## PENCIL POINTS

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WELL, WHERE DO we all stand at the middle of this Year of Our Lord, 1929? How busy are the architects throughout the country? What is the state of employment as far as draftsmen are concerned, and how do things look for the rest of the year? What kind of business have the manufacturers of building commodities experienced since Mr. Hoover went to work for us all down in Washington, and, judging the future by the recent past, what is likely to happen between now and Christmas?

If the state of our own business is any criterion the members of the architectural profession, in which we include those who work for others as well as the employers, the general situation would seem to be more than satisfactory. Our subscription list is right at its high point for all times and bids fair to continue to grow during the rest of the year. Our advertising department is showing con-

stant improvement in two important respects: we have not only published more advertising during the past six months than for any corresponding period, but what is even more important is the great improvement to be noted in the character of the advertisements themselves. Manufacturers are giving more helpful information to the architects and draftsmen who need it than they ever did before, which is all in the right direction. We predict a continuation of this enlightened policy on the part of those who prepare the advertisements for publication in architectural journals.

Considering the country as a whole the situation with regard to the volume of work in the architects' offices is satisfactory. There has been something of a falling off in speculative work due to the tight money situation which has prevailed of recent months, but this does not seem to be affecting to any considerable extent projects of the better and more substantial class. Public work is going ahead on an expanding scale and there is no sign of any abatement in school, hospital, educational and institutional work generally. Building volume should be satisfactorily maintained for the balance of the year.

Some draftsmen are out of work but the capable ones are either continuously employed or find no difficulty in getting work. The activities of our EMPLOYMENT SERVICE permit us to make this statement without qualification.

Some manufacturers report highly competitive conditions with the margin of profit somewhat reduced as compared with previous years. In general, however, merchandise going into the better class buildings is moving without great difficulty. Labor costs remain high, which makes it

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necessary for architects and owners on many projects to cut original estimates so that the price will be within the building appropriation.

Architects and those employed by them should watch their own production costs with the greatest care. Improved methods in the drafting room and in the executive conduct of architects' offices should be carefully considered, especially in the light of the information which has appeared in the last three issues of PENCIL POINTS on the subject of The Architect's Cost and Profit. Conditions in the main are good and We are not likely to remain so. experiencing a tremendous building boom but we have a normal or better than normal condition which perhaps in the long run is even better.

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DRAWING IN RED CONTÉ CRAYON BY ERNEST BORN

MAIN ENTRANCE TO Y. M. H. A. BUILDING, NEW YORK—NECARSULMER AND LEHLBACH, GEHRON AND ROSS, ARCHITECTS This drawing, which measured 221/4" x 26", was done very freely and is extremely effective in the red color of the original. The building shown is to be in red brick with limestone trim. The doors and the grilles above them are tobe wood and are based on Spanish precedent. The sculptured panels in limestone represent Body, Mind, and Soul.

## PENCIL POINTS

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### THE DRAWINGS OF ERNEST BORN

By Rayne Adams

EDITOR'S NOTE:—The remarkable drawings illustrating this article were all made in recent months in the office of Gehron and Ross of New York. Incidentally, in addition to their excellence as drawings they show some original and interesting pieces of design and give considerable evidence of the design ability of William Gehron, under whose direction they were made.

AFTER LOOKING through the series of drawings by Born shown in this issue of PENCIL POINTS and after learning somewhat of his methods of work, one would be bound, as a thinking animal, to give himself up to a bit of reflection;—and, in my case, these reflections have focussed not so much on Born's admirable drawings as on the situation of the architectural renderer face to face with his workaday problems.

The architectural renderer finds his prototype in that age of the fecund Renaissance which brought forth the methods of formal perspective. To those of that early day who had been brought up in the graphic tradition of the predecessors of Brunelleschi, in which the elements of distance and relief were given scant attention, the new science came as an astonishing revelation. My memory does not serve to bring forth the name of the sympathetic Italian architect of the Renaissance, who, hearing that an acquaintance had died while at work on a problem in perspective, exclaimed, "How happy a death!" Yet the incident, even in the garbled form in which it is here given, may serve to indicate sharply the vividness with which the new methods appealed to the generation which saw their flowering.

In our day the novelty of these perspective methods has become a bit worn and I fancy that many a draftsman, toiling at his drawing, may consider that, during the period when the drawing is emerging and travelling to such completion as, under the smile of Fate, he can give it, he metaphorically dies many times,and with no particular thrill of enjoyment in the dying. This reflection is not given with the intention of suggesting that it is the science of perspective which is itself at fault but rather that the horizon of the draftsman has not been cleared so that he may see the limitations of its application. When these limitations are in some measure realized the draftsman's wings are freed and with the realization is likely to pass the feeling of the immanence of the shadow of mortal extinction.

The limitations of architectural perspective methods

as commonly practiced are grave; and a misconception of their legitimate use lies at the bottom of most of our unsatisfactory drawings. It may be that nowadays, in some superior schools where the instructors are spiritual kin to Michelangelo, this abiding truth is taught: that the application of mathematical perspective to the problems of architectural rendering must be made with discretion,-even with a suspicious caution. In many school courses perspective is taught by some instructor whose primary qualification for the post would seem to be that he can't make a drawing. And in saying this I am not reflecting upon his ability to draw in perspective; I am only hazarding the expression of belief that his drawing would, in all likelihood, express the same amount of emotion as would a drawing made after the methods of descriptive geometry, and showing how two boiler cylinders intersect (assuming they do intersect). Yet let not my voice of criticism be harsh:-in that comity which finds its expression in the determinist's theory that all men are justified, we may ourselves gain a sort of just perspective of the errors of these instructors.

For the mathematical science of perspective, so far as the artist is concerned, is merely a means to an end, and while the mathematical theory which underlies it, by certain assumptions, may be impeccable, its relation to the visual world and to the pictorial world is, for all points in the picture save one, faulty. Of course this is something which is patent enough, for distortion results from the reference of all points to a plane. When we look upon objects in nature we see them under continual visual adjustments. Actually we do not see lines and areas,—nor for that matter, points. We see a point and that is all. The rest is inference.

The upshot is this: that frequently the student is trained to place too much reliance in the mathematics of perspective and not enough in what his imagination may tell him if he gives it a chance. In looking through Letarouilly's engravings of modern Rome, have you not been astonished to see the queer distortions of Doric and Ionic columns and capitals shown



FROM A PENCIL RENDERING BY ERNEST BORN—BIOLOGY BUILDING, DENISON UNIVERSITY, GEHRON AND ROSS, ARCHITECTS This drawing shows one of a group of five academic buildings around the main campus at the head of which is to be the library shown on page 443. The materials of the building are red Harvard brick trimmed with limestone. The original drawing, which is very spirited, measures  $21\frac{1}{2}$ " x 15".



PENCIL STUDY BY ERNEST BORN—LIBRARY AT DENISON UNIVERSITY, GEHRON AND ROSS, ARCHITECTS This drawing shows the architects' first suggested scheme for a building of red brick and limestone to be located at the head of the main campus. The evolution of the design is shown by the later studies on pages 442 and 443. The original was drawn with pencil and measured  $21\frac{1}{2}$ " x 15".



PENCIL DRAWING BY ERNEST BORN—STUDY FOR NEW LIBRARY AT DENISON UNIVERSITY, GEHRON AND ROSS, ARCHITECTS Second study for the building shown on page 441. A very spirited presentation in pencil measuring in the original 213/4" x 18". In the final accepted design shown on page 443 the octagonal attic story was abandoned in order to give more space on the attic floor.



PENCIL DRAWING BY ERNEST BORN—FINAL STUDY FOR LIBRARY, DENISON UNIVERSITY—GEHRON AND ROSS, ARCHITECTS This study shows the attic story increased in height and the carrying of the frieze of inscriptions across the façade. Also note the reversion to arched openings on the first story. At the left one of the academic buildings is shown in its relation to the library which will be situated at the head of the main campus.



DRAWING BY ERNEST BORN FOR NECARSULMER AND LEHLBACH, GEHRON AND ROSS, ARCHITECTS This rendering shows the new Y. M. H. A. building at 92nd Street and Lexington Avenue, New York. The building is to be of red Holland brick with limestone trim. The detail was inspired by Spanish precedent. The original draw-

ing measures 22" x 24" and was done in pencil on white paper.

in perspective? Of course we have been brought up to revere not only the science of mathematical perspective but Letarouilly as well, and when we are young and unsophisticated we hesitate to express our refusal to accept these strange projections as either veridical or beautiful. "It must be right,—but it's wrong." And this paradoxical statement rests as the foundation of our training in architectural rendering. After all, what I am making is some sort of plea that perspective as applied to architecture be taught as a means to the expression of our imagination in contrast to the practice of making our imagination the servant of mathematical perspective.

I can think of no better examples in which per-

#### THE DRAWINGS OF ERNEST BORN

spective serves as the handmaid to the imagination than Born's drawings shown with this article. Born belongs to the favored of earth who may rightly rejoice in the fact that their imagination, by some good fortune, never suffered the eclipse of academic training. Or, rather, let us say that his character was such that he was able to resist the poison of academic training. Architecture and architectural drawing with Born have been matters that concern the eye and the hand under the governance of the imagination. Like other free masters of drawing he has learned the secret of the Polichinelle of art,—which secret is, if one may hazard a guess, the legerdemain by which the untrue is made to appear true. Yet even a talented draftsman like Born is faced, —though if he have sufficient courage, he may evade the issue,—with the workaday problems of architectural rendering; and inasmuch as these are frequently presented by perspective methods, it is worth while to note some of the psychological difficulties which beset the path of the renderer. A double handicap may rest upon him. He is frequently wrongly trained; and, by a strange topsy-turvy trick of fate, he is frequently given tasks which admit of no satisfactory solution.

When this notable being, the architectural renderer, in the course of his rambles through some Breton village of his heart's desire, comes upon some subject



WATER COLOR DRAWING BY ERNEST BORN—SIDE ENTRANCE TO Y. M. H. A. BUILDING, NEW YORK NECARSULMER AND LEHLBACH, GEHRON AND ROSS, ASSOCIATED ARCHITECTS



CHARCOAL DRAWING BY ERNEST BORN FOR GEHRON AND ROSS, ARCHITECTS First perspective study of auditorium, State Educational Building, Harrisburg, Pennsylvania. In spite of the unusual point of view and the difficulty of handling the curved lines in perspective, this drawing gives a convincing presentation of the subject. Original size,  $18\frac{1}{4}$ " x 15".



CHARCOAL STUDY BY ERNEST BORN FOR AUDITORIUM, PENNSYLVANIA STATE EDUCATIONAL BUILDING In this second study the auditorium has been enlarged and shown from the rear of the main floor. The drawing was made rapidly but does not fail to give an accurate idea of the architecture. A later study is shown on page 448.

Original size, 19" x 151/2".



PENCIL DRAWING BY ERNEST BORN—THIRD STUDY FOR AUDITORIUM, STATE EDUCATIONAL BUILDING, HARRISBURG, PENNSYLVANIA In this study the balcony has been omitted, partly in order to allow a speaker in any part of the house to be seen and heard and partly as a matter of design. The colonnaded promenade at the rear has been emphasized. The drawing of the amphitheatre curves, a difficult job, has here been done in a very convincing way.

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for his sketch, he finds the subject prepared and meet to his taste. If he didn't find it so he wouldn't sketch it. He would, like the Levite, pass on the other side and wander further until his psychological needs were met by a happier subject. On the other hand,-to pursue the dark contrast,-when this same architectural renderer is set face to face, in the workaday world, with the problem of making presentation perspective drawings, what does he often find? First. that the design of the building leaves him apathetic,or worse. Even though he were to live to be as old as Tithonus he would still be apathetic to it. Secondly, in its presentation he must cut the Gordian knot of contradiction. In sketching the old Breton cottage he was as free as the winds. What if he did change the angle of the roof; what if he did omit a window or two? And if he found something not to his taste, he was free to leave it out altogether. But in the depiction of a modern building, things are more difficult. In the first place the rendering has usually to be made from plans and elevations and all the strange and alluring lights and shadows which seem so easy to accept when nature provides them, must be imagined. In the second place, supposing that the design is pleasing, the renderer is faced with the fact that it may be a type of design which does not lend itself to pictorial representation; and if the design is not pleasing then is the confusion worse confounded.

I do not know whether this melancholy predicament has been dwelt on by others, but I am impressed by the fact that many an accomplished renderer demonstrates a capacity in his sketching of buildings in their natural setting,—and especially with the European background,—which is quite different from the capacity which he shows in making perspective renderings from drawings of buildings yet unborn, and especially certain types of buildings which bulk largely in the American scene.

The devastating problem of making pleasing drawings which shall present, with some rigor, the elements of these latter types in their geometric relation, is most troublesome. It is the answer to the question why, even in the larger cities, there seem to be so few renderers of first-class rank. The crown of thorns presses down too heavily; the flesh is too weak or the ideals are too strong. I can appreciate the feelings of such an architectural renderer when he has accepted a commission to make a drawing, say of a school, with its window sizes and shapes fixed by law; a hospital, with its impossible porches; an office building, with its thousands of windows and its absence of wall surfaces. He may very well wish that he were living in the 14th century when glass was too expensive to use for windows, when people lived without porches, and when human activity was largely confined to the surface of the earth instead of 200 feet in the air; when every building had a visible roof and all was color, gaiety, and good sense.

From this rose-colored picture we come back to the question of our modern problem. What is to be done about it? What is the way out? Perhaps some Piranesi of the future may find the secret,—but a survey of our present-day architecture leaves one with a dismal sense of doubt. Our renderings may be complete falsifications of the building they present, —in which case they may be attractive; or they may be faithful representations, in which case, in many instances, they become shockingly unæsthetic.

If we choose the course marked out by the romanticist renderer we shall leave the windows out of our skyscrapers when they are embarrassing,-or we shall choose early dawn or evening twilight shades to cast a mantle of obscurity over all the evil work. Everyone knows that the only way to make most buildings of this type appear attractive is to omit eighty per cent of the windows and treat the unwieldly hulk as a monolithic beacon of progress standing naked in a sky of Stygian blackness. At least the result so obtained is dramatic and if the client, or the untutored spectator, fails to recognize anything belonging to his world of imagined realities, this difficulty may be explained away in terms of lack of sophistication. And he pays feels and knows, may be a picture of a Chinese haystack.

If my reasonings so far have had sufficient truth to justify their existence, it is only fitting that I make an effort to provide a solution for the difficulties which I have raised. But that is just what I am not going to do. Like Mark Twain, in his story called "A Medieval Romance," I am going to quit just where the story gets most interesting, and leave it with the reader to find a solution,—assuming tentatively that there *is* a solution, that I have a reader, and that he has the slightest interest in finding a solution.

Which Olympian attitude may be my excuse for coming back to the grave and sombre earth and giving myself over to a consideration, not of my own ideas, but to the methods by which Born has made his drawings. First of all, it is a happy circumstance that in the drawings shown, the architecture has been sympathetic to him, and the vast Weltschmerz which I have pictured in the preceding paragraphs as being a portion of the lot of the architectural renderer, has not, I am sure, assailed him here. Born's methods are extremely simple and direct. In making the remarkable perspective studies of the auditorium at Harrisburg, with its bewildering curves, he rose on the wings of his imagination and dispensed with a formal perspective layout which at best would have looked distorted. These studies need only to be looked upon in order to be given instant commendation. Similarly Born's ability to visualize high and dark values and the accidental play of light is noteworthy and in every drawing he gives evidence of little hesitation. One feels that his hand went where his imagination directed. With most of us our imagination follows



#### PENCIL DRAWING BY ERNEST BORN-HASTINGS HILLSIDE HOSPITAL GROUP, GEHRON AND ROSS, ARCHITECTS

This very effective presentation sketch merits close study. In the center at the front is shown the administration building behind which are the social hall and the dining hall connected by the kitchen. On either side are the quarters for the four groups of mental cases under treatment, men at the left and women at the right, quiet cases in the front and disturbed cases at the rear.



PENCIL DRAWING BY ERNEST BORN—STUDY FOR MAIN ENTRANCE TO DENISON UNIVERSITY GROUNDS, GEHRON AND ROSS, ARCHITECTS This delightfully breezy drawing is notable for the daring handling of the trees and shrubs and for the vivid play of light and shadow. The point of view was excellently chosen to show the plan clearly. The drawing measured 19" x 15½".

our hand. And it is this quality, I believe, which gives all of Born's drawings their sudden freshness and vigor.

By way of postscript it is fitting to make note of some of the entries in the book of life which may serve to show the course of Born's earthly pilgrimage. His early home was San Francisco, and most of his youth was spent in California. After attending courses in the University of California he gained a scholarship which enabled him to spend a year in Europe during which time he devoted himself to sketching, principally in water color. On returning to California he entered the office of John Galen Howard and for the three years following was engaged as a draftsman in general architectural design. In 1927 he again went abroad for a year, spending a portion of his time studying at the American School of Fontainebleau. During this year in Europe, Born gave much of his time to sketching in Italy and France, making lithographs and drawings in sanguine and crayon. In 1928 he returned to New York and entered the office of Gehron and Ross.

It is with much pleasure that, as a privileged herald, I may make note that a selection of the sketches and lithographs which Born made in Europe will be shown in a later issue of PENCIL POINTS.



TWO DRAWINGS BY ERNEST BORN-STUDIES FOR TOWER, JEWISH THEOLOGICAL SEMINARY, NEW YORK GEHRON AND ROSS, ARCHITECTS, DAVID LEVY, ASSOCIATE ARCHITECT

These rapid pencil studies, which measured 15" x 28½", show the tower which connects the Library and Teachers' Institute. The body of the tower is to be used for book stacks. The design on the right is the accepted one.

### PERSPECTIVE PROJECTION

#### PART V-NOT WHY BUT HOW IT IS DONE-THE AUTHOR'S DRAFTING ROOM METHOD

By Ernest Irving Freese

EDITOR'S NOTE: This installment completes the series of splendid discussions on the method of "Perspective Projection." Parts I, II, III, and IV appeared in the January, February, March, and May issues of PENCIL POINTS. Text and illustrations are copyrighted 1929 by the author. A new series of articles by Mr. Freese will be started shortly.

SHALL NOW address myself to those of you who earn your living, or try to, "over the drafting-board," although the student who is still sweeping the office floor may also read and profit exceedingly well thereby . . . . and possibly take his place alongside of you! But, as I say, I am now primarily concerned with the welfare of the draftsman who, though just plugging along on "wages," yet cherishes the secret or avowed ambition of someday getting those wages increased to a "salary."

If there is any one thing that increases the value of an architectural draftsman, it is the ability to "lay out a perspective" from the working-drawings he has produced. I know, as you shall see. Increased value means increased wages. Increased wages eventually rise to the magnitude of a salary. As a matter of fact, more than once as a practicing architect I have found myself in the most peculiar position of having had to increase the wages of some one of my own draftsmen because, forsooth, he had of a sudden become valuable to some other architect by virtue of a two-hour course of instruction from *me* whereby and whereupon he had unforgettably learned the gentle art of *converting working drawings into perspectives* with ease, exactitude, and dispatch!

Wherefore, I make the assertion that those of you who will read this, and follow closely, step by step, the one simple process of T-square-and-triangle "projection" from working-drawings to finished perspective, can, also in two hours, learn the unforgettable "HOW" of it. Moreover, no previous knowledge of the "projective" method, nor any other method of perspective, is necessary. My assertion stands unqualified.

However, to the draftsman already equipped with the practical working knowledge of perspective projection contained in the preceding four parts of this presentation, expedients will suggest themselves that will shorten the process of straight projection which is herein, in *this* part, strictly adhered to. *But*, after learning the "HOW" *now*, the student or draftsman who is unacquainted with the foregoing parts referred to, is then advised to "turn backward" and consider same in a thorough and studious manner, not alone to discover the "why," but also with a view to developing more speed in actual practice; for, while the process of straight projection is not slow, yet, coupled with the expedients heretofore referred to and illustrated, it is nothing short of *rapid*. Now get "over the board." The two-hour-course is on!

In Figure 24 are all the "preliminaries." At "1" and "2" a reproduction is given of the  $\frac{1}{4}$ " scale working-drawings from which the house is to be "projected" into perspective. These "working-drawings" already exist, hence form no part of the "work" necessary to produce the perspective; they can be picked from the plan files of any architect's drafting-Nevertheless, a graphic scale is indicated room. thereon, so that, if the student or draftsman so desires (and it would be a wise procedure) he can enlarge these working-drawings, or as much of them as is needed, to  $\frac{1}{4}''$  scale and, therefore, duplicate and follow more readily, the example here chosen. These working-drawings, that is, the "plan" and the "elevation" that are given here, will *henceforth* be referred to simply as "1" and "2" in accordance with the numbers they bear in the Figure shown.

On tough tracing paper placed over "1," and, in order, placed over the second floor plan and roof plan, if any, trace off, with a 2H pencil, all lines that will appear in the finished perspective, but no more . . . . in fact less, for minor details such as sash lines, mouldings, brackets, etc., can be drawn directly on the projected perspective itself after the main significant outlines are procured. This composite tracing of all "plan lines" should also indicate points, with a check mark say, where any change in grade occurs as, for instance, the points a, b, c, d, e, f, and g, which points can be transferred thereto from "2" if they do not show on "1." If the working-drawings do not include a roof plan (which is here shown on "1") develop on the tracing as much of it as will show in the finished perspective, but no more. Use no dotted lines on this tracing; make them all clean, hard, solid pencil lines. Dotted lines are the biggest wasters of time that were ever invented. And in this case they would mean nothing to the experienced draftsman. Just visualize this tracing you have made as a composite transparent diagram of the plan-location of every point or line that will eventually take its place in the finished perspective. Hence, again I make it emphatic: show nothing thereon that will not appear, thus not only conserving time but also avoiding the



FIGURE 24—PERSPECTIVE PROJECTION

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confusion of meaningless lines. Now, with the T-square at corner g, tilt the completed tracing until the main front line makes an angle of, say, thirty degrees with the blade of the square. Then, with black ink, from corner g draw a fine firm T-square line to the right entirely across the tracing, or of no less length than the width of the now oblique plan. The ink line that you have just drawn is a plan view of the "picture plane," which is nothing more nor less than the vertical "screen" upon which you are about to "project" the perspective. And the assumed angle of thirty degrees at which the plan now lies in respect to this line, is purely an arbitrary assumption based, of course, on some judgment. It might have been any angle whatsoever, or no angle at all, and yet it would yield a "correct" perspective. From an artistic standpoint it should never exceed thirty degrees and, in the case here given, it might possibly yield a more attractive "picture" to reduce the obliquity to twenty degrees. It's a matter of judgment and taste which only the repeated making of perspectives will develop. Now, with the plan still tilted at the given angle, "square up" your tracing with T-square and triangle, and cut it down to the minimum area that will include all lines thereon. Then, remove it and again tack it down close to the lower edge of the board, with the picture plane vertical (and on the left side of the tracing) at a distance from the working edge of the board equal to the distance, to scale of course, from which the building is to be viewed, plus two inches (real inches) more. The "plus two" is to allow for that pin-proof strip of hardwood along which the head of the T-square travels. Your "oblique plan" now looks something like "3" in Figure 24, except that yours is at the lower edge of the board where mine should be and, by a stretch of the imagination, is, underneath "4." Henceforth, this oblique plan will be referred to as "3," which is the number it bears in the Figure.

Drive a common pin (no, not a thumb tack) into the board at the plan-position of the point from which the building is to be viewed. This, again, is an arbitrarily assumed point, but, it should be assumed at some accessible point from which the building could be seen. If the building fronts on a city street, with buildings on the other side, then this "station point" should most assuredly be no farther away, to scale, than the opposite sidewalk. If the house is to be built out in the country somewhere, that's another matter .... get as far away as you like, if there's nothing intervening. But in any case try to fix this station point so that the picture you are to make will conform to the actual conditions of visibility. In other words, don't fix this point a hundred and fifty feet away if the street is but eighty feet wide . . . . for you might possibly find yourself, later, explaining to the "boss" and he, in turn, to the "client," that you were an expert house-mover and simply got that house across

the street out of the way so that you could get a view of *this* one from the other alley! In the example given, I have fixed the station point at the rightangular distance of about seventy-six feet, to scale, from the picture plane and about opposite the entrance gate. You can do otherwise if you like: it makes no difference in the method, but what a "whale of a difference" it makes in the result! I am still referring to the location of the station point. Well . . . . it's located, and the pin is driven in to hold it down for awhile . . . then we'll "forget it" altogether.

Now, using the pin as a pivot, as indicated in the Figure, and with your ruling pen screwed down to a fine line, and full of red ink, draw "lines of sight" from each point of "3" to intersections with the black ink line of the picture plane, but no farther. If you miss a few points, it doesn't matter, they can be gotten when you need them by interpolation. Your oblique plan now looks exactly like "3" in Figure 25, except as to position, and except for red ink. Because I have been forced to show this all in black printer's ink, it appears more complicated than yours. Your plan is drawn with a hard pencil, the picture plane with black ink, the lines of sight, or visual rays, with red ink. Everything is distinct and no confusion exists . . . . you know what every line means, or, rather, what it is. The pencil work is plan lines, the black ink is the picture plane, the red ink is lines of sight. And it hasn't taken any more time than if it had all been in pencil. Moreover, if you have made a mistake in the plan, or overlooked something that would show in the perspective, you may add or erase without obliterating the ink lines that are there to stay. Again, you have a permanent document that can be labeled and filed away for future use. Now revert to Figure 24. Remove the pin at the station point, but leave "3" as it is, with picture plane vertical.

Next, tack down another piece of tracing paper on top of "3," and also tack down "2" at the left of it in any convenient location, as shown in Figure 24. You are now "all set" to project the oblique elevation from the front elevation at the left and from the oblique plan directly under your clean sheet of tracing paper. On this tracing paper, first draw, in black ink, the vertical edge view of the picture plane by tracing it directly off the black ink line on "3" beneath. Then, solely by manipulation of the T-square and triangle, "project" onto your tracing paper, from corresponding points already fixed by "2" and "3," the "oblique elevation" designated in the Figure as "4," drawing no point or line thereon that will not appear in the perspective. In this case, the lines that are hidden in the oblique elevation, yet appear on the perspective, should be dotted in. Hence, by using the dotted line for this purpose only, it here means something, the same as the solid pencil line, the black ink line and the red ink line mean something. Confusion is entirely absent. The actual process of "projecting" this oblique elevation is much more simple than the



FIGURE 25—PERSPECTIVE PROJECTION

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simple presentation of it in Figure 24. Actually, not one construction line need be drawn, nor should be. The horizontal and vertical dotted lines in the illustration are merely indications of the positions of T-square and triangle in projecting "4" from "2" and "3." And the necessity of here showing "3" out from under "4," has resulted in more lines of indication in order to make clear the process of materializing "4," which process is the quintessence of simplicity and can be done in less time than I have consumed in explaining it. Every required point in "4" lies at the intersection of the T-square and triangle, when the T-square coincides with said point on "2" and the triangle coincides with said point on "3." That's all there is to it! Take the rake line R-E, to illustrate with a single instance only:-To locate this on "4," slide T-square to R on "2." Slide triangle to R on "3." Make a dot where the working edges of T-square and triangle meet. Repeat the same process and locate E on "4." Then, R-E is the required rake line on "4." It is not only simple, it is fascinating! Now complete "4." And don't suggest again that "oblique" sounds "complicated."

Where more than one window (or *any* repetition of units) of the same height occurs in the same wall (or in any other plane) omit them entirely from "4," and merely indicate there the horizonal boundaries of them, (such as the heads and sills of a row of windows) with a line prolonged to the vertical boundaries of the plane in which they occur. For instance, two windows of the same *height* occur on the side of this house, next the chimney, and they are also on line with the front window of the living room. Hence, these windows are omitted entirely in "4" and only the lines *uxy* and *vwz* indicated; for

the one and only purpose of "4" is to fix perspective heights, and these two lines fix the heights of all windows within them. (This is clearly shown on "5" in Figure 25, to which temporary reference may be had for convenience.) In this case, the vertical line uv of the front living room window, shows in "4," since it is the end of the row, precisely as the line yz at the farthermost corner of the building is the other end of the row. Practice will give the student or draftsman knowledge of what can be omitted and what must be shown in "4." As a matter of fact, this oblique elevation is purely a "height diagram" and, as such, need not be drawn at all, but only the points in it located by dots or what not. However, with the points fixed, it is but the work of a few moments to "connect the points" and it makes for utter clarity in "projecting" the ensuing perspective. Moreover, as an oblique elevation, it is a valuable aid in comprehending the "three dimensional aspect" of the building, which the "workingdrawings" do not convey. And, often, in my own drafting room, I have caught errors in design that became evident in oblique elevation but were not detectable in the working-drawings.

With "4" now completed, next project the position of the station point from its plan position, in Figure 24, into elevation, first assuming the height of the eye. In this case the eye-level is low, in conformity with actual conditions, for the street slopes, and by the time the observer reached the down-hill viewpoint his eye would be on a level approximately six inches above the ground level of the driveway, in other words, about 6" above the line gf in "2." And, inasmuch as it must be at the same distance from the picture plane in elevation as it is in plan, it will



ACTUAL PHOTOGRAPH OF SUBJECT ILLUSTRATED IN FIG. 25 Note the exact agreement with the perspective projected from the working plans.

lie on a vertical line projected from its location in "2" and at a height as fixed. This will become entirely clear to any draftsman who will stop to discover that this point, S, in "4," is the true side elevation, in respect to the picture plane, of the same point, S, in plan. Now, since I have made it clear that you are not looking at this building from two points of view, but that you are merely fixing the one point of view in plan (which you have done) and in elevation (which you are now going to do), drive the same pin into the board at the location of the station point, S, in elevation, as shown in the Figure. Then, again using said pin as a T-square pivot, and again with your pen full of red ink, draw lines of sight from every point in "4" to the picture plane, but no farther, precisely as you did in "3" awhile back. Then remove the once-useful pin, its service is over, and it would otherwise be in the way. Also pull the tacks holding down "2," "3," and "4."

Tack down, in the lower left-hand corner of your board, the paper upon which the perspective is to appear. Tack down "3" and "4" so that the respective picture planes (the black ink lines of "3" and "4") bound this space at right angles to each other, the one now placed horizontal and the other remaining vertical, as clearly shown in Figure 25. Take note that this is a highly convenient arrangement and, even for the fairly large house here shown, takes up a total board-area measuring but 21" x 16" for projecting the perspective at  $\frac{1}{4}$ " scale. The arrangement, however, is arbitrary. For "3" and "4," the "projection tracings," could have been placed in any position whatsoever on the board, above, below, or at either side, so long as their respective picture planes, the black ink lines, PP were kept ninety degrees apart, which is the only governing condition. I have merely shown the most convenient placing for this case.

The "preliminaries" are over. You are now "all set" to project the perspective into the nice clean blank space that you have provided for it. And, when it is done, the nice clean paper will still be nice and clean, for you are going to do the trick solely by the manipulation of T-square and triangle, without drawing any "construction lines" at all; without drawing anything but the perspective itself. For the "projection" process is identical with the manner in which "4" was projected from "2" and "3," in other words, by rectangular coordinates of corresponding points; the only difference being that, in projecting the perspective, the points where the red lines intersect the black are to be used instead of the points from which said red lines emanate. For instance, to project the rake line R-E into perspective: Slide T-square to Ron vertical PP (which is the point where a visual ray from R, in "4," intersects it). Slide triangle to the same corresponding point R on horizontal PP (which is the same point, in plan, as the other was in elevation). Make a dot at R on your blank sheet of paper where the working edges of T-square and triangle

This is the perspective of that point. In meet. exactly the same manner, project the other end E of the rake line into perspective. Then draw the line R-E which is the perspective projection of the rake line R-E. In exactly the same simple manner, which it is impossible to forget, once it is done, project the remaining line and complete the perspective. (The point 1, on the main ridge, is an arbitrary point assumed anywhere thereon and then projected into perspective to get the perspective direction of the ridge, as shown.) That's all there is to it! You have learned, not why, but "HOW" it is done. The "two-hour-course" is over. And if it consumes more than half an hour of your time to complete this perspective, put a little oil on the head edge of your square -that causes it to slide faster. Then, if a half hour seems "slow," go back over the foregoing Parts 3 and 4 of this dissemination of knowledge, apply some of the practical expedients therein exploited, and cut the time down to "twenty minutes flat"!

The draftsman is now aware of the fact that none of the horizontal and vertical dotted lines in the perspective projection shown by Figure 25 are actually drawn. They were merely put there, by the author, as indications of T-square and triangle EDGES. The meeting-point of any two of them is where the T-square and triangle would meet in projecting the point located thereby in the perspective. In fact the drawing is so clearly self-explanatory, that every point and line and plane in the perspective projection can be easily and quickly traced to its source. I have shown how simple it all is at the risk of the process appearing complicated. So, if the draftsman or student is "bothered" about how any one point is projected into the picture, all he has to do is to follow the dotted lines, in either one or both coordinate directions, from any one point in the perspective to the source from whence they come, and all will be made plain. The process above evolved and developed by the Author is of universal application to any object whatsoever, from any point of view whatsoever. It has absolutely no limitations and produces exact perspective images. And, in all cases, the "straight" projective method, given above, is the same. You have learned it all! If the projection of "curves" worries you, just remember that any curve is defined by a number of "points" on it. Locate these "points," then project them into perspective and draw the curve through the points so projected. In the second example to follow, namely, Figure 26, a number of ways of getting curves into perspective are shown.

In Figure 26, just mentioned, is given an example in perspective projection in which are incorporated, and deliberately so, about all the "problems" in perspective that could well be included in one drawing, or even readily imagined:—the arch, the curved buttress, the curved steps, octagonal bay, and complicated chimney . . . all in one. Yet the draftsman will have no more difficulty in this than in the other

#### PERSPECTIVE PROJECTION - PART V



FIGURE 26, PERSPECTIVE PROJECTION-SEE ENLARGED DETAIL ON FOLLOWING PAGE

.... which was none! The process is identical. There are no special rules. *But*, there are ways of "projecting" some of the things, notably, the curves shown, that are worthy of explanation.

All of the curves shown on the "working-drawings" of Figure 26 are portions of true *circles*, hence, under the conditions given, their perspectives are portions of true geometric *ellipses*, hence they could all be projected into perspective in the manner made perfectly plain in Part 2 on "Curved Line Figures," or, again, the arch and buttress could be put directly into perspective by the use of the "Magic Diagonal" exhibited in Figure 16 of Part 3 as an expedient. However, in Figure 26, herewith, I have used neither way, but have gotten them by still other means which will now be explained, but which process could undoubtedly be determined from the drawing alone without risk of mental exhaustion!

The concentric circles of the arch are projected in this manner: In the oblique elevation do not draw the arch at all—*that* is another most excellent way of wasting time. Merely locate the points thereon that will sufficiently define the arch in perspective and then project the points. It will be well to remember PENCIL POINTS



DETAIL OF FIGURE 26, PERSPECTIVE PROJECTION-ENTIRE FIGURE SHOWN ON PRECEDING PAGE

that the oblique elevation, and the oblique plan as well, are "instruments of service" only, not finished, nor even complete, drawings, but that each is merely a composition of points that must be gotten into perspective, and that the said "points" are connected solely for clarity and definition in projecting the ultimate perspective therefrom. As you will note, the so-called oblique elevation here shown remains quite simple even for so complicated a subject as the one selected. But to get back to the arch:-merely outline the enclosing rectangle of the arch on the oblique elevation, as shown. Draw the center line and diagonal and locate on these where both rings cut them. How to do this is shown at the extreme left, in true elevation, the resultant points then being projected to the oblique elevation as indicated. (This, of course, will have been done at the same time as the oblique elevation was made, as has been shown by the immediately preceding problem.) Now project this rectangle into perspective and then, directly on the perspective, locate its center line either by crossing its main diagonals or bringing it down from the wallpeak of the gable. Three points in the curve of the extrados, a, b and d, are now located in perspective, as well as the center c of the arch and the upper corners e and f of the enclosing rectangle. Also, the archway jambs, being already in perspective, define the spring points g and h of the intrados. Now, directly on the perspective, draw lightly the diagonals ce and cf which anyone can readily see must be the perspectives of the same diagonals shown on the oblique elevation since they are limited by the same extremities. Wherefore, it is now but necessary to project, from the oblique elevation, the points i and k, l, and m onto the perspective of their respective diagonals, and, in a similar manner, the point n onto the center line, to accumulate a sufficient number of points through which the arch curves may, with a degree of accuracy dependent upon the draftsman's ability, be sketched freehand. In a similar manner, the reveal of the arch could be established, but, being but little in evidence, and its outer counterpart (or practically so) drawn, the latter also can be drawn in freehand with great accuracy.

The curves of the buttress are gotten in yet a different manner, though the method just given could be there applied also. But it is the desire of the Author to acquaint the draftsman with a number of ways from which can be selected the one that suits best the conditions, and involves the *least work*. So now, in both oblique plan and elevation, mark the four sets of coordinate points ox, pw, rv, and tu. Project these into perspective, by the method now familiar, and the perspectives of said curves are defined by the projected points. This is the general, and universally applicable method of "straight" perspective projection, and, if you forget all the others, you can always rely on this to "do the trick."

As for the curved steps and platform, a quick, accurate and original method is shown. It is especially fast where a whole flight of curved steps occur -for it has no limitations in application. It consists of cutting imaginary triangles through the steps at the points shown, these triangles, in the case of the curved portion, all radiating from the one common center point of the top step, as shown by point 1 which already exists. These triangles, in the oblique plan, are indicated by the lines 1-2, 1-6, and 1-7 and, the one against the bay wall, as 8-9. All bear similar designations in all locations, so that the process is rendered easy to follow. It is to be noted, that the curves of the steps, in the oblique plan, need not have been drawn, but only the "triangles" located. Also, that in the oblique elevation, nothing but said triangles are shown, for by their use, all points in the various curves are projected into the perspective. Now, project into perspective the vertical side 2-3 of the first triangle, at which latter place it now appears bearing the same numbers. Divide this side, directly, into the same number of risers that occur in the entire "flight" .... which is here but two. Hence 3-4 is the first riser, in perspective. Complete the triangle 1-2-3 directly on the perspective. Project the next riser point 5, from above, directly onto the hypothenuse and, at one operation, the next riser 5y appears, limited by the lines of the triangle, as shown. Hence, 4-5 is the first tread, and y1 is the next which, in this case, completes the "flight" in true perspective, and gives the intersection of same with the chimney wall, as the drawing depicts. Repeat this operation for each triangle, and draw the steps and platform through the points thus yielded, and continue the first riser to intersect the bay wall at z, which latter point is projected from the plan above. The complete junction of steps and platform can then be drawn in perspective from the data at hand, as is convincingly shown.

Another point worthy of note in this Figure 26. is the establishment of the mitres on the bay window sills. Nothing but the "significant" lines of this complicated contour are projected into perspective, that is, only the top and bottom lines of an imaginary straight sloping sill, as is indicated both in the oblique plan and elevation. Then the outstanding contour of the sill, showing at the extreme left side of the bay, is drawn in, and the resultant satisfactory lines extended upward or downward, as the case may be, to the center line of the bay, which line, as is made evident from an inspection of the plan, is the ultimate mitre line of the bay, containing, as it most certainly does, the ultimate mitre points of all lines in the mitred contours of each sill-corner of the bay. Hence, with the one outstanding contour established, the others may now be drawn with wonderful accuracy and dispatch by the use of the particular mitre point to which each respective sloping line tends. This same principle is also made good use of at the chimney top, where it is seen that the point 12 is the mitre point of the "hips" of the chimney weathering.

It has undoubtedly been noticed that a small portion of this example occurs *forward* of the picture plane, namely, a portion of the roof at the foot of the main hip. This makes no difference in the manner of projecting the lower end of the hip into the perspective, *except* that the visual ray from that point is carried *backward* to its picture plane intersection instead of forward, as has been made clear in the drawing by the direction of the arrows from point 13. A great deal of the picture often does occur in front of, rather than in back of, the picture plane. This phase of perspective projection has been covered and illustrated in Part 4, Figure 22, heretofore, to which reference may be had.

No expedients have been used in projecting the perspective of Figure 26, but the point A is thereon merely indicated as a suggestion to the student or draftsman who is already familiar with its use as an expedient when within reach, as it here is. To anyone unfamiliar with same, reference is now made to the Author's exploitation of the "Eternal Triangle" as fully set forth in Part 3, Figure 18, heretofore.

Finally, the draftsman is now referred to Part 3, Figures 19 and 20, on "Enlargements and Reductions," for therein he will find, if he has not already so found, that the perspective shown in Figure 26, herewith, could readily have been projected from the much smaller scale "working drawings" shown in the same Figure, and still have yielded a perspective of the size given—the original of which was projected from the 3/4'' scale details, whereas the working plans were drawn at 1/4'' scale.

And now, at the close of this brief but all-contained exposition of the fascinating art of "perspective projection," as set forth and exemplified in this and the preceding four parts, I want to state as emphatically as the printed word can convey it, that, while the "mathematical theory" of perspective, about which huge volumes have been written, is a highly entertaining subject to those who are both so inclined and have plenty of time at their disposal, yet, for the student or draftsman to "wade through it all" merely to find out how to make perspectives, is not only the height, but all three dimensions, of folly; for here, for him to read who will, has been presented in five short parts, a method of MAKING perspectives that is based on applied geometry instead of "theoretical optics"; a method, in the evolution of which, no "works on perspective" were consulted; a method developed, perfected and made manifest, solely by the Author, for the one purpose of making perspectives instead of theorizing about them; a method which is exact, readily comprehended, easy of execution, unforgettable, speedy, and of universal application.



EXAMPLE OF PERSPECTIVE PROJECTION AND RENDERING BY THE AUTHOR

## THE ARCHITECT'S PROFIT AND PRODUCTION COST (Continued)

#### Text written by Charles Kyson from data collected and compiled by the ARCHITECTS' LEAGUE OF HOLLYWOOD

EDITOR'S NOTE:—This installment completes the Hollywood report on cost and profit which was begun in the May issue and continued in June. The author will welcome comments from both architects and draftsmen.

THE AVERAGE ARCHITECT is a well educated chap, honest, very much in earnest, and in love with his work. The artistic element of his nature which helps to make him a successful architect sadly enough tends to lure him away from any mundane figures as to how much things cost. But, he must steel himself against this—it is a source of weakness rather than of strength. Eighty or ninety per cent of the time of the architect is taken up as a business executive. If the architect must be more the artist—the dreamy designer—then he should take up some other line of more purely artistic endeavor, for he can never succeed as an architect. The successful members of the profession must possess that rare faculty of putting art on a business basis.

But let us return from the realms of speculation and again deal with the practical phases of our problems. We have, to this point, confined ourselves to the consideration of the production cost of making drawings only. We have not dealt with the problem of the costs of supervision so let us consider the methods for

#### FINDING THE COST OF SUPERVISION

For the purpose of simplifying the operations of cost finding, the business of the architect is divided into two separate departments, that of making the plans and specifications of the buildings and that of supervising their construction.

This can be worked out as follows: First it would be necessary to find out the cost of the architect's time per hour for supervising the construction of a building. Assume the architect is working on the basis of 2,156 productive hours per year. The Architect's salary is \$5,200.00 per year or \$2.42 per hour. While the architect is supervising building construction the rest of the jobs in the office are taking part of the overhead. Therefore, let us assume that the architect's time will take one-half of the office expense per hour\*. This is determined as follows: Let us assume the total overhead per year is \$14,-709.48. Subtract the architect's salary of \$5,200.00 from this and we have \$9,509.48 office expense per year. Divide this by 2,156 productive hours which equals \$4.41 per hour for office expense. Take onehalf of this, or \$2.21, and add this to the architect's time per hour, or \$2.42, in supervising a building, making a total of \$4.63 per hour.

RÉSUMÉ SHOWING COST OF ARCHITECT'S TIME PER HOUR IN SUPERVISING CONSTRUCTION OF A BUILDING

Architect's salary per hour ......\$2.42 Half of office expense per hour ..... 2.21

Total .....\$4.63

or \$4.63 per hour is the cost of the architect's time devoted to supervising the construction of a building.

#### COST OF THE TIME OF THE ARCHITECT'S PAID SUPERVISOR PER HOUR

Assume that the architect's paid supervisor receives \$60.00 per week, or \$1.37 per hour. The overhead to be added to this, according to the ONE-TWO Rule is twice \$1.37 or \$2.74.

#### RÉSUMÉ OF THE COST OF THE PAID SUPERVISOR'S TIME

Supervisor'	S	S	a	la	ır	y	]	pe	er	h	01	11	•			•	\$1.37	
Overhead	•	ł	•	•	•	•			•								2.74	

Total .....\$4.11

or \$4.11 per hour, is the cost of the paid supervisor's time. An application showing how the cost of supervising the construction work of a job can be figured by an architect is shown later in an example. Of course, any job, whether it be a residence or an office building, could be figured out in the same manner, and you will be amazed to find how much it costs you to supervise the average construction work.

Therefore, before you make a percentage contract for the supervision of your buildings, it would be well for you to figure how much it will actually cost to do the work. First determine how much actual time you will spend in supervising a job for a given amount of money, and then, if the client wishes to have more of your time, charge him for it at a definite cost per hour. This rate should, of course, include a net profit to you. These gratifying and profitable results will follow—you will not waste nearly as much time supervising work as you may have in the past, and the client will not demand an unreasonable amount of

<sup>\*</sup> This ratio will vary of course in different offices under varying conditions. But one-half is easy to apply and will be found fairly accurate.

your time in doing his work. The following example illustrates the method of figuring the cost of supervising the construction work.

## PROBLEM SHOWING HOW TO FIGURE THE COST OF SUPERVISING CONSTRUCTION WORK

A building is 14 miles away from the architect's office. The cost of the building is \$35,000. The architect visits the job 1.5 times per week and his paid supervisor of construction makes 2.5 trips per week. It takes 5 months, or 22 weeks to construct the building. It takes 1.0 hours to make one round trip and 0.5 hours on the job. Office time architect devotes to the job is 2.5 hours per week and paid supervisor of construction devotes 3.0 hours office time per week to the job. The expense of the automobile is computed as follows: As the distance is 28 miles per round trip, and the ordinary distance covered in the overhead is 10 miles, 18 miles will have to be charged extra for each round trip that are not already covered in the overhead for the automobile.

#### SOLUTION OF PROBLEM

Value of Architect's Time.
22.0 weeks x 1.5 visits per week x 1.5
hours per visit x \$4.63 per hour\$229.19
Architect's Office Time.
22.0 weeks x 2.5 hours per week x \$4.63
per hour
Value of Paid Supervisor's Time.
22.0 weeks x 2.5 visits per week x 1.5
hours per visit x \$4.11 per hour 339.08
Paid Supervisor's Office Time.
22.0 weeks x 2.5 hours per week x \$4.11
per hour
Automobile Mileage.
22.0 weeks x $4.0$ trips per week x 18 miles
x 8 cents per mile
·
Actual Cost of the Supervision to the
Architect\$1175.69
THE CORRECT METHOD OF ADDING PROFIT

Curiously enough there are very few business men, contractors, or architects who know how to figure profit correctly. For instance, you hear the common expression that the contractor adds 10% to his costs to obtain his profit, meaning if his costs were \$1,000.00, he would take 1/10 of it, or \$100.00, making his charge \$1,100.00. He assumed by this method he

is adding 10% profit. This is NOT correct, as you

will see. \$100.00 = 90%

1% = 1/90 of \$100.00 or \$1.12

Now  $100\% = $1.12 \times 100$  or \$112.00, or the price the contractor should charge if he were to really get a 10%net profit.

Note: When he adds his supposed profit of \$10.00,

or 10% to \$100.00 he is in reality only getting a profit of 9.091%. The method of arriving at this amount is shown as follows:

-----=90.909%

\$110 amount charged

100.0%-90.909% = 9.091% net profit.

#### METHOD OF ADDING PROFIT

*Example:* Supposing an architect found that his drafting cost plus his overhead amounted to \$1,175.69. He wanted to charge his client enough to make a 30% net profit. The *solution* is as follows:

 $\begin{array}{c}
\$1175.69 = 70\% \\
70\% : 100\% :: \$1175.69 : X \\
\hline
100\% x \$1175.69 \\
\hline
70\% = X, \text{ or }\$1679.56, \\
amount to be charged \\
which includes an \\
actual profit of 30\%.
\end{array}$ 

Note this carefully—the above method actually gives you a 30% profit. The ordinary method, which is wrong, would be to take 30% of \$1175.69, the actual cost or \$352.71, and add this to \$1175.69, total cost, or

\$1175.69—Actual Cost 352.70—Supposed 30% profit (which is incorrect). \$1528.39 Actual profit in per cent is  $\frac{352.70}{1528.39}$  or 23.08%.

And so finishes the great battle with our mutual enemy Old Dragon Overhead. If you will bear further with us we will now mount our hobby horse, and, emulating the gallant Don Quixote, gallop forth and do valiant tilt to a few more windmills which challenge the combative instincts of the Knights of the T square.

#### ANOTHER ARCHITECTURAL ACTIVITY THAT WILL PAY DIVIDENDS

The Architects' League of Hollywood is starting a campaign to ascertain the cost of various types of buildings. In order to do this it is preparing to send out, through Southern California only, blank forms requesting the square-foot areas and cubic-foot contents of each building, together with a résumé of the essential specifications of each building. There is a need for such information as the architectural profession has been somewhat inaccurate in quoting preliminary figures. Our attention was called to this by the remark of a business man recently—"Oh! that's only an architect's estimate. It does not mean anything. We will have to get a contractor to figure out our costs for us." There is no question but that architects should be exceedingly careful in guiding the building investments of their clients by the proper quotation of preliminary figures. The movement of the Architects' League of Hollywood in this respect will make it possible for the architects in Southern California to have fairly accurate data relative to costs of various types of buildings. This, of course, can be done without necessarily divulging the name of the building or violating any confidence the owner may feel that he has placed in the architect.

The League proposes to publish this cost information at periodic intervals and charge a nominal sum to cover the actual costs of preparing them. If this activity were taken up by the various chapters of the American Institute of Architects and other local architectural organizations, a great good could be accomplished to add to the business repute of the architect.

#### INAUGURATING A PUBLICITY CAMPAIGN

We have mentioned the need for advertising publicity previously. And having had some experience in putting on a publicity and advertising campaign, the Architects' League of Hollywood would like to share the benefits of their experience with you. Much can be accomplished for the benefit of the business and profession of architecture, by adequate advertising and publicity campaigns.

Publicity has become a highly specialized science. It is closely related to advertising and yet it is distinctly apart from it. A publicity drive may be described as a concerted effort to bring to the attention of the public a particular person or cause. Architects should remember that the art of architecture is not a dry uninteresting subject, it is vital and throbbing with human interest, providing a person knows how to grasp its "story" angle or "news" value. The trouble with most architects is that their training does not give them a news sense, and they do not recognize the "story value" of architecture.

For example, if an architect were to write an article describing a piece of architecture, he would probably say, "The edifice is beautiful in its matchless line and proportion. The entasis of its Greek columns is as faultless and pure as the Greek Parthenon." The architect's description would be academic and correct but impersonal and devoid of color and human interest. Now, a good publicity man or a reporter would write the building up somewhat as follows, if he wanted the general public to read about it.

First, he would interest some celebrities—he might pick out a visiting movie star—and perhaps some adventurous chap who had flown over the North Pole then get the Mayor—and if he were doing publicity for the architects, he would get the architect of the building. He would have them all photographed grouped on the steps with the colonnade in the background. The architect might be showing them a set of blue prints, or preferably a model. The write-up would tell things of interest about the people pictured, and he would tell how the Ancient Greeks knew and practiced the refinements of optical illusion, and tell how corrections were made in this building to obviate these. It might be even headed "Ancient Greeks Fool the Public."

Now the academic article as written by the Architect would be as dry to the average person as reading the Congressional Record, while the story of the publicity man would be read with keen avidity, and a new interest in architecture aroused in many people.

We may be accused of taking some license in this description and many an architect may wring his hands in anguished horror at such methods. It may be, as we say in Hollywood, a lot of Hokum, but it serves to illustrate the methods of the gods of the printed word.

A person writing publicity has to catch a news or story angle in any event, if he is going to get the editor sufficiently excited about it to get the stuff published. The moral of all this is that a campaign of publicity by architects to be effective must be in charge of someone who knows something about architecture—one who appreciates its romance and at the same time has the ability to write stuff that the public will read.

Architects could consistently carry a certain amount of mass advertising, in the newspapers of their local community, over an extended period of time, in which they might advertise the cause of architecture, telling the community of the great value to them of the services of the architects. These advertisements might show how architects could increase property values and make their community more beautifulpoint out to the public the advertising value of good architecture. This would cause the architect to assume a new importance and value in the eves of the Several chapters of the A.I.A. and other public. architectural groups have already done this and, we are told, have obtained good results in their localities.

## LET US LOOK AT PUBLICITY FROM THE NEWSPAPER ANGLE

The cause of the architect has an unquestioned news value, but architects should realize there has come into being certain practices in the field of advertising which are pretty generally accepted. Advertisers are accorded the privilege of publishing that which has primarily a news value and yet tells the story of their particular cause. Newspapers are published, not essentially as a philanthropic enterprise, but for profit, and in the great majority of cases the policy guarding their news space is governed by a fairly high code of ethics and definite rules of procedure in matters of advertising and publicity. If the architect is to put his cause before the public through the columns of the newspapers, he will do well to recognize and conform to established custom.

There is no question but that the newspapers would be glad to help the cause of the architect and in return we architects should recognize this courtesy. We should look at their side of the story. If the Architectural Associations carried some advertising, there is no doubt that the editors would be glad to publish stories, articles, and illustrations telling of the many interesting phases of architecture, home building, etc. However, to make such an effort effective, the writing of this readable, newsy sort of stuff must be delegated to the hands of someone who is an expert in this particular line.

#### AN EFFECTIVE AND INEXPENSIVE PUBLICITY CAMPAIGN IN WHICH ALL ARCHITECTURAL ASSOCIATIONS CAN EASILY INDULGE

Of course, such a campaign of publicity and advertising as above suggested costs money, but we're going to have to spend it if we architects survive and progress. Another means of getting publicity which is not nearly so expensive but which is tremendously effective, and one in which every chapter or society of architects in America should indulge, is to establish a speakers' bureau. To accomplish this, those architects who are able to speak well in public should be organized and the points which they are to emphasize in their talks carefully thought out. It would be helpful and tremendously good fun for them to organize groups and be coached by a teacher in public speaking-then practice on each other, until each one is able to deliver, simply and effectively, an interesting and appealing talk. Those who have never tried it can have no idea how really interesting and beneficial this kind of practice may be. When they have organized and perfected themselves, a canvass should be made of the local women's clubs, service clubs, societies, etc., and dates made for the Architects to address them. These organizations are almost always glad to have a good speaker talk to them on some vital and interesting subject.

## THE REAL ESTATE INTERESTS AND THE VALUE OF THEIR SUPPORT

Another very important field for this speakers' bureau to cover would be the Sales Organizations of the various firms of realtors in the community. They will cordially welcome an architect addressing them. Get them sold or imbued with the idea of what an architect can do to help them—show them how good architecture can increase property values—point out how a mediocre looking house in a new subdivision hurts the sale of property, how good looking store buildings increase rentals and draw business. Tell them how to get good architecture—tell them what an architect does. Most of them think the builder is the man to employ if they want a beautiful home.

Now here is a tremendous field. The realtors' sales organizations frequently have so-called "pep-up" meetings, where they have speakers address their salesmen. This presents a really marvelous opportunity for us to convince a very influential body of men of the value of our services to them. They are the first ones to meet the building public through the sale of a lot. A word of advice from them as to the necessity of employing an architect will do much to influence the prospective builder to consult a capable architect. There are hundreds of topics on the subject of architecture and building which would interest real estate selling organizations. Here are a few; how to judge good construction—some of the practical points in house planning which are important and help the sale of a house—an illustrated lecture showing the styles, explaining what is Colonial, what is English, etc.

In handling any of these subjects, however, architects should forget the great, glorious, sacred, and exalted position of the architect—forget what the public should do for the architect. Let us scrap the great pronoun "I," use the less exalted "We," and stress the extremely interesting and intriguing "You." Tell them what we can do for THEM, how THEY will be benefited, how THEY can make more money, how good architecture can advertise THEIR tracts— THEIR properties!

Then illustrate your points by telling a story of some actual human experience, where some real live people underwent the advantages or disadvantages you are trying to bring out. Humanize your talk, personalize it, realize that architecture is one of the most human of all the arts. Using these methods of treating your subject, you can make it tremendously interesting to the public and bring it to a realization of the position of great importance the architect should play in the community and in the lives of its members.

#### PUBLICITY VALUE OF POPULAR CONTESTS

In America we have a tremendous amount of Civic pride, a sense of loyalty to the good old home town, and if architects would utilize this sentiment they could do much to forward their cause. For example: supposing an architectural society were to have a competition among the school children of the city offering small monetary prizes to the children who would turn in a kodak picture of what was subsequently judged to be the best looking bungalow, or store, or entrance.

Then have the mayor and the president of the local architectural society award the prize, and have it photographed and published in the papers. This constitutes news, and the newspapers would be glad to publish it. Then have printed the best pictures submitted and, of course, the winning photograph. A contest of this sort, if handled rightly, would arouse tremendous interest. Architecture would quickly become a living factor to thousands of people who had never given it much consideration before.

#### HOW OUR PROGRESSIVE COUSINS OF THE SOUTH AMERICAN CITIES ENCOURAGE BEAUTIFUL ARCHITECTURE

One of the great cities of South America annually awards prizes for the best looking buildings of various types erected during the year. The buildings receiving the award become free from taxation for a period of time, and the owner is given some sort of recognition. Don't you think that under the circumstances such an owner would be exceedingly proud of the fact that his building had won a prize? The personal advertising good architecture would receive at his hands would probably be extremely extensive among his acquaintances. If something of that sort were attempted in the United States, an untold amount of good could be done toward the popularization of architecture and the beautification of our cities. This arousing of the interest of the public in the subject of good architecture would be of incalculable value to the architect.

There is always a great number of influential people in every community who will jump at the chance to get their names in the papers, and who would rush to help and sponsor any movement of this sort for the publicity which they, individually, would get. They realize it is the finest kind of personal publicity, to be thus linked with some movement to beautify or better the city.

If the architects as a class would lay aside many of the dear and sacredly venerated traditions and devote more time to the fascinating and interesting today and the inspiring tomorrow, they could easily find many ways to advance the cause of architecture.

#### THE RADIO AS A MEDIUM OF FORWARDING THE CAUSE OF THE ARCHITECT

It would be possible for the architects to sponsor a radio program and get absolutely the finest artists in the community to contribute their services gratuitously, if it were made clear that this was being done in the spirit of beautifying or bettering the community. Artists are so generous with their services, so glad to give in a good cause. They would be doing a genuine service to their community, and also a friendly act to their brother artists, the architects.

In putting on a radio program, however, don't forget to give proper publicity, both on the air and by the printed word, to those artists who so generously help you. Artists know the value of publicity so, since they are receiving no monetary reward, be generous in this respect. Of course, a series of talks on home planning, home financing, etc., and a multiplicity of other subjects of interest to the Home Builder could be put on the air with these programs.

These are merely a few suggestions which have been in a measure tried out and proven to have merit. There is no question but that they can be amplified and further developed by giving them a little thought. SECURING ADEQUATE LICENSING LAWS FOR ARCHITECTS

Much work can be done with great benefit to the public as well as the architect by securing more adequate licensing laws and methods of enforcing them.

Such laws already exist in some states, but in some cases no adequate provision has been made for their enforcement. At this point it is well to consider a peculiar obsession which we, the people of the United States, have in regard to law. We seem to think that if an evil condition of affairs exists and we don't like it, we should have a law passed to stop it. Then, with a naive expectancy we sit back and patiently wait for the conditions we dislike to be corrected. In the face of repeated failures we persist in this fallacy. We lose sight of the fact that a law, to be effective and enforced, must possess the endorsement of the public. The public must be sold on the need and justice of the law, otherwise the difficulty of general enforcement is so great as to practically nullify it.

If we architects are going to have enforceable laws written into our statute books, licensing the architect and preventing those unfit to practice from practicing, we must face and recognize conditions as they are, and by proper publicity educate the public to the need for this legislation and the value to it of enforcement.

## GIVING A HELPING HAND TO THE OTHER FELLOW

Every sensible man realizes he cannot live by himself, or within himself alone. His welfare is interwoven with, and is in some degree a part of, the destiny of many others. This has led many great thinkers to realize and advocate the necessity of a person devoting some of his time to the unselfish service for others. Theodore Roosevelt was one of these. He stated that it was a duty and a necessity for every man to devote a goodly and reasonable portion of his time to the betterment of his business or profession.

It's a lot of satisfaction to feel that our business associates and competitors are saying of us. "Take Clark Morgan—there's a man for you! Think what he has done for our profession—of the problems that fellow has helped us solve—the time he has put in helping the other fellow! Yes, sir! Our business is a lot better off and our profits are greater by having him in our business. That fellow isn't a competitor, he's a cooperator."

When our efforts are such as to call forth such comments from our associates, and our competitors as well, what other things are there in life that give us as strong or as genuine a sense of satisfaction!

We all like to associate with an interesting cultured group of men who have traveled and have a breadth of vision. Architects are essentially in that class. Presumably that is why their social rating is so high.

When we become good friends with our competitor, work with him, get to know him—to understand him and his problems—we find he isn't at all like the Devil we sometimes picture him. His horns vanish and his cloven hoof disappears, and we find a friendly sort of a chap who will frequently go a long way to help us out of a difficulty. Friendships formed in the association of work with such men for the betterment of our profession frequently endure for years and are classed among our dearest possessions.

#### THE INCREASING NEED FOR GOOD ARCHITECTURE

To those who have a talent for the practice of the profession or business of architecture, there is no form of human effort that is so satisfying. Creating something beautiful, something concrete, that stands as an enduring monument, gives a sense of accomplishment which is deeply gratifying. A creative individual is usually not happy in any other kind of work. If a high architectural standard is to be maintained, if the architectural monuments we create are to be largely the standards by which our civilization is to be judged, then it is high time the architect should increasingly receive the recognition which the importance of his activity demands. If high architectural ideals are to be achieved and maintained, the public must be educated to recognize their vital necessity and in common fairness be glad to pay the architects a sufficient amount to achieve these results.

There is no question but that the public standards of good architecture and decoration are improving. Many factors are at work to bring this about. Many high class magazines are devoting themselves more and more to the exploitation of the beautiful in architecture and decoration. These magazines are primarily read, not by those within the profession of architecture, but by the public. These magazines maintain a high standard in selecting their illustrated material for publication. Never were there so many factors at work to help the cause of the architect. We have but intelligently to put these forces to work. There is much truth in this homely old saying-"God helps those who help themselves." Architects must do more than they have in the past. In this fast-moving, quick-thinking age, service and utility are the inexorable standards by which we are judged. If an individual or group cannot justify itself by these two standards, then indeed its cause is doomed.

When we architects awaken to demand and achieve our place in the vanguard of progress—in the front ranks of the men of vision, the men who serve—then it will be that the profession of architecture can truly be said to have come into its own. To have the community, the citizens of our country, our associates and friends say of our profession—"Those architects, what a progressive lot of men they are—men with real vision! They are always on civic committees and art commissions, and when it comes to the points involving the beauty and welfare of our community, they are right on the job all the time!"

A man is only great in proportion as he gives. This is essentially true in architecture. The successful architect must give generously of the talent with which he is divinely endowed, keeping his mind always on the fact that "the laborer is worthy of his hire." The architect must have the good sense and business judgment to demand sufficient recompense so that he can render to his clients and his community that high type of service which is due them.

It is truly a wonderful thing to experience that sense of peace and satisfaction which comes of having served worthily and honestly, to be able to say in the words of the great Apostle Paul, "I have fought the good fight—I have kept the faith." Truly it would seem that our United States has been peculiarly favored by the Divine and All Powerful One. Never has a nation experienced such prosperity, never a people such freedom, and in all history the opportunity for architecture was never greater than now. True, the past has its marvelous heritage of beauty and the wisdom of tradition, but the one constructively minded, however, thinks always of yesterday in the terms of the fascinating today and of the alluring tomorrow. A general conviction is growing that we architects must modernize our thoughts and methods. Signs are everywhere present that the profession is awakening to this necessity.

The irresistible legions of progress are moving, their pace increases—the march has begun! For these forward-thinking battalions, the inspiring words of that fine old missionary hymn are rich with promise—

> A glorious day is dawning, And o'er the waking earth, The heralds of the morning Are springing into birth.

In dark and hidden places, There shines the blessed light; The beam of truth displaces The darkness of the night.

The advocates of error, Foresee the glorious morn, And hear in shrinking terror, The watchword of reform.

It rings from hill and valley, It breaks oppression's chain, A thousand freemen rally, And swell the mighty strain.

#### INTRODUCTION TO THE MANUAL OF PRO-FESSIONAL PRACTICE AND SCHEDULE OF CHARGES AS PREPARED BY THE ARCHI-TECTS' LEAGUE OF HOLLYWOOD

While we of the Architects' League of Hollywood have given considerable thought to the matter of a proper schedule of fees, we are frank to say that, with the publication of the following schedule of charges, the last or final word has not been spoken. This schedule, however, has been tried out and put in actual operation by the members of the Architects' League of Hollywood for approximately three years and it has been found to be very satisfactory and a decided improvement on anything we have yet found.

#### COST COMMITTEE OF THE ARCHITECTS' LEAGUE OF HOLLYWOOD

ROLF R. NEWMAN, Structural Engineer, Chairman Charles Kyson, Architect,

Editor and Corresponding Secretary

Horatio W. Bishop M. L. Barker L. A. Bryant Charles S. Cobb R. C. Flewelling Park M. French H. L. Gogerty Edwin D. Martin Verner B. McClurg Walter H. Parker Roy S. Price John Roth Howard Wells

Ellet Parcher, Structural Engineer

James F. Handley J. Lyle Vance	} Business Associate.
F. M. Pieper	)
E. B. Fountain	Accountants
Frank Tupper	J

## IS THE PERCENTAGE METHOD OF CHARGING THE BEST?

There are many architects who consider the percentage fee basis as not being the best upon which an We have had architect should base his charges. correspondence with various firms and have found their practice is to charge for the drafting room fees, plus the overhead, plus a percentage of profit to the architect. If this system were universally adopted the architect would be assured of getting his profit providing he had a correct method of actually determining his overhead. The writer of this text can speak from his personal knowledge as to the operation of this method because in several instances he has made contracts based on this method and it worked out with signal success. In one particular instance, the plans and specifications and supervision were performed for a little less than the standard A.I.A. fee. However, it was one of those fortunate jobs that required little detailing and the plans and specifications went through without a hitch because the owner was a decisive type-knew his own mind and exactly what he wanted, and so few changes were required.

In another case, however, the writer had to do with a corporation where a great many department heads were involved in the solution of an intricate and complicated plan. This was for a commercial structure and it was simply impossible to get all of the department heads and directors to agree on an arrangement. They would have a meeting, make up

their minds that a certain scheme was O.K., and then make definite authorization for starting the working drawings. When these would be about half completed someone would get a semibright new idea and they would have another meeting and the resultant controversy would absolutely scrap all the work that had been done.

It was the most peculiar and remarkable case which ever came under the writer's observation. Those plans cost a little more than 15% for the actual drawings without any supervision, due to no fault of the architect but accountable to the natural confusion of "minds many." It was a case of too many cooks resulting in a sadly flavored pottage. Had the architect proceeded under the ordinary form of architectural contract it would have resulted in great loss to him and might easily have resulted in a most unpleasant situation and probably an expensive lawsuit.

As it was the Board of Directors paid for what they got. They were penalized for their vacillation and inability to make up their minds. Fortunately enough they were sufficiently good sports to admit this condition and they justified themselves on the ground that it was cheaper to make changes on paper than it was in the finished building, and they must have an arrangement which was economically possible and one upon which all department heads could agree. The building has not yet been built. When the project is revived, the Irish wake will probably start all over again and that right merrily.

The advantage of this particular form of contract to the client who can make up his mind and stick to a definite course of action is that he is rewarded for those decisive mental qualities. On the other hand, if he is a vague, confused thinker, indecisive and vacillating, *he* pays for these qualities of thought, and not the architect. Then too it brings this important fact home to the owner—he comes to regard the direct labor of draftsmen employed in making his plans in much the same manner as he does the work of mechanics in actually constructing a building—he sees clearly this architectural labor as an essential part of his structure. Whereas under the old system he is inclined to regard the entire work of the architect as of doubtful necessity and in a nature of pure luxury.

Because of the writer's personal experience he naturally prefers that form of contract to which the owner pays the drafting costs, plus the overhead, plus a profit to the architect. In this case the cost of the supervision of the building to be based on the actual time expended by the architect or his superintendent, plus the overhead and plus the profit. Incidentally, you will find under this system that you will have to provide for enough visits to the job per week to adequately supervise the building, because when the owner comes to the realization it is costing him a certain amount every time you visit his job, he is liable, in a burst of economy, to decide that he needs you less often than he actually does. On the other hand, if he is that egotistical type of client who considers his job the most important that is being constructed in the community, and if you happen to be unfortunate enough to be working under the ordinary form of percentage contract, he will try to monopolize much more of your time than is justified.

There are many advantages to this new type of contract against the old percentage form and it will be well for the progressive architect to devote a good deal of thought and analysis to this question and decide upon the one under which he prefers to operate. However, let us sound a word of warning. If you decide to use this new method, don't fool yourself about a single item of your overhead for every such item you miss is bound to come out of your profit account. Of course, this is true with either type of contract, but it becomes particularly apparent if you operate under this new form of agreement.

#### WHAT OTHER ARCHITECTURAL ASSOCIA-TIONS HAVE DONE FOR US

In analyzing the various schedules of charges and professional procedure we wish to make an acknowledgment to the Royal Canadian Society of Architects. We felt they had evolved a schedule of charges and code of procedure which was worded in a simple straightforward and highly effective manner. Also, we wish to acknowledge that we gave careful consideration to the documents of the American Institute of Architects, and covered several of the points which they brought up, so our schedule is based upon the carefully thought out documents of these two great architectural associations. We feel that our schedule practically covers all of the points which frequently come up in controversy between architect and client.

#### MAKING A SIMPLE AND EFFECTIVE CONTRACT

This schedule of the Architects' League of Hollywood has been very effectively used in the following manner. For example: the architect would write a brief letter setting forth the location of the building, the fees to be charged, and the terms and time of payment. In the letter he would then state, "any further points in this agreement not specifically stated in this letter, shall be governed by a Manual of Professional Charges of the Architects' League of Hollywood, a copy of which is attached herewith." Then the architect would sign the letter in the customary manner. In the lower left-hand corner would appear the words-"The above proposition is approved and accepted" and the owner would sign below these words. This would make a very simple contract and one easy to get signed.

If, for example, the contract had contained four or five pages of highly involved legal phraseology, the owner would suspiciously rush out to his lawyer to have it dissected to find out if there wasn't a catch in it. The lawyer in attempting to earn his fee would raise a lot of points of controversy and ultimately it might easily result in the architect losing the job. Whereas if this simple contract, as above stated, were used, it would be comparatively easy to get the desired contract signed. The reason was simple when you stop to analyze it. The owner, looking over the two printed pages saw that it bore the endorsement of a recognized architectural society, and he assumed this to be standard procedure among architects, and he accepted it as a matter of course.

If, on the other hand, the architect had had a typewritten copy of this identical schedule made, and then asked his client to sign it, this gentleman would immediately jump to the conclusion that these were a lot of special requirements of that individual architect and he would feel a hesitancy in signing without consulting his lawyer, the same complications occurring as above mentioned.

It is a most unbusinesslike and foolish thing for an architect to proceed without a written contract. In nine cases out of ten it leads to trouble and loss. Many architects hesitate to ask for a written contract because it looks too complicated, and they are not sure of how to draw one, and they hesitate to pay a lawyer to do so. The contract herein described is simple and effective and one with which every architect should protect himself. If he will proceed along these lines he will win the respect of his client because of his businesslike methods.

It is not difficult to get an owner to sign such a contract when you use this type of argument. "Now, Mr. Client, you are entrusting me with the expenditure of a large amount of money. You are depending upon me to protect your interests in your relations with various contractors. If I don't have the courage and business ability to protect my own interests what assurance have you that I will protect yours?"

That's a very effective and conclusive argument and if you use it you will have very little difficulty in getting this simple type of contract duly signed, and we think if you take it to your lawyer, you will find that you have A CONTRACT. As we have said, we feel that this schedule of professional charges as arranged by the Architects' League of Hollywood may be improved. It probably will be, but don't lose sight of the fact that as it stands it is so good that it will afford you a measure of protection you have probably never had before, and that it has stood the test of fire and been found a thoroughly practical, workable, and usable document.

We recommend that you boost for its general adoption and that you have copies of it framed and put up in your office. When the subject of fees comes up, have it handy so that your client can read it. It will save a lot of argument and will assist you to get a larger and fairer fee for your work, so that you, in turn, can render better and more adequate service to your client. Thus, you will build for yourself a reputation for the businesslike practice of your profession, as well as for your artistic and architectural attainments. Such a combination of reputation will insure your success and attain for you a preferential and profitable type of business.

#### MANUAL OF PROFESSIONAL PRACTICE AND SCHEDULE OF CHARGES AS PREPARED BY THE COST COMMITTEE OF THE ARCHITECTS' LEAGUE OF HOLLYWOOD, CALIFORNIA

Based Upon the Schedules as Established by the American Institute of Architects and the Royal Canadian Institute of Architects

The usual professional services of an architect consist of necessary conferences, the preparation of preliminary studies, working drawings, specifications, large scale and full size detail drawings, draft of forms of proposals and contracts, the issuance of certificates of payment, and supervision of construction work. The architect endeavors to guard the owner against defect and deficiencies in the work of the contractors, but does not guarantee the performance of their contracts.

NOTE: It is very essential that the architect and client thoroughly understand the difference between *supervision* and *superintendence*. Architectural supervision is the usual service consisting of time spent in the office and visits of inspection to the building during its construction, and is extraneous to the service encompassed by the drafting; said visits shall be at the discretion of the architect as and when he may deem necessary. Superintendence is continuous service on the works and is a position held by an assistant directly representing the architect. He is employed by the architect and his salary is paid by the owner in addition to the architect's fees.

The architect will, if the client so desires, make or procure preliminary estimates on the cost of the work or any part thereof and will endeavor to keep the actual cost of the work as low as may be consistent with the purpose and character of the building, and with proper workmanship and material. No estimate at any time procured or submitted by the architect is to be considered in any way a representative agreement or guarantee on the part of the architect of the correctness of such estimate or that the work can or will be done for the amount thereof.

1. The proportion allotted to each branch of the professional service is as follows, and should the works be stopped for any reason whatsoever, the architect shall be remunerated according to the services he has rendered based upon the percentage quota for each division of service as segregated hereunder.

Sketch Plans	of	total	fees
Working Drawings 50%	of	total	fees
Details	of	total	fees
Supervision	of	total	fees

2. The proper MINIMUM charges for such services are as follows:

- (a) In the case of warehouses, factories, and large plain buildings, involving no detailed interior finish, five per cent of total cost of the works.
- (b) In the case of public buildings, schools, hospitals, libraries, office buildings, banks, hotels, clubs, apartment buildings, and other buildings, except as hereinafter mentioned, six per cent of the total cost of the works.
- (c) In the case of churches, eight per cent of the total cost of the works.
- (d) In the case of residences, ten per cent of the total cost of the works.
- (e) Alterations up to \$5,000, twenty per cent of the total cost of the works; over \$5,000, fifteen per cent (minimum) of the total cost of the works.
- NOTE: The words "total cost of the works" mean the total cost of the finished and completed building, not including the architect's and engineer's fees or the salary of the clerk of the works.
- 3. Payments are due as follows:
  - (a) A retainer fee as may be agreed upon, but it should not be less than one-half of one per cent of the proposed total cost of the works.
  - (b) Balance up to twenty per cent of the Architect's fee based upon the estimated cost of the building upon instructions to proceed with the working drawings.
  - (c) Balance up to forty-five per cent of the architect's fee as based upon the estimated total cost of the works when working drawings are half completed.
  - (d) Balance up to eighty per cent of the architect's fee as based upon the estimated total cost of the works when working drawings, scale details, and specifications are completed.
  - (e) Final balance, namely twenty per cent, to be paid pro rata as and when the certificates are issued by the Architect to the contractor.

4. In the event of the architect being required to supervise the works under the separate contract sys-

tem as distinguished from a general contract, then his fees for these extra services shall be increased at least fifty per cent of the fees agreed upon for usual architectural services.

5. For selecting and purchasing of furnishings, draperies, etc., a fee of five per cent upon the total cost of same shall be made.

6. For designing decorative interiors, fittings, furnishings, monumental or other special work outside the scope of usual architectural details, the fee will be regulated by special circumstances and conditions, but in any event not less than ten per cent of the total cost of same.

7. When it is necessary to have supervision other than the architect's usual supervision, the architect will appoint a clerk of the works whose salary shall be paid by the owner in addition to the commission paid to the architect.

 None of the fees above enumerated cover charges for professional services rendered in connection with litigation in consequence of delinquency or other causes, or insolvency of the owner or of a contractor.
 Where heating, ventilating, mechanical, electrical and sanitary problems are of such a nature as to require the services of a specialist, the fee will be increased to cover the cost of such services. Chemical and mechanical tests, when required, shall be paid for by the owner.

10. The services of an architect do not include any legal work necessary in the preparation of contracts or any negotiations with respect to property, party walls, or such matters.

11. No deduction is made from the architect's fees on account of the use of old materials, penalty, liquidated damages or other sums withheld from payments to contractors.

12. Clients shall furnish and pay for property sur-

veys, contour maps, building permits, and all other similar disbursements.

13. In matters calling for charges by the day, the charges per day will depend upon the architect's professional standing, but the minimum shall not be less than Fifty Dollars per day, or part of a day.

14. All the foregoing commissions and charges are for services rendered within the city or town in which the offices of the architect are situated. For services beyond these limits a charge per day for the architect's services and his assistants may be made in addition to the above mentioned minimum schedule for fees, and all his traveling and other incidental expenses shall be paid by the client.

15. If after a definite scheme has been approved the owner makes a decision, which, for its proper execution, involves extra services and expenses for changes in or additions to the drawings, specifications, or other documents; or if a contract be let by cost of labor and materials plus a percentage or fixed sum; or if the architect be put to labor and expense by delays caused by the owner or a contractor or by the delinquency or insolvency of either; or as a result of damage by fire or other casualty, he is to be equitably paid for such extra service and expense.

16. Drawings and specifications as instruments of service are the property of the architect, the copyright in the same being reserved to him, but the client is entitled to a set of prints of the plans and specifications of the building as a matter of record.

17. When labor or material is furnished by the owner, below its market cost, or when old materials are re-used, the cost of the work is to be interpreted as the cost of all materials and labor necessary to complete the work, as such cost would have been if all materials had been new, and if all labor had been fully paid at current market prices when the work was ordered, plus contractor's profits and expenses.
### PLATE XXV

### VOLUME X

### Number 7

This delightfully playful bit of garden sculpture by Oronzio Maldarelli is designed to be cast in either bronze or lead. The group stands about 31" high. Although the figures are in the round, the composition is in a plane so that the effect might be termed "a free standing relief." The individuality of the sculptor is distinctly felt in this work which successfully combines classic restraint with the "touche moderne."



GARDEN GROUP BY ORONZIO MALDARELLI "'TWO KIDS"

PENCIL POINTS

## PLATE XXVI

### VOLUME X

### Number 7

This plate shows, at almost exact original size, one of the recent drypoints of Samuel Chamberlain, who is again in Europe after a short exhibition tour of this country. The delicacy with which the artist handles this none too easy medium is always worthy of admiration.



FROM A DRYPOINT BY SAMUEL CHAMBERLAIN "THE MARKET COURT "BRUGES"

# PENCIL POINTS SERIES of COLOR PLATES

This rendering was made with a combination of transparent and opaque water colors on Whatman's medium water color paper. While it is apparently sketchily done it gives a vigorous impression of the subject, in some ways more truthfully than would be the case with a "tighter" presentation. The room itself is to have a hard wood floor, slightly textured plaster walls, and a concrete ceiling with the decoration applied directly on the concrete with oil paint by a method used successfully by the same architects in their Union Temple House, Brooklyn. The original drawing from which this reproduction was made measured 27" x 19".



ASSEMBLY ROOM, Y. M. H. A. BUILDING, NEW YORK—NECARSULMER AND LEHLBACH, AND GEHRON AND ROSS, ASSOCIATED ARCHITECTS FROM A RENDERING IN WATER COLOR BY ERNEST BORN



AUDITORIUM, Y. M. H. A. BUILDING, NEW YORK—NECARSULMER AND LEHLBACH, AND GEHRON AND ROSS, ASSOCIATED ARCHITECTS FROM A WATER COLOR RENDERING BY ERNEST BORN

# PENCIL POINTS SERIES of COLOR PLATES

The original of this rendering, which measured  $27'' \times 19\frac{1}{2''}$ , was drawn with brush and India ink on medium rough Whatman's water color paper and rendered with sepia water color, toned here and there with charcoal. The curtain was done with transparent and opaque water color and there are touches of opaque vermilion on the masks over the proscenium and above the grilles. The walls of the room are to be executed in walnut veneer and the masks in red lacquer. The grilles will be of composition finished to represent walnut and the ceiling will be plaster. The rendering was made rapidly but extremely effectively and although the detail is economically indicated it conveys to the observer an accurate impression of the room.



FROM A PENCIL DRAWING BY FRANK M. RINES THE ABANDONED FARM, SIMONSVILLE, VERMONT

## PLATE XXVII

VOLUME X

## Number 7

We present here another pencil sketch by Frank M. Rines, some of whose drawings we published during 1927. His work is always direct and crisp and his handling of trees and foliage is especially to be commended.



RENAISSANCE ARCHITECTURE AND ORNAMENT IN SPAIN A PLATE FROM THE WORK BY ANDREW N. PRENTICE

## PLATE XXVIII

## VOLUME X

## Number 7

"This plate shows an enlarged elevation and section of the second window to the left of the entrance to the palace. As the two side pilasters are of the same design the ornament on that to the right is not repeated, but it is shown in outline. The little pilaster, forming the central mullion, is plain at the top, while the one placed immediately under it is fluted."

## A. N. PRENTICE.

# TERRAZZO FOR WALL DECORATIONS

## By Kenneth Reid

THE USE OF cloisonné terrazzo for floors is quite common but to use it for wall decoration is an idea which, if not actually brand new, has at least the semblance of novelty. In fact, up to the time when Ralph T. Walker, of Voorhees, Gmelin, and Walker, decided to include a large decorative panel in terrazzo on the wall of the lobby of the New Jersey Bell Telephone Company's new building at Newark, N. J., no one, so far as we know, had done it (now let some reader point out an example).

At any rate Mr. Walker called in Alfred E. Floegel, painter and decorative artist, to make some sketches for such a terrazzo panel, and from among several suggestions submitted he picked the one shown

here for execution. Painter Floegel prepared a color sketch and a full size cartoon which were turned over to the terrazzo craftsmen, Del Turco Brothers, who carried out the work.

The walls of the lobby were to be of pink veined St. Baume marble with a Rouge Antique base while the floors were to be terrazzo of a warm gray color. These surroundings for the panel demanded a warm color scheme which was worked out as follows. On the terrestrial globe the land portions were made a raw sienna while the oceans were dark red. The figure of the "Telephone Spirit" was made a warm cream against a background of greenish-blue. The pattern of telephone posts and cables which breaks up the background was done with dark red. Above are conventionalized clouds grading from dark red to pink, and a golden-yellow star.

The division lines separating the different color areas and outlining the parts of the design were, as in terrazzo floors, made of brass strips cut and bent to fit the cartoon and soldered to a backing of galvanized wire netting of small mesh stretched over a curved wooden form, for the panel is not flat but has a slight convex curvature in plan. The terrazzo mixture of marble chips and colored cements was then applied in accordance with the color sketch and finished by grinding.

It will be noted that, whereas in terrazzo floors it is usual to use brass division strips of 1/16'' to  $\frac{1}{8}''$ thickness, this design required different thicknesses in different portions. The lines of the figure were made with strips of  $\frac{1}{4}''$  thickness while the telephone wires measured as much as half an inch.

The successful installation of this panel demon-

strates that there are great possibilities for the further development of this form of wall decoration. It is as permanent as fresco and, because it is principally marble, harmonizes well with surrounding marble work or terrazzo on walls and floors. The palette is limited to the earth colors. which are found in different kinds of marble but there is a sufficient color range available to the artist who wishes to do something in this medium.

Mr. Floegel, impressed with the possibilities, has gone a little further and has prepared some designs for terrazzo plaques where the terrazzo would be inlaid in a molded cement or scagliola background, the cast cement taking the place of the brass division lines. Reference to the illustrations will show how the work is to be executed better than it could be described in words. By using different colored cements, a variety of effects could be secured, which the artist believes would give more har-



SKETCH BY A. E. FLOEGEL FOR TERRAZZO PANEL SHOWN IN PLACE ON PAGE 483





At the left is shown the design carved in plaster. With this as a model, casts can be made in colored cement or scagliola and the terrazzo mixture inlaid with different colored marble chips. The sketch shown at the right indicates something of the appearance of the finished plaque. The decorative border has been developed from telephone instruments and wires and the figure in the center represents an idealized operator. Other designs based on different uses for the telephone are shown on page 484.



TERRAZZO PANEL DESIGNED BY ALFRED E. FLOEGEL FOR VOORHEES, GMELIN, AND WALKER, ARCHITECTS AS APPLIED IN LOBBY OF NEW JERSEY BELL TELEPHONE BUILDING, NEWARK, NEW JERSEY-PANEL 61/2 FEET WIDE

monious results than can be obtained with brass division lines. There would also be a better bond between the cement and the terrazzo mixture than between the metal and the terrazzo.

The marbles used for the terrazzo mixtures in the panel shown on page 483 were as follows: For the oceans on the map and for the trellis work Red Antico was mixed with red-colored cement while the land was done with equal parts of Red Verona and Yellow Verona also with red cement. For the background, Blue Turquin with black cement gave the greenishblue color. The figure was done with equal parts of Red and Yellow Verona mixed with yellow and red cement. Yellow Verona with yellow cement made the star, and Belgian Black with black cement the telephone instrument. The several bands in the clouds included varying mixtures of Red Verona, Red Antico, Coral, and Botticino with red and yellow color. The designer will be able to select, for his design, the proper marbles to give the color effects he wants over a fairly wide range, but these notes indicate that it is not necessary to use a wide assortment of marbles in order to attain richness.



DESIGNS BY A. E. FLOEGEL FOR PLAQUES TO BE EXECUTED IN CEMENT INLAID WITH TERRAZZO At the left, above, is represented the use of the telephone in case of fire and at the right in connection with a great catastrophe such as an earthquake or cyclone. Below is shown the telephone's use in case of sickness.



### B. KENNETH JOHNSON

## ROME PRIZE IN ARCHITECTURE AWARDED

B. KENNETH JOHNSON, of the University of Illinois and Yale, has been awarded the Rome Prize in Architecture for 1929. Honorable mention went to Herschel G. A. Elarth, also of the University of Illinois. The winner of the Fellowship receives an appointment for three years' study and travel abroad—an annual stipend of \$1,500.00 with an additional allowance of \$500.00 for transportation to and from Rome.

This year the Fellowship in architecture is provided by the William Rutherford Mead Fund. On the Jury of Award were Wm. M. Kendall, chairman, J. R. Pope, Wm. A. Delano, and Louis Ayres.

In the 14-hour preliminary competition there were 47 participants, representing many of the leading schools of architecture throughout the country. The preliminary problem was a design for *A Public Square*. As a result of the preliminary competition the Jury selected the following seven final competitors: William Brooks Cobb, of Yale; William Piers Crane, II, of Illinois; Herschel G. A. Elarth, of Illinois; B. Kenneth Johnson, of Illinois and Yale; Elmer I. Love, of Carnegie Tech. and Illinois; John E. Miller, of the Catholic University of America; and Earl C. Morris, of Columbia.

The program for the final competition was as follows: An Institute of Fine Arts

"A PATRON OF the arts has bequeathed to the nation an important sum of money to endow and erect in Washington an Institute of Fine Arts. It is proposed that this building shall serve as a national headquarters for matters connected with the Fine Arts and as a clearing house for art matters, and shall house as well the editing office of an important and scholarly general magazine devoted to the fine arts. The architecture should be of a monumental and dignified nature, using fine material, to comport with the adjoining governmental and institutional buildings of a national character.

"The site allotted by the Government for this building is an entire block facing on an important boulevard which runs along one side of a broad formal parkway. The property is 300' wide along the boulevard and parkway side. Along either side of the property and perpendicular to the boulevard and parkway are secondary streets 90' wide, property line to property line. At the back of the property, which is 250' deep, runs a narrower street parallel to the boulevard and parkway. Thus the property itself is 300' x 250' completely surrounded by streets.

"The building will be two stories in height with full basement for extra clerical space, service, mechanical plant, storage, shipping rooms, etc.

"On the first floor should be arranged:

- 1. A monumental vestibule offering dignified approach to the stairs, auditorium and corridors leading to the offices, etc.
- 2. An auditorium seating 500 people to be used for lectures, etc., and for conventions of national art societies, etc.
- 3. A conference room of about 600 sq. ft.
- 4. Office for the Director, consisting of outer office of 250 sq. ft. and private office of 350 sq. ft. with private toilet.
- 5. General clerical office of 1000 sq. ft.
- 6. 12 offices for the staff of 275 sq. ft. each.
- Separate toilets and retiring rooms for men and women. Janitor's room of about 150 sq. ft. "On the second floor should be arranged:
- 8. Library with open stacks totaling approximately 2000 sq. ft.
- 9. Private office for librarian of approximately 250 sq. ft.
- 10. Studio or drafting room adjoining library of approximately 500 sq. ft.
- 11. Gallery for temporary and loan exhibitions of approximately 2750 sq. ft.
- 12. Toilets and retiring rooms for men and women. Janitor's room of approximately 150 sq. ft."

B. KENNETH JOHNSON, winner of the Rome Prize in Architecture for 1929, was born in Chicago in 1907. After graduating from high school in Chicago he entered the University of Illinois where he studied architecture until 1928, when he graduated with a B. S. degree. He was an assistant in architectural design at Illinois and has been serving in the same capacity at Yale where he has been studying during the past year, graduating last month with the degree of B. F. A.

Mr. Johnson plans to remain at his home in Chicago during the summer and will sail the early part of September to take up his studies at the Academy. He wishes to express his appreciation to Professor L. C. Dillenbach for the greater part of his knowledge of architecture, and Professor Rexford Newcomb, both of the University of Illinois; and to Dean E. V. Meeks, Otto Faelton, and William Douglas, of Yale, and Alfred Granger, of Granger and Bollenbacher, Architects, in whose office he was employed during the summers of 1924, 1925, and 1926. Before going to Europe on a travelling and sketching tour in 1927, Mr. Johnson worked for part of the summer with Eschweiller and Eschweiller, of Milwaukee. His winning drawings are shown on the following pages.

[485]



Elevation



First Floor Plan WINNING DESIGN FOR "AN INSTITUTE OF FINE ARTS," BY B. KENNETH JOHNSON COMPETITION FOR THE PRIZE OF ROME IN ARCHITECTURE, 1929 (See text on page 485)



Section



Second Floor Plan WINNING DESIGN FOR "AN INSTITUTE OF FINE ARTS," BY B. KENNETH JOHNSON COMPETITION FOR THE PRIZE OF ROME IN ARCHITECTURE, 1929 (See text on page 485)



Elevation



First Floor Plan HONORABLE MENTION—DESIGN FOR "AN INSTITUTE OF FINE ARTS," BY HERSCHEL G. A. ELARTH COMPETITION FOR THE PRIZE OF ROME IN ARCHITECTURE, 1929

(See text on page 485)



Section



Second Floor Plan HONORABLE MENTION—DESIGN FOR "AN INSTITUTE OF FINE ARTS," BY HERSCHEL G. A. ELARTH COMPETITION FOR THE PRIZE OF ROME IN ARCHITECTURE, 1929

(See text on page 485)



MODEL OF FOUNTAIN-EUGENE SAVAGE, SCULPTOR



WINNING DESIGN FOR THE BAILEY MEMORIAL FOUNTAIN, EGERTON SWARTWOUT, ARCHITECT COMPETITION FOR A FOUNTAIN ON PROSPECT PARK PLAZA, BROOKLYN, NEW YORK



PRESENT CONDITION OF PROSPECT PARK PLAZA, BROOKLYN, NEW YORK

## COMPETITION FOR THE DESIGN OF A FOUNTAIN ON PROSPECT PARK PLAZA, BROOKLYN, NEW YORK

MR AND MRS. FRANK BAILEY of the Borough of Brooklyn have provided the sum of \$100,000.00 for the erection of the fountain in the Prospect Park Plaza, Borough of Brooklyn, New York.

The following gentlemen have been appointed by the donor, Mr. Frank Bailey, and have consented to act as a Committee with powers to conduct this Competition and to supervise the erection of this fountain: The President of the Borough of Brooklyn; The Park Commissioner of the Borough of Brooklyn; Mr. Frederick D. Pratt, President of Pratt Institute; Mr. William Henry Fox, Director of The Brooklyn Museum; Mr. Frederick L. Babbott, President of The Brooklyn Institute of Arts and Sciences; Mr. H. Craig Severance, architect; together with the donor, Mr. Frank Bailey.

Mr. H. Craig Severance, Member of the New York Chapter of the American Institute of Architects, is acting as the Professional Advisor to the Committee and has prepared the following Program for the conduct of this competition.

The Competition was limited to the following Architects who signified their willingness to compete:

Messrs. Helmle, Corbett & Harrison

Mr. Egerton Swartwout

Mr. H. Van Buren Magonigle

Mr. Lorimer Rich.

It was required that the architect agree to design the Fountain and its immediate surroundings and to design or direct the design of its constructive, engineering, and decorative work and its fixed equipment. It was also required that the Architect make such revision of his competitive scheme as might be necessary to complete the preliminary studies and to provide drawings, models, and specifications necessary for the conduct of the work. The Owner agreed to pay the architect for his services a sum equal to ten per cent (10%) of the cost of the work; in no event, however, would this ten per cent and the completed fountain exceed the sum of ninety-seven thousand dollars.

Each competitor was required to select a Sculptor to

collaborate with him and to assume the liability of his Sculptor's compensation for the preparation of his design. In the final execution of the work, the Sculptor's compensation is to be figured in with the cost of the work by the contractor.

The drawings to be submitted by each competitor were as follows:

A plot plan at a scale of one-thirty-second of an inch (1/32'') to the foot, showing all of the area, the planting and streets surrounding the oval.

An elevation taken at right angles to a line running through the center of the oval and the Arch, to show the fountain in relation to the Memorial Arch. The Arch was to be blocked out only in outline, so that a comprehensive comparison of the scale of the fountain to the Arch, which predominates the site, could be made.

Accompanying these drawings, each competitor had to furnish a plaster or clay model at a scale of three-quarters inch (34'') to the foot, to show only that portion of the oval at its base as required to express the design.

MATERIALS: The materials to be used shall be statuary bronze and granite as selected by the Architect chosen to execute the work, with concrete for the foundations.

Any additional walks or approaches, gradings or planting in addition to that now in place and essential to the completion of the design must be included in the cost of the work.

WATER SUPPLY: The cost of the work shall not include any work in connection with the water supply nor waste. This work will be done by the Department of Parks of the Borough of Brooklyn.

ILLUMINATION: It is the desire of the Committee that the fountain be electrically illuminated either by flood lighting or other electrical effect as may be determined by the Architect. The cost of this illumination is to be included in the contractor's bid, accompanying the design.

Mr. Swartwout's winning design is shown opposite and the designs submitted by Mr. Corbett and Mr. Rich are shown on the following pages. Mr. Magonigle's design was not available for publication.



MODEL OF FOUNTAIN-PAUL MANSHIP, SCULPTOR



ELEVATION SHOWING THE FOUNTAIN IN PLACE



DESIGN SUBMITTED BY HELMLE, CORBETT & HARRISON, ARCHITECTS, FOR THE BAILEY MEMORIAL FOUNTAIN COMPETITION FOR A FOUNTAIN ON PROSPECT PARK PLAZA, BROOKLYN, NEW YORK



MODEL OF FOUNTAIN-TOM JONES, SCULPTOR



ELEVATION SHOWING THE FOUNTAIN IN PLACE



DESIGN SUBMITTED BY LORIMER RICH, ARCHITECT, FOR THE BAILEY MEMORIAL FOUNTAIN COMPETITION FOR A FOUNTAIN ON PROSPECT PARK PLAZA, BROOKLYN, NEW YORK



WINNING DESIGN FOR "A MUNICIPAL EMPLOYMENT BUREAU," BY WALTER GIBBS LEWIS, JR. COMPETITION FOR THE JOHN STEWARDSON SCHOLARSHIP, 1929, UNIVERSITY OF PENNSYLVANIA

### STEWARDSON SCHOLARSHIP AWARDED

WALTER GIBBS LEWIS, JR., of Beverly, New Jersey, is the winner of the John Stewardson Memorial Scholarship in Architecture of the University of Pennsylvania. The Scholarship provides \$1,000.00 to defray the expense of study abroad in architecture.

Mr. Lewis graduated from the Burlington (New Jersey) High School in 1923 and worked for a time in the office of De Armond, Ashmead, and Bickley, of Philadelphia. He then entered the University of Pennsylvania School of Fine Arts to take the four-year course leading to a Bachelor's Degree in Architecture. He is a member of the Architectural Society of the University and of Tau Sigma Delta, national honorary architectural fraternity, and an associate member of Sigma XI, honorary scientific fraternity. His winning drawing, which is shown opposite, was executed under the direction of George Howard Bickley, A.D.G.F., Professor of Design at the University of Pennsylvania.

The program of the competition was for the design of A Municipal Employment Bureau to be erected in a large seaboard city. From the program we quote the following:

"The location is to be in the central part of the city. A site has been allocated in the business district fronting 200 feet on a small city park and 150 feet on each of two side streets.

"The building should be spacious, attractive, well lighted and ventilated, and should be simple but dignified in character and in keeping with the other municipal structures of the city.

"Into this building will flow several thousand men each day. The essence of the work of the employment office will be to connect with as little delay as possible the employers and employees.

"Requirements for the building are: a large central hall, containing information booth and registration booths; a waiting room; a reading and recreation room; an administrative office; and an auditorium to seat 500."

Mr. Lewis' design also received a 1st Medal, Placed 2nd, at the Beaux-Arts Institute of Design in New York.

### ARCHITECTURAL MODELS

SOMETIMES an architect wants to know where he can have a scale model or topographical or landscape model made quickly and well. The Studios of Walter Favreau, 20 East 41st Street, New York, specialize in this work.

### COMPETITION FOR CHURCH BUILDING

THE CHRISTIAN HERALD will again conduct a Church Building Competition offering a first prize of \$1,000, a second prize of \$300, and a third prize of \$200, as well as honorable mentions. The program will call for photographs and plans of churches already constructed. It will be limited to churches having a total seating of between 150 and 600. Mr. R. H. Blatter, A.I.A., will act as Professional Adviser. The Jury of Award will be named in the program, which may be had on application to The Christian Herald, 419 Fourth Avenue, New York.

#### A CORRECTION

IN THE ARTICLE published in last month's issue of PENCIL POINTS about M. Marcel Chappey, winner of the Travelling Fellowship of the American Institute of Architects, we neglected to state that he also was winner of the Deuxième Second Grand Prix de Rome in 1929.

### WILLIAM G. HOLFORD

WILLIAM G. HOL-FORD, winner of the scholarship awarded by the Society of Arts and Sciences of New York, is an architectural student from the University of Liverpool. Mr. Holford is

Mr. Holford is the first holder of this scholarship which is awarded for the purpose of studying American architecture with the view of adapting it to English needs, and is now gathering material



WILLIAM G. HOLFORD

for a thesis on recent architectural developments in America. At present he is with Voorhees, Gmelin, and Walker, in New York, where he is familiarizing himself with the workings of an American architect's office.

He was born in Johannesburg, South Africa, in 1907, and attended the Diocesan College at Capetown; after matriculating he returned to Johannesburg, where he was employed in the office of Cowin, Powers, and Ellis, before leaving for Europe to enter the School of Architecture at the University of Liverpool.

Appointment to this scholarship was made by a jury of award consisting of Professor C. H. Reilly, of the University of Liverpool, Sir Reginald Blomfield, Sir Giles Scott, and Sir Edwin L. Lutyens.

### SOUTHERN ARCHITECTURAL AND INDUSTRIAL ARTS EXPOSITION

ARRANGEMENTS HAVE BEEN completed for the holding of the Southern Architectural and Industrial Arts Exposition in Memphis, Tennessee, under the auspices of the Southern Chapters A.I.A., during the week of November 9th to the 16th of this year. The Board of Directors of the American Institute of Architects has acccepted the invitation extended them to hold their meeting at Memphis at that time and the Producers' Council has likewise arranged to meet there during the week of the Exposition. Furthermore, plans are now under way for having a regional conference of all the Southern Chapters A.I.A. and indications point to the greatest exposition of drawings and photographs of the work of Southern architects and exhibits of industrial arts ever attempted.

This exhibition will consist of architectural drawings and renderings of contemplated buildings and photographs of completed structures illustrating the work of the architects of the South and both the Chapters and architects have evidenced a keen interest in the opportunity thus afforded of having on display examples of their work.

While this Exposition will be under the auspices of the Southern Chapters of the American Institute of Architects and will, to a large extent, have for its purpose the display of the work of Southern architects and the building products of the South, nevertheless, it will be national in scope and manufacturers of building materials from every section of the country will be invited to participate and architects from all over the country are invited to accept the hospitality of the Southern Chapters during the Exposition.



ALBERT EISEMAN, JR.

## ARCHITECTURAL SKETCH CLUB OF CHICAGO AWARDS SCHOLARSHIP TO ALBERT EISEMAN

ALBERT EISEMAN, JR., the winner of the Twenty-ninth Annual Foreign Travelling Scholarship of the Architectural Sketch Club of Chicago, was born in Chicago and educated in the public schools of that city. All of his architectural training has been obtained by working on projects of the Atelier of the Architectural Sketch Club of Chicago. At present he is a director of the Club and massier of the Atelier. Mr. Eiseman is now employed in the office of David Adler.

He wishes to express his thanks to Messrs. Adams, Deam, and Booton, who have been his critics in his student work, also to Ferdinand Eiseman and Ma Belle Burgman.

The Scholarship carries a prize of \$1,200.00 which was donated this year jointly by the Chicago Chapter of the American Institute of Architects, the Illinois Society of Architects, and the Architects' Club of Chicago. The money is to be used by the winner for an European trip of six months, to be devoted to sketching and studying architecture.

The subject of the program was A Housing Development for a city block 300 ft. by 600 ft., to include the buildings and gardens.

The winning design presents a group of apartment buildings arranged on the perimeter of the block and enclosing a large central garden which is the focus of the whole scheme and center of the life of the tenants. The dominant element of the whole group is the community building, located at the center of one of the long sides of the block. It contains an auditorium for theatrical performances, lectures, meetings, and banquets, a library, a music room, an indoor playground, and a day nursery with a solarium. Mr. Eiseman's prize drawings are shown opposite. First mention went to Albert Bacci and second mention to Ralph Emerson. The Jury of Award was composed of Edwin C. Clark, Eugene H. Klaber, and F. W. Puckey.

### AMERICAN SCANDINAVIAN FOUNDATION FELLOWSHIP

THE AMERICAN SCANDINAVIAN FOUNDATION has awarded its Fellowship for the Study of Architectural Design to Dale A. White. As the holder of the fellowship, he will study architecture at the Royal Swedish Academy of Arts at Stockholm, during the academic year of 1929-1930.

The appointment was awarded on the basis of work done by Mr. White, which he submitted to the Foundation. He plans to sail for Sweden about the first of August. Most of his time abroad will be spent at the Academy, where he hopes to have the opportunity of studying with Professor Ragnar Östberg, architect of the Town Hall at Stockholm. In addition to his work in architectural design, he is desirous of studying the Swedish crafts, and hopes to be able to visit other countries, especially Finland, Holland, and Germany, before his return.

Mr. White was a graduate of the architectural school at Yale in 1927. Since his graduation he has worked in New York in the offices of Kenneth Murchison and John Russell Pope, in New York. In 1928 he was one of the finalists in the competition for the Paris Prize. He is at present in Michigan.

## STEEL REMOVED FROM TACOMA BUILDING, CHICAGO, FIRST SKYSCRAPER IN U. S.

A PERSONAL INSPECTION of the steel now being removed from the first skyscraper built in the United States has been authorized by the American Institute of Steel Construction. Metallurgical data which is believed to be of inestimable value to steel construction will be disclosed by a careful inspection of the steel now being removed from the Tacoma Building which is being demolished in Chicago. This structure was erected in 1887 and was the first instance in which the walls were supported on the steel frame.

Charles F. Abbott, executive director, and Lee H. Miller, chief engineer, were sent to Chicago on June 3rd for the purpose of making a special inspection in conjunction with Henry Penn, district engineer, and other officials of the American Institute of Steel Construction. Fabricators of structural steel in Chicago joined in this investigation. Reports received from Chicago indicate that the material is in excellent condition. Chemical and physical tests are being made, however, to prove the accuracy of the facts which seem to be disclosed by casual observation.

Mr. Miller plans to leave this summer for Europe to join in a preliminary discussion with the leading European steel interests on the problems of steel construction. It is planned to institute a means of international cooperation for the exchange of engineering and technical information regarding the most improved practices on steel construction. It is expected that Mr. Miller will carry with him a report on the steel in the old Tacoma Building.

### A CORRECTION

IN THE ADVERTISEMENT of The Columbia Mills which appeared in the April issue, our attention has been called to a mistake made in stating the architect's name of the Seminary of St. Charles Borromeo at Overbrook, Pa. Mr. Paul Monaghan was the architect and it should have been so stated in the advertisement.





FROM A WORKING DRAWING BY FRANK C. COLLINS, MADE F



IGLE, ARCHITECT-REDUCED TO ONE-THIRD ORIGINAL SIZE

PENCIL POINTS





Perspective



COMPETITION FOR THE 29TH ANNUAL FOREIGN TRAVEL SCHOLARSHIP OF THE ARCHITECTURAL SKETCH CLUB OF CHICAGO, OFFERED JOINTLY BY THE CHICAGO CHAPTER OF THE A.I.A., ILLINOIS SOCIETY OF ARCHITECTS AND THE ARCHITECTS' CLUB OF CHICAGO

(See text opposite)



Elevation



WINNING DESIGN FOR "A MUNICIPAL BOATHOUSE," BY FREDERICK J. B. SEVALD, JR. COMPETITION FOR THE BOOTH TRAVELLING FELLOWSHIP, 1929, UNIVERSITY OF MICHIGAN

### NATIONAL AWARD FOR STEEL BRIDGE CONSTRUCTION

TO ENCOURAGE the building of steel bridges of greater architectural merit the American Institute of Steel Construction announces an annual national award for the most aesthetic solution of a problem in steel bridge construction within the United States or Canada. The first award will be made for a structure completed and opened to traffic during the calendar year 1928, based upon a selection made by a jury of national reputation.

Entries are requested from engineers, architects, fabricators, builders, owners, chambers of commerce, leagues and public officials. The selection will be made from photographs, which may be submitted now to the Bridge Award Committee, American Institute of Steel Construction, Inc., 200 Madison Avenue, New York, N. Y. This contest will close August 31st, 1929, and the award will be made at the Institute's annual convention in November.

The only limit placed upon the entries is that the bridge shall be constructed of steel. The jury will reserve the right to give preference in the case of an especially difficult span or the unusual nature of the surroundings. As many photographs from as many viewpoints may be submitted of any single bridge the entrant desires. Preferably the photographs should be unmounted, glossy prints,  $8\frac{1}{2}$  by 10 inches in size.

All photographs of bridges to be entered in this contest should be submitted by the first of August.

Accompanying the photograph or photographs should be certain essential data, such as, the engineer, architect, builder, fabricator, erector, owner, the date upon which the bridge was completed and opened to traffic. Drawings and other construction data will be required of that bridge selected for the prize award.

That bridge judged to be the most outstanding example of good bridge architecture will be decorated with a suitable bronze plaque, and a diploma given the architect, engineer, builder and owner as mementos.

Art Jury of Award will consist of George H. Pegram, Past President of the American Society of Civil Engineers, Chief Engineer of the Interborough Rapid Transit Company, New York; Charles Evan Fowler, Member of the American Society of Civil Engineers, Consulting Engineer, New York; William A. Delano, Fellow of the American Institute of Architects, and of the firm of Delano and Aldrich; Ralph T. Walker, Member of the American Institute of Architects, and member of the New York firm of Voorhees, Gmelin and Walker; and Dr. J. Horace McFarland, President, Art Commission of Pennsylvania.

### THE POCHET CLUB

THE GROUP OF ARCHITECTS and architectural students who formed an atelier as a part of the Guild of the Seattle Art Institute have now reorganized as an independent organization under the name of The Pochet Club. This organization will parallel the Guild, which is an organization of craftsmen. Quarters will be maintained at the Art Institute, 1117 Harvard Avenue, North, Seattle, Washington, with the Atelier work on problems in design and other activities of value to architects and students.

### PRATT INSTITUTE AWARDS PRIZE

ROBERT I. CARTER, of Pratt Institute, Brooklyn, N. Y., has been awarded the first prize of \$50.00 in the annual competition given to upper classmen of the school by the American Institute of Architects. The subject of the competition was *A Community Church*.



### FREDERICK J. B. SEVALD, JR.

FREDERICK J. B. SEVALD, JR., winner of the George G. Booth Travelling Scholarship for 1929, was born in Detroit, Michigan, twenty-three years ago and has always made his home in that city. He received all of his architectural training at the University of Michigan and is a member of Tau Sigma Delta, the honorary Architectural Fraternity, and of Delta Tau Delta Fraternity. His winning design for *A Municipal Boathouse* is shown on the opposite page.

### COMPETITION FOR SPECIAL STUDENT SCHOLARSHIPS, M. I. T.

THE SPECIAL STUDENT scholarships offered by the Department of Architecture of the Massachusetts Institute of Technology have been awarded to Wayne A. Soverns, a fourth year student, and to Clarence H. Williams of Cincinnati. The program was as follows:

### A Small Railroad Station

The upper level of a suburban railroad station is placed at the level of the avenue upon which it faces. The two railroad tracks cross the avenue at right angles, 25 ft. below the grade of the avenue. The track platform is located between the two tracks and is 16 ft. wide. Access from the platform to the upper level of the station is obtained by means of staircases; also by two elevators, one for freight and one for passengers.

The space to be occupied by the railroad station at the upper level shall not exceed 60 ft. in a direction parallel to the avenue and 100 ft. at right angles to it. Access to the station is only from the avenue. The railroad owns sufficient land on either side of the station to provide the necessary services. In the station at the upper level a waiting room, a ticket office, a newsstand, a baggage room and the usual toilet conveniences shall be provided.

The winning designs are reproduced on page 505.



Elevation



Section

WINNING DESIGN FOR "AN AQUARIUM," BY WILLIAM PIERS CRANE, II COMPETITION FOR THE FRANCIS J. PLYM FELLOWSHIP IN ARCHITECTURE FOR 1929, UNIVERSITY OF ILLINOIS


## WILLIAM P. CRANE, II

WILLIAM P. CRANE, II, winner of the Plym Fellowship in Architecture at the University of Illinois, graduated from Evanston High School, Evanston, Ill., in 1923, and entered the University the same year. He received the degree of Bachelor of Science in Architecture in 1928, and during the past year has been instructing in elementary design at the University. Mr. Crane has also been doing graduate work under Prof. Dillenback, Head of the design department at Illinois.

Before completing the Plym Fellowship, Mr. Crane was accepted as a finalist in the architectural competition of the American Academy in Rome.

## FRANCIS J. PLYM FELLOWSHIP AWARDED

THE SUBJECT of the 16th Competition for the Francis J. Plym Fellowship in Architecture of the University of Illinois was An Aquarium and the program was as follows:

## An Aquarium

A city situated on a large inland lake has acquired funds for the erection of an aquarium as an asset to the department of public instruction of the municipality. It is possible to stock the aquarium with the rarest of specimens and from this standpoint such an institution would be a center of scientific interest.

A level plot of ground 250 feet square located in a state park has been procured for the building. One side of this plot is flanked by the lake and the opposite side faces a suburban drive. The other two sides are bounded by woodland.

Provision should be made for: (a) An ample

entrance vestibule; (b) A main hall of approx. 6500 square feet in area around which are tanks for specimens to be served by a well lighted passage around and above them. This is necessary for the proper illumination of the tanks as well as for service access to them; (c) Eight small galleries which are to contain small basins in the floor or in niches in the wall for the exhibition of very little fish, jelly fish, or other objects for close inspection. The floor level of these galleries is to be ten feet above that of the main hall and adequate stair access should be provided to them.

Reservoirs, pumping apparatus, etc., are in the basement as are also a small office, janitor's room, and toilets.

As an asset to the project it is proposed to provide for an extensive outdoor exhibition. This collection would be taken care of in pools, fountains, and large glass tanks raised above the ground level.

It is suggested that sculpture, figure groups, basreliefs, and fountains referring to the classical and mythological stories of water, may be used to give a particular character to the surroundings and decorative motives to the building.

The competition was won by William P. Crane, II, whose winning design is shown opposite and on the page following.

The value of the Fellowship is twelve hundred dollars to be used toward defraying the expenses for one year in Europe for the study of architecture.

## INDIANAPOLIS ARCHITECTURAL CLUB

THROUGH THE PRESIDENT, Kenneth W. Williams, the Indianapolis Architectural Club has sent out a letter urging the organization of a National Association of Architectural Clubs. We shall be glad to have an expression of opinion from other clubs on the subject discussed in Mr. Williams' letter from which we quote the following:

"During the past ten to fifteen years we have seen these [architectural] Clubs spring up over the country all with the same high ideals—the same purposes instigating their births. They fill a definite need for the younger men as well as the older men. They trespass upon no other like organization, in motive or character, and yet they are still struggling along and unaided.

"Is the time not ripe to promulgate a closer association of these Clubs so united in thought and action? Your problems are our problems; your ambitions are our ambitions; your programs are our programs. Therefore, can not much be done towards carrying the banner of Architectural Clubs of America to a higher peak, if under one association we would unite for concentrated action—for ideas—for programs for competitions—for direction and guidance from the experience of all of us?

"As existing clubs of the association might we not help other cities in organizing and thereby raise the young standards of our profession?

"I have a vision of a national association, headed by constituted officers, to bring our clubs together and overstep the puny sounds of our city walls, and yet maintain the character and individuality of each Club and reserve all rights of each separate organization as it deems best."



PLAN OF WINNING DESIGN FOR "AN AQUARIUM," BY WILLIAM PIERS CRANE, II COMPETITION FOR THE FRANCIS J. PLYM FELLOWSHIP IN ARCHITECTURE, UNIVERSITY OF ILLINOIS (See text on preceding page)

## PRINCETON PRIZES IN ARCHITECTURE AWARDED

THE PRINCETON PRIZES IN ARCHITECTURE are awarded annually, as the result of a ten-day competition in design, which is open to all citizens of the United States between the ages of twenty-one and thirty, who have had three years' office experience, or its equivalent.

The winners receive \$800 each to help defray their expenses for a year's study in advanced classes in the School of Architecture of Princeton University. They are exempt from tuition fees, and entitled to residence in the Graduate College.

The competition is held from May 20th to 30th, under conditions which preclude advice or criticism from any outside source, although permitting access to documents.

The program this year was An Athletic Center for a University. A plan, elevation and section at the scale of 1/32'' were called for, to be presented on a mount  $27'' \ge 42''$ .

The site available was a sloping piece of ground between the dormitory group and the open-air playing fields, with the restriction that the building group should not exceed 750 feet in its greatest dimension in plan.

The University was specified to be situated in the northern part of the United States, and an architectural treatment was required that would be appropriate to the climate and to the use of the building. A particular requirement was that the maximum of light and air should be provided throughout the composition. The program called for:

A Trophy Room and Court of Honor;

Administration group;

Dressing and Locker rooms, showers, toilets, etc;

Athletic building with track of 8 laps to the mile; Gymnasium;

Swimming pool; and

Special rooms for court games, such as squash, boxing, wrestling, fencing, etc.

Nineteen men were admitted to the competition, after careful examination of their qualifications, from all parts of the country from California to New England.

The jury met on June 12th, and consisted of Messrs. Thomas Hastings, Charles Z. Klauder, and Ralph T. Walker, representing the architectural profession, together with Messrs. M. Jean Labatut, Senior Critic, and Sherley W. Morgan, Director, representing the School.

After careful consideration it was unanimously voted to award the prizes to Robert C. Williams of Philadelphia, and Alfonso C. Alvarez, Jr., of St. Louis. The winning drawings are shown on the following page.

L. Harry Sprague, Jr., of New York received Honorable Mention.

## A LETTER FROM THE ARCHITECTS LEAGUE OF NORTHERN NEW JERSEY

## Editor, PENCIL POINTS, DEAR SIR:

In connection with the interest of the owner as the principal consideration in regard to the small house question, to which you call attention in publishing our letter [page 413, June issue], kindly permit me to comment upon this angle as follows.

In justifying these schemes, the main contention is that the small house owner cannot afford the services of an architect. With this fallacy exposed, no case is left. The peculiar point of this claim is, that at the same time the

concerns supporting these schemes urge the prospective home builder to incorporate and include every known and unknown modern expensive equipment, device and convenience in his home and the best and consequently most costly materials! (One group is sending out boxes containing reams of printed matter, catalogues and data all to be used on one small house, of a quality to finish a millionaire's castle.) Yet no scheme is presented to make these available at cut rates! The architect, however, is asked to support the elimination of all or part of his services because the owner (to whom it may not have occurred) is advised he cannot afford it.

The truth of the matter is, the owner cannot afford not to engage an architect to design as well as supervise the construction of his home. Usually the owner builds but once in his lifetime. A common remark heard over and over again by the owner who used Stock Plans and a builder who did not need an architect, to his friends is, "The next time I build I'll have an architect, believe me, I know from experience, it pays. I wish I had known before I started what I know now!"

Reputable experienced builders and material and equipment producers in most instances advise the owner to engage an architect because they know the owner's interests are thus properly attended to and architects are familiar enough with the many reasons it is needless to repeat here, that the owner cannot afford not to have the complete services of an architect. Thus, it is our duty and obligation to the public, to protect and warn them against the use of Stock Plans.

Very truly yours,

HARRY LUCHT, Sec'y-Treas.



NEW LOS ANGELES STOCK EXCHANGE BUILDING-RENDERING BY ROGER HAYWARD SAMUEL E. LUNDEN, ARCHITECT

JOHN AND DONALD B. PARKINSON, CONSULTING ARCHITECTS

June 13, 1929.





"AN ATHLETIC CENTER FOR A UNIVERSITY," ALFONSO C. ALVAREZ, JR.

"AN ATHLETIC CENTER FOR A UNIVERSITY," BY ROBERT C. WILLIAMS

PRIZE WINNING DESIGNS IN THE COMPETITION FOR THE PRINCETON ARCHITECTURAL PRIZES

(See text on preceding page)





"A SMALL RAILROAD STATION," BY WAYNE A. SOVERNS "A SMALL RAILROAD STATION," BY CLARENCE H. WILLIAMS WINNING DESIGNS IN THE COMPETITION FOR SPECIAL STUDENT SCHOLARSHIPS IN ARCHITECTURE, MASSACHUSETTS INSTITUTE OF TECHNOLOGY (See text on page 499)



This department conducts four competitions each month. A prize of \$10.00 is awarded in each class as follows: Class 1, sketches or drawings in any medium; Class 2, poetry; Class 3, cartoons; Class 4, miscellaneous items not coming under the above headings. Everyone is eligible to enter material in any of these four divisions. Competitions close the fifteenth of each month so that contributions for a forthcoming issue must be received by the twelfth of the month preceding the publication date in order to be eligible for that month's competition. Material received after the closing date is entered in the following month's competition.

THOUGHTS OF SUMMER and the coming vacations have certainly robbed this department of a host of contributors and we sadly face the fact that the ten dollar prize in Class III and the ten dollar prize in Class IV go begging this month. As for entries in the "good wrinkle" section as announced last month—nothing! But we're good sports and offer you another chance. Just in case you may have forgotten all about this new addition to our old established four monthly competitions as outlined above: the idea is for each reader of HERE AND THERE to send in his suggestion as to how work in the drafting room may be made easier. No matter how incidental the operation if you have discovered an easy way of getting the thing done without lost effort tell us about it *noce*.

Let's hear from our cartoonist friends and Class IV contribs too!

The Prize in Class I went to Mr. Michael Goodman of Berkeley, California, whose drawing, reproduced below, was made originally for the Year Book of the University of California in 1925. The Prize in Class II goes to Miss Lila French of Minneapolis.



PEN-AND-INK SKETCH BY MICHAEL GOODMAN (PRIZE-Class One-June Competition)

## ON DESIGNING AN ENGLISH COTTAGE

By William L. Cartensen, of Johnstown, Pa.

Rubble stone walls, . . . and shutters of blue . . . And a roof of random-laid slate; With a big square chimney poking up through, And shouldering the oak ridge-plate.

The ridge run's sunk like an old nag's back 'Twixt the chimney and gable ends; There's three smoking pots on top of the stack, As chummy as age old friends.

Diamond paned windows design on the floor Shadows like old fashioned lace; And a little paved path winds up to a door, That has "Welcome" all over its face.

My dream house is finished from cellar to top The knickknacks . . . the iron foot scraper . . . . . . I'll carry my bride o'er the threshold . . . But Stop! . . . This cottage is only on paper.

## ANNOUNCING A "TOMMY DOLAN" COMPETITION

A COMPETITION expressing your idea of the appearance of our irrepressible office boy:

## TOMMY DOLAN

He is between twelve and fifteen years old.

His natural habitat must be somewhere near the gas house.

He is too lazy to wind the clock, but smart enough to watch it.

He smokes Camel Cigarettes—at any rate he arrives about an hour late every morning.

He might be red-headed and freckled-faced, bow-legged or otherwise—all that we can tell you is that he is the world's greatest pest.

Royal Barry Wills thinks he looks like the sketch above. But we would like to have your opinion in the matter. Ten dollars will be paid for the best likeness of TOMMY DOLAN.

The competition is open to everyone; each competitor may submit as many sketches as he wishes but they must all be *drawn in black ink on white paper*.

The Jury of Award will consist of William Vaughn Montgomery, whose protégé he is.

All entries must be received by August 10th to be eligible for consideration in this competition. Please send your contribution to: TOMMY DOLAN COMPETITION, care of PENCIL POINTS, 419 Fourth Avenue, New York.

## HERE AND THERE AND THIS AND THAT

## AWARD IN THE PENCIL POINTS BABY COMPETITION

most difficult

task for the

Jury to per-

form - one

that could not

be accomplished until

the third

meeting when

Master Wil-

liam Eugene

Cellar of

Henderson,

North Caro-

lina, was judged the

The speci-

fications for this up and

coming young

gentleman, as

submitted by

his Daddy,

winner.

THE PENCIL POINTS' BABY COMPETITION closed on June 10th with a total of twenty-five entries from all over the country. The first judgment was held the next day and was a



Perspective of the Winner-Master Billy Cellar

Mr.A.Eugene Cellar, are in accordance with the best present-day practice and are as follows:

## SPECIFICATIONS FOR A FUTURE SIR CHRISTOPHER WREN

*Drawings*: All measurements on the perspective must be taken entirely by eye in preference to scale measurements.

## RAIN

### By Lila French

(PRIZE-Class Two-June Competition)

Rain, . . . Gusty torrents of rain-Tossed by a ragged wind That moans drearily through the poplars. Rain that slithers downward From a sky of lead, Snakily streaking my windowpane; Dripping gloomily from the eaves To rush madly down the gutter, Lashed to a creamy foam by its own force. Rain that splashes from umbrellas Up and down the Avenue, Splattering on the sidewalks To form little pools and puddles Wherein the hurrying pedestrian stumbles. Rain that sweeps across the prairie In a solid wall of darkness, Drenching the parched and thirsty grass And leaving in its wake Delicious coolness. Rain upon the wings of storm That lashes fiercely at the open boats Bobbing helplessly with useless sails. Rain that patters softly down

Site: The site is a drawing board with a future Sir Wren perched on a stool actually engaged in pencil pushing. The perspective clearly shows the subject in real draftsman style with pencil, bow tie and smile.

*Explanation:* The future Sir Wren as shown in the accompanying perspective is three years old, exactly three feet high and weighs twelve pounds to the foot.

*Final:* Refer to the perspective for anything not clearly explained in these specifications.

Miss Lizette Claire Koch, of River Edge, N. J., received a Most Honorable Mention. This little lady is three years and three months old and weighs fortynine pounds. To her parents there is no "or equal" and we really can't blame them.

Prizes for the winners are under consideration and, after consultation with the fortunate parents, will be announced in the next issue of PENCIL POINTS.



Miss Lizette Claire Koch Awarded a Most Honorable Mention

Those of you who had no children to submit in this competition now have an opportunity to picture Tommy Dolan. For details see opposite page.

> Upon the scorching, restless tenement, Bringing peace and sweet repose To tortured workers. Rain,—the glorious gift of God To water the thirsty earth, And by its dreary contrast, Make man appreciate the more The dazzling beauty of the sunlight.



DRY BRUSH DRAWING BY HOWARD L. McCall Lower Hudson River, New York



DESIGN FOR A SUBURBAN RESIDENCE RICHARD HAVILAND SMYTHE, ARCHITECT

# THE SPECIFICATION DESK A Department for the Specification Writer

## PITFALLS FOR THE SPECIFICATION WRITER

## By David B. Emerson

EDITOR'S NOTE: In this article Mr. Emerson treats of "Pitfalls for the Specification Writer." He is the author of "Modern Building Superintendence and the Writing of Specifications" as well as textbooks for the International Correspondence Schools. The Georgia School of Technology engaged him as a special lecturer on Specifications and his long and varied experience in this branch of the profession makes what he has to say of particular value to our readers. As a student with Henry Vaughan in Boston he later worked as a draftsman in architectural offices in that city and has been employed as a specification writer by Hentz, Reid, and Adler, of Atlanta, Georgia; F. Burrall Hoffman, Arthur Loomis Harmon, and Warren and Wetmore, of New York. At present he is a free lance specification writer. Next month Mr. Emerson's article will treat of "Sources of Information for the Specification Writer."

QUITE A LARGE number of articles have already appeared in this section, all of which were good, and they touched many angles of the question, but to the best of my knowlto the subject, and continual cross references is very liable to confuse the average estimator and, as a result, he will

edge, none of them has dwelt very much on the pitfalls for the young specification writer which are many. I feel particularly fitted to write on that phase of specification writing, and will tell a little tale which may help to explain my position. A certain ship master who needed the services of a pilot to take his vessel out of a treacherous harbor somewhere on the New England coast, had engaged a local character who claimed to be a pilot, to do the job.

Not being exactly satisfied with his find, he made some inquiries of another of the town's people. "Does he know all the rocks?" was asked. "Wal, he oughter, he's been on every one of 'em." So with the pitfalls, I have been in most, if not all of them at one time or another in my time, as have most other specification writers.

Paradoxical as it may seem, two of the greatest

errors a young specification writer is liable to make, are, saying too much, and saying too little, one being quite as disastrous as the other. A long drawn out, verbose specification, full of needless repetitions, stock clauses, which generally mean very little, and are sometimes irrelevant



figure high, to play safe. I have known of a case

where one of the largest and best known construction companies in this country, added fifteen per cent to their bid on a large building designed by a very prominent firm of architects, because, as the estimator told me: "No man could ever wade through that book." Again, on the other

hand, the attempts at brevity in the writing of specifications is also productive of trouble. It may be trite, but it is generally true, that it is "safer to say too much than too little," but I think it best when one says just enough. One of the most frequent omissions is that of the species and grade in lumber and timber. As, for example, one sees in so many specifications framing timber specified merely as "yellow pine" or "hard pine." Now, yellow pine may be any one of three species of pine growing in the southern part of the

DAVID B. EMERSON

United States, namely "longleaf pine," "shortleaf pine" and "loblolly pine." For general structural uses "longleaf" is far superior to the other two; therefore if high grade structural material is required, specify "longleaf pine," and you will be partly over your troubles.

The next important point in getting what is wanted in structural timber is to specify the particular grade which is wanted, as simply specifying "longleaf pine," will admit of the use of any one of four grades of timber, which are recognized by the lumber and timber trade. For high class work, especially where the timber is to be exposed, "merchantable" should be called for, and for work where only strength and durability are required, "square edged and sound" may be called for. This of course applies only to the ordinary run of building construction, as in heavy structural work, like railway trestles and similar construction, the "density rules" of the American Society for Testing of Materials, should be used. With spruce timber the only consideration is specifying "No. 1" or "No. 2" spruce timber, according to whether the highest or a lower grade material is required. By comparing the different gradings of timber, the young specification writer will readily see that the specifying of "No. 1 yellow pine" or "merchantable spruce," would produce confusion. A very common practice, unfortunately too This common, is to specify finished floors as "oak." may mean almost anything from "fourth grade" plain sawed red oak, to "first grade" quarter sawed white oak. Now, it is not hard to see that if a very large amount of flooring is to be used, and an overconscientious contractor bases his figure on using a high grade flooring, his bid will naturally run high, and on the other hand an unscrupulous contractor may bid on the lowest grade. After the contract has been let, the architect will either have to accept what was bid on or pay an unjust extra to get a better grade. Another pitfall in the specifying of flooring is calling for "first grade yellow pine" or "first grade North Carolina pine," as is frequently encountered in specifications. This is all right as far as it goes, but unfortunately it does not go quite far enough, as it is very important to specify whether it shall be "edge grain" (classified as "rift" in North Carolina pine), or "flat grain," as it will make a great difference in the wearing quality,-""edge grain," being the better quality.

In the specifying of woods for interiors, too much is frequently left to be taken for granted, and the specification only says "finish in certain rooms shall be oak," or that "it shall be mahogany." That may be all very well, as long as you have an honest contractor, and fortunately for most of us there are a lot of them left, but if it should so happen that one of the other kind gets the job, it will be as they say, "a horse of another color." Oak may be either red or white, either quarter sawn or plain sawn, and there are seven grades in plain sawn and six grades in quarter sawn, which, as may be readily seen, gives quite some latitude. Now if for any good reason it is perfectly feasible to use a "No. 1 common" straight sawn red oak and get exactly the effect that is desired, why pay for "firsts and seconds" quarter sawn white oak, when about six extra words in the specification will tell the contractor exactly what is wanted.

With mahogany there are several sources of supply and some are better than others. Mexican and Honduras are the best at present on the market, as San Domingo is commercially exhausted, Cuban is not feasible for interior finish, being largely a second growth, and African is inferior to the others. Added to this there are ten grades in mahogany recognized by the hardwood lumber association, therefore it would be better to specify "firsts and seconds" or as generally listed by hardwood dealers, "FAS" Mexican or Honduras mahogany, and insure getting the best.

Another quite common error with specification writers is the practice of calling for "hardwood" strips, hanging rods, foot blocks and other items. Now everyone knows perfectly well that they mean ash, oak, hickory or similar woods, but it must be remembered, that according to the botanical classification, all broad leaved woods are "hardwoods," and so listed by the lumber association, so if the contractor was so minded, he could use whitewood (yellow poplar), basswood or even willow and still be within his rights under the specification as written.

In writing the specifications for reinforced concrete floor slabs, it is not an infrequent occurrence to neglect to call for galvanized mesh or electrically welded fabric (I think I have done it myself), and unless this is done the manufacturers will furnish plain wire, which is inferior to the galvanized material, and also is not accepted by some of the larger loaning companies.

Another of the pitfalls into which many specification writers stumble is the incomplete and improper manner of specifying iron and bronze work. Wrought iron should not be specified where cast iron should be used, nor should cast iron be specified where wrought iron should be used; and cast bronze should not be specified where it is obvious that extruded bronze is what should be used. Now these matters call for some special knowledge on the part of the specification writer, and if he has not already acquired it, I would recommend the reading of Mr. Geerlings' very instructive articles on the subject, and some heart to heart talks with some of the good craftsmen in those lines of work. Right here let me digress long enough to say that it is a big help to the young specification writer, also to the older ones, to confer with the different craftsmen in all of the building trades. We can all learn a lot from them, and I have always found them more than willing to give information and advice.

When specifying gypsum block partitions and furring, always specify that all block which are back of tile wainscots or cement base, shall be hollow terra cotta blocks, as the Portland cement scratch coat on which the tile are set, and the cement base will not adhere properly to the gypsum blocks. Why this is, I am not enough of a chemist to explain, but for the same reason cement floor finish can not be applied directly to gypsum floor slabs.

In writing the specifications for the plastering of auditoriums in theatres, churches and similar buildings, never call for the use of patent plasters, but specify sand and lime plaster. The reason for this is that patent plasters being a gypsum product set very hard and cause echoes, whereas lime plaster is more porous, not so hard as the gypsum plasters and so much less liable to cause echoes.

It is not at all uncommon to see specifications for Kalamein work which merely call for certain doors and frames to be "Kalamein iron" or "copper Kalamein" and let go at that. That is all right, as I said before, if the right contractor gets the work, but if some unscrupulous contractor happens to get it, the bars are down for anything, the thinnest metal that can be drawn over the cores, inferior quality of lumber in the cores, cores badly put together, and the poorest grade of workmanship in the covering of the cores with metal, and-what is worse -no appeal, because the specifications set no standards for material and workmanship. In writing the specifications for Kalamein work, the metal should never be thinner than No. 26 gauge, and would be better to be No. 24 gauge iron, 16 ounce copper, or No. 20 gauge sheet bronze, as the case may be. The cores should be specified to be made up of thoroughly kiln dried stock, free from sap, shakes, large or loose knots, to be dipped twice in boiled linseed oil, allowing each coat to soak in thor-

(Continued on page 84, Advertising Section)

## PENCIL POINTS



SOME MEMBERS OF THE ARCHITECTS' CLUB OF THE PENNSYLVANIA STATE COLLEGE

## ARCHITECTS' CLUB OF PENN STATE

THE ARCHITECTS' CLUB OF PENN STATE is an organization to which every member of the School of Architecture belongs. The fees are nominal but the spirit is unbounded. About 160 members, including all the instructors of the department, hold regular meetings throughout the year to which eminent lecturers and professors are invited to give talks and illustrated lectures on Fine Arts, France, Europe, sketching, student art life, and every other subject of interest to students of architecture. These lectures are always well attended by eager *élèves* and the speaker never lacks attention.

The main activity of the Architects' Club is the Annual Beaux-Arts Ball which the members strive to make as unique, novel and artistic as possible.

This year former attempts were surpassed in staging a cabaret-type dance held in the college Armory which was decorated for the occasion very elaborately with material hired from a large decorating company in Wilkes Barre. All tickets held reserved seats and the attendance was very large.

## PROFESSOR VARON'S LECTURE TOUR

As ANNOUNCED IN the May issue, Professor David Varon, teacher of architectural design and author of books on composition and indication, is planning to lecture before the various architectural clubs and chapters of the A.I.A. in the east and as far west as Chicago. Any such organizations interested in Professor Varon's special lectures on indication and various other topics should communicate with him immediately at 128 Madison Avenue, New York. DURING THE PAST few months the architects of southern California have started a series of one-man exhibits for the duration of two weeks each, in the Exhibition Rooms of the Architects' Building in Los Angeles. These exhibits have created considerable interest and have tended to stimulate continuity of thought toward better architecture.

LOS ANGELES ARCHITECTURAL EXHIBITIONS

An exhibition worthy of note, scheduled for July, is the National House Beautiful Competition for 1929. Southern California is particularly elated over this exhibit for two first prizes and five honor awards were won by local men: H. Roy Kelley—five to seven-room house; Gordon Kaufman—eight to twelve-room house; first in highly commended list, A. C. Zimmerman; honor awards, David J. Witmer and Loyal F. Watson, Donald D. Mac-Murray, and Albert J. Schroeder. The exhibit will constitute about fifty photographs.

Western architectural development received national recognition recently at the exhibition held in New York in April under the direction of the Architectural League of New York. Included in this exhibition were a number of drawings and photographs of completed work by Meyer and Holler, Inc., of Los Angeles. Out of the fifteen exhibits submitted by the firm thirteen were hung.

Following the exhibition of the Architectural League of New York, the Meyer and Holler work was shown at an exhibition of the Boston Architectural Club at the club's request, after which it was hung in the Exhibit Rooms of the Architects' Building in Los Angeles.

Equally interesting was the work of Mr. John C. Austin, Los Angeles architect, which was exhibited the last two weeks in June. Mr. Austin displayed many new buildings some of which are now under construction.



# SERVICE DEPARTMENTS

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

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

QUERIES AND ANSWERS. In this department we shall undertake to answer to the best of our ability all questions from our subscribers concerning the problems of the drafting room, broadly considered. Questions of design, construction, or anything else which may arise in the daily work of an architect or a draftsman, are solicited. Where such questions are of broad interest, the answers will be published in the paper. Others will be answered promptly by letter.

FREE EMPLOYMENT SERVICE. In this department we shall continue to print, free of charge, notices from architects or others requiring designers, draftsmen, specification writers, or superintendents, as well as from those seeking similar positions. Such notices will also be posted on the job bulletin board at our main office, which is accessible to all. Owing to the very large number of advertisements submitted for publication under this heading we are asking those desiring to use this service to make their advertisements as short as possible, *in no case to exceed forty words*.

Notices submitted for publication in these Service Departments must reach us before the tenth of each month if they are to be inserted in the next issue. Address all communications to 419 Fourth Avenue, New York, N.Y.

## THE MART

Harry W. Iverson, 673-76th Street, Brooklyn, New York, has for sale complete volumes of PENCIL POINTS from May, 1920 to April, 1929. He would like to dispose of these volumes together—does not wish to sell separate copies.

T. D. Maxfield, 322 Calthrope Avenue, Syracuse, N. Y., would like to secure a copy of the February, 1926, issue of PENCIL POINTS.

W. E. Needham, 1230-14th Street, Bedford, Indiana, has for sale one copy of *A Manual of Gothic Moldings*, by F. A. Paley, Architect, containing illustrations of 600 examples of English Gothic Moldings, 5th edition, 8 vol., cloth, price \$3.50.

The State Department of Education of Atlanta, Georgia, has established a department of school building service and would like to get in touch with the manufacturers of school building equipment. Kindly direct your mail to J. L. Graham, Director School Building Service.

Ralph W. Boone, 16591 Wark Avenue, Detroit, Mich., would like to secure copies of PENCIL POINTS for March, 1928, and June, 1927.

Barnard Rowntree, Box 173—Route No. 1, Carmel-bythe-Sea, Calif., has the following copies of PENCIL POINTS for sale:—all for 1926 with the exception of January, the entire year for 1927, and January, February, March and April of 1928.

John Michael, 9715-121st Street, Richmond Hill, L. I., N. Y., has copies of PENCIL POINTS for sale from first issue to present issue.

W. Morris, c/o Blum, 415 Lexington Avenue, New York City, N. Y., wishes to purchase the following *Beaux-Arts Bulletins:* October and November, 1924; January, February, April, May, 1925.

Albert L. Carter, 4840<sup>1</sup>/<sub>2</sub> N. Ashland Avenue, Chicago, Illinois, will pay \$1.00 for a copy of December, 1928 issue of PENCIL POINTS.

Roy C. Dieterich, c/o Cumberland Forest Building Corp., 4728 Lisbon Avenue, Milwaukee, Wisconsin, has for sale all the copies of PENCIL POINTS from Vol. I, No. 1. W. C. Douglas, Rm. 1508, 51 E. 42nd Street, New York, has for sale the following: Five thousand full page magazine plates of the past three years from Architecture, The American Architect, The Architectural Forum, The Southern Architect, and a few others, all classified according to subject. By classification  $1\frac{1}{2}$  cents each; selection at  $2\frac{1}{2}$  cents each.

Charles S. Bolden, 5 Hunter Street, West Newton, Mass., would like to secure two copies of the following numbers of *The White Pine Series of Architectural Mono*graphs: Vol. II, Nos. 1, 3, 4 and Vol. III, Nos. 1 and 4.

## PERSONALS

HARRY T. MILLER, formerly of Farrell & Miller, Architects, 700 Western Mutual Life Building, has become associated with G. A. Sullivan under the firm name of Sullivan & Miller with offices at 5300 Wilshire Blvd., Los Angeles, California.

LIONEL BANKS, ARCHITECT, has moved his offices from Salt Lake City, Utah, to 1336 West 55th Street, Los Angeles, California.

STERN & PEYSER, ARCHITECTS, have moved their offices from 12 E. First Street to The Tower of the Slote Building, 9 West Prospect Avenue, Mt. Vernon, N. Y.

VICTOR GALIER, ARCHITECT, has moved from Shaker Heights, Ohio, to 437 Society for Savings Building, Cleveland, Ohio.

EDWIN J. KRAUS, ARCHITECT, formerly with Harvey & Clarke, Architects, West Palm Beach, Florida, and Hoffman-Henon, Architects, Philadelphia, Pa., announces the opening of an office for the practice of architecture at 201 Arcade Building, Racine, Wisconsin.

FREDERIC C. KLAWITER, ARCHITECT, has moved from 2077 Fairmount Avenue to 20 Prospect Avenue, Mil-waukee, Wisconsin.

SIBLEY & FETHERSTON, formerly at 101 Park Avenue, have moved to Bartholomew Bldg., 205 East 42nd Street, New York, N. Y.

(Continued on page 156, Advertising Section)

## PENCIL POINTS

# ELDORADO the Master Drawing Pencil F for 102



SUCH skies as these can be produced with the soft ELDORADO leads 3B to 6B. The composing of the sky in relation to the architecture is, of course, the first consideration. Small sketches the size of those on this page will serve as preliminary studies. Once a pleasing arrangement has thus been secured in a small scale sketch, one can be assured that the effect will be just as satisfactory in a large rendering. The sky should certainly be definitely planned before work on the finished drawing begins.

This is one of a series of Pencil Lessons prepared by Ernest W. Watson. Write on your letterbead for sample of Dixon's Eldorado, "The Master Drawing Pencil." Joseph Dixon Crucible Co., Pencil Dept. 167-J, Jersey City, N. J.

## PITFALLS FOR THE SPECIFICATION WRITER

(Continued from page 510, Editorial Section) oughly; they should be properly housed, mortised and tenoned and wedged and glued. The cores for stiles and rails of doors should be built up of one-inch strips glued together and panels should be three ply laminated construction. The metal should be specified to be in one piece for each member and to be drawn over the cores by machine, and to lie flat and smooth without waves, kinks, buckles, tool marks or other surface defects, and to be turned in to clinch on the back of covered surfaces and the ends of mitres. Joints should only occur at the junction of the various members, and all joints except erection joints should be process welded. All sinkages for butts, lock faces, strikes and other hardware should have the metal turned in so as to cover them completely and be tightly soldered where the work is to be exposed to the weather. All metal applied to panels should be glued.

One of the weakest, if not the weakest, spots in many specifications is painting, very frequently the most that is said is: "all exterior wood work and metal work shall be given three coats of lead and oil paint," then it will go on to say that, "the interior wood work in certain rooms will be stained and varnished" and the interior wood work in certain other rooms, "will be finished in white enamel."

Very good, if the right painter gets the job, but rather hard to hold a tricky one to do good work with so little that is definite or specific. The least there should be called for would be, for exterior work, to say "three coats of pure white lead and pure cold pressed linseed oil," and it would be a better way to specify, "that all white lead shall be a pure basic lead carbonate, free from acid and shall contain not over 25% lead hydrate; that all linseed oil shall be pure cold pressed linseed oil, well settled; that all turpentine shall be pure gum spirits turpentine, distilled from the sap of live trees." This will at least guarantee the right to demand the highest grade of materials. Also, if the best results are desired, zinc oxide should be specified to be added to the lead and oil, fifteen to twenty per cent is a sufficient quantity, and the French process is probably a little better than the American. The reason for this is, that the zinc oxide added to the white lead prevents the chalking and darkening which always occurs with pure lead, and it also adds to the covering capacity of the paint. With the varnishes and enamels, the number of coats should always be specified; the most satisfactory method of specifying these materials to get the best results is to call for certain makes and brands, which either personal experience or the experience of others of your acquaintance, have found to be satisfactory. A very important clause in the specifications for materials to be used in painting is one which calls for, "all materials to be delivered at the job in the original packages, sealed with the manufacturers' labels, and not to be opened until inspected and approved by the architect."

Now, after having listed a few of the more serious pitfalls which a young specification writer is liable to encounter, I will add a few "dont's," which will help to make the specification more practical, and increase the bidder's respect for the specification writer, as bidders are frequently very critical, especially where their own work is concerned. *Don't* call for framing timber to be "free from all defects," as it does not exist, and the grading rules allow a certain number of sound knots and small shakes and checks in all timber. *Don't* call for glass to be "free from all defects," as it is not made, and the grading rules of the manufacturers' association allow minor defects even in "second silvering quality" plate glass (the highest

grade of glass used for glazing purposes) in sizes of ten square feet and under; the same is true of either AA or A grade "clear window glass" frequently called "sheet glass." Don't call for AA "clear window glass," except where a very small amount of glass will be required, as the total amount of glass which will grade that high never exceeds more than three per cent of the total amount of window glass produced by the manufacturers. So for large work such as office buildings, hotels and school houses with a hundred or more windows it is practically impossible under ordinary conditions to obtain any such quantity in the open market. Don't specify travertine as marble; it is a limestone and not a marble. Don't write the entire American Society for Testing Materials standard specification for Portland cement and reinforcing steel in the specifications, just refer to them as the standard for those materials. And that will be sufficient, as all testing laboratory engineers know them quite as well as they do the multiplication table.

Don't confound the so-called cement plasters and Keene's cement, with Portland cement, as they are entirely different materials, the first two being gypsum products and Portland cement is the product of limestone and clay and should be handled in a different manner. Don't specify every new material which a glib talking salesman brings around. Wait until they have been tried out and proved to be a success. They may call you a fogy, but they can't call you a fool, and I have been called both.

Now, that I have told of some of the pitfalls which beset the young specification writer and ways to avoid them I will sum up briefly, with a few suggestions as to how to get the best results in the writing of specifications. Probably the first injunction I would make, is to write good, straightforward English, avoiding involved sentences and split infinitives. Some writer on the subject has said: "A specification is not a piece of literature"; it is not, but it should be a piece of grammatical English.

The more correctly a specification is written the less the likelihood of misunderstandings both in estimating and in the work of construction. Be very careful to get each and every item of each trade in that division of the specifications, and particularly careful to get each and every item in the trade to which it belongs, and not as I recently saw in a specification, where hollow metal doors, Kalamein doors and rolling steel shutters were in "Sheet Metal Work," with flashings, gutters, leaders and skylights.

In writing the specification for any particular trade, a very safe and simple method of procedure, after writing your general clauses, is first to describe the materials to be used, the quality, grade, make or brand, the method of manufacture (that is, if necessary, and if not, omit it), the method of application, and finally the places where used, and if there are omissions, such as, places which are not plastered or portions which are unpainted, list them. This of course applies to many of the trades, but not to all, and there is where judgment will be required. In writing a specification and making references to the various rooms and spaces, shown on the plans, always use the names which are on the drawings, and if, as is quite frequently the case, the specifications are partly written before the drawings are lettered, be sure and let the draftsman who is doing the lettering know what names you have used and have him mark the drawings accordingly, as it will save a lot of needless confusion. Keep in as close touch as is possible with the drafting room and get all the information possible from the draftsmen so that your specification will be for that particular building, and not just a specification for a building, which unfortunately too many specifications are.