

PENCIL POINTS

Volume VII

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Number 1

THE ARCHITECTURAL SENSE

IT WOULD APPEAR THAT few architectural draftsmen have revealed to them at the outset of their careers a vision of what we may call the "architectural sense," the faculty by which are perceived the laws of composition, regulating the relation of parts; the laws of proportion, giving proper value to the separate features and the most rigid law of all, that the different parts and features shall form a unified and harmonious whole. Such a sense often seems to dawn by happy accident, sometimes not until mature age, and sometimes never.

We have wondered how many of the 25,000 to 30,000 architectural draftsmen in this country who have taken up architecture as a career have been led to do so by an irresistible impulse—by the conviction that it afforded the one outlet for their talents—or have had it chosen for them by well meaning parents. In the cases of men who have had a strong underlying urge toward the deliberate selection of architecture for their life work,—have they been actuated by the hope of erecting just buildings rather than by any prompting toward the creation of architectural masterpieces? Have they the ambition to shine in the highest realms of the profession rather than the aspiration to express themselves through architecture?

The profession of architecture is one of those that must assume at the outset a business side. One's career commences in an office, a very different place from a studio, and it takes years before the real meaning of architecture has an opportunity of unfolding itself. The draftsman may discover that he has a brain that loves facts and so, while proving an excellent exponent of the business side of his profession, fail ever to "find himself"—fail that is, to develop the architectural sense. If, on the other hand, he becomes conscious of the direction of his creative powers, the very realization of this ability at a critical period is a stimulus to genius. Genius is the materialization of great things created in the mind. Erudition sometimes checks initiative, and scholarship, by itself does not develop the creative spirit; a truly *great* architect must be able to do all that and more than the architect who has had all the architectural training in the world.

The wide scope of architectural practice has room for all sorts of men because of the many classes of structures required by our modern life. The range varies from monumental buildings whose sole purpose is beauty to the structures erected in the most

economical way possible for utilitarian purposes in which the architect has no funds to express elegantly the uses of the building and which can be redeemed from banality only by the man whose sense of proportion is so exquisite, that he is able to adjust the different parts without detracting from the practical needs, to achieve a result which is aesthetically satisfactory.

It may be that most men practising architecture think they have the architectural sense, but in many cases their work proves they are mistaken. This is an evidence of the fact that either the spark of genius is dim or else their study and knowledge are insufficient for them to tell whether or not they are blessed with the architectural sense. In the final analysis it will be found by each individual that all temperaments do not possess the creative faculty of an architectural designer. Of course, application, serious study and experience will generate in any draftsman a certain ability to put things together on paper, but whether the finished building is a simple and direct expression of the needs of the problem depends primarily upon whether an architectural sense was there to pull the elements together into the harmonious whole.

Unbiased analysis of one's special aptitudes is the answer to the question as to the ultimate destiny of the architectural draftsman. After several years' experience in an architect's office, a man should be able to tell whether he is simply a "pencil pusher" or a potential architect. If the former, he should seek an outlet for his "pencil pushing," a talent which would fit him, perhaps for the mechanical or for the administrative side of the profession; if the latter, he will find by this self-analysis and by the Boss's comments that he is destined for the "long-haired" end of the office, which in turn leads to the gold medals and the sashes of the Legion of Honor.

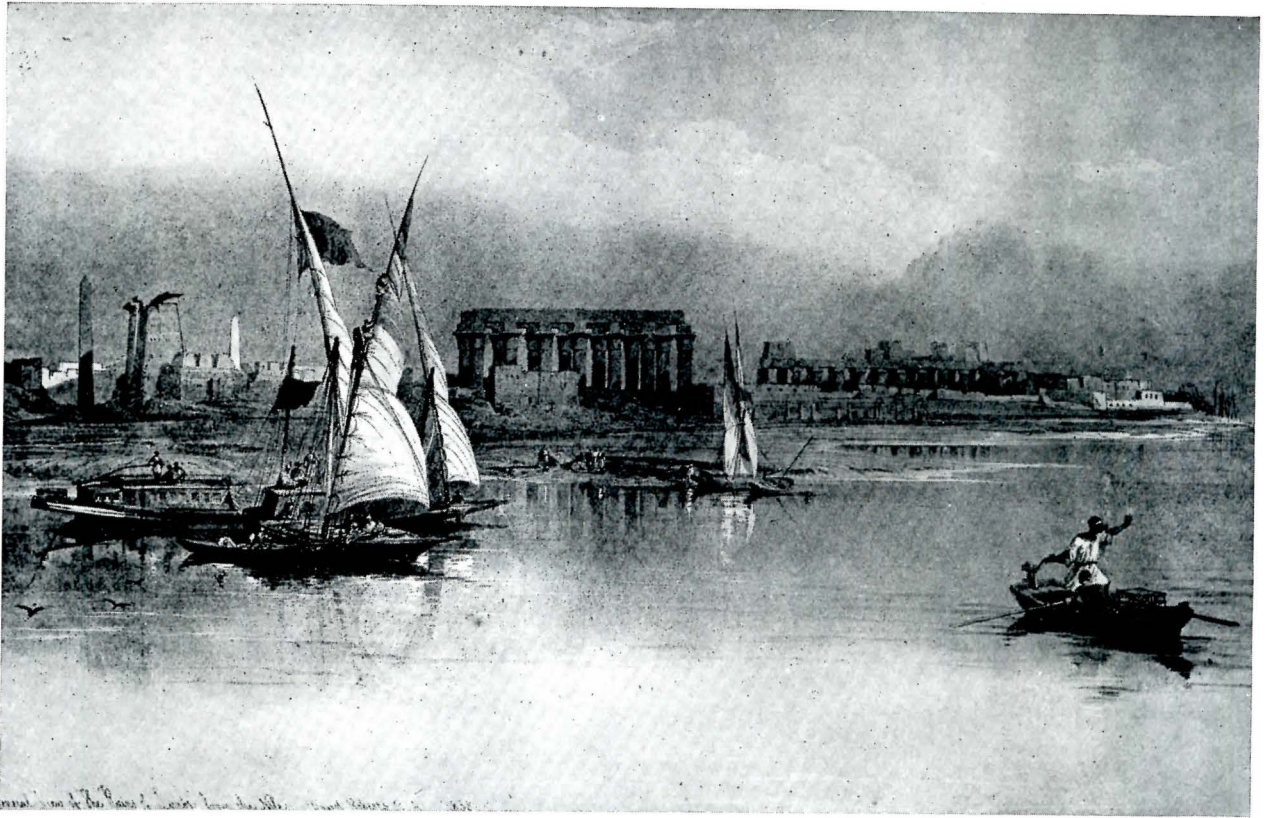
To the Editor this opens an interesting discussion; to the draftsmen it is vital that he know himself, his entire career depends upon his ability to "add himself up." Opinions that would assist him to reach a definite conclusion would be welcomed. No doubt the airing of various personal experiences would be of great help to many men who are groping in the dark. All those who have given thought to whether or not they have the architectural sense are invited to lay their "Self-Analysis Sheet" on the Editor's Table, and we will see that everything of value is handed on where it will do the most good.



GREAT HALL AT KARNAC, THEBES

LITHOGRAPH BY L. HAGHE FROM DRAWING BY DAVID ROBERTS, R. A.

From ROBERTS', "Egypt and Nubia"



GENERAL VIEW OF THE RUINS OF LUXOR FROM THE NILE

THE RENDERINGS OF AN EARLY MASTER

SELECTIONS FROM THE FIELD SKETCHES OF DAVID ROBERTS, R.A.
LITHOGRAPHED BY L. HAGHE TO ILLUSTRATE "EGYPT AND NUBIA"

By Kenneth Clark

IN THIS AGE OF GREAT architectural delineators, it seems, at first sight, as though there would be little to be learned from the work of famous renderers of a generation or so ago, but from one point of view alone we find our 20th century complacency jolted. The modern renderer expresses the architect's point of view perfectly, but he seems to have a tendency to forget the primary object of most renderings,—the translation of an architectural scheme from technical to secular language—and to subordinate it to the creation of a masterpiece of draftsmanship. If the rendering is made for purposes of study and to be viewed in the office by the architecturally trained eye, well and good, but if, as is usually the case, it is made for the purpose of translating the scheme of the architect into language understandable to the layman, i.e. the client, many of them fail to accomplish their purpose. Perhaps their failure is due to their lack of the human touch, the "naturalness" or "picture" quality, so to speak, which, without detracting from the architectural value of the renderings, can add decidedly to their ability to interpret to the eye untrained in the conventionalities

of "rendering" what the architect wishes to express. The renderings of today have a decided tendency toward "architectural" feeling, beautifully drawn, presented to the nth degree, using all the niceties of an architectural technique, they are masterpieces in their way, but that way is the way of the architects, not always of the clients. A perspective that seems entirely adequate to the architect, to the client may be just another drawing that has to be explained before its beauties and those of its subject begin to dawn, as a representation of the "job."

One of the pioneer delineators of this country, Mr. Hughson Hawley, was one of the most "popular" the profession has produced. Today his work looks mid-Victorian but with all its faults, measured by later standards, it still had a popular appeal that the most beautiful "architectural" drawing lacks. His buildings were of brick and stone, not white paper and India ink; his skies were blue with real clouds in them, which cast cloud shadows in a fascinating way across even the most monotonous of facades. His streets were full of people who were doing something, not just figures, gaitered and caned,

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obligingly standing still to give scale to the building.

It seems as though there were some happy medium between these two styles, the Architectural and the Popular, that could be struck, and in the accompanying selections from the work of David Roberts, R. A., there may be found some suggestion of this desired welding.

David Roberts, was born in England in 1796, the

son of a shoemaker. Pegging shoes evidently did not suit his artistic temperament, so he ventured forth along a path of his own choosing, progressed through various stages, becoming first a scene painter and then a painter of easel pictures; for a time, at the height of his career he was quite the vogue in London. In middle life he traveled extensively in search of material and of this period he has left a



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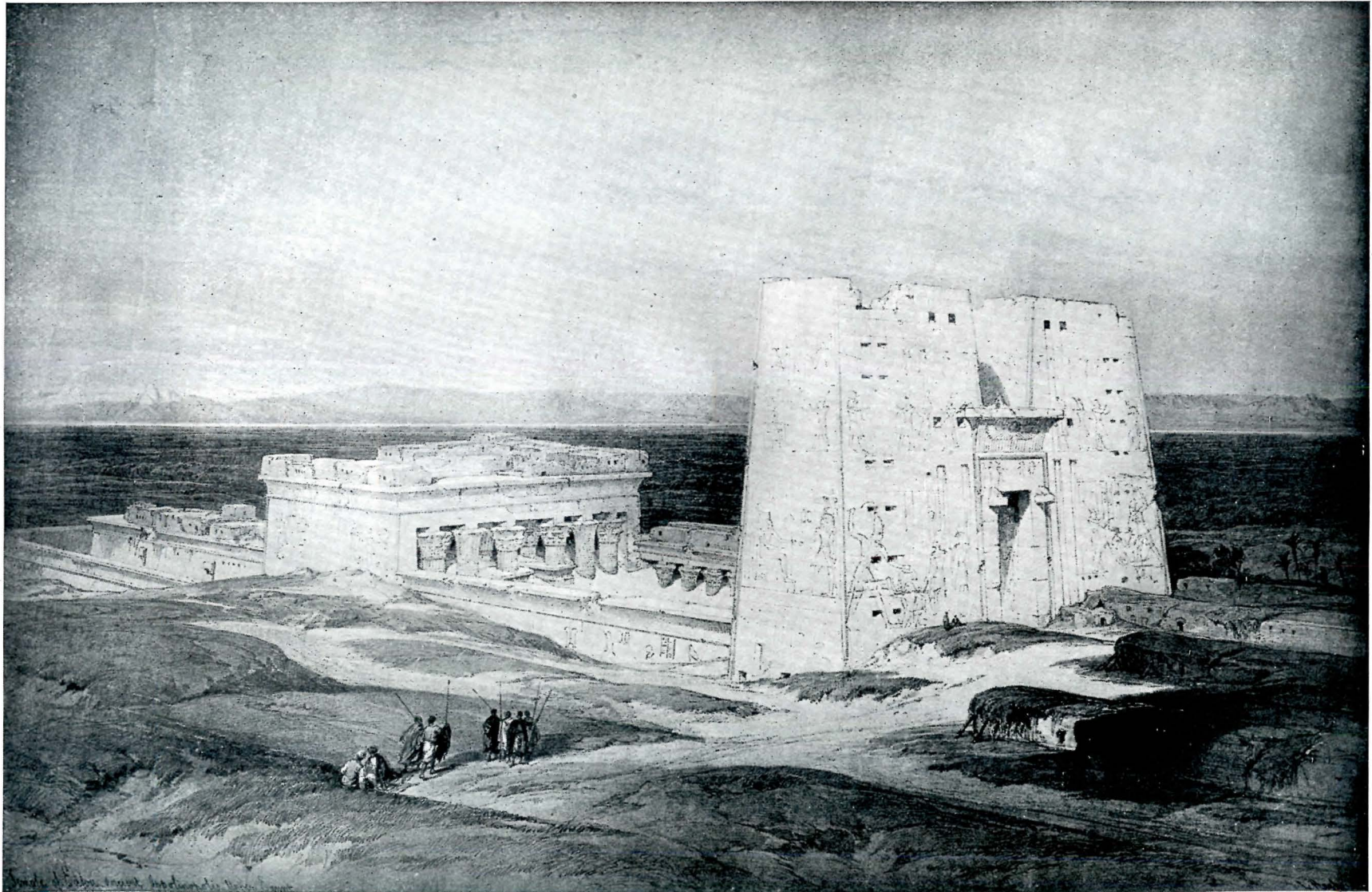
THE RENDERINGS OF AN EARLY MASTER



OBELISK AT LUZOR

LITHOGRAPH BY L. HAGHE FROM DRAWING BY DAVID ROBERTS, R. A.

From ROBERTS', "Egypt and Nubia"



TEMPLE AT EDFOU, UPPER EGYPT
LITHOGRAPH BY L. HAGHE FROM DRAWING BY DAVID ROBERTS, R. A.
From ROBERTS', "Egypt and Nubia"



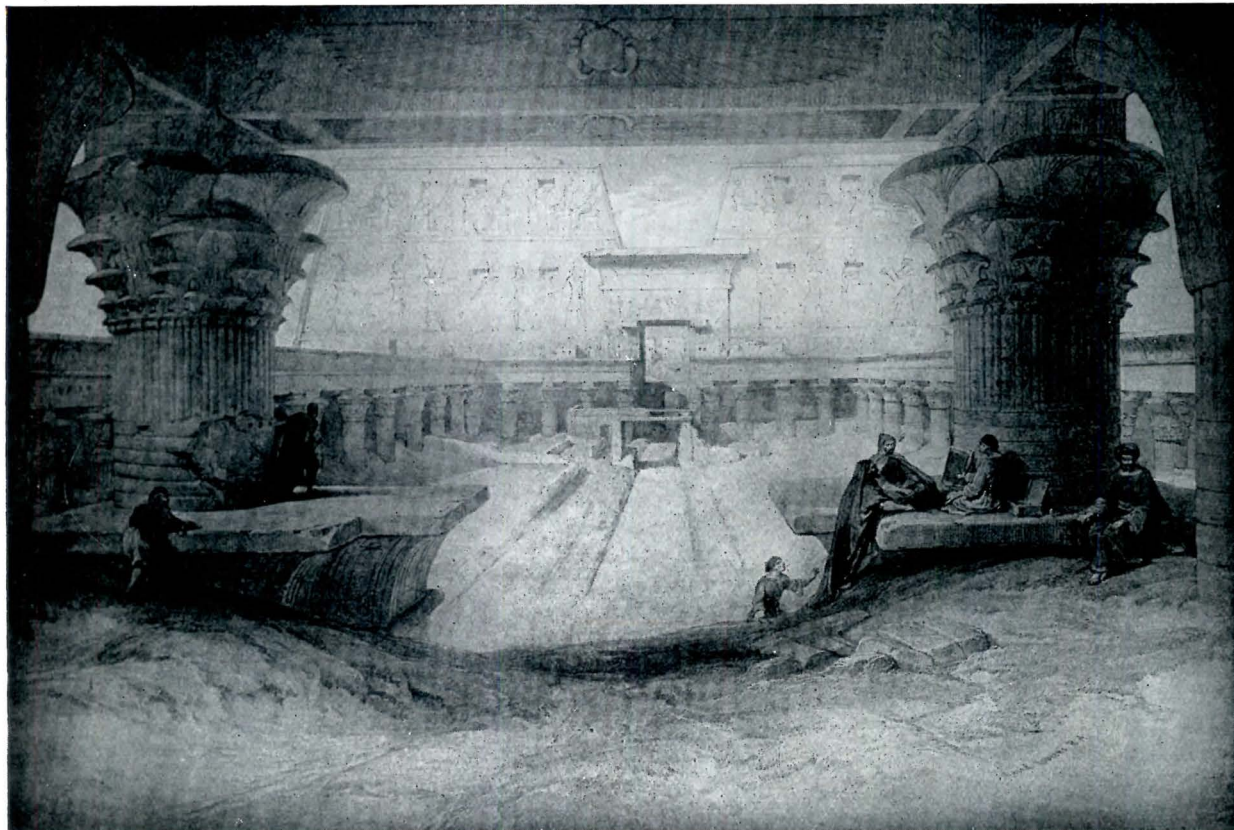
PORTICO OF THE TEMPLE AT EDFOU, UPPER EGYPT
LITHOGRAPH BY L. HAGHE FROM DRAWING BY DAVID ROBERTS, R. A.
From ROBERTS', "Egypt and Nubia"

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monumental record in his volumes of "Sketches From Spain," "Sketched from Italy," "Egypt and Nubia" and the "Holy Land," all with lithographic illustrations. For the first two books of "Sketches" he made the lithographs himself, but for the other two, his sketches made "on the spot" were lithographed for reproduction; Messrs. Harding and Louis Haghe doing the "Holy Land," and Haghe by himself doing the volumes on "Egypt and Nubia."

The original volumes on "Egypt and Nubia" from which our illustrations are taken, were published in London in 1846 by F. G. Moon, and are most

ordinary graphite lead. After the image is drawn the stone is wet and then an inking roller is passed over it, the greasy lines retain the ink, the wet surface of the stone repels it, and when a piece of paper is rolled down upon it, the inked lines are transferred, making the final lithographic print. There are slight variations of the process, in one of which the drawing is made on paper and then transferred to the stone, after which the proof is pulled in the usual way. This allows the draftsman to work direct, that is, to draw the image in its correct relation from right to left, for when working on the stone direct,



VIEW FROM UNDER THE PORTICO OF THE TEMPLE AT EDFOU, UPPER EGYPT

sumptuous examples of the bookmakers' craft.

The sense of scale so necessary in the representation of the huge ruins that form the subjects of the series is admirably expressed though perhaps a bit over accentuated by making the figures a trifle small, but this method adds to the vastness and majesty of the Egyptian architecture.

The draftsmanship is masterly, always sure. The lines in themselves are worthy of careful study. The modelling of the surfaces is done in pure line only, here one finds no meaningless scribbling, every individual line has a meaning and a function to perform in making up the whole; were one left out, it would be missed. This is the true artistry of pen or pencil drawings, as it is also of etching and lithography.

The latter medium is to all intents and purposes simply pencil drawing. The artist works on a smoothly polished stone with a crayon or pencil which has a greasy marking substance instead of the

the drawing has to be done reversed, in order to have the final print read correctly. These lithographs of Haghe's were probably made direct on the stone from the sketches done in the field by Roberts.

The accuracy of perspective in these drawings is particularly worth study; the most intricate problems are solved perfectly, for instance, the drawing of the bells of the "Lotus" capitals where they occur near the picture plane, they look so simple and are drawn so precisely that the nicety of the problem is minimized, but anyone who has tried it knows how difficult it is to make one *look* right.

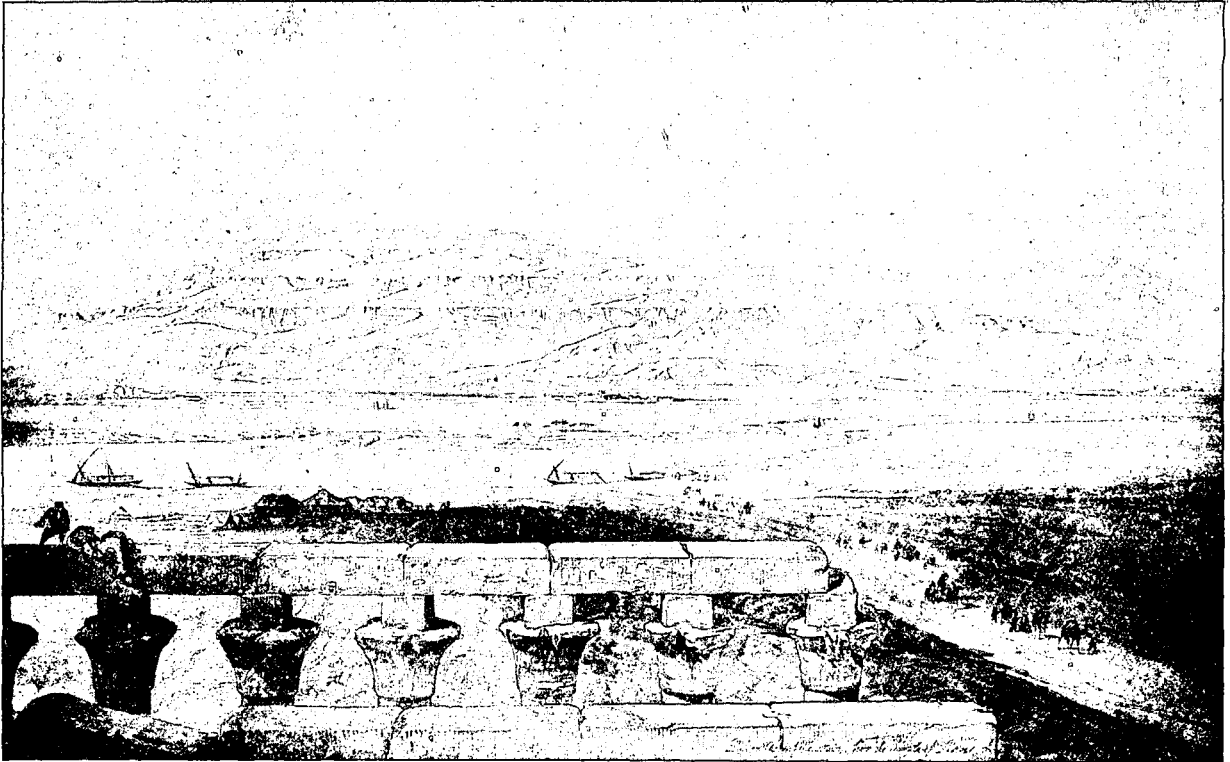
Finally, to get back to our first contention, these drawings are excellent examples of architectural delineation judged by the architect's requirements, they also possess to a marked degree the human touch; the figures have the flesh and blood feeling in them and a reason for being beyond that of the element of scale; they are part of the picture and they "fit."

THE RENDERINGS OF AN EARLY MASTER

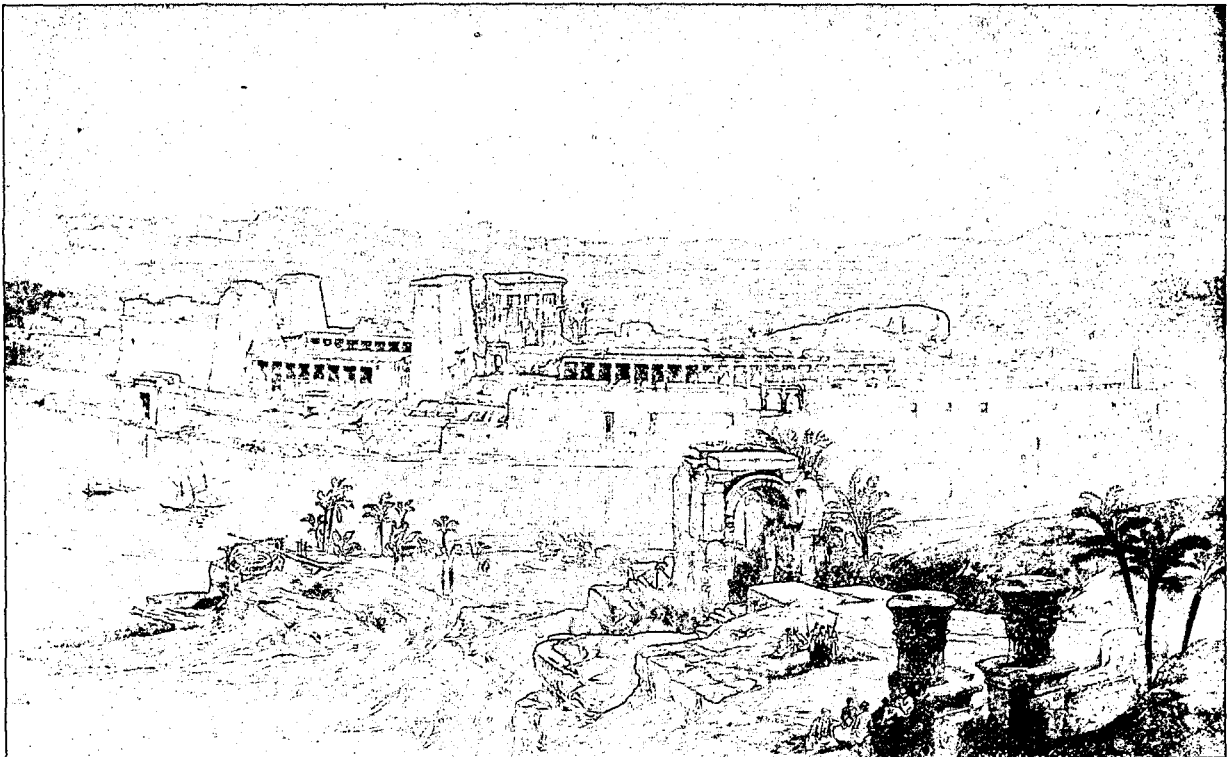


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LYBIAN CHAIN OF MOUNTAINS FROM THE TEMPLE OF LUXOR



GENERAL VIEW OF THE ISLAND OF PHILAE

LITHOGRAPHS BY L. HAGHE FROM DRAWINGS BY DAVID ROBERTS, R. A.

From ROBERTS', "Egypt and Nubia"

THE RENDERINGS OF AN EARLY MASTER



DETAIL AT FULL SIZE OF ORIGINAL LITHOGRAPH SHOWN ON PAGE 10



INTERIOR OF THE TEMPLE OF ABOO SIMBEL
LITHOGRAPH BY L. HAGHE FROM DRAWING BY DAVID ROBERTS, R. A.
From ROBERTS', "Egypt and Nubia"



THE GREAT TEMPLE OF ABOO SIMBEL
LITHOGRAPH BY L. HAGHE FROM DRAWING BY DAVID ROBERTS, R. A.
From ROBERTS', "Egypt and Nubia"

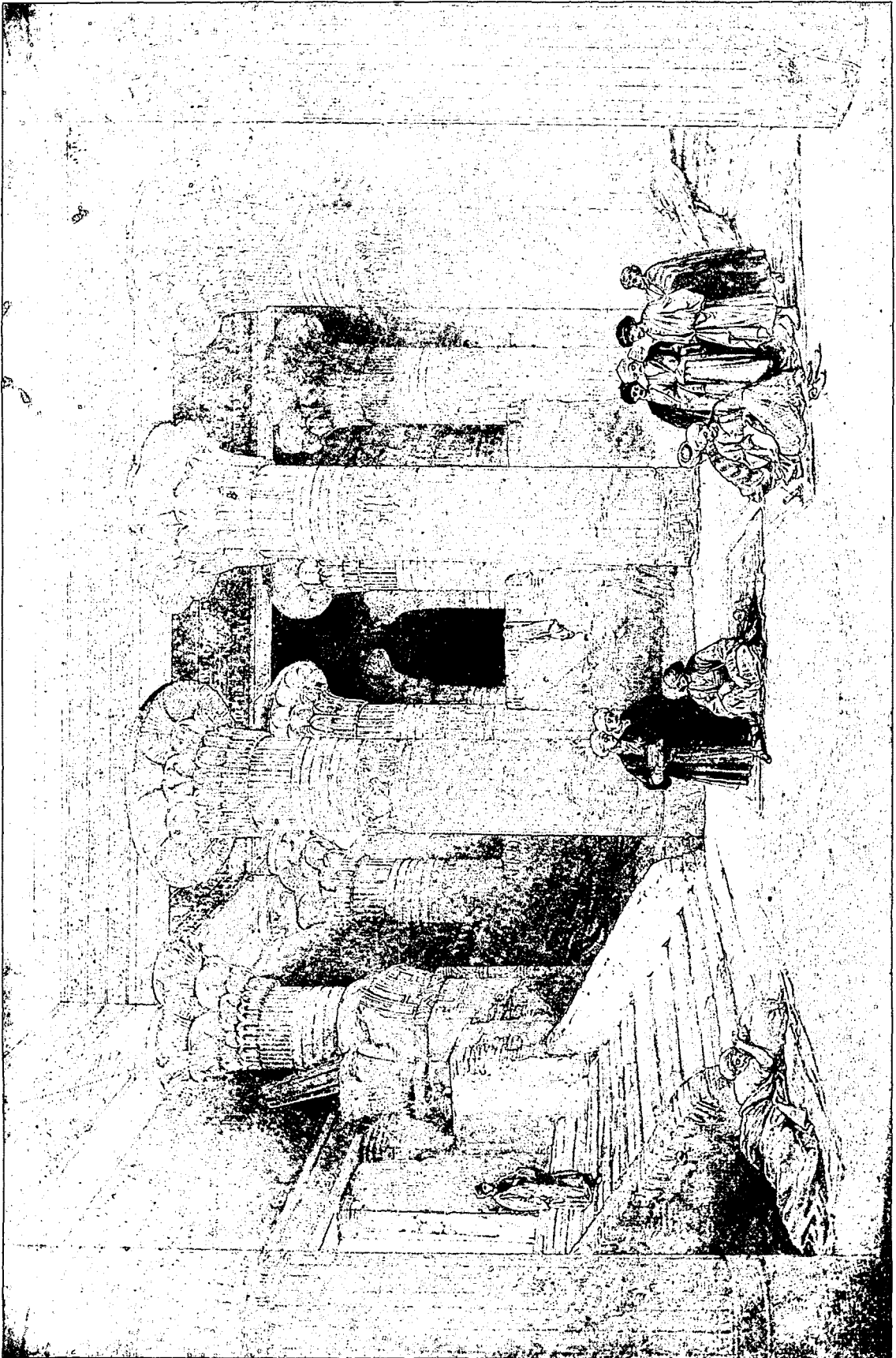


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THE RENDERINGS OF AN EARLY MASTER



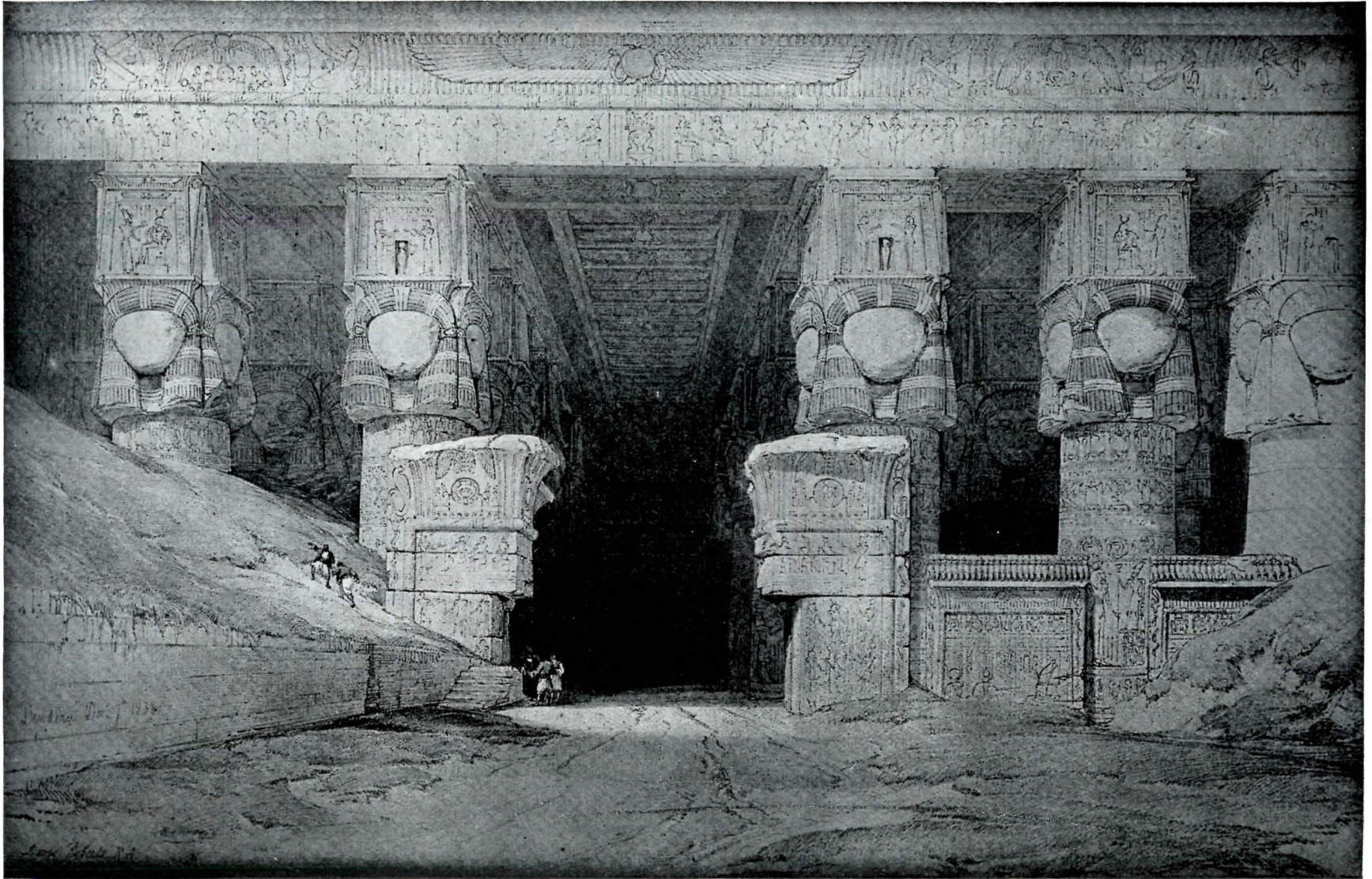
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TEMPLE AT ESNEH

LITHOGRAPH BY L. HAGHE FROM DRAWING BY DAVID ROBERTS, R. A.

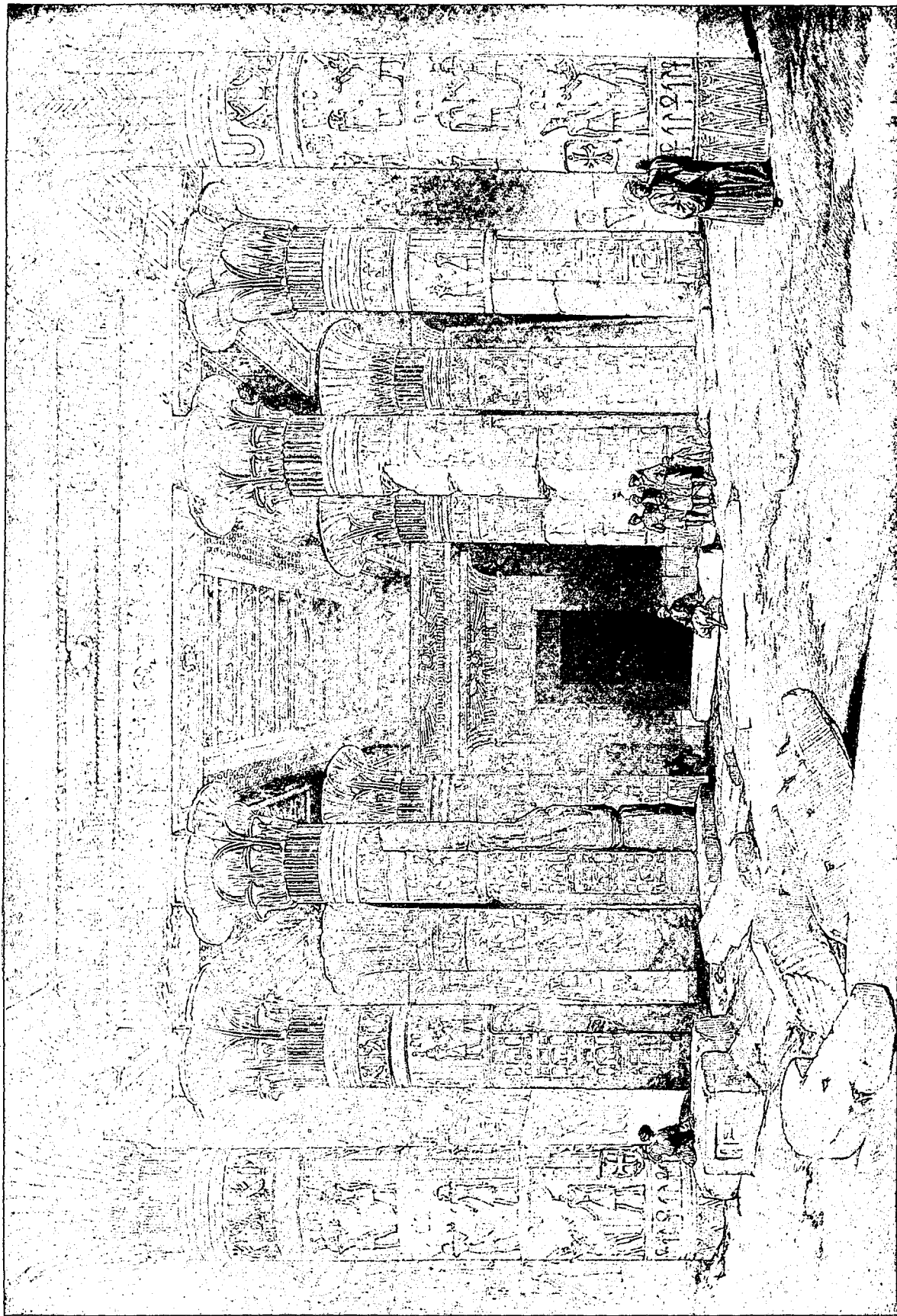
From ROBERTS, "Egypt and Nubia"



DENDERA

LITHOGRAPH BY L. HAGHE FROM DRAWING BY DAVID ROBERTS, R. A.

From ROBERTS', "Egypt and Nubia"



GRAND PORTICO OF THE TEMPLE OF PHILAE
LITHOGRAPH BY L. HAGHE FROM DRAWING BY DAVID ROBERTS, R. A.
From ROBERTS', "Egypt and Nubia"



Figure 1—Perspective Sketch Study

DESIGN IN THE DRAFTING ROOM

PART VI

By John C. Breiby

IN THE COURSE OF these articles, appearing from time to time under the title of "Design in the Drafting Room," I have mentioned that this heading does not mean merely the so-called soft pencil sketches, but also includes all work which the architect and draftsman are called upon to do, from the first sketches on, until the real goal—a completed structure—is reached. Also, may I reiterate that architectural drawings are prepared only as instruments of service, and should be so considered?

We are all deeply interested in the working drawing phase of our work, and a well presented set of such drawings makes an interesting document, for it is a part of design, though perhaps we are all more tempted to look at and admire sketches than plans, elevations and perspectives in their process of development. As we are all so familiar with working drawings, I have selected the more buoyant side of the work for the illustrations for my articles, without any outlined program or sequence,

so that they may broaden our horizon by showing how different draftsmen draw or indicate their studies or finished drawings. I must state, however, that, no matter how clever an individual draftsman may be in draftsmanship or design, his work must always be governed by those from whom he receives his income for service rendered, and though particular drawings will tell of individual ability, the influence of the master designer, who is the architect, must always be felt, and the draftsman must follow the traditions of the particular office where he is employed. This need not, however, destroy any personal knacks or individuality of work.

Figure No. 1 illustrates a perspective sketch study for an indoor tennis court, with cottage attached. This drawing was made with colored crayons, rendered in a delightful way, and the values of architectural relationship are well brought out. The colors, unfortunately, are not reproduced here, but if one can visualize the completed

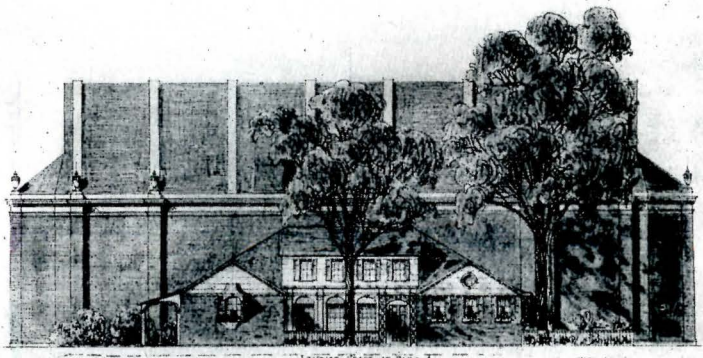


Figure 2

DEVELOPMENT STUDY OF MAIN FACADE, INDOOR TENNIS COURT

PENCIL POINTS

structure better by the use of color on his drawings, the best results will be obtained by working in this medium. It is a fascinating and inspiring way to study a problem, but its use is up to the individual, and also dependent upon the character of the project, which often dictates the method of study.

Figure No. 2 illustrates a more developed elevation study of the building shown by Figure 1. More preciseness is indicated, architectural treatment is more detailed. This drawing was also studied in color. The project presented a difficult problem, as the housing of the tennis court was determined by set rules for size in plan and height, and many studies were made to carry the roof of the main building down to form part of the roof of the cot-

Figure No. 7 shows a free hand sketch study of a tower, surmounting the top of a large building. This is a very free study.

Figure No. 8 shows a very careful line drawing of the tower illustrated by Figure No. 7. This drawing indicates clearly the importance of study sketches to the final line drawing.

Figure No. 9 shows a carefully prepared drawing of one side of a reception room, now installed in a large, modern and monumental commercial building. This drawing was made at the scale of one half inch to the foot, and is the final study before it was traced on cloth. Shaded values in pencil clearly assisted the designer to know how the finished work would appear. This is a splendid drawing, and well

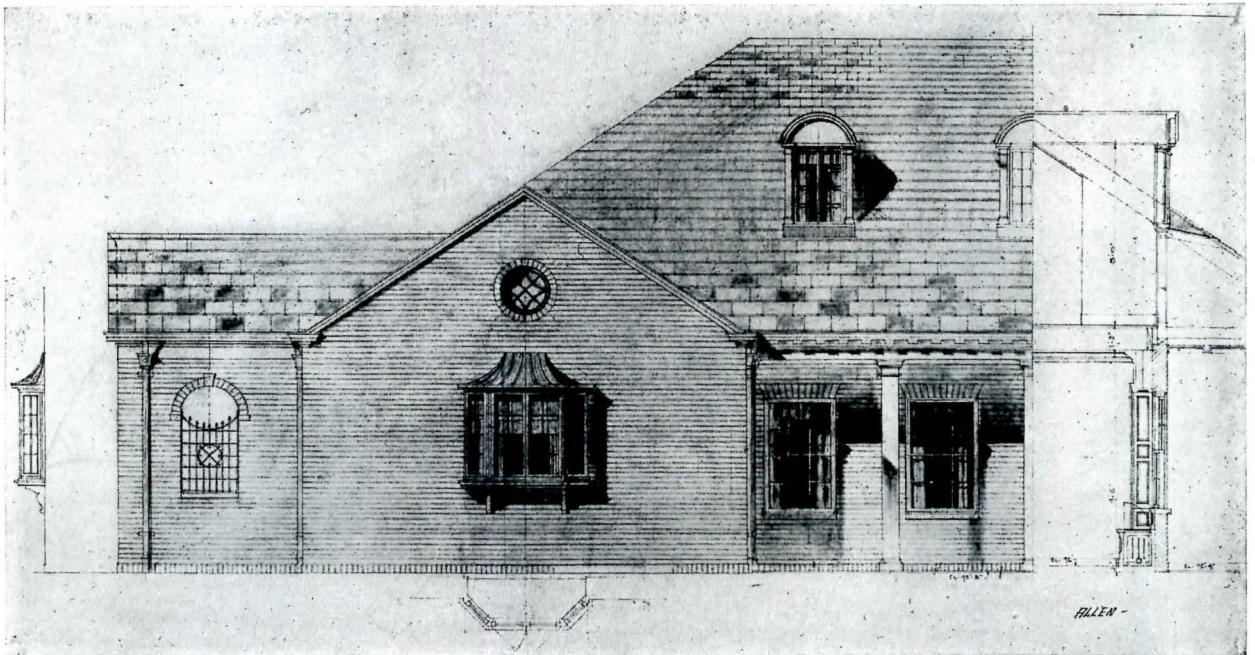


Figure 3

THREE-QUARTER INCH SCALE PENCIL STUDY OF COTTAGE SHOWN IN FIGURE 2

tage. More or less displeasing results were obtained, so it was decided to allow the cottage to be attached, giving a more intimate character to that portion.

Figure No. 3 is a reproduction of a three-quarter inch scale study showing a part of the cottage attached to the indoor tennis court. More decided development has been arrived at. No special comments are necessary about this drawing.

Figures Nos. 4 and 6 show three walls of a display room in the same building as that noted under Figure No. 9. These are one-quarter inch scale studies with some crayon color added to the line drawn studies. The proportions and placing of paintings on the wall are carefully worked out, and have again proven their value in the completed work.

Figure No. 5 shows the final study of the ceiling for the room illustrated by Figures 4, 5 and 9—no special comments need be made regarding this drawing, as it would appear to speak for itself.

worth the effort, to which the completed work now testifies.

Figure No. 10 is a careful and beautiful study of a stair hall and stairs. Attention is called to the color values produced by the delicate wrought iron railing, splendidly designed lantern, vaulted pointed arches with small semi-classic caps forming cusps at the spring line of the arches. This, of course, is a developed study, arrived at from other sketches, made from studies.

Figure No. 11 shows a study of a circular dome ceiling treatment. This is a clean-cut drawing, and has reached the final study stage. Observe how charmingly the ornament has been delineated with a few spots of deep color suggested. This drawing will tell the story, when incorporated with the general scale working drawings.

While most of the drawings selected as illustrations for this installment were beyond the early free hand sketch stage, I am endeavoring to present various mediums in which studies may be made. All

(Continued on page 25)

DESIGN IN THE DRAFTING ROOM

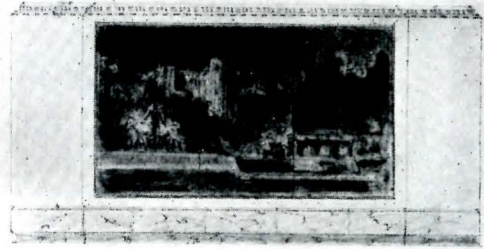
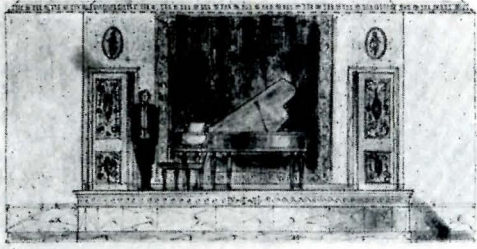


Figure 4

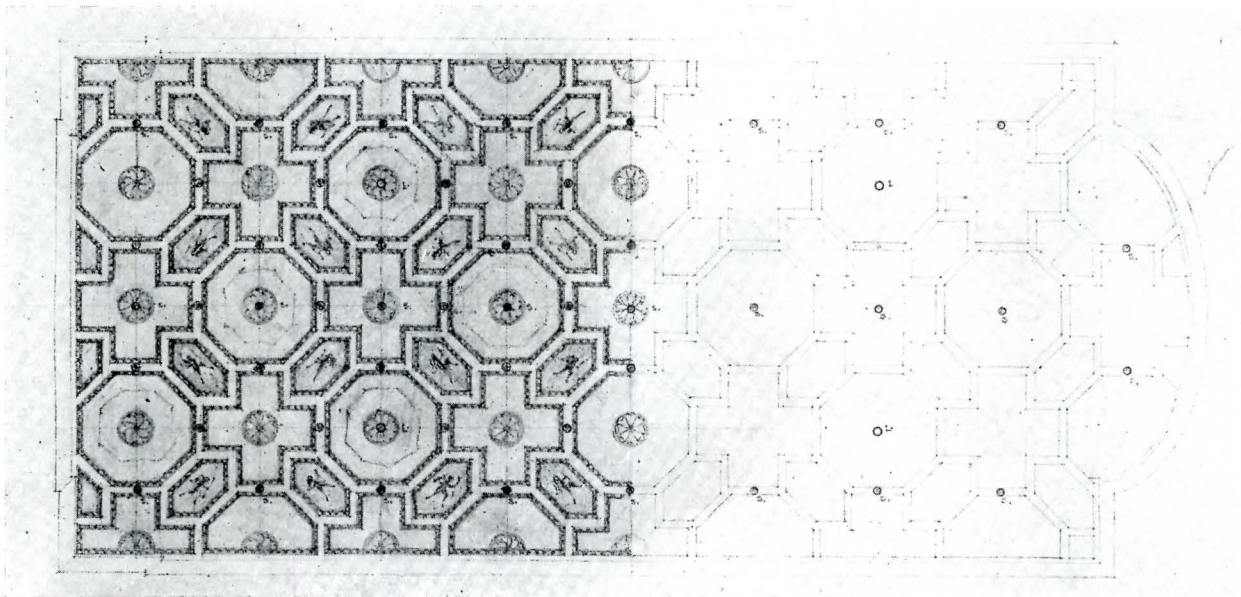


Figure 5

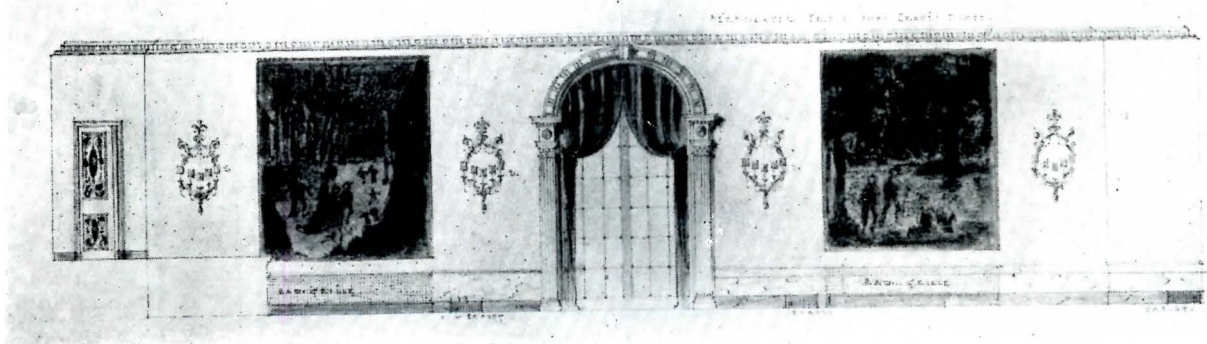


Figure 6

PENCIL AND COLORED CRAYON STUDIES OF THREE WALLS AND THE FINAL STUDY OF THE CEILING FOR A DISPLAY ROOM IN A MONUMENTAL COMMERCIAL BUILDING

Reproduced from 1/4 inch Scale Drawings

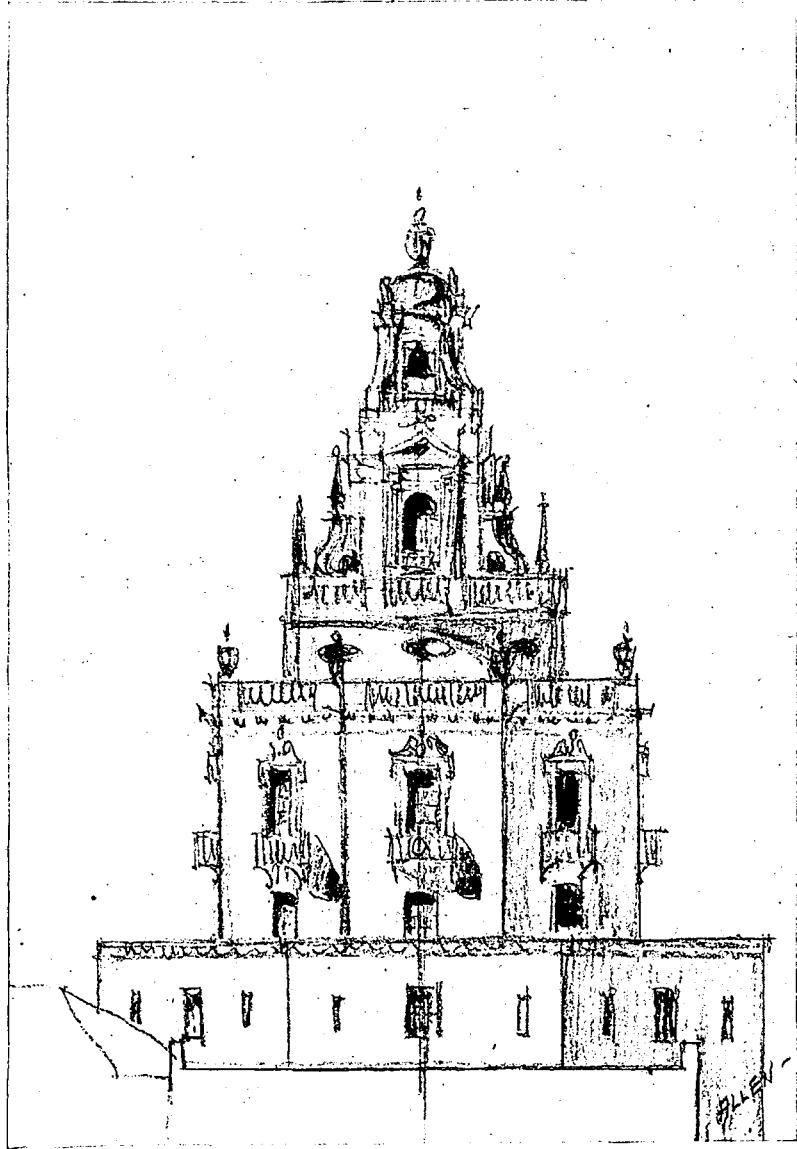


Figure 7

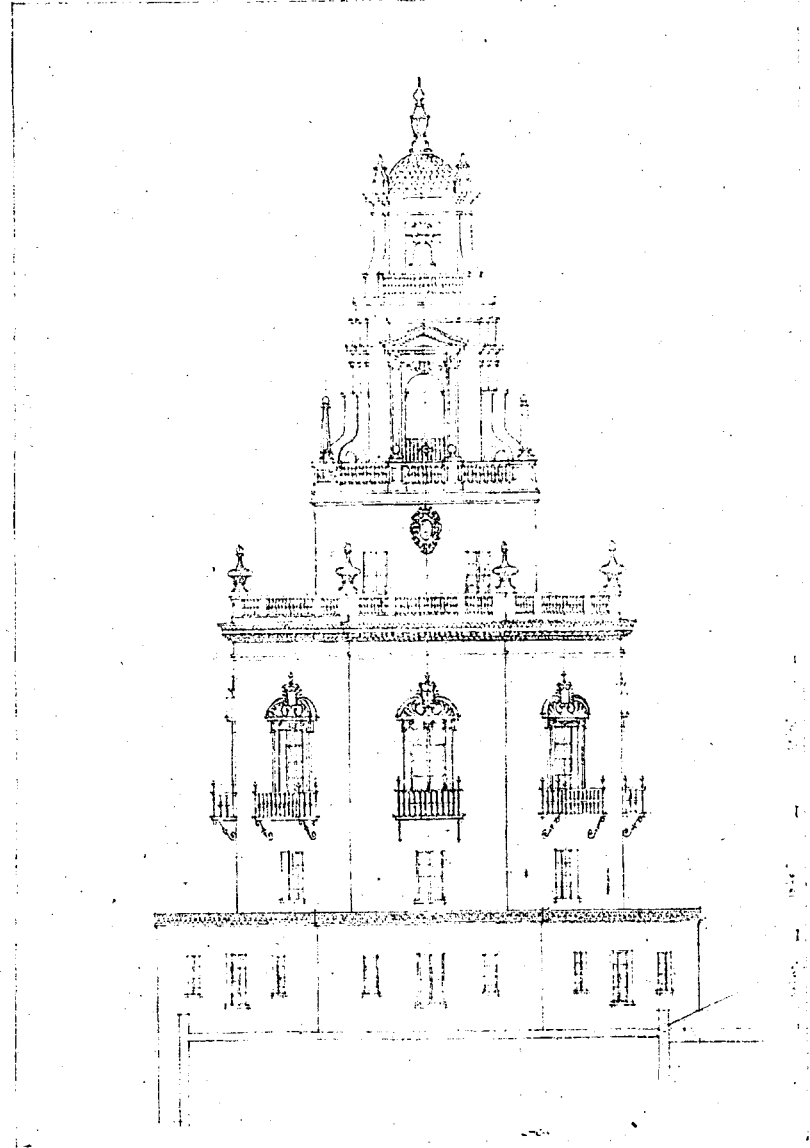


Figure 8

FREE HAND SKETCH STUDY AND CAREFUL LINE DRAWING OF A TOWER

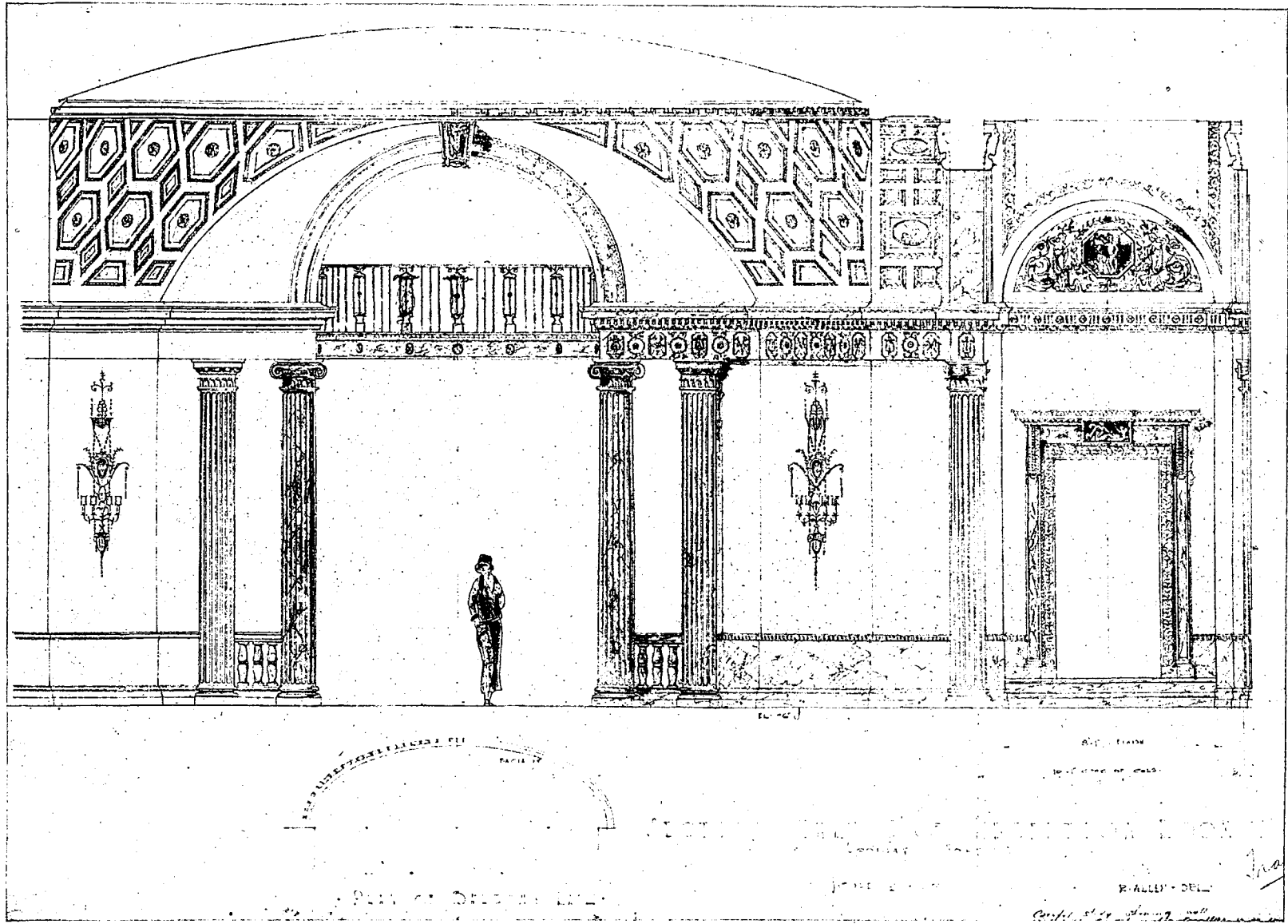


Figure 9

CAREFUL STUDY SHOWING WALL AND CEILING TREATMENT OF A RECEPTION ROOM IN AN IMPORTANT BUILDING

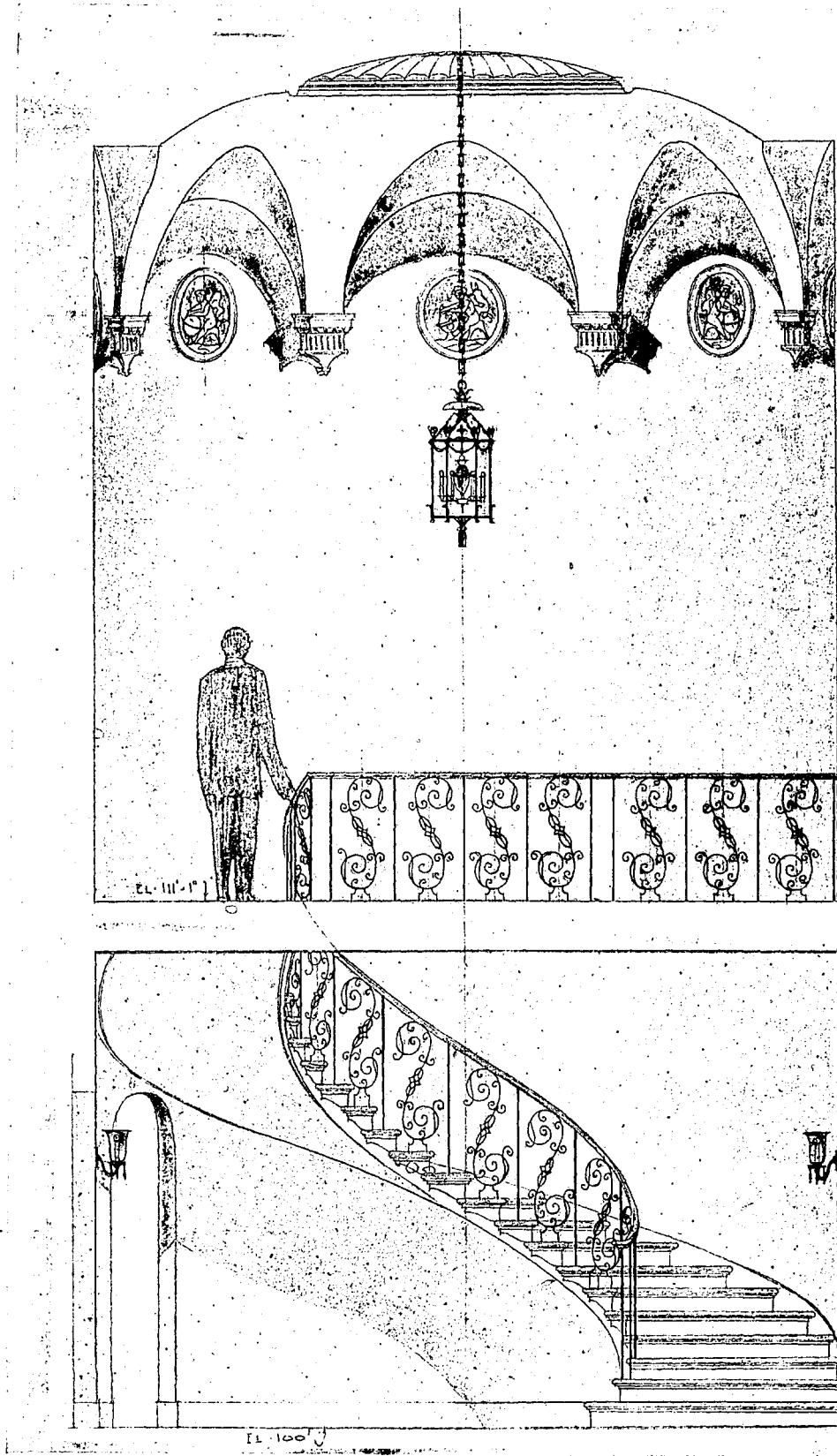


Figure 10
STUDY OF A STAIR HALL AND STAIRS

draftsmen have their individual methods and technique, but for the younger men I will again say: Use your pencil and learn to use it freely. It is the only instrument through which you may outwardly express the thoughts of your imagination. After a free and easy way of sketching or drawing has been achieved, individual beauty in the style of the draw-

knows how to read it, your work will always look just like you. If you express weakness or sincerity, so will your work. If you express nervousness and jerkiness, your design will show interference of motives. You will choose broken pediments and interrupted outlines as a natural result of your nervousness, whereas if you are robust and calm you will

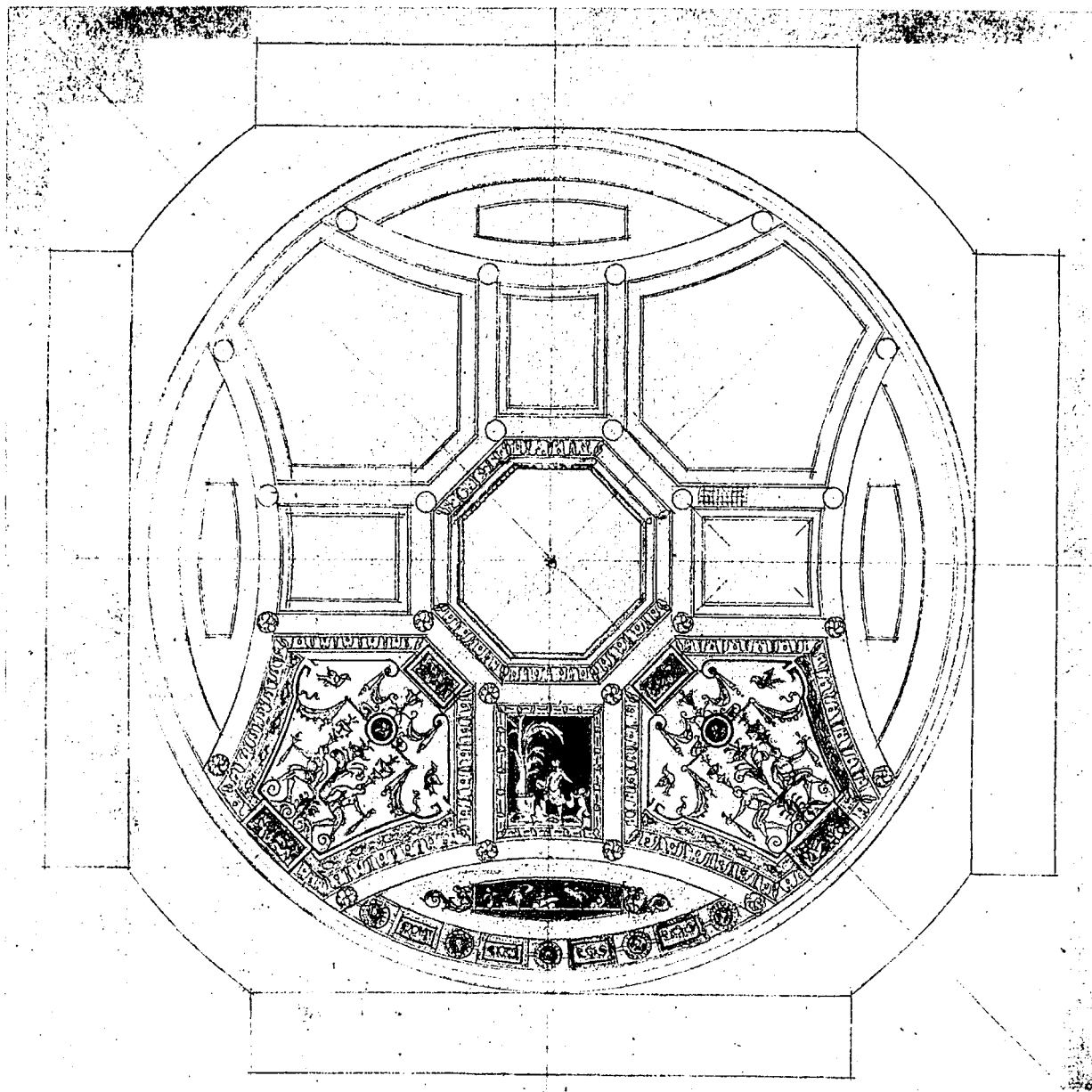


Figure 11

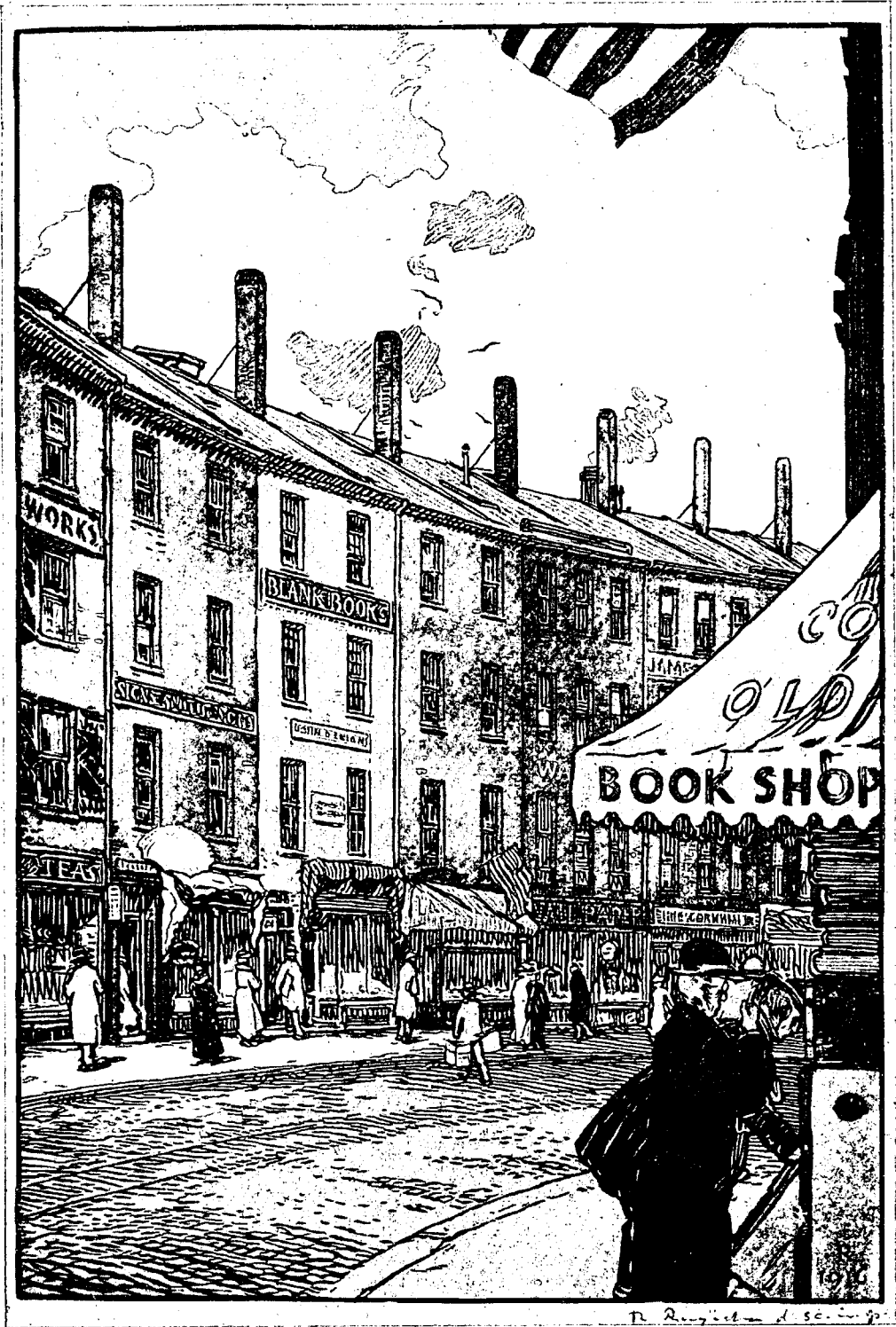
PENCIL AND CRAYON STUDY OF A CIRCULAR DOME CEILING.

ings will follow, which will almost invariably reflect your own nature.

That sounds simple, and perhaps it is not new to most of the readers of "PENCIL POINTS." Someone has said "A man can't paint a picture bigger than he is." That doctrine is fundamental. A man cannot make a design better than he is! To him who

select strong forms and masses, simpler surfaces, fewer motives, and get carrying power in your principal shadows.

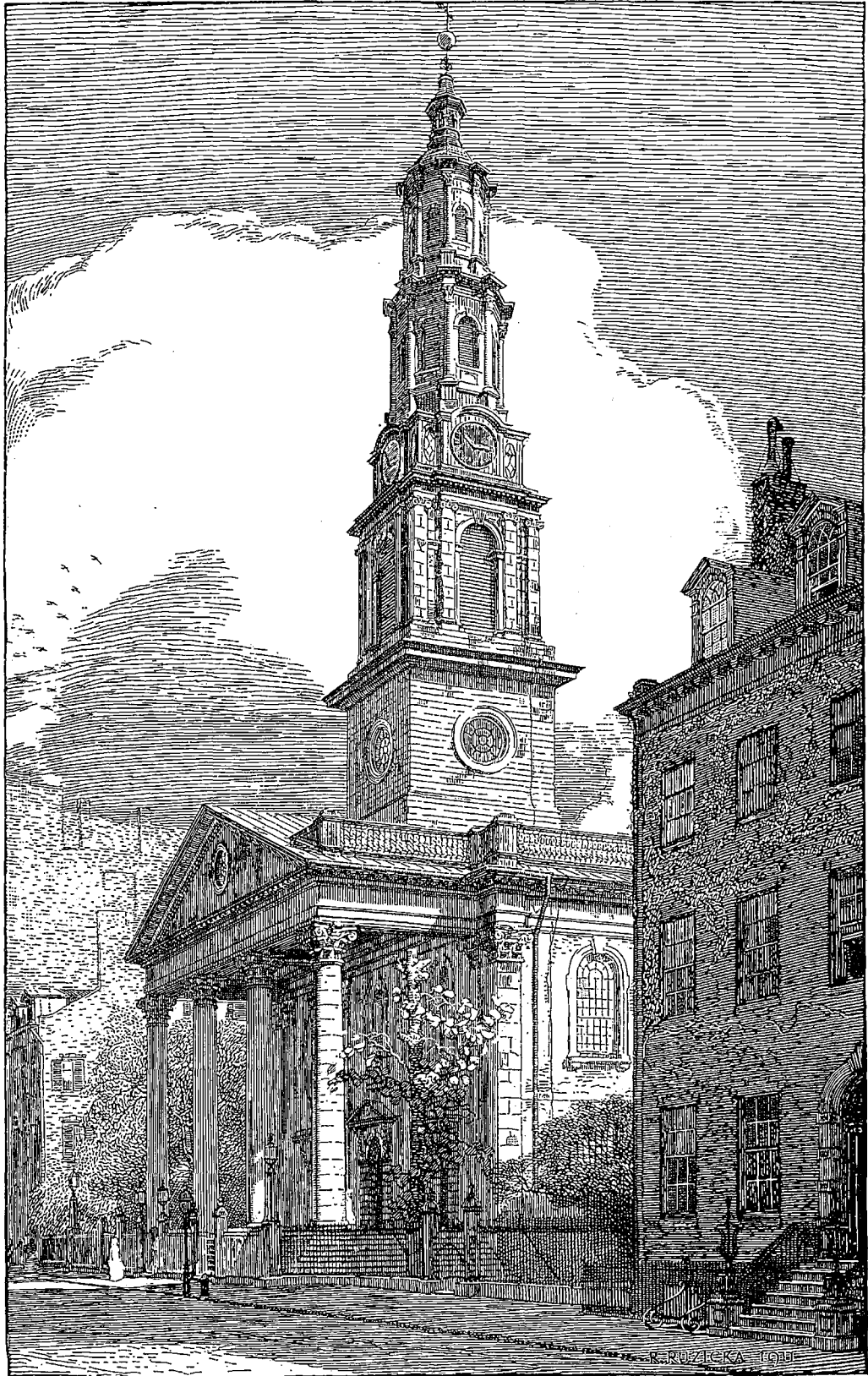
If you are expressing weakness and evasiveness physically and morally, your designs will betray it in conflicting motives and apologetic or imitative subterfuges; on the other hand, if you are a devotee of frankness and honesty, your designs will show it.



Courtesy of E. Weyhe

WOOD ENGRAVING IN COLOR BY RUDOLPH RUZICKA

"CORNHILL, BOSTON"



Courtesy of E. Weyhe

WOOD ENGRAVING BY RUDOLPH RUZICKA

"ST. JOHNS IN VARICK STREET"

PLATE 1

Volume VII

Number 1



RUDOLPH RUZICKA

WOOD ENGRAVER

TYING DOWN THE OWNER

A "CLIENT'S SPECIFICATION" FORM USED FOR OFFICE RECORD

By Aymar Embury II

MOST PEOPLE WHO GO about the building of a private house are completely ignorant of the processes of building; they have probably never before had anything built for them and it is likely to be their last venture; their knowledge of even the manner in which an architect does his business is often elementary, and many, although happily not a majority, never seem to realize that building a house is just as much a commercial transaction as buying a dinner from the grocery shop.

I happen to be one of those architects who has done a great many private houses and I have found that nine-tenths of my troubles with the owners arise from the fact that they know pretty well what they want, but very seldom know how to go about getting it, and are apt to regard their contracts as a rather useless piece of sculduggery cooked up between the architect and the builder to prevent them from attaining their hearts' desires. It is almost useless to tell a client that his drawings and specifications describe exactly what he is going to get, that he is not going to get anything that is not in the drawings and specifications without paying extra for it, and if there is anything in the drawings and specifications which is not as he wants it, it is not going to be changed without extra expense. The same man who will examine his contract for the purchase of material for his factory with the utmost care and see that the list of parts is correct to the minutest detail, will look at the 30 or 40 pages of specifications and say to himself, "I guess it will be all right," and then complain to the architect, fight with the builder and possibly end with a law suit which he almost certainly loses, because he hasn't paid the same attention to his house that he has to his other orders and because he has never properly given to the architect his instructions as to what he wants. Likewise with the woman; no housewife ordering a dinner for eight people will automatically expect the grocer to send horse-radish to serve with the oysters when the grocer doesn't know that oysters are going to be the first course and wouldn't assume that horse-radish was desired anyway. Yet this same woman will, when the house is entirely completed, say, "Oh, I didn't know that my doors were to be painted. I wanted them mahoganzed. Now you must see that I get what I want." Which means that she doesn't intend to pay for the change.

Like all controversies this is not entirely one sided and a large part of this trouble is often due to the architect. He has built not one but a good many houses and he has learned that the average client always has in mind unknown factors which he expects to happen automatically, which is not by any means true. He often does not take the trouble to find out just what the owner wants in details which seem to him unimportant, but which may be essential to the

owner, and he also is apt to forget the things the owner speaks of as desirable although he very rarely forgets the things that he wants in the house himself. This condition is further aggravated by the fact that house building is outside the province of the usual owner and he tries to do his business with the architect outside the usual office hours, so that information as to the things desired comes to the architect at the fag end of a note asking him to dinner, or by a telephone call (which maybe gets him out of bed), because the lady has just been to a dance and has noticed the floors run lengthwise of the rooms instead of crosswise. Information given in this manner is not apt to get on the drawings unless the architect has a mind like a filing system that works, and I myself haven't such a mind nor do I propose to cultivate that faculty. It is too much trouble and even when you have the mind trained you cannot absolutely rely on it.

For these reasons, a number of years ago I invented a form that I call the "Client's Specification," which is to be a record on paper of everything that the owners say they want and of every change they record. The form that I use is reprinted in this article so it is perhaps unnecessary to explain that it really amounts to a questionnaire in untechnical language about all the things that are apt to come up on a private house. It may be applied with comparatively slight changes to other sorts of buildings, but was designed with the idea of taking care of residence work and is best fitted for that use. It is by no means perfect, but is a great deal better than any system that I have happened to see in other offices. This form is usually filled out by me at my first interview with the client before the sketches are prepared; that is to say, it is filled out if I can persuade my prospective client to hire me, and on the basis of the information given in this client's specification, the sketches are drawn up and from this, subject to alterations as may come up from time to time, the working drawings are made and the specifications are written. On the first page I get the name and address of my proposed client. A good many people come to this office whom I have never seen before and who expect me to know automatically all about them (as I suppose I should), but this gives me an excellent chance to get my client's name exactly and the address to which I shall send correspondence and more important, my bills. I also put the commission number on this first page. This gives me a chance to indicate delicately to the client that I am an experienced architect, since the commission number runs at the present time around 500. I didn't start putting the commission number on, until I had a respectable experience behind me, though of course this little difficulty could have been avoided had I

started my numbers at 100 or 200 or 500, in accordance with whatever system of enumeration I might have adopted.

On the second page I get information as to lot size, grading, how the house faces, the general style that the owner desires, and what he proposes to spend. I also have a chance to introduce delicately that most troublesome of subjects—how much I am to be paid for the work, and this is agreed on then and there, and as a rule without friction, or else the client's specification stops where it is and I rub out the pencil notes on the first page and save the form for another client.

Most people really want to know what the architect is going to charge and certain of us at least are burning with curiosity to know what we are going to get. Here the question arises naturally and is answered without awkwardness.

I try to get from the client a contour map of the property which answers more completely the questions in this first section; if I succeed, this contour map is attached to the client's specification in the file, and any notes that I make when I see the property are attached also. There is one other important heading, and that is "Restrictions." Very often the small suburban lot or the city house has restrictions on the property which affect the design very materially, which the owner does not think of and of which the architect does not know the existence. These should be inquired about.

The next section asks general information as to the owner's requirements in plan, and I try to get sizes of the rooms in feet and inches as nearly as is possible. Most people say they want 'a large living room,' and a 'dining room to seat 12 people at the most,' and 'a good kitchen,' or phrases like that; and I try, by comparison with rooms in my office, or rooms which we both know, to fix these sizes, or at least their approximate limits, and I adhere fairly closely to them in making the sketches.

The paragraph under 'Materials' is always at the first interview of a rather sketchy nature, but at least I find out whether the client wants a brick house, or a wood house or a stucco house, and whether the roof should be slate or shingles or tile, whether the doors are to be mahoganized or painted and whether they are to be paneled or plain. The questions asked are those which I find generally arise and if the client has no preference as to materials this is noted, or where certain factors govern others, this too is noted in place of definite information as to what should be used.

Coming to 'Interiors' I try to find out whether the plaster is to be smooth, whether the house is to be papered, or whether a sand finish or English hand troweled finish is desired; whether the floors should be oak or pine or maple or marble; what bath rooms are to be tiled and how high; whether the kitchen is to be tiled; whether the owner likes cornices and whether the general trim is to be painted or stained and I try and estimate about how much decoration the owner desires on the general trim. I also find out in what rooms the owner wants fireplaces and

what his general ideas as to fireplace finish are. Under 'Special Trim' I have simply listed the rooms which may occur in the usual house, and get some indications as to the owner's ideas of interior decoration; I also have included a note on 'special closet work' which in some cases is referred to a separate sheet with a long detailed list comprising hat closets, shirt drawers, shoe racks, and general wardrobe fittings which may be extremely extensive. The dressers take care of the kitchen and pantry work and the paragraph 'painting' indicates whether they want certain rooms enameled or stained or painted with flat paint.

In the paragraph 'Mechanical Equipment,' I find out whatever I can about the owner's ideas as to heating and plumbing, electric work; whether the range is to be gas, coal or oil; and if the owner has any particular ideas about electric equipment.

I also try to find out where the public sewer and water supply systems are—whether there is gas adjoining the property, and things of this kind, because I have several times gotten myself into trouble by specifying that the water and sewer connections should be made to the public main in the center of the street, when in fact they were on the opposite side, and a small extra was involved which annoyed the owner, because he felt that he was having to pay for something he would not have had to pay for had the plans been correct to begin with.

After the 'Clients' Specification' is filled in I make two typewritten copies of it, and send one to the owner asking that it be verified, and saying that in the absence of correction I will assume that my transcript is correct. In this way two birds are killed with one stone. I have a contract with the owner to do a certain carefully described piece of work for a certain fee, as well as detailed information. Generally no change is made at first but inevitably as the drawings progress the owners gather ideas from other people as to what is the latest thing in structure, decoration or mechanical equipment and changes in their requirements are made either by letter or verbally or by telephone. When these are telephoned I make a copy in duplicate of the requirements, pinning one to the client's specification and sending the other to the owner, noting on the original client's specification in pencil (theoretically red, but usually black) that changes have been made in that paragraph. The specifications when finally written are rechecked with the client's specification and the notes of changes, and if we find any variation from the original requirements we either correct it, or where it cannot be corrected without altering what seems to us the proper specification, we call the owner's attention to it and ask for a decision.

Further when the specifications are written we say to the owner, either verbally or in writing, and very often both, that "this describes what you are going to get; so please read it very carefully; we know it is very dull reading and we are not able to make it sparkle; but it is essential for you to have knowledge of what you are going to get and if the specification does not describe accurately what you want

TYING DOWN THE OWNER

the corrections had best be made before the contracts are let."

We very often have clients come in and say that they do not understand certain of the requirements. These are explained to them and usually they find that we mean exactly what they mean although we use different language, and we have found since the use of the 'Client's Specification' that troubles about things left out or specified with disregard to the owner's wishes are practically eliminated. We find also that in no case has the owner been able to hold us in any way responsible for the things not in accordance with his intention. The trouble involved is very little more than that of the usual haphazard system, and it is certainly worth while, since the information is got together at one time and not piecemeal, and the owner and the architect understand each other fairly completely. Of course, the use of unfamiliar terms some times leads to difficulties as

in the case of one client for whom 'matched' oak floors were specified and who understood that "matched" should be interpreted as "matched in color" and not "tongued and grooved." And of course there is a case famous in my office of a delicate minded lady who desired her "lavatories to have white seats and covers" which led to certain confusion in the mind of the specification writer, since she filled out her 'Clients' Specification' personally, but these cases will become the exception and not the rule as they used to be formerly. We find we have far fewer extras on jobs, which saves us money, since no one was ever paid sufficient commission on an extra to pay for the trouble; we leave behind us satisfied clients, and further than that our clients no longer have in their mind what used to be their apparent feeling, that the building of a house was a mystery shrouded in as deep gloom as the architect and builder could contrive.

CLIENT'S SPECIFICATION

AYMAR EMBURY II

ARCHITECT

150 EAST 61ST STREET, NEW YORK



COMMISSION NO.

NAME

ADDRESS

LOCATION OF PROPERTY

.....

.....

GENERAL

LOT SIZE EXPOSURE

RESTRICTIONS GRADE

STYLE PROPOSED COST

COMMISSION AGREED UPON

DRAWINGS

SUPERINTENDENCE

ROOMS AND SIZES

FIRST FLOOR

SECOND FLOOR

THIRD FLOOR

BASEMENT

PIAZZAS, TERRACES

CEILING HEIGHTS

BASEMENT SECOND FLOOR

FIRST FLOOR THIRD FLOOR

MATERIALS

FOUNDATION EXTERIOR WALLS

MASONRY FLOORS

ROOF FLASHINGS

WINDOWS DOORS

COLOR AND FINISHES

INTERIORS

PLASTER

CORNICES

TILE WORK

FIREPLACES

FLOORS

GENERAL TRIM

SPECIAL TRIM

LIVING ROOM

DINING ROOM

LIBRARY HALL

OWNER'S BED ROOM

GUESTS' BED ROOMS

OTHER ROOMS

.....
.....
.....

SPECIAL CLOSET WORK

.....
.....
.....

DRESSERS

PAINT

STAIN

MECHANICAL EQUIPMENT

WATER SUPPLY ELECTRIC MAINS

GAS SEWAGE DISPOSAL

HEATING

PLUMBING

RANGE LAUNDRY STOVE

ELECTRIC WIRING WATER HEATING

SWITCHES

BELLS AND TELEPHONE

SPECIAL EQUIPMENT

HARDWARE

SCREENS WEATHER STRIPS

PORCH ENCLOSURES

GARBAGE RECEPTACLES REFRIGERATOR

OTHER EQUIPMENT

GARAGE

.....
.....
.....

ACCEPTED,

DATE,



PAINING BY EDWIN H. BLASHFIELD
"ACADEMIA"

PLATE II

VOLUME VII

NUMBER I

Edwin H. Blashfield's contribution to the Centennial Exhibition of the National Academy of Design, held at the Grand Central Art Galleries in New York, is of general interest. Mr. Blashfield, who is President of the Academy, painted "Academia" especially for the Centennial Exhibition.



MEZZOTINT BY JOSEPH PENNELL
"CORTLANDT STREET, EVENING"

PLATE III

VOLUME VII

NUMBER I

Joseph Pennell was represented at the Centennial Exhibition of the National Academy of Design, held at the Grand Central Art Galleries in New York, by three etchings and a mezzotint, which we reproduce on the other side of this sheet. The print of this mezzotint which was on exhibition is the only one of this subject.



DECORATIVE GARDEN FIGURE, HARRIET FRISMUTH, SCULPTOR
"THE VINE"

PLATE IV

VOLUME VII

NUMBER I

This figure, which was shown at the Centennial Exhibition of the National Academy of Design at the Grand Central Art Galleries in New York, won the Julia A. Shaw Memorial Prize in the Winter Exhibition of the National Academy of Design in 1923. It was subsequently purchased by the Allied Architects Association of Los Angeles, California.

PICTURE MAPS

SOME EXAMPLES PAINTED BY FRED DANA MARSH

THE ART OR BUSINESS of drawing and illuminating charts and maps began in Mediaeval days. The cartographer has remained in business ever since, but it is to the mural painter that we owe the restoration of the art and its application to the decoration of modern houses.

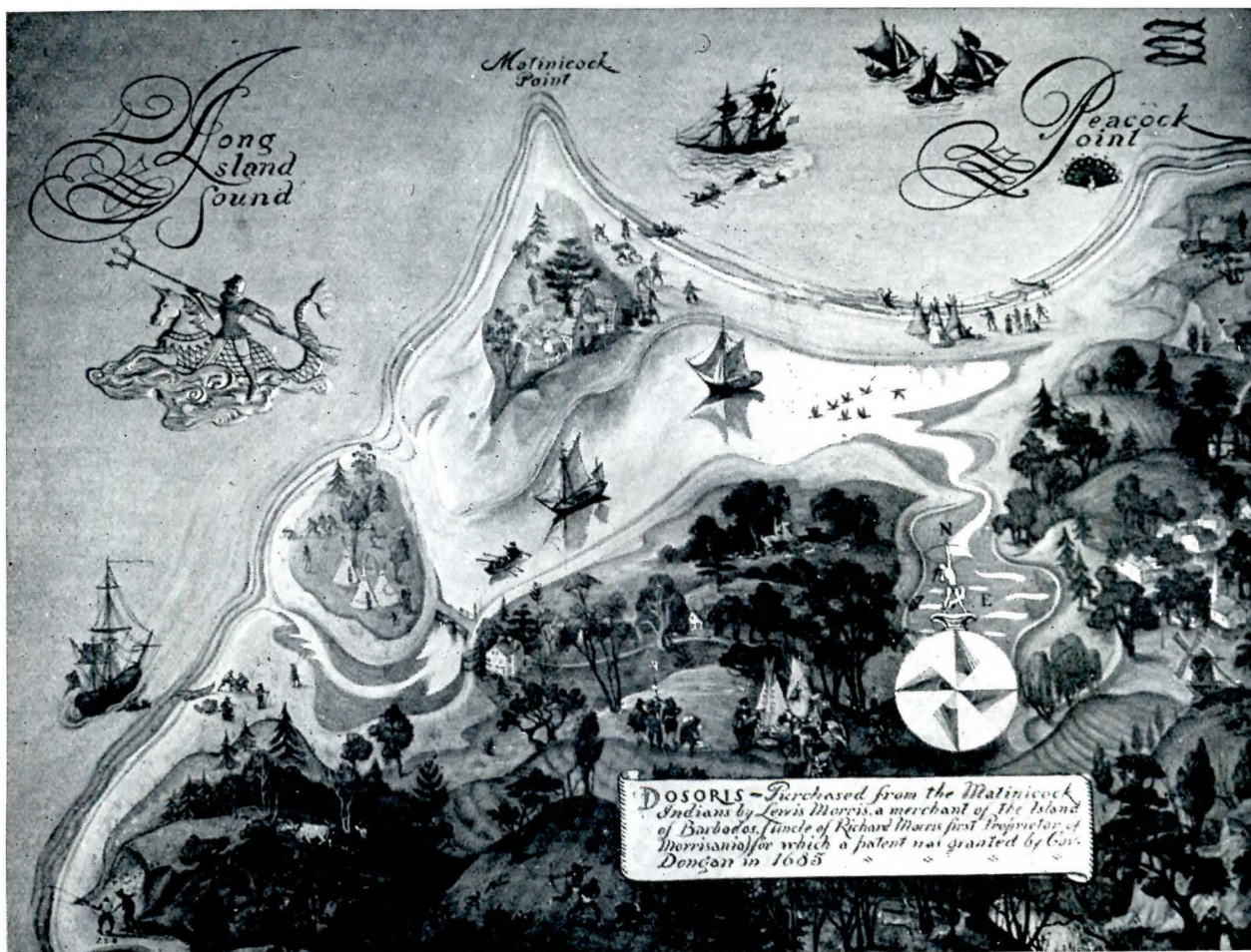
The one spot most often seen by the occupants of a room is probably the space directly over the mantel. Some sort of fitting decoration should occupy this space. A family portrait often has the place of honor, but this is frequently of little interest to any but the family. Far more interesting as decorations are the picture maps which have lately been given the dignity of mural paintings by the artist, Fred Dana Marsh.

Mr. Marsh was commissioned some time ago to paint an overmantel for the Henry house, at Scarborough-on-Hudson, and in seeking a motif for the subject, had the happy inspiration of incorporating the historic events and legendary lore of the sur-

rounding country into a topographical picture map.

This mural map and others painted by Mr. Marsh bear little resemblance to the maps found in the old Atlases with their washes of brilliant colors to indicate the geographical divisions of the hemispheres and countries, which have recently come into vogue for decoration.

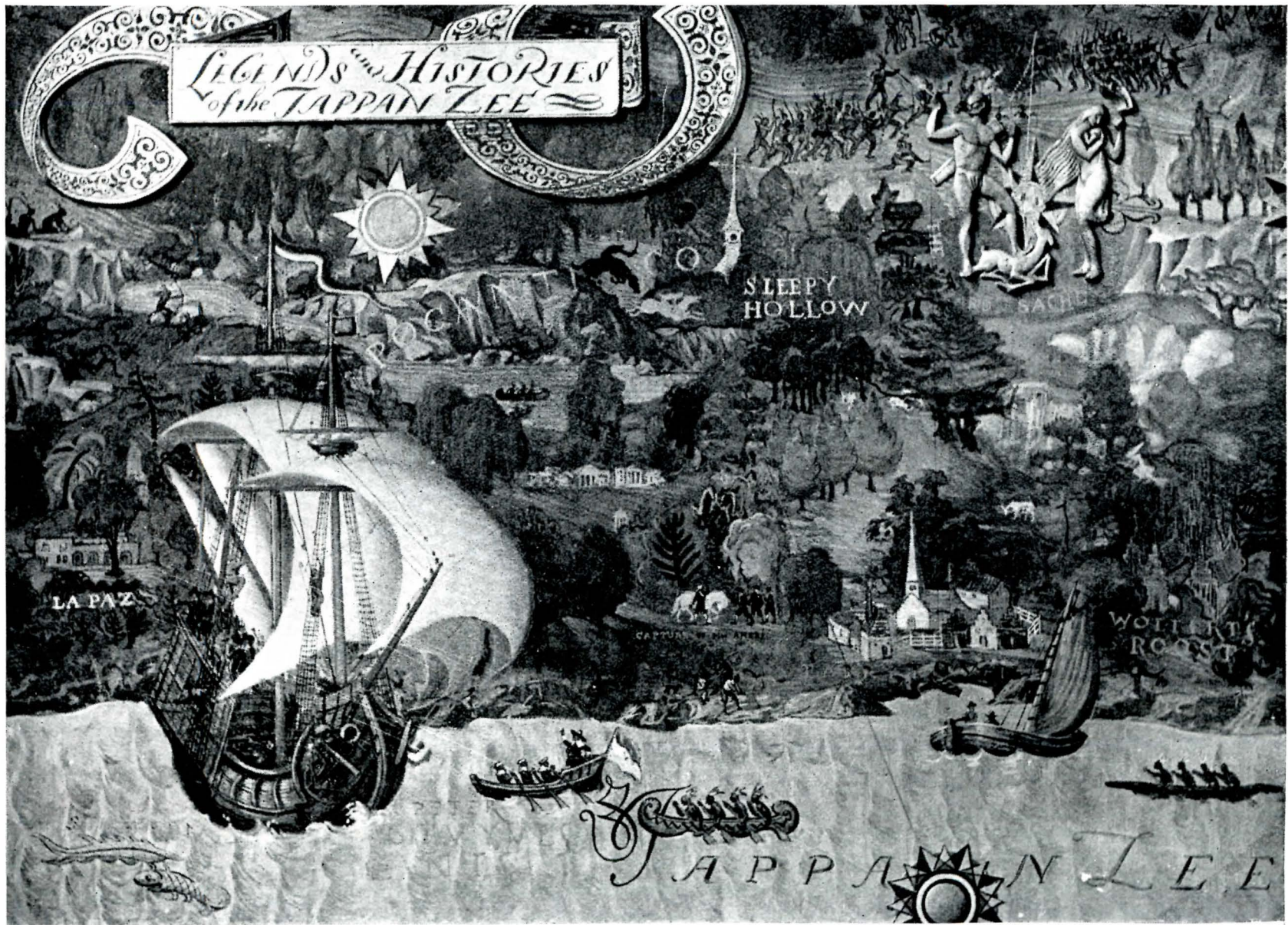
Mr. Marsh has used the ancient motif in a novel guise, and has depicted the incidents of history and lore through the medium of a palette of mellow hues. His maps are full of quaint humor, and introduce an unlimited number of interesting details, which are reflections of Mr. Marsh's rich and varied personality. He derives as much pleasure from the research necessary for the compilation of these maps as the maps themselves give to those who study them. His undoubted success in this medium of expression is due chiefly to the fact that, like all true artists, he expresses himself and his joy in his work in each undertaking.



OVERMANTEL— RESIDENCE OF HERBERT PRATT, ESQ., GLEN COVE, LONG ISLAND
PAINTED BY FRED DANA MARSH

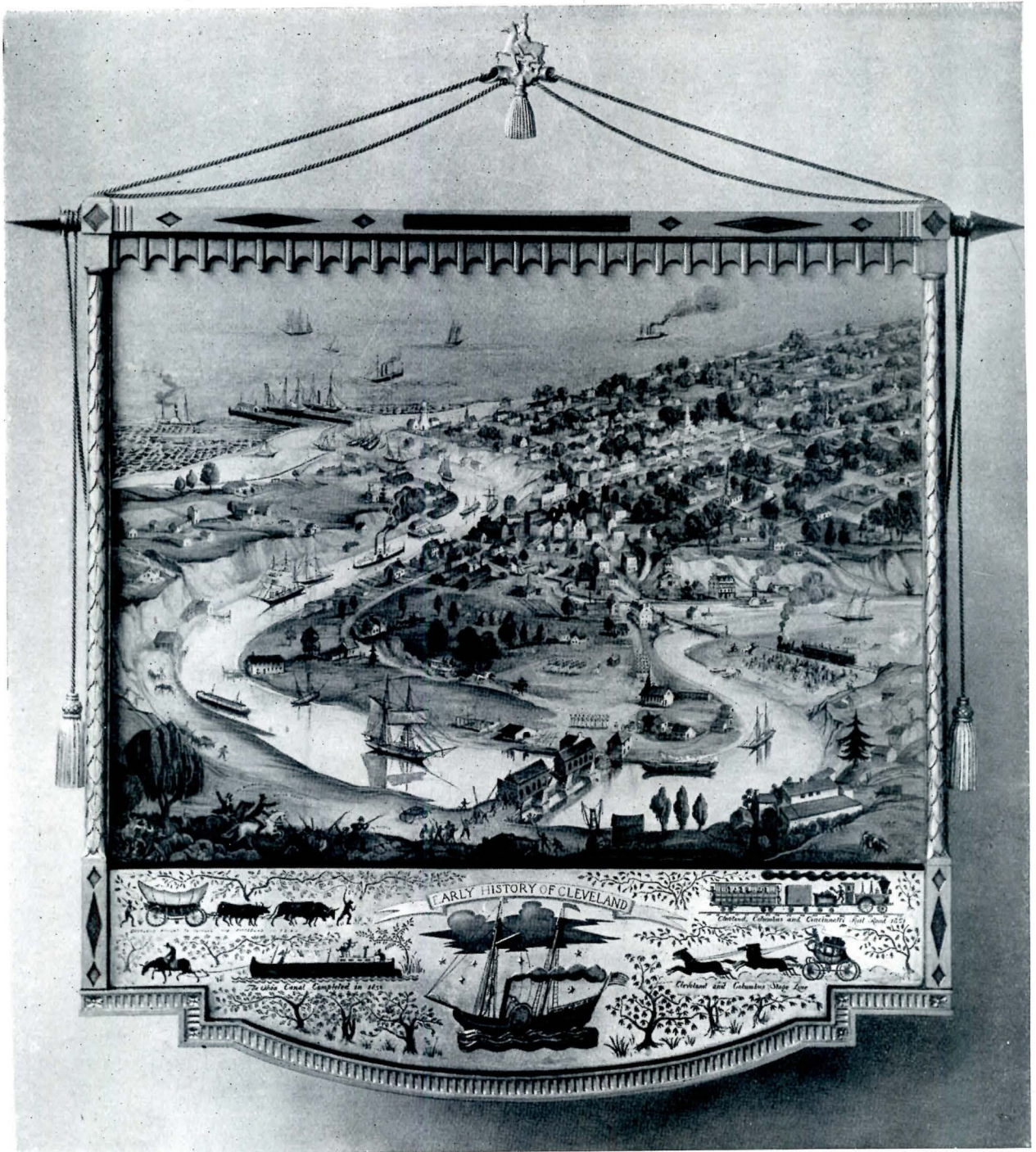


OVERMANTEL—RESIDENCE OF WM. G. ROCKEFELLER, GREENWICH, CONNECTICUT
PAINTED BY FRED DANA MARSH



OVERMANTEL IN THE HENRY RESIDENCE, SCARBOROUGH-ON-HUDSON, N. Y.

PAINTED BY FRED DANA MARSH



MURAL BANNER—PAINTED BY FRED DANA MARSH
EARLY HISTORY OF CLEVELAND

As a rule Mr. Marsh designs his frames and settings for his picture maps. He seems fond of the use of silver as a color for the frames, which, as he uses it, is very effective.

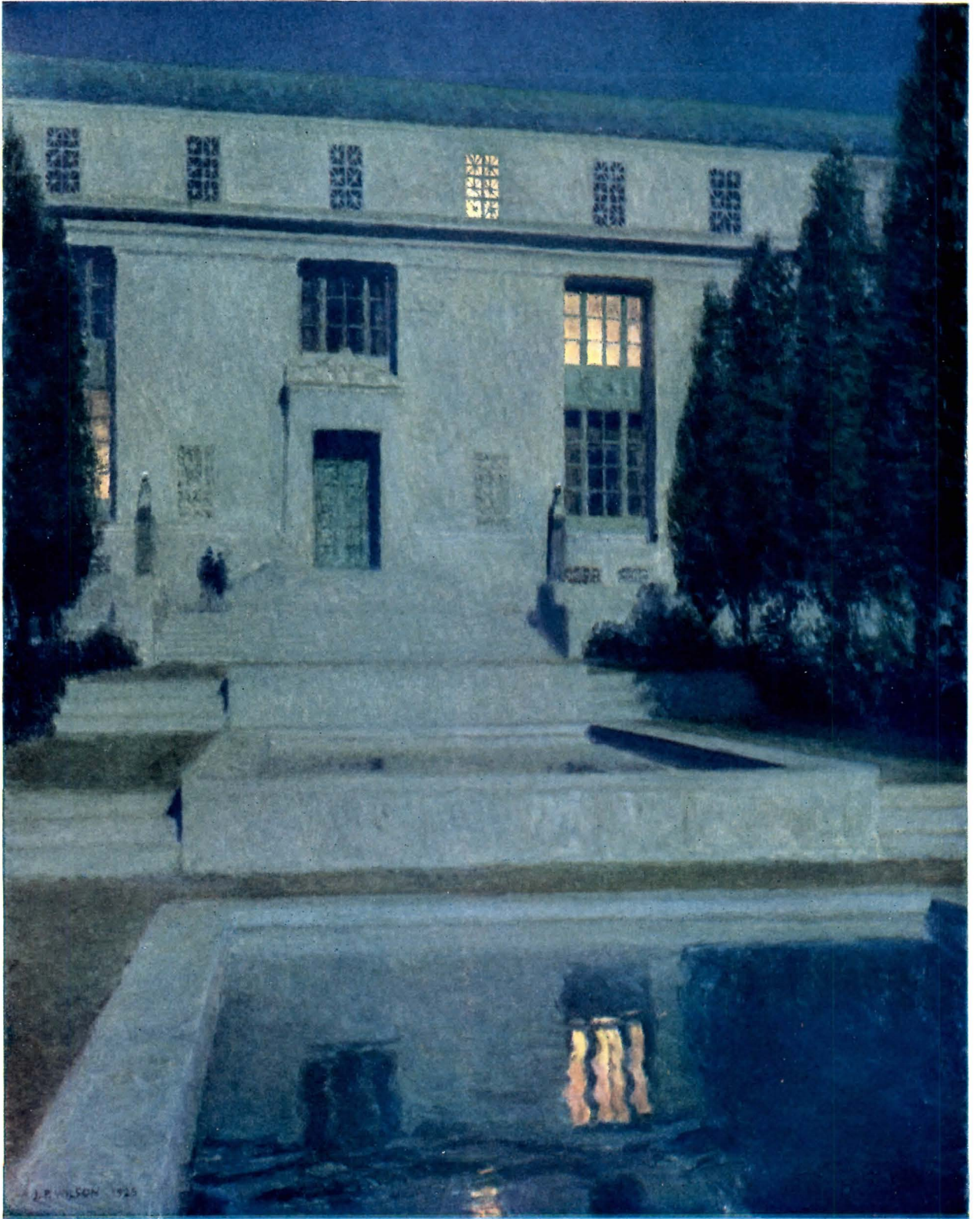
PENCIL POINTS
SERIES
of
RENDERINGS
IN
COLOR



WATER COLOR SKETCH BY CASS GILBERT

Size of Original 11¼" x 17¼"

"Carcassonne"



RENDERING IN OIL BY JAMES PERRY WILSON

Size of Original 24" x 30"

*"Summer Moonlight"—Building for the National Academy of Sciences at Washington—
Bertram G. Goodhue, Architect.*

PENCIL POINTS
SERIES
of
RENDERINGS
IN
COLOR

LINE DRAWING COMPOSITION IN THREE DIMENSIONS

By *Leo Friedlander*

I HAVE OFTEN ADMIRED the sculpturesque quality in the greater number of the pictures of the Old Masters, particularly of mural decorators; this quality prevades the pictures that appeal to me most. I have in mind not only their thorough execution and extraordinary craftsmanship, but especially their sense of three dimensions in their compositions. Although I am inclined to be more interested in decorative paintings, I shall quote examples of various kinds of paintings that are not all, strictly speaking, mural in character, in order to illustrate my viewpoint.

So, as an example, I shall begin with the "Sybils" of Michel Angelo, and his circular composition, "The Holy Family". To me they particularly convey the thought that had they been chiseled in stone, they would have surpassed some of his actual sculptures. It seems to me sufficiently logical to speak primarily of Angelo although his frescoes are often referred to as sculptural paintings. Yet in spite of all this effort of classification, we cannot help speaking of his Sistine Chapel frescoes as decorations of a kind, created by the master hand of the most potential figure in the history of Art. Titian's painting, "The Entombment" in the Louvre, always impressed me as a possible group in sculpture. Likewise, Rubens' "Rape of the Daughters of Leucippus by Castor and Pollux" at the Pinacothek, in Munich, seems distinctly sculpturesque to me. The taste, style and temperament of Rubens are as adverse to those of Titian as night and day, yet Rubens' picture has always impressed me as equally sculpturesque. Among the Italians of the Fifteenth Century,

Piero dei Franceschi's impersonal style and rigidity are astonishing. He revived some of the outstanding sculpturesque qualities and understanding of geometrical shapes in rhythmic relations to one another, reminiscent of the Greeks, a quality that was paramount in the western pediment of the Temple of Zeus at Olympus. With Piero these qualities became even more pronounced by the introduction of color. I maintain that the

present day cubism, in its best form, is a superficial derivation from the Piero source. I have always associated his powerful, yet tender, decorations in the Cathedral at Orvieto with the best of bas-reliefs, and his "Education of Pan" at the Berlin Museum impresses me as an extraordinary piece of sculpture in all its severity.

Why could not Leonardo's "Gioconda" or his "Virgin and Child with Saint Anne" have been created in stone? Who would venture to say that they would not have been contributions of the highest

aesthetic value to sculpture? Can a sculptor look at Da Vinci's cartoon, "The Holy Family," at the Royal Academy, without being prompted to think of a charming sculpture in high relief?

The two figures in the foreground embracing in "The Visitation," by Ghirlandajo, at the Louvre, remind us of the type of placid beauty that Andrea della Robbia might have converted into sculpture. In fact, upon reflection, his group, "The Visitation," in the Church of San Giovanni at Pistoja, is this very kind of thing.

Of the more spontaneous and realistic school,—"The Infant Baltazar Carlos," by Velasquez, at the Madrid Museum, suggests a charming,



DRAWING BY LEO FRIEDLANDER, SCULPTOR
"MADONNA AND CHILD"

vigorous, prancing equestrian for bronze.

As we review the field of unlimited accomplishments of Antiquity, we find this sculpturesque quality evident in the best paintings and far more pronounced than in the present day work. When I speak of good draftsmanship that has direct bearing upon line drawing in three dimensions, my admiration is drawn toward Holbein, whom it is necessary to mention here with emphasis. He could suggest depth in the drawing of a profile, hand or any part of the human form with little or no shading, for he tended to modify his modeling in an abstract way. Holbein is important to me here, by way of illustration, as his drawings convince me in every contour that he was conscious ever of a third dimension. His was monumental portraiture, pure and simple.

With conditions as they are today, time is an important factor, whether we concede this or not. The architects of today have developed to a stage where they decide a great deal of their work on paper. The difficulty of designing a building or monument thoroughly on paper has arisen so often that models have been made further to assure the soundness of the design. This is a logical thing to do, yet the majority of buildings are designed with little time wherein to do an adequate model. Either way has its merits. The architect, nevertheless, has unconsciously actually developed to the point of feeling three dimensions on paper. The architect is an artist in his work as are the painter and the sculptor in their respective branches, and since the former is able to handle what has really come to be a very complex problem, mainly on paper, I should say that a sculptor should be at least equal to the task.

Let us now take for example: an architect has made a rendering of a facade, and has allotted space in the drawing for the sculptor to enhance. In this case, we eliminate the idea of making a model and depend entirely upon the ability, on the part of the sculptor, to use his pencil. He is

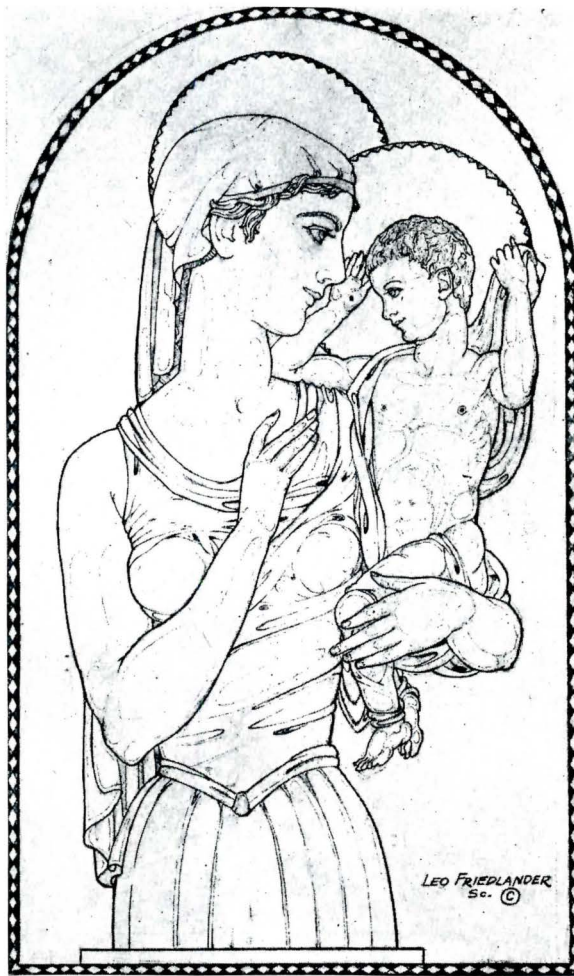
now afforded the advantage of intimate association with the structural lines and entire scheme of the architecture of which his work is to become an integral part. His ability to sense his compositions in three dimensions becomes evident if he is able to indicate intelligently conceived shapes that will not be deviated from principle in his final work. It is needless here to touch upon the finer sense for scale, which applies to the architect as well as to the sculptor. Perhaps this is a gift of the gods. Nevertheless,

the process cannot help making for better harmony and collaboration. In fact, line drawing has this advantage when drawn intelligently and skillfully: it has great affinity with silhouettes in sculpture, and is in itself clear and concise. Now the important point which I wish to bring out in this article and which has direct bearing upon my appreciation of the aforementioned paintings' sculpturesque qualities is this:—

If the silhouette, shapes and general composition are satisfactory on paper, the sculptor should have a reasonably definite vision of the third dimension of his own drawings. Reverting to the scale model, the scale is usually so small that the detailing becomes an effort, rather than an enjoyment—the latter being a prerequisite in creative work. Therefore, the on paper process is pretty sound, and gives the sculptor on second thought an opportunity to make reasonable sized studies of his drawings to assure himself. In other words

I am suggesting adding to the old procedure a preliminary step toward the realization of the final work.

In the accompanying illustrations are examples of a relief and the preliminary drawings that were made in the architect's rendering. Where the problem is reliefs, the drawings can advantageously be enlarged by the lantern, thereby maintaining the feeling of the drawing to a "T". In the group "The Three Wise Men," I have deliberately executed this work from my preliminary drawing without departure from it.



DRAWING BY LEO FRIEDLANDER, SCULPTOR
"MADONNA OF THE NICHE"

LINE DRAWING COMPOSITION IN THREE DIMENSIONS

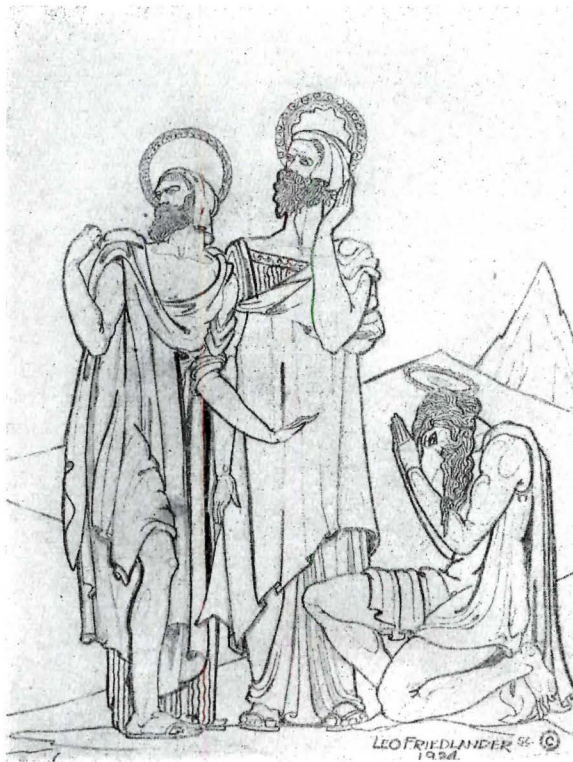
The only addition is a small tree to tie the central figure more solidly to the kneeling one.

There are several additional drawings illustrated so that the reader may acquaint himself better with the quality of line drawing that I have developed.

That drawings have been made preliminary to modelling in collaboration I recognize, but in most cases these were vague though interesting sketches. Therefore, encouragement of a more practical and advantageous application of the pencil can meet only with approval.

If we could compile the best drawings by master sculptors that were executed in three dimensions, eventually we should find that, fundamentally, the finished works were unchanged in composition.

One of the first primitive instincts of man was to draw, and before the process of civilization had devised the science of perspective, man relied entirely upon his feeling to illustrate depth in his pictures. Man has grown older and wiser,

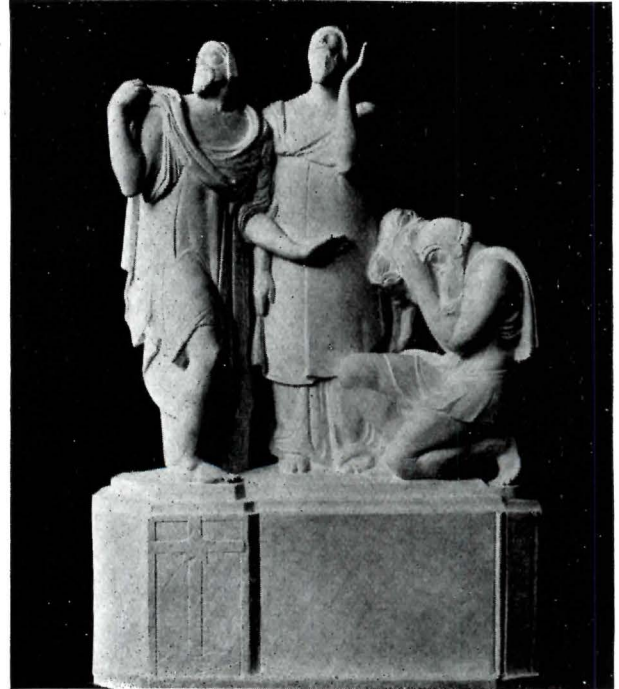


STUDY BY LEO FRIEDLANDER
PRELIMINARY DRAWING FOR "THE THREE WISE MEN"

yet we can never eliminate feeling from our creative sense in art. Should the time ever come when industry and commercialism shall so influence art as to place it in line for standardization, Art will have vanished from the earth.

This is not written as an attempt to suggest methods whereby the best results are obtainable. In Art no such definite thing exists. It is rather to emphasize the importance of drawing as the basic principle, in its simplest form, (the outline) of the Fine Arts. Sculpture is furthermore too vast a thing in itself to attempt to harness here or elsewhere. Let those of us who have sworn allegiance to the Muse encourage more discussion that will lead to the highest concepts in our art. In this sense

these lines are offered for consideration. I hope they contain useful material for thought and that they may in some degree be a contribution to all draftsmen and of assistance and help to them.

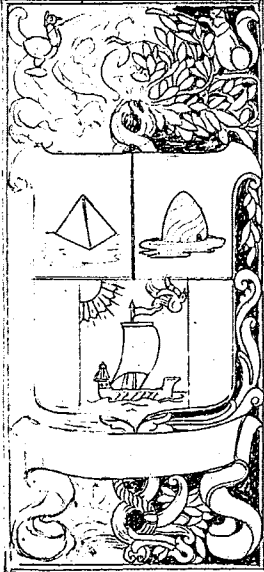


"THE THREE WISE MEN"—LEO FRIEDLANDER, SCULPTOR

ORNAMENTAL PANELS IN CEILING
OF ENTRANCE HALL

NATIONAL CHAMBER OF COMMERCE
WASHINGTON, D. C.

Cass Gilbert, Architect
Leo Friedlander, Sculptor



The drawing at the left, reproduced at the exact size of the original, was made by the sculptor directly on the architect's rendering of the ceiling design. The drawing was enlarged by the lantern and the finally executed panel, shown in the illustration at the right, was made without losing the feeling of the drawing or departing from it in any way. This is one of five panels that were executed in relief and designed to carry well at a height of about twenty feet from the floor. Each panel is approximately 2'6" x 6'2".

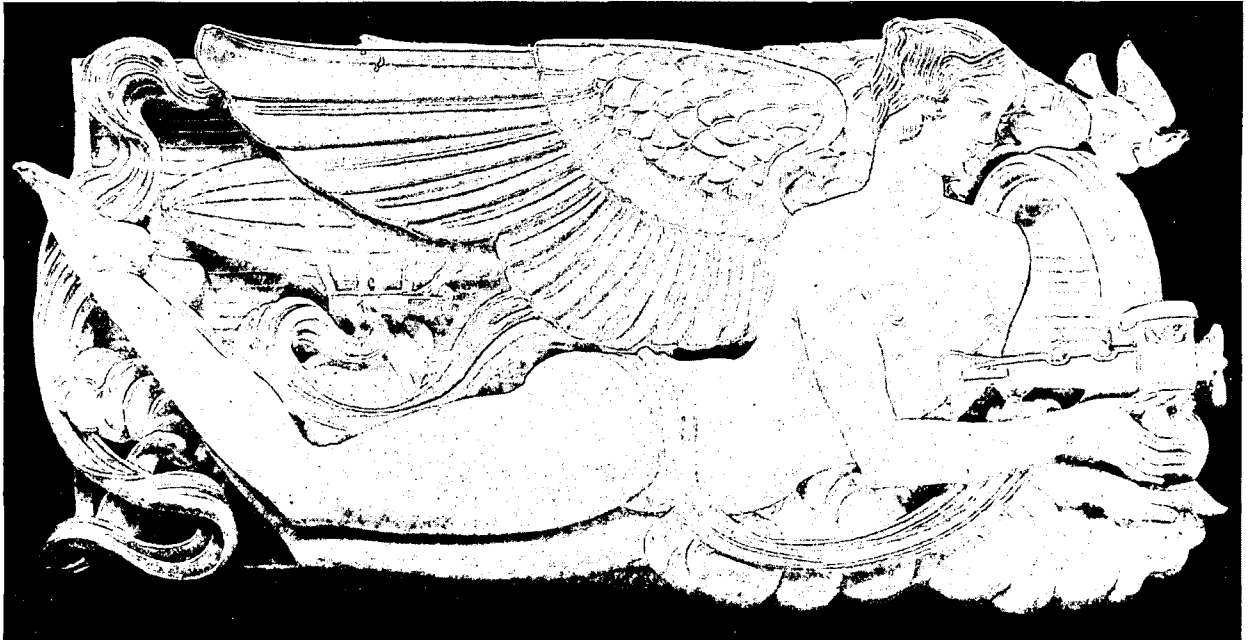


FIGURE PANEL IN CEILING OF COUNCIL CHAMBER

The figure drawing shown here is reproduced at the original size of the sculptor's drawing which was incorporated in the architect's rendering of the large beamed ceiling of the Council Chamber of the National Chamber of Commerce. It will be noted that the finally ex-



ecuted panel shown below has been done without deviation from the drawing. The ceiling is thirty-three feet in height and was executed in "Three Plane Relief". The actual modelling is in flatter relief than it appears, the contours being raised to emphasize the design.



"AVIATION"—LIFE SIZE PANEL IN CEILING OF COUNCIL CHAMBER

Leo Friedlander, Sculptor

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JANUARY, 1926

THE NEW YORK ARCHITECTURAL CLUB, INC.

HAIL! HAIL! THE NEW YEAR IS HERE!

Ah me, the poetry of it! Think of the inspiration. Another chance to make a new start. An opportunity extended to each and every one of us weak mortals, by the generous gesture of the benign and benevolent Saints (Amen) to see the error of our ways and—do worse in the future, thereby proving that we did not do so badly in the first place. To let our vivid imaginations run riot in forming lofty and ideal resolutions, which get weak in the knees come the 5th of the month, become wobbly about the 10th, and come down with a loud crash by the 15th of January on the dot. But then, this is a free country (except for that famous No. 18) and we feel that we can break all the resolutions we want to, if we want to. There are darned few other things that we can break and get away with it.

But, to get back to the point. The majority of our fellow citizens, and some of our other neighbors agree, that this is the most inspirational period of the year. We know, because we asked at least five of them, and they admitted it even though we didn't threaten to sic the traveling photographer on them. Therefore, to be in conformity and harmony with those dear fellow citizens, we have properly and generously imbibed of—inspiration. Inspiration to tell you about our club.

The Board of Directors of the club are considering a proposal to erect a building of 12 to 16 stories, a suitable number of floors of which are to be used for club purposes, and the balance of the building to be revenue producing. The club will call a general meeting in about the middle of this month, all members to be present, and it is possible that a definite program of action in this matter will be decided upon.

At the last meeting of the Board of Directors a resolution was passed to establish an atelier immediately, in a centrally located place, and a committee of three was appointed to put the resolution in motion. The committee consists of Messrs:

- E. L. Capel, Chairman,
care Alfred C. Bossom, 680 Fifth Ave.
- H. Sasch,
care Donn Barber, 101 Park Ave.
- E. D. Thomas,
care T. W. Lamb, 644 Eighth Ave.

The preliminary program calls for a regular Beaux Arts Institute atelier consisting of up to 50 members, the dues to be \$5 per month, a life model class in which the charges

per lesson will be proportioned to the number of students participating, and any other kind of classes for which a sufficient amount of interest and demand is shown. *These classes are now forming, and anyone wishing to join should get in touch with a member of the committee at once*, as the number of students will be limited. Through the good offices and influence of the club, it is expected to obtain the best possible critics in the profession for these classes, some of whom are already members of the club.

The club held the regular monthly dinner-dance at Jensen's Hof-Brau, at Broadway and 53rd Street, on Tuesday evening, December 15th, and we state without any fear of successful contradiction that a grand and glorious time was had by all who were present. And little wonder. The food was excellent, the music good, the price right, and plenty of cheer around to make the party lively and gay. These are informal affairs, and usually arranged to take place around 6:30 or 7 o'clock to give those that wish to depart early a chance to do so, while the rest can stay on into the wee small hours if they care to. We noticed that the majority of the ensemble were wee hoursites.

THE ARCHITECTURAL BOWLING LEAGUE DIVISION

The Bowling League has just terminated a series of 19 games, which is the first round, or half of the 5 man team tournament.

The standing of the teams at this time is as follows:

No.	Office	Won	Lost
1.	Cass Gilbert	17	2
2.	Warren & Wetmore	16	3
3.	Guilbert & Betelle	15	4
4.	Donn Barber	14	5
	Alfred C. Bossom	14	5
5.	McKim, Mead & White	14	5
	B. W. Morris	5	14
7.	McKenzie, Voorhees & Gmelin	13	6
8.	James Gamble Rogers	12	7
10.	J. E. Carpenter	11	8
	Starrett & Van Vleck	11	8
11.	A. J. Thomas	10	9
12.	T. W. Lamb	9	10
13.	Holmes & Winslow	8	11
	Peabody, Wilson & Brown	8	11
15.	Schwartz & Gross	5	14
	B. W. Morris	5	14
17.	Allen & de Young	4	15
18.	Shape, Bready & Peterkin	2	17
19.	Schultz & Weaver	0	19 forfeit
	W. L. Stoddart	0	19 forfeit

High team score,

Warren & Wetmore 843

High individual score,

R. D. Read of Cass Gilbert 221

High individual average,

W. Miltenberger of Donn Barber 168

Our inherent modesty forbids the claim that we are the king pins when it comes to bowling, but we have a hunch that such as we are, we could cross pins with *any* bowling organization in the architectural profession, and give them a run for their strikes and spares. Always providing of course that they go through with the test to the end. This defy takes in these United States, including Yonkers and all territorial waters to the twelve mile limit.

November 19th was "Ladies Night" at the alleys, and a keen competition took place among the ladies for the usual three prizes. Miss Sally Lynch was the proud victor, and walked off with the first prize on the strength of her score of 128. Our hats are off to Sally for the determined way she went after the goal. Missing by a slight margin at the first Ladies Night, she would not accept disappointment twice. A chip of the old block for a fact, we would say. Mrs. Henry Poll was in on the winnings as usual, missing first place by a very narrow margin, and Miss James repeated her previous performance by acting as rear guard.

We wish to repeat again our open invitation to all who may be interested, to drop in and see us on bowling nights. We bowl every Thursday evening from 8 to 12 p. m. The address is Thum's Recreation Academy, 1241 Broadway, New York City, and there is no charge of any kind whatever. We use 11 alleys on the 4th floor, with upwards of 50 bowlers participating each night, and some of your friends may be among them. Come up and cheer them on.

Henry Sasch,
Secretary,
care Donn Barber
101 Park Avenue, New York City.



PENCIL RENDERING COLORED WITH LIGHT WASHES BY MORRIS HOBBS, TOLEDO, OHIO

ST. LOUIS ARCHITECTURAL CLUB

THE EXHIBITION OF THE WORK done by the Summer Sketch Class of the St. Louis Architectural Club was held recently at the Clubhouse in connection with a regular meeting of the Club.

The instructor of the Class this past Summer was Erwin Schmidt, and the character of the sketches submitted was excellent, showing a steady improvement over the work done during the Summer of 1924.

The Preston J. Bradshaw Prize—One Hundred Dollars in cash—was awarded to Victor J. Kunz for the best group of sketches; and the second prize, the Carl Walter Cup, was awarded to Lloyd Lueschaw. Frank George received Honorable Mention for his work; and others who displayed commendable sketches were Edwin Armstrong, Arthur T. Grindon and Charles Hager.

Victor Kunz and Frank George are Juniors in the School of Architecture at Washington University, but received their earlier training in the Atelier of the Club, which is affiliated with the University.

Within the past few weeks death has claimed two of our members who had for many years been loyal to this organization. Ernest Helfensteller, of the firm Helfensteller, Hirsch & Watson, died suddenly of heart disease at his office; and on November 30th, Albert B. Groves died at his home of heart disease after a brief illness. Mr. Groves had practiced architecture in St. Louis since 1891. His son, Theron A. Groves, has held various offices in the Club during recent years, and with the passing of the elder Mr. Groves our roster shows only one other instance of father and son among our membership, namely that of William B. Ittner and William B. Ittner, Jr.

PRATT INSTITUTE ARCHITECTS CLUB

FROM THE CLASS of 1903 comes our latest recruit to join our Tuesday Luncheon gathering at the Fraternity Clubs Building, 22 East 38th Street, New York, at 12:30 p. m. We have a long table, all our own, surrounded by P. I. Architects. But—there is always room for you when you decide to join us. You must lunch, so why not with us? Just come once. This is not a threat but merely a hearty invitation. Further details may be had from Philip G. Knobloch, care of May and Hilliard, 15 East Fortieth Street, New York.

EXHIBITION OF THE ARCHITECTURAL LEAGUE OF NEW YORK

THE ANNUAL EXHIBITION of the Architectural League of New York will be held at 215 West 57th Street, New York, from January 31st through February 28th.

Entry slips were received up to December 30th and exhibits will be received at the Fine Arts Building on January 15th and 16th.

LOS ANGELES ARCHITECTURAL CLUB ATELIER

THE LOS ANGELES ARCHITECTURAL CLUB Atelier wishes to announce that it has at last come out of hibernation. Realizing that we have not been heard from for some time, we are sending this report on a banquet and general get-together.

All the old Beaux Arts problems and student work of every sort was brought in and tacked to walls.

The banquet was a great success, creating fine spirit among the forty-six fellows present. Mr. Jess Stanton, just back from Europe, gave an illustrated travelogue on his trip. Mr. Lee Rombotis, who won the Paris Prize in 1923, told of his experiences in the different ateliers both here and in Paris. He gave the fellows many valuable pointers on the methods of studying Beaux Arts Problems. Mr. Julian Garnsey, president of the Los Angeles Architectural Club, also gave quite a talk on his experiences in Paris and he told of some of the amusing incidents at the "Quatres Arts" ball. Mr. Lee Fuller acted as toastmaster and very capably handled the affair from beginning to end. Mr. Fuller also gave a very educational and at the same time entertaining talk on Beaux Arts work. Mr. Fitch Haskell, one of our Patrons, acknowledged his pleasure in being with us.

PROFESSOR VALENTI TO CONDUCT SUMMER TOUR THROUGH ITALY

UNDER THE AUSPICES of the Royal Italian Government, Professor Paul Valenti will conduct a "Summer School and Tour of Instruction for American Students" who are planning a trip to Italy. The support and cooperation of the Italian authorities have been secured and a program conceived on a purely educational basis arranged. The itinerary has been chosen with special reference to the combination of history and art study with the enjoyment of the natural beauty of the country. Through the generosity of the Italian Government many privileges, financially as well as educationally, have been accorded. The tour will leave New York on June 26th and is due back in New York on September 16th. For descriptive booklet giving complete information address Prof. Paul Valenti, Washington University, St. Louis, Mo.

ANOTHER ATELIER IN NEW YORK

A NEW ATELIER HAS RECENTLY BEEN opened through the assistance of Messrs. Blum, LaVelle and Marugg, Architects, 505 Fifth Avenue, New York City, who will assist the members in their studies. Full particulars for membership may be secured from Arthur Deimel, care of Paul B. LaVelle, 505 Fifth Avenue, New York City.

PENCIL POINTS

THE AMERICAN ACADEMY IN ROME

FROM A LETTER RECENTLY received by C. Grant La Farge, Secretary of the American Academy in Rome, from Gorham P. Stevens, Director, we quote the following:

"The academic year has started with a good enrollment.

	Fellows	Visitors	Visiting Students	Totals
F. A.	13	1	10	24
C. S.	3	6	33	42
Totals	16	7	43	66

"And we know of others who have not yet arrived.

"Among some of the Visitors of note may be cited Mr. A. Phimister Proctor, the well known sculptor; he has been given one of the sculptors' studios in the forecourt.

"The work in both Schools has started most auspiciously, with an unusually varied set of lectures and excursions; in addition, the newly-arrived Fellows are hard at work with an Italian teacher supplied by the Academy.

"The first copy of Volume V of the Papers & Monographs has just arrived from the printer. This is Mrs. L. B. Holland's book on *"The Faliscans in Prehistoric Times."* The work was done at the Academy before her marriage—she was Miss Louise E. W. Adams, a Fellow of the Academy.

"Twenty copies of the late Prof. C. Densmore Curtis' book on the 'Jewelry of Sardis,' a publication of the American Society for the Excavation of Sardis, have also been sent up by the printer. Professor Tenney Frank found all but two pages in typewritten form at the time of Professor Curtis' death. Professor Frank prepared this book for the press, as well as that of Mrs. Holland; and he did the same thing for Volume V of the Memoirs, which will probably be delivered this month.

"We were much pleased to welcome Mr. Edgar I. Williams, a former Fellow in architecture and at present a Trustee of the Academy.

"Another visitor of note was Mr. William Barclay Parsons, chief engineer of the Rapid Transit Commission, New York, member of the Board of Consulting Engineers, Panama Canal, and President of the Board of Trustees of Columbia University. He is preparing a book on the bridges, domes and roads of the Renaissance, to appear in five years."

From a letter received by Mr. La Farge from Frank P. Fairbanks, Professor in Charge of School of Fine Arts, we quote:

"The Academic year has begun with an enrollment of twenty-four in the School of Fine Arts. Ten are visiting students.

"Alfred Floegel, last year's senior painter, left the Academy early in October. He is visiting Germany and will sail early in November for New York.

"Randall Thompson, composer, after spending part of his summer in Venice, has returned to Boston.

"Lawrence Stevens is finishing his final requirements in sculpture and will leave the Academy about the middle of November for a visit in England before sailing for home.

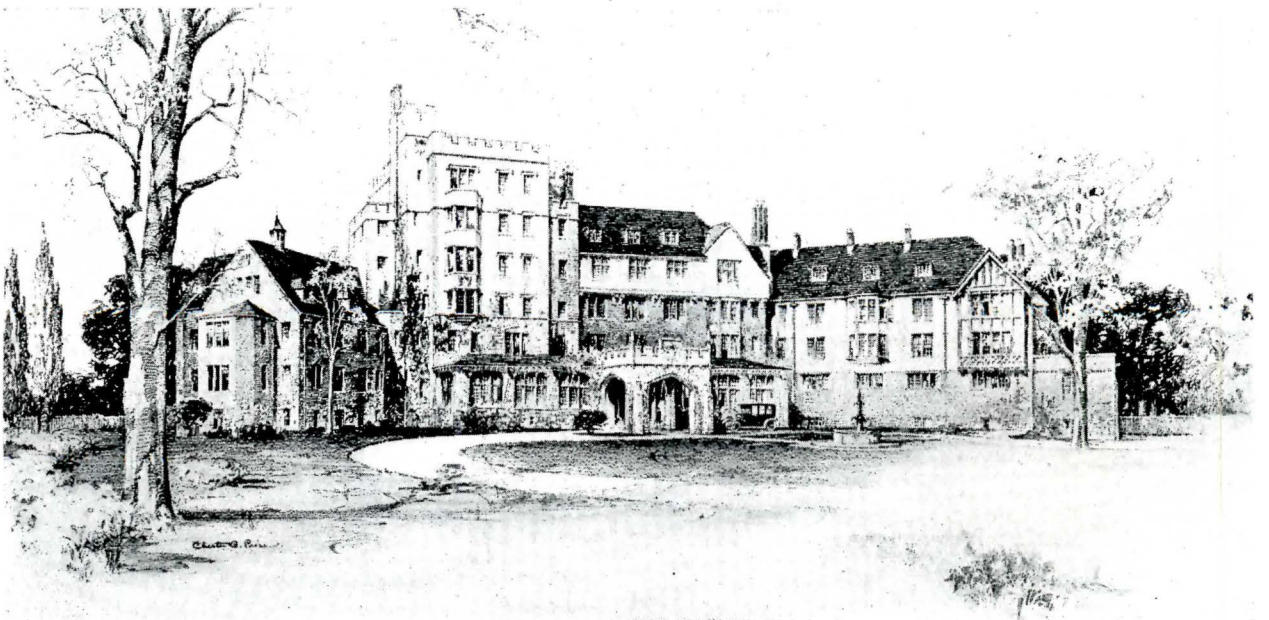
"All the regular Fellows are in residence. The new appointees have all shown a desire to begin immediately on their required work.

"Fraser, the new architect and Mueller, the new painter, have both visited the site of Hadrian's Villa with the Director. The former may take a part of the Villa for his restoration. Mueller, who arrived only a short time ago, after visiting England, France and Germany, has begun a sketch for a figure-composition. Hancock is occupying temporary studio quarters until Stevens leaves. Both of the new composers, Helfer and Sanders, are producing compositions and are having criticism from Maestro Respighi. They have attained a reputation for unusual industry. All of the new men are most promising and we look forward to a successful year.

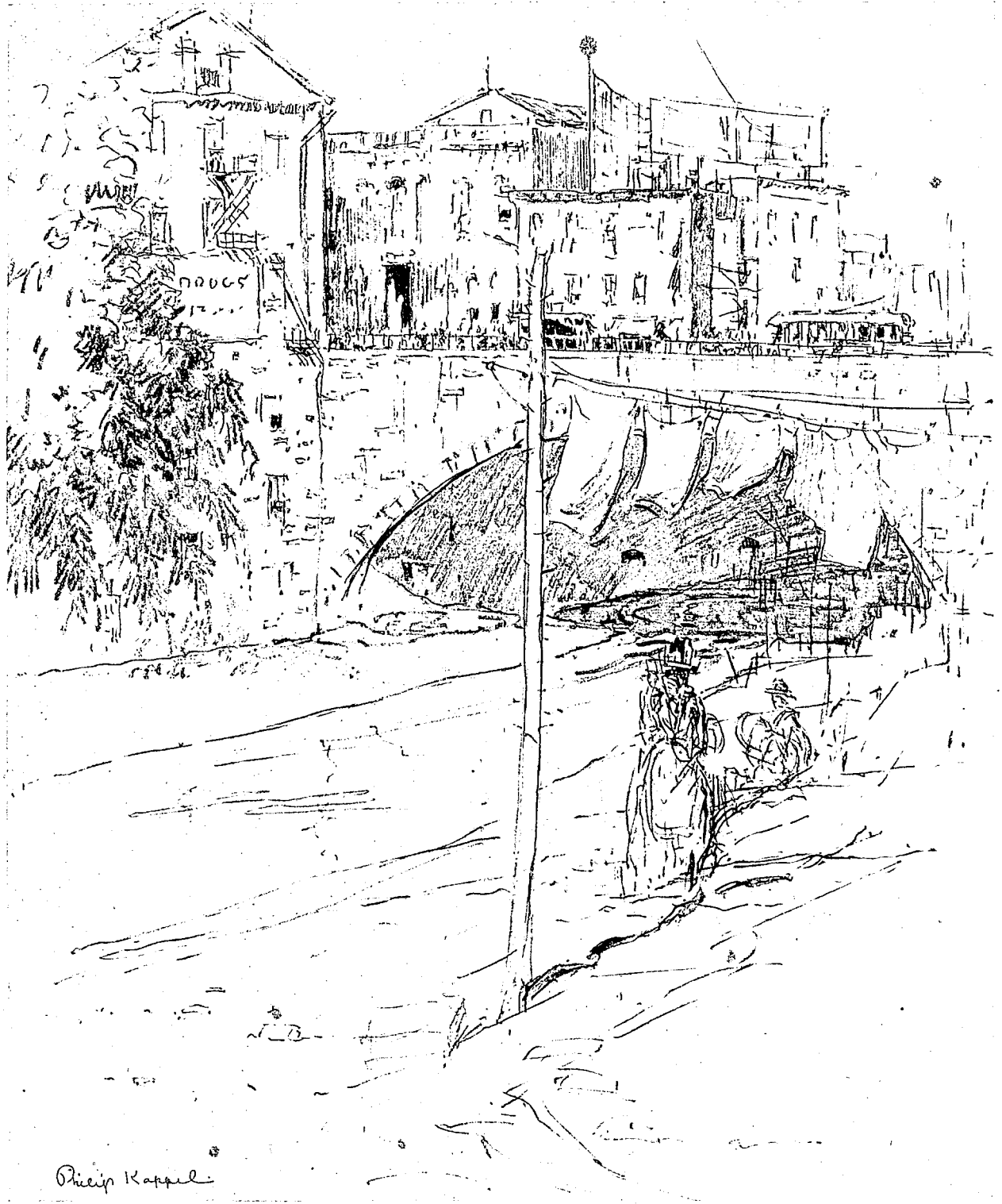
"The Fellows have requested that they be permitted to return to the old system of having a program supplied for them for the collaborative competition, instead of electing their schemes as they did last year. Mr. W. S. Richardson, the Annual Professor in the School of Fine Arts, is helping prepare the program. This method of establishing the problem for collaboration will enable the teams to make drawings and paintings to a uniform scale, for better presentation at exhibitions.

"Concluding a long review of the first performance of Sowersby's Symphonic Poem, 'From the Northland,' by the Cincinnati orchestra, William S. Goldenberg, critic of the 'Cincinnati Enquirer,' said 'Aside from the duty we feel in paying just tribute to the achievement of an American writer, we take a definite pride in predicting that Leo Sowerby, young, a modern without eccentric tendencies, and a well-schooled musician with ideas to express and the ability to express them, will exert a powerful influence upon the musical life of our country.'

"The new Coolidge Hall of the Library of Congress was inaugurated at Washington on October 29th. American music was represented by Howard Hanson's string quartet. Mr. Hanson cables 'Quartet created sensation'."



PENCIL RENDERING BY CHESTER B. PRICE



PENCIL DRAWING BY PHILIP KAPPEL.

PENCIL POINTS



Philip Kappel

PENCIL DRAWING BY PHILIP KAPPEL.

THE 1926 PARIS PRIZE COMPETITION

THE FIRST PRELIMINARY COMPETITION for the annual Paris Prize of the Society of Beaux-Arts Architects will be held on February 27, 1926. The Paris Prize entitles the winner to enter the advanced work of the *Ecole des Beaux-Arts* in Paris, and he also receives \$3,000 for his expenses for two and a half years residence and study abroad. Competitors must be American citizens and under twenty-seven years of age on July 1, 1926.

Application for circular should be made to H. O. Milliken, Chairman of the Annual Paris Prize Committee, 126 East 75th Street, New York.

A SUGGESTION.

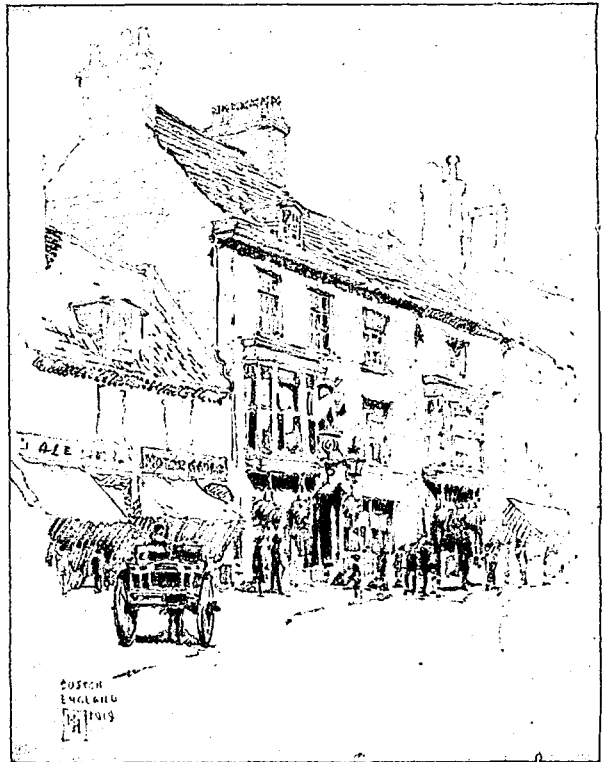
TO THE EDITOR OF PENCIL POINTS:

For the information of architectural draftsmen and PENCIL POINTERS, who may be interested in the proposed \$150,000,000 Public Building Bill which it is expected will be passed by the Congress just convened, a timely suggestion may be in order.

The last public building bill to pass the House and Senate was in 1913. The present one as proposed is the largest one ever authorized. In order to take care of the work involved in this appropriation, the present force in the office of The Supervising Architect, Treasury Department, will necessarily be increased as this Department will have to do with preparing drawings and specifications as provided for by the appropriation.

It is suggested therefore, that architectural draftsmen who may consider accepting an appointment in the Treasury Department and are not informed regarding the high cost of living in Washington, D. C., especially rents, are advised to make inquiries as to whether the salary offered will meet demands.

This suggestion is offered at the suggestion of some who recently accepted appointments in this Department at \$1,680.00 per annum and was obliged to resign.



BOSTON, ENGLAND

(The author of this sketch is unknown to us)

THE CLEVELAND SCHOOL OF ARCHITECTURE

THE STUDENTS OF THE CLEVELAND SCHOOL of Architecture held an informal dance and card party for their friends on Saturday, December 12th, in the drafting room of the School at Juniper Road and Magnolia Drive. Members of the faculty also were guests.

The decorations were planned and executed by the students. The severe and business-like drafting room was transformed into a very acceptable ball room by the use of streamers, lights, and crepe-paper curtains. Those who attended considered the party a great success and look forward to another soon.

The School registered twenty-eight regular students this autumn as compared with nineteen last year, and this growth was accompanied by higher standards of admission. In the first elementary design competition of the season, held under the auspices of the Beaux-Arts Institute of Design in New York, all of the designs submitted by the Cleveland School of Architecture students received honorable mentions. The contestants were Anthony S. Ciresi, a graduate of East Technical High School, Myron T. Hill of Toledo, Frederick W. Linderme, a graduate of Cleveland Heights High, Kenneth S. Miles, a graduate of Shaw High, and M. K. Valentine of Akron. In the Class A projet—"A Synagogue," S. K. Kwan was awarded "First Mention."

THE JAMES HARRISON STEEDMAN MEMORIAL FELLOWSHIP IN ARCHITECTURE

THE FIRST COMPETITION for the James Harrison Steedman Memorial Fellowship in Architecture has been announced. The Fellowship is open on equal terms to all graduates in architecture of recognized architectural schools of the United States. Such candidates shall be American citizens of good moral character and shall have had at least one year of practical work in the office of an architect practicing in St. Louis, Mo., and shall be between twenty-one and thirty-one years of age at the time of appointment to this Fellowship. Application blanks and complete information may be obtained upon written request to the School of Architecture of Washington University, St. Louis, Mo. Application blanks properly filled out must be returned to Washington University not later than January 31st, 1926.



SKETCH BY G. A. RACKELL

PERSONALS

RAYBURN S. WEBB, ARCHITECT, has removed his office to the Odd Fellows Building, Albany, Georgia.

J. BERNARD WOLSTEIN has discontinued his own practice and is now employed as chief draftsman in the office of R. G. Hanford, 681 East Broad St., Columbus, Ohio.

FELIX P. MCKENNA, JR., AND THOMAS H. IRVING have formed a partnership for the practice of architecture with offices at 15 Park Row, New York.

E. NELSON EDWARDS AND EDWARD F. HOFFMAN, JR., have formed a partnership for the practice of architecture with offices at 315 South 15th St., Philadelphia, Pa.

JESSE L. BOWLING, ARCHITECT, has removed his offices to 1198 Arcade Bldg., St. Louis, Mo.

CHARLES S. SCHNEIDER, ARCHITECT, has removed his offices to 1836 Euclid Avenue, Room 806, Cleveland, Ohio.

ALBERT H. LARSEN, ARCHITECT, has removed his offices to 447 Sulter St., San Francisco, Calif.

HENRY WILKINSON, MAXWELL HYDE, ARCHITECTS, have removed their offices to 19 West 44th St., New York.

A. LESLIE PERRY, ARCHITECT, who was awarded the Royal Canadian Academy travelling scholarship in Architecture, recently exhibited an interesting collection of his drawings in the galleries of the Art Association of Montreal. Mr. Perry has opened an office at 341 Cote St., St. Antoine Road, Westmount, Montreal.

LESTER MERRITT DAVIS has removed his address to 905 Wood St., Scranton, Pa.

HARRY KENNETH VAUGHN, ARCHITECT, has removed his offices to 2512 West Seventh Street, Los Angeles, Calif.

LESTER MERRITT DAVIS, ARCHITECT, has removed his offices to 905 Wood St., Scranton, Pa.

HENRY C. PELTON, ARCHITECT, has removed his offices to 415 Lexington Ave., New York.

BACON AND LURKEY, ARCHITECTS, have removed their offices to 991-997 Main St., Buffalo, N. Y.



RENDERING BY B. C. GREENGARD

THE BOOK OF THE BOSTON ARCHITECTURAL CLUB FOR 1925

THE TWO OR THREE thousand of our subscribers who have been fortunate enough to secure copies of the 1923 and 1924 Editions of "The Book" of the Boston Architectural Club will welcome the announcement that the 1925 edition will be out about the middle of January. Get your reservation in at once and don't miss this year's great "BOOK." The subject will be of paramount importance, covering a field of unusual interest and being free of all duplication. It is fully protected by copyright and in it the Club will surpass its attempts of the past two years to give the profession what it needs at a reasonable cost.

ATELIER CORBETT-SMITH

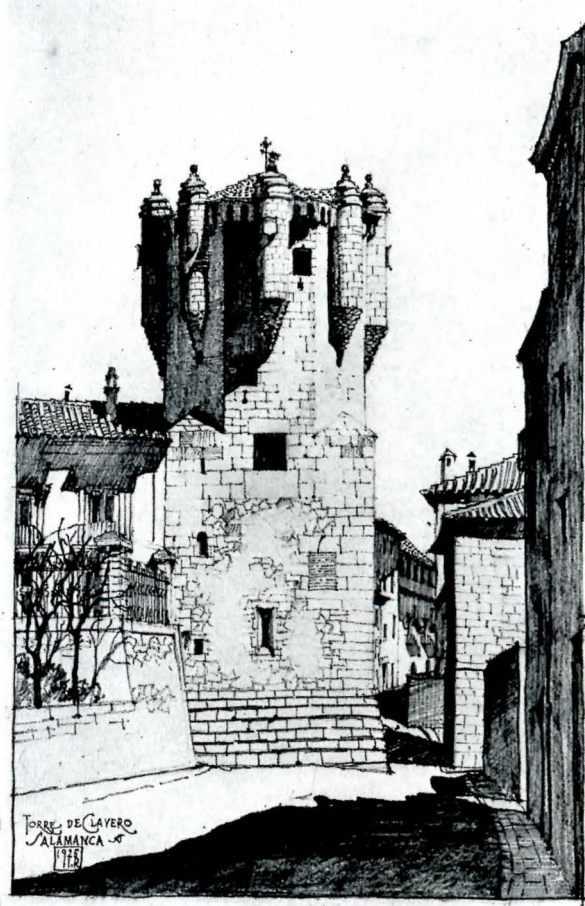
AT A RECENT MEETING held by the members of Atelier Corbett-Koyl a change in name was decided upon with the approval of Mr. Corbett.

Mr. J. K. Smith who for the past year has taken the place of Mr. Koyl and has devoted a great deal of his time to the atelier was unanimously elected as sous-patron. Mr. Smith is a Fellow of The American Academy of Rome and at the present is with the firm of McKim, Mead & White.

Hereafter the Atelier will be known as Atelier Corbett-Smith.

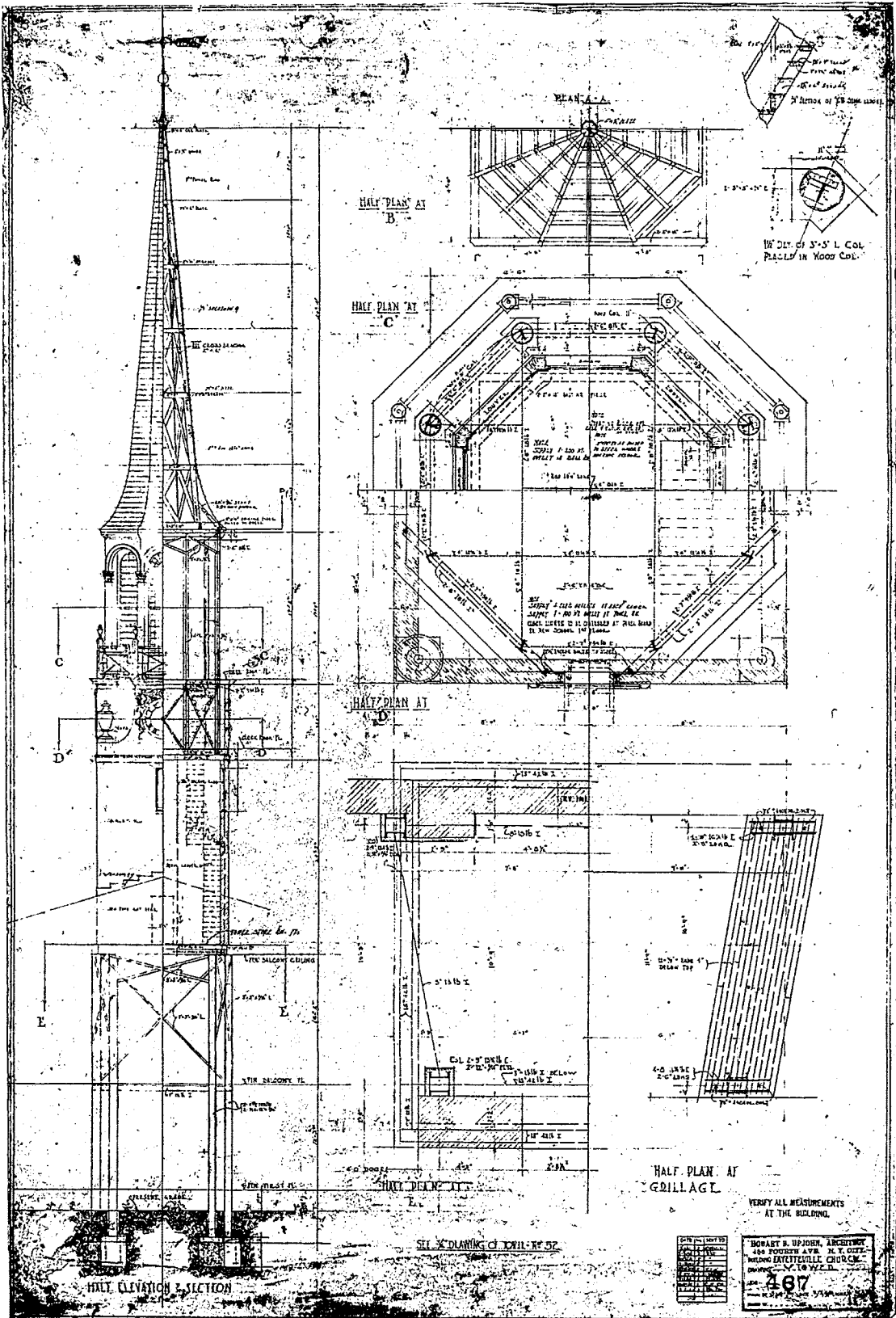
COMPETITION ANNOUNCED

A COMPETITION OPEN to architects throughout the country for plans for a bungalow and apartment house to be built at Niles Center, Illinois, has been announced. The program calls for plans for a two apartment building and a modern bungalow. \$1,200 in prizes are offered and to the winner of each plan also goes the job of supervising the construction of the prize winning buildings. The first prize for each structure is \$300; second and third prizes are \$200 and \$100 respectively on each building. The competition closes March 20, 1926. Complete information may be obtained from the Professional Adviser, E. C. Lowe, 636 Church St., Evanston, Ill.



SKETCH BY ISIDOR RICHMOND

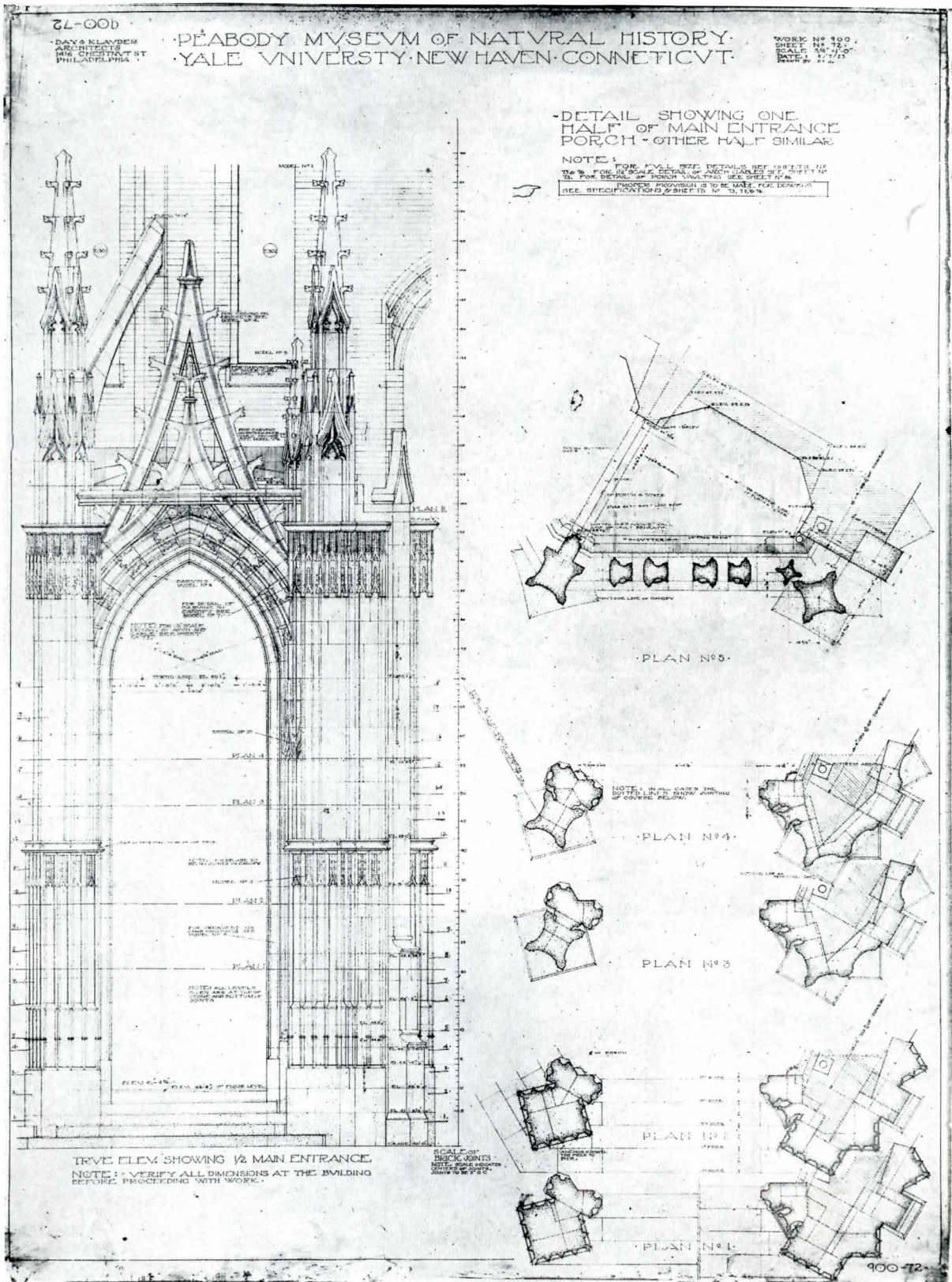
DETAILS OF CONSTRUCTION



PRESBYTERIAN CHURCH, FAYETTEVILLE, N. C.

Hobart B. Upjohn, Architect

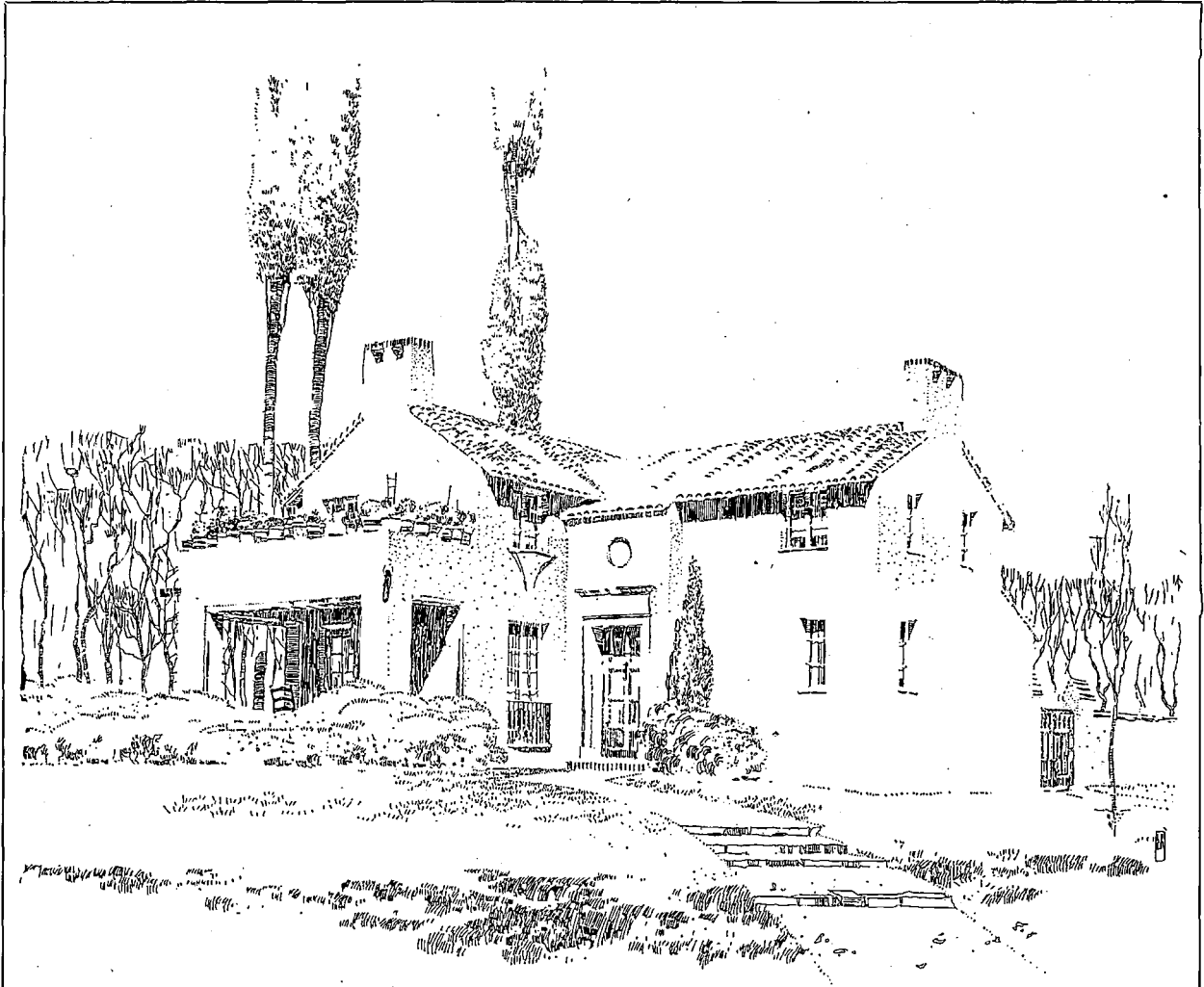
DETAILS OF CONSTRUCTION



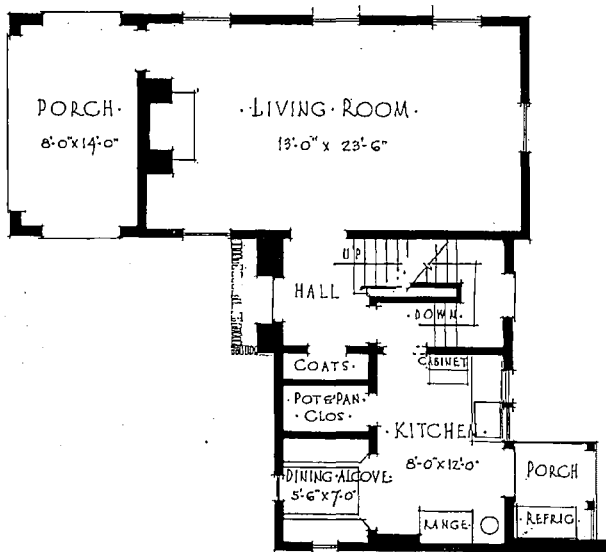
PEABODY MUSEUM OF NATURAL HISTORY, YALE UNIVERSITY

Day & Klauer, Architects

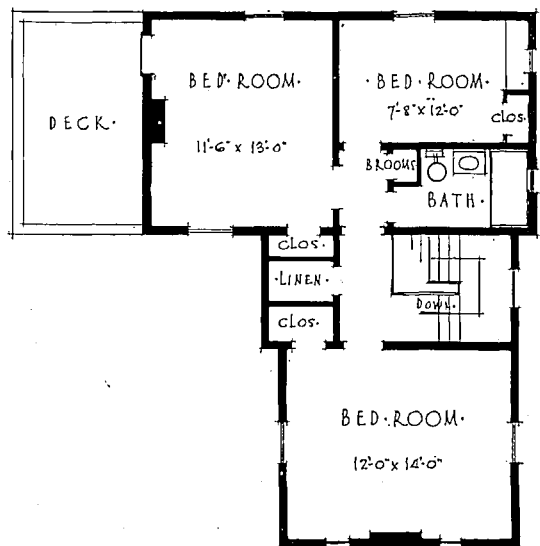
PENCIL POINTS



Rendering by Louis C. Rosenberg



First Floor Plan



Second Floor Plan

DESIGN FOR A SUBURBAN HOUSE

LEWIS E. WELSH, Architect

HERE AND THERE AND THIS AND THAT

CONDUCTED BY RWR

THE PRIZE WINNERS for the period ending December 15th are, Class 1, W. F. Koppes, Class 2, nobody, Class 3, Royal Barry Wills, Class 4, Oliver Whitwell Wilson.

How can we award a prize in class 2, (poetry) when nobody submits any poetry? It can't be done.

Our good friend Mary O'Neill of Amherst, Ohio, has just been married to Mr. D. Keith Wilson. Best of Luck to the Wilsons say we!

the Editor of this department that he cannot have any space, to say much of anything. All right for him. One of these days he will come around and ask us to write a piece and then we will have him where we want him. In the meanwhile we will nurse our grouch and bide our time, and we certainly hope that every PENCIL POINTER will have a very wonderful 1926 and we hope that some of you will send us in some poetry so we can get rid of that ten dollars next month!

PENCIL POINTS is so crowded this month, what with one thing and another, etc., that the Editor of the paper tells

What do you think of the Color Plates in this issue? There will be two more next month and so on throughout the year.

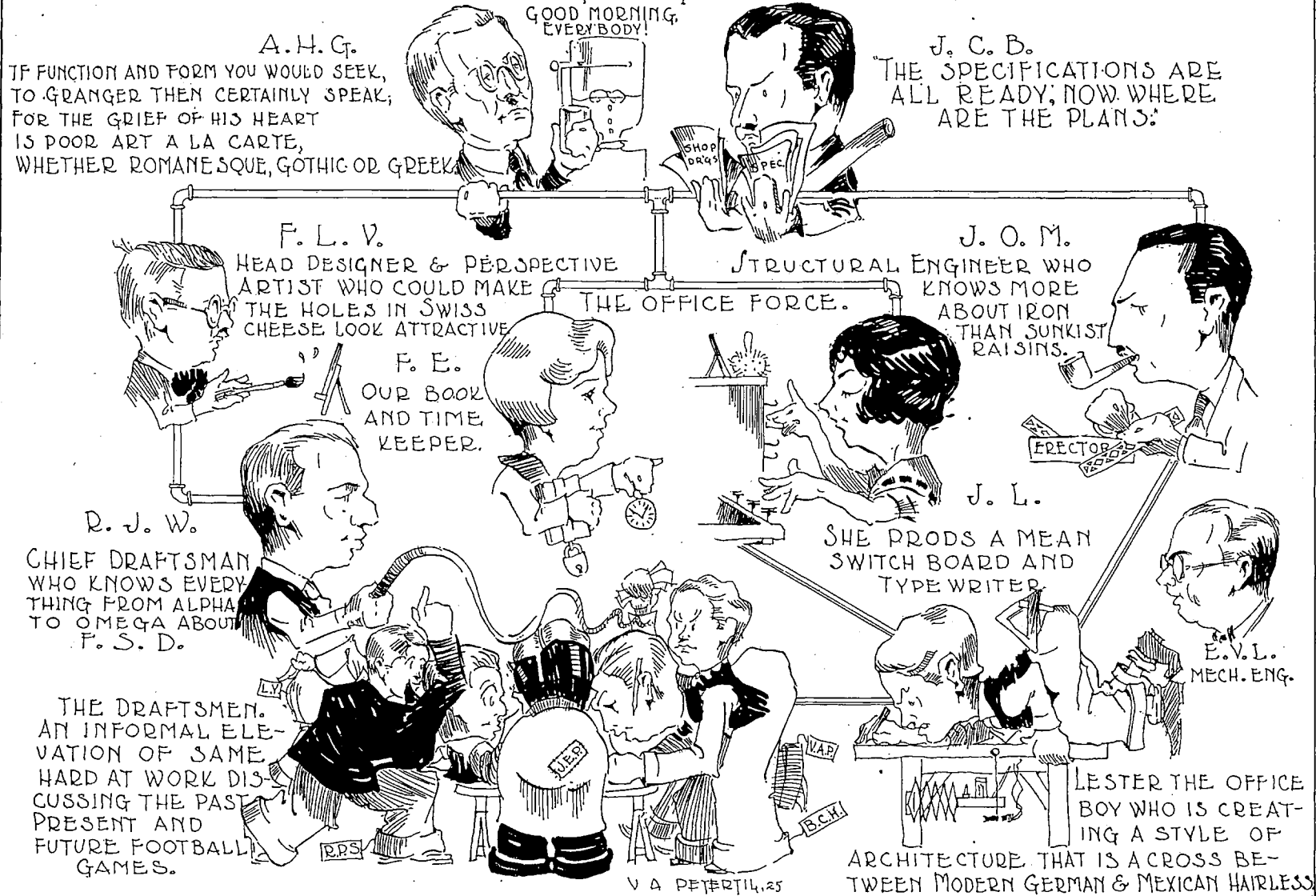


SKETCH BY WAYNE F. KOPPES, CLEVELAND, OHIO
(PRIZE—Class One—December Competition)



SKETCH BY THEODORE DE POSTELS
Fifth Avenue, New York

OFFICE CHART OF GRANGER & BOLLENBACHER. (NOT INKED)



ORGANIZATION CHART OF OFFICE OF GRANGER & BOLLENBACHER DONE BY VICTOR PETERIL

HERE AND THERE AND THIS AND THAT



"SHOTS AROUND THE DRAFTING-ROOM," BY ROYAL BARRY WILLS, BOSTON
(PRIZE—Class Three—December Competition)



BOOKPLATE BY OLIVER WHITWELL WILSON, NEW YORK
(PRIZE—Class Four—December Competition)



SKETCH BY L. N. MAXON, SYRACUSE, N. Y.

PENCIL POINTS

SULGRAVE MANOR

A BRIEF ACCOUNT of how it came to be, with no reference to the history of this interesting old Manor-house, except, that it dates back to the time of William the Conqueror. It should be familiar to all Americans, such however is not the case.

The subject came to the writer's attention in 1914, on receipt of a photograph newspaper illustration received from a friend in Leeds, England, bearing this inscription: "Our photograph shows Sulgrave Manor-house, the English home of the Washington's ancestors, which has been purchased by the British Committee appointed to make arrangements for the celebration of the one hundred



PEN AND INK DRAWING OF SULGRAVE MANOR, ENGLAND
BY FRED J. WOODWARD, WASHINGTON, D. C.

years' peace between Great Britain and the United States of America.

Unable to obtain more light on this subject from Americans who had spent some time in England, the writer found in The Library of Congress volumes of authoritative information and later corresponded with a writer on this subject who lives in Sulgrave village, and to whom I am indebted for much valuable data with many photographs of Sulgrave Manor-house and Sulgrave church.

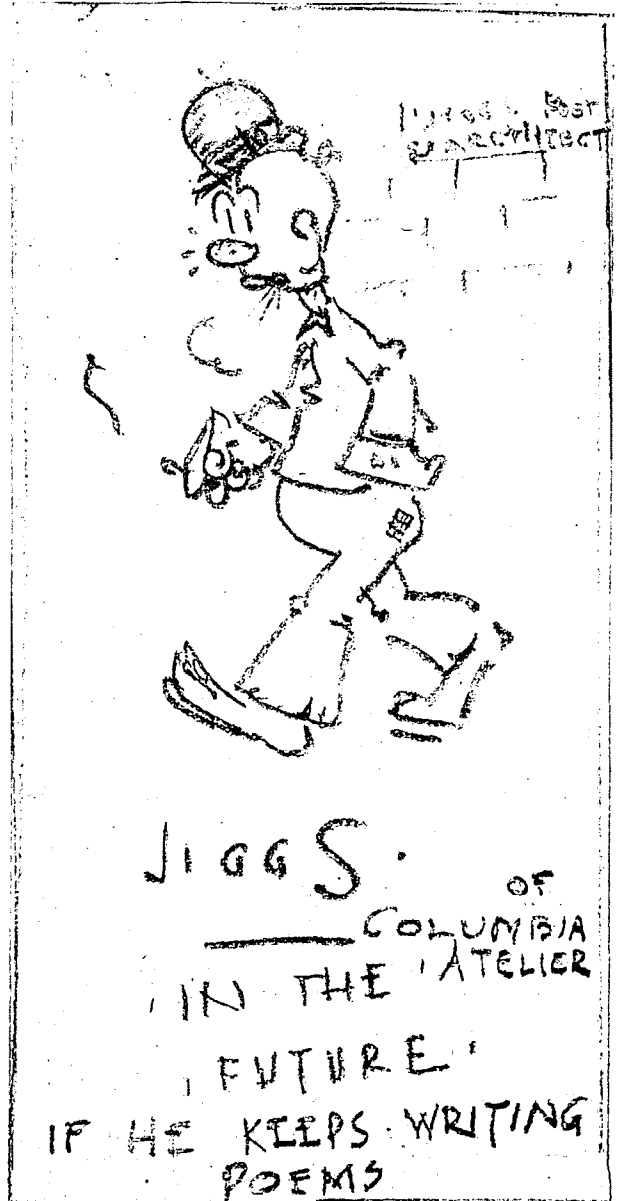
After making several sketches and studies from these, a finished line drawing 17 x 22 inches was rendered in ink. The illustration was made from a reproduction of this drawing.



SKETCH BY HAROLD W. BARKER



SKETCH BY D. KEITH WILSON
Made at the Hippodrome, Cleveland



ANONYMOUS

THE SPECIFICATION DESK

A Department for the Specification Writer

SPECIFICATIONS

By W. W. BEACH

CARPENTRY, PART XV

HAVING TAKEN CARE of the Roofing and Sheet Metal Work Division of these specifications for a Consolidated District School Building (in the December issue of PENCIL POINTS), we have next in order Division K, Carpentry.

This division is the natural catch-all for everything in building construction which does not automatically belong in any other branch. To a certain extent, in localities where building operations are controlled by the union, an architect feels bound (or is made to feel so) by their trade agreements and stipulations. But the carpenter has been more or less a general contractor for so long that he can nearly always contract to supply anything he chooses to bid upon, then sublet as convenience or expediency dictates.

If he gets into trouble, it is generally his own fault or that of the unions. Take, for instance, the one troublesome item of setting steel sash. This privilege has been bandied about from year to year and varied locally until it is almost necessary to get a ruling on each particular job in order to keep out of difficulties. But one is safer letting the work to a carpenter who can sub-let to a metal concern, if need be, than to let it to a steel concern or ornamental iron contractor in the first place, and later discover that such party can't employ carpenters though the latter will not allow the steel men to touch the sash.

Again, a wide-awake general contractor may sub-divide the following work into several sections, retaining as carpenter work proper only that portion performed at the building, either by his own forces or by sub-contract.

For larger jobs than this, it might prove advisable for the architect himself to make some such separation. Wood Frames and Sash, being required far in advance of finish carpentry, can be thus segregated, as can Steel Sash, Metal Doors and Frames, Cabinet Work, Weather Stripping, Finish Hardware, etc., *ad lib.*

The specification writer need not, therefore, feel at all abashed if he find himself treating the carpenter as the "Pooh Bah" of the job. History and tradition concede him the place and its perquisites. Let him have both.

Therefore:—

DIVISION K. CARPENTRY

Note. The Contract and General Conditions of these Specifications, including the Supplementary General Conditions, govern all parts of the work and are parts of and apply in full force to these Specifications for Carpentry. The Contractor shall refer thereto as forming integral parts of his contract.

ARTICLE 1. Work included.

(A) THE ITEMS under this Division include:

- (1) ALL ROUGH CARPENTRY, except as stated below.
- (2) ALL FINISH CARPENTRY.
- (3) ALL HARDWARE, both Structural and Finish.
- (4) ALL METAL DOORS, FRAMES AND TRIM.
- (5) BLACKBOARDS, both natural Slate and Imitation.
- (6) WEATHER-STRIPS for all movable Sash.
- (7) SUCH OTHER WORK as is herein set forth.

(B) OMISSIONS. The following items, not embraced in this Division, will be found elsewhere in the Specifications:

- (1) FORMS for Concrete.
- (2) BURLAP AND CANVAS Wall Coverings.
- (3) ALL GLASS.

ARTICLE 2. General Description.

Note. Under the headings in this article there is given, for convenience of Contractors, a brief mention, not necessarily complete, of the work included in this Division, full description of which will be found in the following specifications beginning with Art. 3.

(A) ROUGH CARPENTRY shall be provided for:

- (1) SHEATHING AND STRIPS under metal roofs.
- (2) SCUTTLES AND CURBS in roof.
- (3) WOOD LADDERS to roof.
- (4) PLANK RUNWAYS, STEPS AND PLATFORMS in attic.
- (5) FLOOR STRIPS, SUB-FLOOR and building paper in gymnasium, also strips under other wood floors.
- (6) DOORS of double-thick matched flooring in fresh air in-takes.
- (7) GROUNDS for all wood finish.

(B) WOOD SASH AND FRAMES shall be provided for all exterior windows.

(C) BRONZE SAFETY BOLTS for window-cleaners' anchors shall be provided in all wood mullions and jambs.

(D) HOLLOW METAL DOORS shall be provided in assembly hall, balcony and lantern room.

(E) HARDWOOD FLOORS shall be provided as follows:

- (1) YELLOW PINE OR FIR in rooms of library suite.
- (2) OAK in rooms of office suite.
- (3) MAPLE in all class rooms and other rooms, except where concrete, tile or terrazzo finished floors are specified or indicated on drawings.

(F) WOOD DOORS shall be provided in all door openings except where metal doors are called for. Folding-sliding doors with hangers and track shall be provided between kindergarten rooms, to slide into closet as detailed. Trap doors shall be provided as shown to afford access to attic.

(G) CEILING LIGHTS shall be provided under all skylights where indicated, with frames and casings as shown.

(H) INTERIOR WOOD FINISH shall be provided thruout all rooms as detailed, including trim for tack-boards, blackboards, cutout boxes, balcony front, etc. Picture mold shall be provided, where called for. Wood base shall be provided in connection with all wood floors.

(1) BIRCH shall be used for all finish, (including doors and platform steps) in assembly hall, balcony and vestibule of assembly hall.

(2) OAK shall be used for all finish and doors in all plastered rooms, except as otherwise provided.

(3) PINE OR FIR shall be used for finish and doors thruout boiler, coal, tank, engine, ash, blast, play and store rooms, kitchen and shops.

(4) WAINSCOT indicated to be covered with burlap shall be of clear white pine or whitewood.

(5) INTERIOR SASH shall be provided wherever shown, including certain partitions of same. Complete jambs, mullions, transom bars and trim shall be installed with all interior sash.

(I) CABINET WORK. This contract will include all seats, teachers' closets, book-cases, bulletin and tackboards and cabinets and cases of all descriptions, wherever shown or detailed, except that metal lockers are not included.

(J) HARDWARE.

(1) ROUGH HARDWARE for all purposes shall be provided as and where required.

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(2) THRESHOLDS of brass, bronze or maple, as called for, shall be provided for all outside doors and for all inside doors in main building where change of floor finish occurs and in basement doorways.

(3) HANGING RODS AND HOOKS shall be provided in class rooms as shown and specified.

(4) FINISH HARDWARE for doors, windows and cabinets shall be provided and set by Contractor under this Division.

(K) WEATHER-STRIPS of zinc and bronze shall be applied to all sliding and hinged sash and jams thruout building.

MATERIALS.

ARTICLE 3. *Dimension Lumber.*

(A) KIND. Where not otherwise stipulated, dimension lumber shall be Norway or yellow pine, fir or spruce.

(B) GRADE. Each class of lumber shall be of a grade suitable for the particular purpose for which it is used. Where not otherwise stated, all lumber for framing and other concealed parts shall be best grade dimension, straight, sound, free from rot, large or loose knots, shakes, bark or other serious defects, and must be thoroly dry.

ARTICLE 4. *Rough Hardware.*

(A) ANCHORS for various structural members are to be provided by the various trades under their several Divisions. This Contractor shall provide all anchors required for his own work, properly placed, to be built in during construction or rigidly secured by expansion screws or bolts. Expansion screws $\frac{3}{8}$ " in diameter or smaller shall be bronze or brass, all others galv. steel, all in lead shells.

(B) ALL BOLTS, SCREWS, NAILS AND CLIPS necessary for placement of work under this Division shall be provided in connection with same. All shall be correct material of proper strength for the particular function.

(C) SASH WEIGHTS shall be of lead, except where there is ample room in weight boxes, when round or square cast iron weights may be used. Each pair of weights shall be of proper size to exactly counterbalance the glazed sash.

(D) PULLEYS shall have bronze fronts and $2\frac{1}{2}$ " cast iron wheels with noiseless roller bearings.

(E) SASH CHAIN shall be hot-galv. steel chain of make listed by the Underwriters' Laboratories and of size next larger than that listed for the particular service required.

ARTICLE 5. *Wood Windows and Frames.*

(A) WOOD FRAMES shall be of "C" grade white pine, or first grade fir or spruce, except that pulley-stiles, parting-beads and pendulums shall be of clear, straight-grained yellow pine, and back and inside linings of weight-boxes shall be good, straight-sawed No. 1 common pine or spruce. When space will not permit wood pendulum, No. 22 gage galv. iron may be substituted.

(B) SASH shall be of clear, straight-grained white pine. No so-called western or sugar pine will be accepted where white pine is called for.

(C) WATER BARS AND ANCHORS shall be of galv. iron or steel.

(D) WEATHER-STRIPS shall be of a type especially approved for this particular work to correspond with sample in Architect's office. Each member shall be of heavy zinc, of design for its particular location, except that springs on check-rails and under bottom rails shall be of spring bronze.

ARTICLE 6. *Wood Sheathing and Flooring.*

(A) IN GENERAL. All lumber shall be well seasoned; all finished-flooring thoroly kiln-dried. Where best grades are not called for, all large or loose knots, bark and shakes shall be cut away. All finish-flooring shall be carefully inspected before being laid and all pieces rejected which are not in accordance with requirements.

(B) ROOF SHEATHING shall be common Norway or yellow pine, spruce or fir flooring.

(C) ATTIC PLANK shall be best grade pine, spruce or fir dimension.

(D) SUB-FLOORING shall be common Norway or yellow pine, fir, spruce or hemlock dressed boards.

(E) INSULATING PAPER between floors shall be a good approved grade and make of 2-ply, hard-surface, water-proof insulating paper.

(F) MAPLE FLOORING shall be strictly clear, side-and-end-matched, $13/16"$ x $2"$ or $2\frac{1}{4}"$, $2' 0"$ to $16' 0"$ long with not over 15% of total board-feet in lengths of $2' 0"$ to $3' 6"$.

(G) OAK FLOORING shall be first clear plain-sawed white

or red oak, side-and-end-matched, $13/16"$ x $2\frac{1}{4}"$, in lengths as stated in preceding paragraph.

(H) YELLOW PINE OR FIR FLOORING shall be best grade, flat-sawed $13/16"$ x $3\frac{1}{4}"$, side-matched, in good lengths.

(I) PROTECTION. No finish flooring may be stored in temporary structures on the premises, nor brought into building, nor stored therein until all plastering, concrete and cinder fill are thoroly dry.

ARTICLE 7. *Interior Finish.*

(A) BIRCH shall be first quality, clear, unselected as to color.

(B) YELLOW PINE OR FIR shall be good grade finish lumber free from prominent defects. Doors in rooms with pine or fir trim shall have white pine stiles and rails and yellow pine panels.

(C) PLAIN-SAWED, clear red oak shall be used for all finish thruout the building where not otherwise distinctly stated.

(D) PROTECTION. No wood finish may be stored on premises except in paint shop, where it shall be delivered to Painter, as fast as he can care for same, and shall there remain until all concrete and plaster are dry and ready for trim.

ARTICLE 8. *Metal Doors and Trim.*

(A) ALL HOLLOW METAL WORK shall be cold-rolled, open-hearth steel of the very best grade, using No. 18 gage for all metal facing. Formed and molded work shall be cold-drawn metal, heated only for welding. Reinforcement shall consist of No. 10 gage steel, bent to the required shapes, or approved structural rolled shapes.

ARTICLE 9. *Finish Hardware.*

(A) PRICED ALLOWANCES. Under a priced allowance of \$3,000.00, the Contractor shall provide finish hardware for all parts of the work, said price to cover the cost of all items delivered into a designated room in the first story of the building, each item (or group of like items) separately wrapped and marked for intended location. Pulleys, sash-chain, sliding-door hangers, track and brackets and the brass hooks and hanging-rods in class rooms are not considered hardware but shall be supplied as elsewhere specified.

(B) SELECTION of all items of finish hardware and their derivation shall be as directed by the Architect. After selection, the vendor shall submit a complete schedule of all items and make changes in same, as demanded by the Architect, until approved. All items shall be in exact accordance with the approved schedule.

(Author's note. The practice of making a price allowance for finish hardware and other catalogued commodities or features of special design is not recommended as the most advisable method of specifying. It is done here, quite regardless of its general propriety or impropriety, simply because a true hardware specification is not an appropriate part of a series of so general a nature as this. Such a specification is necessarily specific and replete with catalog reference, presumably with "or equal" clauses, both of which we are carefully avoiding.

If one distinctly prefers the scheme of priced allowances, it is important that the amount be carefully derived (to avoid owner's criticism), even though a clause in the General Conditions states how variations from such amounts are to be handled.)

ARTICLE 10. *Blackboards and Tack-boards.*

(A) GENUINE SLATE shall be provided for all wall surfaces where blackboards are called for and shall be best commercial product, of even dead black color.

(B) IMITATION SLATE shall be provided in all doors and other movable panels where blackboards are called for and shall be approved composition material, $\frac{3}{4}"$ thick, with writing surface equal in color and all other respects to the genuine slate.

(C) TACK-BOARDS shall be provided for bulletin-boards and in all other locations where cork-board is called for and shall be approved cork-board with solid wood or composition backing.

(D) SAMPLES of genuine and imitation slate and cork-board, $12"$ square, shall be submitted for approval.

WORKMANSHIP.

ARTICLE 11. *Structural Carpentry.*

(A) BUCKS shall be provided of proper size for all openings in partitions (including register openings) properly

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placed and anchored, in ample time to prevent delay to other trades.

(B) **ROOF SHEATHING.** All roof surfaces under metal covered roofs, decks, steep watersheds and other surfaces above roof plane, where called for, shall be covered with $\frac{7}{8}$ " x $5\frac{1}{2}$ " matched pine, fir or spruce flooring from which all serious defects shall be cut out. This sheathing shall be well nailed on 2" x 2" pine strips (or 2" x 4" studding, as case may be), 16" o. c. Strips shall be carefully trued up to give proper incline to all roofing surfaces and shall be rigidly spiked in place. Butt-joints of sheathing shall be well broken and shall rest on strips. Sheathing for curved or warped surfaces shall be square-edged and of widths necessary to effect proper application. Both furring and sheathing for such surfaces shall be carefully formed and rigidly constructed. All surfaces shall be inspected before being covered and shall be left in good smooth condition, free from holes or cracks.

(C) **CURBS AND SCUTTLES.** Curbs for scuttles, ridge molds, ventilators, skylights, etc., shall be 2" x 8", dressed common pine, all securely bolted in place. Scuttles shall be built of flooring as specified in foregoing paragraph, on apron of 2" x 4" pine, fitting loosely over curb. They shall have extra-heavy 8" galv. wrot steel T-hinges.

(D) **WORK IN ATTIC.** The Contractor shall provide 3,000 bd. feet of plank for platforms and runways in attic, to be located where directed. This shall include substantial platforms for support of ventilators, also steps connecting different levels in attic. The Contractor shall also provide an acceptable ladder to each roof scuttle and each ventilator platform.

(E) **FLOOR SLEEPERS AND STRIPS.** Under all wood floors, $2\frac{1}{4}$ " x $2\frac{1}{2}$ " beveled strips shall be laid, 12" o. c., close to walls and at right-angles to beams (unless otherwise directed) carefully shimmed to proper height to make perfectly level finished floor and securely clipped to steel beams or concrete once in each 5' 0". Clips will be provided and built into concrete by Concrete Workers under direction of Carpenter and shall be bent up when ready for use. Strips shall be carefully notched over conduit wherever necessary.

(F) **CONCRETE FILL** between sleepers is included in Division D. This Contractor shall notify the Superintendent when ready for same and shall inspect same when laid and call the attention of the Superintendent to any irregularities. Upper surface of cinder-concrete shall be $\frac{1}{4}$ " below tops of strips. This Contractor shall sweep sleepers and surfaces of concrete fill thruout buildings and shall notify Superintendent so that same can be inspected before being covered.

(G) **SUB-FLOOR** of square-edged boards shall be laid diagonally under finished wood floor in gymnasium. All boards shall be laid close, end-joints cut at centers of bearings and well broken. Each board shall be nailed thru face with two 8d nails at each bearing.

(H) **DOUBLE-THICK DOORS** of matched Y. P. or fir flooring in rabbeted plank frames with all exposed surfaces smoothed, shall be provided to close entrances to air intakes. Doors shall be carefully made, put together with c. s. screws and provided with heavy galv. T-hinges, hasps and staples, also approved means of holding open at any angle.

(I) **CURTAIN PLANK** shall be provided, located as directed over assembly hall platform and rigidly anchored in place, for support of curtain.

ARTICLE 12. *Wood Windows.*

(A) **IN GENERAL.** All exterior windows shall be of wood, with wood sash, hinged, stationary or double-hung as indicated.

(B) **FRAMES** shall be built with weight-boxes for double-hung sash and with $1\frac{3}{4}$ " rabbeted plank jambs for all others. All members shall be in single piece for entire length. Subsills shall be shaped to detail from $2\frac{3}{4}$ " stock. Box frames shall have all concealed portions thoroly housed as shown and secured with 8d nails not over 8" apart. Pulley-stiles shall have parting beads as shown and openings for access to boxes, covered with bevel-end boards, neatly fitted and screwed in place. Pendulums shall be provided as shown. Pulleys shall be fitted before frames are set, but not permanently placed until sash are set.

(C) **SETTING FRAMES.** All frames shall be set plumb, true and secure in their proper position, rigidly stay-braced, and so maintained by the Carpenter until entirely bricked in. Frames shall also have vertical and horizontal stays inside to hold position until enclosing masonry is set. Water-bar shall be furnished for all frames, driven tightly into groove

in underside of sub-sill and set in reglet in sill in a full bed of cement grout, provided by Mason. Each plank frame shall have a Z-anchor in center of back of each jamb, bent from $3/16$ " x 12" galv. steel, to be $8\frac{1}{2}$ " in wall and turned down 2" on jamb and secured to same with 2 c. s. screws.

(D) **SASH** shall be of sizes and thickness shown, with stiles, rails and muntins as detailed, and with lugs on stiles above and below meeting nails, where so shown. All corners shall have mortise-and-tenon joints, with crimped galv. sash staples, all perfectly tight.

(E) **SETTING SASH.** All fitting of sash shall be done as soon as possible after frames are in place, after which the sash shall be delivered to paint room for glazing. After glazing, the Carpenter shall distribute sash to proper locations and properly hang same. Double-hung sash shall be exactly counter-balanced on lead or cast iron weights, hung on galv. chain of proper size running over pulleys as specified. In narrow mullions, single weights shall be hung on pulley to balance two opposite sash.

ARTICLE 13. *Weather-Strips.*

(A) **ALL MOVABLE SASH** shall be equipped with approved weather-strips properly installed by the Maker's experienced men.

(B) **CONSTRUCTION.** All weather-strip work shall be done after other work in building is practically completed, so that sash may have had opportunity to shrink. Weather-strips shall be perfectly interlocking in jambs and heads and shall be full length of same and of check-rails and bottom-rails so as to completely enclose all sides of sash in best manner. This work shall include the complete refitting and re-hanging of all sash, stops, etc., so that each window shall be a perfectly operating unit.

(C) **GUARANTY.** This Contractor shall guaranty all sash to which weather-strips are applied to remain in perfect condition for one year from date of acceptance of the contract, said guaranty to be countersigned by Maker of weather-strip.

ARTICLE 14. *Exterior Door Frames.*

(A) **DOOR FRAMES** for exterior openings shall be of $2\frac{1}{4}$ " plank, rabbeted as detailed, with corners mortised together and transom-bars housed into jambs as shown.

(B) **SETTING FRAMES.** All plank frames shall have proper vertical and horizontal stays inside and shall be properly set in place, absolutely plumb and true and rigidly stay-braced and so maintained until adjoining masonry is set. Each frame shall have Z-anchor on back as specified in Par. C of Art. 10.

ARTICLE 15. *Grounds.*

(A) **MATERIAL.** All grounds shall be of good grade clear new lumber, dressed to net sizes called for.

(B) **LOCATIONS.** Grounds shall be provided around all openings where wood trim is called for and back of all picture-mold, base, wainscot cap, trim for blackboards and tack-boards, and for all other interior wood trim.

(C) **SIZES.** Grounds for lathed work on furring shall be $\frac{3}{4}$ " x $1\frac{3}{4}$ "; for unfurred brick or tile walls shall be $\frac{5}{8}$ " x $1\frac{3}{4}$ "; and for walls furred by lather shall be $1\frac{1}{8}$ " x $1\frac{3}{4}$ ", all as detailed. Grounds on tile partitions shall be beveled to $1\frac{1}{4}$ " on face and rigidly attached. Mason will be required to embed a sufficient number of metal wall-plugs in walls and partitions to afford secure nailing for all grounds.

(D) **SUPPORTS FOR PLUMBING FIXTURES** shall be provided by Carpenter wherever required, flush with plaster and concealed back of fixtures wherever possible. Where unavoidably exposed, these boards shall be neatly dressed to match other finish and, when over 9" wide, shall be paneled. All such finished boards shall be secured with round-head brass screws with washers.

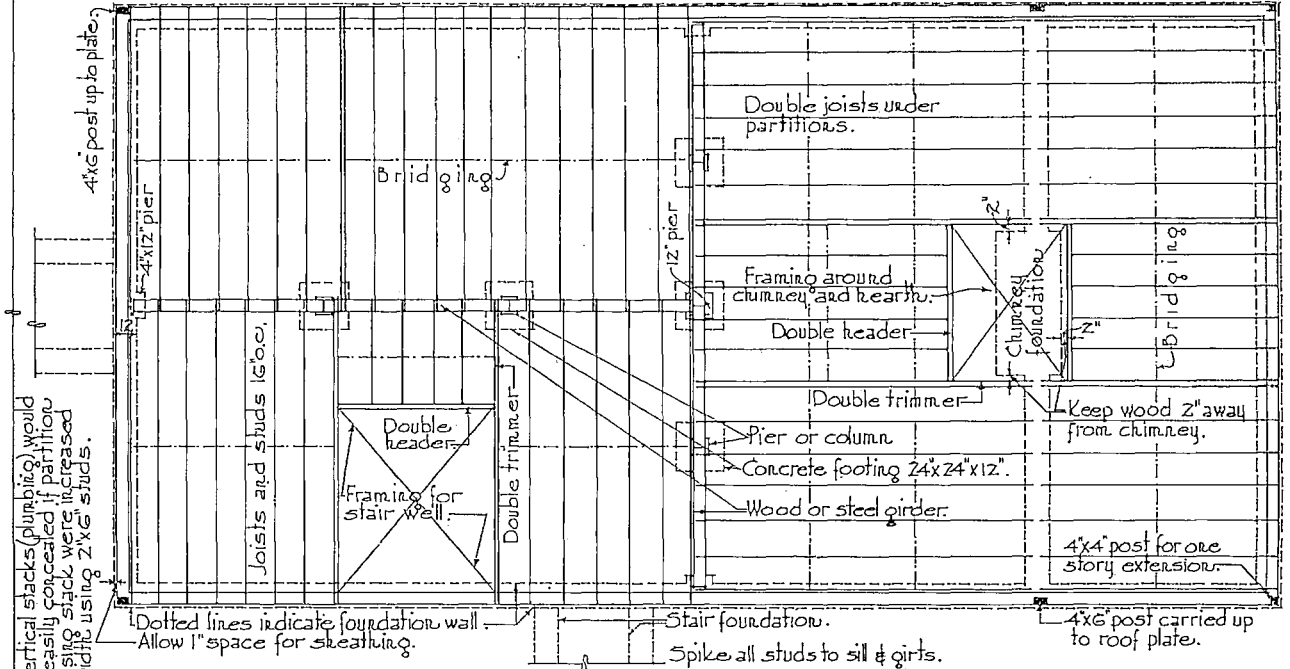
ARTICLE 16. *Finished Wood Floors.*

(A) **PREPARATION.** Before starting to lay finished floors, the Contractor shall carefully test all sleepers and floor-strips and true-up all that are not full or level, after which the Contractor shall sweep sub-floors clean, repair all damaged places and notify the Superintendent. All surfaces on which finished floor is to be laid shall, when approved, be covered with a layer of waterproof paper, lapped 2" at all joints and turned up 4" against walls and partitions. Paper must be free from holes and torn places when flooring is laid.

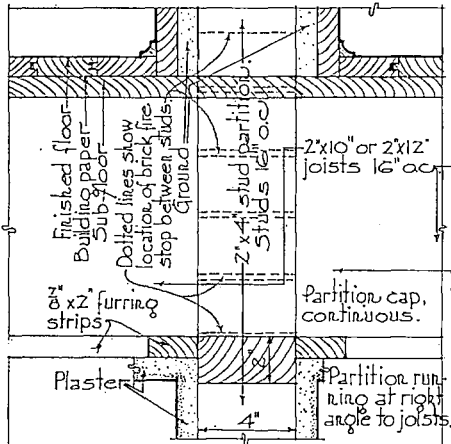
(B) **LAYING FLOORS.** All finish flooring shall be driven

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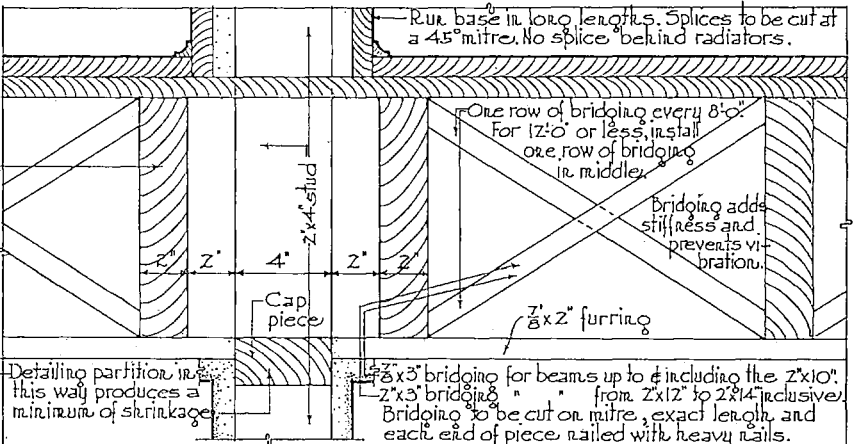
For the average $2\frac{1}{2}$ story house the foundation walls are of 12" brick, 10" concrete (1:2:4 mix), 18" stone, or 12" concrete block. Blocks to be evenly laid with solid joints. Cover block wall to grade with $\frac{3}{4}$ " coat of 1:1 $\frac{1}{2}$ mortar.



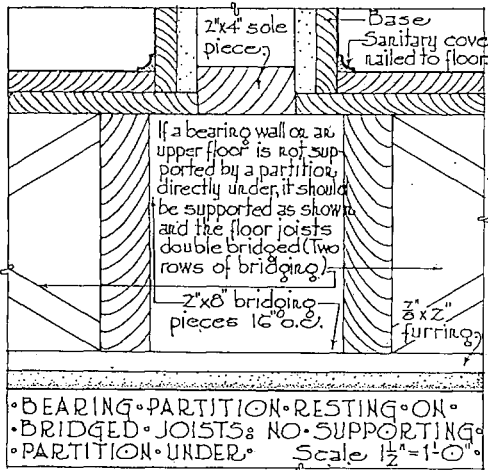
• TYPICAL • FIRST • FLOOR • FRAMING • PLAN • SHOWING • PLACING • OF • PIERS • AND • COLUMNS, GIRDERS, STAIR WELL & FRAMING AROUND CHIMNEY • Scale $\frac{3}{8}$ " = 1'-0"



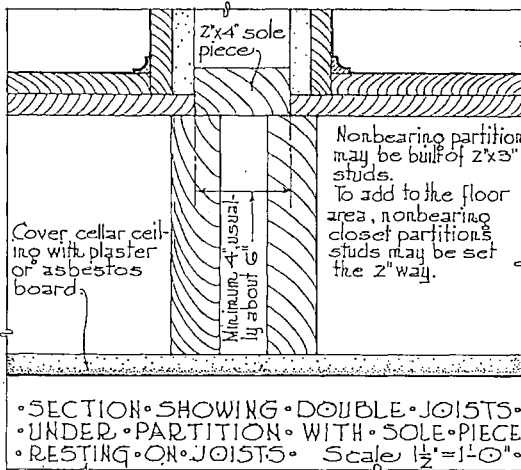
• DETAIL • SECTION • OF • PARTITION • FRAMING • ON • CAP • PIECE • OF • PARTITION • BELOW • Scale $\frac{1}{2}$ " = 1'-0"



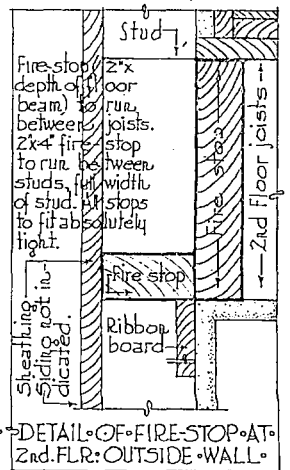
• DETAIL • SECTION • OF • PARTITION • RUNNING • PARALLEL • WITH • JOISTS • SHOWING • CAP • PIECE • OF • SUPPORTING • PARTITION • UNDER • Scale $\frac{1}{2}$ " = 1'-0"



• BEARING • PARTITION • RESTING • ON • BRIDGED • JOISTS; NO • SUPPORTING • PARTITION • UNDER • Scale $\frac{1}{2}$ " = 1'-0"



• SECTION • SHOWING • DOUBLE • JOISTS • UNDER • PARTITION • WITH • SOLE • PIECE • RESTING • ON • JOISTS • Scale $\frac{1}{2}$ " = 1'-0"



• DETAIL • OF • FIRE • STOP • AT • 2nd • FLR. • OUTSIDE • WALL •

PENCIL POINTS

up tight, by use of grooved blocks, and blind-nailed to every bearing. All end joints shall be well broken and not in noticeable line. End joints between bearings shall be rigidly blocked up. All flooring shall extend under base to plaster. Pieces less than 6' long shall be used only at wall or in closets. Similar floors in communicating rooms shall extend thru openings without breaks.

(C) SMOOTHING. All oak floors and floor of gymnasium shall be rendered absolutely smooth and even, ready for oil or varnish. If electric sander is used, it shall be done with the finest sand-paper practicable and without removal of more surface than necessary to secure smooth job. Hand-scraping shall be done next to base and jambs, where required.

(D) PROTECTION. This Contractor shall notify the Superintendent when hardwood floors will be ready for oil and varnish and shall adequately protect all surfaces with stout paper until Painter starts his work on same.

ARTICLE 17. Interior Wood Finish.

(A) PREPARATION. All finish shall be thoroly seasoned, kiln-dried and guaranteed against shrinkage. All veneering shall be applied in best possible manner and guaranteed not to split, blister or peel. Wherever possible each length of finish shall be in single piece. No butt joints will be allowed except for long pieces or room molds which may be in two or more long sections, when necessary, with beveled joints. In mitering, flat surfaces shall be cut square and only the moldings mitered. All finish shall be hand-smoothed, ready for painter, and absolutely free from machine or tool marks or any roughness whatever.

(B) DETAILS will be furnished for all finish and these shall be closely followed in every particular. All members applied to plaster, having flat surface of 2" or more, shall be grooved or kerfed on surface applied to plaster.

(C) DELIVERY. All finish shall be delivered in paint shop as rapidly as finishers can care for same, and shall be distributed to its proper location as soon as possible after plastering and concrete are dry. All handling of finish into and out of paint shop and all distributing of same shall be done by Contractor under this Division.

(D) WINDOW TRIM, where not shown to be plaster, shall be of wood as detailed. Stools shown to be marble will be furnished and set under Marble Work. Wood stools shall be 1½" thick, kerfed on under side, unless otherwise detailed. Inside stops shall be placed to fit sash and secured with 1¼" No. 10 brass screws, 18" o. c., and not more than 6" from each end; each screw fitted with an approved brass flush-face washer. Complete trim shall be provided for all windows in plastered rooms. In all unplastered portions, window frames shall be trimmed with wood brick-mold all round.

(E) INTERIOR FRAMES for doors, transoms and windows, including ceiling sash, shall be as detailed, of exact width to finish flush with plaster both sides and with temporary blocks to serve as door-stops until varnishing is done, after which the finish stops shall be applied and properly secured in place. Casings shall be provided for all openings, including trim for electric cabinets and for metal doors where jambs finish with plaster.

(F) INTERIOR SASH, TRANSOMS AND GLASS PARTITIONS shall be constructed as detailed in various locations shown (including boiler room) and of same material as finish of rooms in which located. Sash shall be 1¾" thick, held in place by stops and screws as specified in Par. D above. All partition sash shall be stationary unless otherwise shown.

(G) CEILING SASH shall be provided under skylights where shown, similar to those in preceding paragraph. Sash so indicated shall be pivoted slightly out of balance so as to close automatically.

(H) WAINSCOT CAP shall be provided as detailed over all wainscot of cement, wood or burlap. A loose molding shall be provided, tacked in place, to form panel around all burlap.

(I) WAINSCOT of clear, matched white pine or whitewood shall be provided in exhibit room, to afford smooth backing for burlap.

(J) BULLETIN AND TACK-BOARDS, MIRRORS, GROUND GLASS PANELS AND BLACK-BOARDS shall be trimmed in accordance with details. Bulletin and tack-boards shall be approved ¼" cork-carpet glued solidly to wood or composition backing. Wall black-boards and cork-boards shall be set in rabbets prepared for same, in proper locations, at exact heights, and shall have stops all around, properly nailed in place.

(K) PICTURE MOLD, as detailed, shall be provided in all corridors, stair halls, stair landings and in all rooms where oak trim is called for.

(L) PIPE BOXING shall be provided, of ¾" finish lumber, to enclose all piping except where otherwise indicated. Members wider than 10" shall be paneled. Face or one side of each boxing shall be secured with round-head brass screws and washers about 15" o. c. Boxing shall be finished at bottom with room base and at top with neat crown mold.

(M) IN ASSEMBLY HALL all special trim shall be installed as shown and detailed, including balcony rail, front of platform apron, steps to platform, etc. Floor of platform shall be of maple as specified. Base and steps shall be of birch, treads 1⅝" and risers ⅞". Risers shall be housed into treads and finished with neat mold under nosing. Steps shall rest on substantial carriages, notched to fit and all closely housed into strings.

(N) TRAP-DOORS shall be provided in floors where shown and in ceilings to give access to roof space. Doors shall be same as other 1⅞" paneled doors, with jambs and casings.

(O) SHELVING of clear yellow pine or fir, shall be provided in Janitor's closets, store-rooms and other locations as shown. Unless otherwise indicated, shelves shall be ⅞" x 11½", supported on wall cleats and intermediate standards, evenly spaced not over 3' 6" o. c. Store-rooms shall have 5 shelves, 12" o. c., first one 2' 6" above floor.

ARTICLE 18. Cabinet Work.

(A) IN GENERAL. Teachers' closets, supply closets, book cases and such additional cabinets and cupboards as are specifically called for in Art. 2 shall be provided and installed as shown and detailed. Each item shall be of the wood specified for the room in which located, except that structural and other concealed parts may be of a good grade of pine, spruce or fir. Backs, sides and tops of cases shall be 7/16" 3-ply veneer or V-joint oak ceiling. Exposed ends of cases shall be paneled. Fronts shall be complete with sash, paneled doors, casings, cornice and molds as shown. Doors and other panel work shall have solid stiles of clear plain-sawed red oak, and all wood panels of same shall be of best approved 3-ply red oak veneer, thoroly glued together. Blocking and framing that is entirely concealed shall be of a good grade of pine or spruce, free from serious imperfections. Sides and slides of drawers shall be of best maple. Bottoms and backs of drawers shall be of clear white pine, poplar or whitewood. Shelves shall be of clear yellow pine or fir, with exposed edging of oak, glued on. Where so shown panels of cork-board and imitation slate shall be built in.

(B) CONSTRUCTION. All items shall be framed in most substantial manner by experienced cabinet makers with all necessary blocking, braces, bottoms, etc., also sufficient heavy cross-supports under all counter tops. Unless otherwise shown, the standards of cases shall be 1⅞" thick, stiles and rails of doors and panel work 1⅞", counter shelves 1⅞", and other shelves ⅞". All stiles and rails shall be formed with mortise-and-tenon joints, wedged and glued together. All other parts shall be pinned, glued or screwed in accordance with best practice. Drawers shall have ⅞" fronts, ⅝" sides and backs, and ⅜" 3-ply bottoms; sides dovetailed into fronts, backs rabbeted into sides, bottoms into sides and floors and all thoroly glued together. Sides shall be rabbeted into slides. All shall fit locations for which intended and shall not bind. Shelves in cases shall be adjustable on woodcleats in rachets, 1" apart, or on approved metal shelf supports or pegs, as shown. In the latter case, 4 japanned steel pegs of approved design shall be furnished for each shelf, plus 5% surplus for each case. Peg-holes shall be 1" o. c. vertically and shall be carefully centered to hold shelves absolutely level. ¾" ash rods shall be provided for hangers where shown. Plate glass shelves in trophy cases shall rest on nickel-plated shelf supports of approved pattern.

ARTICLE 19. Metal Doors and Trim.

(A) IN GENERAL. Hollow steel doors, transoms, sidelights and frames shall be provided wherever called for, of sizes shown, complete with all glass and hardware.

(B) TYPE AND MAKE shall be the best, subject to approval of the Architect.

(C) SHOP DETAILS, SCHEDULES AND MAKER'S SPECIFICATIONS shall be submitted for approval as provided in Art. 4, Division A.

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(D) MATERIALS shall be as specified in Art. 8.

(E) CONSTRUCTION. Metal panels shall be made with two thicknesses of metal, separated by a $\frac{1}{4}$ " asbestos filler. Stiles and rails shall be hollow-lined thruout with asbestos board and provided with cork-fillers to deaden the sound; reinforced inside with steel, and special reinforcement of $\frac{1}{8}$ " thick steel plates provided and spotwelded at points where hardware is to be attached. All joints shall be interlocked and acetylene-process-welded, to conceal the joining and make the doors stiff, rigid, and substantial. The panels shall have approved moldings and stops for glass, secured with round-head bronze screws. Door frames shall be of No. 18 gage steel as specified, reinforced inside with steel angles and anchored into the tile partitions or brick walls with perforated, corrugated iron bonding clips, four on each side and two at the top. At jambs, $\frac{3}{8}$ " steel plates shall be provided and spot-welded in place at points where hardware is to be attached. Where frames finish entirely within plaster jambs, neat steel mold shall be provided to trim against plaster. Where frames finish flush with plaster complete wood trim shall be provided on that side.

(F) FINISH. All metal work, after being assembled, shall be thoroughly cleaned with wire brushes and be free from loose rust and dirt, then given one good coat of approved metallic paint in the shop.

(G) HARDWARE for doors and transoms will be provided and delivered to the Maker at factory and he shall apply same and do all required shop and field cutting, drilling and tapping for same.

(H) INSTALLING. All work shall be delivered and set up complete as required, in best workmanlike manner. Great care shall be exercised in handling and setting the work to avoid injury. Adequate precautions shall be taken to protect the work from all damage after installation.

ARTICLE 20. Wood Doors.

(A) IN GENERAL, wood doors, of material to match finish of rooms, shall be provided for all door openings, except where metal doors are called for.

(B) DESCRIPTION. All doors to toilet room stalls and shower stalls shall be $1\frac{1}{8}$ " thick, of solid wood. All outside doors shall be "B" grade white pine, $2\frac{1}{4}$ " thick, made of 2 thicknesses of $1\frac{1}{8}$ " stock, thoroly glued together. Doors in basement shall be special as elsewhere specified. All other wood doors shall be built up of $\frac{1}{8}$ " veneer, thoroly glued on laminated white pine cores in approved manner. Hardwood edges all around shall be at least $\frac{5}{8}$ " thick. Doors between rooms having different finishes shall have one side to match each, except that, where one side occurs in room with pine trim, such door may be hardwood both sides. Doors to wardrobes and teachers' closets shall be $1\frac{3}{8}$ " thick; all doors not otherwise stated, $1\frac{3}{4}$ ". All other sizes shall be as shown on drawings. All shall be paneled or flush-veneered as detailed. Those marked "S. D." shall have glass panels with neatly mitered stops tacked in place to receive glass. Stiles of panel-doors shall have 5" net width.

(C) DOORS TO HEATING CHAMBERS and plenum chambers shall be best seasoned "C" grade white pine, as detailed, trimmed inside and out and special care used to make same air-tight. Each door rabbet shall be fitted with weather-strip all around and provided with wood threshold. Two doors shall be hung in each opening in blast chambers, the inner one to have 4 lbs. of glass in upper panels. Doors to air inlets and pipe trenches shall be built of two thicknesses of matched flooring, one vertical and one diagonal, all well screwed together.

(D) CONSTRUCTION. All panel and veneered doors shall be blind-mortised, tenoned or dowelled, glued and wedged together. All stiles and rails, unless otherwise detailed, shall be molded on the solid, with moldings coped. Sash doors shall have extra deep glass rabbets. All panels shall be 3-ply veneer, $\frac{3}{8}$ " thick in $1\frac{1}{8}$ " doors, $\frac{1}{2}$ " in $1\frac{3}{8}$ " doors and $\frac{3}{4}$ " for $1\frac{3}{4}$ " doors. All hinged doors shall have front edges slightly beveled to fit lock fronts.

(E) SLIDING DOORS in kindergarten room shall be as detailed, hung on hangers and track specially devised for this type of folding-sliding doors. Track shall be of approved design, adjustable to hold doors to true alignment, and properly supported on substantial brackets attached to structural work above. Entire sliding door equipment (other than locks and butts) is included in this Division, shall be furnished in accordance with approved shop drawings and guaranteed to work satisfactorily.

(F) TRANSOMS shall be provided over all doors where indicated by letter "T" on plans (or otherwise), complete as

detailed, with molded transom-bars and rabbets and stops for glass. Transom sash shall be same thickness as door below, of same wood as adjoining trim and put together in best manner with mortise-and-tenon joints and crimped iron sash staples. Unless otherwise shown, transoms shall be hinged at bottom to swing into rooms and area of single glass shall not exceed 4 sq. ft. Larger areas shall be evenly divided by vertical muntins to such maximum lights. Transoms over outside and toilet room doors shall be stationary.

(G) RE-FITTING DOORS AND TRANSOMS. After all other work has been completed this Contractor shall carefully examine all exterior and interior transoms and doors including all doors and drawers of book cases, wardrobes, supply cases, etc., and shall do all necessary re-fitting and re-hanging of same to make them fit and operate properly.

ARTICLE 21. Thresholds.

(A) FOR OUTSIDE DOORS, thresholds shall be of brass or bronze, natural finish. Where not otherwise detailed they shall be $4\frac{1}{2}$ " wide and $\frac{1}{2}$ " high, with beveled edges and of full length of opening between rabbets. Material shall either be $\frac{1}{4}$ " cast metal or $\frac{1}{8}$ " drawn or extruded metal, of approved pattern. Where required to accommodate floor hinge plates, thresholds shall be 8" wide with holes cut and milled, with neat rabbet, to exactly fit hinge plates.

(B) FOR INSIDE DOORS. A special maple threshold shall be provided as detailed between inner and outer doors of all hot air, blast and plenum chambers. Elsewhere, thresholds will only be required where change of floor material occurs. Joint between materials shall center under door and shall be smoothly finished under threshold. Unless otherwise shown, these thresholds shall be of No. 10 gage bronze, 3" wide and $\frac{3}{8}$ " high with beveled edges and full length of width of opening.

(C) PLACING. Each threshold shall be secured by No. 10 c. s. bronze or brass screws, not over 15" o. c. or 3" from ends, either driven into wood floor or into special threshold anchor blocks embedded in concrete. Thresholds for double doors shall have holes cut to serve as strikes for foot-bolts.

ARTICLE 22. Hanging Rods.

(A) HOLLOW BRASS RODS, $\frac{1}{2}$ " in dia., of 1/16" metal, shall be provided in all class rooms as detailed, supported on brass eyes, screwed in.o flanges, evenly spaced 2' 10" to 5' 6" o. c. and secured with 3 c. s. brass screws each. Rods shall be perfectly straight and level.

(B) BRASS HOOKS, 12" o. c. shall be provided as detailed for all hanging rods.

ARTICLE 23. Placing Hardware.

(A) FINISH HARDWARE in general, provided as specified in Art. 9, under priced allowance, shall be installed by this Contractor. Hardware for metal doors will be put in place by Maker of same as specified in Par. G of Art. 19.

(B) DELIVERY. All hardware will be delivered at the building into a room where it shall be kept classified and sorted. The Contractor shall receipt for all hardware at delivery and shall thereafter be responsible for same. Short-ages, if any, shall be promptly reported to the Architect.

(C) APPLICATION. As rapidly as progress of finished work in building will permit, each opening shall be properly trimmed as follows, all work being done by competent mechanics, especially experienced in application of hardware, each piece in location for which intended:

(1) FOR DOORS: All butts, lock sets, stops, kick-plates, holders, push plates, pulls and rubber-tipped bumpers. Flush-bolts on one of each pair of double-doors shall be put on edge of doors. Check-springs shall be applied only as directed. Special furring blocks shall be provided for same if necessary and approved.

(2) FOR WINDOWS: All sash-lifts, locks, sockets, pulleys, hinges, bolts, catches or sash-centers.

(3) FOR TRANSOMS: Transom-lifters and butts, except for transoms specified to be stationary.

(4) FOR CUPBOARDS AND CABINETS: Catches, locks, butts, drawer-pulls, sheaves, track, sash balance, etc.

(D) PROTECTION. All hardware shall be properly protected and cared for, both before and after being applied, and shall all be in perfect condition when accepted.

ARTICLE 24. Blackboards.

(A) FINISH. All blackboard surfaces shall be smooth and even, polished and finished in best manner for black-

board use. All edges shall be smooth-cut and all abutting edges ground and polished to make perfect neat joints.

(B) THICKNESS. No slate shall be less than $\frac{1}{4}$ " thick nor over $\frac{3}{8}$ " at any point and each piece shall be of uniform thickness thruout.

(C) SIZES. Each run of blackboard shall be 3' 6" high, with chalk-rail at designated height from floor, and the run divided into pieces of approximately even size without the use of fillers. Runs up to 6' 0" shall be in even piece; those over 6' 0" and up to 11' 6" in two pieces; over 11' 6" up to 15' 0" in three pieces; over 15' 0" in pieces averaging 1' 0" to 5' 0". Each piece shall be perfectly rectangular and free from slightest warp.

(D) SETTLING. All blackboards shall be set by competent mechanics in the best manner, in rabbets prepared to receive

same. For this purpose the Contractor shall have first provided an even surface properly blocked out to afford a solid even foundation. Each piece shall be secured by means of c. s. wood screws, about 3" from each corner and $\frac{3}{4}$ " in from edges, for which holes shall be carefully drilled and reamed in the slate. Pieces 5' 0" and longer shall have screw in center at top and bottom in addition to one in each corner. Screw-heads shall be concealed behind stops which shall be neatly fitted and bradded in place. All butt-joints shall fit perfectly and be smoothly ground and polished.

(E) DAMAGES. All blackboards shall be in perfect condition when offered for acceptance, free from cracks, scratches and paint or varnish spots. The Contractor will be required to place or replace, in perfect condition, any rejected pieces, regardless of cause of damage.

PUBLICATIONS OF INTEREST TO THE SPECIFICATION WRITER

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

Sanitas Modern Wall Coverings.—Specification folder A.I.A. Classification 28C1. This folder contains samples of the material, specifications, and such other information as is necessary for the information of architects, specification writers and draftsmen. Standard filing size, $8\frac{1}{2}$ x 11. Standard Textile Products Co. 320 Broadway, New York City.

Vacuum Cleaning Data Portfolio.—A. I. A. Classification No. 35-J-1 contains in readily accessible form for the specification writer complete data in installed vacuum cleaning systems. Layouts, tables of piping size, requirements to be considered, etc. Standard filing size $8\frac{1}{2}$ x 11. United Electric Co., Canton, Ohio.

Keramik.—A very attractive Brochure with 14 full page color plates telling the complete story in word and picture of Keramik, a color penetrant for concrete surfaces. Interiors as well as exteriors are shown, together with specifications and complete information. 36 pp. $8\frac{1}{2}$ x 11. A. C. Horn Co., Long Island City, N. Y.

The Low Cost of Dignity and Beauty.—A new publication on the subject of windows with special reference to the advantages of plate glass. Tables of comparative costs and other important data, together with a large number of attractive illustrations are included. Specifications and complete information for the drafting-room. 36 pp. $8\frac{1}{2}$ x 11. Plate Glass Mfrs. of America, First National Bank Bldg., Pittsburgh, Pa.

Speakman Showers and Fixtures, Catalog H.—Looseleaf edition arranged especially for architects. Numerous illustrations, sectional drawings and complete data on all equipment and specialties required in connection with modern showers. Specifications. 36 pp. Standard filing size, $8\frac{1}{2}$ x 11. Speakman Company, Wilmington, Delaware.

Atlantic Terra Cotta.—Monthly publication for the architectural field., Volume 8, No. 2 being devoted to Studies in Polychromy with a frontispiece in full colors and numerous full page plates showing both ancient and modern examples of Polychrome work. Atlantic Terra Cotta Co., 350 Madison Avenue, New York.

Illumination Design Data for Industrial and Commercial Interiors.—Bulletin 41-C recently revised. Much technical data on the subject of illumination so presented as to be quickly available in the drafting-room. Indispensable to those working out difficult lighting problems. 30 pp. and color charts. Size 6 x 9. National Lamp Works of the General Electric Co., Engineering Dept., Nela Park, Cleveland, Ohio.

Indiana Limestone Details.—Service publication No. 11, series 4-D. Another interesting number in this series containing detail drawings, together with studies of four important modern buildings. Standard filing size, $8\frac{1}{2}$ x 11. Indiana Limestone Quarrymen's Association, Bedford, Indiana.

Fireproof Homes of Period Design.—A most important book of 72 designs selected from drawings submitted in a national competition. The subjects are well presented and in addition to the illustrations much useful information is included which is especially applicable to small and medium size residence construction. The book contains specifications and detail drawings. 112 pp. $8\frac{1}{2}$ x 11. United States Gypsum Co., 205 West Monroe St., Chicago, Ill.

The Rapid Fire Oven.—Folder illustrating and describing new models of gas ranges. Tables of dimensions, sectional view. $8\frac{1}{2}$ x 11. The Ohio State Stove & Mfg. Co., Columbus, Ohio.

Published by the same firm, The Common Sense Kitchen Cabinet, illustrating and describing all-steel kitchen cabinets and All-Steel Enameled Medicine Cabinets.

The Low Cost of Dignity and Beauty.—A new publication and describes this type of gas range, laundry stoves, copper reflector gas heaters, and specialties. Price lists and tables of measurements, etc. 128 pp. 7 x 10. New Process Stove Co., 4301 Perkins Ave., Cleveland, Ohio.

Iron Fence, Entrance Gates and Ornamental Iron Work.—Catalog No. 50-A illustrates and describes suitable enclosures for private property, Churches, school houses, Cemeteries, Playgrounds, Factories and every place needing durable and economical fence or entrance gates. Shows methods of setting fence, directions for measuring, etc. 144 pp. 7 x 12. The Stewart Iron Works, Cincinnati, Ohio.

Published by the same firm, Book of Designs, C, photographic reproductions of entrance gates and fences, 96 pp. 9 x 12.

Universal Flush Valve.—Insert for Catalog "B". Contains full data on this type of flush valve, sectional drawings, details, instructions for specifying, description and dimensions of styles and models, installations, etc. 6 x 9. 20 pp. Philip Haas Co., Dayton, Ohio.

Cold Weather Mortar.—New Bulletin presenting desired information in an attractive form. Contains tests, estimating quantities, etc. 8 pp. 6 x 9. National Lime Association, 918 G St., N.W., Washington, D. C.

Elevator Dispatching System.—Booklet describing a new and revolutionary system of elevator dispatching which is designed to operate elevators 40% more efficiently than any other system previously developed. A.I.A. File No. 33H. Elevator Supplies Co., Willow Ave., Hoboken, N. J.

Kewanee Boiler.—Tests of No. 317 Kewanee Boiler fired with oil burner, containing illustrations of method of connecting oil heaters for oil burner installations in Kewanee Boilers, furnace design for Winslow Oil Burner Tests. 8 x 10 $\frac{1}{2}$. Kewanee Boiler Co., Kewanee, Ill.

Published by the same firm. Tests of No. 317 Kewanee Boiler operating at low and high pressures.

Stone, Ten Thousand Years Ago and Now.—Handsome Brochure in sepia showing examples of cut stone in the finest buildings in the country, and abroad. 9 $\frac{1}{2}$ x 12 $\frac{1}{2}$ 48 pp. Walker Cut Stone Co., Inc., 2403 Center St., Tacoma, Wash.

Testite Dimension Sheets Necessary for Good Plumbing.—Loose-leaf Catalog containing cross sections, details, tables, list prices and dimensions, also circular No. 150 containing Wall Hung Closet Fittings and Wall Hung Connecting Units. 9 x 11. The Groeniger Mfg. Co., Michigan & Buttes Aves., Columbus, Ohio.

Weather Strip Blue Print Details.—Catalog containing blue prints and data on practical metal weather stripping for double hung sliding windows, doors, illustrations specifications, sectional drawings, method of installation, etc. 40 pp. 9 x 11. The Diamond Metal Weather Strip Co., Columbus, Ohio.

Coulson Store Front Construction.—Catalog illustrating and describing practical store front construction, typical installations, full size detail sheet. 8 x 11. J. W. Coulson & Co., Columbus, Ohio.

The Great Little Book.—Manual dealing with the mechanical side of the distributors work of the Crown Fuel Saver. Much interesting data and illustrations. Crown Fuel Saver Co., Richmond, Ind.

Iron Fence, Entrance Gates, Guards, Folding Gates, Etc.—Catalog No. 35 illustrates various kinds of iron and wire work, also new and ornamental designs. Contains directions for taking measurements, diagrams, typical installations, etc. 144 pp. 7 $\frac{1}{2}$ x 10. Cincinnati Iron Fence Co., Cincinnati, Ohio.

Sewage Disposal for Farms and Suburban Homes.—Interesting data on this subject, suggested general layout of vitrified clay septic tank and disposal systems, 5 x 8. Eastern Clay Products Assn., 906 Colonial Trust Bldg., Philadelphia, Pa.

Published by the same firm, Handbook for Plumbers on House Sewers and House Drains, also Standards and price list. Also Flues and Flue Linings with Related Data on Chimneys and Fireplaces.—A.I.A. File No. 5h.—Catalog on the subject indicated containing standard dimensions, sizes, chimney construction in detail, cross sections, fireplace construction and specifications.

Clark Jewel Gas Stoves.—Catalog No. 123 showing complete line of Clark Jewel gas ranges and appliances. Illustrations, price list, and descriptions. 94 pp. 5 x 9. George M. Clark & Co., 179 No. Michigan Ave., Chicago, Ill.

Quick Meal Gas Ranges.—Catalog No. 138 illustrates and describes this type of gas range, tables of dimensions, price list, etc. 30 pp. 6½ x 9¼. Quick Meal Stove Co., 825 Chouteau Ave., St. Louis, Mo.

Economical Buildings for Farm and City.—Catalog containing full information on the subject of Dickey Glazed Hollow Building Blocks. Contains many illustrations, cross sections, floor plans, elevations, etc. 7¼ x 10¼. 42 pp. W. S. Dickey Clay Mfg. Co., Kansas City, Mo.

Published by the same firm, Safety, Durability and Economy for Roofs, Walls and Chimneys, also Dickey Septic Tank Sewage Disposal Systems.

A Historical Sketch of Bridgeport Brass Co.—Pamphlet containing in interesting form the history of the Bridgeport Brass Co. from its beginning in 1865 up to the present day. Bridgeport Brass Co., Bridgeport, Conn.

The Air We Breathe.—Interesting treatise on warm air heating systems as applied to the home. The Williamson Heater Co., Cincinnati, Ohio. 24 pp. 6 x 9.

Published by the same firm, Division of Engineering—Heating as an Engineers Job.

Specifications and Details for the Topping "Easyfold" Equipment for Folding Partitions.—Folder containing details and sections, illustrations, specifications for Easyfold equipment for schools, churches, hotels, clubs, hospitals and other public buildings. 9 x 11. The Topping Mfg. Co., Ashland, Ohio.

Modern Modes in Better Plastering.—Brochure rich with suggestions for the use of Milcor. Many illustrations, and diagram showing Milcor products in the home. 32 pp. 8½ x 11. Milwaukee Corrugating Co., Milwaukee, Wis.

Storage and Ice House Construction with Denison Interlocking Tile.—Catalog illustrating and describing various uses of this tile, cross sections, detail drawings, etc. 24 pp. 6 x 9. Ohio Clay Co., 518 Guardian Bldg., Cleveland, Ohio.

Published by the same firm, Factory and Warehouse Construction with Denison Interlocking Tile. 32 pp. 6 x 9.

Iron, Bronze and Wire Work News.—Monthly publication of interest to architects published by the National Association Ornamental Iron & Bronze Mfrs., 614 Race St., Cincinnati, Ohio.

Home Walls.—Catalog illustrating and describing Denison Interlocking Tiles. Illustrations, plans, and much interesting data on the subject. Denison Interlocking Tile Corp., Guardian Bldg., Cleveland, Ohio.

The Heart of a Room is the Rug.—Handsome brochure in color showing various ways of treating the decorative features of rooms. 10 full page color plates. 24 pp. 8 x 11. The Bigelow-Hartford Carpet Co., 385 Madison Ave., New York.

Marquise.—Catalog showing photographs of installations and original designs. Full information and specifications covering construction. 46 pp. 8½ x 11. The ProBERT Sheet Metal Co., Inc., Covington, Ky.

Published by the same firm, Kalamein Doors and Trim.

Diamond Grating.—Folder describing features of design and construction of Diamond Grating. Table of Safe Loads, technical data arranged for the convenience of the Engineer and Specification Writer. William F. Klemp Co., 6624 S. Melvina Ave., Chicago, Ill.

Ebco.—Bulletin "T"—Illustrates and describes ventilated toilet fixtures for schools, comfort stations, public institutions and factories. Full size illustration of the new design of the Ebco Circular Wash Sink. D. A. Ebinger Sanitary Mfg. Co., Columbus, O.

Architectural and Ornamental Iron Work.—Catalog No. 6 illustrates and describes Safety-Lock Pressed Steel Stairs for schools, department stores, factories, banks, theatres, etc. cross sections, details. 44 pp. 8½ x 11. The Hughes-Keenan Co., Mansfield, Ohio.

Dangler Gas Ranges.—Catalog No. 211 contains full data on Dangler Gas Ranges and accessories. Descriptions, general information and price list. 48 pp. 7 x 10. Dangler Stove Co., Cleveland, Ohio.

Hinges.—Catalog illustrating and describing full line of hinges, butts, shelf brackets, barrell bolts, etc., tables of sizes, price list, etc. 6 x 9. 71 pp. Stiff cover. The Griffin Mfg. Co., Erie, Pa.

"Angliron."—Catalog 57 illustrates and describes full line of gas burning appliances and accessories. Very interesting data on the subject with full information. Stiff cover. 8 x 10½. 112 pp. Reliable Stove Mfg. Co., Cleveland, Ohio.

The Story of Steel Taped (Parkway) Cable.—Treatise on subject interestingly illustrated with photographs of installations, specifications, tables, etc. 24 pp. 7 x 10. Okonite Co., Passaic, N. J.

Artstone.—Attractive Brochure describing Artstone, the advantages of Artstone, where to use it, colors, finishes, cooperation and service. Beautifully illustrated in color. 30 pp. 8½ x 11. George Rackle & Sons Co., Cleveland, Ohio.

Published by the same firm, Gothic Windows, containing many illustrations of attractive window treatment with Artstone, method of setting and details, also Rachel Cement Proofing Tile, catalog containing illustrations, typical factory section showing spacing of Purtilins, details of roof and flushing tile and much useful data.

Aluminum Paint.—A treatise on the physical properties of Aluminum Paint and its uses in modern industry by Junius D. Edwards, Asst. Dir. of research. Aluminum Co. of America, Pittsburgh, Pa.

Testing Methods and the Importance of Tests in the Oil Burning Industry.—Interesting treatise on the subject by Han A. Kunitz, J. P. Leask and Leod D. Becker. Copies sent on request to engineers and architects writing for same on their own letterheads. American Oil Burner Assn., 350 Madison Ave., New York City.

Bulletin No. 6103.—Illustrates and describes American H. S. Fan, Single Inlet. Illustrates standard arrangements. Tables, dimensions. American Blower Co., Detroit, Mich.

Building Garages for Profitable Operation.—Interesting booklet on the subject of modern garages containing illustrations of typical buildings and list of garages utilizing space saving idea. Also briefly describing and illustrating the d'Humy Motoramp System of Inter-floor Travel. 15 pp. 9 x 11. Ramp Buildings Corp., 21 East 40th St., New York.

Equipment for the Preparation and Serving of Food.—Catalog C describes and illustrates everything in this line, for hotels, cafeterias, residences, bakeries. Also includes list of kitchen equipments installed all over the U. S. Fully indexed. Very useful and valuable catalog. 364 pp. 8 x 11. The John Van Range Co., Cincinnati, Ohio.

"Mecco" Fireproof Windows.—Catalog W illustrates and describes fully this line of fireproof windows and everything in sheet metal building material. Contains illustrations, details, sections, how to order, price list, measurements etc. 72 pp. 7½ x 10½. The Moeschal-Edwards Corrugating Co., Covington, Ky.

Silence is Golden.—A comprehensive treatise on sound proofing in modern building construction as accomplished under the Stevens System. Fully illustrated and containing specifications, blueprints and much interesting data. 63 pp. 8½ x 11. Stevens Sound-Proofing Company, 14 East Jackson Blvd., Chicago, Ill.

Direct Action Gas Ranges.—Catalog No. 96 illustrates and describes this line of gas ranges completely. Fully indexed. National Stove Co., Lorain, Ohio.

Nonpareil Refrigerators.—Catalog No. 84 illustrates and describes Nonpareil modern refrigerators, cooling rooms and equipment for hotels, clubs, hospitals and institutions, and Nonpareil fixtures for grocers, meat markets, delicatessen departments, drug and cigar stores. The C. Schmidt Co., John and Livingston Sts., Cincinnati, Ohio.

Evernu Seats.—Catalog G illustrates and describes this product fully. List of installations, special information, summary of advantages, etc. A.I.A. File No. 29-H-22. 28 pp. 8½ x 10½. Never Split Seat Co., Evansville, Indiana.

The Greenhouse Book.—Illustrating and describing Callahan Unit-Built Greenhouses. Contains cross sections, dimensions, widths and standard bench plans. 20 pp. 7½ x 10½. The T. J. Callahan Co., Dayton, Ohio.

Published by the same firm Callahan Direct-Action Sash Operators. Bulletin No. 5, A.I.A. File No. 27c4.

Kreolite News.—Monthly Publication on the subject of wood blocks for floors for bridges, industrial plants and other floors built to withstand heavy duty. The Jennison-Wright Co., Toledo, Ohio.

Portland Cement Stucco.—Handsome Brochure containing 12 full page color plates and many other illustrations showing the application of Portland Cement Stucco. Condensed specifications, recommendations of design and construction, instructions how to prepare, how to color materials, overcoating old houses with Portland Cement Stucco, typical construction details showing stucco on concrete tile and block and on frame construction. 64 pp. 8½ x 11. Portland Cement Association, 111 West Washington St., Chicago, Ill.