

THE VITAL SPARK

OF GREAT significance to architects, draftsmen and students everywhere are the activities being started by the Brooklyn Chapter of the American Institute of Architects, as outlined in the advance announcement printed on another page of this issue. This movement is of much more than local or passing interest, for it contains the vital spark that springs from the bringing together of the younger element of the profession and the leaders. It means the establishment of a close relation that must make for the higher development of the abilities of the younger men, the opening of wide opportunities for them and, as a natural and certain result, the up-building of the architectural profession in general. It is this contact that gives life to an architectural club or to any other organization of draftsmen, a point that it is well to keep always in mind.

Among the features of the plan outlined by the Brooklyn Chapter of the A. I. A. are the following: affiliation of the younger men with the Chapter, with its inspirational and social value; the title of Student Associate; advisory assistance in professional and educational problems, a competition, possibly a great atelier and other advantages.

This opens up a matter that should have the immediate and earnest attention of every man interested in any architectural club or organization of draftsmen. Has your club the right kind of co-operation from able architects? If not, better get it, promptly. It is not difficult. The men you want, the brilliant, able architects are just the ones to respond readily and to take hold with a will. It is all well enough to have architects on the Board of Trustees or Board of Directors, but it is very much more important to have them working with the club right in with the other members and taking an active interest in the men and the activities of the club. Try it, tell some of the best architects in your city what you want to do with your club and ask them to take hold.

This is a matter for the attention of every architect who is a member of any organization of architects. The profession needs the most able and highly developed men in all positions and nothing will produce them so rapidly or well as this kind of contact between architects and draftsmen. The Brooklyn Chapter is making a move in the right direction, decidedly.

In any club or other organization of architects and draftsmen where the architects take an active interest of the best kind in the work of the organization, it will be found that they know the capabilities of the men and are interested in their development as individuals, showing them how to get the greatest benefit from their efforts, how to study architecture and how to make the most of their natural tendencies. Where there is co-operation of this kind, between the architects and the other members of the club, you are sure to find progress.

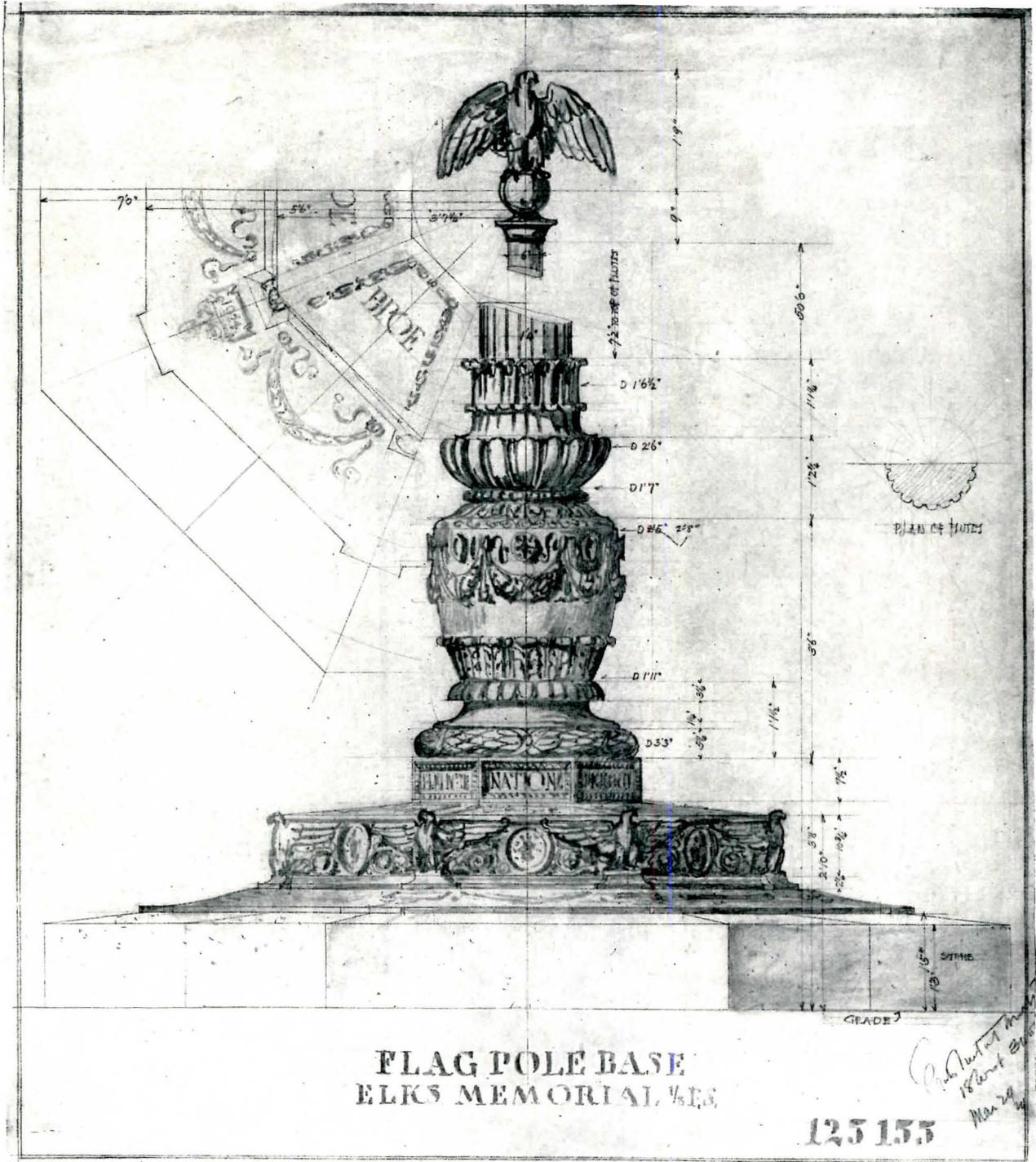
You will find really interesting programs; not the kind that sound as though they must be highly edifying, but fail to interest. You will find the spirit of earnest endeavor and a sense of good fellowship.

Where you find a body of architects working out such a plan as that being carried out for the benefit of the younger men by the Brooklyn Chapter of the A. I. A., you will find a live organization and one that will be strengthened as the years roll on, by that same younger element.

THE SKETCH COMPETITION JUDGMENT

Owing to the difficulty of assembling the jury for the Judgment of the entries in THE PENCIL POINTS SKETCH COMPETITION, the award of prizes has not yet been made, but will be announced in the issue of PENCIL POINTS for January, accompanied by photographic reproductions of prize-winning designs. An exhibition of sketches will be held shortly after the judgment.—EDITOR.

PENCIL POINTS



Flag Pole Base, Elks National Memorial Headquarters Building, Chicago, Ill.
Edgerton Swartzwout, Architect.

WORKING DRAWINGS, FULL SIZE DETAILS

BY EGERTON SWARTWOUT

IN the old days we made full size details on detail paper; quite the natural thing to do, so it seemed to us, because, if the paper man had gone to the trouble to call a big roll of brown paper, detail paper, then the least we could do was to use it for details: we made them in pencil very carefully, and we tinted the sections with water color that came in little glass pots and was of a peculiarly loathsome shade of Prussian blue and a pinkish red something like diluted red ink, both colors having the unpleasant quality of sinking entirely through the paper and rendering erasures impossible. And we drew out all the ornament in line, taking it straight from Canina or Buhlmann or Letarouilly or Meyer's Handbook; each leaf was meticulously but childishly complete, and each little tendril was bounded by two hard lines like railroad tracks just exactly one-eighth of an inch apart. The sections through the ornament caused us a great deal of trouble; we really had no idea what they were or should be, but we showed them very carefully and with great profusion. We might, for example, have a ceiling to do, or a large panel in a ceiling, say six feet by twelve; we hunted through the books till we found a motive that just fitted the space, and although it might, and very often did, happen that the original was only eighteen inches by thirty six, still we copied it straight and carefully gave each leaf a section tinted in the aforesaid Prussian blue showing a projection of at least three inches and a half. All this naturally took a good deal of time and the drawings were very large, but what was time to us? And after we had made the drawing we were through; it was traced on paper by some slave who carefully omitted all the important parts, and the original was sent out to the contractor who made several other incomplete tracings of it, and it finally ended up in the modeller's shop where it was carefully rolled up and put on a shelf and only brought out when visits of inspection were made. The modeller got the size from the building and then he in turn looked up a book and did something quite different and generally much better.

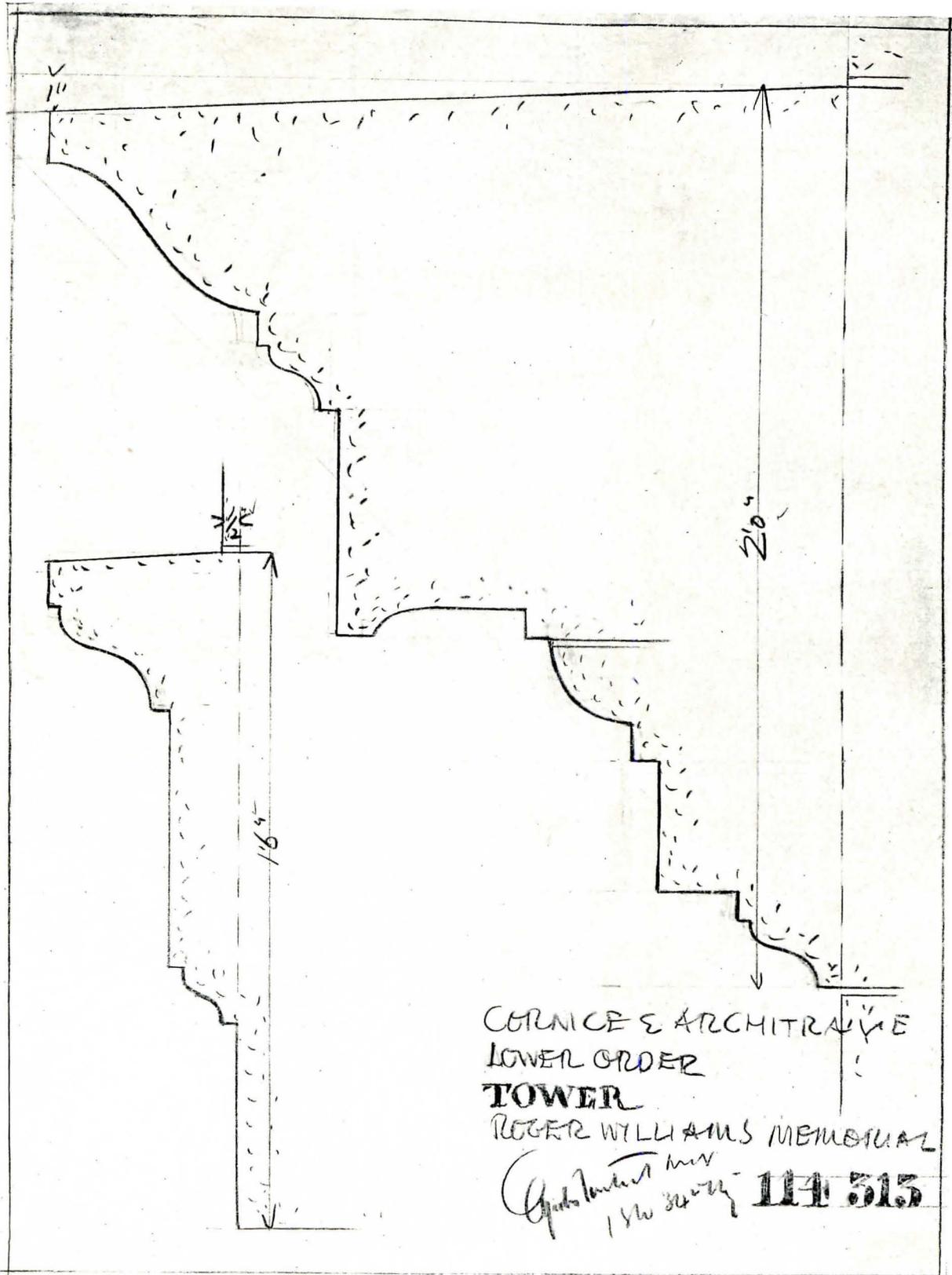
It's all changed now. The contractor wants dozens of copies of each detail, so the only thing to do is to have blueprints made for him, and generally there is no original, the drawing being made directly on the tracing. For sometime past we have made most all our details in charcoal on pencil tracing cloth. This cloth takes charcoal very well, in fact it is a delightful surface to draw on, and when the charcoal is fixed it stays forever and makes wonderful prints, much better than pencil. Naturally if there are a number of prints to be made we try to make the drawings as small as we can; if we are detailing a large entablature for example, we give merely the outlines not bothering to put the architrave in its natural position, but wherever

we can get it in on the sheet, fixing its relation by figures to the face of the pilaster or center of the column below; and only in a very few cases do we ever draw ornament full size, and the reason for that is that for the last twenty years or so we have worked with one modeller. He knows how to interpret our scale drawings, and from them he makes his preliminary model in clay and this model is studied and changed until we all agree it is about right. It is then cast and carved in the plaster. An order is generally modeled complete, column, cap, base and entablature at $\frac{3}{4}$ " scale if large or $1\frac{1}{2}$ " if small. For a large Corinthian order we generally go from the $\frac{3}{4}$ " scale model up to $\frac{1}{4}$ full size model making a cap about a foot or two high. This model is carefully finished and is for the use of the carver in roughing and pointing. We do this because we have found it practically impossible to make a correct cast of a big model. If the cap full size is 6' 0" high or over it will warp and twist in spite of all efforts to keep it straight; the axis will become bent, and the leaves askew, and the carvers have the devil's own time trying to point from it; no two measurements will agree. Whereas in the $\frac{1}{4}$ full size the cap has a steel wire axis and is practically correct, and the carver merely sets his pointer to four times. Of course we make a fragmentary full size model; each different leaf, the volutes and all that is necessary, and they carve from that.

The ornament, as I have said, is modelled from scale drawings; in case of simple running ornament from $\frac{3}{4}$ ", in other cases $\frac{1}{4}$ or $\frac{1}{8}$ full size. For example, take the bronze candelabrum of the Elks Memorial; the drawing is $\frac{1}{8}$ full size and is a sketch in charcoal. It would be extremely difficult and tedious to draw this full size and such a drawing would not only be unnecessary but misleading. You will note on our drawing we give all measurements, and from these measurements the modeller works. He can get the scheme and the character much better from the scale drawing which he can see in its entirety, than from a full size drawing too big to handle; and, it is my experience, he much prefers to work from the scale drawing. But the measurements are most important; figures should always be given and given very completely. Someone has to establish these figures, and the man who makes the drawing is much better qualified to establish them than the modeller. Then, too, the prints never scale accurately, no two prints of the same tracing will scale the same, and for this reason it is our custom to figure all dimensions on the full size, even repeats of ornament and the location of ornament.

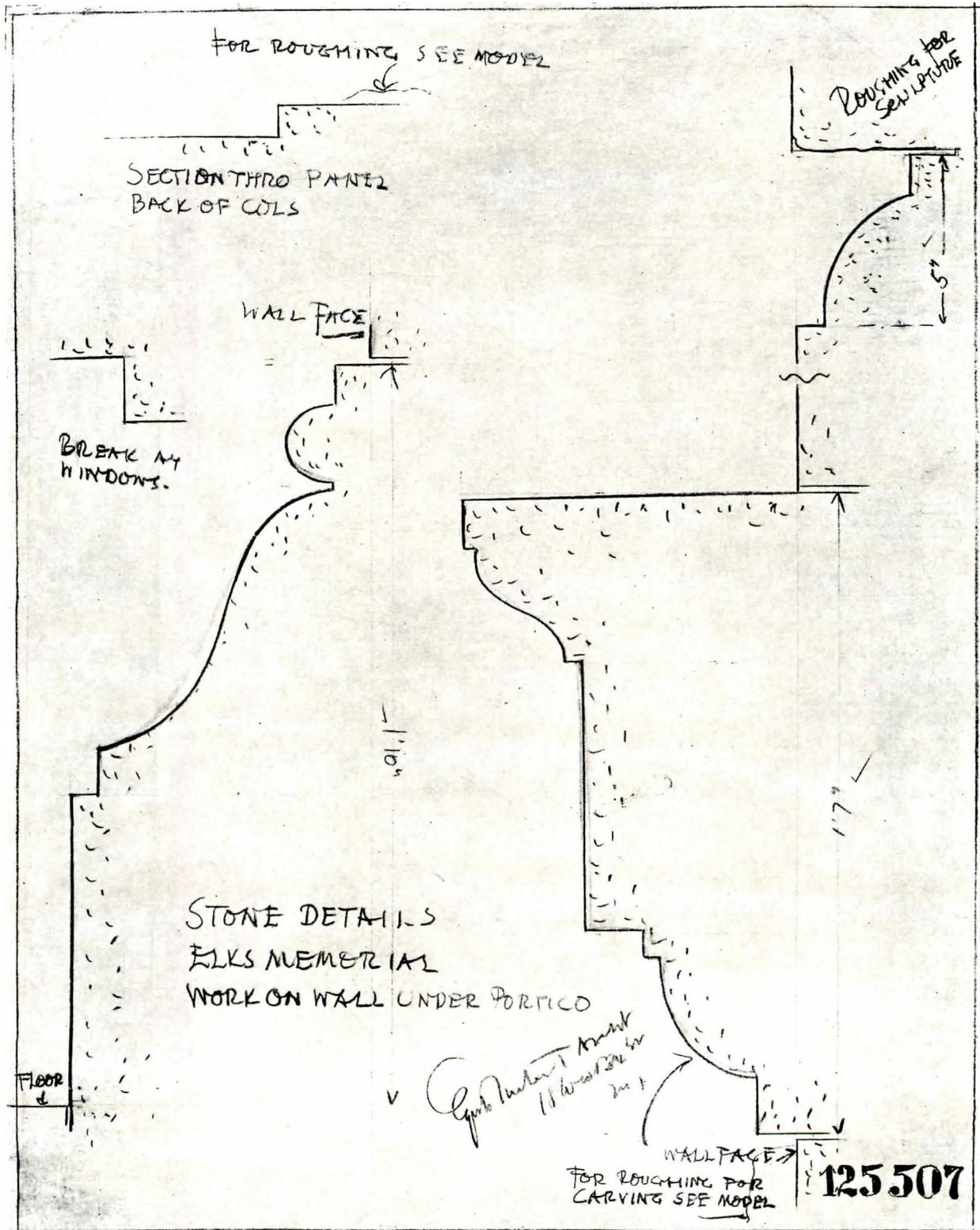
Now, if there is one thing more than another which is a bugbear to the draftsman it is the matter of entasis. In the old days we laid it out full size and it took two tables and sometimes three, to hold a piece of paper long enough. Generally

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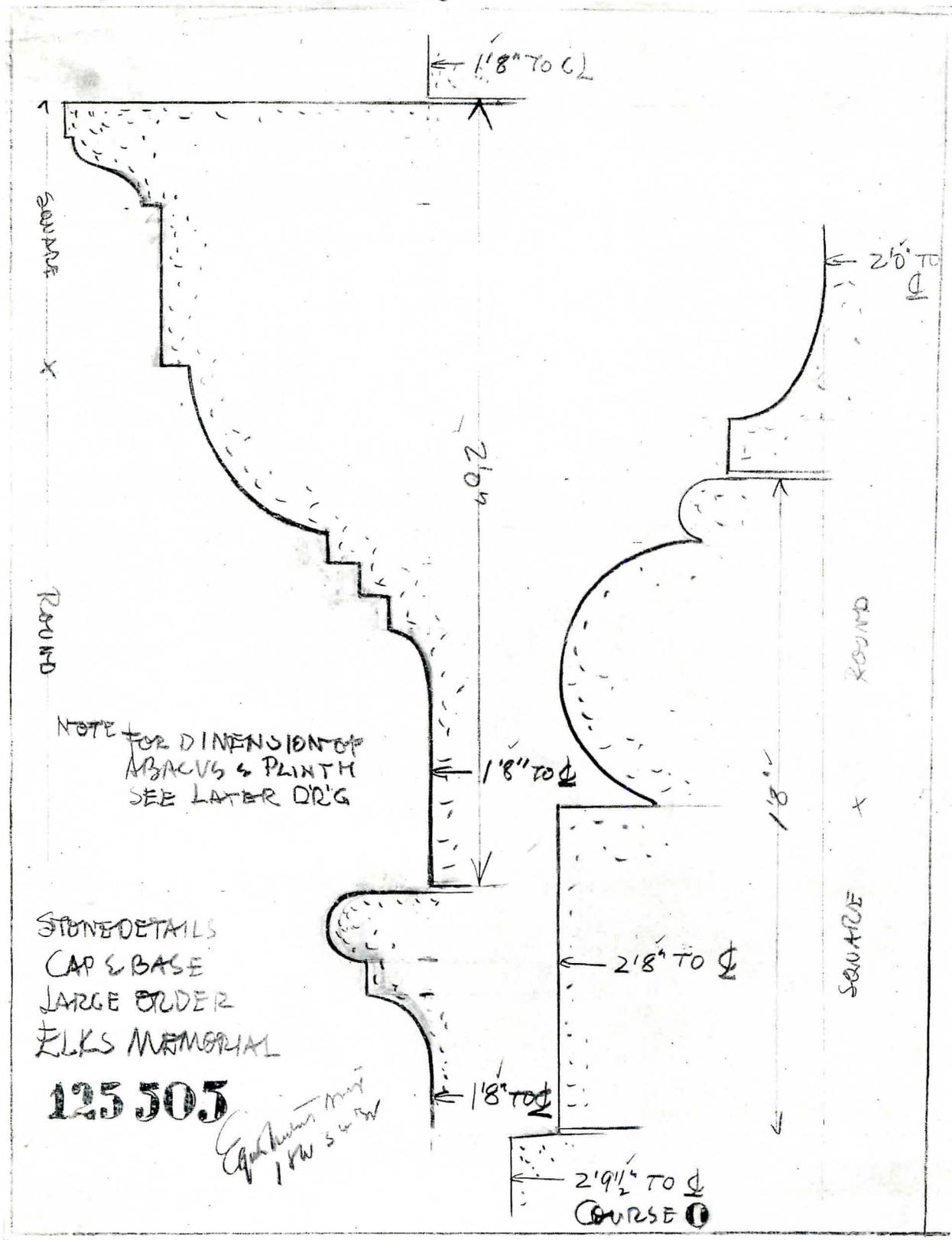
Cornice and Architrave, Lower Order, Tower of Roger Williams Memorial, Washington, D. C.
Egerton Swartzout, Architect.

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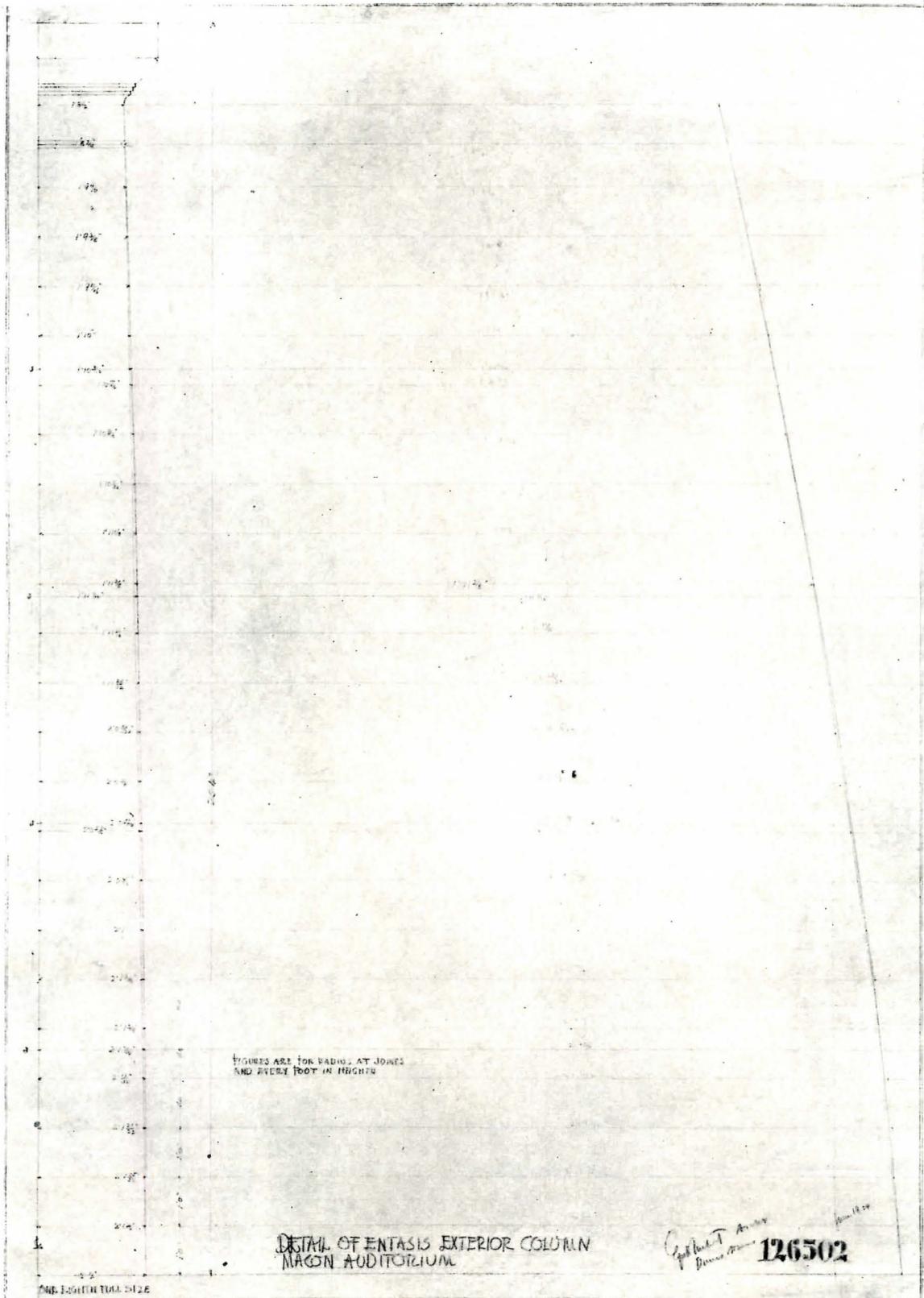
Stone Details, Elks National Memorial Headquarters Building, Chicago, Ill.
Egerton Swartwout, Architect.

PENCIL POINTS



Stone Details, Elks National Memorial Headquarters Building, Chicago, Ill.
Egerton Swartwout, Architect.

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Detail of Entasis, Exterior Column, Macon Auditorium. Egerton Swartzwout, Architect.

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we made the column straight, or rather vertical, for one third the height, and then divided the remaining distance into a certain number of equal parts and then drew a quarter segment of a circle with a radius equal to half the lower diameter of the column and cut this segment with a line equal to one-half the top diameter, and divided the resulting segment into the same number of equal divisions as had been done for the upper portion of the shaft. This gave a series of ordinates which established the radii at the various points of division of the shaft, and by connecting these points with a curve we established the entasis. This is the method generally given in copies of Vignola and is really the vertical projection of a helix. It's not a good scheme. It's true the lower third of a column ordinarily approaches the vertical except, of course, a Greek Doric or similar order, because the entasis counteracts the diminution, but in a true entasis the line is never straight. Then, too, by this scheme the line tumbles in rapidly at the top, the column becomes cigar-shaped; and by laying it out full size it is so big that it is difficult and almost impossible to handle, and it is equally hard to judge the curve. Very few offices have a ceiling high enough to judge the entasis vertically, and if they had, the pencil line could not be seen; and if the line is thickened sufficiently so that it can be seen, it is difficult to scale accurately. Also, a big drawing such as this will stretch or shrink so that after a week or so it may be an inch or two longer than it should be, or that much shorter. For some time past we have drawn our entasis at a combination of scale and full size, that is to say, we first made a careful drawing of the shaft at $\frac{3}{4}$ " scale, or at such a scale as would make the actual drawing about two feet high, a size most convenient to handle, showing the entasis we wanted as accurately as we could at that scale. On this drawing we laid out ordinates every foot in height, or at each stone joint, or both, continuing these ordinates for some distance beyond the column face. We then scaled as accurately as we could each ordinate on the scale drawing and laid this dimension out full size on the extended ordinate. This gave us a series of points which when connected formed, or should form, a perfect curve exaggerating the curve of the entasis, the horizontal dimensions being full size and the vertical dimensions at $\frac{3}{4}$ " or whatever scale was used. Now we invariably found that the original points when connected would not form a perfect curve, the reason being that on account of the divergence between the two scales, a very slight error, say of 1-16" horizontally, will produce a distinct hump or depression in the curve; a difference so slight as to be unnoticeable in the actual column will, when drawn in this exaggerated way, produce a break in the curve. We therefore corrected the curve so as to make a perfect line and then we readjusted the lateral dimensions to agree with the new curve. By this means we could obtain absolutely accurate ordinates full size at any

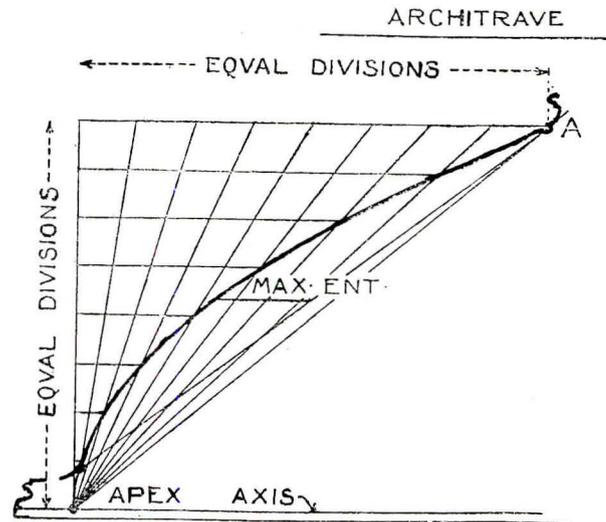


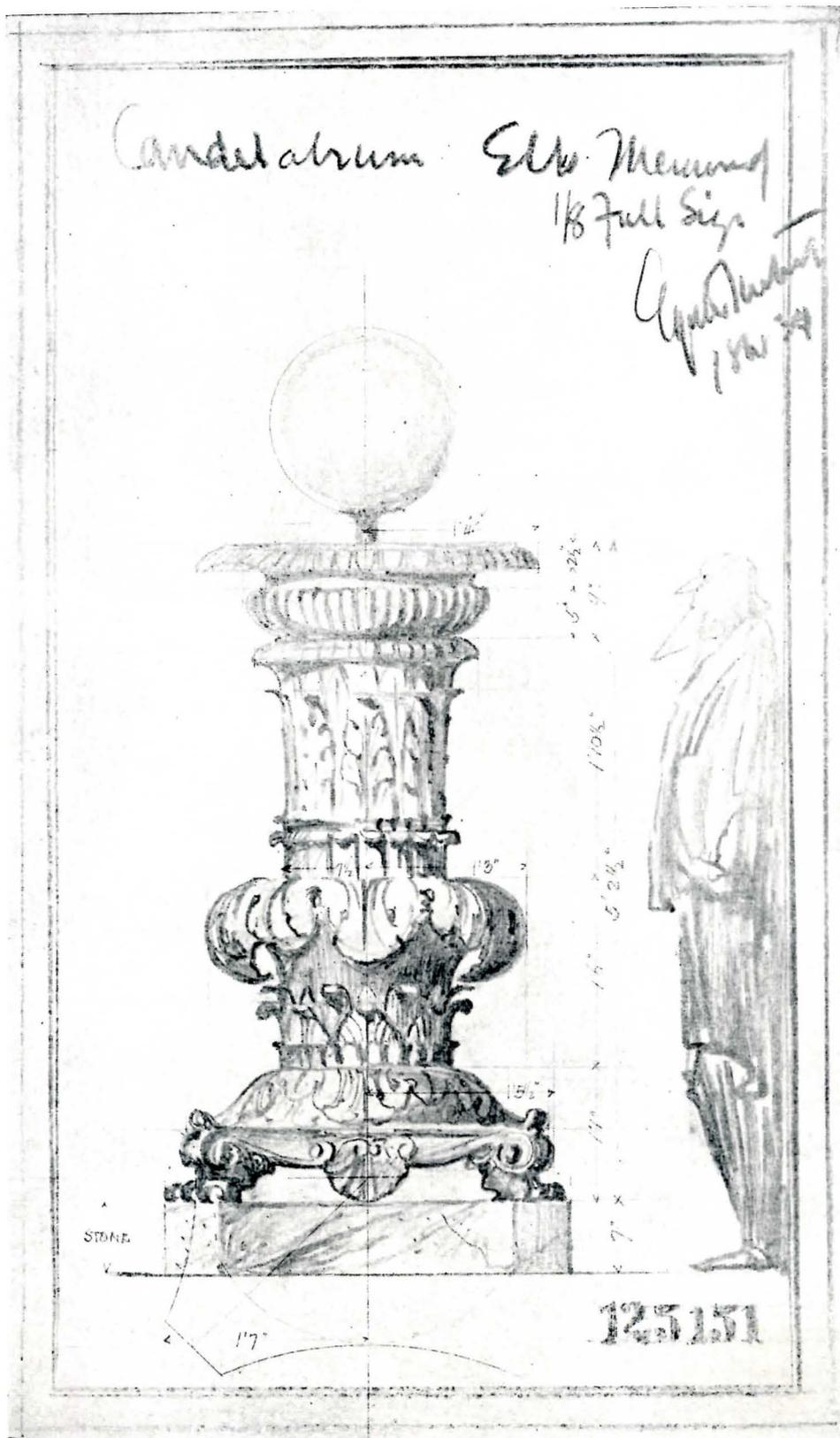
Diagram from "Roman Entasis"
by Gorham P. Stevens.

point in the column, and the whole drawing was very small. For example, let us suppose the column was Corinthian 32' 0" high; at $\frac{3}{4}$ " scale the shaft alone would be somewhat more than 20" high. Now it is not necessary to extend the ordinates to the full length of the radii; all you need is the difference between the top and bottom radii, in this case somewhat over 3". Therefore, if you drop a perpendicular from a point on the top ordinate, and on the bottom ordinate lay off 3" or whatever it is, and connect these points, you have the diminution of the shaft, and the points on the entasis beyond this line can be found by deducting the top radius from the scaled dimensions of each ordinate; so that the exact entasis for a column 32' 0" high can be laid out on a drawing about 4" wide by 21", or so, high. There is only one word of warning about the use of this scheme: it has to be very accurately drawn, particularly the vertical divisions. The curve of the entasis is naturally at an acute angle to the ordinates and a very slight error in vertical dimensions will cause quite a marked mistake in the length of the ordinate.

In this matter of entasis I have been much interested in a monograph written by Gorham P. Stevens of the American Academy in Rome, which Mr. Stevens sent me some four or five months ago. Mr. Stevens has measured the entases of many of the Roman classic orders and finds they are generally some conic section, hyperbolas, or parabolas or double parabolas or in some instances approaching conchoids. Now parabolas and hyperbolas being conic can be drawn at different vertical and horizontal scales and yet retain their curve, and Mr. Stevens has accordingly adopted a scheme of laying out the column vertically at $\frac{3}{8}$ " scale, and the horizontal measurements at four times full size, the increase horizontally being made to minimize error. This scheme forms a much more exaggerated and

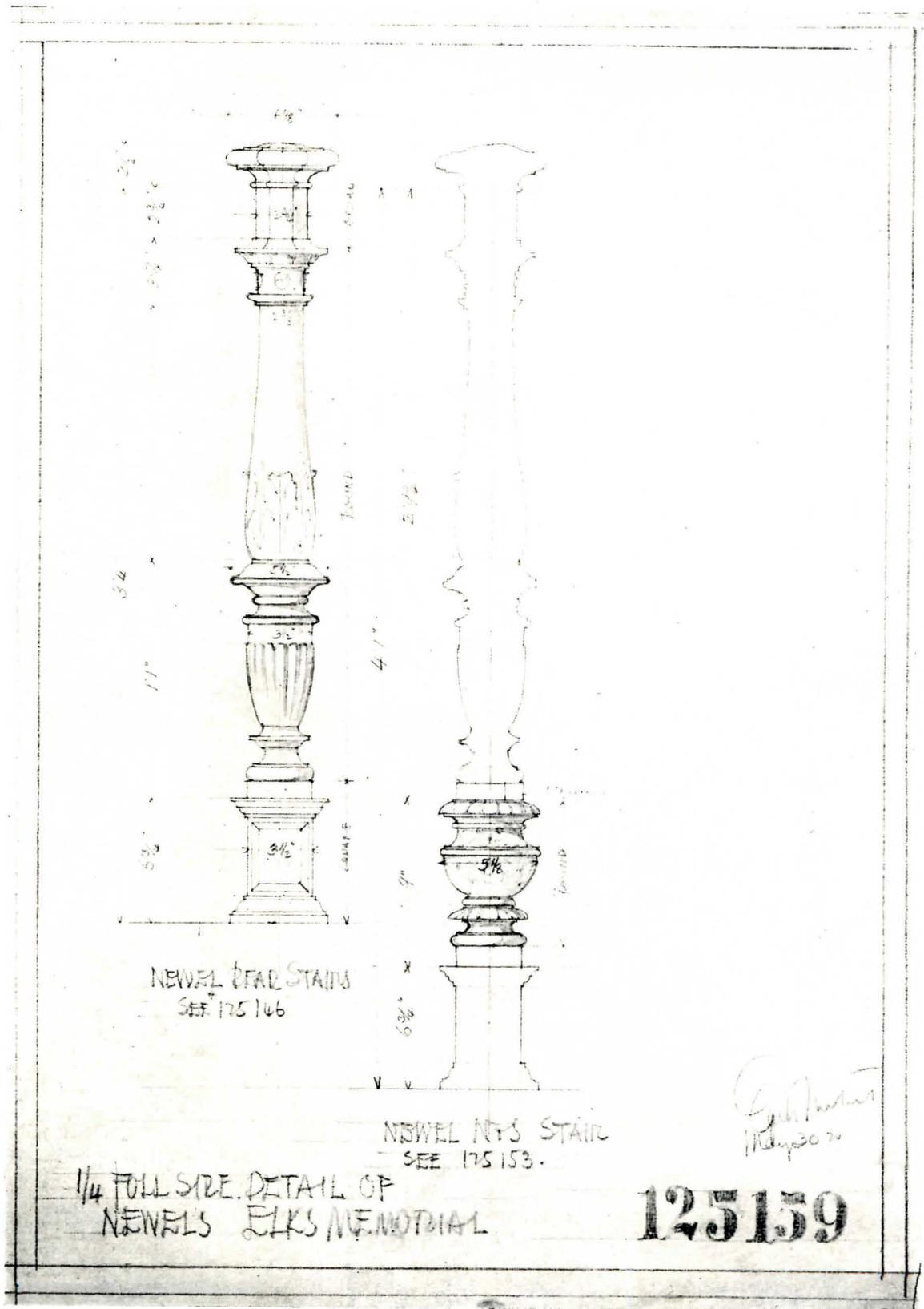
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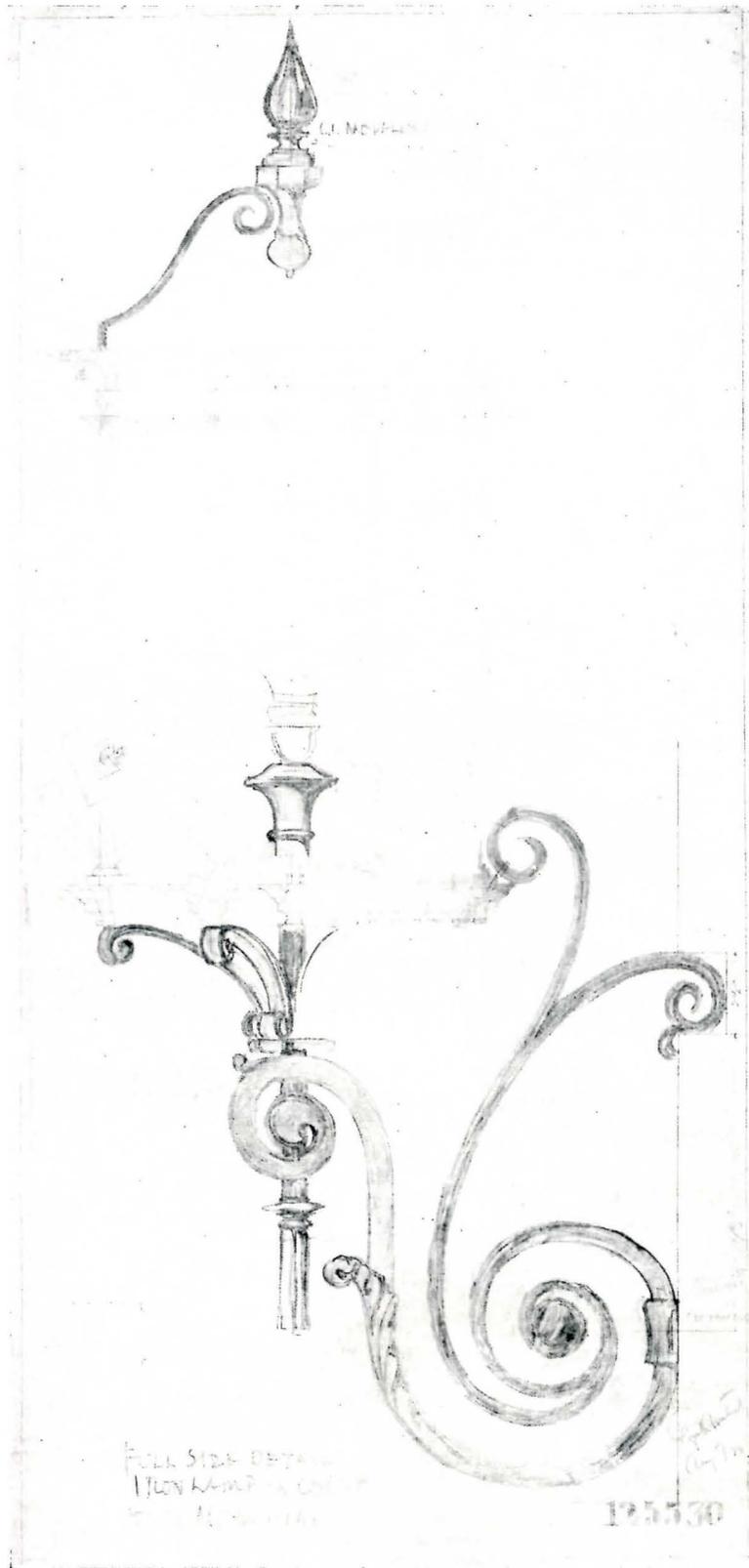
One-Eighth Full Size Detail Candelabrum, Elks National Memorial Headquarters Building, Chicago, Ill. Egerton Swartzwout, Architect.

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One-Quarter Full Size Detail of Newels. Elks National Memorial Headquarters Building, Chicago, Ill. Egerton Swartwout, Architect.

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*Full Size Detail, Iron Lamp in Court. Elks National Memorial
Headquarters Building, Chicago, Ill.
Egerton Swartwout, Architect.*

Suggestions for Promoting a Better Appreciation of the Value of the Services Rendered by Members of the Architectural Profession

BY TORRANCE FISKE

Note—This is the article winning the \$50 prize announced in our October issue for the best article dealing with the question of "Selling" Architecture, as set forth in our October editorial. Other interesting contributions have been received, a digest of which will appear in the January number.—EDITOR.

I WRITE frankly as a novice, having left a financial business less than two years ago for the study of architecture. If my ideas are not pleasing to some members of the profession they may be disregarded as coming from one who knows little of architecture. If they have value it is because ten years experience in business and long residence in a middle western city, where architects starve and contractors flourish, have given me a critical layman's point of view.

There seem to be two major difficulties: the lack of a developed artistic sense among the people, and the failure of the architects themselves to win the confidence of the people by their performance. It can hardly be expected that a developed sense of beauty should exist throughout the greater part of our country. It is too new. In the west the pioneers are still living. Never in history have the arts developed without leisure and wealth. Time will change this, is changing it, but much can be done by way of education. Many suggestions were made in the editorial of your October issue which can be more fully developed by the chapters conversant with local conditions.

But I wish to speak of the second difficulty—the failure of architects to meet competition—for in the correction of this trouble are quicker and surer rewards.

Why is it that the contractors get the business? Because they are better salesmen, better business men, and solve their problems in a more practical way. They operate on common sense and they work in three dimensions. They can discuss intelligently with a prospective builder the economies of plans, the relative merits of different types of construction, the rental situation, insurance, the business outlook and the political situation. They are short on theory and long on experience. True, they seldom have a developed artistic sense but the qualities they have bring them to an understanding with the intensely practical people with whom they are dealing.

In the west there is a widespread feeling that architects are "theoretical" and "artistic," which terms, defined, mean impractical and unbalanced. Certainly the men of that profession do not command the confidence they should. Until this is remedied there will be little improvement in the architect's bank account or the city's beauty.

Sometimes a first impression is worth more than much later consideration. At any rate on my first arrival at the school of architecture the emphasis

laid on rendering struck me as all out of proportion to the other values of the problem. After all, I thought, it is the building itself that is really going to count, and an architect said to me the other day, "The really big architects of the country are great because they *build* fine buildings, not because they *draw* them."

When I had bonds to sell the most efficient method I ever found to prepare a sales argument was to sell the security to myself. I can't help but wonder if the same system wouldn't work for an architectural problem.

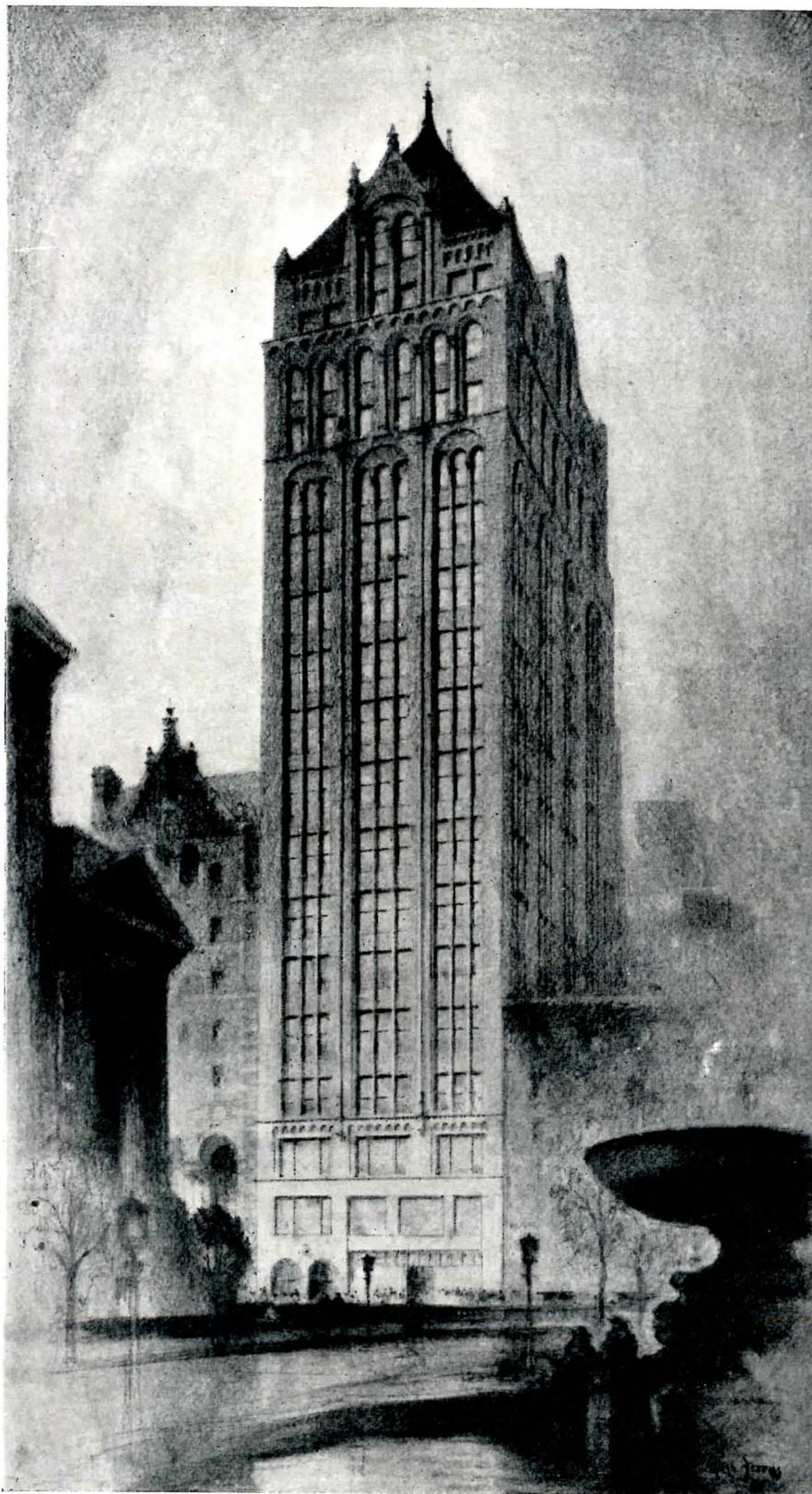
The essence of architecture is beauty, and no true architect will argue otherwise. Yet in this age he must conform to the conditions imposed, which are invariably a most practical clientele and the hardest kind of competition, from alert, shrewd and competent, if not artistic, builders. This clientele is quick to appreciate a good building. Last summer the manager of the Montgomery Ward Co. plant in St. Paul showed me their new building with evident pride. "We are doing more business, and doing it cheaper," he said, "because of the splendid layout we have."

To gain the needed confidence of the public it is my belief that the architectural profession must make a fair-minded and searching study of its own faults, of the competition it faces, of the clientele it must reach, and trim its sails accordingly.

CHRISTMAS GREETING

*A*N UNUSUALLY close relation of friendliness and co-operation has always existed between the readers and the publishers of PENCIL POINTS—a relation that has grown out of the hearty response to our announced purpose to publish PENCIL POINTS with rather than for our readers.

*It is with a deep appreciation of this relation that we wish you
A MERRY CHRISTMAS*



RENDERING BY HUGH FERRISS
NUMBER TWENTY-FOUR WEST FORTIETH STREET, NEW YORK CITY
ELY JACQUES KAHN, ARCHITECT.

On the other side of this sheet is reproduced a rendering by Hugh Ferriss, presenting the building for Twenty-four West Fortieth Street of which Ely Jacques Kahn is the architect. This is interesting from the standpoint of technique because it conveys the definite idea of the building required by architect's clients usually, and at the same time it is free from the hardness of treatment found so often in presentation drawings.



Edward C Caswell
Anderer, Switzerland

PENCIL DRAWING BY EDWARD C. CASWELL

On the other side of this sheet is reproduced one of the many admirable pencil sketches made by Edward C. Caswell during his travels in Europe last summer. While most of his sketches were made in Spain, this one shows a Swiss scene and the style of treatment is different from that of the Spanish sketches, in harmony with the character of the subject.

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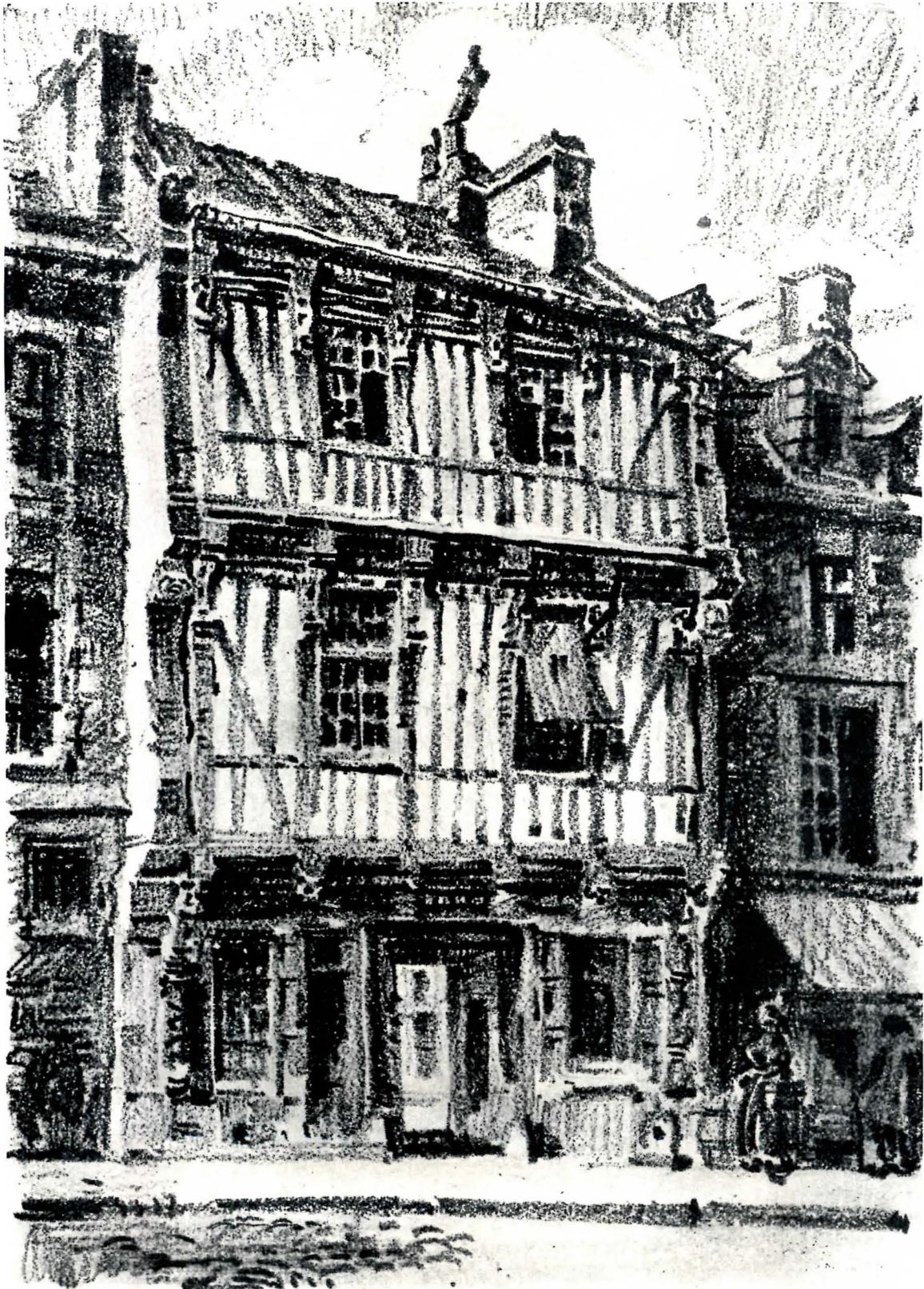
PLATE XLVII



Courtesy of Emil Hansel.

WOOD BLOCK PRINT IN COLOR BY HANS FRANK

The wood block print reproduced on the other side of this sheet is notable for its excellence of composition in line, mass and tone. The coloring which is necessarily lost in our reproduction is also well handled, hills of deep blue against a sky of lighter blue and in the foreground an area of olive tawney colored grass from which the snow has been blown away.



LITHOGRAPHIC SKETCH BY GEORGE D. CONNER, BAYEUX.

A drawing in lithographic pencil by George D. Conner that is characteristic of his manner in its strength and breadth of treatment is reproduced on the other side of this sheet. The subject is one of the most interesting old houses in Europe.



THE ETCHING OF GREETING CARDS

BY TROY KINNEY

GREETING cards are the busy person's means of letting his friends know they are not forgotten, though seen only semi-centennially. Etched by the sender, the greeting card has the desirable "personal flavor." It is also a Frankenstein.

Start the practice of sending out your own etched greetings and you keep it up for life. Skip a round, and your friends openly scold or act aloof and hurt. Moreover a fellow puts off starting his New Year's plate till the evening of December 23rd; the plate promptly gets itself into the almost-but-never-quite-finished state, and obstinately sticks right there for two weeks. But in time you get used to being behind time, so in the long run the greeting card idea is probably good.

The editor commands me to tell you how these little plates can be made easily. If there is any way to put anything on copper easily, yet decently, I want to know it. One solution was found by Van Magonigle. After I'd thoroughly educated him in the technique of copper he started an annual series of New Year cards which he cuts delightfully on linoleum. What is the corollary? I don't know.

Certain it is that etching requires more equipment than is justified by any other than professional work. If one must etch greetings, therefore, my suggestion would be not to etch them at all, but dry-point them. Using the word in its exact sense, etching gives you complete freedom of line, whereas

dry-point does not until you have become well acquainted with your tools. Etching ground, though tough, does not perceptibly resist the movement of the needle, and the point of the needle is dulled enough not to scratch the copper. So you can scribble and sweep and accent as freely as though you were drawing lines in the air; and the strength of this or that line is not dependent on pressure, but is determined by the length of time it is subjected to the action of the acid. But the laying of a ground is not easy for most etchers. After the plate is chemically clean, there is dust to think of. If there is a speck of dust in the room while your ground is still melted on the plate, that speck settles on your plate, where the nose of the figure is going to be. And the acid promptly gets through the embedded dust speck, making a large, deep, false bite. That's why I suggest dry-pointing unless people are skillful at laying grounds, or so situated that they can clean out all the dust in the room, and hang up wet sheets to catch what's left after that. Moreover, etching requires a supply of acids, trays and other requisites that take up more room than can be spared in these bins locally known as "studios" and "apartments."

Dry-point, on the other hand, is simple. To get lines into copper is no trick at all. The job is to get them out. To get them in, use any kind of a point—a pocket knife will do it. The knife type of point throws up a strong bur, which prints very black. You can reduce or eliminate the bur in ways that I'll go into after I've explained a little more about points.

Note—The etchings for greeting cards by Troy Kinney shown in connection with this article are reproduced at the exact size of the originals.—EDITOR.

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While the knife point is mentioned to instance the ease with which lines can be cut, it may be added that a point of that sort is of great practical use for emphasizing blacks where you want them, just before you finish up. But the points you will use most, because of their comparative freedom of stroke, are conical pointed. The wider the angle, the greater the freedom. A very acute point, applied with any considerable pressure, digs into the metal and resists, or bucks, when you change direction of stroke. Forty-five degrees or so, gives a good printing line. Much more obtuse than that runs the risk of a line that will print "watery" or "rotten." Both freedom of movement and good printing quality are helped by applying the needle perpendicular to the plate. Except where you want burs, it is developed by working diagonally to the plate.

Diamond points cost money and—so far as I can see—are no better than steel in any respect except that they require sharpening. Steel has the advantage that you can shape the point to suit yourself. Lines will soon begin to tell you what treatment they want, and an interesting part of the game is to shape your three or four points accordingly. Every dry-pointer develops his own tools for free lines, deep lines, broad or delicate lines, and so on. The occasional need of lines without bur has produced various forms of pyramidal points—developed by long experimenting. Strang put such a point on the market; but most dry-pointers keep them locked in a burglar-proof vault. But method really doesn't matter. Rembrandt's proofs show frequent marks of the graver, as is common knowledge; even to marks of sandpaper pressed on in spots to give body to a tint. You can find where various artists have used all kinds of points to make lines and dots. The difficulty is not to get them in, but to modify them and get them out.

Bur is reduced by a scraper or a burnisher. The scraper is in effect a miniature three-edged dagger. The burnisher is a rounded bar of polished steel. Be careful to keep loose minute flakes of copper from getting under your burnisher; they scratch the plate. A little drop of oil on the burnisher tends to keep it from digging or roughing the copper.

Mistakes can be avoided by attempting nothing or by being omniscient. Otherwise you will have lines to take out and wholly or partly execute over again. The means of taking out all but deep lines are (a) the water-of-Ayre stone, or snake stone, and (b) charcoal prepared for the purpose to re-

duce the scratches left by the stone. The original polish is restored by metal polish applied with a polishing felt. I use Solarine metal polish because it does not etch or scratch.

The stone and charcoal are applied with plenty of water. It is convenient to do this work near a hydrant, so as to rinse off the muck frequently and assure yourself that you're not taking off too much. If a line is too deep, this is the way to reduce it. If you want to save certain points that establish the drawing, deepen them from time to time as the undesirable lines wear away.

Now, this wearing down leaves a depression. If the depression is too abrupt, it is going to retain ink when the plate is wiped. When the dirty little spot is cleared of ink, it is practically impossible not to clean it too much, so that it prints whiter than the prevailing tone of the proof. The thing to do, therefore, if you must take out a detail surrounded by work that you want to save, is to beat the offending detail out into relief, and eliminate it by scraping down to flush. To "beat out" take a pair of calipers, close them down with one point close over the line to be removed, the other point almost touching the back of the plate. You now doubtless anticipate. With the visible point follow the line, bearing upward strongly enough to make the lower point scratch into the back of the plate. That scratch is your guide for "beating out."

The tools are a punch, hammer and anvil. An anvil is anything solid, flat and smooth; a flatiron will do. Put two layers of blotting paper between the face of the plate and the anvil, to give the copper a cushion to sink into where you beat it. The end of the punch, if too wide, bends the plate; 1-16-inch is about right. Heavy strokes of the hammer also bend the plate instead of pushing it out at one point. Many light strokes, with frequent inspections, is the trick. When the line seems sufficiently raised, cut off the ridge with your scraper. Use a slicing stroke, and before it's down flush with the plate give it a few wipes with stone, then finish with charcoal and metal polish.

Keep your scraper sharp. *Sharp!*

After all, the mechanics are the least of it. You will quickly find a happy way to record all you know about quality of line. Conversely, there is no magic in the intaglio line. It will yield no more than its author knows and feels. Composition is the main thing, as in everything else. The better the composition the better the etching. Some of the supremely skillful etchings of the past are little



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more than technical demonstrations. The masterpieces reveal an initial thought motivating a man who, sometimes almost clumsily, invented means of getting his lines and spots into the metal.

Architects, by virtue of education and practice, are familiar with clean-cut pattern, and clean-cut pattern is one of the things that copper lends itself to cheerfully. Tonality is a study all by itself and its rendering on copper requires great experience and usually a lot of indirect work. Architects beginning to etch therefore usually chose tonal subjects. You will save yourself considerable wear and tear by getting past the ravages of the tone bacillus as soon as possible.

I say copper. Zinc is cheaper by an invisible margin, and some people profess (doubtless sincerely) to like it. It is softer, and cuts more readily than copper, which after all cuts readily enough. But it does not "beat out" as neatly as copper; it is difficult to polish after you've roughed it up with charcoal; its bur (if you try to avail yourself of it) will hardly stand half a dozen impressions. The ideal copper for dry-pointing is hand hammered; not hard, but very tough; but it is practically impossible to get. So I use pure Calumet copper, rolled. (The alloyed is harder and more brittle.) This is supplied by William H. Snyder & Co. I understand the American Steel and Copper Plate Co. are also satisfactory to deal with.

Scrapers and burnishers are handled by John Sellers Sons. For points I use lithographer's needles from the Senefelder Lithographic Supply Co. Cheap, just the right texture of steel, and I shape them to suit myself. (A small grindstone is desirable, and an oil stone is essential.) You'll need a good glass, about the power of a strong reading glass; see that it does not distort; get it from a good optician. Another item not previously mentioned is a paper screen, to filter the light. The lines in a plate are most easily seen in a glance-light. But a direct light glancing from the plate is dazzling, which in turn makes the lines difficult to see. We therefore stretch tracing paper or tracing lines over a canvas stretcher or other frame, and rig this up on the drawing table close up to the window and see your plate perfectly. As you proceed rub a little ink (softened with glycerine) into the lines, and you'll see them easily.



Charcoal, especially prepared for polishing, snake stone or water-of-Ayre stone and polishing felt are sold by William Dixon. If you plan to print many impressions, steel facing is desirable and — despite current superstition — not detrimental: The F. A. Ringler Company are the people for that. If you haven't the time, facilities, knowledge or inclination for printing, Fred Reynolds will take care of you. If you have these attributes plus about \$65.00, the Model Novelty Company will sell you a handy little bench press.

Thinking over the usual questions in regard to the processes that have been mentioned, the most common of

those unanswered probably refers to the means of placing the design on the plate, to start with. Many people trace; either with gelatine or by means of a stylus pressing on paper. To make the former, get sheet gelatine prepared for the purpose and supplied by your artists' materials dealer. Fasten it down over your drawing and trace with a dry-point needle. Scrape away the bur with your scraper. Rub over and into the lines white chalk, or chalk of any color that will show against the ground on the plate; then carefully wipe the surface of the gelatine clean. Thumb tack your plate onto a drawing board and thumb tack the gelatine (lines down) over the plate. A light pressure along the lines by means of burnishers or thumb-nail will transfer the chalk lines onto the plate; the design of course reversing the original drawing, the final print again facing the same way as the drawing. If your design contains lettering this is the way to trace it, so it will come out right in the print.

To trace directly from your drawing, the drawing need only to have been made on fairly soft, thin paper. Rub chalk into the back of the paper, fasten the paper down over the plate, and trace the lines with a stylus. To furnish a slightly adhesive surface to hold powdered chalk, you can pour on a film of liquid etching ground. This too is supplied by Sellers. Doubtless a score of other materials would do as well, but the one mentioned is the one I happen to know and use. After the design is lightly needled in, the ground can be washed off with kerosene or turps. If you trace, it is necessary to avoid the pitfall of spiritless rendering. Establish in the plate very carefully the essential points in your drawing and those only. Then render the rest

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of it, using your careful tracing only as a guide but not as a thing to absolutely duplicate.

Or, you can draw on copper with a 2B or 3B pencil, if you first remove the polish by rubbing the plate lightly with charcoal in water. Afterward you can restore the mirror polish with metal polish. Or not, as you prefer. Some etchers leave the surface given by fine charcoal, as such surface insures a certain amount of "tone" or tint. *Chacun à son gout.*

It is a question if printing can be described intelligibly, especially if the explanation is brief. Hamerton is the standard on the processes of etching, printing included. The best way to learn, of course, is by observation of and explanations by a capable printer. However, here goes, synoptically.

George Wix supplies ink: plate ink, it's called. Warm your plate, meantime spreading out a spoonful of ink on a flat slab—plate glass for instance. Dab the ink up on a dabber, and with this dabber dab it onto the plate and into the lines, covering everything.

Now, in parenthesis, a dabber is a ball, cloth covered and springy, three or four inches in diameter. For the center, take a wad of curled hair; surround that with a covering of cotton, thick enough to keep the hairs from jabbing through. Cover the whole with soft cloth, such as a piece of printing blanket, tying the cloth on. Between times of use, cover it with vaseline, so it won't harden, and tissue paper to keep grit from settling on it.

Your plate is covered with ink, and warm—not too hot to touch. To wipe it, take a smooth-faced wad of tarleton, or mosquito netting, from which you have previously massaged and shaken out the starch and which you have slightly "dirtied" with ink, so it will not be so absorbent as to lick the ink out of the lines. Your job is to get the ink off the surface of the plate while leaving the lines fully charged.

Wipe the plate 'round and 'round, not bearing any more than you can help. Picture the mesh of the cloth skinning the ink off the surface, and know that bearing down will "rob" the lines.

When you've taken up enough to "foul" your rag, so it will take up no more, possibly the plate will not yet be clean enough. If not, go at it

again with your second rag. It is impossible since 1914 to get the most desirable kind. The same material is usually employed for the second rag as the first. Make the wad the same way as the first (avoiding folds or edges on the wiping face) and slightly "dirty" it, as you did the first. The second rag will probably bring the plate to as "clean" a wipe as you'll want. If not, give it a hand wipe. Dirty the heel of your hand in ink, dip it into jeweler's chalk, dust off all the chalk that will readily come off, and wipe lightly, briskly across the plate, *not bearing down*. If you do you'll "rot" your lines. If a proof shows your lines watery or rotten, the fault is likely to be due to having wiped the plate while too hot.

The paper must be wet through, but not have water on the surface. Treatments are of infinite variety. This explanation is sufficient: sponge the paper, or if it is very hard-sized, soak it. Then brush the surface water off with a clean clothes brush of soft bristles, 2 x 6 inches is big enough, looking across the plate toward the window, getting a glance-light on it. You can tell after a few attempts whether the surface is right or not.

Again a parenthesis, this time about paper. Plate printing paper, typically, is hand-made line, not stiffly sized or even (in some varieties) not sized at all. Whatman just about attains to my ideal. H. Reeve Angel & Co. are Whatman's American representative; ask for Pale Antique, or Antique, plate printing paper. Or, if you want something

already at hand your Whatman water color paper will take a nice impression if sufficiently soaked. It is heavily sized, and may swim in the bath tub several hours without any harm. Still better,—if you are going to print an edition—cut your paper to the size you want, drag them through water and stack them evenly on a piece of glass. Put another glass on top of the stack, weigh it slightly, and put a damp cloth over all to keep the edges from drying. In 24 hours (or less, if it's soft) the paper is in fine condition for printing; perhaps requiring just a bit of brushing.

A great variety of Dutch and Italian papers are handled by The Japan Paper Co. Papers have various properties: to "pick up" tint to the limit; to do full justice



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to an aquatint or a mezzotint; and so on through a list of distinctions both real and imaginary. Try specimen swaps with other people. There used to be an "artistic" fashion of printing on thin, soft, and altogether flimsy Japan. The fashion has passed, as it ought to have before it started. Which makes it unnecessary for me to say anything about that particular kind of paper. I know of no other kind made for the purpose that isn't at least fairly satisfactory.

Retroussage is a process of at once strengthening and "warming" lines, after the wiping of the plate is complete. Take a wad of soft, clean cheesecloth. When your plate has rewarmed on your heater, pass the cloth lightly over the plate, very lightly and slowly, with a motion of twisting back and forth as your hand travels. What it is and why it is nobody knows; but properly done it adds immensely to the "etching quality" of lines.

On your press you have (ordinarily) three felt blankets, made for the purpose. (Louis Gehlert.) A smooth comparatively thin one, the "face." A thick springy one next, and last the "back"—also comparatively thin. I usually test the pressure before I start, by means of running a blank plate through, with a paper of the thickness I am preparing to use. Get a good deep impress, not enough

to tear the paper at the edges of the plate, and have your pressure equal on both sides. Plates are bevelled so as to permit a good pressure without cutting the paper or blankets.

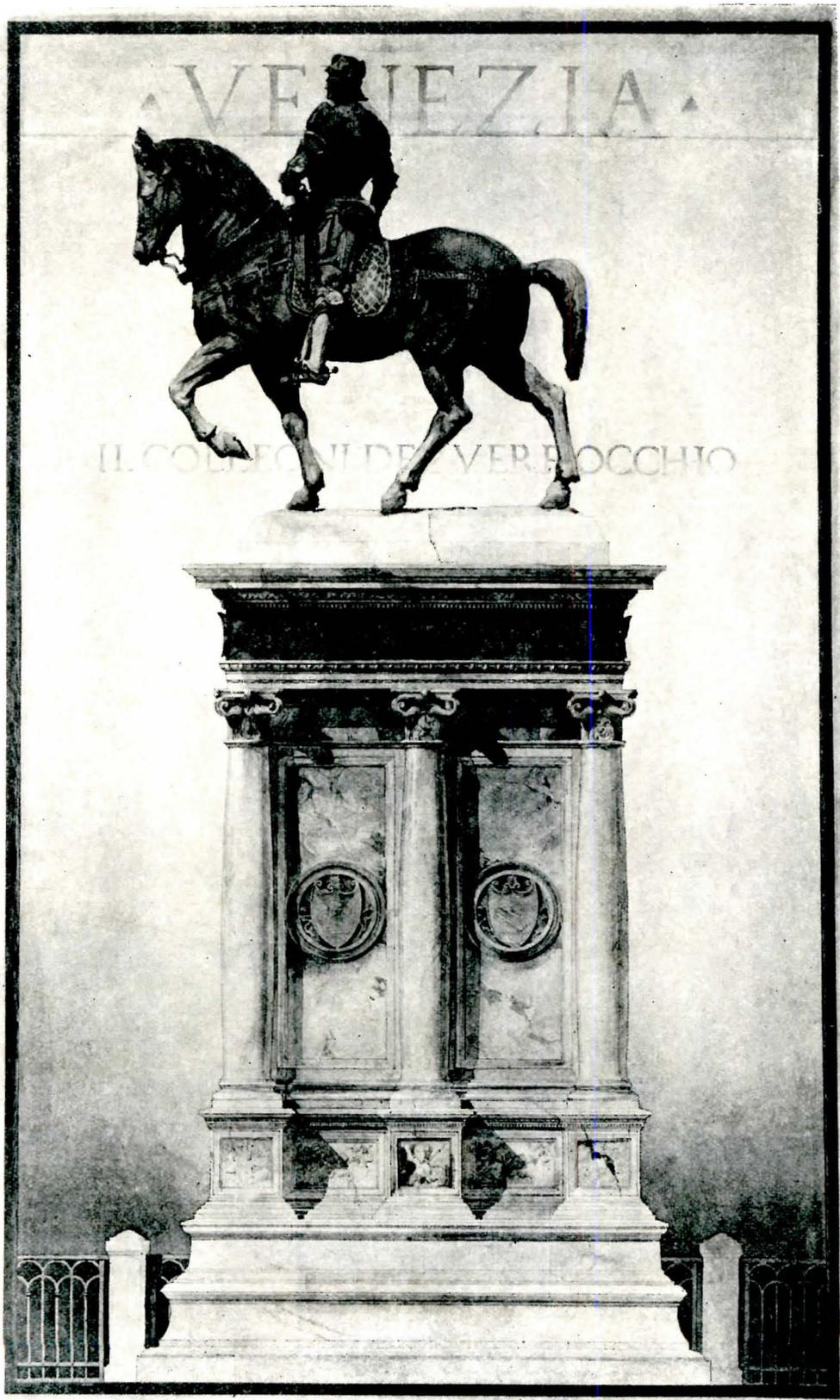
How warm to have the plate when you print is always a question to be settled by the character of the work and the effect desired. Pull through slowly, and tack out your proof while it's still damp.

Then take a look at it and either (a) congratulate yourself or (b) earnestly kick yourself that it isn't better.

Note—For the convenience of our readers we give below the addresses of those mentioned by Mr. Kinney in this article from whom supplies and equipment may be obtained and of Mr. Fred Reynolds to whom many etchers send their plates for printing. Wm. H. Sellers & Co., 67 Spring St., New York; American Steel and Copper Plate Co., 132 Nassau St., New York; John Sellers Sons, 75 Warren St., New York; Senefelder Lithographic Supply Co., 32 Greene St., New York; William Dixon, 119 Fulton St., New York; F. A. Ringler Co., 39 Barclay St., New York; Fred Reynolds, 17 E. 14th St., New York; Model Novelty Co., 42 W. 39th St., New York; Chas. Wix & Co., 45 Vesey St., New York; H. Reeve Angel & Co., 7 Spruce St., New York; The Japan Paper Co., 109 E. 31st St., New York; Louis Gehlert, 204 E. 18th St., New York.—
EDITOR.



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Measured Drawing by John Russell Pope. Colleoni Monument, Venice, Italy.

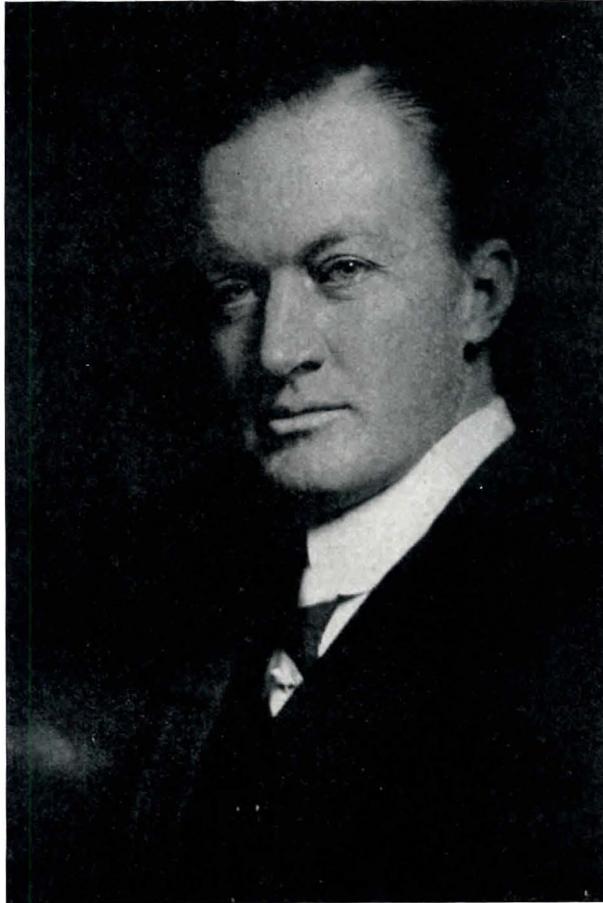
MASTER DRAFTSMEN, VIII

JOHN RUSSELL POPE

WHEN, in 1895, John Russell Pope, then a student at Columbia College, "killed two birds with one stone" by winning the "McKim Roman Scholarship"—as it was then called—and the Columbia Fellowship in Architecture with one design for "A Bank for Savings" he drew the attention of all American students of architecture by the good classical quality of his design and the scholarly style of his drawing and rendering. The prevailing style of architectural design in the United States at that time was still influenced by the "picturesque" character of medievalist designers. The program to which Mr. Pope worked was also used for the Rotch Scholarship, won that year by Henry B. Pennell of Boston, and for the University of Pennsylvania Travelling Scholarship, won by Percy Ash of Philadelphia. The three designs were far apart in conception, in architectural style and presentation. Mr. Pennell adopted an ornate renaissance style employing a dome with low drum and lantern; Mr. Ash a somewhat Florentine type, also renaissance in character. Mr. Pennell presented a brilliant water color perspective; Mr. Ash rather ignored presentation; while Mr. Pope presented his elevation and plan in the style of an *envoi de Rome* of a French *Grand Prix pensionnaire*. The design showed some influence of the Fine Arts Building at the Chicago World's Fair, which was produced by, or under Charles Atwood, with the help of Alexander Sandier—a pupil of Emile Bénard, of Havre, to whose *Grand Prix* design for a Fine Arts Building the original qualities and composition of the Chicago building were easily traceable. Mr. Pope's design also bore unmistakable evidence of the influence of the classical work of Bruce Price in whose office Mr. Pope was employed.

Pope was a very serious, unusually painstaking young student and the studies which he carried on

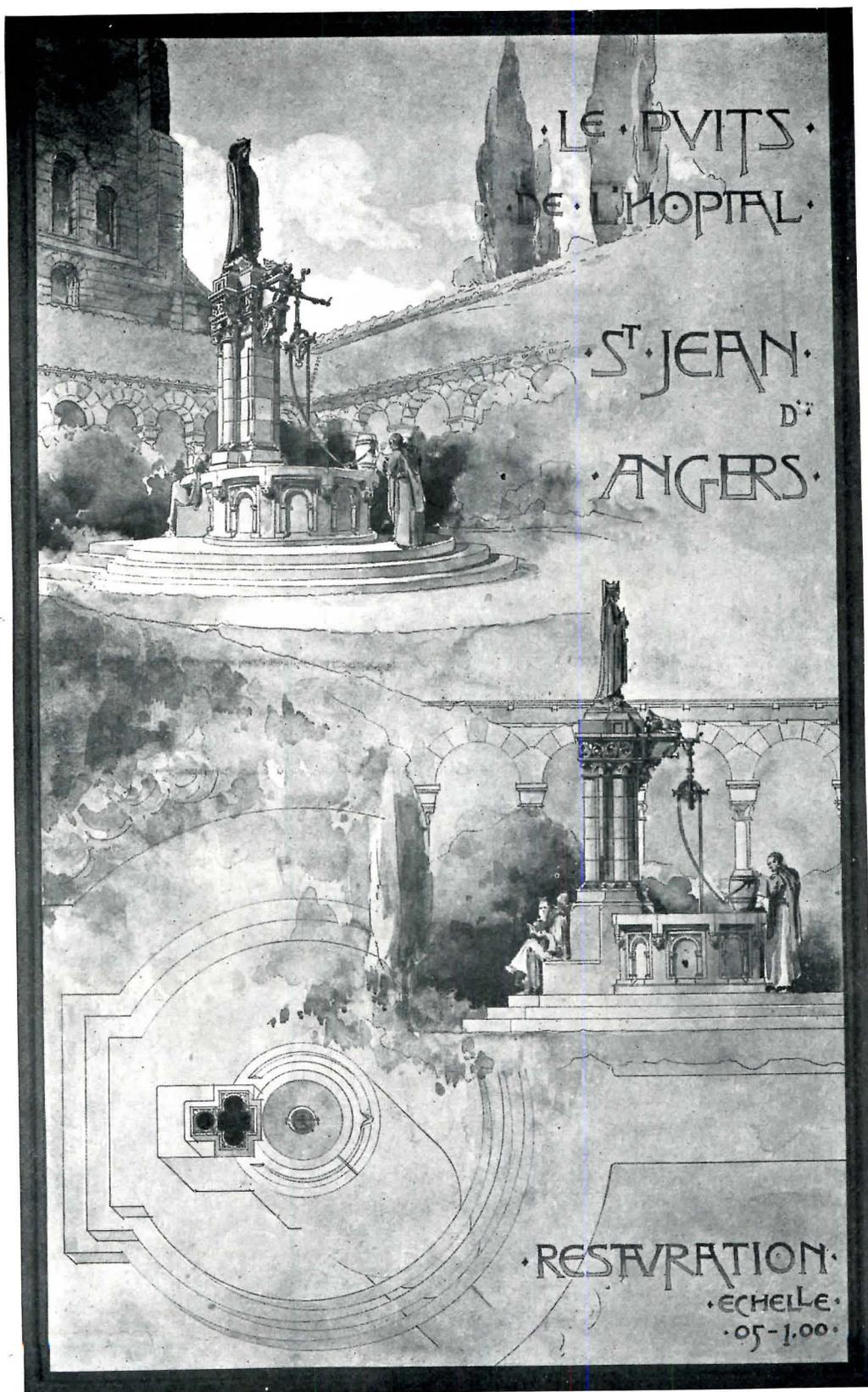
in Greece and Italy, as represented by a number of splendidly finished "restorations" (or drawings made from existing buildings and fragments) sent back to Columbia College, bore an imprint of thoroughness of study and original investigation, that cannot be said to be characteristic of the work



John Russell Pope.

of many American travelling scholars. I have, spread out before me, as I write, ten sheets of his drawings made at the site of the Erechtheum and one or two other buildings on the Acropolis. They are drawn on sheets 22 x 30 inches. All of the mouldings are marked off at quarter inch distances and numbered. The full size profiles were drawn with the aid of an apparatus, fashioned by Mr. Pope, that consisted of a folding drawing board and level with an extension T-square. One end was pointed to follow the actual profile of the moulding, the other end of the extension pointed to register on the drawing board every quarter of an inch. These drawings have the unusual merit of being perfectly accurate, so correctly made that they would do credit to a watch maker for fineness and so fine that I fear reduction to the page size of this magazine may

prove an impossible task for the process engraver. In spite of mechanical exactitude they are pleasing to the eye. There is an ease of movement of the free hand line through every one of the finely marked off points that shows a perfect grasp of the form of each complete outline in the eye as well as the hand of the draftsman. These drawings do not correspond in all respects with other restorations but as they were made for Mr. Pope's own subsequent use in practical application of Classic precedent, they probably have proved a valuable check to him upon other available restorations. An interesting point is observed in connection with the abacus of the caps of the small Doric order of the Propylaea. They have an inward batter of 3-16 of an inch in



Measured Drawing by John Russell Pope. Restoration of the Well at the Hospital of St. Jean d' Angers.

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8 1-8 inches of height—something which, if it is well known has, at least hitherto, escaped what the writer believed to be his close study of many such restorations.

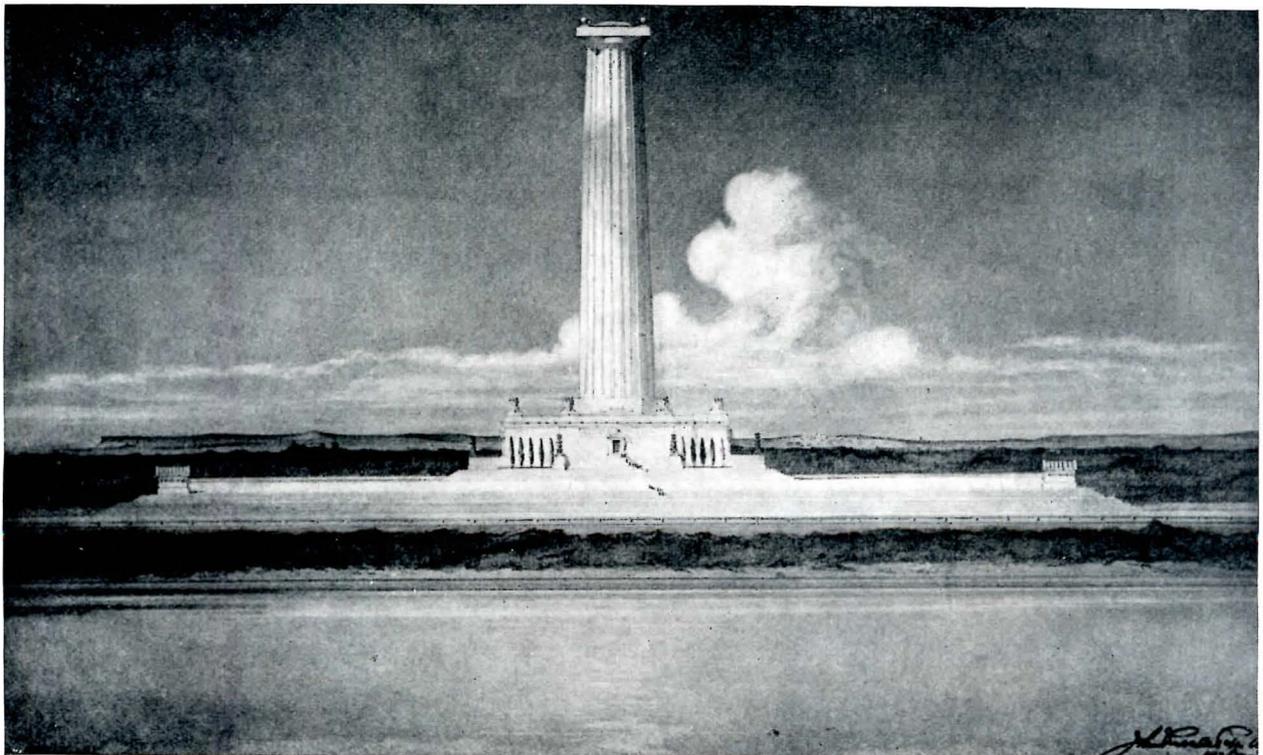
Pope's method of learning a subject did not end with merely sketching it. But while observing it from every angle he actually measured and drew the entire building in the field and made notes of material, texture and color—a method that involved effort, preparation and permits. The use of ladders and instruments and climbing upon the old monuments of France and Italy seldom meets with popular approval. When Mr. Pope was making the drawing of Verrochio's Colleoni, which is a large water color, other difficulties were encountered. In most representations of this monument the splendid forward action of the sculptured group that impresses one in the original is lacking. The position of the horse in relation to the pedestal is not rightly shown. After Mr. Pope had spent a week or more on the measurements and drawing he sought an additional check measurement. He attached a plumb-line to the ear of the horse, drew it down over the nose and definitely checked the point in question. Onlookers, however, did not apparently appreciate the seriousness of his endeavor, for a well-aimed ripe fig landed in the center of the drawing and a near-riot resulted. The drawing was rescued from a canal after things had calmed down.

Mr. Pope's drawings of Italian architecture are mainly in pencil. Few have been published and fewer can be reproduced due to the fine technique and wear and discoloration of the paper. They

are drawn with a light but sure touch and in the instances where color has been used and fixing of the line by the water has taken place they appear to have been drawn with a 60-H pencil—or perhaps one of those instruments with which doctors commit vaccinations!—and the representation is found chiefly in the washes. While Mr. Pope made his water colors rather as color notes than for the purpose of pictorial effect, the excellence of his sense of color reproduces the feeling of the original buildings vividly to anyone who has seen them; and one feels that the field of painting has lost something by the fact that Mr. Pope has been busy with a practice in architecture sufficiently extensive to prevent any continuous application to work in color or seek expression through the painter's media. Among his color studies the sketches of the interiors of Orvieto Cathedral and The Palazzo Vecchio at Florence possess the qualities of excellent color and a spirited technique that mark them with distinction. His drawing of the tower of Pistoia Cathedral is as charming as that beautiful tower itself—to me the finest of all the towers of Italy. One might visit many large exhibitions of water colors to find a single drawing as rich and subtle in color as this, and with all that a valuable architectural document as well.

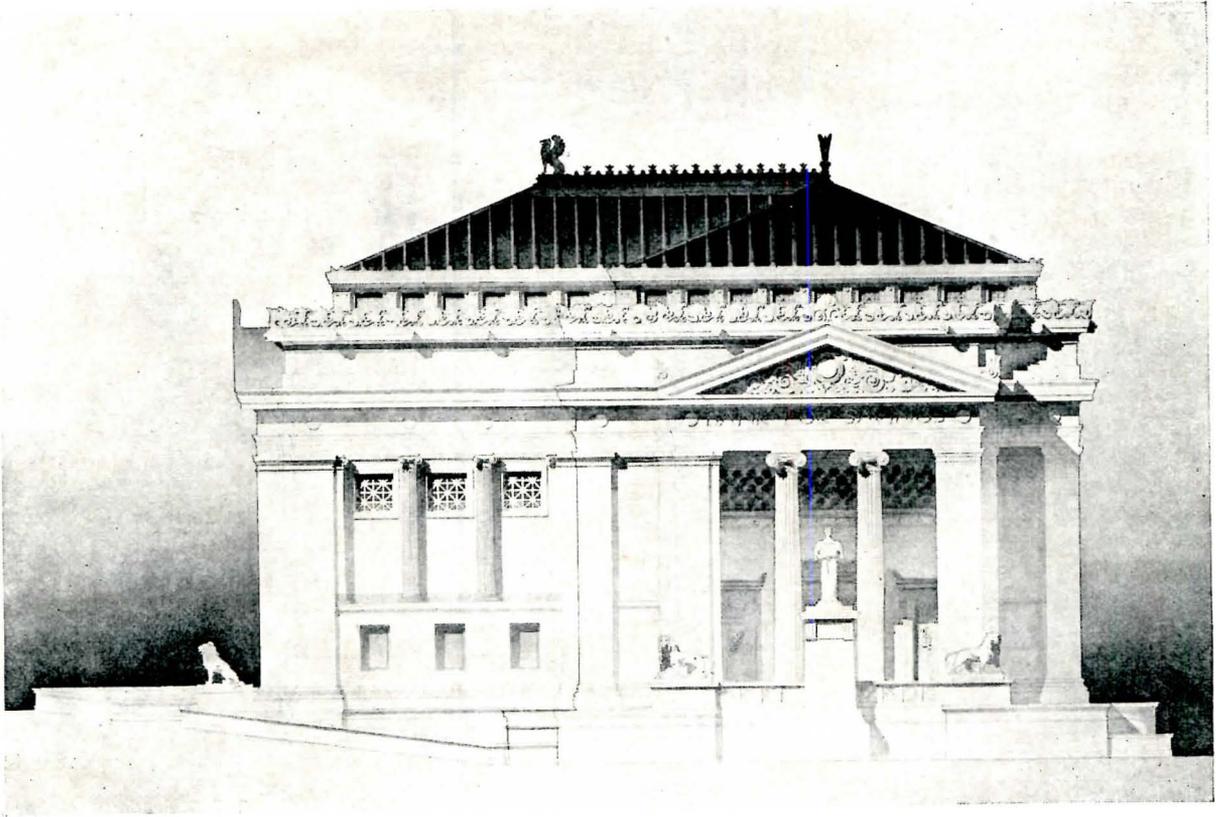
Mr. Pope's work as a student at the Ecole des Beaux Arts, where he was a pupil of Mr. Deglane, was noted for the brilliant, spontaneous presentation of his designs—especially in the sketch problems which call forth the expression of the imagina-

(Continued on Page 90)

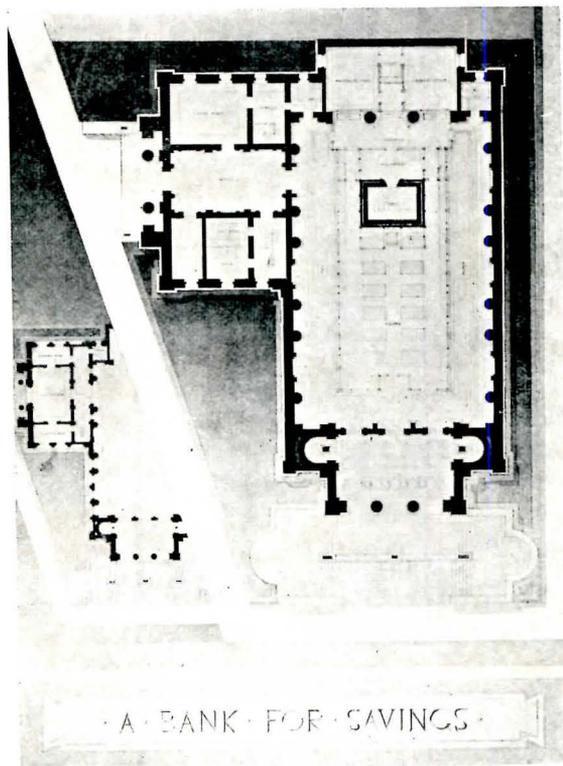


Successful Competitive Design, Monument of the Great Lakes. Drawing by John Russell Pope, Architect.

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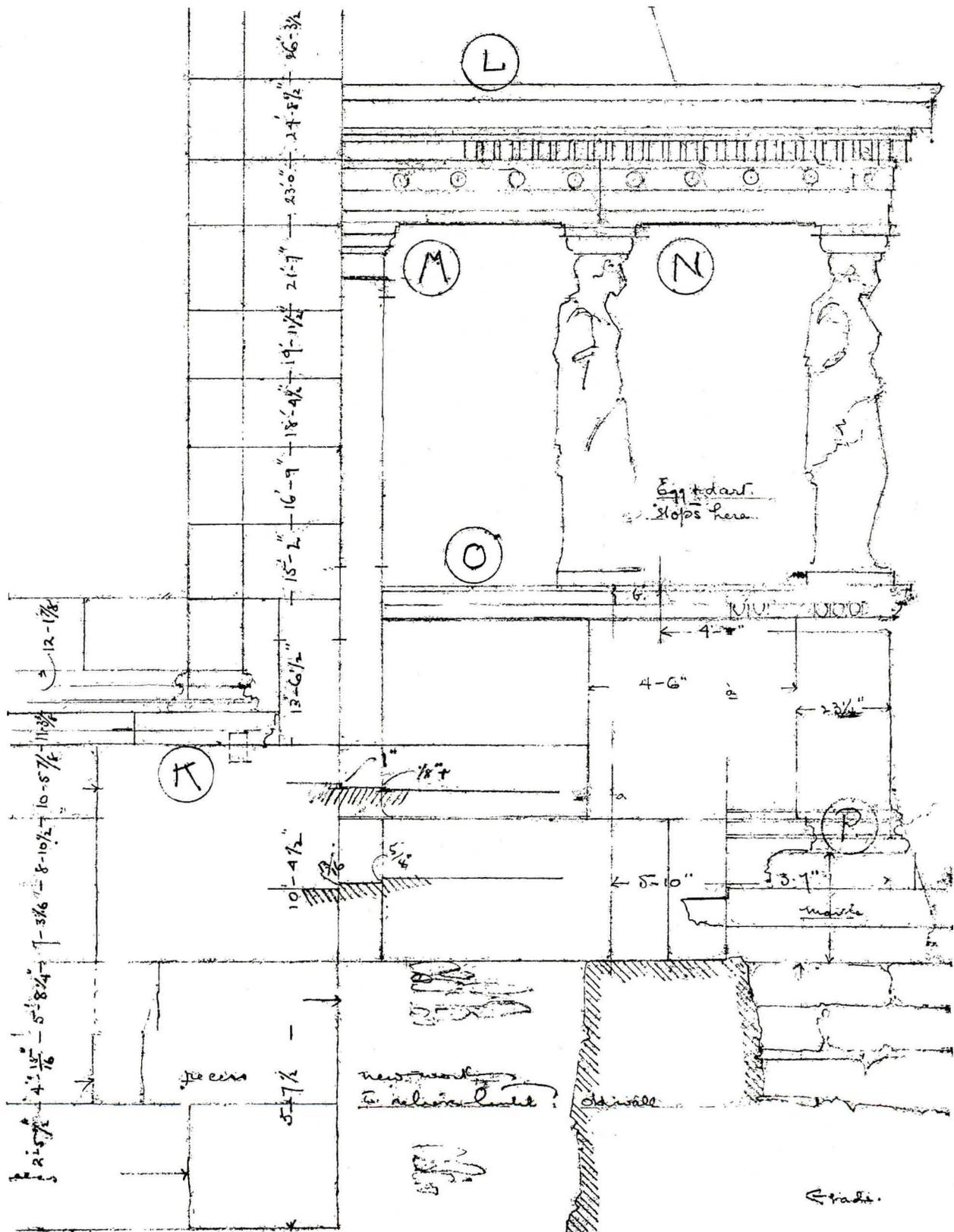


A Bank for Savings.



A Bank for Savings. Winning Design for the McKim Roman Scholarship and the Columbia College Fellowship in Architecture, by John Russell Pope, 1895.

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Portion of Drawing of Erechtheum Details. Drawn by John Russell Pope.

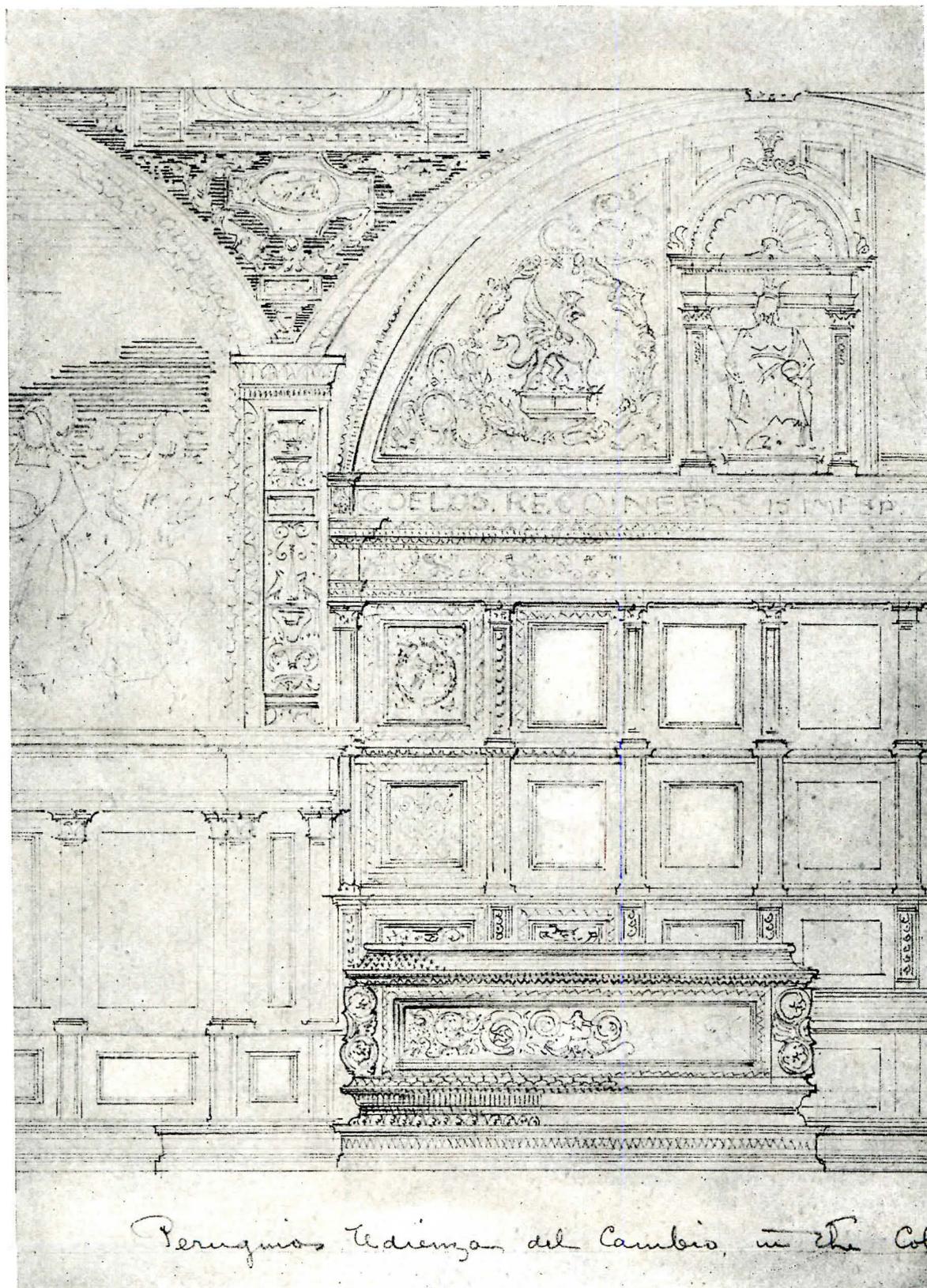
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Ravenna
Tomb of Dante
Drawn by Seale
John Russell P.

Tomb of Dante, Ravenna. Drawn by John Russell Pope.

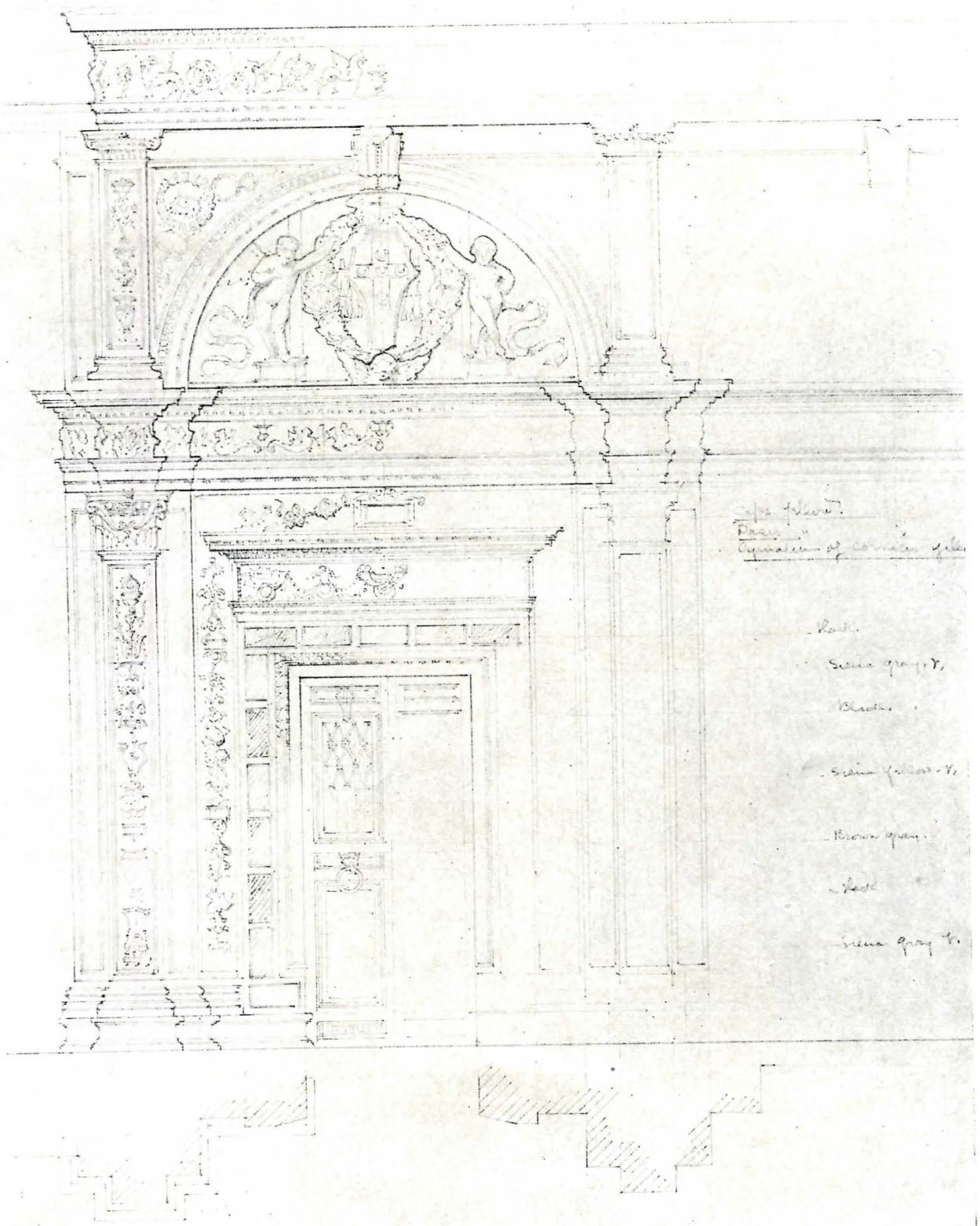
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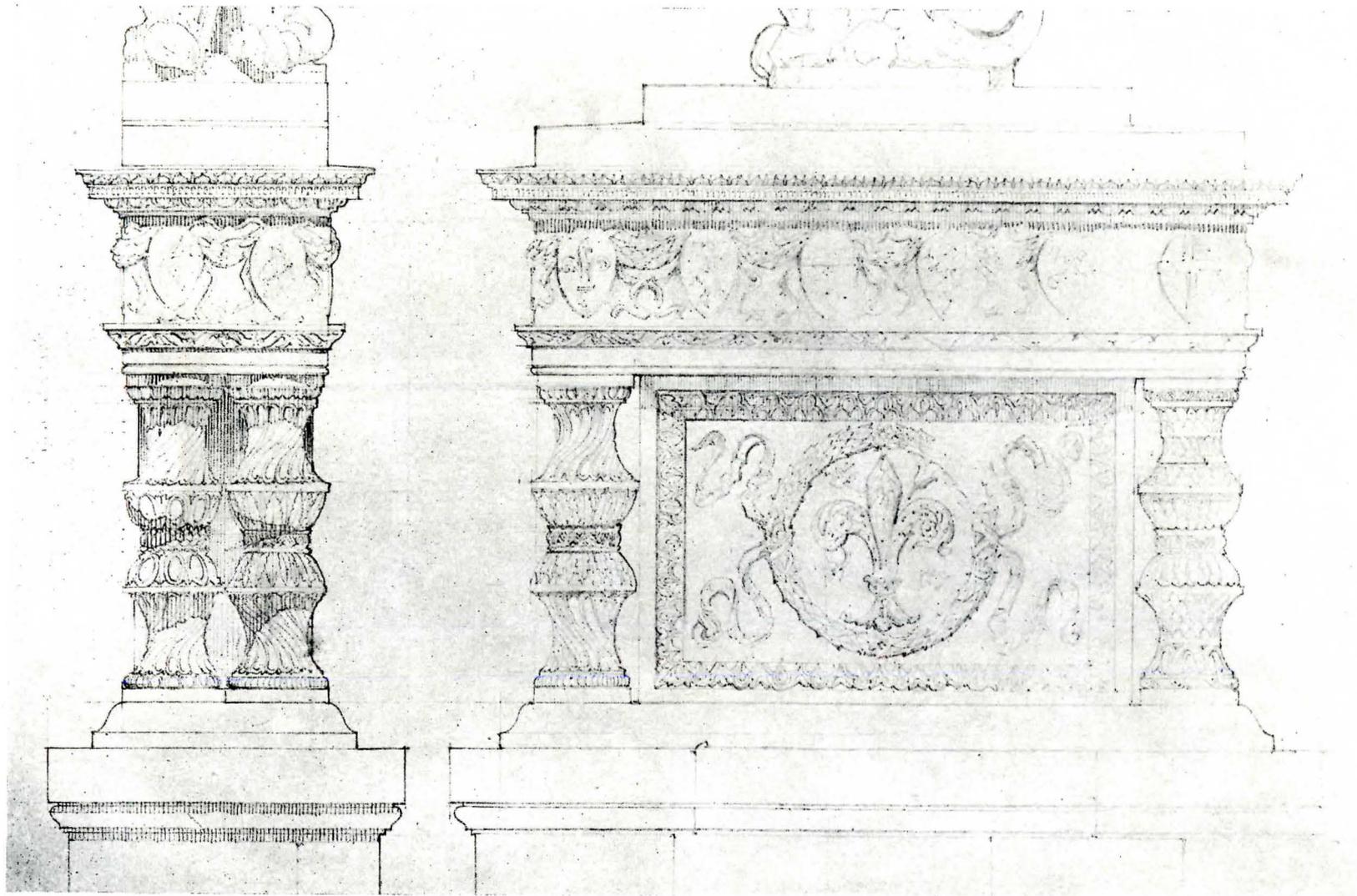
Peruginos Udienza del Cambio, in the Col

Peruginos Udienza del Cambio, in the Collegio del Cambio, Perugia. Wood Work by Dom. del Tasso, 1490-93. Drawn to scale, $\frac{3}{8}$ "=1 foot. Aug. 22, '96. Portion reproduced at exact size original drawing.

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Siena Cathedral, Entrance to Library. Drawn to Scale $\frac{3}{4}$ "=1 foot. John Russell Pope. Reproduced at exact size of original drawing.



Il Marzocco "Donatello," Florence. Drawn to Scale 1"=1 foot. John Russell Pope. Reproduced at exact size of original drawing.

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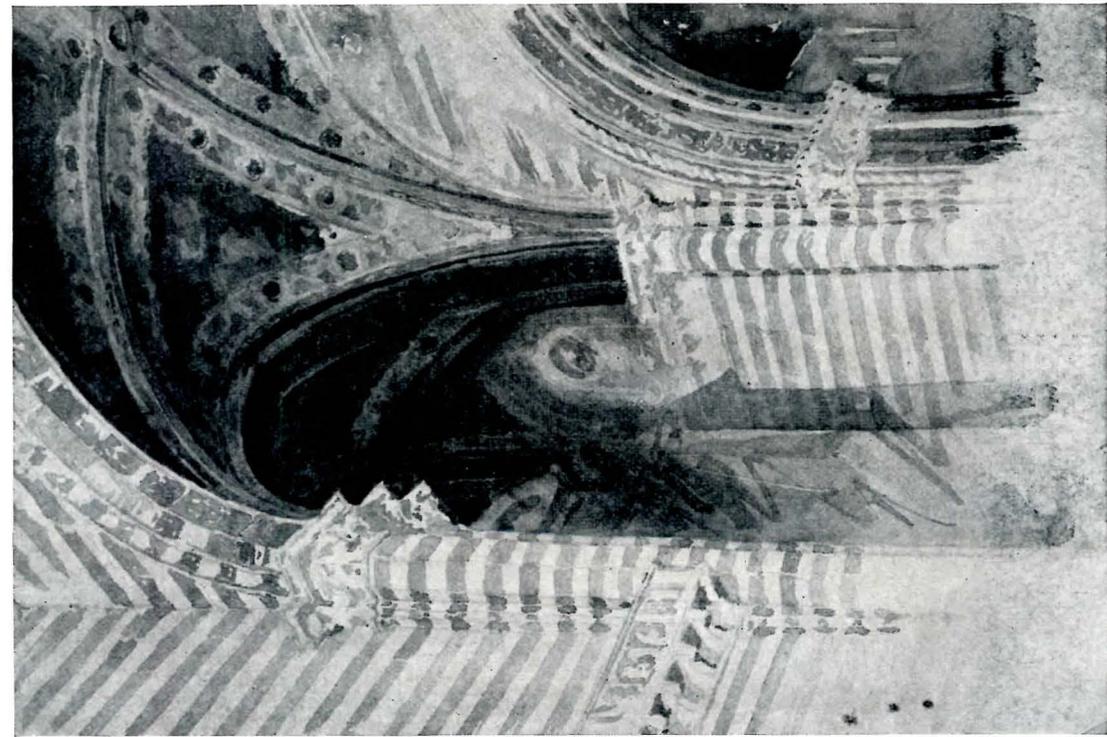


Sketch Design for Residence by John Russell Pope.

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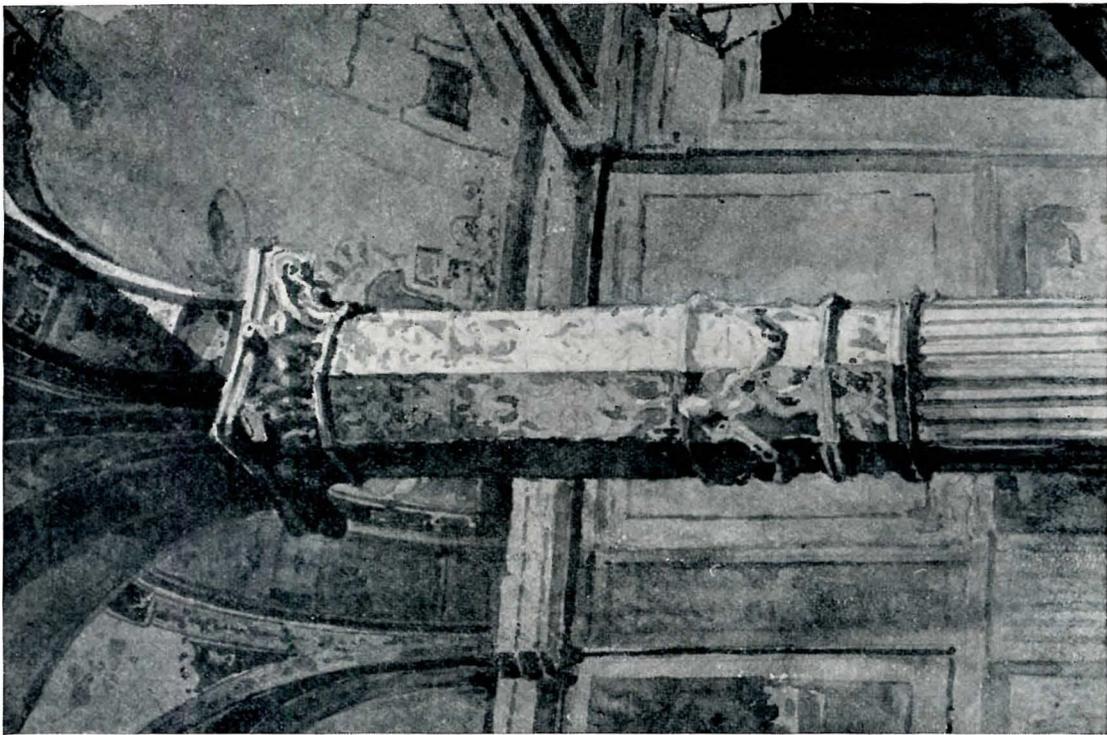


Sketch Design for Residence by John Russell Pope.



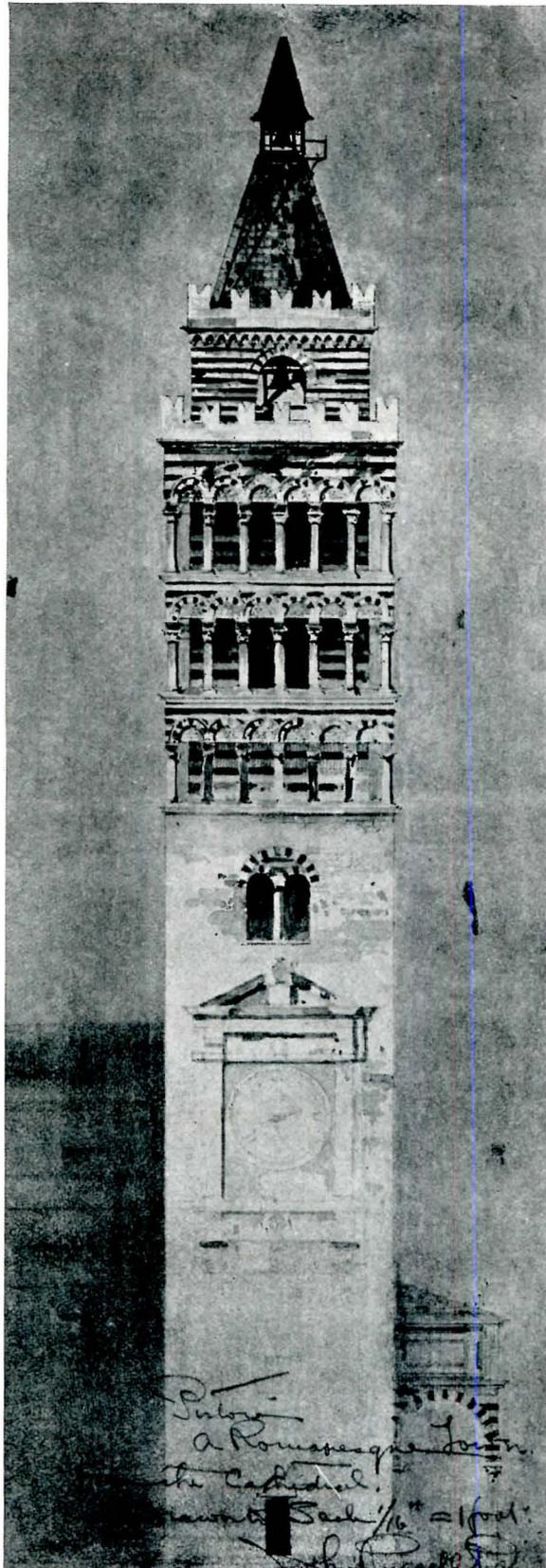
Cathedral at Orvieto.

Water Color Studies by John Russell Pope.



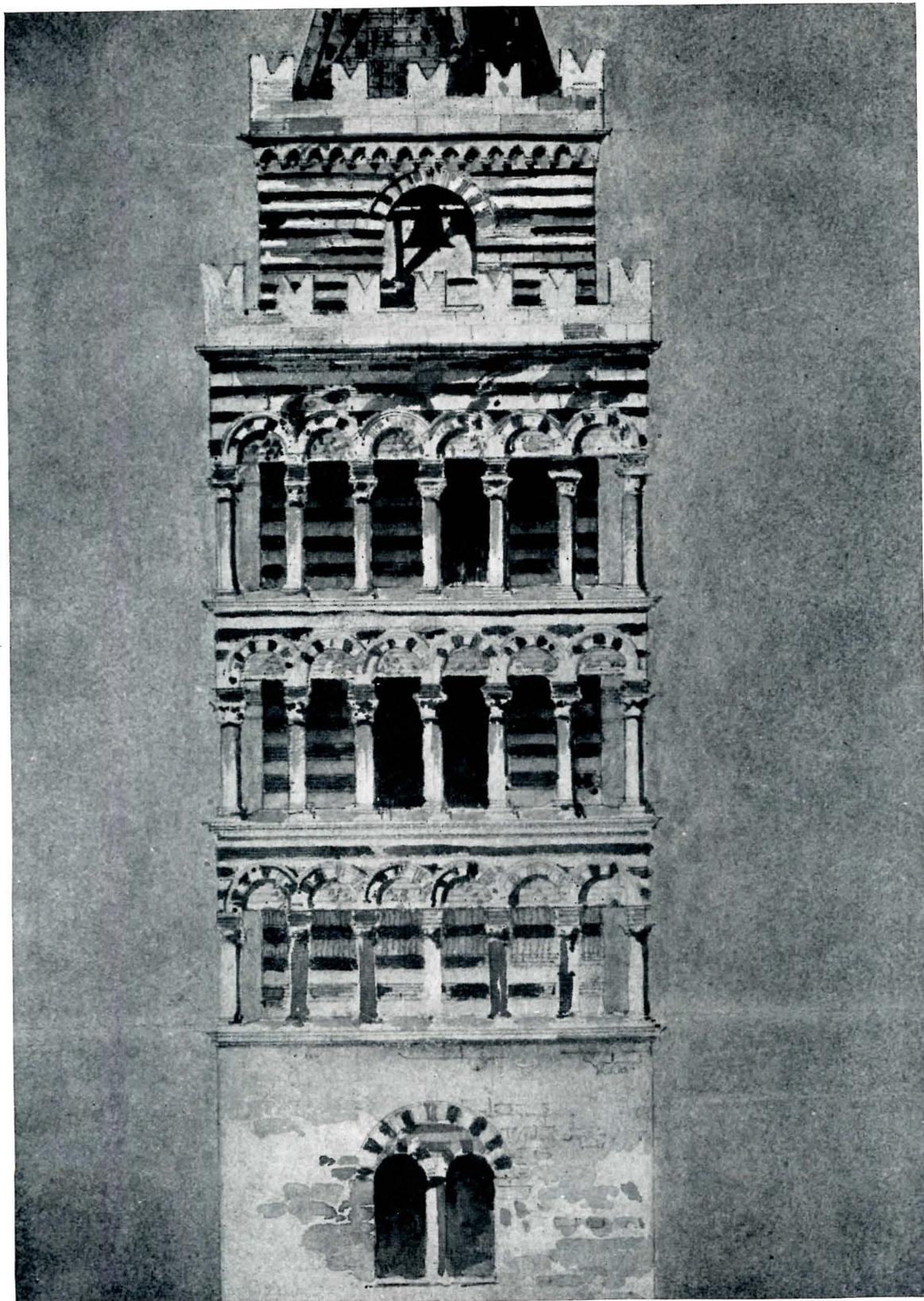
Palazzo Vecchio, Florence.

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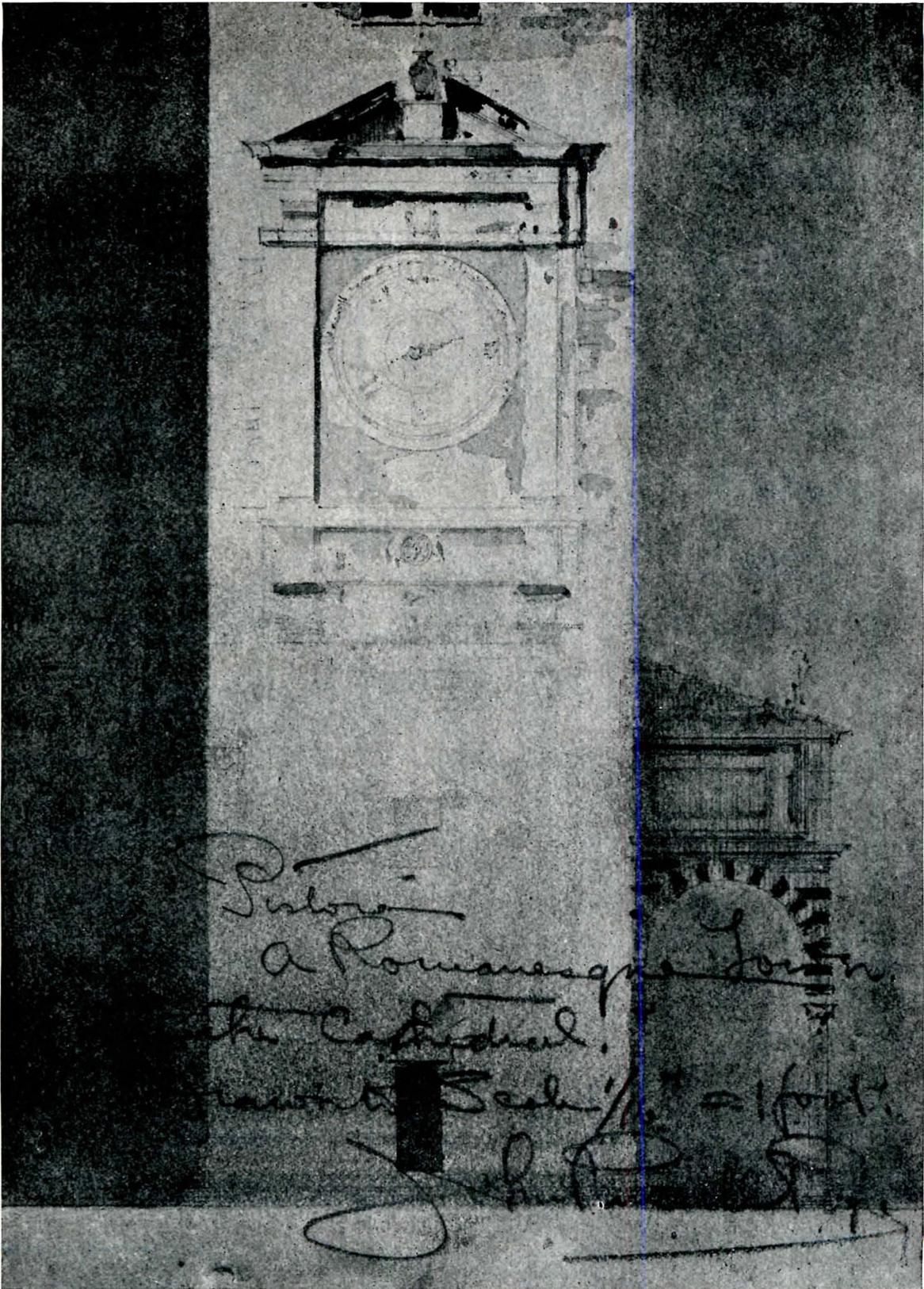
*Pistoia, a Romanesque Tower. Drawn
by John Russell Pope.*

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Portion of the Drawing of Romanesque Tower at Pistoia by John Russell Pope. Reproduced at the Exact Size of the Original Drawing. Scale 1-16"=1 foot.

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Portion of the Drawing of Romanesque Tower at Pistoia, by John Russell Pope. Reproduced at Exact Size of Original Drawing. Scale 1-16"=1 foot.

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THE AMERICAN ACADEMY IN ROME

FROM letters recently received by C. Grant LaFarge, Secretary of the American Academy in Rome, from Frank P. Fairbanks, of the School of Fine Arts, we quote the following items:

"The School of Fine Arts starts the year with a registration of twenty-two men, ten of whom are visitors or visiting students. Five additional rooms are available this year for scholarship holders because of a readjustment in the service quarters of the Academy.

"All but two of the Fellows of the Academy are in residence. Meyer, second year sculptor, has been to the States where he underwent an operation that requires him to omit work for a time. He has been sight-seeing since his return to Europe and will return to Rome the early part of November. Bradford, second year painter, is experiencing conflicting emotions in his travels in Spain."

"Of the senior men, Marceau, architect, is taking a detail of the exterior embellishment of the Pal. Montalvo in Florence, and is making a replica in scraff, Stevens, sculptor, is carving reliefs in marble and laying up his third year group of two adult figures and a child. Floegel, painter, has just recovered from a painful injury to his right eye, due to a spatter of lime which kept him quiet under treatment for several days. He is making over two fresco panels of life size figures unsatisfactory to him in his first essay.

"The second year architect, Deam, has returned from an extensive travel and is drawing up a monument to Leonardo Bruni, in the church of S. Croce in Florence.

"Newton, landscape architect, has laid out a plan and two sections of the Villa Medici in Florence, part of his required work. He has collected a variety of interesting garden details during his travels this summer.

"The first year men are dividing their time between sight-seeing, language lessons and work in their studio. Camden, sculptor, is modelling some heads, and Finley, painter, is beginning some trials in encaustic painting. Douglas, architect, is busy. All three men are showing eagerness to profit by their opportunities.

"Both Thompson and Watts, composers, are in residence.

"The new men to enroll this year are Horace Farnham Colby, sculptor, on a Fellowship from Cornell University, Otto F. Cerny, Architect, on the Le Brun Scholarship and Frederick Eiseman, Architect, on a Travelling Scholarship from the Chicago Architectural Club."

And from a letter from Tenney Frank, Professor in Charge, School of Classical Studies, the following:

"The School of Classical Studies has opened what promises to be an interesting year with William A. Merrill as the annual professor, Professor Van Buren remaining at his usual post, nineteen good students taking full work, and the government of Rome opening a vigorous campaign of excavations in the Augustan Forum. This dig, undertaken at last according to Corrado Ricci's long published plans, should, at the present rate of work, lay bare the whole floor of the Forum including the foundations of the temple of Mars Ultor before next summer. As is well known Professor Ricci expects to make important discoveries.

"The weather has permitted us to make an unusually detailed study of Rome and the neighboring towns. Professor Van Buren has conducted his usual Campagna excursions on Saturdays, while Professor Curtis and I have each given ten mornings to the survey of Roman monuments. Professor Merrill has now begun his lectures and exercises in Martial (thrice weekly), and presently Professor Van Buren will begin his six museum lectures on Sculpture."

SAN FRANCISCO ARCHITECTURAL CLUB

MEMBERS of the San Francisco Architectural Club are busily engaged in rehearsing their parts for the annual Hi-Jinks, which will be held next month. Felix Raymand, Chairman of the Committee in charge, reports satisfactory progress in arrangements for the affair. Sorosis Hall, on Sutter St., has been secured for the affair. The event will be staged on the evening of Saturday, Dec. 13th, 1924. Tickets are being distributed to the members and their friends.

To the members of the Club and their friends who have had the privilege of attending the past Hi-Jinks of the Club, which are held at the close of each year as a climax to the season's activities, there come fond recollections of a happy and an enjoyable evening replete with many surprises in the way of entertainment, and good things to eat. According to reports from the Committee in charge this season, there is every reason to believe that the affair this year will be equally as successful and enjoyable as the ones of preceding years.

Under the title of "Christmas Follies" will be presented an evening of entertainment, which will be made up of a number of acts, plays, specialties, musical numbers, etc. One of the events of the evening will be a musical comedy written, arranged and staged by one of the Club members.

The various parts are all taken by Club Members, and according to the progress being made in rehearsals, it bids fair to become a masterpiece of the terpsichorean and vocalistic arts.

There is also promised some surprise numbers, which will be looked forward to with a great deal of interest, and which of necessity can only be hinted to at present.

The Club members and their friends are looking forward to the affair with a great deal of pleasurable anticipation, and the committee in charge promise that they will not be disappointed.

THE ARCHITECTURAL BOWLING LEAGUE OF NEW YORK

STARTING with this month's issue of PENCIL POINTS, the Executive Committee of the Architectural Bowling League of New York will release for publication a series of letters received from prominent architects in this city in which they give their own personal views on the work we are doing towards organizing an Architectural Club. These letters will be published in the order in which the Secretary received them.

It is with a feeling of pride as well as pleasure that we announce the following endorsement from that great dean of architecture Mr. Thomas Hastings. (I might add by way of explanation that the invitation which Mr. Hastings refers to was an informal gathering of public spirited men who saw the great possibilities in such a club. The dinner was purely spontaneous and, as Mr. Hastings says in his letter, was given on extremely short notice.)

August 26th, 1924

Dear Mr. Valentine:

Referring to our meeting of this morning, I am writing

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to tell you how sorry I am that because of so short a notice I will be unable to be present at your meeting tonight. I am heartily in sympathy with the work you have in mind and the object of your club, and I feel sure that it will be of untold benefit both to draughtsmen and practicing architects alike. As I said to you, there should be some way by which men in such a club can find their place with practicing architects or that practicing architects can find the men they want. The social benefits of such a club also appeal to me and I hope that you will see your way clear as regards educational work to work hand in hand with the Beaux-Arts Institute of Design. I am convinced that they would welcome you to co-operate with them at any time.

Please do not hesitate to call upon me if there is anything which you can think of to help you in this proposed organization and believe me with kindest regards,

Very sincerely yours,
(Signed) THOMAS HASTINGS.

A very interesting letter from Mr. Whitney Warren will appear in the January issue of PENCIL POINTS. Mr. Warren as we all know is devoting his entire career to the creation of monumental buildings and has done more perhaps than any other single architect towards beautifying the Metropolitan District of this great city.

The first three games of the series with the Architectural Bowling League of Detroit, Michigan will be rolled off Tuesday evening, December second at the Hotel Shelton. Our first team under the management of Mr. M. L. J. Scheffer will bowl a dummy team, judges to be appointed by the hotel. The games will start promptly at 8:00-9:00 and 10:00 p. m., respectively, Eastern Standard time, which will correspond to 7:00-8:00 and 9:00 p. m., Detroit time. Scores will be exchanged by telegraph at the end of each game and a copy of the games complete will be mailed the following day. The second tournament of the series will be held Tuesday evening, January sixth at the same hours. Mr. Scheffer is now booking games with other amateur teams averaging about 700 and any who are interested should get in touch with him at No. 367 Lexington Avenue, N. Y. City.

Our official schedule and year book for the season of 1924-1925 is just off the press and will be mailed free of charge to any bona fide architectural club on written request.

Referring to an article in the November issue of PENCIL POINTS page ninety-five, paragraph two, line six, "Activities of radical obstructions" should read "activities of radical obstructionists."

N. T. VALENTINE,
Hotel Shelton, New York City. Secretary

PERSONALS

DOYLE AND MERRIAM, ARCHITECTS AND ENGINEERS, have removed their offices to 1408 Smith Building, Seattle, Washington.

KOEHL AND DI NARDO, ARCHITECTS, have removed their offices to 1720 Euclid Avenue, Cleveland, O.

KOERNER ENGINEERING Co. have removed their offices to 908 Syndicate Trust Bldg., St. Louis, Mo.

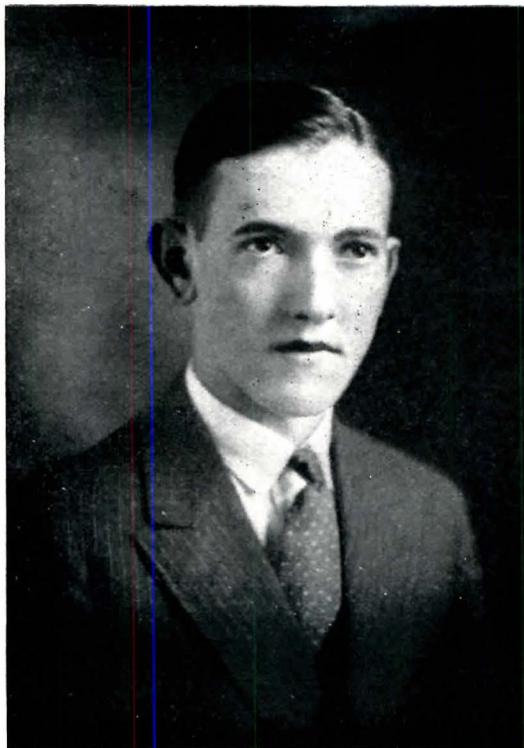
LORENZO HAMILTON, ARCHITECT, has been appointed an instructor in second year design and sketching in the architectural department of the Yale School of Fine Arts. Mr. Hamilton will maintain his offices at 119 W. Main St., Meriden, Conn.

ELZNER & ANDERSON, ARCHITECTS, have removed their offices to Denton Bldg., Cincinnati, O.

A. C. EDWARDS, ARCHITECT, has removed his offices to 13906 Orinoco Avenue, East Cleveland, Ohio.

VICTOR L. S. HAFNER, ARCHITECT, has returned to America and is now at Room 901, 373 Fourth Ave., New York.

We will pay 25c each for copies of the October, 1924, issue of PENCIL POINTS delivered to this office in good condition, on or before Dec. 20, 1924.



FERDINAND EISEMAN

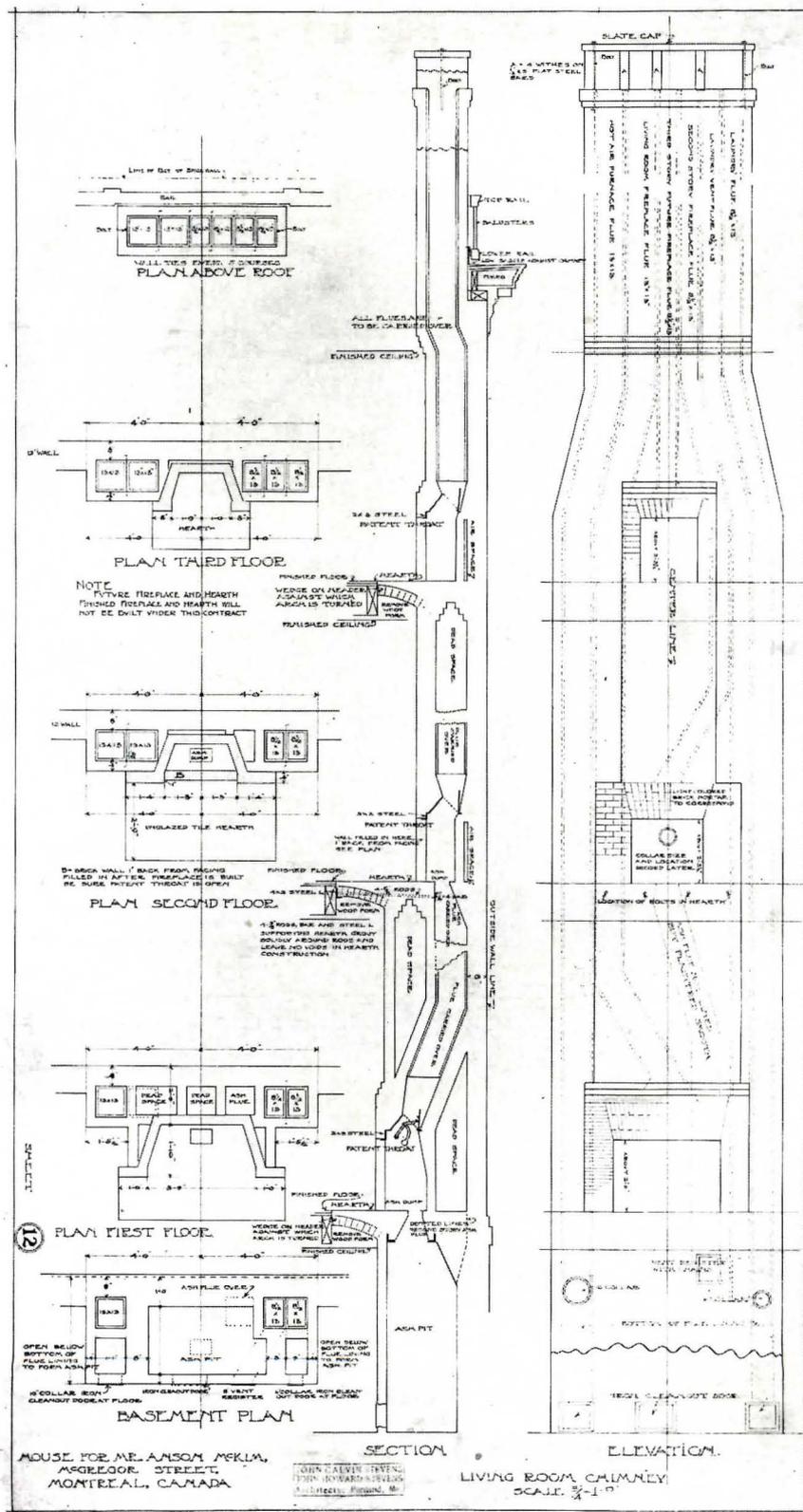
FERDINAND EISEMAN, winner of the Chicago Architectural Club Foreign Traveling Scholarship was born in Chicago, Ill. in 1903. He was educated in the public schools and later attended the Carl Schurz High School where he completed a four year course of study. Following this he entered the office of Schmidt, Garden & Martin where he remained a year and a half. From this office he entered the office of Holabird & Roche and then the office of David Adler & Robert Work. At the time of his winning the Traveling Scholarship he had been with the firm of David Adler & Robert Work about a year. He has steadily advanced.

During all this time, Mr. Eiseman was actively engaged in doing problems in the Atelier, "after office hours," and his whole architectural schooling has been received in this manner. Early in his Atelier days he showed great interest and earnestness in his work and under the competent aid and guidance of the patron, Mr. Wm. E. Parsons, he made rapid strides forward. He is truly a product of the Chicago Architectural Club Atelier and one of which his fellow members are justly proud. Mr. Eiseman sailed on October 18th for Italy and plans to spend a year abroad continuing his studies.

THE JACOBSON ANNUAL \$1,000 PRIZE COMPETITION

JACOBSON & COMPANY are offering \$1,000 in prizes for a design for the decorative treatment of a theatre auditorium using ornamental plaster of stock design in any combination the designer may choose. The competition is open to everyone excepting professional renderers and architectural decorators maintaining their own offices. Entry to the competition is free. The purpose of the competition is to stimulate a wider interest in the use of ornamental plaster of stock design in interior treatment. The competition closes April 15, 1925. Any competitor who has not access to Jacobson & Company's catalogue may secure same and particulars of the competition by application, on his employer's letterhead, to Jacobson & Company, 241 East 44th St., New York City.

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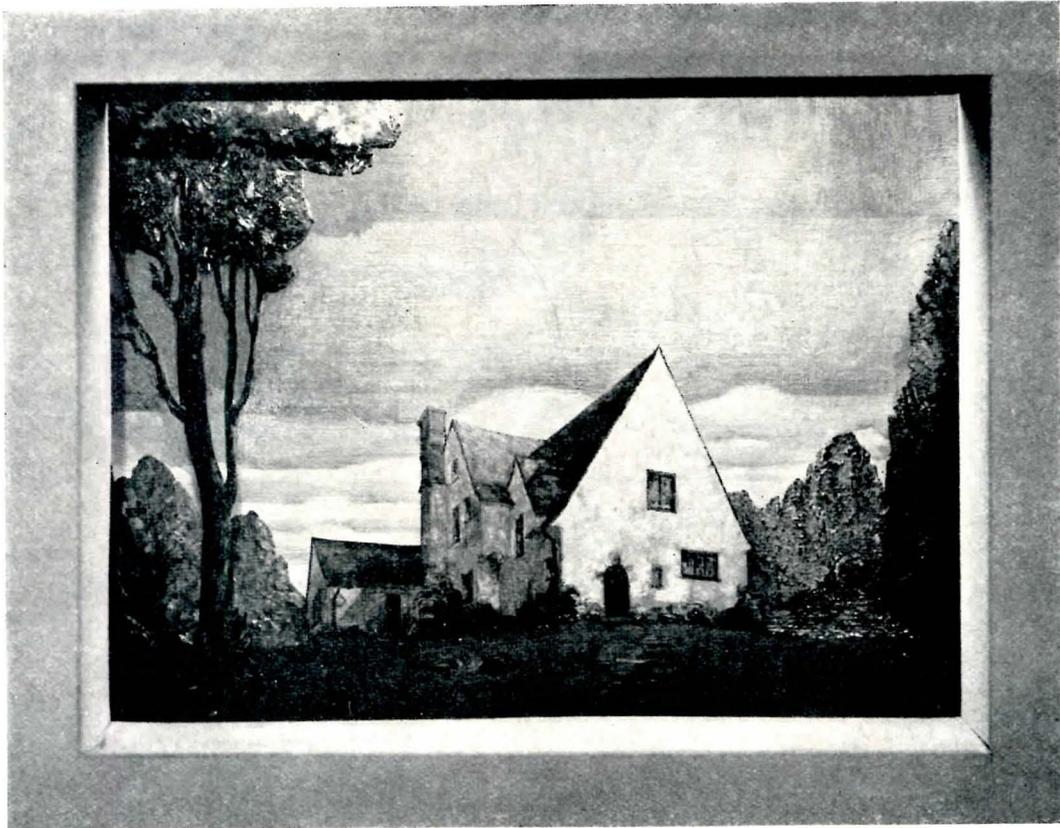
Details of Construction—House for Mr. Anson McKim, Montreal, Canada. John Calvin Stevens, John Howard Stevens, Architects, Portland, Me.



The Organization of Guilbert & Betelle, Architects, Newark, N. J.

James O. Betelle, 1; C. H. Bauer, 2; G. A. C. Behee, 3; C. E. Pearce, 4; P. B. West, 5; R. J. Daly, 6; O. Vogelbach, 7; C. E. Krahrmer, 8; H. C. McMullen, 9; L. C. Main, 10; R. P. Vreeland, 11; S. B. Freeland, 12; H. W. Hewittson, 13; W. J. Bondy, 14; P. J. Franklin, 15; G. Lindsley, 16; J. D. King, 17; A. Sieder, 18; E. H. Yarwood, 19; F. J. Everett, 20; G. T. Forman, 21; R. G. Heinerwald, 22; R. J. Rossi, 23; A. H. Farrow, 24; M. Cadzow, 25; M. Kugelman, 26; G. Throm, 27; M. Swift, 28; T. F. Stark, 29; L. L. Henry, 30; H. E. Stacy, 31; M. Villanueva, 32; W. A. Pieper, 33; E. W. Powers, 34; G. L. Dahl, 35; L. I. Moe, 36; H. D. Schüller, 37; C. M. Reinhardt, 38; L. Kabis, 39; J. Fendrick, 40; H. N. Wells, 41; C. Seeman, 42; J. D. Williams, 43; R. A. Davidson, 44; W. E. Caisse, 45; A. Merchant, 46; C. N. Voorhees, 47; A. F. Pistolese, 48.

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The effective presentation of the design for a small house by Julius Gregory, Architect, shown above is in the form of a scene painted by George Pearce Ennis and display back of a proscenium.

ENGLISH FOR STUDENTS OF ARCHITECTURE

DOES an architect need special training in English? If so, what shall be the contents of the course, and how shall it be taught? Such questions undoubtedly come to the minds of all those in charge of architectural schools and possibly to many professional architects. The question is answered by the Cleveland School of Architecture by a decided affirmative.

The actual instruction is secured by an arrangement with the Department of English at Case School of Applied Science, which is within a five-minute walk of the School of Art where the students in architecture work. A brief description of the course will perhaps be of interest to some, in the belief that instruction in English should emphasize the practical, professional uses of the language, taking for granted the value of a broader literary culture which may be more easily self-taught.

First, there is given considerable drill in the proper definition of words. A long list of architectural terms is assigned in ten-word groups for investigation in the dictionary and for illustration and for use in sentences. The various methods of definition are discussed together with the use of synonyms and the reason for the presence of synonyms. The formation of words with prefixes and suffixes, the combination of two words, the possibilities for new words and the reasons for foreign words are points discussed in connection with this list. Current copies of *PENCIL POINTS* are used as a further source of word study.

Second, attention is paid to the journalistic types of writing, as illustrated in a daily newspaper and in a magazine. The news story and the editorial, and the various forms of analysis such as summary, outline, paraphrase, and review are studied in connection with copies of a daily and of *PENCIL POINTS*. The paragraphing and the sentence structure receive careful attention.

Third, certain more specialized forms are discussed, such as the business letter, the advertisement, the report, and specifications, both as to their theory and their structure. A number of letters designed to meet specific situations are written in class. The task of the writer of advertisements,

primarily as a problem in English, is discussed with the magazine in front of the pupils. The possibilities of the report in its many varied forms are illustrated by copies of printed commercial reports. Almost every issue of *PENCIL POINTS* contains interesting material for specifications and here the problem is as much a difficult one for the teacher as for the student because the approach of the teacher is that of the effectiveness of language and that of the student is the understanding of technical instructions. The harmonizing of these two points of view brings up a good many discussions about words and composition.

A weekly theme is required from each student. This theme is carefully criticized by the instructor and then revised by the student. A brief talk by each student and participation in class discussion offer some practice in oral expression, which is being further supplemented this year by exercises in story telling, reading aloud, and recitation of short passages committed to memory.

By these means we are seeking the cultivation of a facility in the use of English that will be of help to the professional architect.

KARL O. THOMPSON,

Associate Professor of English,
Case School of Applied Science.

PARIS PRIZE FIRST PRELIMINARY COMPETITION.

THE first preliminary competition for the 18th Paris Prize of the Beaux-Arts Society will be held on January 3rd, 1925. The winner of this competition receives \$300 quarterly, for two and one-half years study in Paris, where he is given the privileges of study in the first class of the Ecole des Beaux Arts.

The competition is open to all United States citizens under 27 years of age on July 1, 1925, without any other qualifications. This competition may be taken in any part of the United States. Further information will be furnished on application to the Chairman, at 126 East 75th Street, New York.

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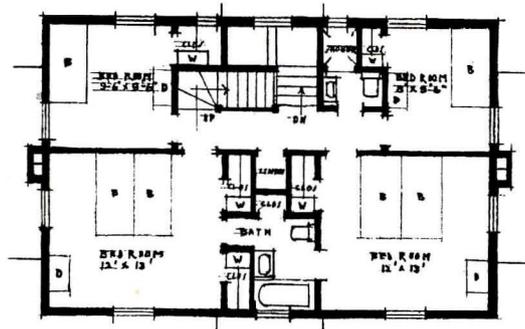
Rendering by Chester B. Price.



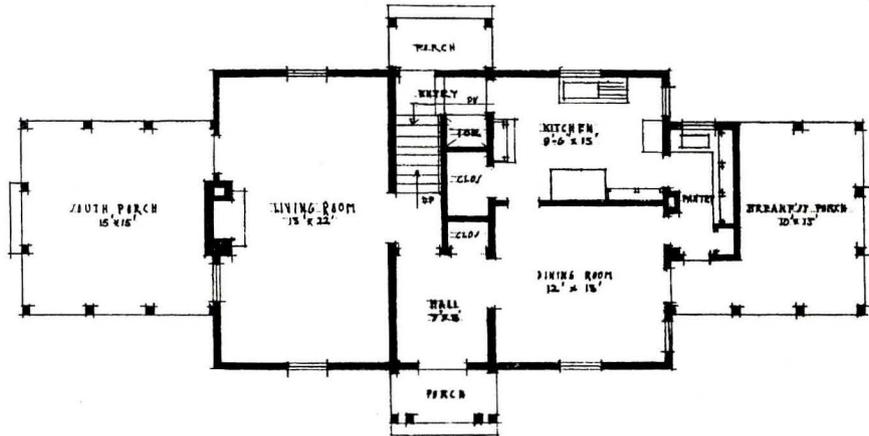
The Wardrobe Closet—A Substitute for the Bureau.

Design for a Small House. Oswald C. Hering, Architect, New York.

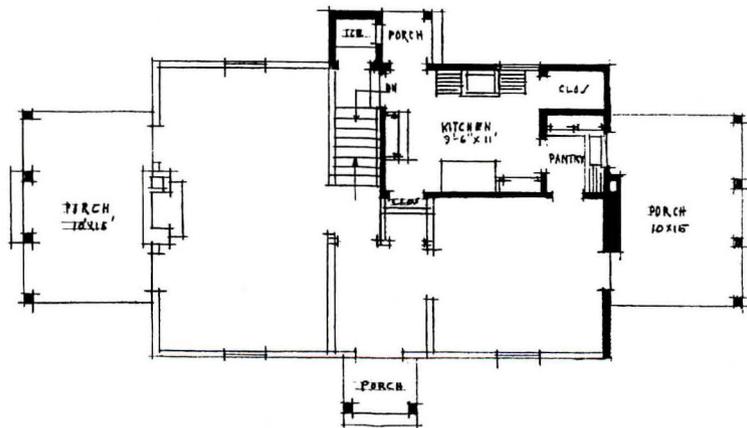
PENCIL POINTS



SECOND FLOOR PLAN



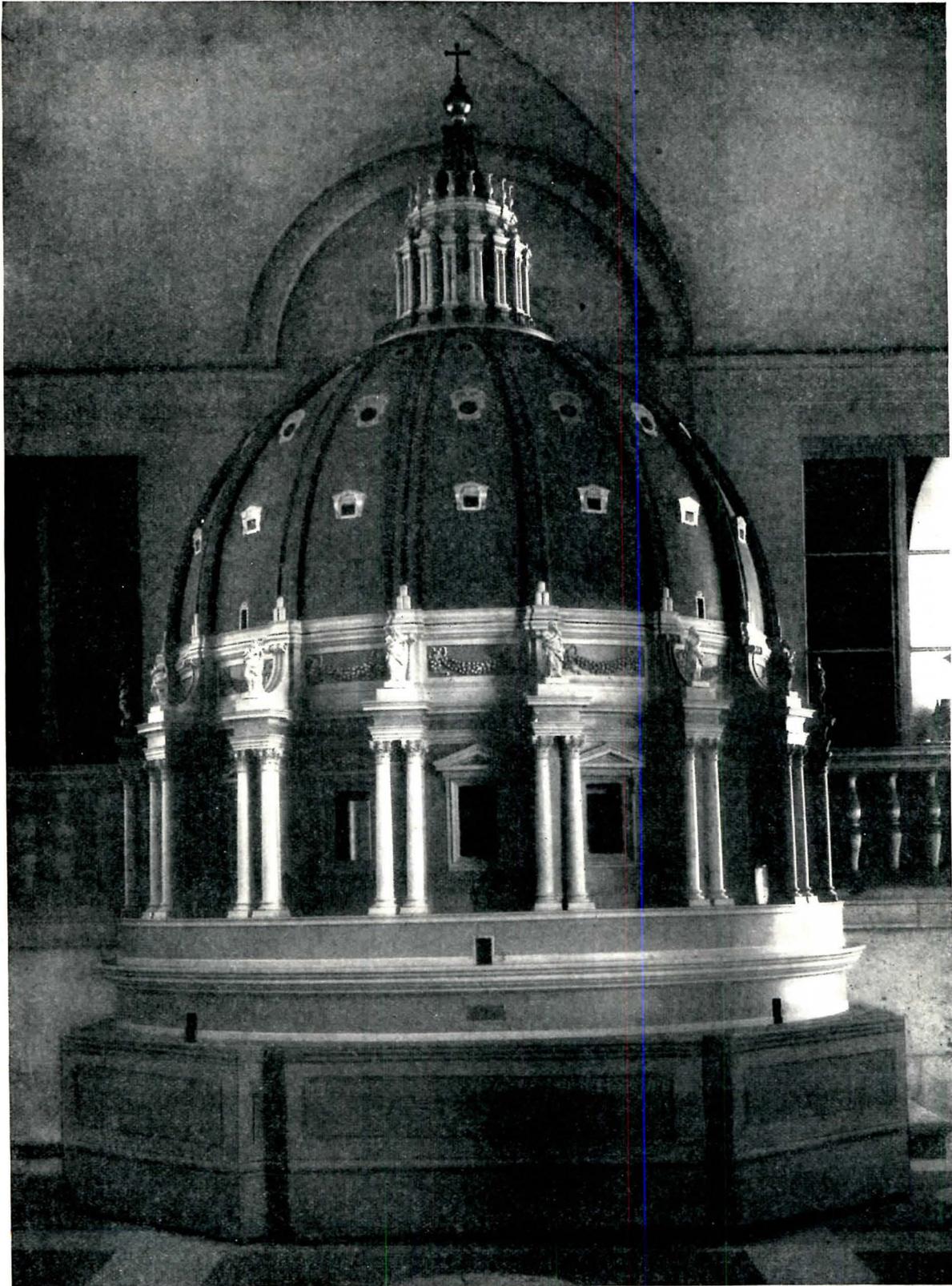
FIRST FLOOR PLAN



Alternate First Floor Plan. Smaller Porches, Kitchen and Pantry Will Effect a Saving in cost of About \$1,000

Design for a Small House. Oswald C. Hering, Architect.

PENCIL POINTS



Exact Reproduction from Michael Angelo's Model for the dome of St. Peter's. Made for the University of Cincinnati, under the direction of Victor L. S. Hafner.

PENCIL POINTS



Exact Reproduction from Michael Angelo's model for Cupola of the Dome of St. Peter's. The Dome is reproduced on Page 88. The model was made for the University of Cincinnati, under the Direction of Victor L. S. Hafner.

A NEW ACTIVITY OF THE BROOKLYN CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS

THE Brooklyn Chapter of the American Institute of Architects is very desirous of recognizing and assisting the architectural draftsmen and students within its territory, and has planned an extensive educational program, intended toward the recognition, education and assistance of this body of the younger men of the profession. It is suggested that any who may be interested and wish further information communicate with Mr. Lester B. Pope, Chairman Educational Committee, Brooklyn Chapter of the A. I. A., Pratt Institute, Brooklyn, N. Y.

1. The program offers this body of draftsmen and students a form of associateship with the Brooklyn Chapter of the A. I. A., which will be known as the Student Associates of the Brooklyn Chapter of the American Institute of Architects; and which will offer to these men some real benefits; socially, educationally and professionally.

2. It is desirous of offering this Student Associateship to all architectural draftsmen and students who come properly recommended and who can qualify under any one of the following classifications, all applicants to be acceptable to the Educational Committee.

(a) Any architectural draftsman, with suitable experience, *Residing* or *Employed* in Brooklyn.

(b) Any student who has satisfactorily completed at least two years' day work in any recognized school of architecture within the territory of the Brooklyn Chapter.

(c) And any student of architecture with similar training, living in Brooklyn and attending any recognized school of Architecture.

3. There will be no initiation fee or dues of any kind to Student Associates.

4. The benefits offered the Student Associate body in this program are planned as follows, as nearly as they can be carried out:

(a) Affiliation with a Chapter of the American Institute of Architects, with the prestige which it may carry, a connection to be desired and one which may lead as the experience of the Student Associate and time progresses

into membership with the American Institute of Architects.

(b) There will be special social and educational meetings of the Chapter held for the Student Associates and arranged solely for their benefit.

(c) Contact and identification, socially and otherwise, with men of the profession, all members of the A. I. A., which will have its stimulating influence.

(d) There will be offered to the Student Associate body, opportunity to see and hear some of the nationally prominent men of the profession, also to see their work and the work of others covering current important architectural work.

(e) There will be given the opportunity to enter as often as practical into competitions, which will offer as problems some real architectural problem of Brooklyn.

(f) These competitions will be awarded with judgments and ratings thus:

1. Substantial cash prizes, or an equivalent in tuition in any regular day, evening, or extension course in architecture in any recognized school of architecture.

2. Mentions.

3. Certificate of commendation or efficiency, bearing the seal of the Brooklyn Chapter.

4. By hanging in exhibition these competition drawings, which, if possible, will be open to the public.

5. There will be exhibitions as mentioned, of these drawings of the competitions, and also, as opportunity offers, the work of prominent men in the profession will be shown, especially current architecture.

6. Educational opportunities: There will be formed for the benefit of the Student Associate body an *Advisory Committee* of this Chapter, which will be available at all times through correspondence or direct contact, to assist any individual of the Student Associate body who may wish assistance educationally or technical or professional problems.

7. Employment Service: As soon as the Student Associate roster or list is complete, an index will be formed which will be, when completed, an employment service bureau which will be at the service of any member of the

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Student Associate body and those seeking the services of trained men.

8. Bulletin: There will be worked out if possible, some system by means of which information will be placed in the hands of the Student Associate body. This will include such information as concerns the Brooklyn Chapter or the Student Associate body, also general information regarding current architectural and art work, exhibits of interest, competitions, books of interest, educational possibilities, school and college information, etc.

9. The American Institute of Architects: From time to time, as it is thought best by the Executives of the Chapter, A. I. A. documents and literature of the National order will be placed in the hands of the Student Associates.

10. Consistent efforts will be made to train all the members of the Student Associates in the principles of architectural practice, and the principles or ethics governing it, also to familiarize the younger men of the laws of State and nation that govern the practice of the profession in architecture.

11. If sufficient numbers apply, there will be formed in Brooklyn in a centrally located and accessible place, a Brooklyn Atelier of the Beaux Arts Institute, this under the patronage of the Brooklyn Chapter, with prominent men as patrons.

There will be ready for distribution in December a brochure prepared by the Committee on Education of the Brooklyn Chapter, which will contain the complete program and further information concerning the Student Associateship above mentioned. Copies of this brochure may be obtained gratis by addressing the Chairman of the Educational Committee, Brooklyn Chapter of the A. I. A.

MODEL OF ST. PETER'S DOME

ON OTHER pages of this issue are shown photographs of the model of the dome of St. Peter's, Rome, made under the direction of Victor L. S. Hafner, for the University of Cincinnati. This model is the only existing copy of Michael Angelo's original model, which was constructed of wood, was begun in 1547 and was under construction one year. The present dome of the church is 15.3 times the size of the model. The dimensions of the model are as follows: diameter 13 ft., height 20 ft. 6 in. The statues are of baked clay.

The careful study of Michael Angelo's model for St. Peter's dome, upon which this reproduction is based was carried on by Mr. Hafner during his residence as a Fellow of the American Academy in Rome. Mr. Hafner also made a very thorough investigation of the dome itself during that time.

ART ALUMNI OF PRATT OPEN STUDIO

THE Art Alumni Association of Pratt Institute has opened a studio in the Ovington Bldg., 246 Fulton St., Brooklyn. The studio is spacious, beautifully furnished and has excellent light, modern ventilation and all improvements. It is the aim of the association to provide a place where industrious members can receive the benefits and enjoy the privacy of a modern studio whereas a studio of their own would not be feasible or otherwise possible.

The studio is centrally situated and ideally planned and has been a pleasant surprise to all who have used it. It is supervised by Mr. Paul Schmidt who will be pleased to receive all inquiries addressed to the studio.

MASTER DRAFTSMEN

(Continued from Page 63)

tion. In his work as an architect, whether shown by his own drawings or those of his assistants or associates, the same high quality of presentation has remained characteristic. His vigorous drawing of his design which won the competition for the monument of the Great Lakes, about twenty years ago, has served as a model for several similar presentations in more recent years. His characteristic sureness and rapidity is well indicated in the sketches herewith reproduced—two sketches which were made in a half hour under stress of information that the client was about to leave for abroad.

Mr. Pope is an artist who *feels* refined form and color and its sure representation is inevitable in everything he does.

FRANCIS S. SWALES.

BOOKS RECEIVED

The Etchings of D. Y. Cameron, by Arthur M. Hind, Slade Professor of Fine Arts in the University of Oxford. The volume contains about 100 full-page plates, including sixteen in hand-printed photogravure, covering a representative selection from the artist's work. The introductory essay on Cameron and the choice of the plates has been competently taken care of by Mr. Hind, who is the author of "A History of Engraving and Etching" and other important works on these subjects. The volume will be a valuable addition to the material now available on Cameron's work and will be welcomed by all followers of this branch of art. Size 11½" x 9". Published in London by Halton and Truscott Smith, Ltd., Minton Balch & Co., New York Agents, price \$13.50.

Problems in Architectural Drawing, by Franklin G. Elwood, Head of Department of Architectural and Mechanical Drawing, Mooseheart, Ill. The volume is intended for the beginner in architectural drawing and is a simple and practical treatise combining a working text and well-chosen problems. Published by The Manual Arts Press, Peiora, Ill. Price \$2.25.

Library Buildings, by Chalmers Hadley. Notes and plans of buildings costing less than \$50,000.00 intended to be of practical help. Architects will find that emphasis has been placed on many features in the details of library planning which differ from building details in other structures. Published by the American Library Association, Chicago, Price \$3.50.

Roman Buildings of the Republic, An Attempt to Date Them from Their Materials, by Tenney Frank. Volume III of Papers and Monographs of The American Academy in Rome. Published by the American Academy in Rome, 101 Park Avenue, New York, Price \$2.50.

INTERNATIONAL CONGRESS OF ARCHITECTS

THE "Proceedings" of the XIth International Congress of Architects held in Brussels, September 4-11, 1922, under the auspices of the "Societe Central d'Architecture de Belgique" has just been received.

The publication is unique as it gives an insight into particularly the European point of view of such subjects as the following: "The Responsibilities of the Architect"; "Schedule of Charges"; "The Appointment of State and Municipal Architects"; "Architectural Copyright"; "The Aims and Duties of the Architect"; "Women Architects"; "Public National and International Competitions"; "City Planning"; "Small Houses"; "The Regional Influence of Architecture"; "The Preservation of Historical Monuments."

An International Exhibition of Architecture was also held in connection with the Congress and many of the works exhibited have been reproduced in portfolio form by the Societe Central d'Architecture de Belgique. A few copies of the proceedings and the portfolio of drawings may be had from the Secretary of the Congress, R. Moeraert, Rue Artan, Brussels.

TEN COUNTRY HOUSES

A NOTABLE book is "Ten Country Houses Designed by Delano & Aldrich," just published by Doubleday, Page & Co., Garden City, N. Y. Price \$15.00. This book consists of sixty-one plates reproducing pencil drawings by Chester B. Price. These are all sketches made on the ground and they show the completed buildings in general views, sketches of details and plans of the grounds. All are in Mr. Price's best manner and admirable. The idea of presenting architectural works through the medium of pencil drawings rather than of photographs is an excellent one, for in this way the artist can show the building as it appears free from the false emphasis on the unessential that is characteristic of the photographic transcript.

This book is a worthy record of the ten fine examples of country house architecture which it represents. All of these houses are worthy of careful study and examining them through the means of this book will give much pleasure to any one whose training has given him an appreciation of the refinements of design. There is an excellent introduction by Royal Cortissoz.



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 tion, A Symposium Apr.
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HERE and THERE and THIS and THAT

conducted by

R·W·R

THE heading used for this column this month was submitted by Louis Michael, of New York.

J. Leland Benson, of Kansas City, gets the ten dollar prize for his book plate and linoleum-print Christmas card as published in the November number.

WHO says it does not pay to advertise? We published in our November number a letter from Conrad Callahan complaining bitterly at the quality of the verse we have published in this famous department, and what do you suppose happens? Why more verse of course!

Here's what Goldwin Goldsmith, professor of architecture at the University of Kansas, sends in, verse, prose and everything.

Architecture, I believe,
Is a serious profession;
But most of us, I know, would grieve
Without some humorous digression.

Though doggerel verse and slangy chat
May disappoint and shame the high-brow,
At "Here and There and This and That"
I would not even lift an eye-brow.

Undignified? It might be worse!
Let humor laugh at high-brow spleen.
Keep the cartoons and slang and verse,
Since you can keep the humor clean.

I rejoice to see my erstwhile student, J. Leland Benson break into your pages with his Brostrom book plate and his Christmas card. Nor did Benson tell *me* the significance of certain features of his book plate for Mr. Brostrom, but they are easy to read. The arch, which is not long, is the span of life of the average draftsman in the average office. Let us hope Benson's span is longer. The turrets indicate the fact that the draftsman is a tower of strength to the architect. The "two lean foliage looking trees" are the weekly or monthly stipend of the draftsman. You see, having been an architect myself I have seen the draftsman's point of view.

To revert to the matter of verse, please do not fail to observe that in the doggerel above I have used the word "doggerel" properly spelled, not as you have it, "doggrel." Either Mr. Callahan or your type-setter is responsible for the latter spelling, possibly both, since it occurs in his letter and in your comment.

And Louise Strother of Washington, D. C. dashes this one off and sends it to the firing line.

THE SONG OF THE BEAUX-ARTS STUDENTS

The Architects are a crazy bunch,
They haven't any mind—
They travel round with Chatelain in front,
And the rest of us on behind.

The student's life is full of blows,
Before our course is thru,
But the Beaux-Arts worst, and it knocks us out
For this is the way we do:

The first two weeks we slide along
With a carefree smile on our face,
We get out our things to start to draw
Then—"Hey get out of my place!"

I'd like to know where my T-square's gone—
Who the deuce swiped my light?
—Don't feel like drawing anyway
Let's go to the movies tonight."

The next two weeks are about the same
Though you do get a little work done—
But you whoop and howl with the rest of the gang
And don't let work bother your fun.

But those last two weeks we slave and draw
With never a minute to spare,
As we try to work on the things that count
Omitting as much as we dare.

We drag our friends up three long flights
Our problems for to see.
They say "Oh isn't it just too sweet!
I especially like that tree!"

We drag our pals away from their boards
To give us a word of cheer.
They take one look, then give one groan,
You'll get an 'X,' old dear."

And when we get ready to render
We sling such wicked ink,
That the prof exclaims, "You've just one chance,
Hurry it straight to the sink."

We scrub it out and start again
As groggy as can be,
But the more we do the worse it gets,
'Till we leave, in despair, at three.

And gee, the day after that problem goes in
We feel like we've been thru a fight—
And we swear to the gang as we stagger along
"That's the last time I work Sunday night!"

But when the next charette rolls round
We still are going strong,
And to the tune of our squeaking pens
We gaily sing this song:

"Oh we'll crib our dope, we'll fudge our caps
We'll slave till our pens run dry,
We'll gaily peg at that last long lap,
—If only our problems get by.

We'll block in the shadows, and render them black
To cover the biggest defects,
We'll struggle along till we've got the profs fooled
And we're regular 'Archy-tecks'!"

And R. W. Schmertz of Pittsburgh sends this one.

Perspective is a noble art—
To find the vanish point
The draftsman's clothes must come apart
His elbows must unjoint:
The boss, impatient, hangs around,
And drives him to distraction
But when the vanish point is found
Oh ho! What satisfaction!

And Robert T. Gidley of Melrose, Mass., offers this one.

RHYME WITHOUT REASON

Johnny McFadd was a versatile lad
As clever, as clever could be
Just mention a thing, he'd do it by jing!
He was not to be stumped you can see.
He married a wife for the rest of his life
He longed for a home of his own
Not the kind you can buy, they did not take his eye
They simply compelled him to groan.
An' Architect's friend, said, "Johnny, I'll lend,
My aid to your plan for a nest!"
But Johnny said, "No! I gotta go slow,
To plan it myself will be best!
So he drew up a sketch, did this clever young wretch
On paper it looked very nice
It's simple as pie, thought this versatile guy
I'll bulid it and save half the price.
So he purchased a saw and lumber galore
A hammer, a square and a plane

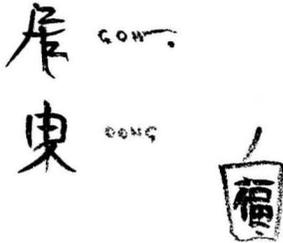
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With a confident smirk he started his work
 Ambition surged hot in his brain,
 He laid two by fours on the ground for the floors
 He used six by eights for the walls
 His rafters were light, but were all out of sight
 And the shingles went on over all.
 He papered the walls, and painted the halls
 He worked himself into a sweat.
 But at last it was done—he vowed it was fun!
 He'd solved every problem he met,
 As a matter of fact, the whole place was cracked,
 The roof was an excellent sieve
 It looked like a mess—and was one I guess,
 And Johnny was broke as I live.

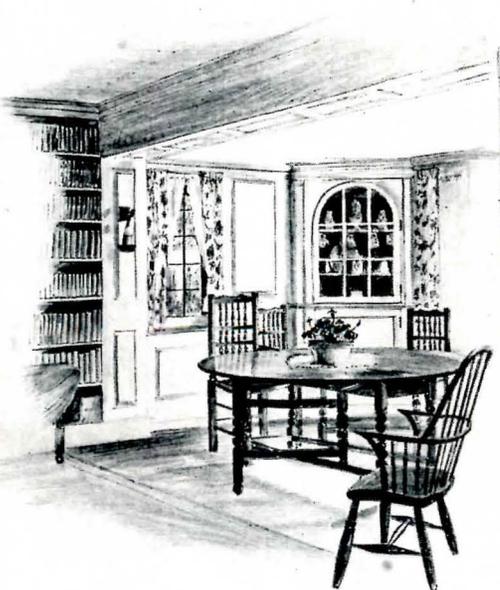
MORAL

You may be quite smart—but building's an Art!
 Don't think you know all of the game,
 Think of Johnny McFadd, and the hard luck he had,
 With only himself to blame!

The others will have to wait until next month. Looks as though we would have to get the S. R. O. sign and stick it up in a prominent place pretty soon.



JUST to report progress in the Oong Gow matter. One of our sleuths almost caught up with him, but he got away. Determined to bring home something by way of evidence, however, he secured by tricks and device, and in a thoroughly unscrupulous manner, a rubbing of Oong Gow's signature as it appeared on a laundry ticket. Here is a faithful reproduction of the document. Anyone able to help us in our search is earnestly requested to send in any valuable information, however fragmentary in character it may be. We are determined to find Oong Gow.



By Joseph Johnstone Ott,
 New York.



By Joseph Johnstone Ott, New York

AND the postman just hands us an imposing package, which, when examined, proves to hold one large colored sketch showing a barn dance in full swing, one black and white announcement of said barn dance and a piece telling all about it. We've reproduced the drawings on page 94 and here's the account of it:

DAY & ZIMMERMANN, INC., ASSOCIATION

AN ORGANIZATION comprising the employees and members of the firm of Day & Zimmerman, Inc., Engineers, Philadelphia, with an approximate enrollment of 200 members. Its purpose is to promote Literary and Social activities throughout the year. We have our outings, dances and dinners and on October 23rd we opened our Fall activities with a Barn Dance in an old time barn at Broomall, Pa., twelve miles from our office.

The farmyard was strung with dimmed lanterns in and about the trees, while the barn was tastily decorated with the foliage of fall! golden corn and fresh mown hay streaming from the loft. Yes, it was electrically lighted, which made it possible to show the goblins and real pumpkin lanterns with witches in strange corners. Oh! the eats! My! they were good. Yes, the cider barrel was there but only for a little while.

All of us were in overalls and gingham. My! how strange were some and old fashioned. Can't you picture the scene with the dances, quads and hands all around, and then the games and the apple bobbing. All these went on all through the all too short evening. My! it was glorious.

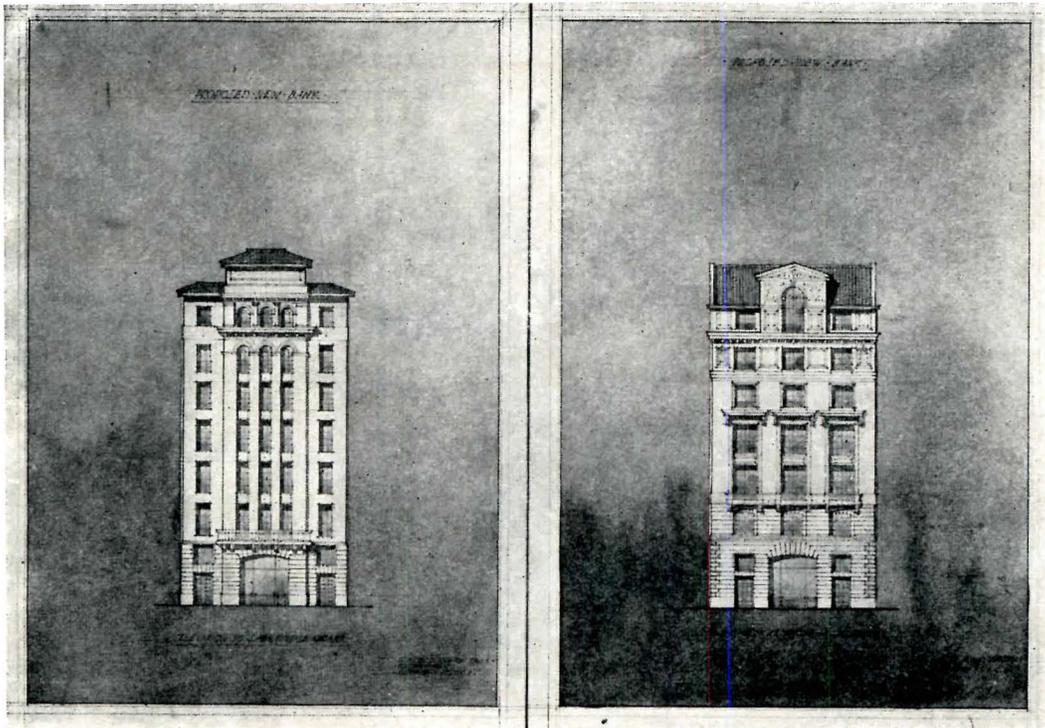
This was not all, for toward the midnight hour two heckers brought in a well fed cow which was disposed of to the highest bidder.

It was a good, wholesome time and made us all feel proud of our connection with such a happy family organization.

Posters advertising the event were made by our Mr. H. H. Stewart, with the following committees carrying out the plans: A. L. Fowler, General Chairman; Miss M. Weidel, Decorations; Mr. W. F. Yeager, Electrical; Miss Emma Smith, Refreshments; Miss J. Blankenburg, Old and New Dances; Mr. E. L. Keenan, Purchasing; Mr. A. L. Fowler, Transportation; Mrs. E. Cummings, Games and Amusements.

This is the first communication of the sort we have had from an engineer's office and we shall be pleased to receive more.

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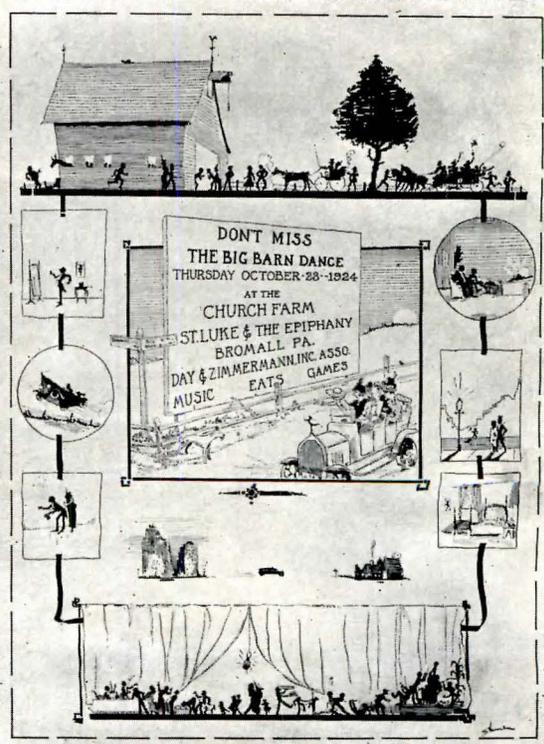
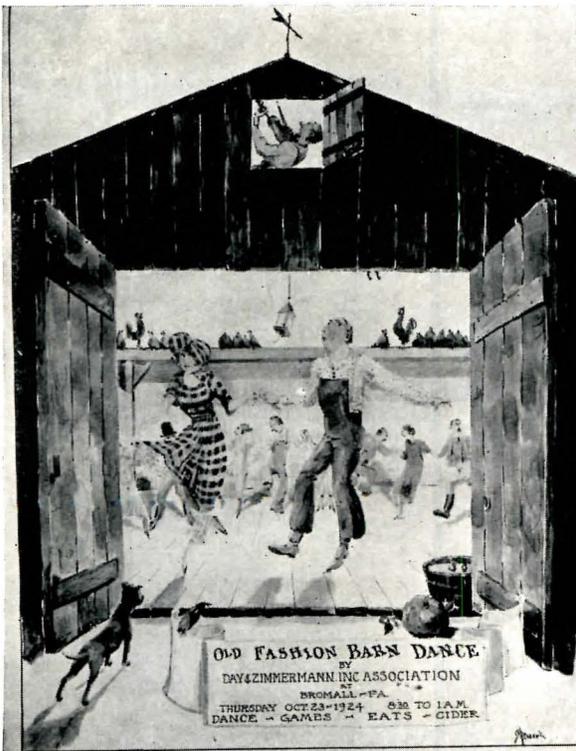


By Ernest T. Groves.

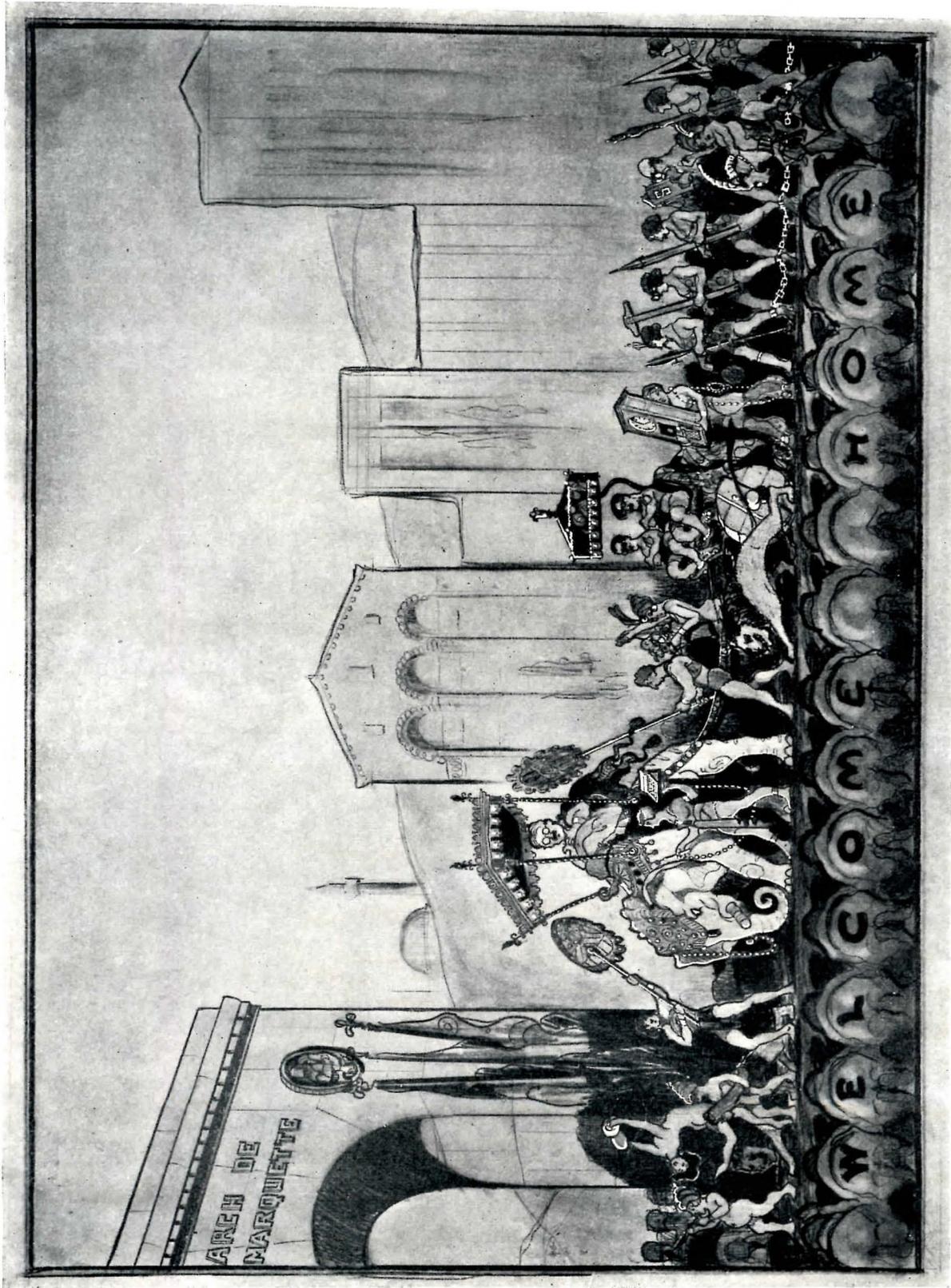
WHILE ago we wrote a little piece and said we would like contributions from draftsmen working in foreign countries. Ernest T. Groves, artiled pupil with Gunten and Gunten, architects and surveyors of London, sends us two of his drawings, designs for a bank, in Cheapside, London, reproduced above. It is hoped that other men will follow Mr. Groves' example. We are especially anxious to have good sketches, but we will consider for this column any material (even verse) from architects, draftsmen and students of architecture wherever located.

MR. ALBERT KAHN has returned from Italy. As proof of this we submit on the opposite page a reproduction of a colored cartoon done by Messrs. R. W. Hubel and R. E. Yates to commemorate the occasion. Sorry we cannot show the colors. They sure do stage some pagents in Detroit, if this is a sample.

Lauren B. Pohlman, architect, calls our attention to the fact that on page 93 of our November number we gave his address as Newark, N. J. It should be Elizabeth, N. J.



Posters made by H. H. Stewart, of Day & Zimmerman, Inc., Philadelphia, for the Organization's Recent Barn Dance. A Description of the Party appears on Page 93.



Colored Cartoon by R. W. Hubbel and R. E. Yates of the office of Albert Kahn, Architect, Detroit.

THE SPECIFICATION DESK

A Department for Specification Writers

SPECIFICATIONS

By W. W. BEACH

Here is the first of a series of notes or short articles dealing with the subject of Specifications contributed by Mr. W. W. Beach. Mr. Beach, past president of the Iowa Chapter of the A. I. A. has practiced in Sioux City, New York, Chicago and Foo Chow, China. He has always been greatly interested in specifications and he will discuss various phases of the subject in an informal and more or less sketchy manner. Comments are invited from all who would like to see improvement made in Specification practice. Communications should be addressed to The Specification Desk, care PENCIL POINTS.—Editor.

THE general subject of "Specifications" has been essayed so often that it seems hardly possible that anything new can be offered under that heading. Yet there is constant complaint that hidden somewhere within the ramifications of the general scope of the topic lies one of the architect's unsolved problems.

Whether this be so or not, it is painfully evident to those who, through necessity or curiosity, peruse this product of the modern architect that there may be many who have not solved it.

Why, with the amount of material on the subject available, this should continue to be so is also a matter worthy of consideration. There are probably several reasons. But it is not meet that one should waste time with those who, through indifference or lack of remuneration for their services, make no attempt to produce a decent specification.

Nor need one worry about the novice who is still so enamoured of "creative architecture" that he deems beautiful working drawings the chief aim of his practice, rather than the production of successful buildings.

To him, the function of specifications, if of any import, is not sufficient to demand a great deal of attention. They can be re-hashed from any model or compiled by various kindly disposed "sales engineers." Says one of the latter, insinuatingly, "Great Scott, I write all the heating and ventilating for Lintle, Collum and Beam; why shouldn't you take advantage of the service?" He does and the enterprising engineer has made another sale.

Then, of course, there are many real architects who, with their assistants, have sufficiently mastered this branch of their business so as to be no more worried about it.

Eliminating all the foregoing, my appeal can be only to those who are conscientiously striving to better their practice, both for their clients' interest and their own, by trying to improve their contract documents. For these I do not purpose to offer either a standard or an ideal specification, but rather to lay the ground-work for both, from which proper specifications can be readily evolved.

Preliminary to this it is necessary to consider the purpose of a specification in order that one may determine the type fitted to the purpose.

At the present time there are prevalent three entirely different forms of building contract:

First and simplest, that by which a construction company executes a given work from its own designs.

Second, the form of contract formerly called "Day work," later "Force Account," now "Cost-plus" in its various guises—executed by a concern other than the designer.

Third, the "Lump-sum" or "Upset-price" contract.

For the first of these, founded as it is upon mutual confidence, rather than legal status, no more specifications are needed than will suffice to state the materials to be used, with a few directions as to their placement, to augment the information given on the drawings. Frequently, the entire specification can be annotated on the drawings, if the work is not too involved.

"Cost-plus" work needs but little more in the way of specification when executed by others than when the work is carried out by the same entity which prepared the drawings. The same element of reciprocated dependence pervades the operation in either case. That is, it does,

unless the vicious clause naming a guaranteed maximum has been introduced, in which case the contract (while appearing not to) falls under the third heading—a plain lump-sum contract.

If such guaranteed maximum be made part of a contract of the first form, it is still more vicious inasmuch as the element of mutual trust is assailed by both parties—does not exist. The builder is forced to look to his own interest rather than primarily to that of his employer, hence the more brief and less definite he makes his specification, the best opportunity of keeping within his limit.

Obviously, any contract guaranteeing the cost of a given structure falls automatically into the third class, calling for complete working drawings and specifications upon which to found a definite, legal contract, eliminating every possible uncertainty. What the owner really wants is a guaranty of *minimum* cost whereas the offer of a *maximum* guaranty too often means just what it says.

One function of the specifications, then, is that of so clearly setting forth the work to be done by supplementing the drawings, that each competitive bidder will be able to determine exactly what is to be expected of him, if he gets the award, and can estimate accordingly; thus affording the owner the benefit of a minimum price to which he is entitled and, functioning further, legally compelling the contractor to provide the things upon which he figured and as he figured them.

This, then, will be the specification of which we will treat—one upon which it is intended, after the receipt of competitive bids, to found a lump-sum contract or several divisional contracts. The contract documents for such an agreement fall naturally into four major parts:

1. The contract, or agreement, itself.
2. The general conditions of the contract or of the specifications.
3. The specifications complete, other than the general conditions.
4. The contract working drawings.

The "General Contract" form of The American Institute of Architects answers well the purpose of the first requisite, when a general contract is the thing intended. When, however, it is desired to divide the work into a number of minor contracts, some other form is necessary.

Right here lies one of the most serious difficulties for the specification writer—that of so ordering the various divisions of work that each craft will have its own part distinctly set forth, with nothing omitted or duplicated.

The most comprehensive form of specification is therefore one on which a general contract can be founded, but including or excluding at will any major or minor division. Let us assume that we have such a specification and will use the American Institute form of general contract and an abbreviated form for minor contracts.

We must, then, have complete and concise general conditions to tie contracts and specifications together. For such purpose the form of "General Conditions" of the Institute are also good, though there are several paragraphs that will bear alteration or elimination and the arrangement can be improved upon. However, that is a matter of opinion and it is with fundamentals we wish to deal, hence we will assume a specification founded upon the use of A. I. A. (or some equally good) contract forms, including the general conditions of the contract.

Pre-supposing a specification for each major trade, there is at once the question of whether we will fix the boundaries of each sub-contract or compel the general contractor to shoulder his own responsibility in this respect. It is obviously not the duty of the architect, as such, to say to what extent the general contractor shall allot his work, but—it is plainly the duty of the architect to effect a smoothly-working job.

Inasmuch as his construction may be undertaken either by a concern which executes much of the work by its own forces or by one which sub-lets to a large extent (perhaps en toto) he must be prepared for either contingency and

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keep the ways equally simple for either procedure. By so doing, he makes it possible also to take separate bids on any part of the work, if that seems desirable.

But the taking of separate bids on divisions of the work leads to complications unless careful preparation is made for just such procedure.

It is obvious that the general conditions surrounding a major contract are different from those having to do with one of minor proportions. There is, in the two, a varying degree of responsibility for the whole operation which must be taken into consideration.

These variations should be taken care of by certain "Special Conditions" or "Supplementary General Conditions," introduced to bridge between the General Conditions and the divisional specifications.

Another phase of the subject demanding preliminary consideration is the fact that different classes of buildings demand different types of specifications. That for a small structure of simple function need not be the comprehensive affair we are about to discuss. It is even foolish to use the standard forms of general conditions for such construction. They don't fit. Many paragraphs don't apply at all. Bidders get out of the habit of reading such misfits and, when they fall into the hands of our legal friends, they make sad jokes of them.

Short forms are readily evolved by curtailing the more complete affairs and should be used for small work.

Above all things, let us use *common sense* with our specifications and thus escape all too general criticism of the professional man—that his erudition has out-stripped his common sense.

We will then take up first the preparation of specifications for a building of average size, one costing say a hundred thousand dollars or more. These will be readily capable of expansion to serve for much larger construction.

(To be Continued)

LABORATORY SPECIFICATION AND CONSTRUCTION HELPS

By OTTO GAERTNER

CHEMICAL laboratory work is of a special nature and requires many special kinds of construction and equipment. On account of the large amount of acids which are used in chemical work, attention must be paid to this phase of the work in order to specify non-corroding materials as far as possible, and to construct the building and its parts so that they may be easily cleaned and, when necessary, replaced.

On account of the nature of the work all piping should be installed so as to be accessible or exposed when possible. Waste pipes should be especially designed for acid conditions. Salt glazed hub jointed tile sewer pipe is the best in most cases. There are cast iron pipes on the market which are cast from an alloy having a large amount of silica in it. These pipes are smaller in size and take up less space than the tile pipes but are not quite as acid proof. The hubs of these pipes are caulked the same as ordinary cast iron pipe but more care should be used as the silica in the alloy tends to make the pipe more brittle. Large size pipes may be put together with flanges and bolts, lead gaskets being used in the joints. While this kind of pipe is more expensive than the tile pipe, it makes a stronger job on completion and lends itself better for hanging horizontal lines which are run exposed.

When the tile piping is used, the joints are made with hot asphalt, which is acid proof. The joints are caulked with oakum and the asphalt is poured in place almost filling the joint after which the balance of the joints are filled with a strong mixture of Portland cement mortar splayed away from the edges of the pipe hubs at an angle of forty-five degrees or more to give the cement mortar strength and body. If such piping is hung there should be a hanger at every hub. This brings the hangers pretty close together since the tile pipe comes in two foot lengths whereas the cast pipe comes in four foot lengths. Often the cast pipe is used for exposed horizontal runs and the tile pipe for the horizontal runs in unexcavated portions of the building and under the basement or cellar floor. The specifications should call for a separate tile drain for the acids since it is not good practice to make

the general waste lines, or house drains as they are called, of tile pipe within the walls of the building. The house drain should be of ordinary extra heavy cast iron pipe. There is no objection to using this kind of pipe when acids are to flow through it, if the plumbing of the system can be so arranged that the different fixture connections will be behind—that is, on the side away from the sewer—the acid waste connections so that the acids will be diluted sufficiently not to attack the cast iron pipe. Leader connections can also be made to help in the diluting and cleaning out of the acids. When the acids are taken care of in separate tile house drain lines, they should be specified to extend outside the building where they should connect with the tile sewer beyond the point where the cast iron house drain has been connected with the sewer. A trap and fresh air intake should be specified to be placed in an accessible position just inside or just outside the foundation wall with the necessary pit and cover.

When tile vertical stacks are specified it must be remembered that they take up considerably more space than the common wrought iron, steel, and cast iron stacks, especially over the hubs. They must be rigidly built-in or held in place so that the joints will not be forced open. Vent stacks in connection with the fixtures cannot be made less than two inches in the tile pipe and they can not be placed so close to the waste stacks as in the case of the metal piping since the tile fittings are rather clumsy and often distorted. Waste connections should preferably be brought to the face of the plaster behind the fixtures so that no built-in metal work can corrode. It must be remembered that since tile fittings are rather large, the stack may have to be placed farther into the wall. Otherwise the fitting will project beyond the face of the plaster and not look so well. The fixtures should be provided with lead traps having cleanouts, not only for economy but also because the lead traps are not so likely to corrode as are traps of other metals. The more expensive special silica cast iron traps may also be used but they are much larger than the lead traps in appearance and must be painted to keep them from discoloring. The lead traps need not be painted and they are easily replaced.

The specifications should call for all exposed metal piping to be painted with asphalt paint as a protection from acid fumes which are prevalent in chemical laboratories. Nickel plated fittings should not be specified at the fixtures as they quickly tarnish, corrode and become covered with verdigris. Fittings made of the alloy known as red brass, or red metal, are much more serviceable and look better. Also brass pipe of iron pipe size should be specified for water piping, especially in the case of hot water and hot water circulation pipes. If the appropriation will permit otherwise galvanized genuine wrought iron should be used.

In our larger schools and universities the laboratories are often large rooms with long rows of laboratory tables, regularly spaced and having vitrified earthenware sinks at the ends of the tables. The sinks of the tables are usually about four feet from the walls of the room and connections from them may not be very desirable on the ceiling below. The same applies when the sinks are in the centers of the tables. Also the wastes from the sinks would have to go through the floor, resulting in obstructions when cleaning the floor and replacements of corroded piping would necessitate patching the floor and the ceiling below. To simplify the plumbing in such cases, gutters in the floor have been resorted to.

A few words here regarding the floors would not be amiss as it has a bearing on the construction of the gutters. Chemical laboratory floors should be acid proof. Unscrupulous representatives of firms specializing in such floors may use the words "acid proof" when in reality they mean, or their product is only, acid resisting. The difference is generally in the aggregate used in the floor. Such floors are generally made of hot natural asphalt with a fine aggregate of a limestone nature. The asphalt is acid proof but the aggregate is only acid resisting. The acid resisting aggregate is more economical and may answer the purpose, each piece being protected by the surrounding asphalt binder. But the wearing surface will in time be worn so that some of the aggregate will show and be at the mercy of acids spilled on the floor. Even then it would be a long time before any serious damage could result if the spilled acids were promptly removed,

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acids in powder or crystal form included. For an acid proof aggregate vitreous quartz and silica are generally specified and a chemical text of the aggregate is recommended. The specifications should also state the proportions of asphalt to aggregate, the amount and kind of flux to be used with the asphalt, and the kind of asphalt. Commercial artificial coal tar asphalts are not recommended. One objection to asphalt floors is their softness and the fact that heavy furniture will mar them.

Such furniture and radiators may rest on slate blocks set flush with the top of the asphalt if the location is permanent. Otherwise the weight should be spread over an area of the floor and not at a few small points. Also a harder asphalt may be used. The amount of flux which is used will determine the hardness of the floor. If a hard asphalt floor is exposed to extreme cold it will crack but this generally does not occur with a building. The asphalt floor is generally applied about one inch thick over a smooth concrete under floor. The gutters hereinbefore mentioned are also formed in the concrete and finished with asphalt. The pitch should be formed in the concrete.

(To Be Continued)

PUBLICATIONS OF INTEREST TO THE SPECIFICATION WRITER.

Any publication mentioned under this heading will be sent free, unless otherwise noted, upon request, to readers of PENCIL POINTS by the firm issuing the publication. When writing for any of these items please mention PENCIL POINTS.

Ball Bearing Door Hangers and Special Hardware.—New Catalog No. 24. This handbook illustrates and describes hardware for all types of sliding and folding doors, overhead carrying devices, expansion bolts, ball bearing wheels, rolling ladders, etc. Fully illustrated, specification data, tables of sizes, fully indexed. 50 pp. 8½ x 11. McCabe Hanger Mfg. Co., 426 West 25th St., New York City.

English Precedent for Modern Brickwork.—New book showing a selection of the best English buildings in brick. Colored frontispiece, many full page plates and measured drawings. Text on the subject, including chronology of English brickwork from 55 B. C. Heavy plate paper. 100 pp. 8½ x 11. Price \$2.00 The American Face Brick Assn., 1760 Peoples Life Bldg., Chicago, Ill.

Architectural Monographs on Tile and Tile Work No. 1.—The first of a series of 15 Monographs covering the subject with especial reference to the role that tiles have played in the building arts. Profusely illustrated largely with original material accompanied by an interesting text prepared by Rexford Newcomb. 30 pp. 8 x 11. Associated Tile Mfrs., Beaver Falls, Pa.

Published by the same firm, Ceramics in Architecture Monograph No. 2. Ceramic architecture in ancient Egypt, Babylonia and Assyria. Text by Rexford Newcomb. 30 pp. 8 x 11.

The Book of Decoration.—Brochure profuse illustrated covering typical rooms in the various period styles, together with their furnishing accessories. Notes on wood finishing. 50 pp. 8½ x 11. Murphy Varnish Co., Newark, N. J.

Armstrong Cork Linoleum Floors.—Specification folder and complete description. Revised edition. Gives the busy specification writer all the data required to select and specify linoleum for all uses. Color plates. Directions for laying and caring for the floor. Standard filing size, 8½ x 11. Armstrong Cork Co., Lancaster, Pa.

The Fireproofing Handbook, 8th Edition.—Deals in text, photograph and diagram with the various problems of modern fireproof construction. Condensed specification data. Covers all types of construction commonly met with. 72 pp. 8½ x 11. The General Fireproofing Co., Youngstown, Ohio.

Published by the same firm, Herringbone Rigid Metal Lath. Data showing the application of metal lath in all types of modern construction. Profusely illustrated with drawings, specifications, etc. 50 pp. 8½ x 11.

Plastering Specifications.—Specification folder just issued covering standard forms for various kinds of work, arranged for the convenience of the specification writer. Standard filing size. The Best Bros. Keene's Cement Co., Medicine Lodge, Kansas.

The Campbell Solid Metal Window.—Descriptive catalog, profusely illustrated with photographs and renderings of many important buildings, together with details of windows installed, notes on special construction, etc. 60 pp. 8½ x 11. Campbell Metal Window Corp., 8 West 40th St., New York City.

Natco Wall Construction, Bulletin No. 174.—Revised edition, covers application of hollow tile in all types of wall construction. Drawings at convenient scale. Specification data. 22 pp. 8½ x 11. National Fireproofing Co., Fulton Bldg., Pittsburgh, Pa.

Atlantic Terra Cotta.—Monthly magazine for architects and draftsmen, Volume 7, No. 3, deals with the Disappearance of Architectural Landmarks, with many interesting illustrations of details of Madison Square Garden. Atlantic Terra Cotta Co., 350 Madison Ave., New York City.

Chancel Furniture.—Illustrated brochure covering subject of special furniture for the Chancel and other furniture accessories for the Church. 24 pp. 8½ x 11. American Seating Co., 14 East Jackson Blvd., Chicago, Ill.

Science and Practice of Integral Waterproofing, 4th Edition.—Handy booklet covering subject in condensed form. Directions, detail drawings and specifications. 32 pp. The Truscon Laboratories, Detroit, Mich.

Keeping Down the Cost of Heating.—Booklet on the subject of the Molby boiler for low pressure steam, vapor and hot water. Much useful data, tables of sizes, capacities, sections, etc. 24 pp. Molby Boiler Co., 41 East 42nd St., New York City.

Armstrong Cork Tile Floors.—Brochure just published covering complete information for the architect, specification writer and draftsman. Designs in natural colors. Specifications and detail drawings. 36 pp. 8 x 11. Armstrong Cork and Insulation Co., 24th Street, Pittsburgh, Pa.

Ruud Automatic Storage Systems.—Catalog dealing with hot water for the home, individual and commercial use. Typical layouts and specification data. 30 pp. 6 x 9. Ruud Mfg. Co., Pittsburgh, Pa.

Contractor's Atlas.—Monthly publication dealing with matters on which Portland Cement is a factor. 20 pp. 6 x 9. Atlas Portland Cement Co., 25 Broadway, New York City.

Plate Glass in Residence Design.—Brochure with many interesting illustrations dealing with modern fenestration. 20 pp. Plate Glass Mfrs. of America, 1st National Bank Bldg., Pittsburgh, Pa.

Majestic Steel Medicine Cabinets.—Bulletin showing line of modern steel equipment, instructions for installing, etc. Standard filing size, 8½ x 11. The Majestic Steel Cabinet Co., 4223 Belle Plaine Avenue, Chicago, Ill.

Monarch Metal Weather Strips.—Data book with drawings and much information on air leakage and other similar problems. 50 pp. 8½ x 11. Monarch Metal Weather Strip Co., 5020 Penrose St., St. Louis, Mo.

Ilg Condensed Catalog.—Covers complete line of ventilating equipment, fans, blowers, etc., both large and small. Tables of dimensions and capacities. 50 pp. Vest pocket size. Ilg Electric Ventilating Co., 2850 No. Crawford Ave., Chicago, Ill.

Door-Ways.—Monthly magazine covering interesting items pertaining to window hardware, garage and other rolling doors, overhead carriers in industrial plants, etc. Richard-Wilcox Mfg. Co., Aurora, Ill.

Universal Safety Treads, Bulletin No. 40.—Document of interest to specification writers on the subject of modern stair construction. Standard filing size. Universal Safety Tread Co., 40 Court St., Boston, Mass.

Gypsum Plasters—General Instructions and Specifications.—Treatise by Virgil Marini prepared with especial reference to the architect and builder. Covers non-technical form of specifications for all types of Gypsum plasters and plastering work. Specifications arranged for the convenience of the busy man. The Gypsum Industries, 844 Rush St., Chicago, Ill.

Published by the same firm, Gypsum—A Non-Metallic Mineral. Treatise covering in both technical and non-technical form the properties of Gypsum for building construction use.

Win-Dor Casement Window Operators.—Catalog No. 9 describing modern casement hardware, sectional drawings and standard half size details. 14 pp. 8½ x 11. The Casement Hardware Co., 235 Pelouze Bldg., Chicago, Ill.

Celotex Specifications.—Loose-leaf folder with large sample of material. Complete specifications for all uses, details of construction covering exterior finishing for frame buildings, sheathing for brick veneer buildings, roof insulation and a variety of other uses. 8½ x 11. The Celotex Co., 645 No. Michigan Ave., Chicago, Ill.

Mortar Colors.—Data sheet with 12 panels in color showing mortar joints in combination with brick of various colors and textures. Also much useful information on the coloring of stucco. 8½ x 11. Clinton Metallic Paint Co., Clinton, N. Y.

Architectural Varnishes, Stains, Fillers and Enamels.—Specification for all classes of work. Recommendations for standard and unusual finishes. 20 pp. 8½ x 11. Standard Varnish Works, 445 Fourth Ave., New York City.

International Casements.—Attractive booklet on subject of windows for homes of distinction and charm. Illustrations of excellent English and American domestic architecture, drawings and photographs, interiors and exteriors. 24 pp. 8 x 10. International Casement Co., Jamestown, N. Y.

The Kernerator.—Covers disposal of rubbish and other waste in residence and apartment buildings. 40 pp. 6 x 9. The Kerner Incinerator Co., 1003 Chestnut St., Milwaukee, Wis.

Published by the same firm, The Sanitary Disposal of Waste in Hospitals, also Blue Prints with Complete Instructions as to layouts for all types of buildings.

Norton Floors.—Booklet dealing in an interesting way with Non-Slip Treads showing many applications in modern buildings with especial reference to harmonious decorative effects. Norton Company, Worcester, Mass.

Weisteel Compartments.—Catalog No. 11 describing compartments of all types. Blue prints showing construction and method of erection. Specification, including hardware. A useful book to all in any way interested in industrial buildings, public buildings, schools, hospitals, etc. 32 pp. 8½ x 11 in. Henry Weis Mfg. Co., Atchinson, Kan.

INTERNATIONAL ARCHITECTURAL EXPOSITION

IT is expected that at least ten foreign countries will send to the Architectural and Allied Arts Exposition to be held in New York City from April 20th to May 2nd next, exhibits which have never before reached America.

Members of the Foreign Exhibits Committee of the forthcoming exposition said yesterday that England has definitely decided to participate in the exposition as also have Finland and Poland. The Baltic states will send over depictions of what is the only new architecture in the world today, in the opinion of one member of the committee, a prominent architect who has lately returned from a tour in Europe. Finland, Norway, Sweden, Poland and other Baltic states have successfully undertaken to develop a new and drastically different architecture, it was said. With the merits of any selections they may make unquestioned, the committee has left the question of the exhibits they will send entirely in the hands of the Baltic states. Thousands of architects throughout the country will have a special interest in these exhibits.

France has offered to send drawings of historic buildings in the republic.

While a great many foreign exhibits are pending acceptance by exacting exhibition committees abroad, only a few have been accepted to date. However, it is believed that within a few months they will begin sending here the finest collection of foreign architectural displays and allied arts that has ever been put on public exhibition in this country.

Among England's contributions to the Architectural and Allied Arts Exposition will be about ten special exhibits consisting mostly of original drawings of their famous buildings. The drawings of St. John's Cathedral in Liverpool for which Sir Gilbert Scott was knighted by the King will be sent to New York. The new unique addition to the Bank of England will be illustrated by the drawings of Herbert Baker. It is believed that the Bank of England is the only institution where the custom of having Government soldiers guard the place at night and go away in the morning is still practiced. Mr. Baker designed for the famous house of Cecil Rhodes in South Africa. Sir Chas. Burnet will send drawings of his Church work. Sir Reginald whose designs for country homes are recognized throughout England will send drawings of some of his best work. The new Canadian building in London on Trafalgar Square will be shown in the drawing of Septimus—Warrick.

Sir Edward Lutyens who designed the famous cenotaph of Memorial Soldiers has consented to send some of his drawings. Among those most actively responsible for bringing to New York what is believed will be the largest architectural exhibition in the world and also the first convention of the American Institute of Architects that has been held in New York in many years is President D. Everett Waid of the American Institute of Architects under whose auspices the forthcoming exposition will be held. Mr. Waid is chairman of the General Committee of the forthcoming exposition. The exposition is under the active management of Charles H. Green, 105 West 40th Street, New York, former director of Manufactures and Varied Industries at the Panama-Pacific and other world expositions. Extraordinary interest in the exposition is being taken in all parts of the United States by architects and all those who provide materials for the construction, equipment, and decoration of homes and buildings, Mr.

Green said yesterday. Harvey Wiley Corbett, President of the Architectural League of New York which will make its annual exhibit at the exposition is chairman of exhibits of the forthcoming big display.

NATIONAL EXPOSITION OF POWER AND MECHANICAL ENGINEERING

THE Third National Exposition of Power and Mechanical Engineering will open at the Grand Central Palace, New York City, on Monday, December 1st, at noon and close Saturday, December 6th at 10:30 p. m. The Power Show functions as a clearing house of information about the recent developments in power and mechanical engineering. The exhibits will be of interest to all industries which use heat or power in any form or have any problems in mechanical engineering. During the course of the show lectures by prominent men will be given on the following subjects: The Boiler Room, Steam Prime Movers, Oil and Gas Engines, Hydroelectric Power Plant Equipment, Materials Handling, Modern Machine Tool Developments, Mechanical Power Transmission, Mechanical Refrigeration, Heating and Ventilating. The Exposition is administered by the International Exposition Company, the managers of which are Fred W. Payne and Charles F. Roth, with offices in the Grand Central Palace.

GEORGE WASHINGTON UNIVERSITY PRESENTED WITH GIFT

ONE of the largest and best collections of architectural drawings and photographs ever assembled was recently presented to the Department of Architecture of George Washington University, Washington, D. C., by Mrs. D. N. B. Sturgis, of New York, widow of the late Russell Sturgis. The collection presented by Mrs. Sturgis consists of thousands of photographs and plates from which Mr. Sturgis secured the data for his work on *The History of Architecture*. The collection, which is one of the largest and most carefully selected groups of its kind, will be catalogued and placed in the circulating library of the architectural department of the University.

WORKING DRAWINGS

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flattened curve than the one I have suggested but it takes even less room on the board, in the case given above about 11" high by 12" wide. Mr. Stevens' idea is that if you lay out the vertical height of the shaft at ¾" scale, drop a perpendicular and lay off on the base line four times difference between the top and the bottom diameter and connect these you will have the diminution. Then establish the vertical height of your maximum entasis, that is, the height on the shaft at which the entasis projects farthest *horizontally* from the line of diminution. Then of this horizontal line lay off the maximum entasis (I won't go here into the question of the method of establishing these dimensions; it is a question of design based on experience). This will give three points in the curve, the top, the bottom and the maximum entasis. Then draw a parabola or a hyperbola or double ones through these points and you will have the curve from which ordinates can be obtained in the manner outlined above, remembering always that the horizontal dimensions must be divided by 4 to give the actual figure. Mr. Stevens thinks, and I believe it quite possible, that the Romans laid out their entases that way. It's evident they could not do it full size very well, but this sort of a *scheme could be laid out* on a smooth piece of marble or scratched on copper. I would advise those who are interested in this method to get Mr. Stevens' monograph, it is extremely interesting, but he does not go into detail as much as I could wish. The method I use is, however, quite simple, and, if carefully done, is more accurate and much quicker than the old full size method.