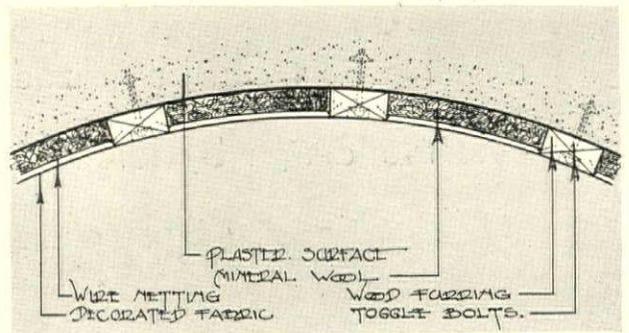
The reverberation factor was computed for the auditorium when empty, and with a full capacity audience. It was found that

T_e	=	7.49	seconds
T_{max}	=	1.59	"
$T_{op\ max}$	=	1.5-1.9	"

It was obvious that the computed reverberation departed but little from acceptable conditions for this volume but that there existed the possibility of reducing the reverberation, assuming a capacity audience, without detrimental effect.

It became evident that there were certain surfaces in the Ziegfeld auditorium that reflected the sound waves to certain points, thereby setting up areas of disturbance. The locating and correcting of these surfaces became the problem for solution.

A NUMBER of tests were made in the auditorium with various sound-making apparatus, the human voice, and directional amplifiers. Very peculiar acoustic phenomena were gradually discovered and segregated. That there were surfaces which acted as focusing reflectors was evident to a high degree. The effect of the stage cyclorama was tested by sound-making apparatus at different points on the stage and locations of excessive loudness, nodal zones, and distortions in the auditorium were noted. A geometrical study was made on the floor plans and sections of the theatre of the focusing and reflecting of the sound by the various curved surfaces; the



ACOUSTICAL TREATMENT of walls and ceiling of the Ziegfeld theatre was accomplished as shown in the typical section reproduced above

sound wave progression and points of focus were plotted upon these plans. Projected intersections for both the horizontal and the vertical planes were made.

The focal points were also computed mathematically by assuming the analogy with the Huyghen theory of optics and the corresponding formula.

$$X = \frac{Sr}{2S-r}$$

where X is the normal distance to the focal point from the surface; S is the radius between the sound source and the focusing surface, and r is the focusing surface radius of curvature.

It was found that the geometrical and analytical results closely agreed with each other and definitely indicated the surfaces which had been producing the acoustical difficulties.

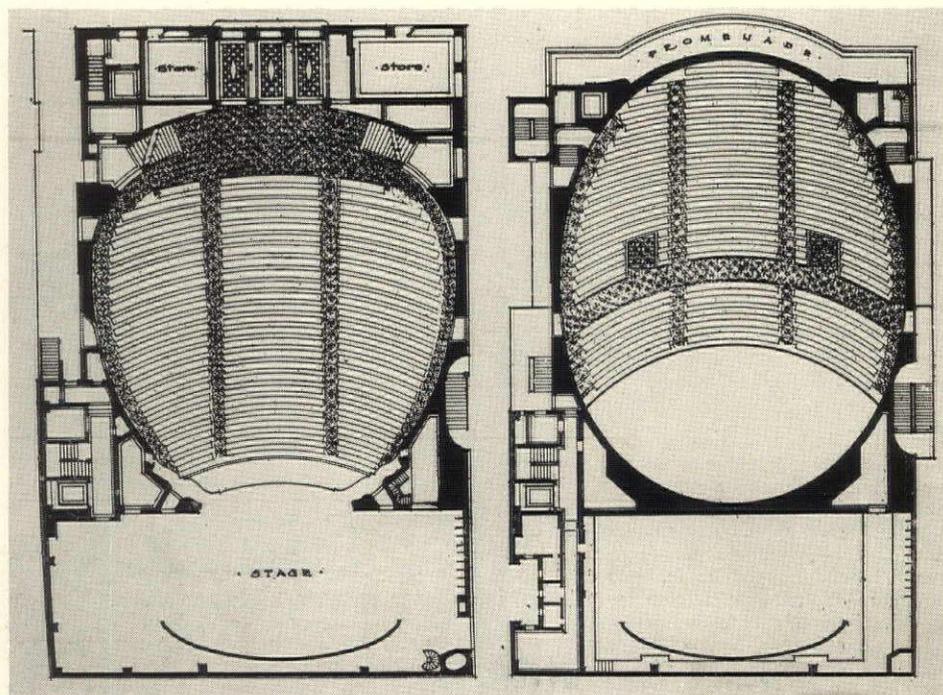
Plane models in plan and in section of the theatre were then made, using metal mirrors to form the outline of the auditorium wall surfaces and an electric light in place of a sound source. By this method, a visual demonstration was obtained of the power and degree of concentration and a superimposition of the reflected and focused light over the calculated and plotted foci on the plans.

By comparing the data obtained, impressions gained in the theatre, the close agreement of points of focus with the seat positions indicated by complaints, and by collating all other factors, it was determined that it would be necessary to alter, acoustically, the rear of the theatre behind a lateral center line. (Continued on page 94)

DECORATIONS painted on canvas cover the walls and ceiling of the Ziegfeld Theatre. The canvas, to the right of the white line, was removed strip by strip. Each strip was numbered and its location noted on a plan prepared for this purpose. The strips were run through a machine and perforated with minute holes. The walls and ceiling were furred with wood strips placed to come at the joints of the canvas strips. The furring strips were covered with wire mesh, and the space between the plaster and wire mesh was packed with mineral wool. The canvas strips were replaced in their original positions. Three shifts of men worked twenty-four hours a day for ten days to complete the work. The treatment has resulted in a marked improvement in the acoustics of the auditorium



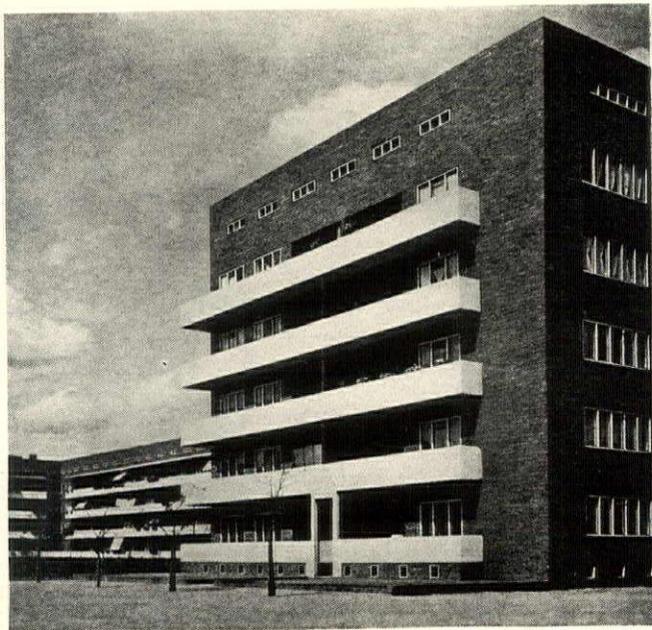
EGG SHAPED IN PLAN and section, the walls and ceiling of the Ziegfeld Theatre reflected sound waves into numerous centers, and resulted in defective acoustics. At the right are shown the plans of the orchestra and balcony floors



... and ABROAD



HEART OF JESUS CHURCH, Aschaffenburg, showing the main entrance and clock tower. Albert Bosslet, Architect. Sculpture over entrance by Otto Gentil. From "Baukunst," issue of January, 1930



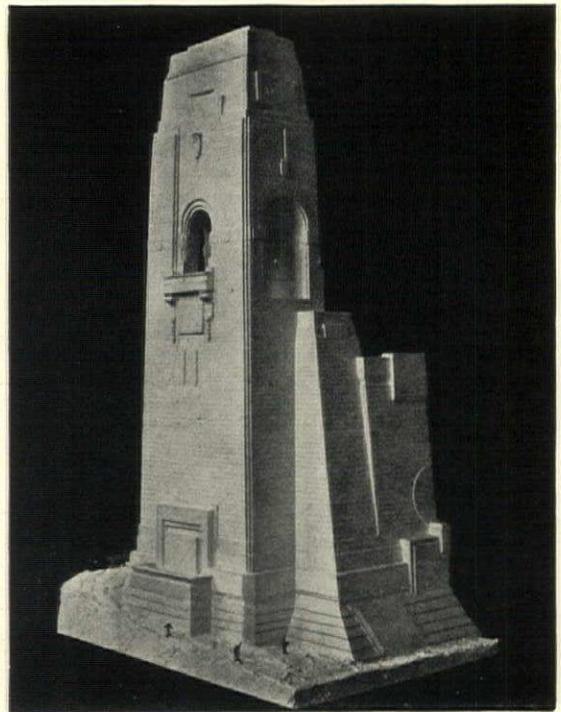
THE GARTENHOF, Hamburg. Karl Schneider, architect. Simplicity in general treatment and the emphasizing of horizontal lines is typical of modern tendencies in European architectural design, of which the above is an unusually good example. From "Moderne Bauformen" for December, 1929

EMPIRE HALL, Olympia, London, is the first multi-storied exhibition building to be erected in England. The horizontal treatment of the facade provides permanent fittings for advertisements of the various exhibitions. The marquee is equipped with reflectors for flood lighting the exterior. From "The Architects' Journal," for January 29, 1930



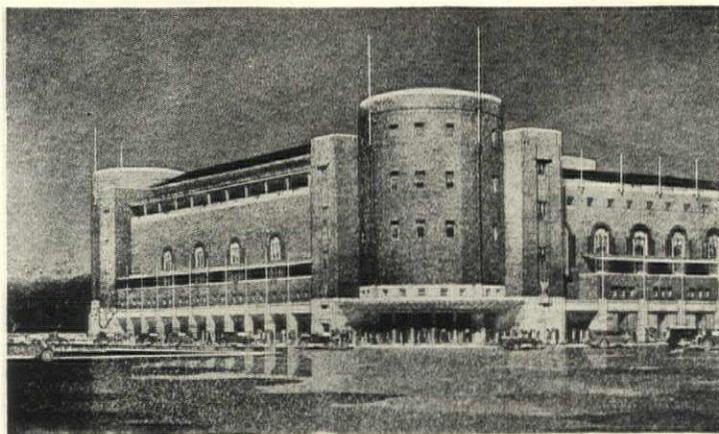


MIDLAND BANK, Leadenhall Street, E. C., London. Sir Edwin Lutyens and Whinney, Son & Austin Hall, associated architects. From "The Builder," Jan. 10, 1930

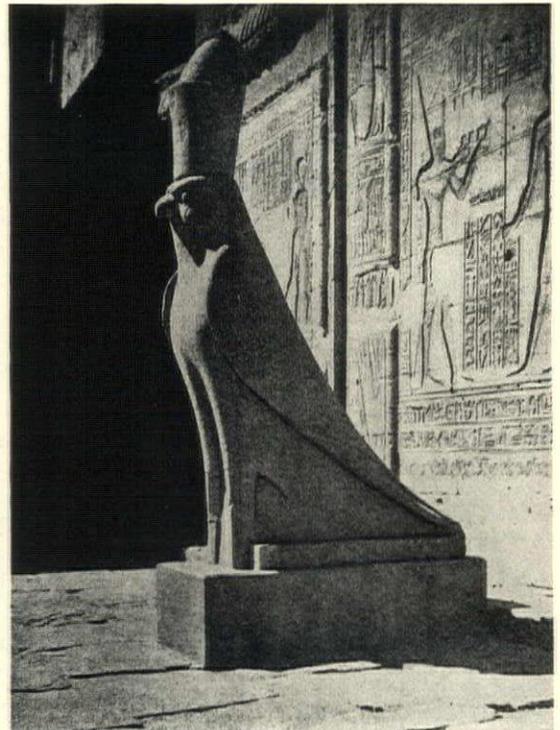


SYDNEY HARBOR BRIDGE, New South Wales. Model of pylon. Sir John Burnet and Partners, architects. Dr. J. J. C. Bradfield, chief engineer. From "The Architects' Journal" for January 8, 1930

GRANITE FALCON with double crown at entrance to the Temple of Edju, Egypt. From "The Architect and Building News," issue of Nov. 15, 1929



"MARTELLO" THEATRE, proposed in London. Messrs. Constantine & Vernon, architects. "Architect & Building News," October 11, 1929





THINGS about Architecture that IRRITATE ME

By RALPH JESTER
Sculptor

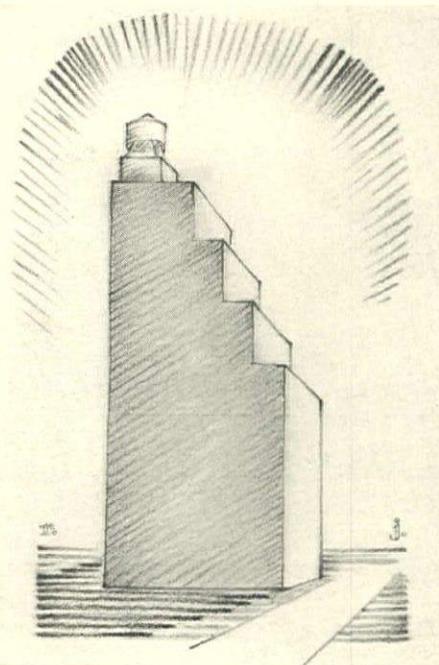
WE are a host of sentimental souls whose warm and uncritical hearts respond generously to the touching appeal of mammy songs and Alice Foote McDougall. This sentimentality enhances our susceptibility to the blandishments of the superficial. We cleverly and thoroughly set about to satisfy an extraordinary desire to have everything look, be, or sound like something else—anything else that will at first glance seem colorful and romantic. We crawl through the harsh, mechanical realities of a grimy metropolis to Magnolia Mansions, The Maudlin, Buena Vista, the Wiehauquen Arms, Somesortof Shoppe, or Tudor City. The entrance hallway of a towering steel-framed apartment house, embodying every modern structural accomplishment, must exude the spirit of a mediaeval schloss with all the trappings except rushes on the floor. It is preferable, sometimes unavoidable, that a dim, religious light prevail. The charming romance of it all makes its most touching appeal if the bulbs which Edison stayed awake nights to create can be made to drip a little imitation tallow.

Perhaps that this sort of thing has been able to find a place in our architectural expression is due to what J. A. Symonds has referred to as "the intellectual vagueness, the emotional certainty" of architecture. Emotional tone is certainly a considerable element, but its creation doesn't have to depend upon inappropriateness and triviality. Sham has worked its way into the best of architectural circles at times. It is not only a simple, mush-hearted public which relishes these cute conceits. Consider the lure of the faking evil for the T-square wielders! It is merely a matter of degree, the jump from the all too "picturesque" of the Elizabethan store front pos-

ing coyly on our most high-g geared thoroughfare to various subtler, but only slightly more justifiable counterfeits, that are so adroitly displayed.

For instance, since the heyday of the Gorham Building (now Russek's)—Fifth Avenue and 36th Street, New York City—balconies have been pasted on to its façades in order to give variety to the design and cheer up the monotony of too many windows. Someone has sprayed a few heavily balustraded contraptions over the face of the building. Behind the railing there is just enough room for a small crowd of very poorly nourished ghosts who might edge themselves in to enjoy the sunlight or address the populace. Picture the felicity of a room with such a palazzo touch! Assuming that the

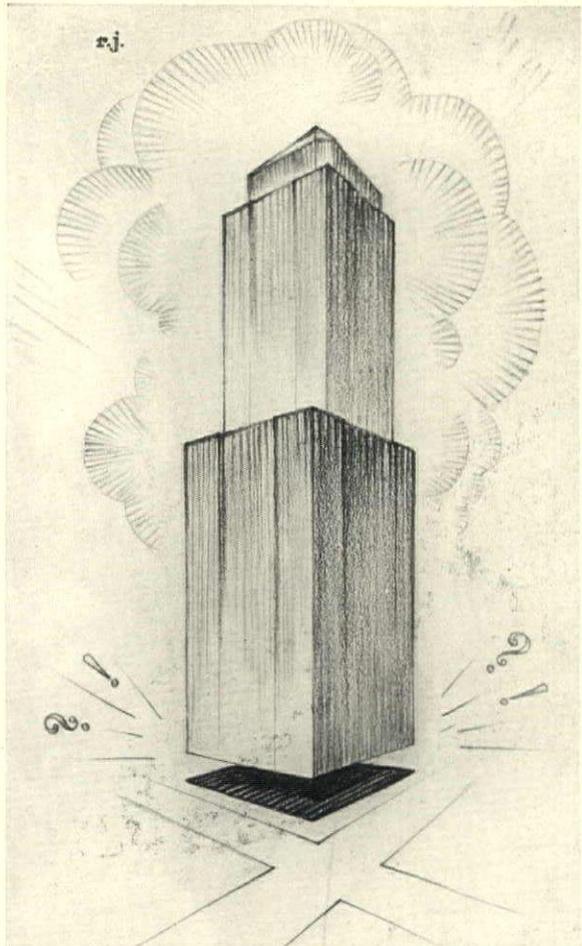
architect has provided French windows, with how much anticipated joy could one fling wide the portals to step out into the fresh, clean air of Spring? He would step right into six inches of Indiana limestone before he had raised his foot. If the design has called for the ordinary double-hung window, or for a high sill, a balcony justifies its



SET-BACKS

Like a solid flight of stairs leading up to the pale blue nowhere

• When asked to tell something about himself, Mr. Jester characteristically wrote: "Was exposed to views of all continents at an early age. Attended the University of Texas one year, Yale University four years, Yale Architectural School one term, Academie Americaine á Fontainebleau the summer of 1925. Since then, have worked at and maintained a romantic degree of artistic poverty out of sculpture, which I first studied in the studio of Henri Bouchard, Paris. Am now a striking example of frustrated desire to change the character of American Architectural Sculpture."



SUSPENDED IN AIR

Little apparent thought given to the problem of making a building look as if it had a starting place

existence even less. From the exterior, these parasitic forms stare forth at the passerby with all the liveliness and conviction of a cigar store Indian.

At this point, a second aversion of ours may be placed in the same crib with this other—may we say illegitimate—child of the architect's brain, and those who find them handsome may note the kinship. The water tower

problem has been handled with a good deal of versatility, and in several instances with a very impressive effect. The Tenement House regulations of New York City have in the past adorned our roofs with a heart-breaking assortment of cuckoo's nests on stilts, but creative imagination has surmounted the most formidable obstacles. Too often, however, this imagination has soared with the buildings to such heights that the thin air has produced a divided giddiness. Instead of feeling the necessity for honest treatment,

glory have inclined towards camouflage in their efforts to please the eye.

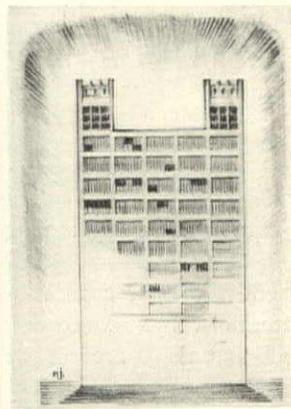
many of these crowns of the required twenty-foot perch has to have something done about it, but do we have to have dummy pavillions? If the regulations are not too exacting, these tanks and their usual companions, the elevator bulkheads, can be and are enclosed in effective varieties of prisms, pyramids, and parallelepipeds.

The array of plain and fancy tankery in New York City offers the gaping admirer some of the most pleasingly simple forms and some of the most gaudy patisserie. In striking contrast to the coal black mass of the new Fuller Building's crowning motif, with its unobtrusive, almost imperceptible openings

satisfying the requirements of the law, we have the garish grandiosity of the New York Central Building toiture to meet our improved age.

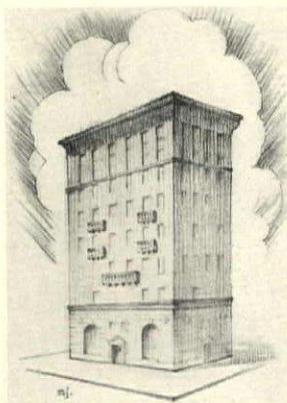
The lowly water tank *must* be invited to the party and given a high place, but asks, like the poor devil who doesn't own a dress suit in his own right, "Is this dance formal or can I wear my own clothes?" The water tank can certainly look ridiculous in borrowed finery, for it is not every architect who has the social grace to introduce it to high society. Its association with the Ritz Towers finds it a little ill at ease in evening clothes—all lit up inside (though full of only water), and presenting a glowing false front to resemble what it is not, i.e., the brilliant chamber of some Prince of Industry. Many will say that this is an academic point carried too far, or far enough, to be funny. The last case in point does carry out the structural suggestion and mass rhythm of the rest of the building, but it is an evidence of a sentimentality which allows other water towers to commit more serious faux-pas and to make more ridiculous pretentions.

This sort of faking has its counterparts in other (Continued on page 96)



HORIZONTALS

Floors stacked one on top of another with all the regularity of a box of dominoes



BALCONIES

Where none but poorly nourished ghosts could ever find standing room



COURAGE

DURING the last fifty years or so it has been our custom to consider ornament as a means by which a certain desired character or "style" could be imparted to the design of a building. During this period of the history of architecture in the United States, all rules of design were broken helter skelter. We chose the "style" in which a building was to be designed from a book as a woman chooses the "style" in which she orders her gown made up. The result was that in many cases the final design bore but little suggestion of the desired style. The problem was difficult and such results were not surprising. To design an office building in the Gothic style, for example, retaining the character of both a twentieth century commercial structure and a thirteenth century cathedral, was no easy matter. A legitimate problem could never have such opposing conditions; but that is a matter which has been argued pro and con for years.

As I said, then, the problem of adaptation was so tremendous that the building either failed in expressing its purpose or failed in attaining the desired character. In many cases it failed miserably on both scores. We are concerned here, however, with those particular cases in which the design failed in suggesting the character of the chosen style. What was to be done? The answer seemed to lie in the word "ornament." By introducing more ornament of authentic design, one might overlook a lack of style in certain of the more structural details of the design, and success in solving the problem was held to be assured.

The design of such ornament was easy. There were books full of it. Circular motifs could always be introduced without disturbing the design; an ornamental

STYLE

In Modern Architectural Ornament

By

R. W. Sexton

member could be embodied in a trim without any feeling of outraging this copy-book sense of fitness.

Now we are faced with an entirely different problem. We must now design, create, not copy. And when one designs, one must not forget that there are certain principles to be applied. There is a principle, for example, which stipulates that ornament is to be introduced in the design of a building to add interest by accentuating certain lines and proportions of the structure. There is no principle that says that ornament may be introduced to lend "style" to a design, but there is a principle that emphasizes the importance of unity between the various elements of the composition.

THUS in a design which is suggestive of modern tendencies in architecture, the ornament must also reflect modern character. The difference between decoration and ornament, in general, is that one is applied while the other is constructed. For ornament in architecture is actually a part of the structure. If it is desirable to introduce ornament in a stone trim, the ornament must naturally be of stone. Or, if it is found practical to introduce ornamental window guards, they must be of some material which will actually serve as a guard.

In the design of ornament, as in the design of other elements of the architectural composition, the material in which the design is to take form must be considered. One can readily appreciate that the design of a motif in stone, carved by machine, must differ from one to be cast in bronze. The physical properties of stone are so different from those of bronze that it stands to reason that it would be impossible to produce in one material exactly the same quality that would logically be peculiar

HOW the different characteristics of various materials are revealed in modern design, which frankly expresses the medium which carries out the architect's conception



"Courage" and "Achievement" are models of two panels which immediately reflect the quality of metal. The modern character of the designs is in harmony with the surrounding architectural treatment. Models by Rene Chambellan, sculptor

ACHIEVEMENT

to the other. Then, too, the method of production is in no way comparable. Ornament is cut into stone, while form is given to bronze by a casting process. Other materials differ just as radically in both their physical properties and in their methods of production.

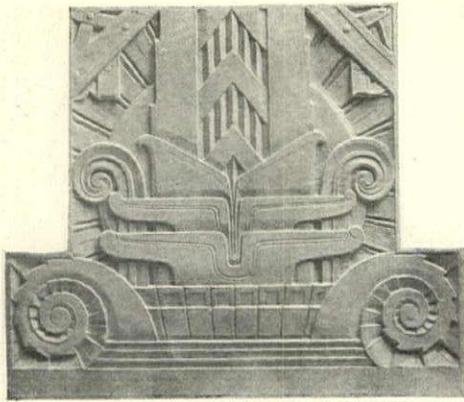
Thus, the designer of ornament must not only be familiar with architecture and the correct use of ornament, but he must know materials and the methods of production by which they are given form. It is the problem of the architect to designate where ornament is to be introduced into his designs. As an element of his composition, it is his problem, too, to specify the material or materials in which ornament is to take form. Furthermore, he must determine the character of the ornament so that unity will be attained between it and the other elements of the design. But it usually devolves upon the shoulders of another to detail the ornament.

It is in the detailing of ornament that the sculptor enters into the picture. He must know design, too, but only in a small way compared to the knowledge that the architect is supposed to possess. He must know materials, too. But his knowledge of materials need only be limited. From the architect's sketch, the sculptor must be able to detail the ornament so that it can be

actually produced in the specified material according to some legitimate method. I do not in any way mean to minimize the importance of the sculptor. In fact, I mean to impress upon the architects the dominant part the sculptor plays in the development of their designs.

AS I have already suggested, the sculptor's role is more important today than ever before in the history of architecture in this country. A craftsman may be able to "adapt" a design to allow it to be produced by a certain method of production with which he is thoroughly familiar. But he cannot be expected to design. It is in sensing the relation of design to materials that the sculptor shines. The craftsman aims towards perfection in production, the sculptor towards beauty.

I plead, then, in closing, for the closest kind of collaboration between architects and sculptors. Of late, there has been a tendency for these two classes of artists to work more closely together. But there has always been evident a certain tension. There is certainly glory enough for both, if the friction may be due to a kind of jealousy. Let us get better acquainted with the sculptors; let us work with them, and our united efforts will more nearly result in buildings approaching our ideals.

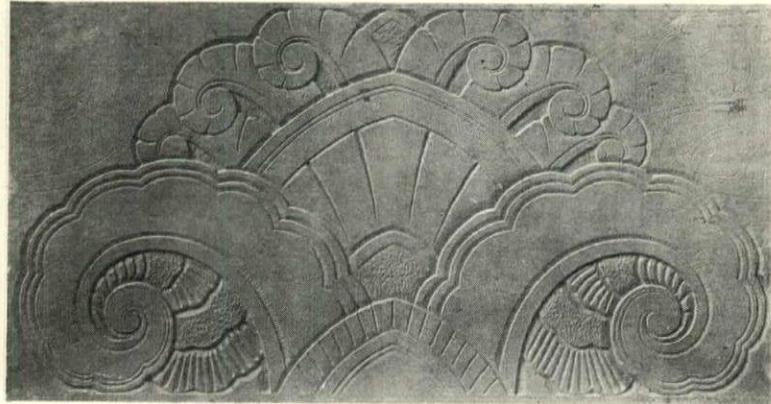


Two ornamental motifs designed for execution in terra cotta



Models illustrated on this page were made by Rene Chambellan, Sculptor

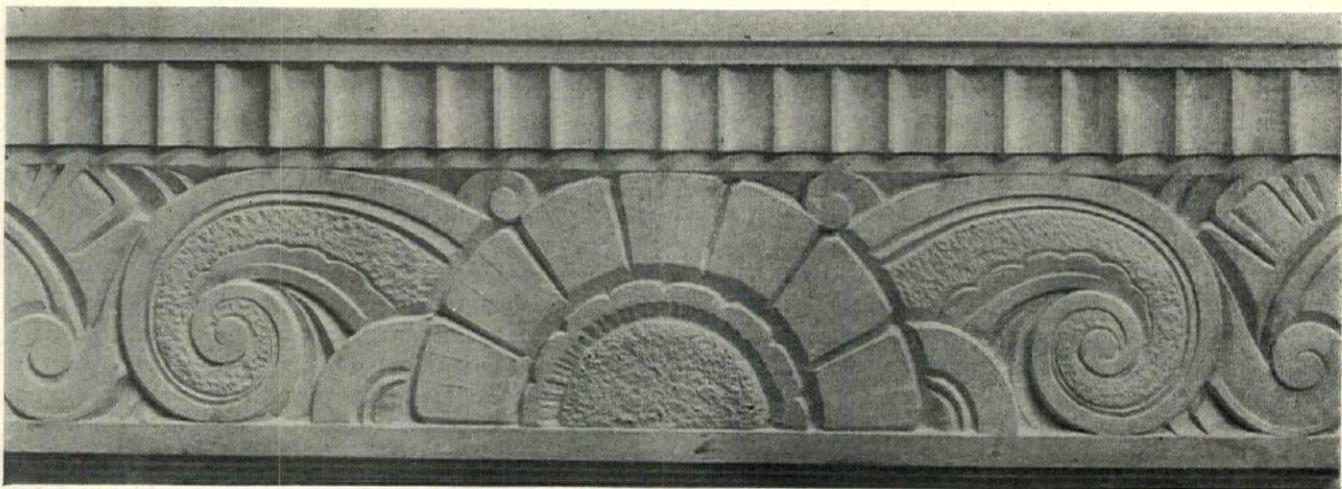
Repeating decorative motif whose character indicates that it is to be cast in plaster



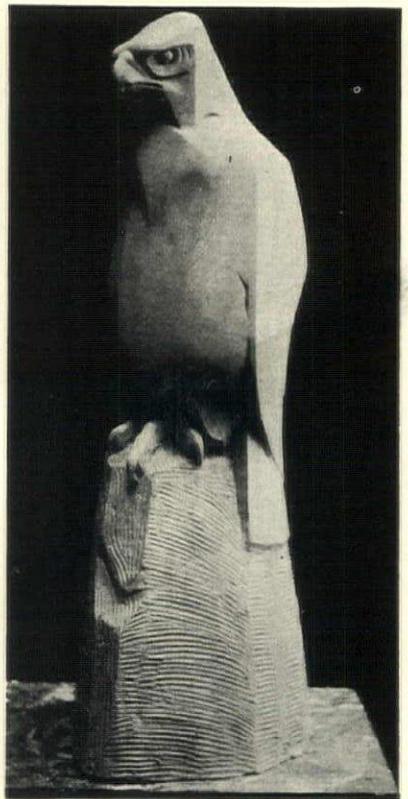
Modern ornament often bears a strong resemblance to forms found in art of the orient



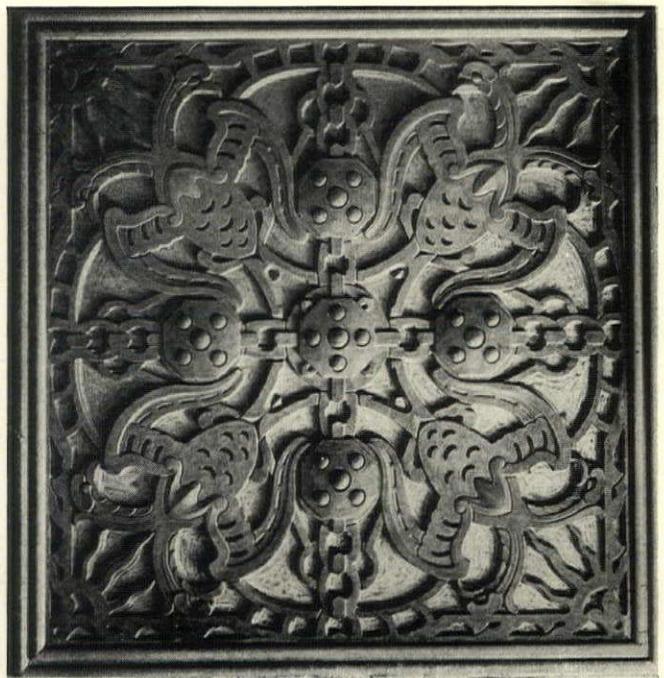
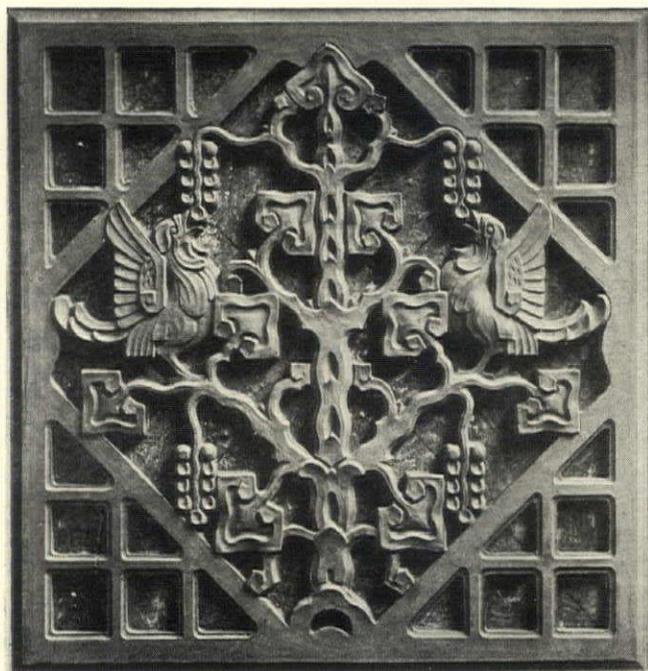
Models for three ornamental details which are intended for execution in plaster



Hand cut stone permits many liberties in design that could not be taken with models of work to be executed in other materials

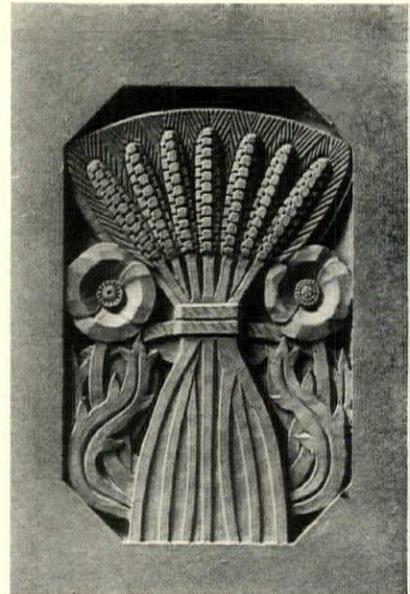


MODELS of metal ventilating grilles, plaster ornaments, and two birds, which are to be carved in stone. Trygve Hammer, sculptor

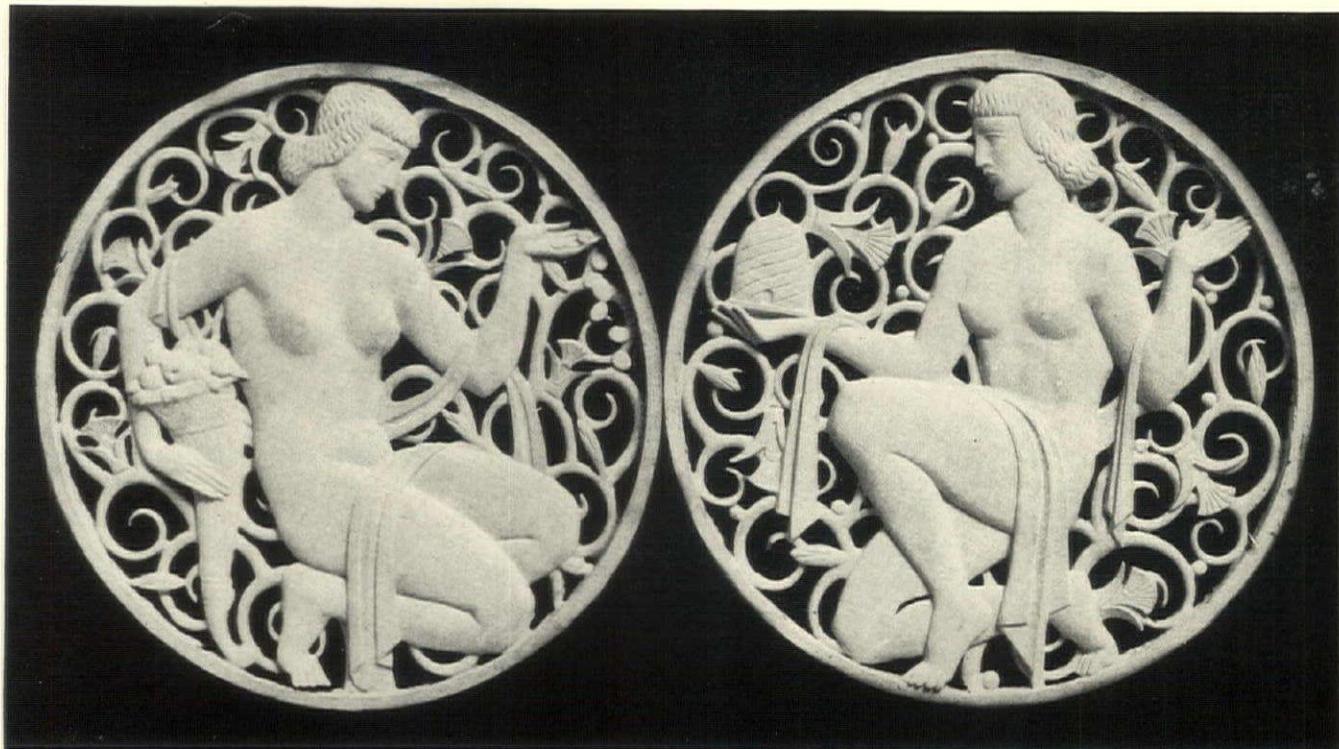




ORNAMENT that is intended to be cast from moulds must be designed with the limitations of the casting process in mind. Under-cut forms must be avoided and edges must be designed to facilitate easy and safe removal of pieces from the moulds. The characteristics of the material from which the castings are to be made also enter into the question of correct design. Every material has an individuality that should be given an opportunity to serve the designer to the best of its ability. Models on this page were made by Maxfield Keck, sculptor, for execution in plaster and cast stone



Model for a plaster frieze that indicates the tendency in the design of modern ornament to make use of flat and beveled surfaces to obtain interesting light reflecting areas



Models to be Cast in Bronze

by Anthony di Lorenzo
Sculptor

Models of two circular grilles are shown above. At the left is shown the model for an elevator door with incised design. A design in relief, also for an elevator door is shown at the right



The delicate, flowing design of the above model at once suggests the quality and characteristics of bronze. So faithful is the model that it appears to have already been cast in that material



WHAT ARCHITECTS

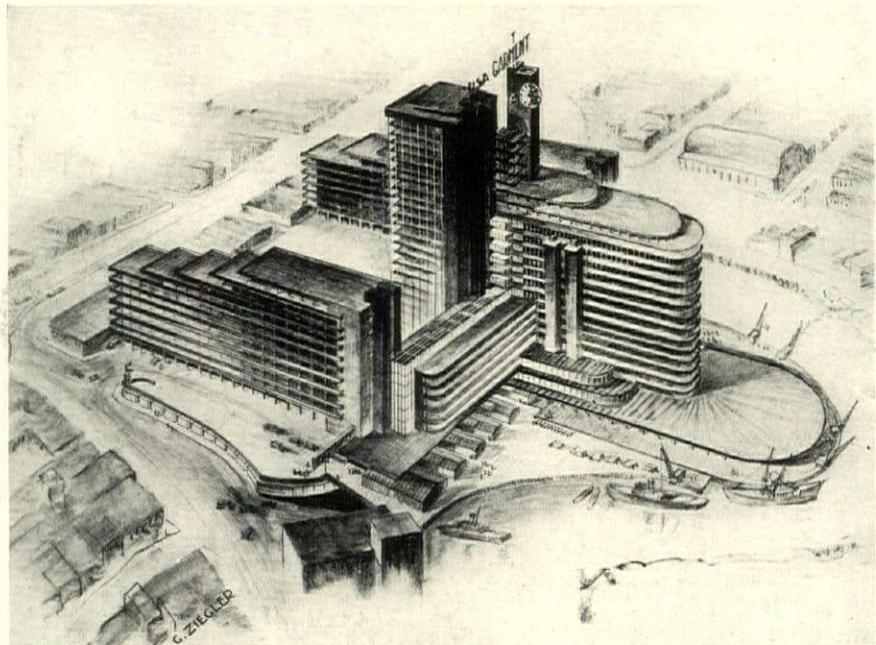


F. E. GEISLER
 PALM BEACH SHOP of Bonwit Teller & Company, designed by Whitman & Goodman, Inc., architects. The modern spirit is expressed by the use of sharply grained avocado trimmed with ebony. Tropical green and light brown are the dominant colors

THE ROTCH TRAVELLING SCHOLARSHIP preliminary examinations will be held on April 7 and 8. There will be sketches "en loge" April 14 and 16, which will determine the four candidates to be admitted to the final competition on April 19. The amount of the prize is \$3,000. The Boston Society of Architects has offered a prize of \$100 for the candidate ranking second. Full information may be secured from C. H. Blackall, secretary Rotch Travelling Scholarship, 31 West Street, Boston, Mass.

EXCESSIVE overtime cuts down efficiency to an alarming degree, according to Charles L. Eidlitz, chairman of the board of the Structural Steel Board of Trade. In a monthly letter Mr. Eidlitz states: "I

MODERNISM is the keynote of the industrial building planned for Frederick P. Fox and associates by Harvey Wiley Corbett, of the firm of Corbett, Harrison and MacMurray, architects. It will be located in the Bronx, New York City, near Starlight Park and is estimated to cost over ten million dollars. Mr. Corbett, in emphasizing his departure from the conventional, stated that no sacrifices in layout or utility would be made for the sake of symmetry



BROWN BROS.

Overtime Cuts Efficiency

Competitive Bidding Costs Chicago 3%

Movies as Construction Record

have called together the most outstanding and experienced erection superintendents of more than one dozen erecting firms and have discussed this question in its every detail with them. . . . It is their unanimous opinion that the loss in efficiency due to overtime work . . . is: a man working overtime one day equals 20% loss the following day; overtime three or four days in succession equals 30% loss; overtime a week or more equals 40% loss. This forty per cent does not increase." That fact would probably also hold true in office work.

BEFORE local advertising can be made effective it should have a background of nation-wide publicity," reported Lancelot Sukert, president of the Michigan Society of Architects at the annual meeting. "Your officers have done and are doing their utmost to bring this proposition to the attention of the American Institute of Architects. If the Institute does not take constructive action soon, then there is a strong likelihood that the various state societies will form a national organization."

PLANS to make Randolph Field, San Antonio, Texas, the West Point of the Air are under way. A number of local architects have been commissioned to prepare plans for administration buildings, dormitories, hospital, air corps shops, and many other buildings. Those com-

ARE TALKING ABOUT

A West Point of the Air

400,000 Houses Needed Each Year

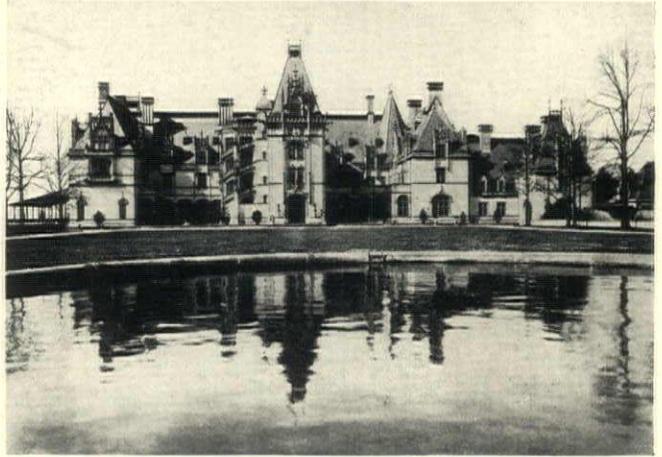
School for Soap Sculpture

missions include Ayres and Ayres, Phelps and Dewees, Emmett T. Jackson, Ralph H. Cameron, Adams and Adams, Harvey P. Smith, George Willis, Henry T. Phelps, Herbert S. Green, John Marriott, and Robert S. Kelly.

MOTION pictures of the construction of the Bank of Manhattan Building, New York, have been taken by the Starrett Company. When Colonel Starrett attends the International Building Congress in London, sometime in May, he expects to show the film to the delegates of the forty-three countries who will attend.

THE sixty-third convention of the American Institute of Architects will be held in Washington, D. C., Wednesday, Thursday, and Friday, May 21-23. Headquarters of the convention will be at the Mayflower Hotel. Hotel reservations should be made well in advance of the convention date.

SOAP sculpture is being taught at the first school of its kind in the world, located at 80 East Eleventh Street, New York. The school opened February 17 in conjunction with the annual competition for small sculptures in white soap for the Procter and Gamble prizes, and is under the direction of Miss Juanita Leonard.

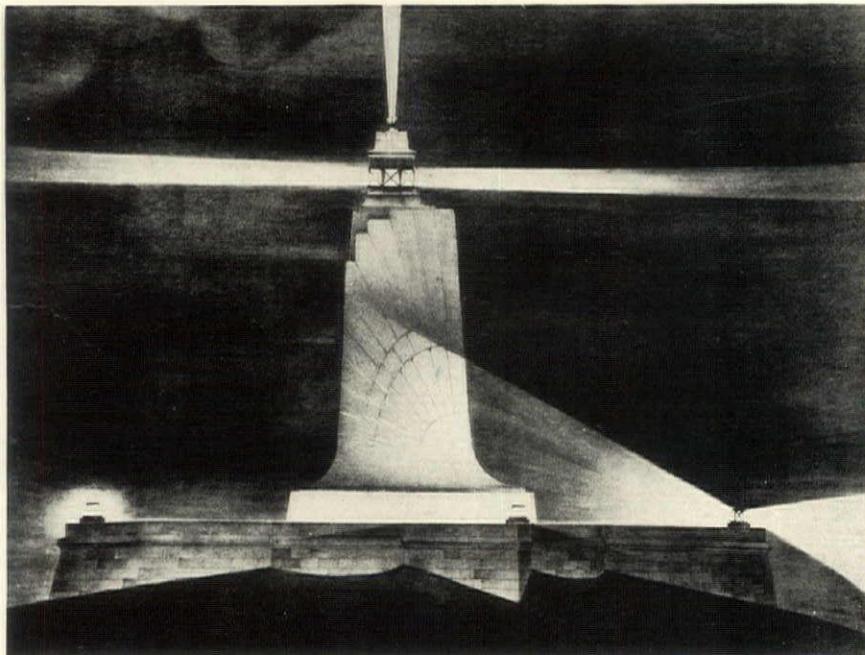


INTERNATIONAL NEWS PHOTOS, INC.

GEORGE W. VANDERBILT'S house, Asheville, N. C., was opened to the public on March 15. It is a veritable treasure house of antiques and works of art which the public has never before had the opportunity of viewing as a collection

A NEW YORK cooperative apartment house at Park Avenue and Seventy-ninth Street, designed by Sloan & Robertson, architects, shows some unusual planning features. There will be a regulation squash court and gymnasium in the basement together with a locker room and showers. All radiators are recessed in walls and enclosed. Electric outlets are provided for all purposes, including electric clocks in the kitchen. Every apartment will be soundproofed with double partitions.

PRINCETON UNIVERSITY announces two prizes of \$800 for 1930-31 to be awarded to draftsmen of talent; between twenty-one and thirty years of age, employed in architectural (Continued on page 98)



INTERNATIONAL NEWS PHOTOS, INC.

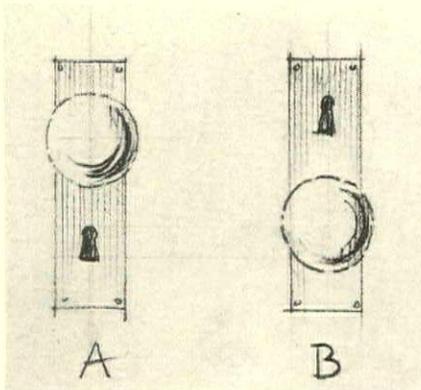
DESIGN WHICH WON the \$5,000 prize for the Wright Airplane Memorial to be erected at Kitty Hawks, N. C., where Orville Wright made the first successful attempt to fly a heavier than air machine, December 17, 1903. This design was judged best of the thirty-five submitted, being the work of Robert P. Rodgers and Alfred E. Poor, architects, New York. The winners intended the Memorial to be constructed of concrete, but Representative Warren urges that it be built of North Carolina granite

well...Why NOT?

Eleven ideas that
start one thinking

Contributed by

FRANCIS KEALLY, A.I.A.
New York

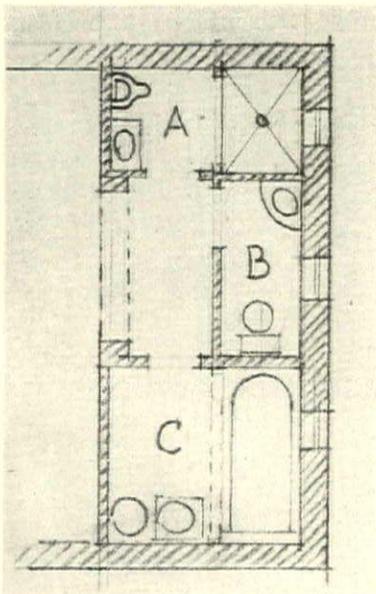


WHY HIDE THE KEYHOLE?

95% of the lock hardware for residential work is made like A. Have you ever tried to find the keyhole on a dark night? Why not B? The B type is universally used in modern office buildings and if the A type were installed the tenants would rise up in arms. Yet when they go home at night the same persons are willing to accept the A type regardless of the inconvenience that it causes

WHEN Mr. Keally read the article, "We Need New Materials," in the March issue of THE AMERICAN ARCHITECT, his facile charcoal quickly visualized a number of ideas that he has been thinking about for some time. Some of them will be immediately accepted with the conviction that they should have been put into practice long ago. Others will provoke thought and discussion. Still others may be rejected.

Architects who have ideas concerning new equipment and materials are invited to submit their thoughts to the editors of THE AMERICAN ARCHITECT. All articles and sketches accepted will be paid for in accordance with the announcement which was published on page 45 of the March issue.

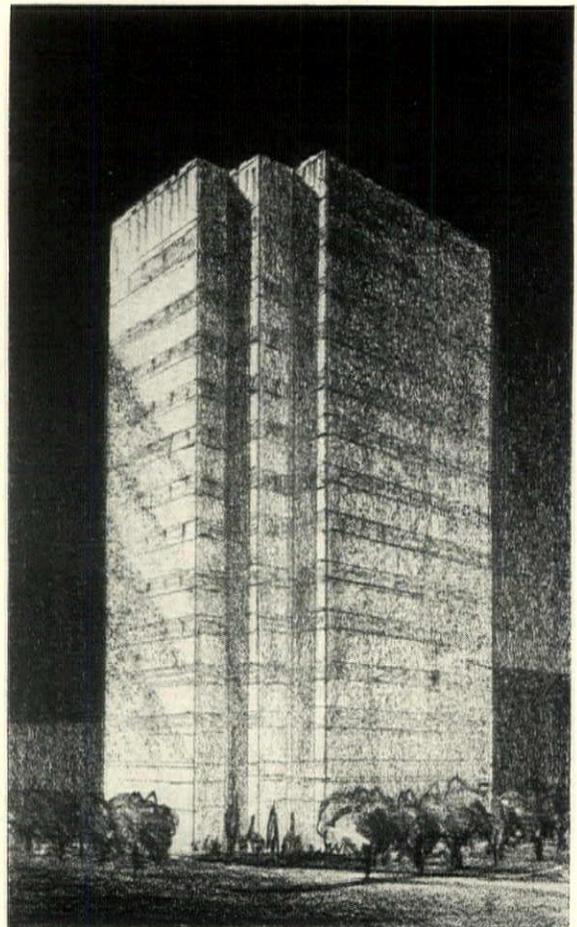
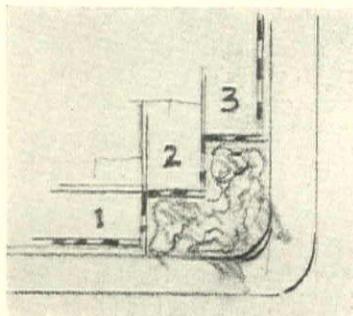


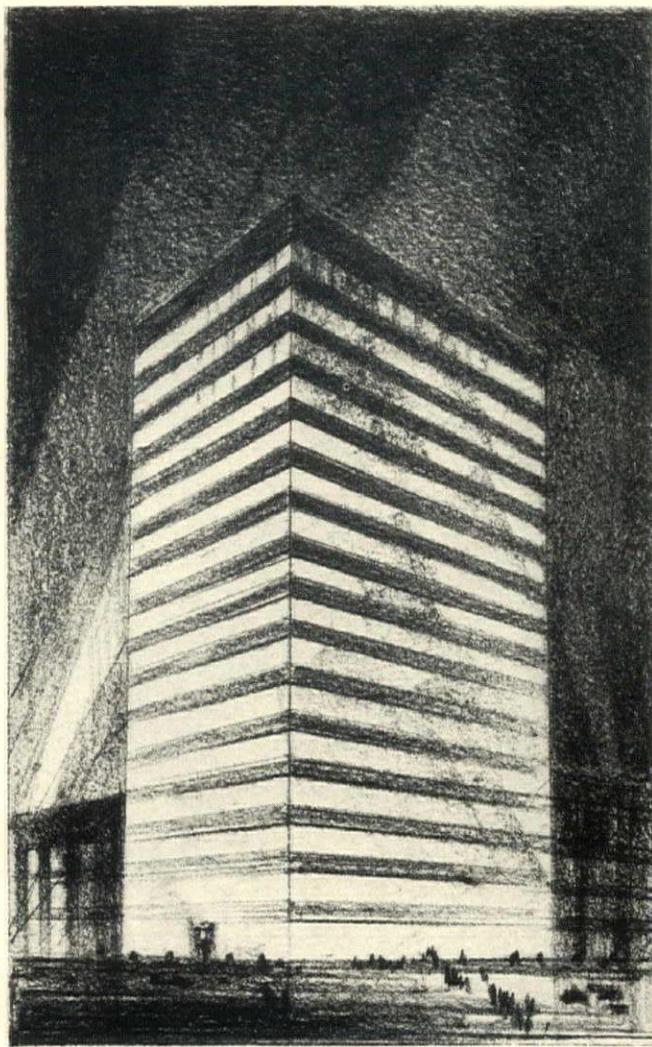
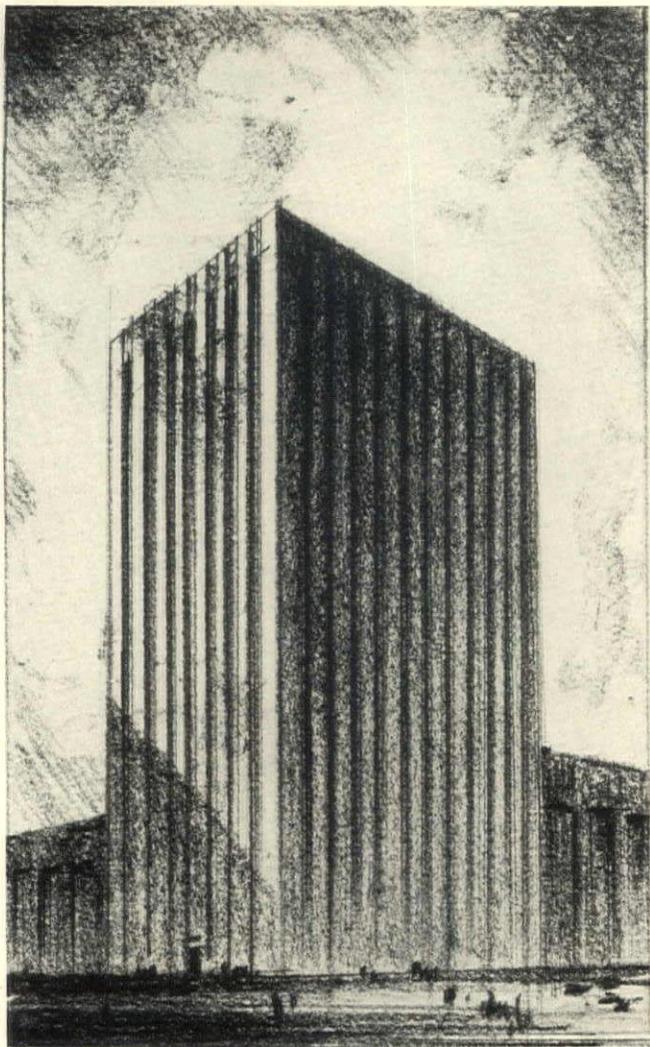
BATHROOMS SUBDIVIDED

Each compartment is an independent unit, an arrangement that requires little more space than the conventional bathroom. Compartment A contains a shower, urinal, and lavatory for the males; compartment B a toilet and wash basin; compartment C a bath tub, lavatory, and bidet for the females

MORE CORNER WINDOWS

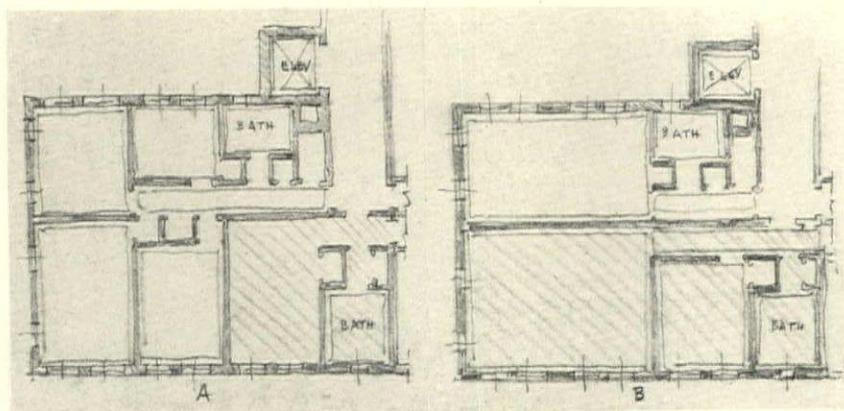
An apartment house just completed on Riverside Drive, New York City, by one of our distinguished architects has provided corner windows in the corner apartments—but only one apartment on each floor to the corner. All the corner apartments rented first at a premium. Why not arrange three corner apartments in a project since corner apartments are the more desirable and most quickly rented?





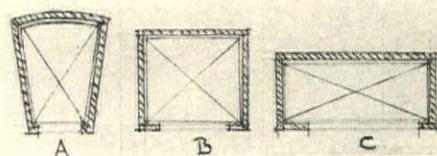
TWO BUILDINGS WITH THE SAME DIMENSIONS

Two sketches of the same building, one made in the daytime, the other at night. Note the difference in expression between the two. Should we express only the structural character of a building? Should we not consider in our architectural expression the life that is going on in the various floors, which are horizontal in character? Perhaps the perfect expression is a combination of the two



APARTMENTS THAT DIVIDE LIKE OFFICE SPACE

When a man goes into an office building to rent space he never expects to accept the layout which has been used by his predecessor. He counts on having the layout changed to meet his requirements and rightly so. But when the same man is looking for an apartment he is quite willing to accept the layout as originally planned when the building was built, whether such a layout meets his requirements or not. Why shouldn't we design our apartment houses to be just as flexible as our office buildings? A and B are two distinct layouts within the same area. Note that the bathrooms have not been relocated, since the plumbing is of a permanent nature

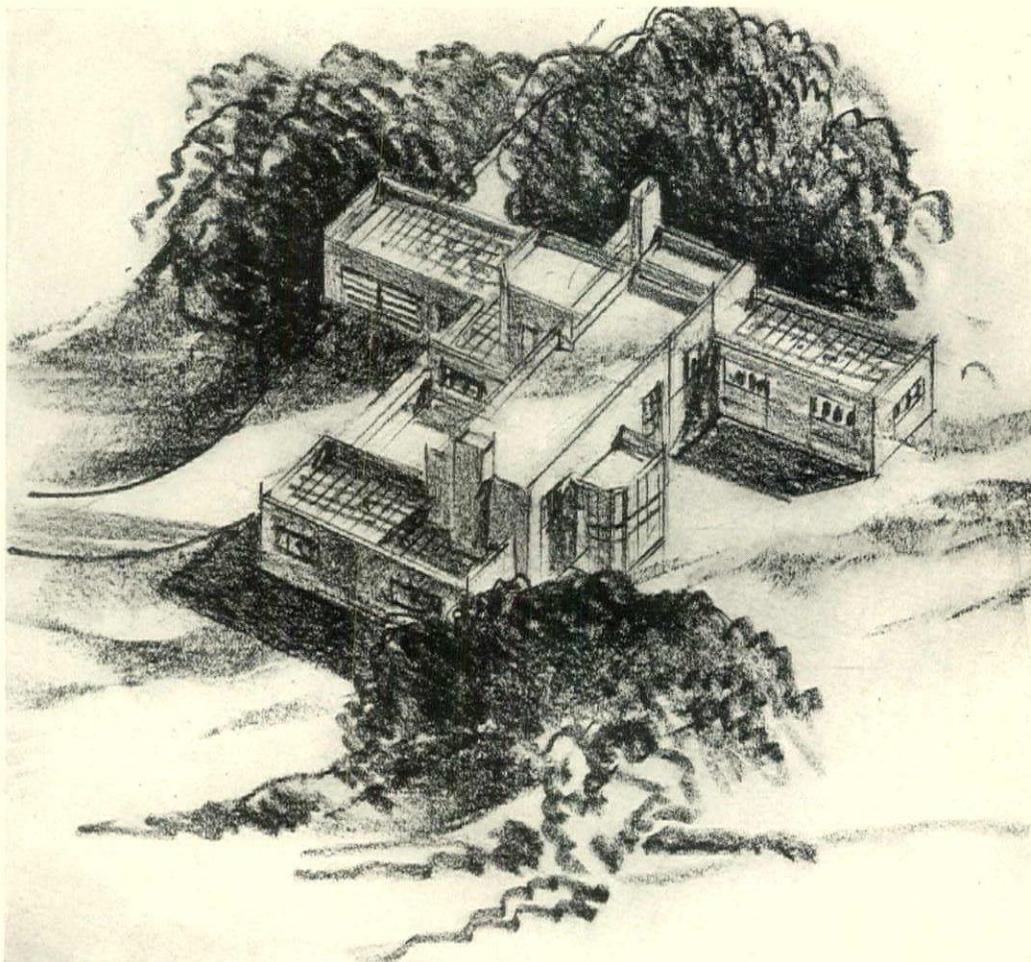


MAKE ELEVATOR EXIT EASY

Elevator A is occasionally designed to conform to an architectural effect. But what could be more inefficient! Elevator B is the typical shape of the average elevator, better than A—but why not C?

OFFICE GARAGES

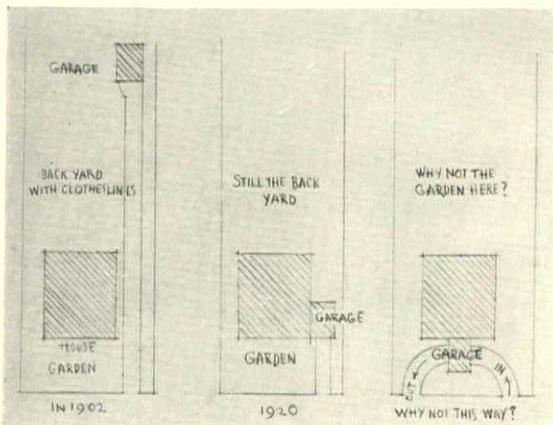
Why shouldn't the modern business man drive from his garage in his house to his garage in his office building? One arrangement is by utilizing the dark space in the building by means of movable parking spaces, the interior of which resembles a double elevator shaft with two platforms always at the ground level and others above or below. This system is based on the familiar ferris wheel idea



LIVE ON THE ROOF

Now that we have building materials for flat roofs, why not utilize them and provide garden terraces, second story porches, and play areas for children? Why not beautify them by modern tiling and other suitable materials?

Well...
WHY
NOT
?

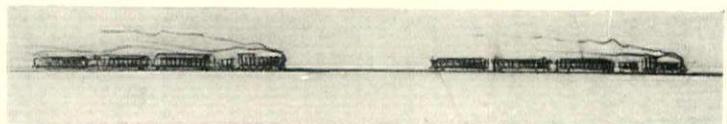


GARAGES EASY TO USE

The garage today is the front entrance to the house. Why not place it in front, where it is easy to get into and out of?

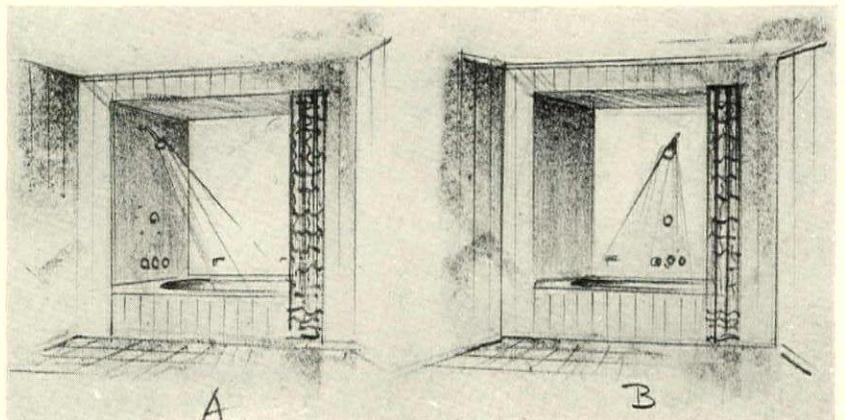
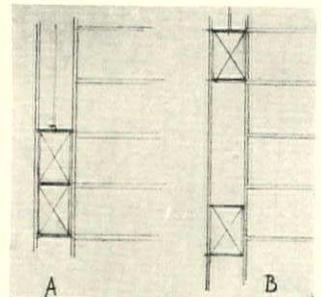
SHOWERS THAT DON'T SCALD

B represents the shower layout in possibly millions of bathrooms. Have you ever tried to regulate the water temperature without the feeling that you might be scalded? Why not A, which gives the bather direct access to the faucets without contact with the water? Or if you like B, why not put the faucets at the side of the shower as indicated in A?



TWO ELEVATORS IN EACH SHAFT

In our present system elevator layouts provide for only one car to a shaft. Suppose that a railroad track was limited to only one train, or suppose again, the passenger space was limited to the engine only. How inefficient, but that is exactly the basis upon which transportation by elevators has been designed. Why not tandem elevators such as indicated in A—or why not B, which suggests two elevators in a shaft, one an express, one a local?





do architects WANT CRITICISM?

by Ely Jacques Kahn, A.I.A.

*of the architectural firm of Ely Jacques Kahn, vice-president
Architectural League of New York and chairman of
its committee on annual exhibitions and on architecture*

" . . . why, again, the profession needs to be fed with balustrades or copings or window ledges by John Doe or some other worthy practitioner is astounding when we all know, perfectly well, that John Doe lifted that particular detail, quite innocently, from the most convenient book in his library and is a little nonplussed to find his great achievement held up for inspiration to his fellows."

It may seem to be somewhat quixotic to discuss in the pages of an architectural journal the function of such a journal, what it may propose to do and what it might do. The bars are let down for a moment and the reader can take his choice of merely scanning another article or skipping, as he probably will do anyway, to the illustrations.

The difficulty that must face the editor, and surely intrigues many an architect, is why honest criticism is not possible. One is accustomed to see laudation of work—often of such mediocre calibre that even the designer himself must wonder at the naivete of the critic. There is a constant stream of enthusiastic praise of this or that, good or bad, with the result that most readers glance despairingly at the text and exercise their critical prerogatives in examining the photographs or the plans.

What an interesting thing it would be if in each number some mysteriously endowed being could be permitted to say honestly what he thinks, much as one does over the lunch table at the Architectural League. Time and again the architect himself appears at such informal sym-

posiums and every one, particularly the architect, profits by straight from the shoulder advice. The worst the nerve-wracked editor can do, when a particularly imposing and equally stupid piece of work is foisted on the public, is to ignore it. Why would it not be far more profitable to every one to have serious analyses of such works so that the bewildered young architect or his clients might discover the reason for the production of some design or that he might at least be informed of its basic virtues or faults?

This critic—ideal philosopher—with no temptation to favor this man or another, free of prejudice, may be unattainable. Possibly a smashing attack of some building could be construed as libel but why, oh why, must honey and sugar flow perpetually? One does not hesitate to be caustic about Victorian cast iron sculpture; why avoid the much more pretentious curiosities executed in our own day?

Before this degenerates into a discussion of the modern vs. the antique, cannot one finally assume that there can only be a modern attitude? Why, again, the profession needs to be fed with balustrades or copings or window ledges by John Doe or some other worthy practitioner is astounding when we all know, perfectly well, that John Doe lifted that particular detail, quite innocently, from the most convenient book in his library and is a little nonplussed to find his great achievement held up for inspiration to his fellows. If real modernism consists of being alive, doing a job thoroughly by answering the problem in plan, material and design and not driving a new requirement into an old shell, any honest designer must be a modernist. Perhaps when the critic aforementioned is discovered he will be vicious about New York theatres, say something vigorous about most apartment houses and raise an eyebrow at certain new shoe stores on Fifth Avenue. (Continued on page 92)

And they learned about
Mayas from him. Left
to right: Russell White-
head, Manuel, Leewitz,
Aymar Embury II
and Kenneth Clark

THREE
ARCHITECTS
JOURNEY
TO THE

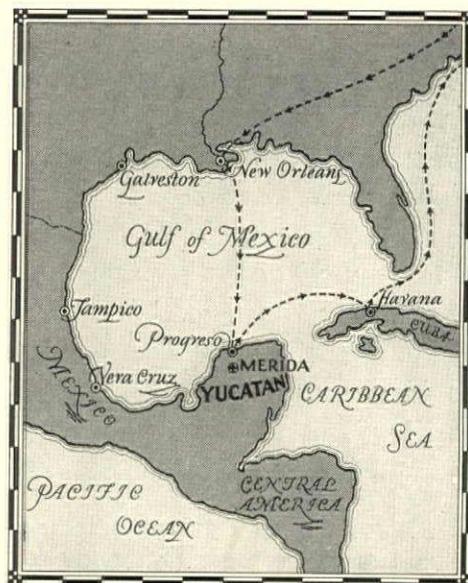


Land of the MAYAS

and bring back the story of an
architecture that was great when
England was Saxon

by Kenneth Clark

Photographs by the Author



It all started one evening at the office. R. F. and I were just putting a job to bed, the final checking was done, the specs were finished and everything was ready to be turned over to the gentle mercies of the contractor. The last word was said, the last prayer breathed "that the job won't run over forty-five thousand," when the sanctum door opened and the Genie entered: the Genie is really an Architect (yes, with a capital A) and incidentally our next door neighbor. This Genie is a very busy person, with great rich, fat clients, who want mansions with most elaborate interiors and all the modern expensive luxuries that so delight the architect's heart when he knows they won't be cut out after the first estimate.

Well, as I said, our forty-five thousand dollar bungalow had been finished, for better or for worse, and we

were only too glad for an excuse to lean back and talk a bit of shop. His first words were, "Say, boys, I'm going to Yucatan, can't you come along?" Just like that, out of a clear sky.

Yucatan! Visions of Maya temples, vague in outline and detail, began to flash across my eyes, intermingled with beautiful maidens being sacrificed to the Rain God, whose name ends in "otl" or something and has lots of "Z's" in it, also a subtle suggestion of jungles and boa-constrictors and what not.

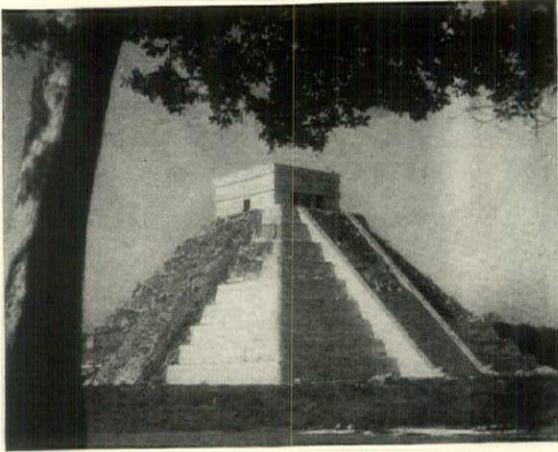
"Yucatan! Can't you come?" Well, I'll tell the cock-eyed blistering world we could come.

Next came the battle with time to finish up all there was to do before we left, the buying of various outfittings of clothes and supplies, being vaccinated—a requirement of the Mexican authorities before you land—

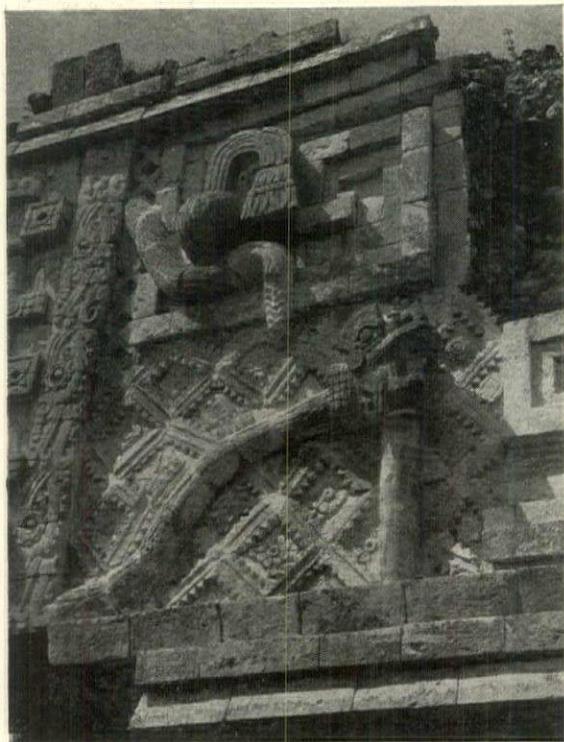


Serpent columns, Temple of the Warriors, Chichen-Itza

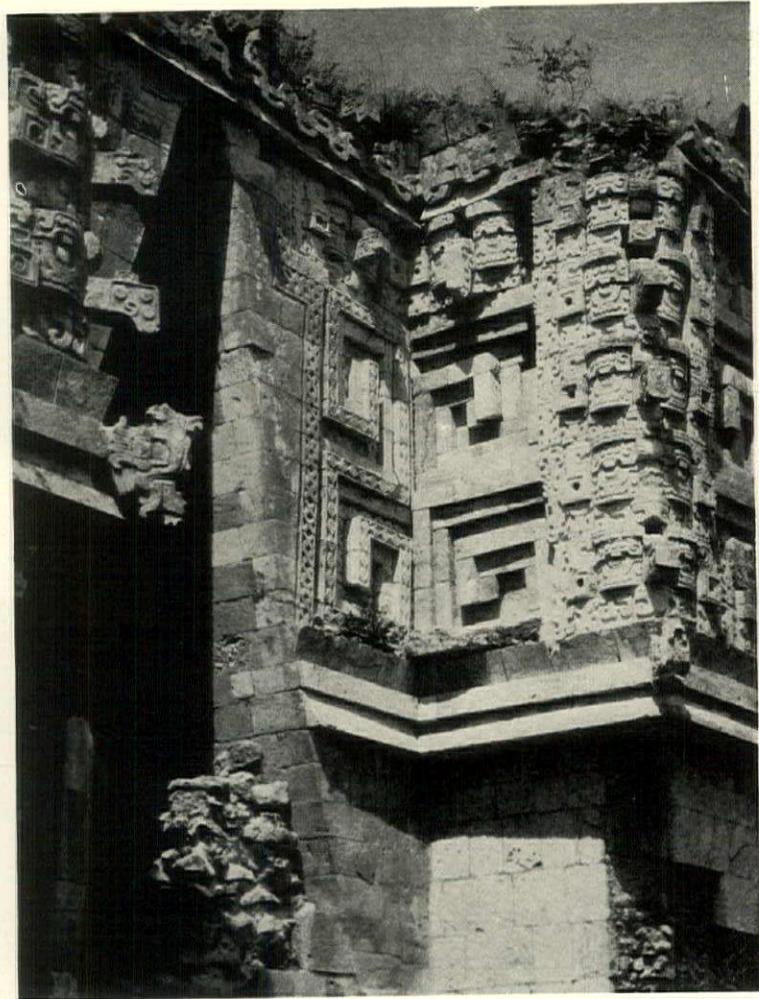
"After me cometh a builder, tell him I too have known."—Kipling. This gem of Mayan art stands silhouetted against the sky on a triple terraced masonry base, complete except for the roof



The Castillo, Chichen-Itza, restored by the Mexican Government. Of classic beauty in the exquisite harmony of its proportions



Mayan ornament shows a vivid imagination. House of the Serpent, Nunjas Quadrangle



Detail of ornament on Palace of the Governor, Uxmal, which bears a strong resemblance to much present-day decoration

passports, etc. It became more evident every day that we had no right to go at all, for business, financial and other reasons. But all these doubts and duties were set aside and we came to the momentous date and left via the Crescent Limited for New Orleans on the first stage of our pilgrimage.

We arrived in New Orleans the second morning following, in a dismal drenching rainstorm, but the air was warm and welcome after our months of New York's wintry snow and slush.

After parking our outfits at the St. Charles, our first errand was to visit the steamship office and get our sailing time and details of accommodations. Here we had bad news in the form of information that our ship, the "Munplace," the regular ship of the New Orleans-Progreso run, had been taken off to replace one of the

Land of the

Havana-New Orleans packets that was laid up for repairs. The clerk assured us, however, that we would suffer no inconvenience, for they had substituted the "Rajah" and our accommodations were reserved on her and she would sail promptly at noon! Etc., etc.—

The "Rajah"—Oh! what a treat awaited us!—shades of Masfield's "Dirty British Coaster"! She looked indeed like the heroine of the last verse of "Cargoes." She was old, rusty and dirty and just through with a six months' lay up after the failure of her previous owners. She boasted 298 feet of patched and pitted steel and a draft of 11 feet, the last item a necessary requirement of any ship that wished to enjoy the hospitality of the Progreso docks, which boast of an uncertain twelve feet of water alongside.

Back to the St. Charles and, piling our baggage and ourselves into a protesting cab, we journeyed to the docks and to the ship which was to bear us to that desired Land of Enchantment.

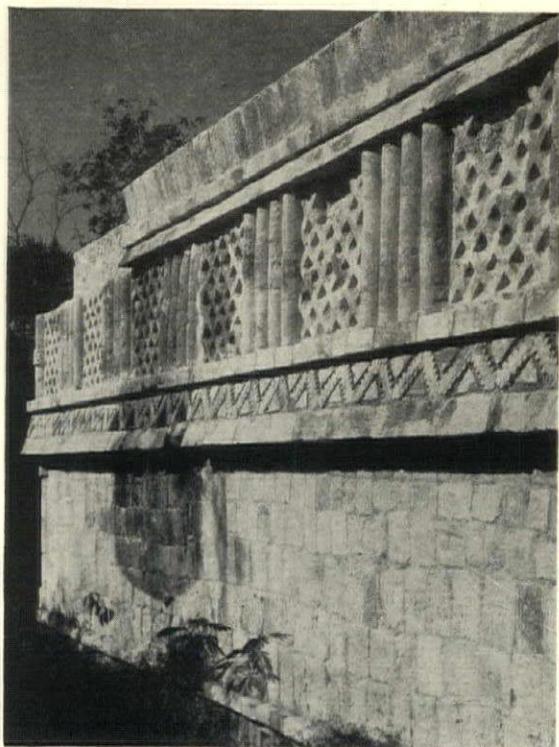
For sixty-five hours we ploughed along over an un-ruffled surface—ate, slept, got acquainted with our fellow sufferers and wished for the end of the voyage. Steadily the ship crawled on and finally one morning the second



Atlantean figure supporting a date stone, "old" Chichen-Itza. Solid masonry, the work of experts in the art of building



The bungalow used by the author and his companions at Chichen-Itza. Indications are that early Mayan houses were much like this



Detail of a restored temple at "old" Chichen-Itza. An excellent example of Mayan ornament

MAYAS

officer was seen scouring the horizon for Alacran Reef, the outpost of the Yucatan shore. We missed it and evidently by much more distance than was expected, for the officers seemed dreadfully disappointed. They wanted a "fix" and Alacran is their only chance between New Orleans and Progreso.

On the afternoon of the fourth day at 5:30, Progreso lighthouse showed almost dead ahead and Yucatan was visible to our impatient eyes. The port itself is one only by courtesy, for it hasn't a vestige of a harbor, just a town on the beach and a nasty place in a "Norte", against which there is no protection. The port is thoroughly regulated since the last political upheaval and all work stops at 5 P.M. including the landing of passengers, so that while we could feast our eyes on Mexico from the ship's deck, not a foot could we set ashore until the doctor and immigration officials were finished with us—and that meant in the morning.

We settled down to wait and passed the night partly in sleep, but principally in conversation inspired by a feverish expectation of what morning would bring.

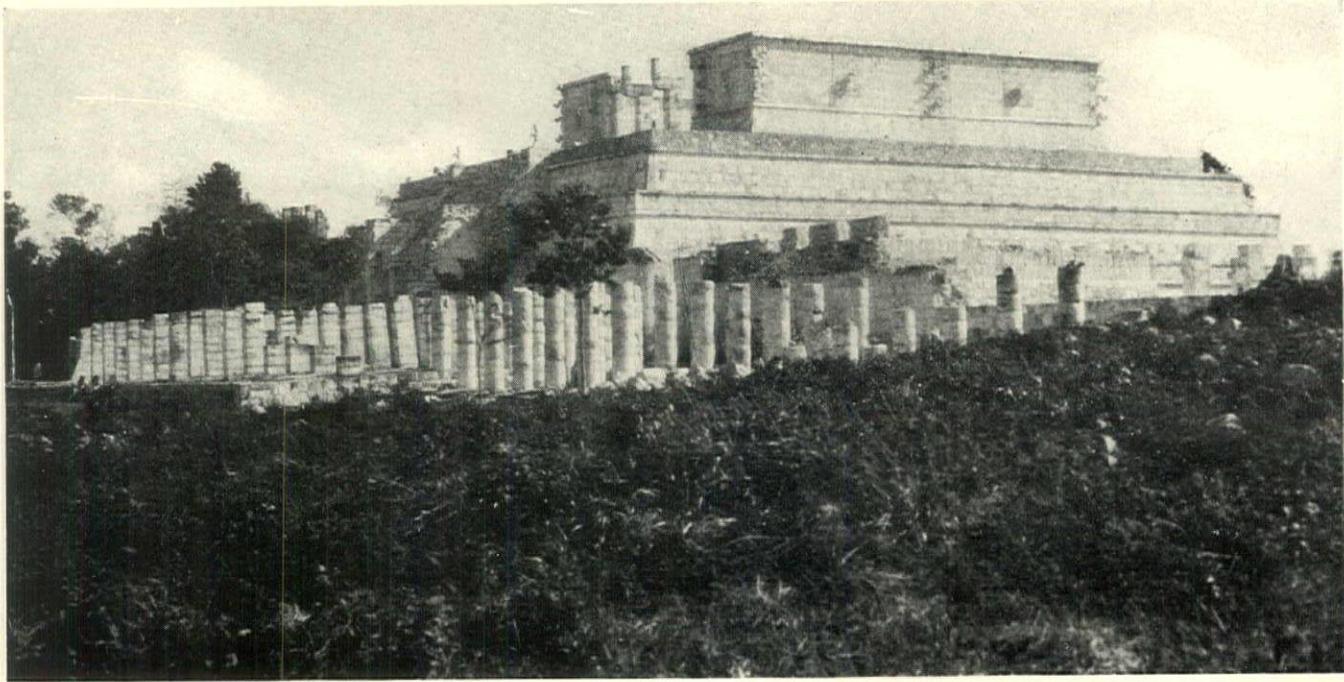
Bright and early came the lighters and a launch, with large, gold braided officials aboard, exuding importance

and onions. The formalities were simple: examination of baggage for arms or contraband, production and inspection of vaccination certificates and tourist cards—and we were free to go ashore.

Progreso is a mushroom town built not over fifty years ago on the flat, sandy beach and decidedly uninteresting: its sole reason for being is to supply a landing place for goods and passengers.

A half hour's journey over a good road by auto is Merida, capital of Yucatan state, and in two cars, baggage in one, ourselves in the other, we set out at last on the sacred Mayan soil of Yucatan for our quest in search of its wonders.

Merida—small, beautiful, clean and sunny, our headquarters for the length of our stay—is a Spanish Colonial city, founded by Francisco de Montejo shortly



Temple of the Warriors: the architectural gem of Chichen-Itza

Journey to the Land of the Mayas

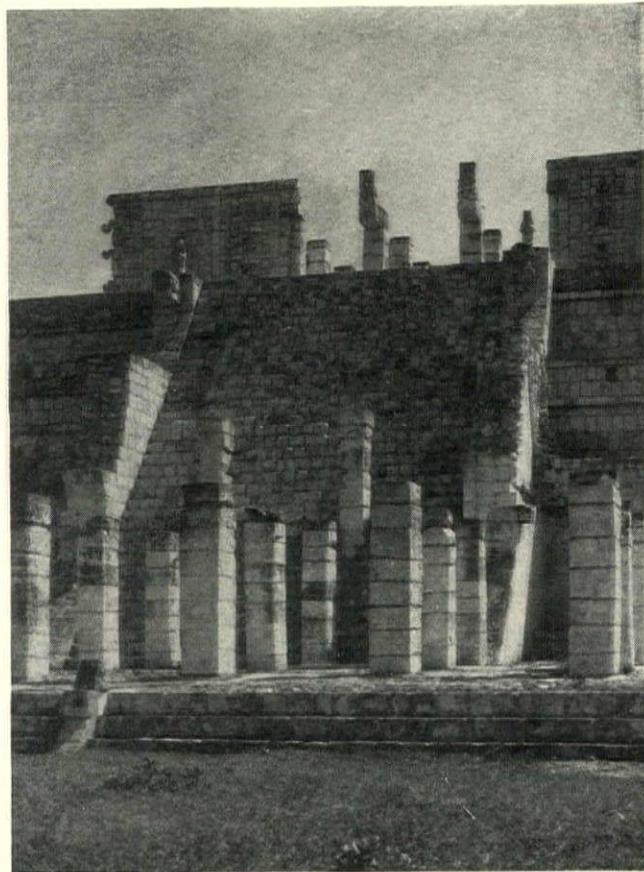
after the Conquest on the site of an earlier Mayan town, vestiges of which remain in the form of the pyramid which once supported a temple, but is now surmounted by a building housing the headquarters of the local militia.

The city itself is typically Spanish; a beautiful and spacious park lies near its center with a fine Spanish cathedral, the interior of which is reminiscent of Burgos; at one end, the more modern governor's palace at the left and the old Spanish governor's mansion at the right.

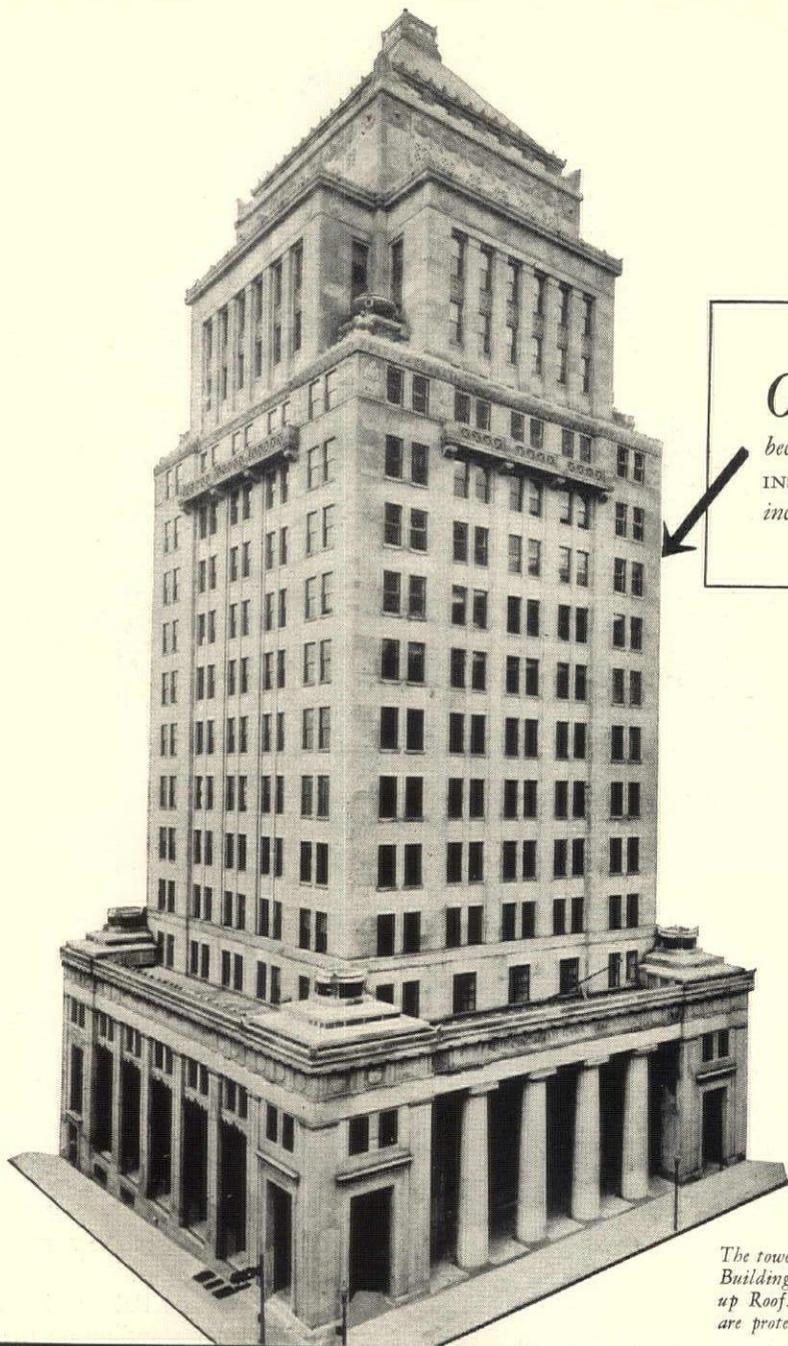
The whole city flavors of the tropics and is a comfortable spot to live in between journeys to the ruins and to come back to for a day or two of rest.

Our objectives in the Mayan field were three—Izamal, Chichen-Itza and Uxmal. Izamal lies 67 kilometers almost due East of Merida and is the terminus of a branch of the narrow gauge railroad. Halfway out is Texkokob, an Indian town with a fine church, city hall, and other more or less important buildings.

All trains on the Yucatan railroads seem to have a confirmed habit of leaving Merida at 4 A.M. and at that ghastly hour, we wended our way via taxi to the station and were well on our way when the sun lifted above the henequin fields. Izamal we found to be a picturesque, Spanish Colonial city with a magnificent monastery and church built on an ancient pyramid, but of Mayan remains there were few or none. Some sculptured stones we found, relics of Mayan temples, doing service as dry walls between truck gardens but the ancient structures had gone the way of many others and furnished building material for the conquistadores' monuments. The town itself, primitive and very Indian, was well worth the visit. It is quaint and different and the inhabitants, as are all the natives, were, in all cases, courteous and self-effacing. *(Continued on page 66)*



Stairway, Temple of the Warriors, Chichen-Itza, a structure that affords a view of the Mayan achievement in architecture that can possibly not be found elsewhere in all of Yucatan



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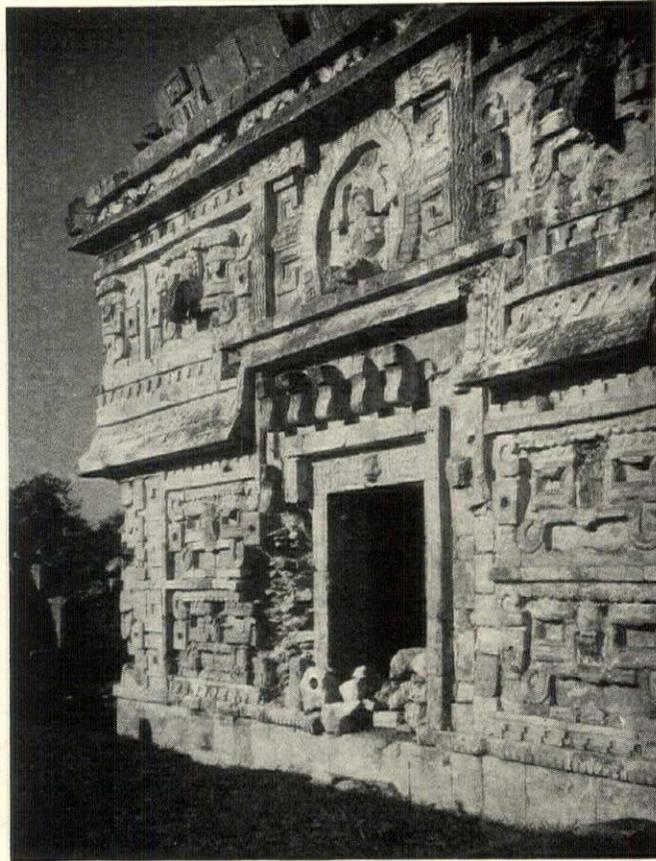
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Altar and one of the "thousand columns" in the Temple of the Warriors, Chichen-Itza. Once buried deep and overgrown with brush and vegetation



"The church," part of the Nunjas group, is impressive evidence of the labor required to execute the ornament carved in stone everywhere to be seen

Returning to Merida in the evening, we learned the efficacy of the words—"Tres Highballs—double" and after this matter was duly and well discussed with a *real* bartender who read our signs as if we were conversing in his native tongue, we retired to our regal quarters pleased with our day—the people, Yucatan, and the absence of prohibition.

Our next trip, to Uxmal, was our real introduction to Mayan architecture. Leaving Merida at the same convenient four o'clock in the morning, we arrived at Muna, another charming Spanish hamlet, and set out for the ruins over ten miles of sketchy roads, in two Fords that had the proper appearance of antiquity to be appropriate to the task. They took us to the Hacienda about a mile from the ruins and we descended and walked the remaining distance.

A narrow road winds through the bush—a thick tangled underbrush about 20 feet high and completely obscuring any view of the ruins—until at a turn of the road you burst upon them in a breath-taking second. Directly in front of you rises the main pyramid surmounted by the "Temple of the Dwarf," a tremendous pile of solid masonry, oval in form, 240 feet by 160 and rising 80 feet above the ground level to the platform and 20 feet more to the roof of the temple.

The whole area of Yucatan is flat and monotonous and the eyes become so used to looking at a landscape that stretches unbroken to the horizon that any break is accentuated doubly and this pile before us had more majesty and "sense" of height than all of New York's skyscrapers. Its mass is terrific and gives a feeling of unalterable solidity that no shell built structure could have.

The east side bears a stairway, steep, and most formidable to us fresh from climbing up and down a drafting room stool, but we reached the top and were rewarded. Looking east there lies spread out the quadrangle of the Nunjas—or "Nunnery"—enclosed on all four sides and covering an area of 214 x 258 feet. The four enclosing buildings are of different design, but the whole creates a harmonious ensemble that is the result of well thought out design in mass and detail.

To the southwest are the Palace of the Governor and La Tortugas, the former standing on the second of two spacious terraces and the latter below it at the right on the first level.

Behind those buildings there is a huge unexcavated mound which shows the condition of all these buildings before the archaeologists' spade began its work. Buried under this mass of foliage and brush is a building which, probably, when excavated will add another to this wonderful group of architectural remains. The surrounding bush is full of these mounds, some small, some large, but each one definite evidence of a building of some sort awaiting investigation and restoration. This field has been merely scratched as yet and presents a problem to future workers that will return tremendous rewards in archaeological lore and knowledge.

The details of all the buildings here are worthy of extended study. Oh you modernists, here centuries ago this race of cultured Indians wrote your story on their pages of carved limestone and left ample proof of their knowledge and use of geometrical design in ornament that sets a mark for you to shoot at and one that will take all your powers and training to hit and then leave



This pigeon-clustered tower... one of the most picturesque sights on the estate of Leonard C. Hanna, Jr., Esquire, Mentor, Ohio... is roofed with IMPERIAL Hand-Made Shingle Tiles reproduced from 16th century tiles. Robert O. Derrick, Inc., were the architects.

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House of the Serpent, Nunjas Quadrangle, Uxmal

something to be desired. These people *created* an architecture from the pure genius of conception and that it was a great architecture is amply proven by what lies before our eyes here at Uxmal and at numerous other sites throughout Yucatan.

Several investigators have tried by theory to prove the connection between this architecture and that of various eastern lands, but most of these proofs rest primarily on a vivid imagination or a faulty basic theory. Mayan architecture was the result of climate, utilitarian needs and genius combined to establish a style that is only found here. If any precedent influenced the design of its architecture, it is certainly not apparent to the eye that is not prejudiced in favor of what it wants to see.

Our wanderings among the ruins were halted at noon to dispose of a lunch, brought from Merida, for there are no accommodations here for visitors. The only

habitation is a small Indian hut occupied by the guardian of the ruins and his family.

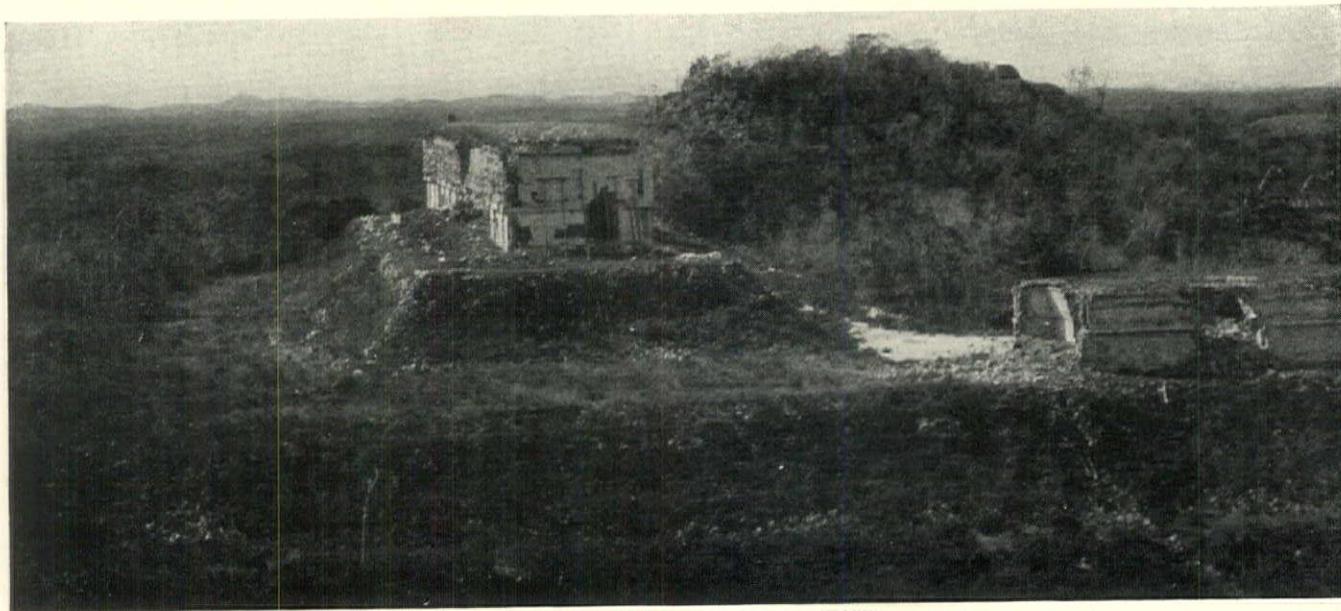
The afternoon wore on and we wandered through this maze of mystery and wonder, our eyes too full of new beauties and sights to retain half of what we saw. We should have had a week here instead of one all too crowded, hurried day, but on this trip time was limited and we had to be content with this preliminary survey and pray that the gods who apportion our days will permit another trip when we can spend all the time necessary to sketch and measure and *live* with this great city of the past and absorb its beauties piecemeal and not in one Gargantuan feast which cannot fail to result in mental indigestion.

The ancient Fords appeared and back we went ten miles and forward several thousand years to the aforementioned railroad and the Gran Hotel at Merida.

Chichen-Itza—known locally simply as Chichen—is the headquarters of the Carnegie Institution expedition which has been working here since 1924 under a permit secured from the Mexican government.

DZITAS, the nearest point on the railroad, lies about ten miles from the ruins and, according to the timetable, 142 kilometers from Merida. One of our party was fortunate enough to know Dr. Morley, of the expedition staff, and this introduction served us doubly well for not only did we have the privilege of meeting Dr. Morley, one of the greatest authorities on Mayan affairs, but we were also invited to spend our time at Chichen under the hospitable roof of the old Thompson Hacienda, now the seat of these most engaging of archaeological activities.

Another four a.m. start brought us to Dzitas, where we were met by the Carnegie autos, and ten miles over a once paved road, running (Continued on page 88)



Palace of the Governor and House of the Turtles. Seen from the summit of the pyramid at Uxmal. The mound at the right probably hides other ruins, for almost every Mayan building excavated was once so hidden

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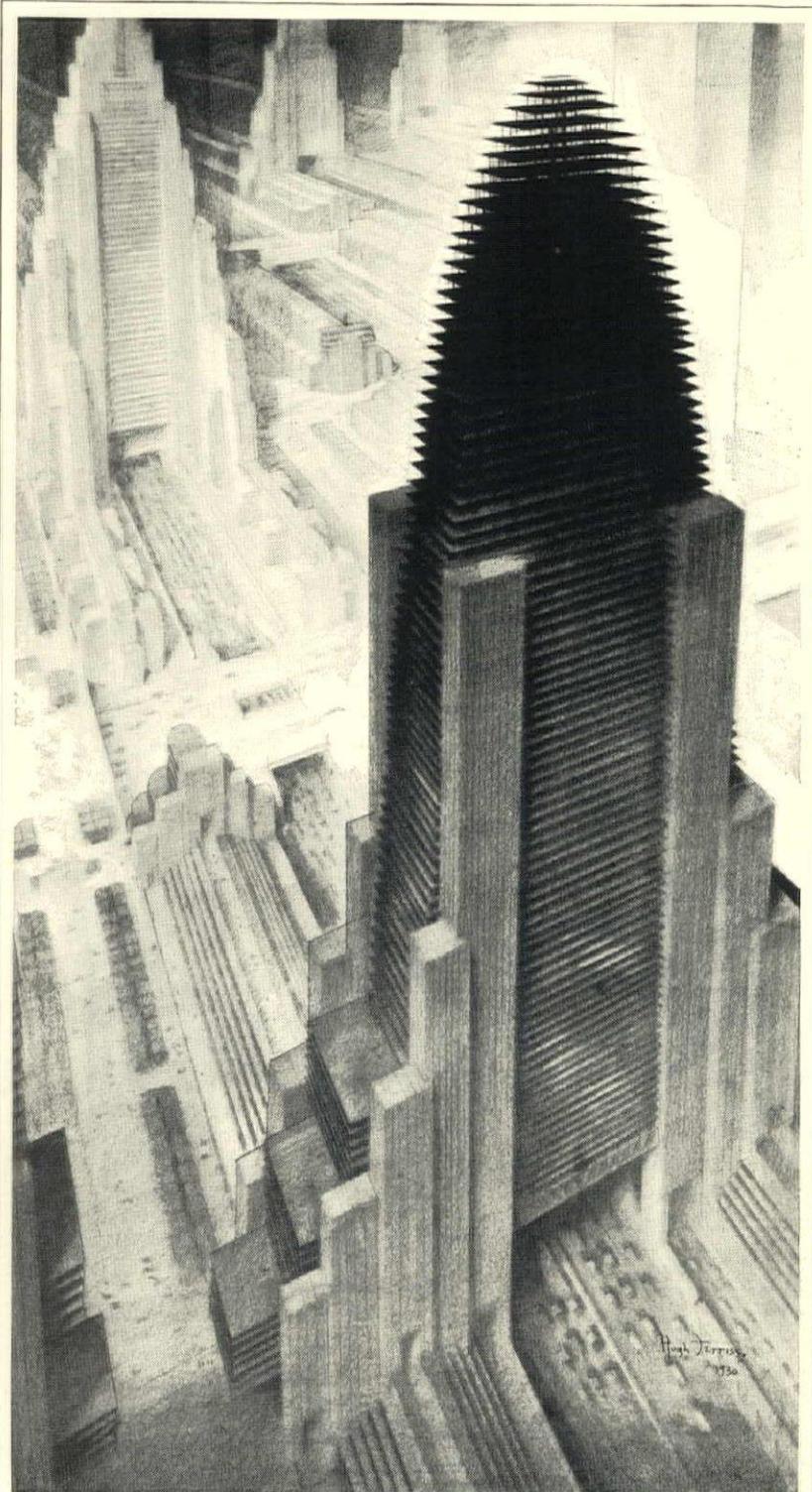
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FOR APRIL 1930

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THE READERS

Have a Word to Say

• SHOULD ENGINEERS PRACTICE ARCHITECTURE ?

Editor, The American Architect:

REFERRING to the question of the various bills which have been introduced in the Legislature in Albany to permit licensed engineers to practice architecture, I desire to call your attention to the fact that under the Architects' Registration Law very definite standards have been set up which must be met before an applicant is registered.

An architect who is a graduate of an architectural school and has had three years' experience is eligible for registration without examination. On the other hand, if he is not a graduate he must qualify by examination and to be eligible for examination he must submit evidence of having graduated from high school and of having satisfactorily completed two years in an institution approved by the Department with the further Degree of Bachelor of Arts or Science. The examination to which he is then admitted covers the following subjects: the history of architecture, architectural composition, including the principles of planning and aesthetic design; architectural engineering, covering structural design, use of materials, heating and ventilating, electrical equipment, plumbing and fire protection equipment and elevators, and finally architectural practice, covering the business and professional functions of architects, building laws, contracts, specifications and drawings.

You will note that this means that a really high standard of qualification is required of applicants for registration. Moreover, since January 1 the door has been finally closed to applications based on proof of practice prior to 1915 when the original law was enacted. All of the above data you will find in Handbook No. 35 of the University of the State of New York, under the date of June, 1929.

If you will consult Handbook No. 36, covering engineering and land surveying, you will note that no such requirements are established. The applicant for license to practice professional engineering must be over twenty-one years of age and of good character and repute and have been actively engaged for six years in professional engineering work, for one year of which he shall have been in responsible charge of the work; or he must be a graduate in engineering with four years of practice, but no definite examination requirements are established.

It is obvious that engineers who can pass the examinations for registration as architects are entitled to do so, and as a matter of fact a number of engineers have been so registered by the State Board. But I am convinced that legislation which would tend to lower these standards would be most harmful to the profession. As you know, at present no distinction is made between the many classes of engineers, so that if all licensed engi-

neers are admitted to the practice of architecture, we will have the interesting spectacle of chemical and sanitary engineers practicing the profession.

One of the bills, on the other hand, attempts to make a distinction between structural engineers and other varieties. It is doubtless true that the structural engineers would erect a building which would be safe, but however well qualified they may be from this point of view there is nothing to intimate that they ever have had any training in the most important part of an architectural project, namely the planning of a building. The statement is frequently made by structural engineers that they furnish the structure and that the architect merely decorates the exterior. They entirely forget the most important element, that of planning.

If the engineers can meet our requirements, well and good, but unless they can pass our examinations, there seems no more reason why they should be allowed to practice architecture than that doctors and lawyers be licensed merely because they have had some years' experience. . . . *Charles Butler, F.A.I.A., New York.*

• SELLING ARCHITECTURE TO THE PUBLIC

Editor, The American Architect:

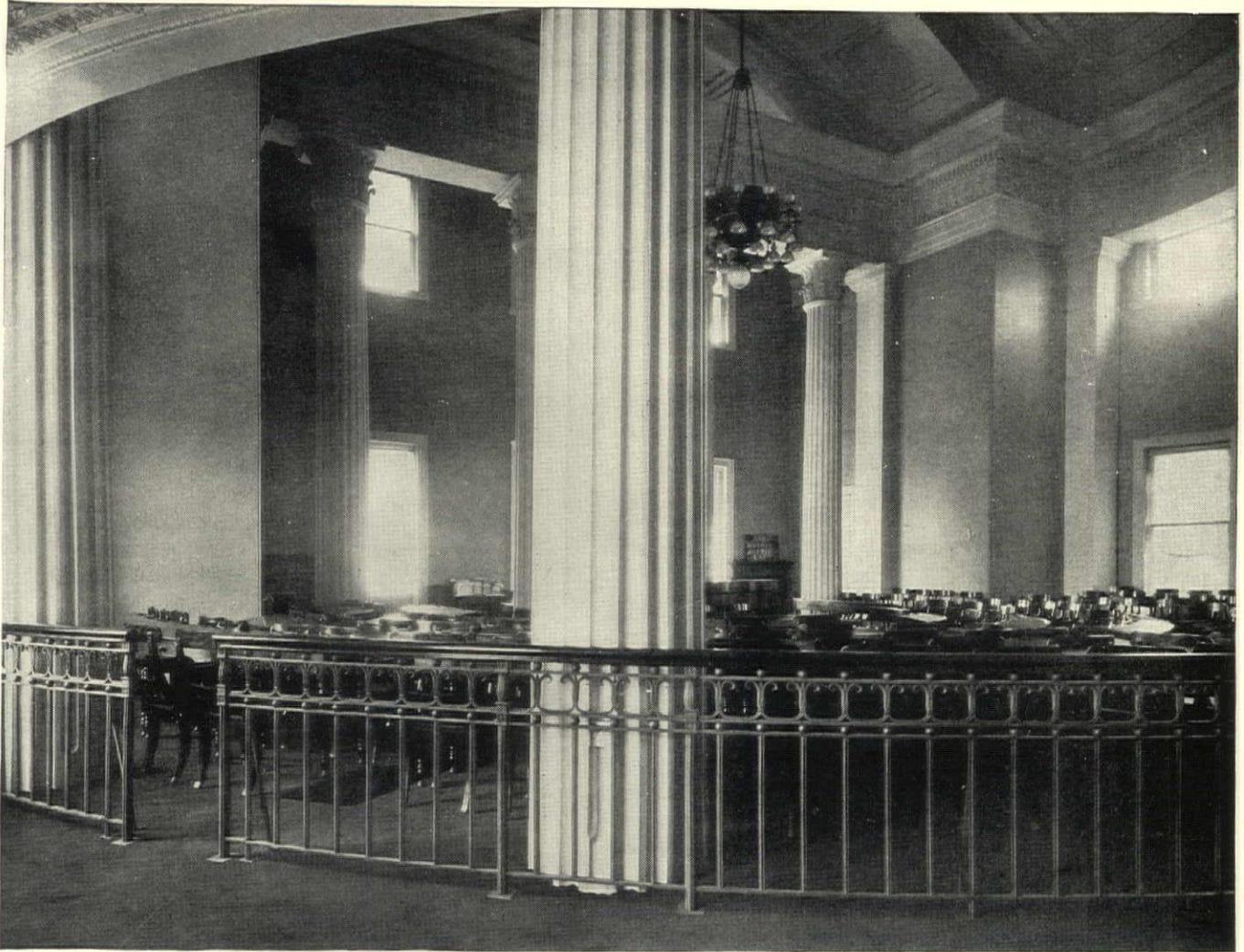
IN regard to selling architecture to the public, it occurs to me that the only real and practical way is as suggested by Mr. Lancelot Sukert in his article, "We Must Reach the Man in the Street," in your February number. Of course, there will be a number who will not agree with his suggestion as to advertising. But this method, handled in a dignified manner, will serve the purpose far better than the exhibitions, since exhibitions are attended mostly by architects and a certain few of the public and these few mostly, belonging to the class known as "arty."

When the architectural profession fully realizes that we are in the modern age of commercialism and "adjust all sights" accordingly, then and then only can we hope to gain that which is rightly our own. . . . *S. B. Haynes, Architect, Lubbock, Texas.*

• WANTS MORE ABOUT EVILS

Editor, The American Architect:

WE are reading the various letters from your contributors and the special articles you are publishing with a great deal of interest and we hope with considerable profit. We particularly commend the publicity you are giving to the matter of speculative plans and hope you will continue to bombard this weak spot in current architectural practice. We think that this point, along with the (Continued on page 114)



In the Capitol Building State of North Carolina

ATWOOD NASH, INC.—ARCHITECTS

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ENTRANCE GATES
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THIS decorative railing—in wrought iron by FISKE—confines the People's Representatives within their legal bounds. Simple in design and most skilfully executed, it contributes to the architectural rightness and beauty of this Chamber an individual note *all its own*.

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SPECIALISTS IN ORNAMENTAL METAL WORK

ARCHITECT'S
RESPONSIBILITY
similar to that of

Lawyer or Doctor

by George F. Kaiser

WHAT HE DID. Chapel was a Michigan architect. At the request of a man named Clark, he executed plans and specifications for a large building to be erected in the city of Grand Rapids. No written agreement was entered into between the parties. Before the building was completed a difficulty arose between Chapel and Clark, and Chapel was discharged. When he demanded that Clark pay him for his services, Clark told him to go ahead and sue, so he did. Clark defended the suit on the ground that the architect had not performed his work with due and necessary skill, and that the plans and specifications were faulty, defective and unskillful.

WHY HE DID IT. The client did not realize that an architect's work may show a mistake or defect although he may have exercised the degree of reasonable skill required of him, nor did he realize that an archi-

tect is not a warrantor of his plans and specifications.

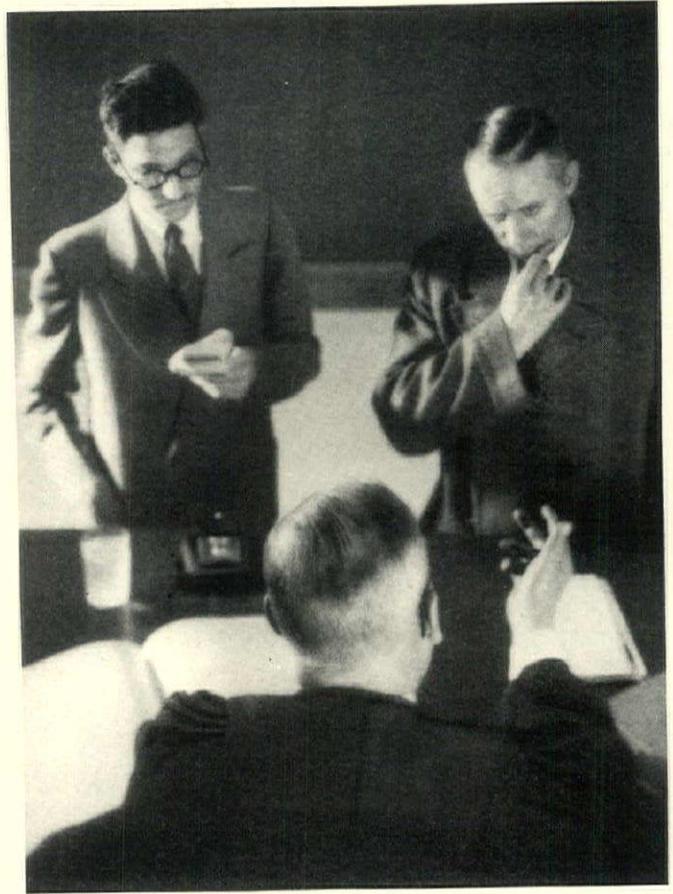
WHY HE SHOULDN'T HAVE DONE IT. The responsibility of an architect does not differ from that of a lawyer or physician. When either possesses the requisite skill and knowledge, and in the exercise thereof has used his best judgment, he has done all that the law requires. The agent owes to his principal only the exercise of that degree of care and skill which a reasonably prudent person would be expected to exercise in similar circumstances. It is to be observed that, apart from a special contract to that effect, there is no insurance nor warranty that a certain result will be produced; all that the law requires from the holding out is the exercise of that degree of skill, knowledge, and care usually displayed by similar members of the profession in similar circumstances.

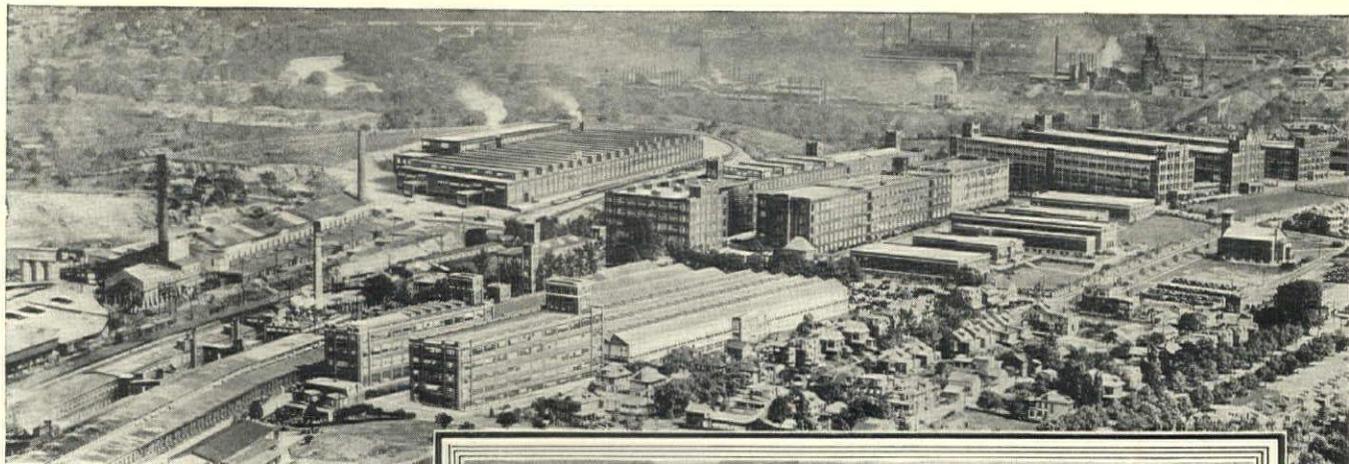
Payment Without Architect's Certificate

WHAT HE DID. When Rush sued Holmes for the balance that Rush claimed was due him as final payment upon a contract for the construction of a building, together with a separate item for extras, he could not produce the architect's certificate the contract called for. The owner defended on the ground that the work was defective, but in addition, rested his major defense on the failure to produce the required architect's certificate. At the trial, the contractor proved that after having been frequently called upon to give a final certificate, and after striking out items of extra work, the architect after delaying for about a year, declined to do anything further to adjust the difference between the parties.

WHY HE DID IT. The owner was stubborn. "The contract provides he must get the architect's certificate," he said, and "I won't pay unless he gets it."

WHY HE SHOULDN'T HAVE DONE IT. The court decided that upon the proof submitted, the contractor was absolved from any further effort to procure a certificate and was entitled to recover without it, for the law upon the subject of architect's certificates is well settled. It is perfectly legitimate to provide in a building or working contract that payment of the several installments of the contract price shall only be made upon certificates or estimates by the architect or engineer in charge as to the extent and value of the work done, or materials furnished, and that final payment shall not be demandable without a certificate of completion. It is equally well recognized, however, that the production of such a certificate as a condition precedent to a recovery is not necessary where it is capriciously or arbitrarily withheld.





View of Wyomissing Industries,
near Reading, Pa.

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Reading Foundry & Supply Co.



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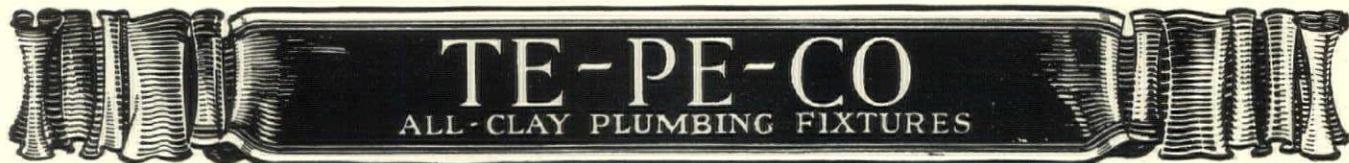
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Chevrolet Motor Co.	Flint, Mich.	Ford Motor Co.	St. Paul, Minn.



The Etchings of TROY KINNEY

*Published by Doubleday, Doran and
Company, Inc., Garden City, New
York. Illustrated. 80 pages; size 9¼
x 12¼; price \$15.00.*

ARCHITECTS who have attended life classes will find "The Etchings of Troy Kinney" a delightful collection of reproductions of twenty-five etchings that are full of the spirit and graceful vitality of the dance. For most of them take that as their theme.

Mr. Kinney has the facility of catching a figure in rhythmic motion and transferring it to paper with an appearance of unstudied ease, seeming to base every line on motion rather than on repose. It is inconceivable that he should ever do a madonna or a hackneyed still life any more than he could capture the stolid sloth of a Franz Hals figure. His work breathes life and vitality. It is full of it.

Many of Mr. Kinney's etchings are portraits of dancers such as Pavlova. Others are moods. But always is motion the dominating motive. Even the event of the occasional figure in temporary repose gives the strong impression that it is about to break into action.

An introduction by Mr. Kinney gives something of this philosophy of motion and tells how he uses it as a basis for his very delightful work. (*Cont. on p. 110*)



The Seventh Veil



Footlights

•
At left: Adolf Bolm in Prince Igor

CONSIDER the New Manhattan Bath Fixture

By doing so, you put yourself in a position to specify better bath fixtures. Analyze these advantages:

- 1.** A new 4-inch cast brass shower head so constructed that none of the holes will stop up. Always 49 streams shooting in the right direction. Face plate removable by loosening center screw, which cannot fall out. Asbestos face plate washer. All-metal ball joint perfectly machined. No packing washer to break up and clog the holes in the head.
- 2.** Only two valves, separate HOT and COLD, in the wall. Readily accessible from face of wall. Made with the standardized working unit that's renewed as easily as a light bulb. All wearing parts come out with the loosening of the cap. Seat made of Monel Metal.
- 3.** Diverter valve in spout on wall—not in wall. All-metal—no rubber, no spring. Operates by water pressure and gravity. Shower bather tempers water at spout and lifts lever for shower. No accidental scalding. When shower bather shuts off HOT and COLD valves, diverter automatically returns to tub position. No unexpected showers.
- 4.** A 1-piece fitting for 6-inch centers. Real adjustability for varying wall thicknesses. Only two valves, spout and shower to connect up.
- 5.** A pop-up bath waste with the stopper in the outlet of the tub. No need to get at it from behind.
- 6.** Made in three attractive styles: Art Chrome, all-metal octagonal design, chromium plated; round pattern with either all-metal or china trim.

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CHICAGO FAUCETS

NEW MATERIALS & EQUIPMENT

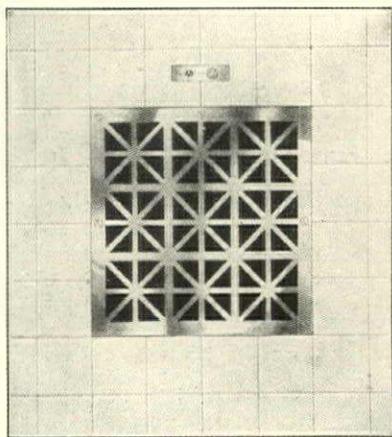
BRIEF REVIEWS THAT MAKE IT EASY
TO KEEP IN TOUCH WITH THE
PROGRESS MADE BY PRODUCERS

Factory Sash of Treated Wood

Awlc-ized factory sash is a new product of the American Wolmanized Lumber Co., Elizabeth, N. J., which is made of treated lumber and is guaranteed against fungus decay for fifteen years. The makers say that it can be painted and handled like untreated wood. Sash is branded and dated as a check on the life of the sash, and made according to specifications furnished by the architect. It is made by the same process as Wolmanized plank, which is used for roof decking, and is declared to be especially suitable where wet processes or other severe rot-producing conditions exist.

Bathroom Heater

A bathroom electric heater furnished in various portable,



wall or built-in styles has been placed on the market by the Prometheus Electric Corp., 360 West 13th Street, New York City. Style No. 350, illustrated, is of the convection type and is supplied in white vitreous enamel, chrome plate or monel metal. Dimension of register plate, 15 x 15 inches; depth of body, 3½ inches. Sets in ordinary frame walls.

Refrigerator with Foot Door Opener

An all-steel, porcelain lined refrigerator provided with a foot pedal, door opener has been brought out by the Leonard Refrigerator Company, Grand Rapids. Another feature is an indicator or food safety signal showing that foods are being maintained at the correct temperature. Construction is such that a mechanical refrigerating unit may be installed at any time.

Unit Heater That Washes and Humidifies

Buffalo Wetboy is the trade name of a new addition to the line of the Buffalo Forge Company, Buffalo, New York. It is a unit heater that washes and humidifies. The idea consists of a revolving drum of air washer eliminator and scrubber plates propelled by the air current through the units. The scrubber plates continually dipping in the water tank provide a wet surface through which the air must pass twice.

Cornice Flood Lighting Unit

A new type of floodlight introduced by the General Electric Company, Schenectady, New York, is intended for cornice, relief and outdoor lighting. Suitable for mounting on top of a cornice to eliminate the shadow created from floodlights mounted below, it has a low mounting height so that it will not be conspicuous along the cornice. The new

floodlight, known as Type L-32, has a wide light distribution, effective for short range floodlighting. The unit consists of an inexpensive hot-dip galvanized cast iron casing equipped with a twin socket for two 50, 60, 75 or 100-watt general service lamps. The inner surface of the casing, which is the reflecting medium, is sprayed with several coats of aluminum paint. A trunnion bracket is provided for mounting. By loosening a wing nut at each end of the casing, it may be adjusted to any position. The floodlight is provided with a clear glass door, but color plates are available if required.

Incinerators with 100 Ton Capacity

Brick set incinerators, with capacities up to 100 tons daily, and designed for hotels, hospitals and factories having large trade wastes, are now being produced by the Home Incinerator Co., Milwaukee, Wis. It may be adapted to any kind of fuel, combustible rubbish, wood, oil, coal or gas and is easily cleaned through the employment of special ash grates without need for clinker pits. Made of cell units with a special type combustion chamber, high temperatures may be maintained under forced draft.

Roll-a-Vent Window Ventilator

A device operating on the principle of a shade roller, made by the Roll-a-Vent Co., 151 West 40th Street, New York City, consists of a metal housing attached to the window jamb. This housing contains a roll of fine-meshed treated linen which pulls out like a shade on a roller and catches at the far side of the window. In size, about like the usual removable metal or wood ventilating screens placed between the sill and bottom sash.

U. S. Gypsum to Distribute Chromite

A metal alloy tile, which is cemented in sheet form over walls and ceilings, will be distributed by the United States Gypsum Company, Chicago, Ill. It is called "Chromite" and is furnished in several colors and color combinations, virtually all of which are two-toned in effect. The surface of the product is stated to be both lustrous and flint-hard.

Moulded Receptacles for Metal Signs

A lighting socket with an unbreakable body has been developed by the Major Equipment Company, 4603 Fullerton Ave., Chicago. It is intended for sign and trough lighting. The centers of the mounting screws are the same as other makes, so it is interchangeable.

Electric Kitchen Stove

An addition to the Royal Line of Standards, electric ranges made by the Standard Electric Stove Co., Toledo, Ohio, is the "Princess." This is a thirty-six inch stove, the smallest made in this particular line. It is furnished with or without a time and temperature control and occupies a floor space 56" wide by 26" deep.



BOCA RATON CLUB
BOCA RATON, FLORIDA

SCHULTZE & WEAVER
ARCHITECTS

The Exclusive Boca Raton Club is decorated by Rambusch

Rambusch considers it a privilege to have executed the painted decoration of this exclusive club at Boca Raton, Florida, under the direction of the architects, Schultze & Weaver of New York City.

BANKS
CHURCHES
CLUBS
SYNAGOGUES

RAMBUSCH
Painting, Decorating and Murals
2 West 45th St. ~ New York City

HOTELS
RESTAURANTS
THEATRES
PUBLIC BUILDINGS

Established Forty Years

NEW CATALOGS

Covering What Manufacturers Have to Say About
the Advantages and Uses of Their Products

PROTECTION FOR CASH WITH DIEBOLD MONEY CHESTS

Describes a method of protection for merchants against holdups or forced opening of safes under gun threat. Explains two methods: one where money is deposited in this safe through a slot and can only be removed by use of two keys, one in possession of the manager and the other of the collector and armed guard furnished by the cash collection service. The other method also provides for inserting cash through a slot and combines the combination and time lock, making it necessary to wait about a half hour after the combination is operated before the safe can be opened. Contains an interesting resume of the development of banditry and describes and illustrates the various types of equipment manufactured by the company. Issued by the Diebold Safe & Lock Co., Canton, Ohio.

ARCHITECTS' SPECIFICATIONS FOR SOUTHERN PINE LUMBER

A convenient specification manual printed on one side of the sheet only and issued by the Southern Pine Association, New Orleans, La. Covers lumber specifications for various uses such as apartment and school buildings, residences, store buildings and light factories, heavy factories and warehouses, and so on. Also contains construction specifications, description of grades, and similar general information. A.I.A. file no. 19 a 22.

THE DOUBLE SPIRAL AUTO RAMP

Issued by the Auto Ramps Corp., Richmond, Va., describes a comparatively new system of ramp construction which may be used in existing buildings or incorporated in new buildings without making it unduly expensive to convert the building to other use should necessity require. The company works through the architect, supplying him with working drawings of the ramp structure and giving the owner a license to use the ramp. Contains pictures of a few installations and gives illustrations and full description of the operation of this system. A.I.A. file no. 35 m 3.

SYNCHRONOUS MOTORS

Is an eighty-six-page illustrated booklet issued by the General Electric Company, Schenectady, N. Y. It describes various types of motors made by this company and shows picture of typical installations.

GRILLES

Is an illustrated bulletin of the Hendrick Manufacturing Company, Carbon-

dale, Pa., giving illustrations of metal grilles made by this company, together with the dimensions in which they are furnished. Also pictures of grilles installed. A.I.A. file no 30 e.

THE RED BOOK OF BUILDING MATERIAL

Is an illustrated booklet issued by the United States Gypsum Company, 300 West Adams Street, Chicago, Ill. It presents a detailed description of the building materials manufactured by this company, gives covering capacities, complete specifications and engineering details. There is also described the company's gypsum plasters and white and colored finishes, gypsum lath, metal lath, insulating lath, sheathing materials, plastic paints, etc. Also various fireproofing materials such as gypsum partition tile, column and beam fireproofing, etc.

THE DRIWOOD PORTFOLIO OF INTERIORS

Issued by Henry Klein & Company, Inc., Elmhurst, Long Island, N. Y., consists of 8½ x 11" sheets containing pictures of fireplaces on which Driwood mouldings have been used. Paneling and moulding details are given. On the back of each sheet is a description of the picture. A.I.A. file no. 19 e 33.

PRACTICAL PLANNING FOR CLUB FOOD SERVICE

Has been issued by the John Van Range Co., a division of Albert Pick-Barth Company, Inc., Oakley, Cincinnati, Ohio. Illustrated and intended to cover all important problems regarding the correct handling of food service in town and country clubs. A.I.A. file no. 35 e.

HOFFMAN HEATING EQUIPMENT

Issued by the Hoffman Specialty Company, Inc., Waterbury, Conn., illustrates and describes Hoffman valves, controlled heat, economy pumps, and moto-heaters. Gives various engineering and specification data of value to those interested in heating systems.

GOULDS CENTRIFUGAL PUMP SELECTION CHARTS

Forty-page illustrated booklet issued by Goulds Pumps, Inc., Seneca Falls, N. Y. Has charts showing the efficient range of twenty-six different double-suction pumps at five different speeds from which can be determined the pump to use for any given capacity and head, and the size of the motor to drive it. Specifications, details of design and construction of these pumps are included in the booklet.

SAFEGUARDING WIRING SYSTEM FOR BUILDINGS

Issued by the Trade Extension Committee, Rigid Conduit Section of the National Electrical Manufacturers Association, Utica, N. Y. Is intended to be a manual which presents a logical method of simplifying the problem of specifying wiring systems for buildings. Illustrated by installation pictures. Contains sections headed, "Why Wire Systems Require Protection," "Safeguarding Raceways During Construction," "How Permanent Wiring Enhances Property Values," "The Relative Cost of Wiring Systems," and "Safeguarding Wiring in Specifications."

RU-BER-OID BUILT-UP ROOFING SPECIFICATIONS

Issued by the Ruberoid Co., New York City. Contains specifications for applying over concrete and wood bases the various kinds of roofing made by this company. Each specification is on a separate sheet, printed both sides, so that it can readily be filed as a unit. A.I.A. file no. 12 b 1.

ESTATE TYPE KERNERATOR

Issued by the Kerner Incinerator Company, 1225 North Water Street, Milwaukee, Wis., describes incinerator systems for estates and country homes. Contains pictures of installations and places where installed.

KENSINGTON LIVING ROOM FURNITURE

Issued by the Kensington Mfg. Co., New York City, illustrating some of this company's line of furniture which was awarded a gold medal at the 39th Annual Exhibition of the Architectural League of New York.

VENEER-STEEL DOORS, MAHOGANY FINISH

Issued by the Hart & Hutchinson Co., New Britain, Conn. A folder illustrating and describing these doors for use in toilet rooms with marble partitions. A.I.A. file no. 29 h 32.

VENEER-STEEL PARTITIONS FOR USE IN TOILET ROOMS

Describes these partitions which consist of a fibre core in a steel shell. Issued by the Hart & Hutchinson Mfg. Co., New Britain, Conn.

A COMPLETE WOOD PRESERVING PLANT

Issued by the Processed Lumber Co., Elizabeth, N. J., describes this lumber treating plant which uses the Wollman process.

A modern Convenience Feature

which many Architects include in their

Plans for Residences

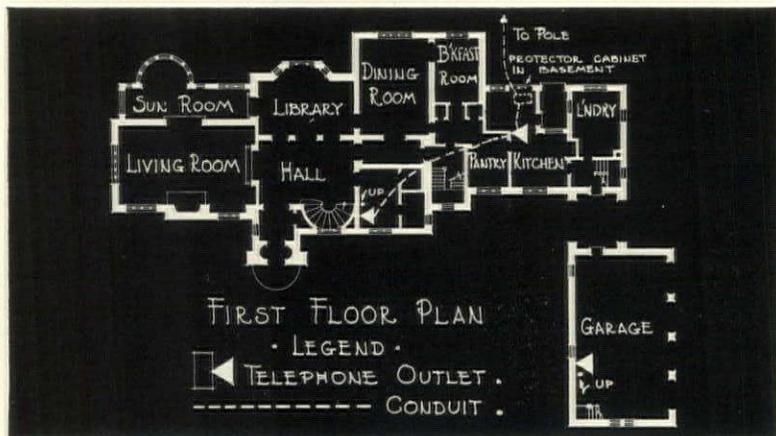
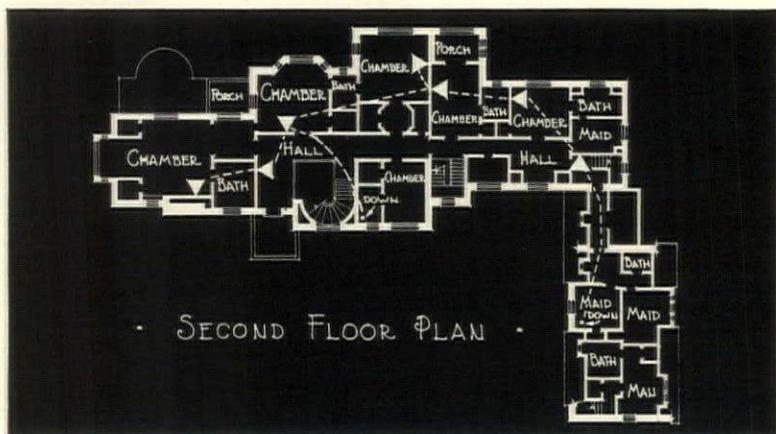
IN PROVIDING for conveniences in new and remodelled residences, many architects today include facilities for telephone service as a matter of course. They realize that their clients will want telephones wherever they will add to ease and comfort . . . and that the best time to determine these locations is when the residence is being planned. Conduit can then be laid within the walls during construction—giving the improved appearance that comes from concealed wiring.

Many home owners want telephone outlets made available in all parts of the house . . . even in places where they do not want telephones immediately. This gives a desirable flexibility, allowing the service to be rearranged or expanded with little trouble.

Representatives of your local Bell Company will be glad to confer with you and your clients in planning for telephone arrangements. No charge is made. Just call the Business Office.

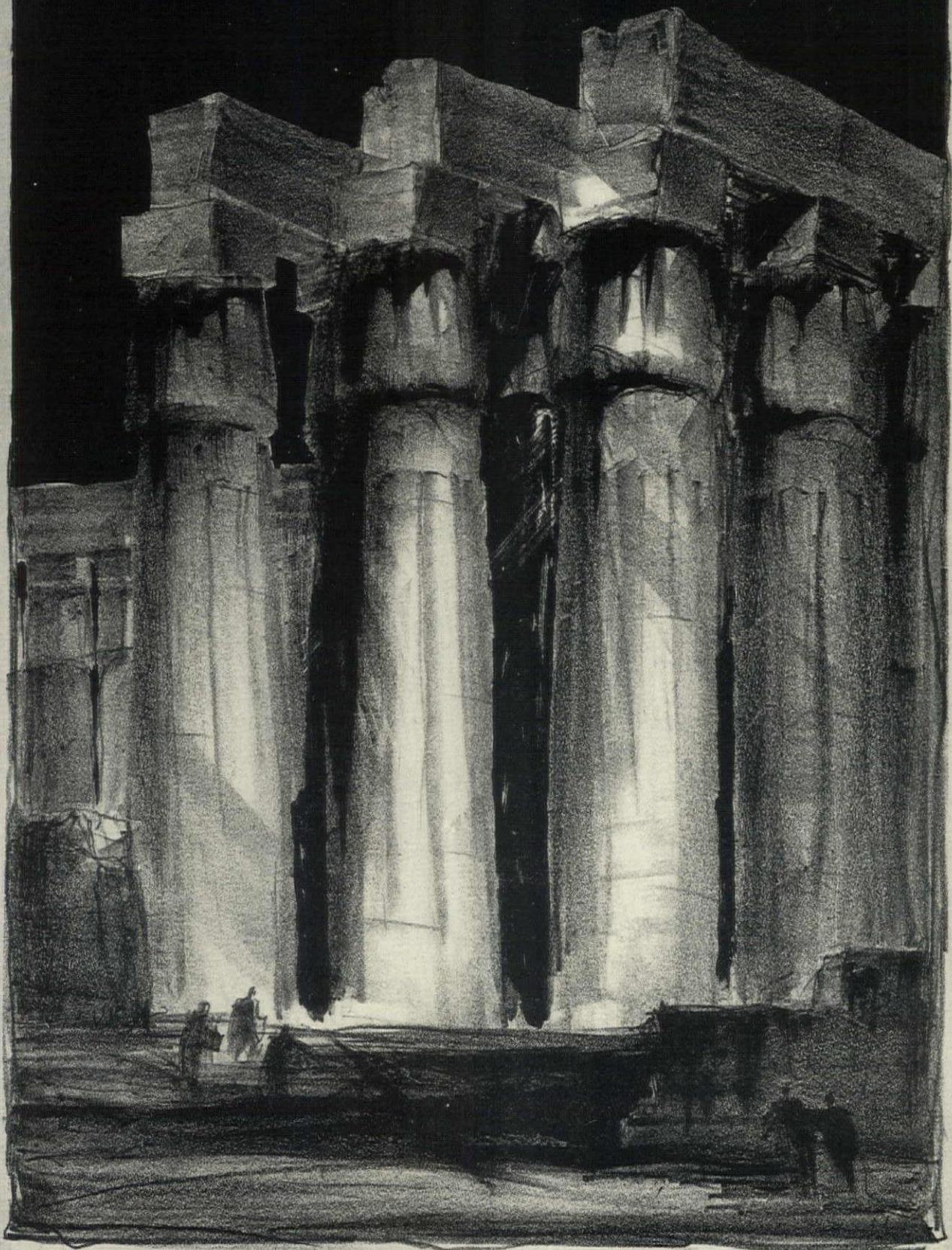


In the above residence at West Brentmoor Park, St. Louis, Mo., ten telephone outlets, including one in the servants' quarters and one in the garage, provide for telephone convenience. MARITZ AND YOUNG, INC., Architects, St. Louis.





S. MARIA DELLA SALUTE, Venice. Rendering with fountain pen and wash by Louis Skidmore, a member of the firm of Buckley & Skidmore, architects, of Chicago



TEMPLE OF AMMON, Luxor, Egypt. A lithograph by Louis Skidmore, who is organizing the central architectural office for the Chicago World's Fair in 1933

CONFIDENCE

in Cast Iron Soil Pipe for tall buildings is demonstrated by thousands of building owners.

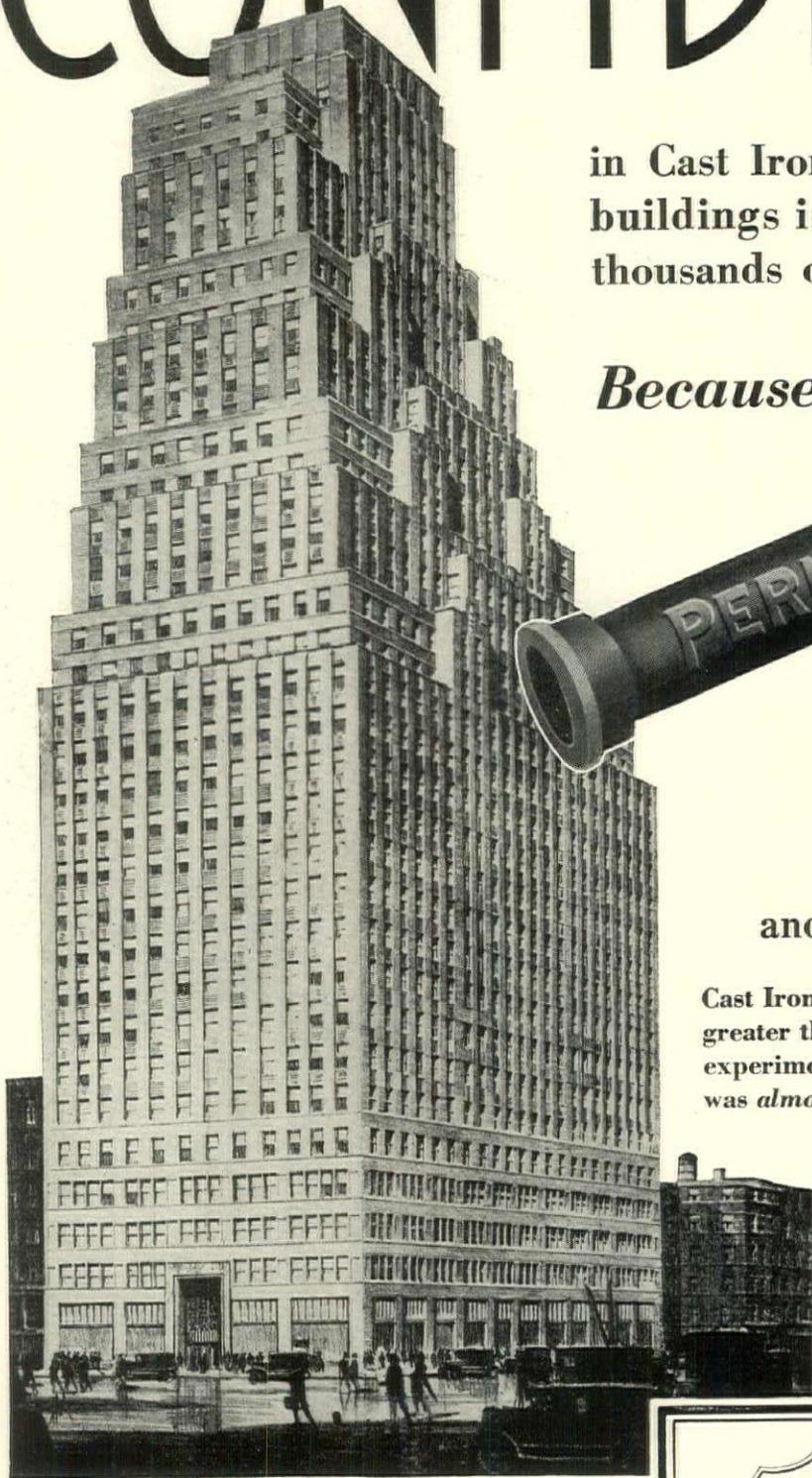
Because it is

*Nature's
Own Pipe*

120 Wall Street
Selects cast iron—
another tribute to quality

Cast Iron Soil Pipe possesses *lasting* qualities greater than human beings can create. Early experiments, centuries ago, proved that it was *almost everlasting*. With records of continuous service for more than 250 years, *why experiment?*

Cast Iron Pipe is alive, strong and able to withstand the elements, because it is merely cast in its original, uninjured state.



120 WALL STREET, NEW YORK

Buchman & Kahn, Architects

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Joseph M. Kandel, Plumbing Contractor



The SOIL PIPE
ASSOCIATION

BIRMINGHAM, ALABAMA



To the left, an inviting corner in the smoking room of Arizona-Biltmore Hotel, Phoenix, Arizona. Below, the unique exterior. Built of reinforced concrete, faced with cast stone blocks. Interior walls also of cast stone, in plain and conventional designs. Albert Chase McArthur, Phoenix, Architect; Frank Lloyd Wright, Associate; S. M. Benet & Co., Beverly Hills, California, Contractors.



*A most interesting era
in ARCHITECTURE
is at hand*

Eight miles out of Phoenix is the Arizona-Biltmore Hotel—forerunner of an advanced stage in modern architecture and construction.

The hotel, and 16 cottages adjoining, are all of reinforced concrete framework. Floors, stairways, and roofs are of concrete. Exterior walls are of cast stone blocks. All four edges of blocks are grooved to accommodate steel

reinforcing rods—running vertically and horizontally—embedded in the mortar with which blocks are laid up.

Interior walls, columns, and exposed beams, in the public rooms, are faced with the same cast stone used on the exterior. Most of the materials used in construction were obtained locally. Further information is available, if desired.

PORTLAND CEMENT Association
Concrete for Permanence and Firesafety CHICAGO

The Man in the Street

(Continued from page 21)

intended to accomplish and then fitting the kind of publicity released to the objective—pretty much like starting to construct a building with only a vague idea as to how big it should be and how the space shall be divided—instead of proceeding from carefully prepared plans and specifications.

Obviously the whole question of public education concerning architecture divides itself into two parts: first developing a public appreciation of particularly good architecture, particularly that which is done today; second, acquainting the public with a knowledge of the part the architect plays in modern building and the necessity of his employment in order to insure the best possible building at reasonable cost.

THIS second part of the problem has been inadequately handled so far. The first part is being well done with promise for constant improvement. The recent expositions held by the Philadelphia Chapter and that of the Southern architects at Memphis are pointing the way for future expositions that can be much more valuable than those held in the past by holding them in places that are frequented by the public. Obviously no exposition not capable of easy visitation by the public will be attended by it and so becomes little more than a mutual admiration society.

Several Chapters are sponsoring traveling exhibits, as is the Institute itself. These exhibits are generally placed in high schools and colleges where they are bound to influence the coming generation. They should, however, also be placed where present prospective clients will see them in large numbers, particularly for the immediate public reaction that is necessary.

Allied to the question of group advertising and publicity is that of individual advertising. In spite of the fact that the Code of Ethics of the Institute forbids advertising by individuals and that general sentiment seems to be against it, fourteen Chapters answering THE AMERICAN ARCHITECT survey report that one or more of their members indulge in it. Almost all of this individual advertising consists of cards in publications, probably placed as a friendly gesture, or of syndicated magazines mailed to a selected list of prospective clients. At least one firm of architects and engineers, of which one member belongs to a Chapter, indulges in newspaper advertising that is dignified and suitable to the high standards of the architectural profession.

OBJECTIONS to such individual advertising seem to be largely based on that fact that it may be so handled as to bring the profession into disrepute. The architectural profession as a whole is so lacking in braggadocio that it can safely be trusted not to indulge in advertising of the "patent medicine age," but to exhibit the same high standard of ethics and professional dignity that characterizes the paid advertising of advertising agencies. These, as a whole, have professional standards as high as those of the architect and their advertising has helped to take their business out of the "quack" class and made it highly regarded by the business world.

Professional services can be advertised without detri-

ment to the profession itself, particularly where it is so little understood by prospective clients as is the profession of architecture. It seems logical to expect that such an opinion will gradually gain ground among architects, especially when they come to understand that if the field is left free to stock plan services, speculative builders, real estate companies, and other agencies the architectural profession is bound to lose business to them to the detriment of the general public.

It is axiomatic that there can be no customers for architectural service excepting from among those sold on such service. It is also axiomatic that satisfactory dealings with a client are only possible when there is mutual confidence and respect. Lack of this confidence, due to an inadequate understanding and appreciation of architectural service, is at the root of much of the trouble in client relations. An architect hiring a draughtsman of whom he knows little or nothing will watch him far more closely than one known or well recommended and extend to him far less confidence in his judgment. And that holds true of those buying architectural service.

CONDITIONS affecting the practice of architecture have changed so radically within the past twenty years that it has materially influenced the profession. Many architects still like to think of themselves as artists, not as business men. But building has far outgrown the purely artistic stage and come to serve Big Business. Big Business appreciates beauty because it has a commercial value and is subjecting the architect to the discipline of business rather than the discipline of art for the furtherance of efficient work to the advantage of the architect.

The result of all this is that the architect is beginning to realize that unless he steps forward and takes his proper place in the modern scheme of building, making others work for him through his greater ability and knowledge, he will end up by working for others.

That is why concerted aggressive action by the Institute and by individual Chapters is essential to the progress and prosperity of the architectural profession. Such action is wanted, nay, demanded in no uncertain terms. It will, it must, come sooner or later. And it must come sooner if the profession is to be saved the many heartaches which will result from long delayed action.

COMPLAINTS about the poor ventilation in the Forty-second Street Branch of the New York Public Library, particularly the art and architecture department, are explained thus by K. D. Metcalf, chief of the reference department: "Psychologically, it's a mistake to build library rooms with no outside windows. People working in a room with no windows get the idea that ventilation is poor, whether or not such is the case.

"As a matter of fact, when the library was built a ventilating system, considered good at the time, was installed. Efforts are constantly being made to improve it. There are ventilators in all these windowless rooms on the third floor, as well as passage for air by way of skylights. The trouble is that people are not able to see from the floor that the skylights are open; even when they are."

No. 1 of a series illustrating:
"Thoughtful decorative hints—
suggestions beyond the strictly
necessary—to aid the architect."

This architect remembered his own Treasure Island Days

A NOT-SO-OLD designer who remembers his own pirating days designed this nautical room for a pair of jolly sailormen too young to put to sea. The present crew of two don't even need the captain's orders when it's time to weigh anchor and sail for the Land of Nod.

Even to the crew, the most interesting thing about the room is the Armstrong's Linoleum Floor with its inlaid compass. To the captain the important facts are that the floor will last long after the crew has grown up, that it won't spot even if ink is spilled while the log is being kept. And the architect? He has the pleasure that comes of doing a job even better than it needed to be done. And it's quite probable that this idea for a boys' room helped sell the plan for the entire home.

No matter what interior effect you wish to create, no matter what color scheme you plan, you will find a modern floor of Armstrong's Linoleum in a design that will smartly match it. There are hundreds of acceptable designs to choose from.

Then there is the more practical side of linoleum—its quiet resilience, its smooth, easy-to-care-for Accolac Process surface, its moderate cost and long life.

We will be glad to send you our new file-sized specification book,

with colorplates and samples of modern linoleum upon request. Also you'll find us in Sweet's. Address Armstrong Cork Company, Floor Division, Lancaster, Pennsylvania.



Armstrong's Linoleum Floors
for every room in the house

"We'll sail to Spain and back again and never swab the deck," for this Armstrong Floor (designed from plain color linoleum) is as practical as it is attractive.

PLAIN ·· INLAID ·· EMBOSSED ·· JASPE ·· PRINTED ·· LINOTILE ·· and ARMSTRONG'S CORK TILE

MICHIGAN BELL TELEPHONE

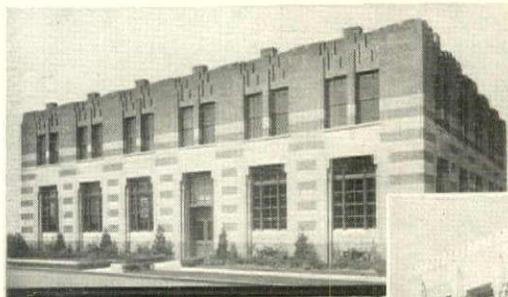
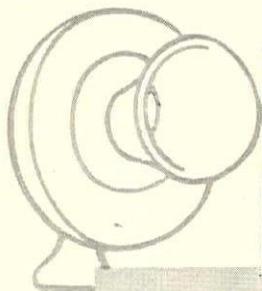
Builds for Greater Future



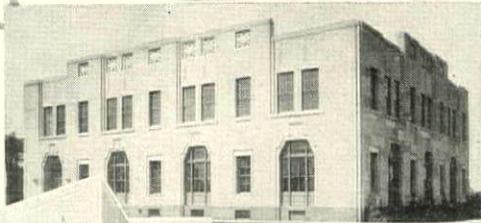
Saginaw
Division and
Central
Office



Detroit-Oregon
Central
Office



Detroit-Niagara Central Office



Detroit-Pingree Central Office



Port Huron
Central Office

FORESIGHT is evident in the building program of the Michigan Bell Telephone Company. Future expansion is provided for in that the steel framework of their central offices is so designed that additional floors may be added later with a minimum of expense and alteration. The Detroit-Niagara and the Detroit-Pingree Offices are designed for five stories, the Detroit-Oregon and the Port Huron Offices for six stories, and the Saginaw Division and Central Office for thirteen stories. Steel for this latter building was fabricated by the American Bridge Company and erected by the Detroit Steel Construction Company. R. C. Mahon Company fabricated and erected the steel for the Detroit-Oregon Office—Whitehead & Kales Company for the remaining three. Smith, Hinchman & Grylls were the Architects and Engineers in each case.

Foresight was not confined to the design of these buildings, but was further evidenced in the selection of Carnegie Beams to form the steel framework. With their wide parallel flanges and their mathematically graduated range of sizes and weights, Carnegie Beams have contributed to steel construction a splendid efficiency and a new simplicity of fabrication. Their conspicuous success indicates their remarkable adaptability to the needs of architects and designers.

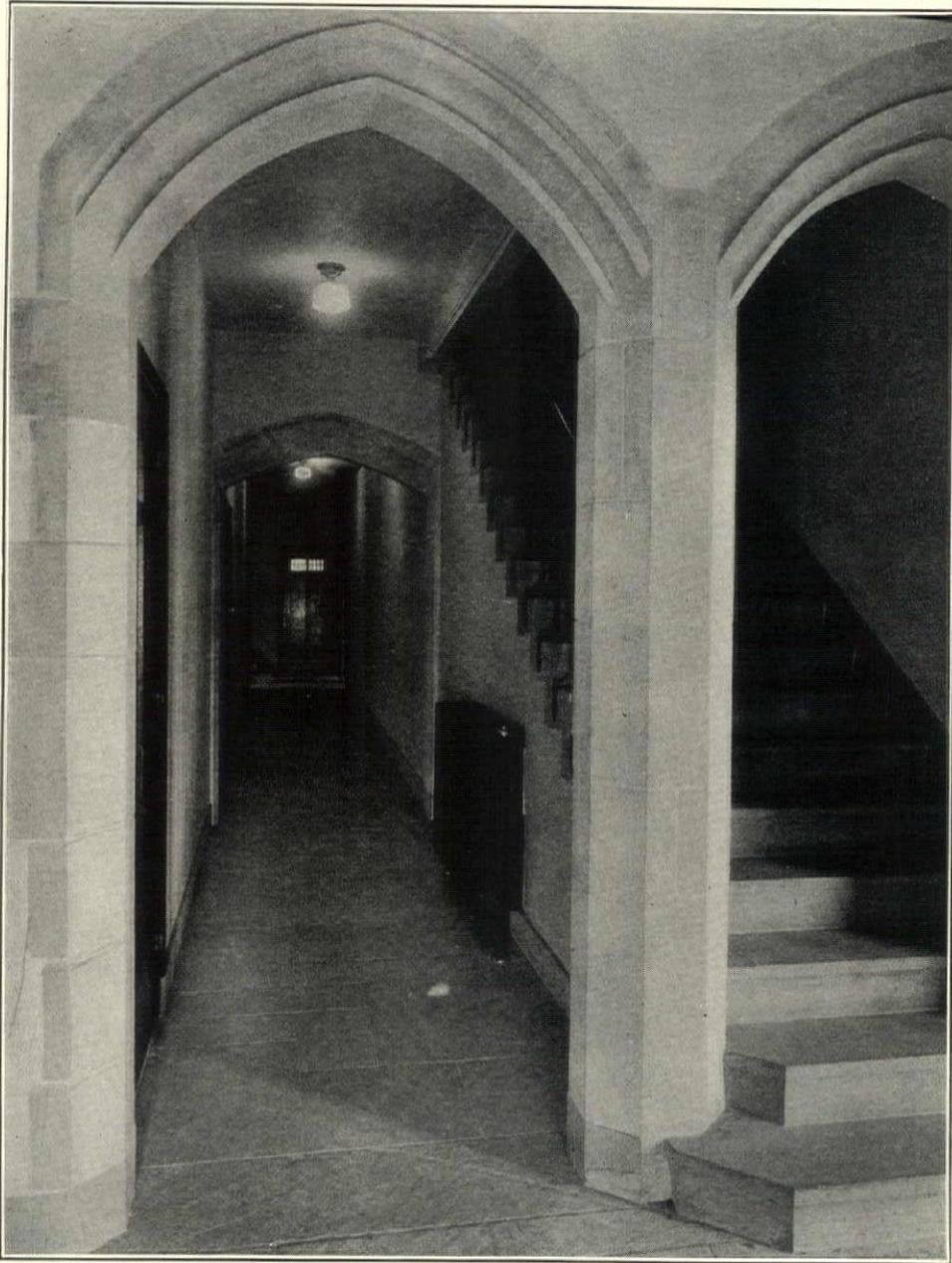
CARNEGIE STEEL COMPANY - PITTSBURGH, PA.

Subsidiary of United States Steel Corporation

63

CARNEGIE BEAMS

ALBERENE STONE FLOORS — TREADS — BASE



BEAUTY — UTILITY — PERMANENCE

ALBERENE STONE offers the architect a natural stone ideally suited for public and semi-public buildings where durability and appearance are equally important. The pleasing light blue-grey of the stone blends and harmonizes with other materials used in construction and a variety of textures is offered . . . The specially selected hard-grade of Alberene Stone used for stair-treads is non-slipping, wet or dry, and has proven its wearing qualities in many public and private schools.

Data regarding the many architectural uses of the stone is given in the brochure "Architectural Alberene," which will be sent on request.

ALBERENE STONE COMPANY, 153 West 23rd Street, New York

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ALBERENE STONE

THE SUPERIOR SOAPSTONE QUARRIED IN THE STATE OF VIRGINIA

The Land of the Mayas

(Continued from page 68)

directly through the bush, landed us at Chichen, city of mystery, magnificence and marvels.

We reached the site just at sundown and a more wonderful introduction could not have been staged for us. As we emerged from the bush, the first sight that greeted our eyes was the mass of the Castillo against a sunset sky. The impression it made could perhaps be described by an author, some author, but as my "Great Adventure" never included a red sash or a facile pen, it will have to be left unattempted. I can still feel the breathless thrill of that moment and in it was attained all the dreams that had clothed these ruins in a garment of romance and mystery. It was all there, nothing lacking but the long dead priests and warriors, their satellites and victims, and in the half light of this tropic evening even they were all there if one closed one's eyes a bit and *thought* them present.

On we passed to our bungalow quarters, but that moment's pause to gaze had left an impression that will be a lifetime memory.

THE accomplishments here of the Carnegie party have been hidden from the world by lack of publicity, but they are doing a great work and doing it superbly. If this were Egypt and there were hotels and tourists (which God forbid), the names of these earnest workers would stare from front page headings and they would be as well known as the Carters and the Carnavans, but they are proceeding quietly and seriously with a tremendous undertaking that has borne great fruit and will bear greater as they work towards their goal.

The ancient city covered several square miles and is estimated to have housed a quarter of a million souls. The excavation and restoration of the Temple of the Warriors itself was a great achievement, for when the work was started the site was a duplicate of the mound behind the Palace of the Governor at Uxmal and now there stands silhouetted against the sky on a triple terraced masonry base, a gem of Mayan art, complete, except for its roof.

Two days were spent here and that time just afforded a glimpse. The buildings—The Warriors, the Caracol, the Nunjas, Castillo, Ball Court and its attendant temples, the Colonnade of one thousand columns, and many others, each merits extended study and inspection and in their restored state afford a comprehensive view of what this civilization achieved in architecture, sculpture and painting not to be had elsewhere in Yucatan.

Among the most interesting buildings, the Caracol or Observatory, is one of the only two known buildings in Mayan architecture built in circular form. That it had some astronomical significance is attested by the fact that lines of sight in the upper room are laid out exactly on the line of the rising and setting sun on June 22nd and December 22nd, the dates of the beginning of the solstice and equinox periods. The structural scheme is unique, as can be seen in the interior. The superstructure and roof are carried on a central masonry core that contains a spiral stairway that apparently stops some

feet above the floor level. The original form of roof termination is in doubt as these stones had disappeared before the work of restoration was started by the Carnegie Institution. The building sets high on a double terrace, rectangular in form, and even now in its semi-ruinous state is an impressive structure that dominates this section of the city. The Nunjas, or Nunnery stands to the southwest of the Caracol and is the largest building at Chichen, three stories high and a tremendous pile of masonry. The upper stones do not extend under each other but are stepped back, and each succeeding level rests on solid earth and masonry. The walls are covered with most intricate carving and one part of the group, the so-called "Church," is of a much later period and is elaborately and boldly treated.

The names by which all the buildings here are known are simply designations for reference or traditional titles, for of their original purpose there is no record. That most of them were used for ceremonies of a religious nature is almost certain and as in Mayan life religion and government were closely related, in fact were probably one and the same, the buildings served both purposes. That the Caracol was used for purposes of astronomical observation is fairly certain, but the others are mysteries and are likely to remain so, except one group, the Ball Court; of that there is no doubt, for there are records handed down from the early Spaniards who saw the game played. The main field or court measures 272 x 119 feet with two parallel enclosing walls 27 feet high. At the north end stands a small ruined temple and at the other a larger structure with a columned facade. On the south end of the east wall is the Temple of the Jaguars, thought to be the Royal box from which the officials viewed the sports. Stone rings set midway in each wall are four feet in diameter and eleven inches thick with a central hole one foot six inches in diameter. A ball of crude rubber almost as large as the hole was used and the game was won by driving the ball through the hole in the ring, by striking it with the hip on which a leather pad was strapped. The game was a combination of religious ceremony and sport and was of national importance, for almost every Mayan city so far discovered has its court. At Chichen there is a second smaller one, as yet unexcavated.

THE Temple of the Jaguars, placed on a high platform at the south end of the east wall of the ball court, has the familiar serpent columns at its entrance similar to those at the Temple of the Warriors. The interior of the sanctuary is elaborately painted in color with battle scenes, representations of sacrificial rites, etc., and is the finest example of Mayan painting that exists today. As there are no windows, the doorway is the only means of lighting this interior. It is a mystery how the murals were viewed, for there does not seem to be any evidence of smoking torches on walls or ceiling. It is peculiar to Mayan architecture that windows are non-existent; ventilation and light entered only through doorways.

The residential section of the city has entirely dis-

Announcing the new ILLINOIS Series 17 Combination Blast Trap



A small combination float and thermostatic trap of enormous capacity, per dollar cost

The Series 17 Trap is of the bucket type and combines all the advantages of our well known Series 18 and 36 Combination Blast Traps for condensate drainage, together with the compactness of a thermo trap of similar capacity. Meets the particular requirements of Unit Ventilators. Unsurpassed for Unit Heaters, Indirects and Drips on mains.

Positive snap action—the valve is either tight closed or wide open—no intermediate position—wire drawing prevented.

This efficient little trap *handles hot water as well as cold* and absolutely vents air from the heater.

CAPACITIES

1 lb. Pressure	150 lbs. hot condensate
2 lb. Pressure	200 lbs. hot condensate
5 lb. Pressure	350 lbs. hot condensate
10 lb. Pressure	500 lbs. hot condensate

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ILLINOIS ENGINEERING COMPANY

ROBT. L. GIFFORD President INCORPORATED 1900

CHICAGO

appeared. Evidences of its location and extent have been found in the foundations of numerous houses which seem to have been similar to the Mayan house of today, a one-story hut with low masonry walls surmounted by a wall of poles and brush and roofed with thatch.

AS almost all the work of excavation and restoration here has been done on the ceremonial and religious center, the principal area of the city still lies hidden under its covering of brush and jungle, but a survey has been made covering an area of several square miles dotted thickly with remains and ruins awaiting the revealing hand of the archaeologist.

Our time was growing short and we had to think of such practical things as the office and all the matters that were awaiting our attention in New York.

Further study must be left to another far off trip. Reluctantly we bade farewell to our hospitable hosts at headquarters and returned to Merida.

The journey home was much pleasanter and less romantic than the out trip. We boarded the S. S. Mexico, of the Ward line, at Progreso and after a stop in Havana of a day's duration arrived in New York five days later and began again the daily grind.

This trip to Yucatan can be made easily. The accommodations at Merida are not luxurious but possible as to comfort and food and living is not expensive.

The climate from fall to spring is perfect, hot, yes, but dressed for the tropics and with due care for the sun's power one can be comfortable. It seldom rains in this season and one can count on an almost endless procession of fine days for trips through the country.

An Easy Way to Keep Job Costs

(Continued from page 31)

directly against a job for which the office expects to be paid, they are known as *Productive Items*. Every other item of the year's total expense is charged to overhead. This includes, not only rent, salaries of clerical help, supplies, new furniture and fixtures, etc., but also the hours charged by draftsmen and the architect himself, to "general" and "holidays." Overhead then, is everything for which money is spent except productive time and productive items.

How to Figure Overhead:—Every office keeps time cards, if only for the purpose of calculating salaries owing draftsmen. Go over your last year's time cards. Separate productive time from the non-productive. If your blue-print orders or invoices were marked with the numbers of the respective jobs for which they were made you can easily separate the costs of blue-prints on the productive jobs from those on the non-productive. Don't be discouraged by this little job of addition and subtraction. A few hours spent in simple arithmetic may mean hundreds of dollars to you next year. It may mean the difference between success and failure! You have a record of your total expenditures for last year, (at least, you should have if you paid your income tax) subtract from this the total paid out for productive time plus the total spent on productive items. The balance is the amount of your overhead. Here's an illustration:—

Total Gross expense last year, including salaries or drawing account of architect	\$16,000.00
Total payroll for productive time ..	\$9,500.00
Total cost of productive items	500.00

Total productive cost	10,000.00
Difference, or total overhead	\$6,000.00

Percentage of Overhead:—Divide the amount of overhead (\$6,000.00) by the amount of total productive cost (\$10,000.00) and the result is 60%. In other words, for every \$100.00 spent in productive time or items, you had an added 60%, or in this case \$60.00 for non-productive overhead. To illustrate further:—

Productive time on job No. 123 ...	\$579.50
Productive items on job No. 123 ..	55.90
Total productive cost	635.40
Plus overhead, 60% of \$635.40 or	381.24
Total cost	\$1,016.64

This sum represents actual cost. The profit must be added to it.

Do not jump at my 60% illustration as the correct ratio for your own office. While it represents my own percentage of overhead for last year it may vary considerably from the figures in other offices. I know of one office where the overhead is 100% and still another where it is kept as low as 35%.

Unfortunately you cannot forecast what your overhead will be next year, regardless of how carefully you may budget your expenditures. You can, however, use your last year's percentage of overhead until a sufficient period has passed to make possible taking off figures and ascertaining a new percentage. Some offices compute their overhead at the end of each month, others, at the close of each quarter. Many use the previous year's figures throughout the current year.

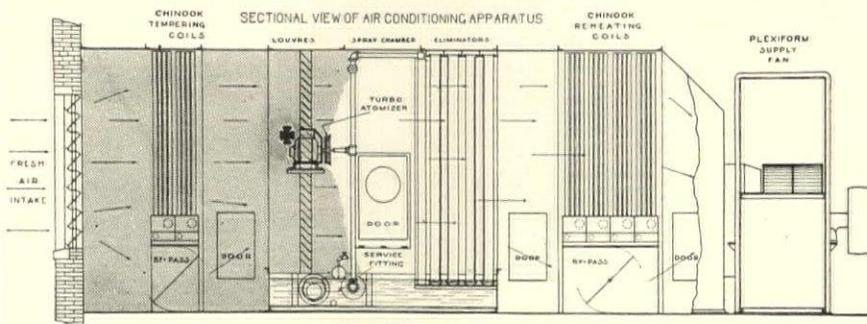
Time Cards:—Every individual working for the office, including the principals must keep a time card. Tabulate the time card so that productive time can easily be separated from non-productive. Provide a column for "Kind of Work." You may have an all-round man in the drafting room who can not only draw, but who can also write specifications and do supervising. He may be called upon to spend a few hours on each kind of work, all in one day and each should be separately recorded on his time card for subsequent entry on the cost record card.

Cost Record:—Records of cost may be kept in a book, using double entry ledger ruling, or on sheets having two main columns, one for cost of productive time and the other for cost of productive items.

I choose cards measuring 5 in. by 8¼ in., which fit a

FOREMOST IN ITS *Field...*

by *Every*
Point of
Comparison



THE BAYLEY TURBO AIR WASHER

—non clogging. No fine orifice nozzles to become clogged with entrained solids in the water and cause holes in the water screen.

—in place of a bank of fine orifice nozzles; a motor driven centrifugal water sprayer, delivering a water screen the equal of 100 ordinary spraying nozzles.

—a single fire type nozzle large enough to permit the passage of entrained solids in the washing water; thus allowing continued use of same water without the use of filters or strainers.

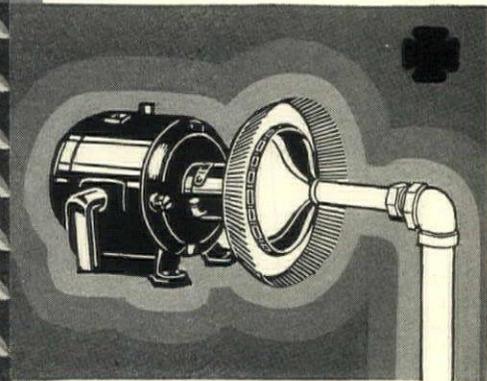
—a dense mist screen obtained by directing the water from the

single nozzle to a rapidly revolving rotor where it is churned centrifugally into an even, solid spray.

—operates with water at only 7 ft. head at nozzle.

—by replacing multiple nozzle banks with Bayley Turbo-Atomizers present inefficient installations of air washers can be made highly efficient.

That briefly is the Bayley Turbo-Air Washer. Scores of installations have proven it successful. May we tell you where they are and describe them more fully by means of Bulletin No. 29A.



Above the Bayley Turbo-Atomizer. Plan illustration, shows complete Bayley Turbo Air Washer.

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750 Greenbush St. Milwaukee, Wis.

Bayley

TURBO AIR WASHER

Fans — Heaters — Air Washers —
Unit Heaters — Heating, Ventilating,
Drying, Air Conditioning, Humidity
Control, Mechanical Draft.

standard size card-file box. My cards are of four colors, pink, blue, yellow and green. All of the cards allotted to any one job are of the same color. For the next consecutive job a different colored card, or set of cards, is used. If there are more than four jobs in the office at one time, we start over again, using the first color for the fifth job. In this manner, it is easy to pick out all cards belonging to any one job.

SINGLE cards suffice for the smaller jobs. If it is certain that a job is going to be large we set aside one card each for Promotion, Preliminary Sketches, Working Drawings, Specifications, Full Size Details, and Supervision. Since these cards are all for the same building, they are all of the same tint, but each is labeled with the type or kind of work. When one card is filled, another of the same color is added. On larger jobs this additional record is seldom necessary, except for the "Working Drawing" card.

The illustrations show a tabulation of a mythical job. The written data serves to illustrate how records are kept on a small church. Each year we assign the first card in the box to overhead, and transfer to it, directly from the time cards, all the hours charged to general, holidays or any item of non-productive time.

When we learn of a possible commission we first investigate the merits of the rumor. If our information is incorrect and the rumor turns out to be a dud, the time spent in running it down is charged on the overhead card. If there is reasonable possibility that it may develop into a job for the office, it is given a number, and the promotion work is charged to the job and not to overhead. Should the prospect finally become a paying commission, we have a record of its cost from

the very start. If, for any reason, it does not develop into a paying commission, the costs are transferred to the overhead card since they have changed from productive to non-productive. The job card is then "killed," but not destroyed, for it is not entirely impossible that a prospective client who had decided to postpone building may, by some good fortune, suddenly decide to resume his intentions to build. It is well, then, to consider the "killed" cards as a list of possible prospects. If the job has been given to a competitor or definitely abandoned the card may then be destroyed.

Technically speaking, the architect's supervisory services on a building are not completed until the longest guarantee has expired. If a roof has been guaranteed leakproof for twenty years the owner has a perfect right, should a leak occur within that time, to request the architect to enforce the conditions of the guarantee. It is impractical, however, to hold cost records open until all guarantees have expired. We consider that a job is completed six months after we receive the owner's final payment for services, and the job-costs are tabulated at that time. If any services are required thereafter they are charged to overhead.

WHEN the costs have been totaled, the cards are filed with all other job correspondence, all of which is then refiled in the transfer file. Just a word in closing. No system will work unless it is strictly adhered to and becomes office routine. *Everybody in the office must keep a time-card.* Time must be entered at the close of each day's work. If a single day is allowed to pass, something is forgotten. This is absolutely necessary if accurate costs are to be kept, and cost is the most important single item in business!

Do Architects Want Criticism?

(Continued from page 59)

There seems to be a great hesitancy in most journals to come out squarely for one school or the other. It is assumed, possibly, that those sheets that show selected doorways from Salem or carved newels from Charlestown cannot show the so-called new work without captions carefully explaining that they really aren't much in favor of the new fangled stuff but it's news and after a few months no one will be interested anyway, so that no harm is done. Possibly the European journals, with the exception of the English, and they, too, are rapidly showing evidences of rejuvenation, are aware of a movement so powerful and so vigorous that it would be almost ludicrous to find them showing romantic rehash.

WHAT our public, and not necessarily our own profession, might like to see is more of the spirit dictating the living work. How is the new department store planned, why is the new Bullock store in Los Angeles interesting, the new Stewart store in New York? Is there a real variety in arrangement of space of function, or is the new mode mere decoration? Is the new illumination accomplishing its purpose, the dramatization of various departments proving to be sound from the point of view of business?

Should one become obsessed by theories of mechanistic design, angles, planes, triangles, cubes, blocks? Is decoration coming or going? Shall the mural painter

and the sculptor have less or more to do with the new building? The architect may be at fault in not providing space, but after all, are we not beyond the day when a blank space on the plans might read "sculpture" or "mural painting"? The new sculptor and painter may discover that he belongs to the design as an integral part if he thinks out the problem with the architect, if he is conscious of his work, not as applied frippery but as a necessary element that cannot be eliminated when the budget becomes alarming.

When we discuss our classics and let no facetious note enter here, are not Cambodia, China, Mexico, Peru, Thibet, also our cultural heritages? Would it not be far more entertaining to see the amazing wood carvings of New Zealand primitives than an everlasting reawakening of New England?

All of which is, in all likelihood, quite impertinent and disturbing, but one lives but once and if the joy of being conscious of our time and day is to be censored, is our work worthwhile?

"The Corrosion of Lead in Buildings," price 1s. 0d., and "The Prevention of Corrosion of Lead in Buildings," price 4d., have been issued by the Department of Scientific and Industrial Research, Westminster, S.W. 1., and are obtainable in the United States from The British Library of Information, 5 East 45th Street, New York.

Saving in "Dead Weight"

Lowers Total Building Cost



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Henry Phelps
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Contractors:
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CONCRETE joist floors are widely specified for buildings of every type—from the one-story building to the giant skyscraper.

This acceptance is the result of definite economy in total building cost—adequate rigidity and stability—and greater speed of operation on the job.

A reduction in total building cost is effected because the minimum "dead floor load" permits beams, columns and footings to be made correspondingly lighter.

Comparative cost figures will explain why more and more buildings are designed for concrete joist floors. Inquiries will establish the fact that Meyer Steelforms are the standard for this type of floor construction.

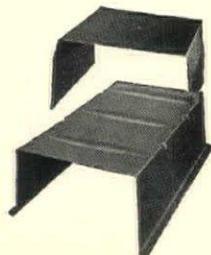
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MEYER

Steelforms



THE STANDARD

THE ORIGINAL REMOVABLE STEELFORMS FOR CONCRETE JOIST FLOOR CONSTRUCTION

Acoustical Defects Visualized by Light Rays

(Continued from page 42)

It was also found that the extreme edge sections of the cyclorama were focusing sound detrimentally in approximately the tenth row of the orchestra seats.

It was decided to defer making changes in the cyclorama in order that the shifting of the interference pattern, while the major changes were being made, could be observed and the effect of the alteration on the cyclorama could be accurately determined. The investigation had also disclosed the fact that the theatre ventilating system created a noise disturbance by the telephonic transmission of sound from the blower apparatus and flow of the supply air from the ceiling ports.

A CLOSE board scaffold was erected to reach all surfaces of the rear half of the theatre. The edges and ends of each strip of the canvas decorations were carefully loosened from the plaster surfaces. These were marked with an index number to fix their replacement position, the index number being identical with one on a plan previously drawn for this purpose. The location of the ends and the edges of the canvas strips were marked on the surface of the plaster and the corresponding index number of the strip marked on the plaster. The canvas sheets were rolled on large hollow rollers from the top edge downward. Whenever a gusset or irregularly cut joint in the canvas was encountered, the contour was marked on the plaster surface behind it so that in replacing the canvas these serrations would have reinforcement and bearing.

After all of the canvas decorations were removed, they were carefully unrolled upon an especially prepared bench and the paint film minutely and completely perforated by passing the canvas through an apparatus made for this purpose. The perforating process was performed in such a way that the decorated surface was not impaired or injured and the perforations were invisible to the naked eye unless a light was held behind the canvas. The perforating apparatus introduced pores in the paint film on 1/32" centers, or approximately 147,500 pores per square foot. After the canvas was removed the plastered surface was stripped on approximately 12" centers with fireproofed lumber and additional strips applied where all edges and joints in the canvas occurred. These strips were in general one inch thick and were toggle-bolted into the wall. Where the curves were most acute, the strips were built up to two inches in thickness and made to intersect the one inch strips gradually without visible break.

WHERE the treated wall surface joined the untreated wall surface the canvas was loosened from the wall, and wooden strips six feet long, bevelled down to a feather edge, were inserted under the canvas of the untreated section. As a result, there is no evidence of where the treated and untreated sections meet. Additional strips were installed against the plaster walls on close centers for a height of six feet above all aisles and steps to substantially reinforce the canvas decorations against the possibility of damage.

Across the face of the wood strips a close mesh, gal-

vanized wire screening was tightly drawn and formed to the wall curvature. It was depressed and fastened along the sides of the strips so that the screening was, when completed, at every point just slightly behind the face of the strips so that it would not bear against the canvas decorations when they were replaced.

While the wire screening was being fastened in place but before it was depressed, loosely packed, selected mineral wool was forced into the cells formed by the plaster surface, the wood strips, and the wire screening until the entire treated wall area received an extensive lining of material of exceptionally high sound-absorbing efficiency.

The most exacting operation then followed; that of replacing the decorated studio burlap after the process of completely perforating the paint film had been accomplished. The replacement of the canvas required exacting care, diligence and patience and no part of this work was permitted to be permanently completed until a rigorously minute inspection was made of every detail. All edges and figures were exactly matched and temporarily fastened in their relative positions. Excess material attributed to the decrease in wall surface was worked down to the wall base behind the balcony seats and cut off at this point. After all of the decorations were finally in position, all edges were opened up and thoroughly treated and cemented, after which they were rolled back in place and the entire treated area fastened at close intervals into the wood furring behind. Touching up of the original decorated burlap required but little time because the decorations were fully protected against any possible damage throughout the operation.

AFTER the scaffolding was removed, the acoustical effect of the cyclorama was determined and operations begun upon it. The sharply curved surfaces at either end of the cyclorama were studded through with holes drilled on very close centers over an area on either side of approximately fifteen feet wide and twenty-five feet high. The cells formed by the face of the cyclorama, the backing and the channel iron studs of its framework, were compactly filled with mineral wool. An open mesh fabric was glued to the face of the cyclorama to hide the holes but to permit sound to pass through to the mineral wool lagging. The entire cyclorama was painted so that when the work was completed the sections which were acoustically treated could not be distinguished from the original portions.

The ventilating system was altered to prevent disturbing noises in the auditorium, by isolating the blower equipment from the structure to prevent telephonic transmission of sound and vibration, and baffle chambers were installed in the duct system to absorb the noise of the air issuing from the ceiling ports.

The painstaking labor involved in the acoustical correction of the Ziegfeld theatre had its compensations and reward. The auditorium responded admirably to the treatment. There was displayed in most satisfying form, conclusive evidence that the analytical conceptions and computations were justified.

There seems to be no doubt that acoustical defects,



Rae and Son's Shoe Store,
Vancouver, British Columbia
— A Desco Installation.

Desco
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For full architectural details see Sweet's catalog. Write us for complete working data and price list. Remember, too, wherever you are there is a distributor near you. We also carry a complete line of "Desco" construction material in our New York City Warehouse.

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treatment. There was displayed in most satisfying form, conclusive evidence that the analytical conceptions and computations were justified.

There seems to be no doubt that acoustical defects, such as previously existed here, can be visually depicted through the construction of simple models after the architects' plans are finished and before construction work is begun. It becomes unnecessary to postpone testing the acoustics until after the structure is completed, taking a chance that they will be good.

Things About Architecture That Irritate Me

(Continued from page 47)

lands and in other epochs, which would be amusing but for the fatuous developments such principles would tolerate. The celebrated Jacques Coeur gave the Sixteenth Century townfolk of Bourges something to tickle their fancies. This imaginative architect and famous traveler caused a couple of stone figures to lean, through the ages, over a balcony backed by one or two fake windows. Perpetual Sister Anns. This was evidently a hit with the good people of Berry in that day, for the idea is repeated, a little more crudely, a few blocks away. Carry this playful spirit over a few hundred years and miles to New York City, and you find tall, spacious windows allowing an honest, hard-working water tank to gaze out upon the frenzied pageant of life below—and through curtains!

BY a strange and modern irony, the various economic and practical conditions which have been responsible for the growth of the skyscraper work in beautiful harmony to prevent it from being seen. High land values in crowded commercial districts have pushed the structure, and the imagination of the builder, up to glorious heights. But what price architectural glory, if only a fragment of it ever reaches the eye? To consider an example in which just the opposite state of affairs obtains: the observer may get a full view of the Palace of Versailles from almost any angle of approach, and enter the building without breaking the spiritual contact which was created hundreds of paces away. Aesthetically, one's conception of this structure can maintain this spiritual unity by an uninterrupted flow of impressions from exterior to interior.

Of course few American cities can offer their buildings such an unobstructed approach, though Chicago's Michigan Boulevard rivals in opportunity the lay-out of any metropolis this side of Budapest, and the perfect set-up of Manhattan's New York Central Building would have had Louis XIV crying for the royal tee-square in an extravagantly symmetrical ecstasy.

The result of this limitation, which allows only a few of our gigantic piles to be seen at one glance, in their entirety, is that the observer goes through two almost entirely dissociated psychological experiences. He chooses a certain building as his destination: it is quite probable that he will sneak into it through a subway, or will never get around to looking at it as he barges through the streets—but we will assume that he has glimpsed the upper stories from a distance. Before he can enter the doorway, his field of consciousness has been crossed by street cars, trucks, and careless taxi-

The Ziegfeld Theatre has been transformed acoustically; tonal effects are clear, distinct and undistorted; and instead of the auditor witnessing a pantomime, the aural effects are perceived under normal conditions. The speaking voice can be heard in any seat without distortion and in natural timbre. One seat is no more advantageous than another. The focusing and reflection of sound by curved surfaces is no longer in evidence. The interference pattern has been clarified. The individuality of the auditorium possesses a brighter temper.

cabs. The place is recognizable to him only by a number, or by certain types of glass doors, and he enters a hallway which represents his first real contact with the building. Here we come to the point, viz., all of our architectural ingenuity is concentrated upon designing a building which will appeal to the aesthetic sensibilities of observers who inhabit a neighborhood too far away to have much occasion to enter it. The balance of interest is centered upon parts of the building which seldom meet the average eye.

We can't tear down a block or two so that one skyscraper can really be seen, though there are city plans which allow of such a happy possibility, but we *can* bring the character of the building down to the ground and slip a little architecture in between the plate glass windows which make our transparent plinths. The man in the street passes aimlessly by, glancing in the window at a fancy collection of haberdashery, and little realizes that he is in the shadow of one of the greatest architectural masses of any age. He can't be expected to lie down in the middle of the street to get an inkling of the spirit of the building, or get himself run over in order to view the lofty pinnacles of our genius from a comfortable stretcher.

Why not give us more architecture in the lower stories of the building.

ALMOST every modern architect who has visited us from abroad has commented, with pointed disregard for our more fancy efforts, upon the beauty of our silos and grain elevators. In these, utilitarian America comes through with an honest expression and gives us homespun beauty. However, midway between the Chicago Civic Opera House and the silo we have one of our broadest fields of utilitarianism—the plain, outright loft building without diamond-studded elevators and platinum water tanks. And lo, here is such an efficiency, an economy, an artistic mediocrity as would be found in a purgatory of engineers! We get far away from the pure form of the grain elevator and pile up our lofts in unrelated slices. There are notable exceptions which are increasing in number, but the streets are full of loft buildings whose floors are stacked one on top of another with the regularity of a box of dominoes. Just because a loft must be designed upon strict principles of economy doesn't mean that each one of these floors, un-terminated and unrelated, should be allowed to take a long horizontal run and jump into space. The un-terminated vertical is a different proposition. It has the advantage of a starting point on the ground—but this

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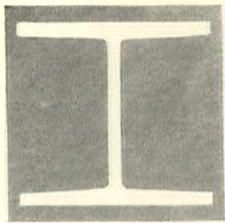
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BETHLEHEM

Wide-flange Structural Shapes

discussion won't be entered into here. It can be said that the handling of horizontal problems is one of the first principles of design, but there is an architect born every minute who doesn't know how to face it in purely "commercial" work, or who doesn't know how to overlook it cleverly. Modern German architects have handled horizontality in a capable, interesting manner, and their influence has been felt in some quarters with fortunate results.

When lofts require step-backs, the problem is naturally complicated, but at the same time it is no more a complication than an opportunity. Here is enforced variety of form, which is too often conceived by the architect merely as a solid flight of stairs up to the pale blue nowhere. The problem of any building which is not to be engaged on two sides throughout its entire height is—to be a sculptural whole. The masses of our more pretentious buildings are often admirably handled, but the ingenuity of the designers of the utilitarian loft has been so stultified by economic or creative limitations that the sky-line is jagged with very servicable horrors.

What Architects Are Talking About

(Continued from page 55)

offices for three years or more or who have otherwise demonstrated their ability. Applications must be filed before April 19. Winners will devote the following school year to the study of advanced architectural design and such other subjects as they may elect. Full information may be had from the director of the School of Architecture, Princeton University, Trenton, N. J.

COMPETITIVE bidding in Chicago costs three per cent of the total building expenditure, according to a survey quoted by C. Herrick Hammond, president of the American Institute of Architects, who urges closer industrial relations between architects and contractors to eliminate waste and promote higher standards. He states, "Many evils of the industry are the result of the unfair competition that comes about through the necessity of accepting bids from contractors of unequal standing and ability; this is a problem that must be solved by the contractors.

"When the owner buys the construction of a building in competition, the competition is all over when the sale is made; thereafter the buyer, having bought blindly on a promise or on a reputation, receives in return an article which is no better than he or the architect will accept, or the craft pride and good faith of the builder will produce.

"It is that essential failure of ordinary competition, when applied to building construction, that must be taught to the people who pay for the building, the owners, and it has to be taught to them by competent architects and competent contractors working together with a fine spirit of co-operation.

"I believe, and most architects, I am sure, would agree with me, that the ideal way to build a building is to select a contractor, who by his experience, his ability as a builder, his organization, his equipment, and his financial standing is best qualified. The building operation is thus put in the hands of the architect and con-

Let the loft be conceived in the round and dedicated to the proposition that all men are not free to look at it from only one angle!

While it is not the duty, or necessarily within the ability, of the writer to offer a panacea for all these ills, it might be suggested that a more general change of viewpoint is needed. This feeling has of course been in the air for some time, and the idea of the correlation of form and function is entering the architectural consciousness with a new vitality. A more poignant realization of this idea, as it must be applied to the present day problem, will help to overcome the obstacles imposed by too great preoccupation with the archeological and the picturesque. The influence of the doctrine of conspicuous waste, as expounded by Thorstein Veblen, is on the wane as regards our decoration, and inappropriate tricks of design must give way to the infinite relief of straightforward architecture. The modern building, made up as it is of entirely new demands met in entirely new ways, is no longer to be treated as a clothes-rack upon which to hang period costumes.

tractor, both working in a professional capacity for the best interest of the owner.

"In this case, the builder, the architect and the owner may all join in the effort to secure a standard of work, a speed of construction and an economy of cost which is rarely possible when the general contractor is secured by competitive bidding and the award made to the lowest bidder."

THE caption on page 100 of the February issue of THE AMERICAN ARCHITECT stated that the illustration was that of a model used in developing the lighting of the St. George Hotel ballroom, Brooklyn, N. Y. This model was that used by F. J. Cadenas in developing the entire idea of decorative lighting described in the article, and was not a model used to develop the lighting at the St. George Hotel.

SIR LAWRENCE WEAVER died January 10 in London. He was architectural editor of "Country Life" for several years and was well known as an author. Some of his books were "Lutyens Houses and Gardens," "History of English Lead Work," and a "Sympathetic Study of Sir Christopher Wren." He was for many years an honorary associate of the Royal Institute of British Architects.

WORK of students in the School of Architecture of the University of Southern California will be exhibited in the State Building in Exposition Park, Los Angeles. The exhibit will include a wide variety of plans and designs, water color sketches, mural paintings, and freehand drawings.

THE CEMENT INSTITUTE, an association of manufacturers of Portland cement, has established general offices at 11 East 44th Street, New York.

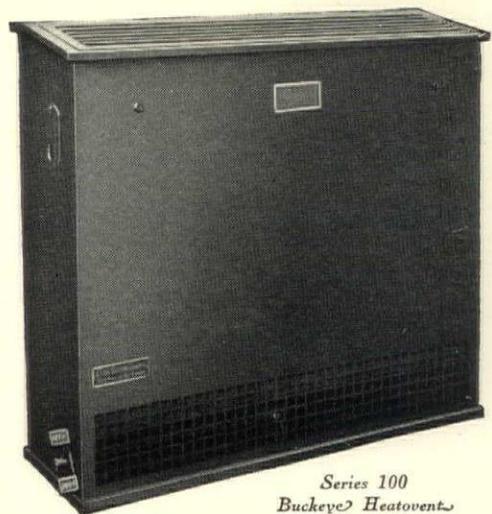


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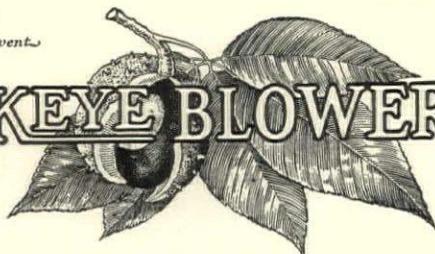


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TESTS on built-up wooden beams have been made by the U. S. Forest Products Laboratory which show that built-up wooden beams, made by fastening together two or more planks of like width with nails, bolts, or similar devices, have unquestionable advantages compared to solid beams. They may be constructed of smaller lumber which is readily available and easily and quickly seasoned, and they contain fewer shakes, checks, and other defects. It is understood, of course, that built-up beams will be placed so that the load will fall on the narrow faces of the planks.

The opinion has often been expressed that where two or more boards or planks are used together and loaded so as to deflect or bend equally, the stiffer pieces will take the greater share of the load, and will therefore fail before the less stiff pieces. It is true that the stiffer pieces will take the greater load. Tests show, however, that a plank of high stiffness will normally bend slightly farther before it fails and will withstand a larger maximum load than a plank of low stiffness. In other words, beams built up of planks without defects, such as knots, will tend to fail in the less stiff rather than in the strongest planks, and beams built up with planks containing defects will break first in the plank having the more serious defect, regardless of the load which is being sustained by any one plank.

Another opinion sometimes advanced in favor of the built-up beam is that staggering the defects in the planks of a built-up beam will increase its strength. Tests show that the popular thought is in error and that staggering the defects does not add materially to the strength of the beam.

It is apparent that there is no marked difference in strength between built-up and solid beams. But because of other advantages they offer, built-up beams may well be used as girders in residence buildings, garages, barns, and other farm structures.

One of the principal advantages attaching to their use is that the material may be readily obtained in a dry or comparatively dry condition. This is in contrast to the condition of solid beams, which in the larger sizes may have a relatively high moisture content even after two years of drying.

Ordinarily solid beams can be obtained only on special order since only a few yards stock them in a variety of sizes. When ordered from the mill they are frequently received in a green condition. Their use in this condition lays them open to the difficulties incident to shrinkage and decay. Stock for built-up beams, on the other hand, may almost invariably be obtained from lumber yards on short notice. Moreover, they are relatively easy to put in place, do not have to be lifted by special means, and can be constructed in any size and installed just as they are needed.

AMERICAN Indian life will be studied by the Board of Trustees of the Laboratory of Anthropology at Santa Fe, which has commissioned John Gaw Meem, A.I.A., to prepare plans for the construction of a museum and laboratory for the pursuit of such study. The first unit of the proposed group of buildings will be constructed with funds provided by John D. Rockefeller, Jr., and will be located at the center of the cliff-dwelling area. When completed, the project will provide research laboratories, museum exhibitons, libraries, lecture halls and facilities for graduate instruction in archaeology as well as public education in the history of America's native races.

BACK of Floridene stone is rather a romantic story, according to *Printer's Ink Monthly*, which says: A former major in the army, George L. Jones, in need of rock which might be used in cement, set out on a trip through Florida to uncover deposits which would serve his purpose, for there was a freight embargo on at the time and he needed rock

badly. In his travels he came across a ledge of rock that caught his fancy and he hacked off a piece which he sent to Washington to be analyzed. Back it came with the information it was travertine, expensive building stone formerly imported from Italy. He had discovered the only known deposit in this country. The lucky major immediately purchased the property on which the stone was found and later sold it to a private corporation for a large sum. The corporation, in turn, drew up a sales agreement with Johns-Manville and Johns-Manville drew up the advertising, all resulting from the need of a little rock for cement.

A GOLD medal named in honor of F. Paul Anderson has been endowed by the American Society of Heating & Ventilating Engineers. It will be given annually to the member of the society whose work or services in the field of heating, ventilating or air conditioning are outstanding. It has been suggested that the first award be made to the member of the society not more than thirty years of age who presents the best technical paper during 1930. Mr. Anderson is dean of engineering at the University of Kentucky and is a past president of the society. Thornton Lewis, president of the society, states that Dean Anderson has trained and directed the education of more engineers engaged in the heating and ventilating profession than any other man in the world.

SINCE the requirement has been in effect that real estate brokers in New York shall be licensed, 30 per cent of those taking the examinations failed to get a passing mark, did not receive their license, and so were not allowed to practice. These figures show that incompetency in the real estate business in New York is decidedly on the decrease because of the higher calibre of those admitted to practice . . . likewise that there was plenty of it before the requirement went into effect.

A CODE on the proper selection, installation and maintenance of walkway surfaces has been developed by the American Standards Association under the joint sponsorship of the American Institute of Architects and the American Society of Safety Engineers. It is intended as a guide to state and municipal authorities in the formulation of laws and regulations, and for use by architects, builders, owners and others responsible for the safe conditions of walkways.

IN the advertisement of R. Guastavino Company, New York, appearing in the January issue of *THE AMERICAN ARCHITECT*, the spelling of their trade name "Akoustolith" was given as "Acoustolith" instead of "Akoustolith," it being properly spelt with a "K."

AN effort to locate the causes of friction in the building industry in New York City is being made by the New York Building Congress, which has appointed a committee for that purpose. Discussions have already been held with representatives of several trades and it is intended to meet soon with labor's representatives and to continue conference with all interested groups, including the public.

SIXTY-SEVEN per cent of the total number of homes in the United States are wired for electricity, according to the National Electric Light Association. Ninety-three per cent of these wired homes have electric flat irons, which is an indication that wiring provision should be made to handle a heavier working load than was customary a few years ago.

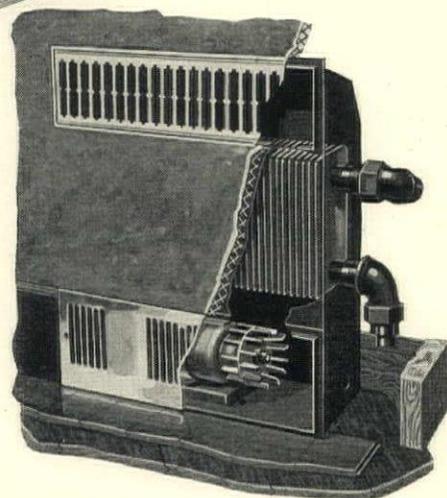
(Continued on page 106)

Everybody Wants to Know More About This New and Better Method of Heating

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A comprehensive booklet fully describes the Air-Way Aeriet. One should be in the library of every firm and individual having to do with building design, construction and decoration. Here is the modern heating system. Send for the book that tells all about it.



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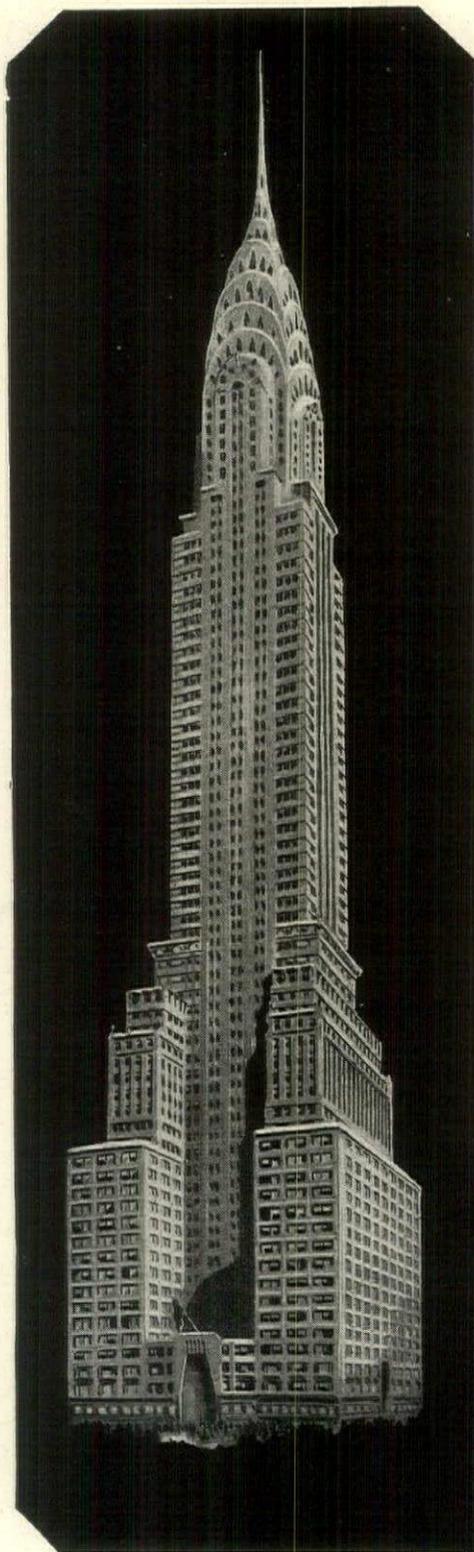
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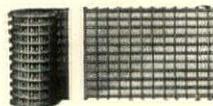
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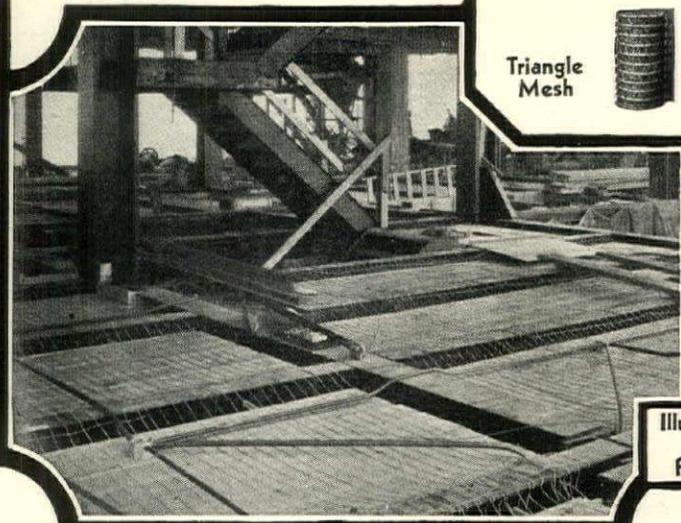
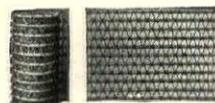
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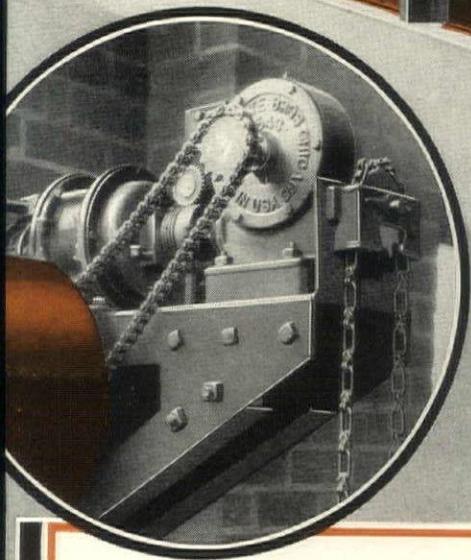
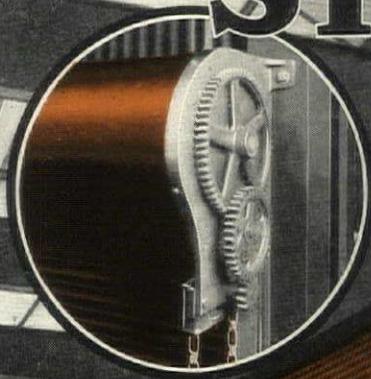
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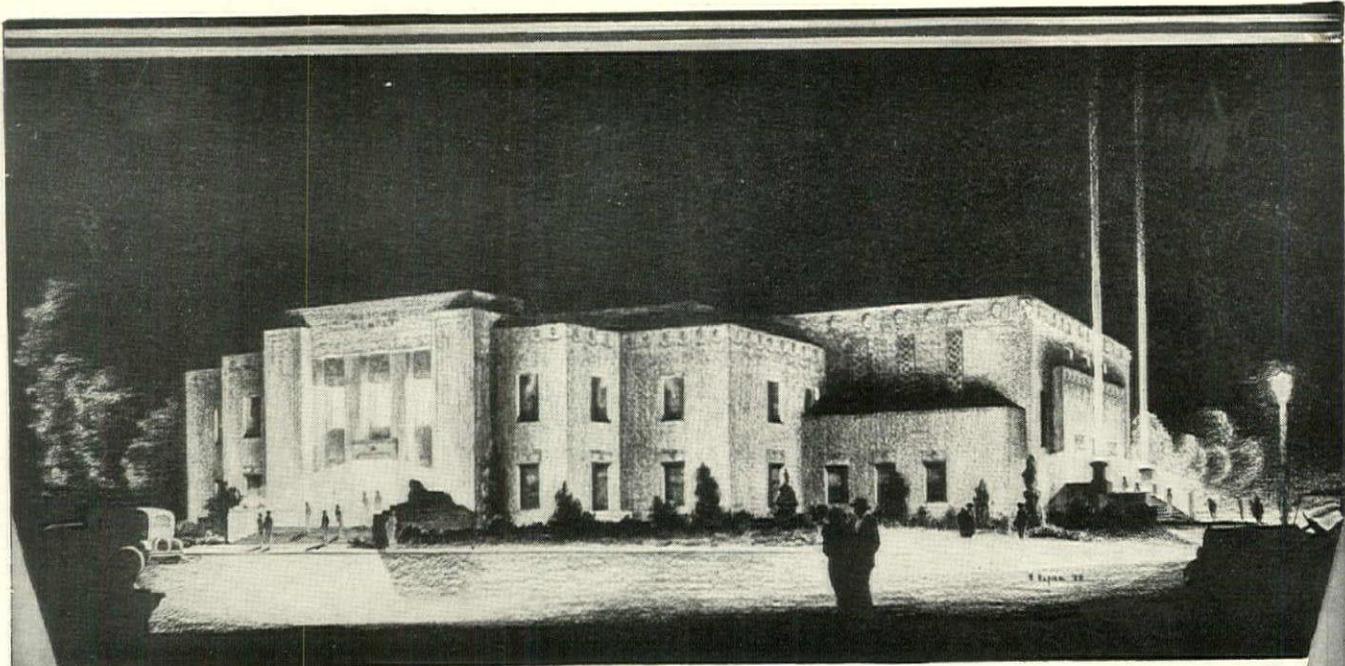
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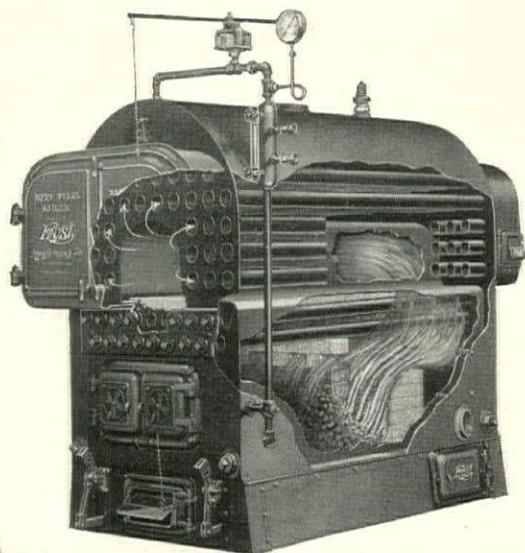
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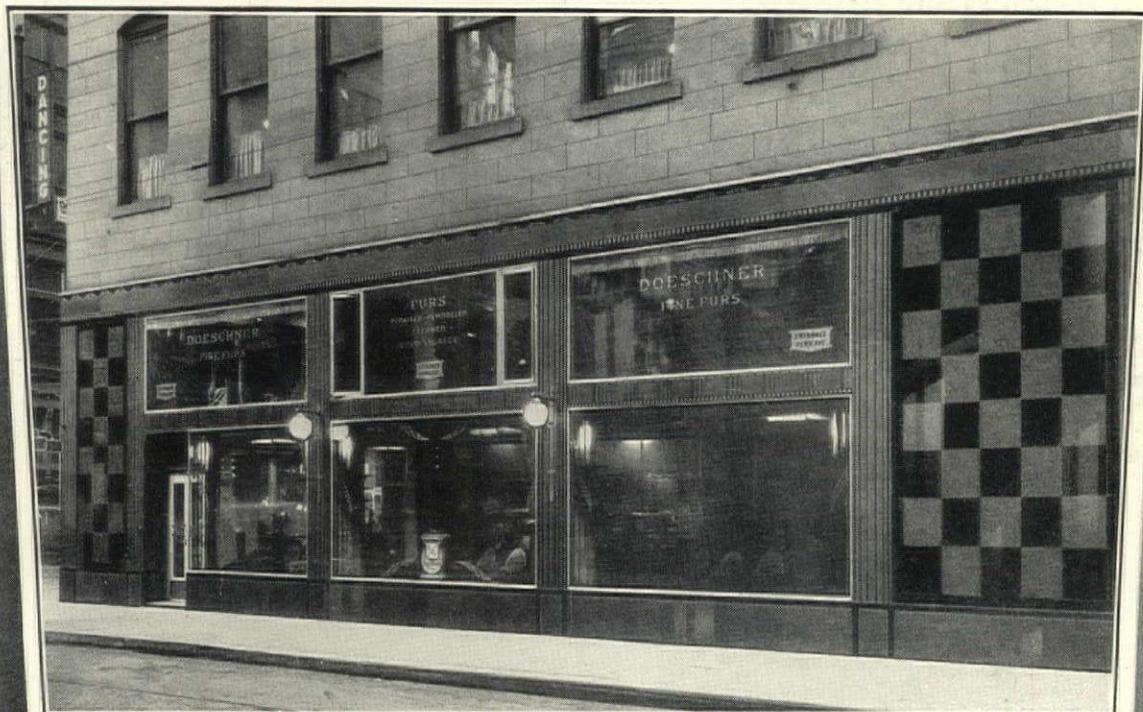
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AA-4-30

What Architects Are Talking About

(Continued from page 100)

DEVERETT WAID of New York has been awarded the 1929 Medal of Honor of the New York Chapter of the American Institute of Architects for distinguished work and high professional standing. The award, one of the highest distinctions in architecture, was made by a jury composed of William Adams Delano, Otto R. Eggers, Arthur Loomis Harmon, Hardie Phillip, and Ralph Thomas Walker.

AMERICAN ARCHITECTS are invited to exhibit at the International Congress of Architects, to be held in Budapest from September 7 to 14. Those wishing to exhibit are requested to communicate with George Oakley Totten, Jr., secretary of the American section, 808 Seventeenth Street, N. W., Washington, D. C. Cass Gilbert is chairman of the American section.

NEW YORK," says an inspired writer in London Sketch, "is preparing to erect an apartment house with a bungalow on its roof." "There is also a hot tip out that a hotel is going up over here that will have electric lights in every room," is one of the items in a recent column of O. O. McIntyre. Another slant on how out-of-date are foreign conceptions of the United States.

THE new Division of Public Construction, just created in the Department of Commerce, is under the direction of Dr. John M. Gries of Ohio, former chief of the Division of Building and Housing of the Bureau of Standards. It serves as a clearing house of information on methods and plans. In general it is helping to coordinate the efforts of the federal government departments and of state and local governments in their programs to stabilize business and employment conditions by speeding up construction projects.

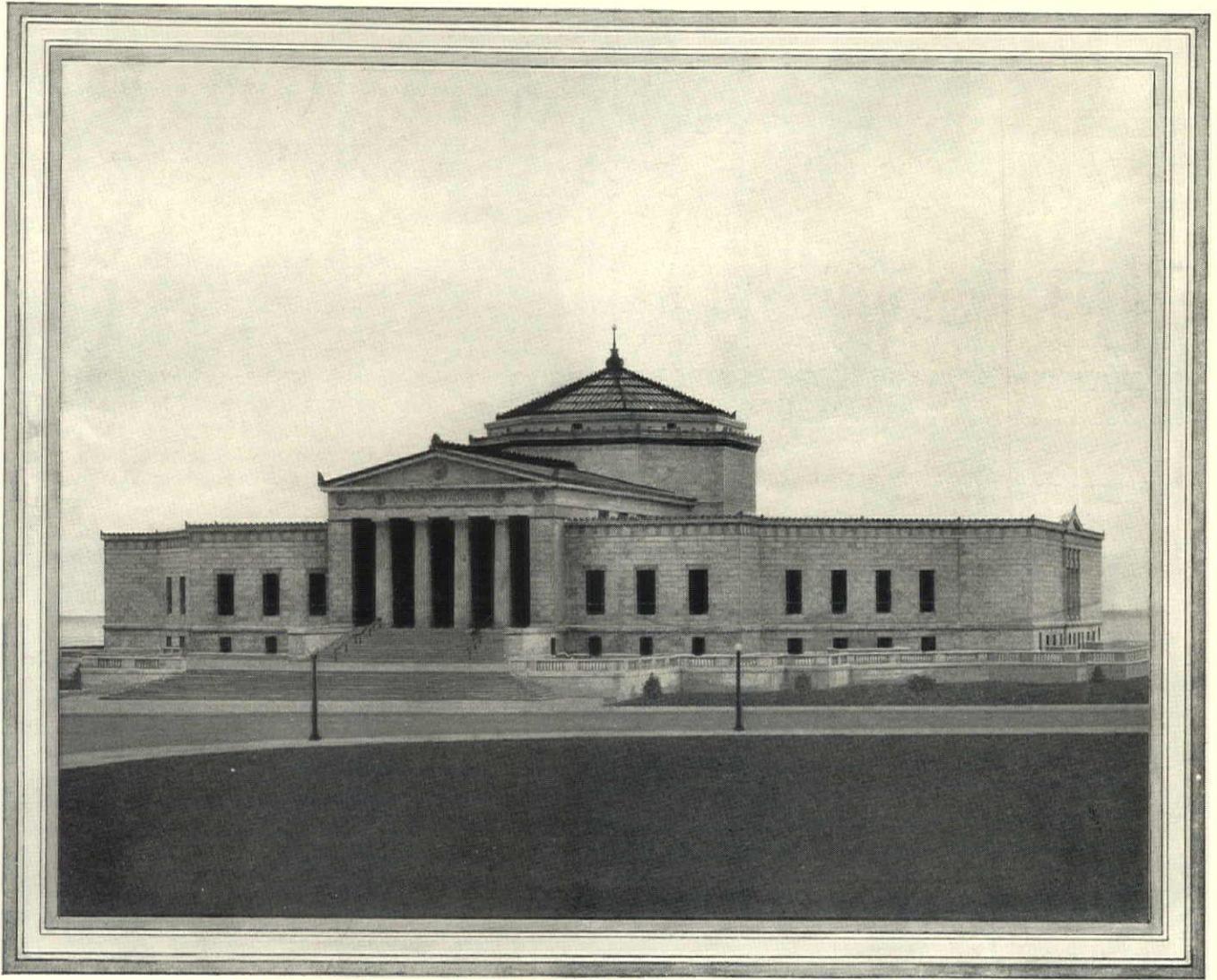
WHAT is the best source for new employees? In this respect, one business is pretty much like another and so the tabulated results of an Ohio rubber company may contain a hint or two for the architectural office. Of those new salesmen who failed, the smallest percentage was among those who had been recommended by salesmen already employed, 22 per cent. The percentage of failures from other sources were 31 per cent of those added through advertising, 34 per cent through mail application, 45 per cent through personal application, and 50 per cent of those transferred over from within their own organization. It would look as if the best source for good draftsmen were, therefore, to be garnered from among those recommended by men already in the organization.

THE exhibit which was awarded the prize at the Northwestern Lumbermen's Convention, recently held in Minneapolis, was won by the Shevlin, Carpenter & Clarke Co. The display featured a living room in knotty pine designed by Louis Boynton Bersback, architect of Minneapolis.

A FIREPLACE in Thomas Jefferson's home at Monticello has hollow columns on either side; each contains a dumb waiter sized to hold one bottle of wine. When one side was lowered, the other was raised so that there was always a full bottle at hand.

A COMPETITION for an entrance to the development of the Wm. & Matilda Sparks Foundation, Inc., Jackson, Mich., is announced with three prizes of \$250, \$100, and \$50. Designs to be submitted before April 15, 1930. Further details may be secured from A. E. Hall, chief engineer of the Foundation.

GEORGIA MARBLE



SHEDD MEMORIAL AQUARIUM, CHICAGO
GRAHAM, ANDERSON, PROBST, & WHITE, ARCHITECTS

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Georgia Marble stands up under the most severe climatic changes because the destructive forces of the weather cannot penetrate below the surface. Architects, who have used Georgia Marble for their important buildings, are well pleased with the material and service rendered.

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 August Geiger, Associate Architect

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readily ornamented, best for floodlighting and perpetually kept like new by simple washing is the logical material, leading architects agree.

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 SOCIETY

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 NEW YORK

THE number of women employees, women in business on their own account and women conducting the business affairs for their families, has increased from 10 per cent to 40 per cent in the past fifteen years," said G. H. Binder, vice-president and general manager of the Zinitherm Company at a meeting held by the Banker's Industrial Exposition, New York. "Builders and architects should consider this increasing number of women in business and should see to it that adequate facility for their comfort is one of the absolute requirements in office building construction. The banking business especially has felt the influence of the growing number of women patrons and is not slow to see the necessity of providing them with comfort and beauty—things which a woman senses and keenly appreciates. To give an impression of homelikeness and harmony in such rooms as women will use is the modern equivalent for old-fashioned hospitality. The physical surroundings in which one does business produce a lasting impression."

THE Robert W. Hunt medal has been conferred by the American Institute of Mining and Metallurgical Engineers upon Dr. James Aston, director of mining and metallurgy at the Carnegie Institute of Technology and consulting metallurgist of the A. M. Byers Co. The award was made for Dr. Aston's paper, "A New Development in Wrought Iron Manufacture."

DUTCH housewives, with traditional thrift, have solved the question of unwelcome callers. A door bell is installed that rings only when a coin is put in a slot. Welcome callers get their money back; others don't. Postmen, being privileged characters, are provided with special discs that fit the machine and are returned after use.

ELECTRIC refrigeration has been adopted for the drinking water coolers of the Straus Building, New York, in the proportion of one unit to every ten persons. It is estimated that time spent in journeying to get a drink of water will be cut forty per cent.

FOUR HUNDRED THOUSAND new houses are needed each year to properly house the people of the United States, according to Edward Eyre Hunt, secretary of the President's conference on the unemployment problem.

HEATING boiler ratings have been standardized in a new code for rating low pressure heating boilers, adopted by the Steel Heating Boiler Institute, Cleveland, Ohio. Copies of the code are available to architects and other interested persons.

Michael S. Diamond, architect, has moved his offices to the St. George Theatre Building, 25 Hyatt Street, St. George, Staten Island, New York.

Conrad & Cummings, associated architects, have moved their offices to 509 Binghamton Savings Bank Building, Binghamton, New York.

William E. Haugaard, architect, has moved his offices to 21 West 45th Street, New York.

Walter W. Ahlschlager, Inc., architects, are occupying new offices at 10 North Clark Street, Chicago.



HEREIN LIES THE BEAUTY

Architects knowing the significance of the *authentic* in homes of their planning are quick to specify Koll Lock-Joint columns. They have been convinced by experience that a home employing columns is only as beautiful as they are authentic in design.

You may be sure that Hartmann-Sanders have left no stone unturned in the development of columns true to the periods from which they came. Moreover they are flawless in material. Not a knot in ten thousand columns!

That Koll columns cannot come apart is assured by the Lock-Joint principle patented and owned exclusively by us. The additional strength

thus provided would justify a much higher price, yet you pay no more.

Hartmann-Sanders are proud of the fact that they are privileged to execute *particular* architectural specifications as well as those standard in nature.

Write for new catalog No. 48 which is packed with interesting information and photographs of the columns and beautiful Colonial entrances from all over the country.

For the catalog, sent to Hartmann-Sanders Co., Factory and Showroom: 2154 Elston Avenue, Chicago. **Eastern Office and Showroom: Dept. W, 6 East 39th Street, New York City.**



HARTMANN-SANDERS

PERGOLAS

COLONIAL ENTRANCES

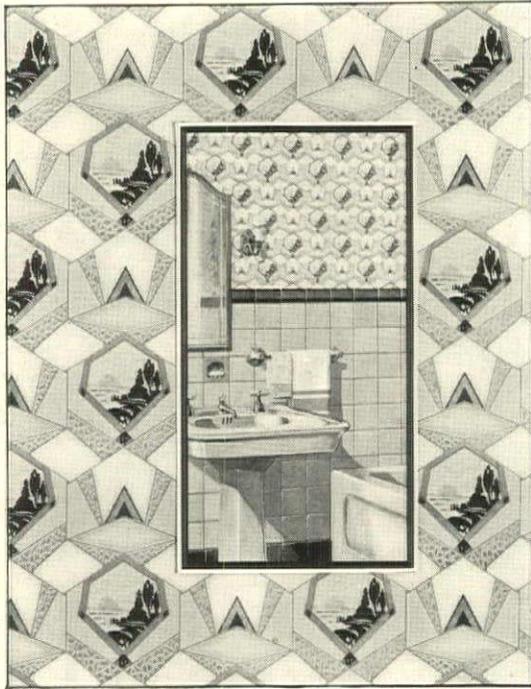
KOLL COLUMNS

ROSE ARBORS

GARDEN EQUIPMENT



Your answer to seekers of beauty for the home



How many of your clients perplex you with demands such as "give me something more unusual and more beautiful"! How often are you unable to comply with their wishes because their means are not sufficient?

Decorators and architects are fast learning that Wall-Tex—durable, efficient and economical—gives their clientele the beauty they want and appreciate, and gives it to them at a price within their incomes.

Wall-Tex is a coated fabric that will not scale, peel or discolor. It is cleansable. It covers cracks in plaster and prevents new ones from occurring. Ten years find it as beautiful as the day it was placed on the walls. It may be redecorated with plaster, paint and lacquer treatments. . . . Yet it is priced but little more than ordinary wall coverings.

An easy way for architects, builders and decorators to obtain the name of nearest distributor, and also booklet, "The Modern Trend in Wall Coverings," is to write name on the margin of this page and mail it to this address:

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Residence Mrs. Abbie G. Lott, Summit, N. J. Bernhard E. Muller, architect. From "The 1930 Year Book, Architectural League of New York"

1930 Year Book, Architectural League of New York

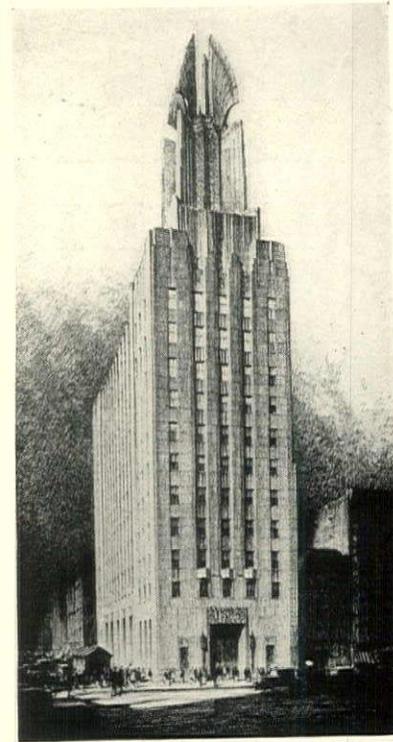
Published by The Architectural League of New York. Illustrated; 320 pages; size 10x12¾; price in heavy paper covers \$1.50, in boards \$2.00

THE work of leading architects sculptors, landscape architects and mural painters was exhibited at the annual exhibition of the Architectural League of New York, of which this book forms a permanent record. It may therefore be regarded as containing some of the most interesting work in this country.

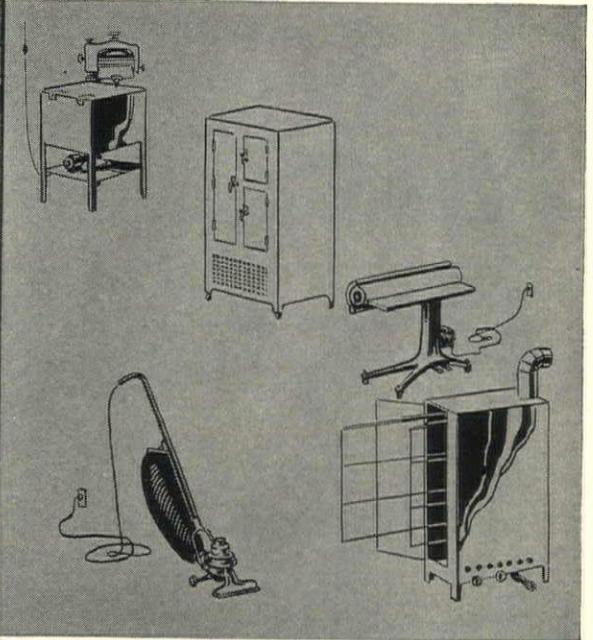
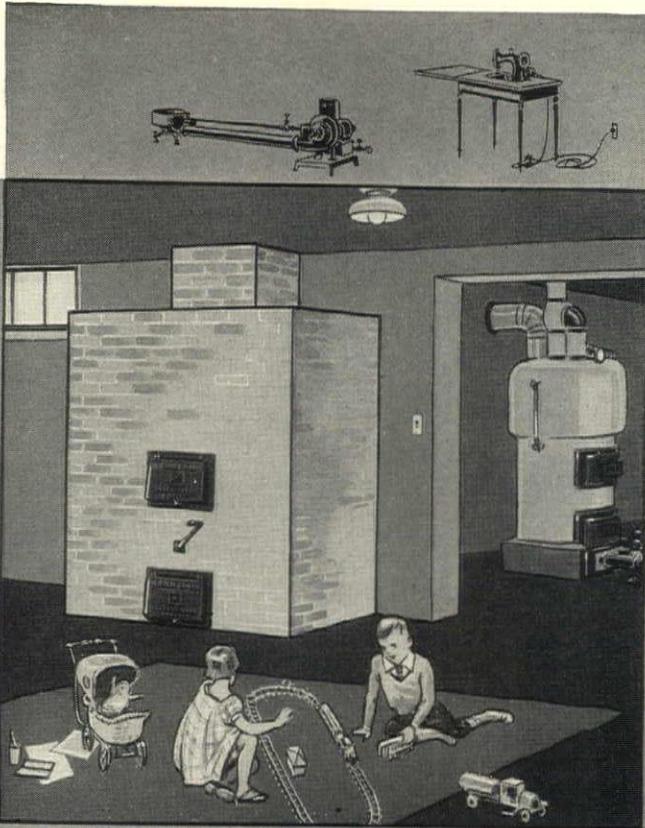
The material presented is divided according to the subject matter, each class of exhibit being grouped together. Illustrations are reproduced sufficiently large so that the detail is not lost, a few subjects being presented in color.

The prize winning work shown at the League's exhibit were reproduced in THE AMERICAN ARCHITECT for March.

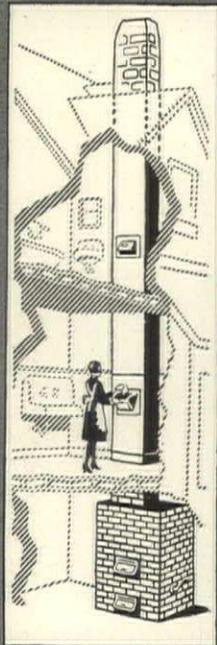
Among those receiving awards were: Marion Coffin, Gold Medal of Honor in Landscape Architecture; Holabird and Root, Gold Medal of Honor in Architecture; and Boardman Robinson, Gold Medal of Honor in Decorative Painting. (Books continued on page 112)



Genesee Valley Trust Building, Rochester, New York. Vorhees, Gmelin & Walker, architects. From "The 1930 Year Book, Architectural League of New York"



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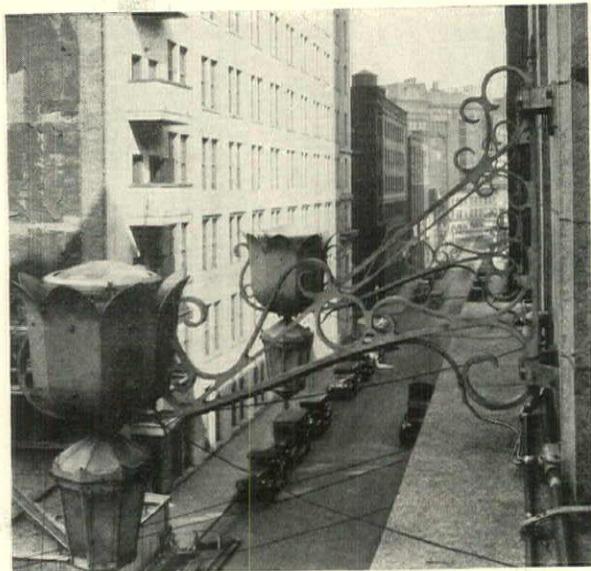


Drop All Waste Here—Then FORGET IT!

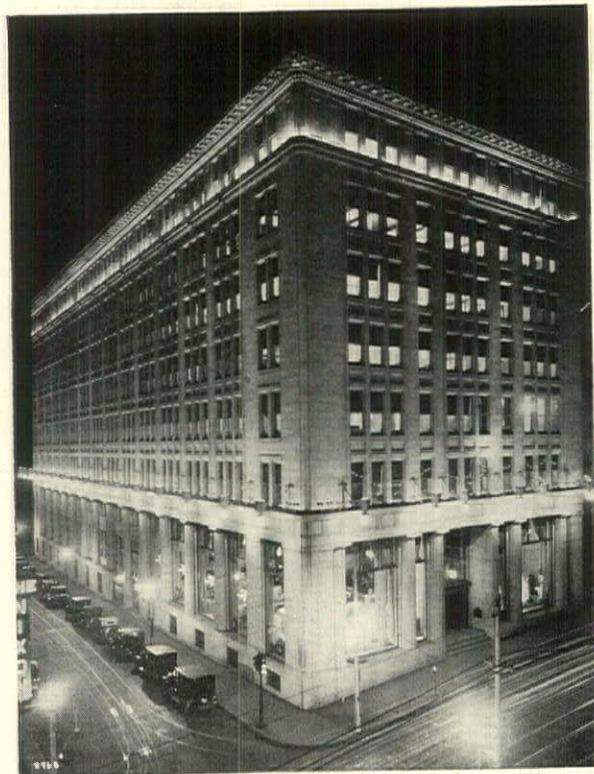
WITH everything that makes homes more livable and housekeeping easier, why not include an outstanding convenience in your specifications — the Kernerator . . . Most other modern conveniences are conveniences *only* — the Kernerator, in addition, is an easy means for complete sanitation . . . Modern fuels impose a definite rubbish disposal problem — it can't be burned in oil or gas heating equipment, it is dangerous to leave it in the basement, and, in most cities, burning it out-of-doors is prohibited . . . The Kernerator is the answer. Waste, rubbish, garbage — after it is in the handy hopper door, is forgotten. The air-dried waste (an exclusive Kernerator feature) furnishes the fuel for its own destruction . . . Kernerator warrants your complete confidence — built by pioneers, installed under the manufacturer's supervision and guaranteed by a responsible company . . . See our catalog in Sweet's or send for A. I. A. Catalog.

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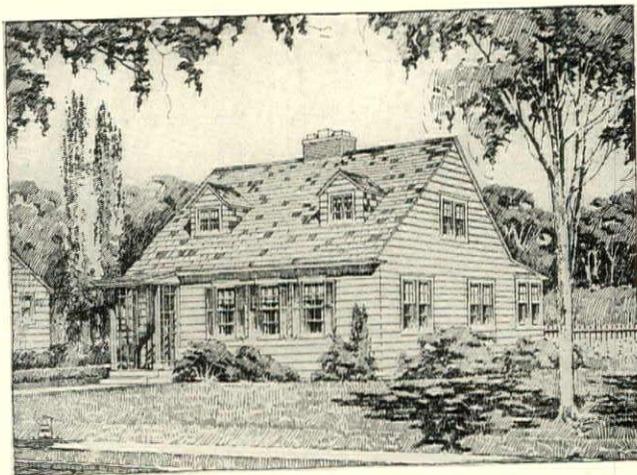


For a Modern Building



and modern protection for the electric wires inside and outside. The Philadelphia Company Building, in Pittsburgh, used the original all-steel rigid conduit for lasting protection. Do you specify "Galvaduct" and "Loricated"?

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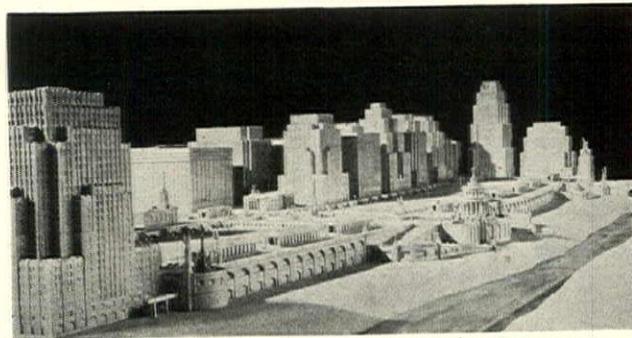
One of the designs in "Small Homes of Distinction"

Small Homes of Architectural Distinction

A book of suggested plans designed by The Architects' Small House Bureau, Inc.: Robert T. Jones, A. I. A., editor and technical director. Published by Harper & Bros., New York. Illustrated; 278 pages; size 8 3/4 x 12 1/2; price \$5.00

THIS book contains sketches, photographs, and plans of houses designed for construction at prices ranging from \$3,000 to \$10,000 together with photographs and descriptions of finished dwellings and of construction details. It discusses the individual problems faced in the building of houses in popular architectural styles.

Each house is accompanied by descriptive text concerning the design and construction. Much of the latter is of the very latest type and presents ideas on low cost construction that will be of interest to many architects interested in this type of work.



Proposed central riverfront development, St. Louis; a model by Victor Berlendis, architectural sculptor. From "Our Cities Today and Tomorrow"

Our Cities Today and Tomorrow

By T. K. Hubbard and H. V. Hubbard. Published by the Harvard University Press, Cambridge, Mass. Illustrated; 389 pages; size 10 1/4 x 7; price \$5.00

DURING 1928 and 1929 the authors conducted a field study of city planning progress in the United States, covering about 120 cities and regions in forty-two states. They did this under a grant (Continued on page 114)



The Invisible Superintendent at the Mortar Box Puts the Required Strength in the Mortar

WHEN the architect specifies one part BRIXMENT, three parts sand (no lime, no portland), the strength of the mortar is certain. If oversanded, BRIXMENT mortar works short and, since there is no lime in the mix, the necessary plasticity can be secured only by using the proper amount of BRIXMENT.

BRIXMENT mortar has greater strength than that required by the building code of any city for the heaviest load-bearing walls. Its strength increases with age, becoming greater than that of the brick itself. When tested in piers it approaches that of straight 3-to-1 portland-cement mortar. This makes it suitable for foundation, load-bearing or parapet walls and even for tall, free-standing stacks.

BRIXMENT makes a stronger, tighter bond between the brick and the mortar. It is ground finer and hardens more slowly than portland, thus permitting deeper penetration and a more thorough keying into the pores of the brick. Louisville Cement Company, Incorporated, Louisville, Kentucky.

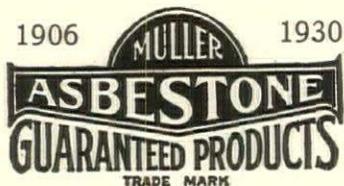
District Sales Offices: 1610 Builders Bldg., Chicago; 301 Rose Bldg., Cleveland; 602 Murphy Bldg., Detroit; 101 Park Ave., New York

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for Mortar and Stucco

Among the many BRIXMENT stacks is the 250-foot radial-tile smoke-stack at the power plant of Purdue University.





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Non-dusting, fireproof, waterproof. Preserves its fresh appearance under years of terrific wear.

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Smooth, jointless, easily cleaned; may be waxed and polished.

Comfortable

Easy to the tread, non-slippery, noiseless.

Easily Applied

Over any new or old sub-floors, at any angle, over and around any irregularities.

Distinctive Appearance

A large variety of rich colors.

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Our own chemical laboratory and technical department test and verify every shipment for uniform, high quality. A large staff of skilled mechanics insure completion of the largest contracts on schedule.

Guarantee

A uniformly high standard product, backed by the integrity of the Muller name and more than 20 years of manufacturing experience.

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Manufacturers of Asbestone and Sana-bestos Tiles

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from the Milton Fund of Harvard University. The results of this study are summarized in "Our Cities Today and Tomorrow."

The book covers the legal and administrative background of city planning, municipal planning commissions and departments, state organization and state plans, educating the public to support city planning, financial programs, comprehensive plans in action, control of plotting and land subdivisions, zoning, major street plans and traffic relief, rapid transit and mass transportation, terminals of all types, parks and recreation, civic centers and the city's appearance, lines of future progress, and similar data.

There are various appendices giving information such as appropriations and staffs for work of city planning commissions and departments, municipal regulation of plotting, comments on benefits of zoning, parking facilities in office buildings, descriptive directory of cities and regions visited, etc. The book is well written and contains a great deal of interesting and valuable data.

Wants More About Evils

(Continued from page 70)

matter of stock plans, are the two worst features of current architectural practice. When we mention stock plans we mean to include the Small House Service Bureau along with all the other cheap plans dangled before a gullible public. . . . *W. G. Eckles of the W. G. Eckles Company, Architects, New Castle, Pa.*

• LOCATION OF ANTIBES

Editor, The American Architect:

HAVE noticed in your issue for February, on Page 17, a caption for the cover design showing the reproduction of the very well executed watercolor by Millard Sheets. The subject of the watercolor is that delightful Antibes in the south of France but the geographical position of which has been fixed within very wide limits: Caen being, of course, in Calvados of William the Conqueror association and Caen stone, and Nice in the Department Alpes-Maritimes.

Your intention, of course, is to indicate the location as between Cannes and Nice. . . . *W. E. Manhard, Vulcanite Portland Cement Co., New York.*

CHARLES ALBERT STEINLE, of the architectural firm of Townsend, Steinle & Haskell, Inc., New York City, died recently of heart disease in his sixty-seventh year. He was architect for the old Savoy Hotel, the Herald Square Hotel, the Marbridge Building and other notable New York structures.

THE new building of the bank of Manhattan and Trust Company has been awarded first prize for 1930 by the Downtown League. It was designed by H. Craig Severance and built by the Starrett Construction Company.