THE AMERICAN ARCHITECT

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Architecture As a Business

To Whom It May Concern

By WILLIAM ROGER GREELEY

IN a recent discussion of architecture as a profession, comment was made upon the facility with which architects organize among themselves. It is not unnatural that men whose profession demands a high degree of business management should find it easy to perfect an organization of their own numbers. It *is* unnatural that the public should have overlooked the architect's aptitude for this kind of work, and should have made so little use of him in public undertakings outside the confines of the profession. Perhaps there are good reasons.

In the first place there are certain facts to be reviewed. According to figures furnished the writer by a reputable building news agency, it appears that during 1916, a bad year for building construction, the architect has handled the money and the men, and has superintended the design, marketing and construction of buildings valued at something like $1,160,000,000 out of a total of $1,547,000,000 in the North Atlantic States and Northwest territory alone, and the engineer during the same period has designed and directed the construction of work valued at less than one-seventh that amount. Comparisons in no way derogatory to the engineers may be made, showing that the architect is called upon to be responsible for a much wider range of work than the engineer. In a commission like a large hotel, for instance, he is obliged to include in his study of the problems detailed consideration of the following special sciences: Hydraulics (foundations and elevators); structural engineering (frame); sanitary engineering (drains and plumbing); domestic engineering (heating, ventilating, lighting, power, equipment, elevators, telephones, vacuum pumping, refrigeration, cooking, clock systems, fire alarm systems, etc.); acoustics (audience halls); physics (absorption and contraction of materials); chemistry (reaction of materials in juxtaposition, deterioration, electrolysis); meteorology (orientation, wind pressures, snow loads, lightning conductors, rain disposal); foundry work (forgings, castings, and wrought work in iron, steel, brass, bronze, copper, etc.); modeling and sculpture (ornamental work in stone, wood, plaster, terra cotta, metal, etc.); cabinet work, interior decoration, etc.

Besides these scientific considerations the architect must add an understanding of the taste of the prospective patrons of the hotel, so as to interpret in advance their desires. He must also be acquainted with the style in which the building is to be designed, even to the complete mastery of all its intricacies and subtleties. He must have a thorough knowledge of the market so as to specify materials which are easily available and economical. He must know how to get out of the workman the character of ornament which is required to make a masterpiece. He must have the tact and force to handle the contractor in such a way as to avoid strikes, delays and extra charges against the owner. He must be alert to discover the defects and mistakes in construction before their correction becomes too difficult or even impossible.

Last of all, he must have a creative instinct and wholesome taste of his own which will enable him to see the solution of the problem in the first place and give him courage to stick to his convictions through every kind of temptation to give in to easier methods and alluring compromises. His work is successful only in so far as he is able to co-ordinate the work of the multitude of tradesmen and artisans who are contributing each his own share to the building as a whole, and to give meaning and harmony to the chaos.

Now the architect is accustomed to act as the confidential and sole representative of the owner. Complete responsibility for the success of the undertaking rests upon his shoulders. If the roof leaks, the curse falls upon him; if the plaster cracks, he should have used wood that would not shrink or swell with successive applications of heat and moisture; if the paint blisters on the southeast wall, he should have been at the building the morning when

the painter started to do that part, and have laid him off until the wood was drier; if the chimney smokes somewhere besides at the top, the architect should have foreseen that the elm tree was in the way, as it is distressing to have to sever a limb now when it seemed as if everything was peacefully adjusted; if the house burns up, it was probably defectively wired, and the professional adviser morally feels as if he should rebuild it at his own expense with the use of armored conduit instead of knob and tube.

All this is true, and the architect feels the responsibility that is put upon him and tries hard to meet it. What are the difficulties? A generation ago the market was simple. All that it was necessary to include in the specification for plastering was: "This will be a first-class job of plastering by Smith." Smith was given the job without competition, and did it as well as he knew how, and charged accordingly. He was a man with years of experience, well known in the community, and all was well. What is to-day's problem? Every ingredient and every process in the plasterer's work must be carefully described in legal phraseology because the work is generally to be figured in the open market and awarded to the low bidder unless it is obvious, or at least easily demonstrable, that he is not honorable or competent. As the successful bidder has not only figured very low, but often actually made an error in computation which gave him the contract, the temptation exists from the start to make up the deficiency somewhere, and the architect must know not only how to mix the plaster himself but how to detect inferiority at any and all stages of the work.

If things are going smoothly the next snag is the strike. This is just as likely as not to be caused by a jurisdictional dispute which has nothing to do with the owner, architect or builder, and which obstructs the work contrary to all laws of fairness. More often it is a case where the architect has to choose between serving the owner's interest by siding with an unjust demand of the union against unorganized labor, or standing up for his own convictions and throwing the work into confusion, or becoming a walking delegate himself and acting as mediator between the contending parties.

In the old days there were no building laws. Now the architect must be a building lawyer, and in most cases he has first acted as legislator, too, and has framed the laws which govern the construction and maintenance of buildings.

Accustomed to foresight by the very essence of his work, which is the working out in advance, in his mind and on paper, of every detail of the proposed building, the architect has naturally become the advocate and promoter of that great new branch of human activity, city planning. Here his business responsibilities have been even greater than in his own profession proper, and the scope of the work has been larger, until we find a comparatively obscure architect startling the world with a successful plan for a new capitol city for a continent, and another with an equally wonderful conception of an international city or world capitol.

The architect must possess, in addition to other qualities, an accurate and careful understanding of accounting and business methods. Not a dollar must be misapplied, not an item overlooked.

Salesmanship is no less important an adjunct of the architect's equipment. When he has conceived a building in all its parts in such a way as to make a harmonious whole, one single fad of the omnipotent owner, if insisted upon, may throw the entire conception awry. A little knowledge is a dangerous thing, and the layman who is building usually has a little knowledge of architecture. You must be able not only to explain and justify your own ideas, and tactfully dissuade him of his own fancies, but even to spell-bind him so as to keep him contented until the final day, when your finished work may justify itself. Any lack of ability in thus "selling" your product may cost you your reputation. You are aware that any judgment that he may pass upon the work before it is finished is a partial and premature one, but you also know that for him to be willing to wait until it is all over is a strong test of his faith in you, and it becomes your task to bolster up his courage and keep it unshaken.

After rehearsing such a list of requirements for an architect it becomes evident that he is more to be pitied than censured. He has something in common with the country minister who, in order to fill the requirements, must possess a discouraging assemblage of qualities, somewhat like this:

For $600 a year we must have
- A devout and pious man.
- A preacher of excellent ability.
- A student of theology and of history.
- A guide, philosopher and friend, and
- A comforter in time of trouble, sympathetic and tactful.
- A spellbinder and money raiser of the first ability, and
- A good organizer.
- A sport, popular with young people, and ready for the game.
- A *married man.*

In short, Savonarola, Daniel Webster, Marcus Aurelius, Florence Nightingale, Pierpont Morgan, William Jennings Bryan, Buffalo Bill and Benedict all under one hat! Even Billy Sunday's qualifications would be challenged.

The architect has been intrusted with the enormous amount of construction work mentioned above, has been loaded with the responsibilities just enumerated, and has met the trust with comparative ability and integrity. No architect has earned a percentage rating of 100, but the majority have not even been suspected of dishonorable dealings, and have been able to turn over to the owner good buildings honestly, substantially and intelligently built. In fact, in spite of the many difficulties, chief among them the lack of sympathy in the work of the profession on the part of the public, the American architect of to-day is challenging the world in his ability to meet the diverse requirements of his art and to produce buildings of a high character.

With a training that fits him to handle men, money and materials, why has not the architect been intrusted with the carrying out of important programs of construction and organization for the government? The engineer has built the cantonments with an engineer's ability, but has forgotten orientation, physiology, and a host of other things that are every-day considerations with the architect. Reconstruction and correction have already begun to be considered. Never was there a time in the history of the country when there was a greater need of ability to organize and accomplish than the present. The country has developed a profession whose work is exactly this, but the profession has not boasted, and so the country has overlooked it. Should not the architect make a noise like an engineer or a captain of industry, just to let the government know that he is willing to serve it in large and vigorous fashion at home as well as in the trenches and the clouds abroad?

At the present moment every city in the country has architects' offices splendidly organized for undertaking large and important work, but owing to the stringency in ordinary lines of building construction they are falling apart and cannot be reassembled without great difficulty and delay.

If the government needs these men, the government will find them ready to give everything in their power to the common cause.

A Campaign of Publicity and Education

By George W. Maher, F. A. I. A.

THE problem of how best to bring before the great American public the status of an architect so that his artistic aspirations, practical endeavors and actual accomplishments as a man of affairs will be better understood and appreciated, is an issue of momentous importance, both as it affects the profession and the public.

The architect to-day occupies a rather hazy position in the estimation of the community. His qualifications are very indistinctly comprehended by the rank and file of the people, his real status perhaps being associated with that of an artist, a dreamer, who is not to a great extent acquainted with the practical affairs of life. He therefore is credited with being simply a picture maker of houses and structures; the engineer, and also the general contractor, are given the distinction of being the real builders, admittedly so by the fact that their advertising signs are displayed conspicuously at buildings during construction.

The seeming ignorance on the part of the public is undoubtedly due as much to the attitude of the architect and his code of practice as to any other cause. It is for this reason that a campaign of publicity and education is highly desirable to enlighten the public. Modern and progressive methods should be employed in order to bring the architect squarely before the people in his true light, giving him proper recognition in public affairs and in connection with work in which he is concerned, and thereby obtaining not only the proper distinction due the profession by reason of its constructive services to society, but primarily for the benefit of our country at large.

An enlargement of scope of a radical nature in the present code of practice seems highly desirable in order to meet this most important exigency, so that the ability and services of the architect will receive just recognition.

If at the present moment the public, who are the government, were thoroughly informed and acquainted with the aid the profession of architecture could efficiently and patriotically render the country in this time of great national need, time and vast sums of money could undoubtedly be saved and results accomplished superior in plan and practicability to those already achieved.

This is not an idle assumption; the architect is trained for structural accomplishment; he has the experience and ability to erect buildings of all classes. His profession has been engaged in such work for many years with success, and therefore

by all law of procedure and business judgment he should know more of such problems than those who have not had the opportunity to specialize in expert planning or methods of obtaining competition in order to reduce the cost of construction.

A practicing architect must, of necessity, be a man of affairs, since his enterprises represent great expenditures of money, over which he must exercise the ablest business ability and judgment. In addition to these requirements, his long period of technical training prepares him for correct designing and planning and safe construction. In Illinois and many other States, he is obliged to pass practically an engineer's examination before being permitted to practice.

Architects, as a class, are sincere advocates of the beautiful. Their high aims and aspirations are to harmonize all true inspiration into their work so that their artistic creations will represent an expression of the real culture of their day and generation. The public must be brought to a realization of these qualifications and high ideals. I wish to illustrate the power of initiative and efficiency, well worth recalling in order to establish the ability and valuable services of the profession of architecture. We remember with pride the success of the World's Fair in Chicago in 1893. Its marvelous orderliness of plan, its architectural beauty and breadth of conception still influence the city-beautiful idea throughout the length and breadth of our country.

Many of us recall that after it was decided by the National Congress to hold in Chicago a great fair commemorating the discovery of America there was a diversity of opinion among Chicago's foremost citizens as to its location. Many prominent men, and also our great daily papers, strenuously advocated what is now Grant Park, then a small parcel of ground, as the most desirable location.

Any architect of experience would immediately have pointed out the absolute impracticability of such a site because of the necessity of filling in vast areas of lake in order to erect the buildings and form appropriate landscape effects.

During this babel of confusion in laymen's opinions, and doubly confounded because of the very short time given Chicago to erect such a vast enterprise, some one who understood the ability and experience of the architectural profession suggested that the advice of an architect was necessary, and that the selection of a site should be recommended by him to the directors before action was taken.

The firm of Burnham & Root was then consulted. This firm, true to the great responsibility placed upon them, and faithful to the best traditions of the profession, immediately gave the matter expert consideration. With characteristic rapidity of judgment, and comprehension of the world enterprise, it located the fair where it rightly should be—at Jackson Park, bordering Lake Michigan—and thus undoubtedly avoided a serious blunder.

In spite of the fact that this enterprise was practically controlled by architects, from commencement of construction to the completion of both landscape and structures, and that it was eminently a success far beyond the layman's wildest dreams, yet the architectural profession received little recognition from the country as a whole for this signal achievement. For if there had been any real appreciation of the stupendous work accomplished, many towns and cities throughout our land would have immediately secured the trained services of architects to guide their municipal developments, or, in a more American and democratic manner for the public weal, would have at least considered an architect for some position of trust, as, for instance, that of mayor or chief executive, or some power of distinction in the community commensurate with his trained creative and executive ability. For surely an architect's comprehensive experience fits him for such a position of responsibility far beyond that of a class of politicians who prey upon the credulity of the public for their own aggrandizement.

It is time, therefore, that the architectural profession recognizes that it must educate the public, using methods of publicity with which the people are familiar, so that the ability and usefulness of architects in public and municipal affairs become generally known, and employed as occasion arises.

In this connection I wish to call attention to the fact that the proper shaping and reconstructing of the Mall, that great landscape effect extending from the Capitol Building to the Potomac River, at Washington, D. C., is due to the work and influence of the American Institute of Architects.

The original plan of the Mall, designed by L'Enfant, under the guidance of Washington, had long been lost and forgotten. The resurrecting of this plan and the proper architectural and artistic embellishing of it, now in progress, is the result of the activity of the architects and their national organization.

It is common knowledge that the patriotic efforts of the commission of architects selected to perform this great public service met with opposition or lukewarmness from those in authority at Washington. Indeed, at this very moment, the A. I. A. is not particularly in favor because of its desire to prevent the desecration of the Mall by the erection, in the immediate neighborhood, of a huge government power plant, that, if built, will mar the beauty of this great conception.

It is not generally known by the public that the present plan for the orderly development of Chicago,

known as the "Chicago Plan," was evolved from the heart and brain of a great Chicago architect. After the plan was adopted officially the profession was neither asked to assist, nor consulted by the city authorities in carrying forward to completion any of the details of this municipal development.

The Chicago architects, however, took cognizance of the issue and volunteered their services to the city to beautify the proposed bridges, since they recognized that their services were invaluable.

It should, however, be stated, in all justice, that certain broad-minded city officials, acquainted with the architects' desire and their qualifications for assisting in this work of beautification, are encouraging them to perform this municipal undertaking with success. The plan commission has recognized the usefulness of the profession in relation to the art and architectural embellishments in connection with the undertaking.

It has occurred to me that the first step in this much-needed campaign of publicity and education should be in connection with building enterprises actually under construction. I am convinced that it is necessary, as a plain duty, for the architect to attach his name, and that of his organization, to his work during the period of construction, for the following reasons:

1. The services of an architect not only demand a proper respect and acknowledgment and remuneration for services rendered, but in a broader sense are vitally concerned in the advancement of the profession as a whole so that it will be favorably known by all men and result in the improvement of towns and cities with good, commendable architecture and public improvements.

2. The layman is especially interested in work during construction. This is the psychological period to reach the public; the period when lasting impressions are made and retained. It is, therefore, during this opportune time that the architect's name and that of his organization should be in evidence, and in the public mind, so that he will receive proper credit for the design and construction of the structure or public improvement.

3. If each building, during construction, were signed by the architect, with his title A. I. A., or F. A. I. A. attached, it would bring permanently to the public's consciousness the fact that he was the real creator of the design and had actual charge of it during the construction. It will also have the added effect of acquainting the people with the fact that the architect is a member of an organization nation wide in importance, that he had a professional distinction or standing with his fellows, due to his ability and his attainments.

4. The A. I. A. would obtain an enlargement of power and influence for service, since undoubtedly the members are, or should be, through the selective process, of a superior type of technical training; therefore, the acquainting and advertising of this fact on the buildings should redound to the credit of the A. I. A. This truth would be of inestimable value to the American Institute of Architects.

It is unnecessary for me to state that there are many other vital reasons why an architect should sign his buildings during construction. Suffice it to state that at the present time there are those who are not members of the A. I. A. who do sign their buildings as architects, and therefore have an undue advantage of publicity denied the members of the Institute.

The spirit of our country and our democracy encourages truth of statement, that the facts in the case be generally known. The present code of practice as respects the issue in question is contrary to this spirit; it really compels the professional architect to "hide his light under a bushel" at the time when circumstances are best suited to enlighten and educate the public in regard to the real capabilities of an architect and his usefulness to society.

The state of mind underlying the principle of this procedure of practice is linked with the past. It has ceased to serve society adequately, and has little place in our modern day. The Institute should therefore acknowledge this truth and advise its members that it is highly desirable, and in every sense professional and ethical, to obtain a just publicity for their efforts consistent with proper regulations to safeguard what has been gained by the Institute code of practice.

I am, therefore, very much in favor of a standardized tablet of approved size and design, with the name of the architect placed thereon, and under his name his organization or standing, A. I. A. or F. A. I. A. respectively, as the case may be, and that all architects who are members of the Institute be strongly advised to place this tablet against structures or improvements during the period of construction, from the time the work is actually commenced until it is finally completed.

I consider this movement as a stepping stone of the first importance in order to begin the real campaign of publicity and education which should be inaugurated and persisted in, consistent with the aims and high ideals of the Institute so as effectively to correct the erroneous impression of the public as to the status of the architect and his organization. It will also bring forcibly before the great American people the real qualifications of a trained architect and the necessity for an understanding of the purpose and aims of his national organization, so that better public improvements and architecture may be encouraged in our communities, our towns and cities.

This action of publicity and education is especially opportune now owing to the great awakening and regeneration of all human enterprises that are destined to take place immediately at the close of the great world war, also to the responsibility the architect must assume in a constructive sense for the assistance of society and of humanity.

Business as Unusual

COMMENTING in the New York *Times* on the proposed War Finance Corporation, by means of which it is proposed to control all issues of securities that equal $100,000 in amount, Mr. Barton Hepburn has sounded a keynote and a warning that it would be well for those who are in charge of national affairs to take strongly to heart. He states in substance that "the war can only be won by keeping business in full volume by fostering individual activity and business prosperity." Very many of his fellow citizens thoroughly agree with him, but few have had the courage of their convictions and openly stated it in so many words, fearing perhaps that they would be called unpatriotic.

Modern warfare is largely a question of finance, money being the sinews; and the supply of these sinews must be secured from the citizens of our country. If, therefore, all sources, or even a percentage of the sources from which they are obtained, are cut off or materially reduced by the proposed restriction there can be only partial response to the call for the purchase of bonds or the payment of taxes. In order that the response to these calls may come quickly, gladly and in ample amounts, all branches of industry must be encouraged not only to do as well as has been done in the past, but to do more. They must not only carry the burden they carried before the war, but, at least in part, that of the war in addition. Our slogan, it seems to us, should be not "Business as Usual," but "Business as Unusual." Not that anything should in any way be permitted that would interfere with our war preparations, but our country is so great and our resources are so immeasurable that properly organized we could care successfully for any and all demands made on us. England has adopted this principle, as the report of her exports prove, even though she has been engaged in war for nearly four years. And unless we fall in line by removing, not imposing, restrictions we will fail in what we have started out to do, and when the war is over we will have to meet in trade competition an antagonist fully armed at all points, while we will still be from a commercial standpoint a disorganized, poorly equipped mob.

Autocracy versus Democracy

IN the same comment above referred to, Mr. Hepburn criticizes so much centralization of power in the Government. The plan proposed in connection with the War Finance Corporation would place under the control of five men the activities of all the small towns and villages of the country. Our national officials in Washington are already overburdened with the enormous responsibilities thrown on them by the war, and it is certainly a great question whether it is prudent or even good business judgment to further complicate the situation by compelling every locality to send to Washington for permission to manage its own local affairs. An unwise decision in this matter would directly and very unfavorably affect many perfectly legitimate public improvements. They are now trembling in the balance, and their abandonment would have a very detrimental effect on the prosperity of our country in that it would still further reduce the opportunities, already much too small, of all those who are connected with or interested in building affairs. The combined influence of all such men should be exerted against the proposed action.

Mr. Hepburn has well stated the proposition when he asks, "Is so much autocracy necessary to preserve democracy?"

Beaux-Arts Institute of Design

DIRECTOR OF THE INSTITUTE, LLOYD WARREN

DIRECTORS OF DEPARTMENTS

ARCHITECTURE, FREDERICK A. GODLEY — SCULPTURE, LLOYD WARREN

MURAL PAINTING, ARTHUR CRISP

Notice to Students

THE AMERICAN ARCHITECT will from this date present full reports of the findings of the Architectural Juries of the Beaux-Arts Institute of Design, together with selected reproductions of premiated drawings. These reports will include programs of the competitions and, as a rule, will appear in the second issue of THE AMERICAN ARCHITECT following the date of the judgment.

It is the intention of the Department of Architecture to make these reports as complete as possible, that there may be presented to the public and to the students a record of the work of the Department of Architecture.

BEAUX-ARTS INSTITUTE OF DESIGN.
FREDERICK A. GODLEY,
Director Department of Architecture.

Official Notification of Award

Judgment of November 13th, 1917

CLASS "A"—FIRST PROJET

JURY OF AWARD: F. A. Godley, F. H. Bosworth, Jr., L. Ayers, R. H. Dana, Jr., E. V. Meeks,

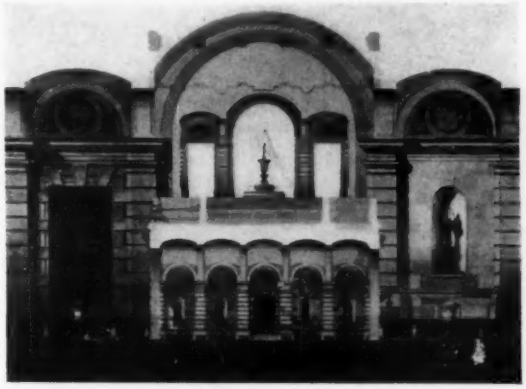
First Mention Placed G. A. Stauch, Atelier Licht
CLASS "B"—II. ANALYTIQUE—A RUSTIC ORDER

L. R. Leonard, M. B. Stout, F. C. Hirons, H. W. Corbett, A. E. Gallatin, L. Warren, Prof. Burnham and J. Wynkoop.

PROGRAM: A Legation.
Number of Drawings Submitted: 44.

AWARDS

FIRST MEDAL: E. E. Weihe, Atelier A. Brown, Jr., S. F. A. C., San Francisco; H. Hermanns, University of



First Mention, J. A. Parks, Beaux-Arts Atelier, Washington, D. C.
CLASS "B"—I. ANALYTIQUE—A COVERED DRIVEWAY

Pennsylvania, Philadelphia; L. Fentnor, Atelier Wynkoop, New York.

SECOND MEDAL: D. R. Wilkinson, Los Angeles Architectural Club, Los Angeles; F. J. Kuchler, University of Pennsylvania, Philadelphia; D. W. Orr, Yale University, New Haven.

CLASSES "A" AND "B"—FIRST ESQUISSE-ESQUISSE

JURY OF AWARD: L. F. Peck, E. R. Bossange, H. Hornbostel, F. H. Haskell, W. L. Bottomley, L. E. Smith, J. A. Gurd and G. H. Bickley.

This Jury also served as Jury of Award for Classes "A" and "B," Archaeology—First Projet and Measured Drawing.

PROGRAM

CLASS "A"—An Industrial Plant.
CLASS "B"—A Dove Cote.

Number of Drawings Submitted: Class "A," 17; Class "B," 32.

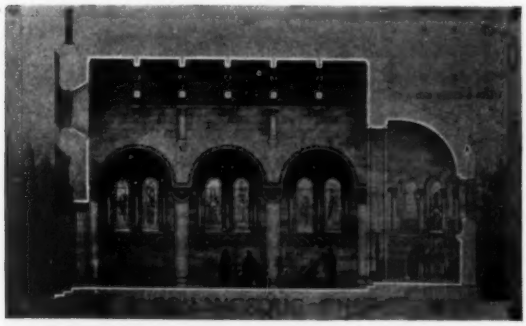
AWARDS

CLASS "A"—THIRD MEDAL: E. L. Frick, Atelier A. Brown, Jr., S. F. A. C., San Francisco; E. R. Froese, Atelier St. Louis, St. Louis.

MENTION: A. F. Skogse and L. Morgan, Atelier Hirons, New York; C. F. Schmidt, Atelier I. E. Hill, Geneva, N. Y.; M. Boucicault, Atelier St. Louis, St. Louis.

CLASS "B"—FIRST MENTION: P. R. Williams, Los Angeles Architectural Club, Los Angeles; F. M. Hodgdon, Atelier Rebori, Chicago; J. E. Wallace, Atelier St. Louis, St. Louis.

MENTION: J. M. Longmire, Birmingham Society of Architects, Birmingham; R. K. Galbraith, Beaux-Arts Atelier of Washington, D. C., Washington, D. C.; C. Wechselberger, Atelier Rebori, Chicago; W. Sehr, Atelier St. Louis, St. Louis.



Third Medal—R. M. Marlier, Carnegie Institute
CLASS "A" AND "B"—ARCHAEOLOGY, SECOND PROJET—A ROMANESQUE CHAPEL

CLASSES "A" AND "B"—ARCHAEOLOGY—FIRST PROJET

PROGRAM: An Egyptian Rock-cut Tomb.
Number of Drawings Submitted: 9.

AWARDS

THIRD MEDAL: E. E. Weihe, Atelier A. Brown, Jr., S. F. A. C., San Francisco; S. Cohen and A. Sharove, Carnegie Institute of Technology, Pittsburgh; E. A. Lehti, Atelier Hirons, New York; L. Fentnor, Atelier Wynkoop, New York.

One (1) Measured Drawing was submitted in this competition on which the following award was made:

THIRD MEDAL: R. M. Marlier, Carnegie Institute of Technology, Pittsburgh.

FIRST LOEB PRIZE COMPETITION

JURY OF AWARD: F. A. Godley, L. Warren, J. O. Post, W. L. Bottomley, H. Hornbostel and J. C. Levi.

PROGRAM: A Baldachino.
Number of Drawings Submitted: 30.

AWARDS

FIRST PRIZE: $50.00—W. F. MacCaughey, Atelier Rebori, Chicago.

SECOND PRIZE: $25.00—R. M. Marlier, Carnegie Institute of Technology, Pittsburgh.

PLACED: C. A. Albrizio, Atelier Hirons, New York; R. H. Segal, 13 East 40th Street, New York; A. M. Pyke, University of Pennsylvania, Philadelphia.

Judgment of November 27th, 1917

CLASS "B"—FIRST ANALYTIQUE

JURY OF AWARD: L. Warren, W. Lamb, J. A. Gurd, H. M. Woolsey, A. Ware, W. L. Bottomley and M. B. Stout.

First Mention—George Lloyd Barnum, Atelier Puckey, Chicago Architectural Club
CLASS "B"—II. ESQUISSE-ESQUISSE—A STONE CROSS

PROGRAM: A Covered Driveway.
Number of Drawings Submitted: 113.

AWARDS

FIRST MENTION PLACED: L. Williams, Columbia University, New York.

FIRST MENTION: F. H. Porter, Boston, Archtl. Club, Boston; J. A. Parks, Beaux-Arts Atelier of Washington, D. C., Washington, D. C.; G. Roth, F. Wingate and H. R. Kaplan, Columbia University, New York; E. J. Richmond, New Haven Archtl. Club, New Haven; E. T. Mock, George Washington University, Washington, D. C.

CLASS "B"—FIRST PROJET

JURY OF AWARD: F. A. Godley, G. A. Licht, F. C. Hirons, H. W. Corbett, H. McGoodwin, T. E. Blake, H. Hornbostel, J. Wynkoop, R. M. Hood, E. V. Meeks and J. F. Harbeson.

PROGRAM: A Small Dairy Farm.
Number of Drawings Submitted: 116.

AWARDS

FIRST MENTION PLACED: L. Justement, Beaux-Arts Atelier of Washington, D. C., Washington, D. C.; B. Laub, R. R. Neely and W. J. Rankin, "T" Square Club, Philadelphia; J. Regan, Atelier Wynkoop, New York.

First Mention—Fred M. Hodgdon, Atelier Rebori
CLASS "B"—I. ESQUISSE-ESQUISSE—A DOVE COTE

FIRST MENTION: H. F. Almon, Beaux-Arts Atelier of Washington, D. C., Washington, D. C.; E. Szendy, Atelier Corbett, New York; D. A. Fletcher and R. H. Sandeford, Columbia University, New York; J. W. Leinweber, Carnegie Institute of Technology, Pittsburgh; J. Skinner and T. R. Fahey, Detroit Archtl. Atelier, Detroit; S. H. Brown, Los Angeles Archtl. Club, Los Angeles; L. R. Warriner, care of L. Rile, New York; M. L. Allen, University of Oregon, Eugene; O. L. Gowman, Atelier Wynkoop, New York.

WARREN PRIZE COMPETITION

JURY OF AWARD: F. A. Godley, W. Lamb, L. Warren, W. L. Bottomley, T. E. Blake and H. Hornbostel.

PROGRAM: A Workmen's Community.

Number of Drawings Submitted: 22.

AWARDS

FIRST PRIZE: $50.00—L. V. Lacy, Cornell University, Ithaca.

SECOND PRIZE: $25.00—J. P. Morgan, Carnegie Institute of Technology, Pittsburgh.

PLACED: F. A. Fuller, "T" Square Club, Philadelphia; A. M. Pyke and C. F. Pyke, University of Pennsylvania, Philadelphia.

Judgment of December 26th, 1917

CLASS "A"—SECOND PROJET

JURY OF AWARD: F. A. Godley, F. H. Bosworth, Jr., R. M. Hood, H. Hornbostel, J. H. Freedlander, A. L. Noel, J. Wynkoop, F. C. Hirons, H. W. Corbett, G. H. Bickley, J. F. Harbeson, Prof. Burnham, W. A. Boring and M. B. Stout.

PROGRAM: A Government Shipbuilding Yard.

Number of Drawings Submitted: 36.

AWARDS

FIRST MEDAL: M. S. Diamond, Columbia University, New York; M. C. Beebe, Atelier Hirons, New York; L. Fentnor, Atelier Wynkoop, New York.

SECOND MEDAL: A. F. Skogse, Atelier Hirons, New York; R. W. Cheesman, Cornell University, Ithaca; F. J. Kuchler, G. Anderson and A. Scheffer, University of Pennsylvania, Philadelphia; D. W. Orr, Yale University, New Haven.

CLASSES "A" AND "B"—SECOND ESQUISSE-ESQUISSE

JURY OF AWARD: L. Warren, W. L. Bottomley, L. E. Smith and F. J. Walls.

This jury also served as jury of award for Classes "A" and "B" Archaeology—Second Projet.

PROGRAM

CLASS "A"—A Monument to Commemorate the Completion of a Municipal Water Supply.

CLASS "B"—A Stone Cross.

Number of Drawings Submitted: Class "A," 22; Class "B," 45.

AWARDS

CLASS "A"—MENTION: R. P. Ranft, Atelier St. Louis, St. Louis; E. E. Weihe, Atelier A. Brown, Jr., S. F. A. C., San Francisco; F. J. Kuchler, University of Pennsylvania, Philadelphia; W. J. Richards and J. P. Morgan, Carnegie Inst. of Technology, Pittsburgh.

CLASS "B"—FIRST MENTION: P. R. Williams, Los Angeles Archtl. Club, Los Angeles; G. L. Barnum, Atelier Puckey-Chicago Archtl. Club, Chicago.

MENTION: E. Purdy, Cornell University, Ithaca; N. P. Rice and N. D. Kutchukian, Carnegie Institute of Technology, Pittsburgh; F. J. Schlosser, Cleveland Archtl. Club, Cleveland; C. H. Bruegger, Atelier St. Louis, St. Louis; R. J. Reist, University of Washington, Washington.

CLASSES "A" AND "B" ARCHAEOLOGY—SECOND PROJET

PROGRAM: The Interior of a Romanesque Chapel.

Number of Drawings Submitted: 21.

AWARDS

THIRD MEDAL: R. M. Marlier and J. W. Leinweber, Carnegie Inst. of Technology, Pittsburgh; L. W. Williams, Columbia University, New York; W. F. MacCaughey, Atelier Rebori, Chicago.

Judgment of January 22, 1918

CLASS "B"—SECOND ANALYTIQUE

JURY OF AWARD: R. M. Hood, L. Warren, G. A. Licht, H. W. Corbett, M. B. Stout, R. H. Dana, Jr., H. M. Woolsey and A. L. Noel.

PROGRAM: A Rustic Order.
Number of Drawings Submitted: 89

AWARDS

FIRST MENTION PLACED: F. B. Post and L. Williams, Columbia University, New York; J. Lucchesi, Atelier Hirons, New York; G. A. Stauch and J. V. Snellback, Atelier Licht, New York.

FIRST MENTION: H. A. Clervi, Atelier A. Brown, Jr., S. F. A. C., San Francisco; A. T. Terrell and K. C. Chang, Columbia University, New York; G. E. Hecklinger, Atelier Fowler, Baltimore; A. Carey, Atelier Hirons, New York; H. Johnston, I. G. Smith and H. Foulkes, University of Oregon, Eugene; A. Slaughter, Atelier Wynkoop, New York.

CLASS "B"—SECOND PROJET

JURY OF AWARD: F. A. Godley, F. C. Hirons, A. Ware, D. J. Baum, C. Collens, J. W. Cross, H. Hornbostel, Prof. Burnham, H. R. Sedgwick, L. Ayers and J. F. Harbeson.

PROGRAM: A Federal Building for a Small Town.
Number of Drawings Submitted: 41.

AWARDS

FIRST MENTION PLACED: G. W. Travis, Atelier A. Brown, Jr., S. F. A. C., San Francisco; R. Bailey, Cornell University, Ithaca; N. Baum, Atelier Hirons, New York; P. N. Jensen, Atelier Wynkoop, New York.

FIRST MENTION: E. Purdy, Cornell University, Ithaca; M. B. Loewy, Columbia University, New York; N. Friz, Atelier Fowler, Baltimore; T. Shimura, Atelier Hirons, New York; W. R. Brown, University of Kansas, Lawrence.

Extracts from the Annual Address of Park T. Burrows, President, Iowa Chapter, A. I. A.

It seems a little callous to mention in the same breath with the sacrifices made by the men who are going or have gone into that part of the service which may, before the struggle is ended, involve the supreme sacrifice on their part, such another effect of the war upon our members as the great diminution or practically total loss of their business. Nevertheless, this too is a vital thing for those of us who remain at home who must, in some way, make a living for our dependents and ourselves and who must make more than enough to keep body and soul together if we are to do our share in buying Liberty Loan Bonds at each successive issue, paying the income tax, and making Red Cross and Y. M. C. A. subscriptions. We must, therefore, give some thought as to the way in which the war will affect us financially.

The first point I would make concerns the new War Revenue Law of 1917, in particular that clause under the heading of War Excess Profits Tax under which the income of a professional man, among others, is charged with an 8 per cent tax, after an allowance of $6,000 is made to each individual or partnership. Now it seems wrong in principle that an earned income should in any case have to bear any surplus tax whatever over that brought in from other sources. I believe that this is the exact contrary of the English practice, where, if I am correctly informed, the earned income, this being the income earned by a professional man or a salary paid for personal service, not only does not bear an excess profit tax, but is favored under the normal income tax in that it is not taxed as heavily as is the income from invested funds.

* * *

Nevertheless, while business in general for the architect and contractor is, by the war, being very greatly diminished or taken away entirely, in many localities the Government is doing a vast amount of building. Under the methods which the Government has employed in this building work up to the present time, the architects and contractors living in the localities in which the work is going on have been but little, if any, benefited by this work. Indeed, I think it is true, as a generalization, that the very fact that the Government is doing this building has had an adverse effect on other construction work in the locality where Government construction has been going on, principally because the Government in building demoralizes the labor market and commandeers materials.

* * *

A thought one member brought was that the convention of the Institute lacks interesting and instructive addresses on subjects of interest to the profession at large, by eminent men either in or outside of the profession; addresses so full of meat that members of the Institute will feel that they cannot afford to miss its conventions. The engineering and medical professions seem to secure such addresses and to engender such a feeling among their members. Another thought was that more attention should be given at the convention to promote sociability among the delegates, and to give those present a better opportunity to extend their acquaintance. One of the suggestions in this respect was that response to the roll call of the delegates be made by the members standing, so that delegates at least might have an opportunity of knowing each other by sight. Another suggestion was that all architects attending the convention be asked to register and then, not later than the second morning of the convention, a printed or typewritten list of all architects in attendance, whether delegates or not, be distributed or posted publicly, giving not only each architect's name, but his home and convention addresses.

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Then and Now

IN the article by George W. Maher, printed in this issue, the author directs attention to an important accomplishment by men in the profession at a time when the true intent of architectural practice was better understood than now, and suggests one very good method to effect, in part at least, an improvement of existing conditions.

The problem as to how best to bring to the American public the real status of architects has become imperative in its demand for solution, but, by reason of long deferred action, the difficulty in securing a remedy is great. The apparent apathy of architectural societies, their self-satisfied attitude, and their indifference as to the trend of public opinion, are all bearing fruit.

The call for reform was never louder than now—the necessity for competent, energetic leadership never more pressing. As Mr. Maher states, modern and progressive methods should be employed at once in order that the architect may be brought squarely before the people in his true light. He should receive proper recognition in public affairs, and the distinction due him for his work should be accorded. It is time to cast away antiquated methods which in normal times, while even then not serving their purpose, did not so seriously react on the whole profession.

Events are now moving so quickly that to wait to be called to take active part is to insure being overlooked. It is the wide-awake, alert man who to-day is reaping the advantages of the opportunities that present themselves. There has been too much apathy, too much insistence on a mistaken idea of professional dignity.

Mr. Maher is undoubtedly right in his contention that if the public, who are the government, were thoroughly informed and acquainted with the aid that the profession of architecture could efficiently and patriotically render the country at this time, vast sums of money could be saved.

Where lies the fault, what are the reasons for this absence of knowledge and of confidence in the profession of architecture? It would not be just to place the blame on an individual, or even a group of individuals, representing the profession. The fault really lies in the adherence to codes of ethics and methods of administration which, in most cases, have become time-worn and obsolete.

The Illinois Society of Architects and societies which have been formed in a few other states have shown by many well directed efforts a spirit that might with good results be copied by the Institute. Thanks to their monthly meetings and well conducted bulletins, architects and architecture in these states have not been entirely forgotten and "crowded off the map." While even in these localities the profession has not been fully recognized, it has not suffered the effacement it has in other states.

Among the many schemes advanced by the Illinois Society to stimulate interest in the work of architects, none are more important at this time than the resolutions passed some four months ago, recommending that architects be permitted to place their names on buildings during the course of their construction. No action has yet been taken by the Institute, and it is probably being deferred until the convention in April. Referring to these resolutions, Mr. Maher enumerated four reasons why the Code of Ethics of the Institute should be amended by the adoption of this or a similar ruling.

If we are losing ground it is because we are losing the correctness of our point of view. THE AMERICAN ARCHITECT has already given its approval to the plan to permit architects to sign their buildings during construction and at completion. It reaffirms this position now, and strictly agrees with Mr. Maher that it is a plain duty and one which the Institute should recognize at once. Procrastination has, in a sense, led us to our present position. It is action—quick action—that is needed, not only on this question, but on many others as well.

Beaux-Arts Institute of Design

WITH this issue THE AMERICAN ARCHITECT resumes its publication of the Student Work of the Beaux-Arts Institute of Design. This progressive architectural organization is the offshoot of the Society of Beaux-Arts Architects, formed and incorporated in 1894 by a group of young men upon their return from studying architecture at the Ecole des Beaux-Arts in Paris.

The objects of this organization were, at the outset, the cultivation and perpetuation of the principles and associations of the Ecole des Beaux-Arts. Ateliers on the French system were established and for a period of eight years a number of programs were issued to the draftsmen who were members of these ateliers.

The work of this society, from the time of its inception until to-day, has been marked with results so good as to create for it the highest position in architectural educational circles. With each year the scope of the society has expanded until at the present time the student body numbers more than 800 and covers practically the entire United States from coast to coast.

With the growing success of the architectural department and with a view to extending the methods which had given such excellent results to the arts allied to architecture, similarly conducted departments in sculpture and mural painting were established. With these additions the work assumed such importance that the organization of the original society was found to be in a large measure impractical. What had started as a small group engaged in atelier work had grown in 1916 to a large school of design.

At that time the Beaux-Arts Institute of Design was incorporated to take over all the educational work of the old Society of Beaux-Arts Architects.

The membership of the new Institute is not now confined to architects alone who have studied in France, but is also open to painters, sculptors and engravers who have studied there.

This valuable organization is supported entirely by the contributions of its members, together with such subscriptions as may be received from time to time from generous patrons interested in its work.

Since the time of its organization the objects of the society have never been lost sight of. Its present success is due to the group of men who have devoted so large a part of their time, influence and money to the educational work of the Society and Institute.

It is with a view to co-operating, as far as possible, in an effort that so thoroughly meets its approval that THE AMERICAN ARCHITECT has again taken up the publication and illustration of this work.

A Question of Jurisdiction

A WASHINGTON correspondent of the New York *Times* states that at least a part of the delay in organizing to build houses for the employees of the different shipyards and industrial plants has been caused by a question of jurisdiction between Secretaries Wilson and McAdoo, the latter, if the news item is correct, insisting that the plans be made in his department, on his statement that he has the staff and the administrative machinery.

Presumably this means in the office of the Supervising Architect of the Treasury Department, but as there is no "Supervising Architect of the Treasury Department" at present, this would imply that he means the engineering and architectural draftsmen employed there.

Is it conceivable that this very important matter, involving the expenditure of some $50,000,000, is to go ahead in this manner, without any competent guiding mind? Are all the architects in this country, many of whom have made a very careful study of this problem, to be deliberately put aside, and because there happens to be some "administrative machinery" will the colossal mistake be made of intrusting such a problem to it?

This work is of sufficient importance, both from the point of view of speed to meet the present emergency, and from the architectural side, which in this case is the economic side, to call to the assistance of the Government at least twelve or fifteen of the different architects who have made a special study of housing problems.

No single human being, nor any single office, no matter how well equipped, is capable of handling this matter as it should be handled in the limited time available. It would seem, therefore, that this is the time and the place to "cut the red tape"—to go about the work in a business-like way—to the end that we will have the houses in time for the shipping program to be carried out, and, further, that after the war we will not have a lot of useless, barrack-like buildings which will simply have to be "charged off."

Converting Tracing Cloth to Use for Surgical Dressings*

AMERICAN manufacturers, architects, and all draftsmen are called upon to render an important service to their country. When the workman has finished with the piece of cotton or linen cloth used in his trade, it is flung aside to be destroyed. The Red Cross is asking now for that discarded material. All over the country thousands of women are earnestly engaged in the manufacture of surgical dressings to be used in the hospitals for our wounded soldiers and sailors. The problem of getting enough white goods for this work is enormous. As long as the war goes on the work must go on if we are to live up to the humanitarian ideals typified to the world to-day by the Red Cross.

Two kinds of cloth are available—draftsman's tracing cloth and old linen and cotton articles to be donated from private households and, often in large quantities from hotels. These can be easily collected and handled by the modern laundries, which have now been called upon to perform this work for the Red Cross. With their facilities for collecting, washing, sterilizing and delivering to the local chapters, the laundries are in a position to perform an invaluable service and the least that other trades can do is to help them in every way. If any manufacturer, architect, or draftsman will go to the slight trouble of calling up either the local Laundryowners Association or one of the large laundries of his city, he will find them only too glad to send for such cloth as he can give them.

These materials the laundry will handle with the greatest possible care, because, as the *National Laundry Journal* for Dec. 15, 1917, says: "Remember it is a matter of life and death—first that you do this work and second that you do it right."

Taking up the task, therefore, in such a spirit, the *Journal* goes on to give the practical details for treating this draftsman's cloth:

"Some of the tracing cloth is thin linen fabric and some is thin cotton, but whether it is linen or cotton makes no difference in the washing process. The cloth has been treated with a gelatinous dressing, to make the material take ink, and at the same time be transparent. The dressing seems to resemble starch that has been ironed in the goods, in that it is softened by water, but does not completely dissolve and come out and leave no trace of stiffness in the goods. As the goods are to be used as surgical dressings, it is desirable that no starch remain and that the goods be as soft as possible. This end is best attained by the use of malt extract, or diastase, which is an inexpensive starch solvent. A short breakdown of malt extract, which is familiar under manufacturers' trade names, at a low temperature, will remove most of the drawing ink and at the same time take out all of the dressing that is in the tracing cloth. Those who have not the malt extract at hand will be able to do this work by use of a cold rinse, followed by a hot suds, but the goods will not be as soft as when the malt extract is used. The goods should be given a fairly strong bleach, followed by a sour, to remove the trace of bleach that may remain. Then there should be a good rinse to remove every trace of the sour. The bleach will completely sterilize the goods; hence a boil is not necessary.

"The goods should be extracted as usual, after which the material should be put through the drying tumbler, if one is available, as the pieces will then be soft and pliable. If a drying tumbler is not available, the pieces may be put through the flat work ironer. If it should happen that some drawing ink remains on a piece, it should be put aside and laundered again with another lot of white goods. Tests have indicated, however, that ink comes out almost entirely with the wash and the bleach."

The greatness of the demand for old linen and cotton cloth is being measured up to by the willingness of the laundries to take over this work. Be sure, then, to notify them if you have any of this much needed material. Your promptness to respond to this call may, in sober earnest, become a matter of life or death to some of our wounded men across the sea.

*Printed by request of American Red Cross, Washington, D. C.

Personal

John L. Decker, architect, is entering government service on February 1st, and his office in the Stambaugh Building, Dayton, Ohio, will be closed after that date until further notice.

John Buckingham, an architect of New York and Paris, died at the age of seventy-one. He was very widely known as a planner of country estates and as an interior decorator in both cities, but had been out of active practice for several years before his death.

John H. Lyman, Jr., engaged by the former commission of state institutions as supervising architect of the work of constructing new buildings at the University of Arizona at Tucson, will continue in that capacity under the new commission.

George W. Rapp, of the architectural firm of Rapp, Zettel & Rapp, died in his sixty-seventh year. At one time he was Building Commissioner of Cincinnati, and was active in various clubs and lodges.

Current News

"Behind the Times"

THE INSTITUTE AND THE QUESTION OF ADVERTISING

In an editorial under the heading, "Behind the Times," appearing in the January issue of *Good Furniture,* the American Institute of Architects is sharply criticized for its present attitude toward advertising. Since the condemnation of advertising as unprofessional stands on the revised constitution of the Institute as late as October, 1912, the editorial assumes that it represents the present attitute of the Institute.

Quoting from this editorial:

"No architect to-day would deny that he is a business man; in fact, he would readily admit that he could not successfully practice architecture without a keen knowledge of business. Is it thinkable that a keen twentieth century business man can get along with the science of advertising a closed book to him? With all due respect to the American Institute of Architects, its by-law on advertising would seem to put the architectural profession in a most naïve attitude before the public."

Commenting on the fact that many architects pursue methods of publicity that savor of advertising, it is stated:

"So, it would seem, individual architects possess and are using the tools of a successful publicity campaign, while the architectural profession as a body lacks the essential machinery to make this campaign educationally effective before the public in the large way it deserves. This defect, it would seem, the profession should speedily remedy. The American Institute of Architects would do itself and the profession honor by reversing itself on the vital issue of advertising and look facts squarely in the face, by pointing the proper direction which professional publicity should take. By such a step architects would immediately gain standing as professional factors with business judgment. No architect of the requisite standing could then afford not to be a member of the body which would sponsor a movement so palpably founded on principles that every business man can comprehend.

"The architect desires to be engaged as a business man; he is too often, today, regarded as deficient in business sense. A well-considered publicity campaign by the architectural profession would correct this popular error, once and for all, while the architect's professional position would not suffer a whit.

"During this critical period, when architects are hard put to it to find enough work to go around, it would seem a logical time for an educational campaign by the architectural profession. Sooner or later the step seems inevitable. Why not lay the foundation now?"

Illinois Chapter of the American Institute of Architects

A MOVE TO AFFILIATE ART AND CULTURAL SOCIETIES

The Illinois Chapter, A. I. A., has undertaken to organize an affiliation of various art and cultural societies and institutions of Chicago and vicinity interested in the promotion of any art or social ideal related to or affected by the practice or cultivation of the art of architecture, and to arrange for an annual convocation of arts, thus fulfilling one of the purposes stated in the constitution, namely: "to make the profession of ever-increasing service to society."

The following articles of affiliation for the journalistic institutions is a copy of a resolution adopted by the Illinois Chapter of the American Institute of Architects, to establish an affiliation with the various cultural organizations in Chicago.

Whereas, our constitution provides that one of the objects of the American Institute of Architects is to "make the profession of ever-increasing service to society," and that the Chapter may affiliate with itself, for purposes of co-operation, other organizations;

Whereas, there is no local organized affiliation of the twenty or twenty-five art and cultural societies of Chicago;

And, whereas, it is believed that great good to the architect and the community may result from a closer social relation of the architects with others interested in the arts and in sociological and governmental matters related to architecture;

Resolved, That the Chapter authorize the Executive Committee to take steps to establish an affiliation of the Illinois Chapter of the American Institute of Architects with the various organizations in Chicago and vicinity interested in the advancement of any fine art, or industrial art, or social ideal, related to or affected by the practice or cultivation of the art of architecture; and that a committee be appointed to arrange for a convocation of the arts, leading to a plan for a permanent affiliation of other congenial societies and institutions with the Illinois Chapter of the American Institute of Architects.

New York's Budget

City Will Spend $458 a Minute During 1918

The New York *Times* is sponsor for the following interesting statistics:

New York City, which has a mania for establishing new records in all lines of civic endeavor, once more challenges the possible envy of all world municipalities by the size of its 1918 budget. As finally adopted by the Board of Estimate, it calls for an expenditure of $240,519,858 the coming year, which amounts to $20,043,321 a month or $4,616,217 a week. Every time the clock completes its twenty-four-hour cycle New York City will spend the staggering sum of $659,217. Carried further down the scale, this means an expenditure of about $27,477 an hour and $458 a minute.

Suspended Walls

Novel Construction of a Building on Isthmus of Panama

As a means to prevent a building from settling at a dangerous angle in the event that an earthquake occur, a queer structure has been put up at Cristobal in the Panama Canal Zone. This is an electric station building, the roof of which is supported by powerful central columns, and the walls, bearing no weight themselves, are suspended from the eaves by means of cantilever beams.

An English Architect's Opinion as to Competitions

The Architects' and Builders' Journal, in its department of correspondence, issue of January 9, prints a communication from a prominent architect, sharply criticizing the R. I. B. A. for its encouragement of competitions. He regards it as a strange anomaly that an organization representing the corporate life of architects should approve, permit and further competitions among its members. Further, he is of opinion that as long as such conditions exist the Institute cannot be homogeneous, and that it is really a "conglomeration of members, antagonistic one to another, tending to disintegrate and probably uniting as bodies in opposition."

Continuing, he states:

One cannot conceive Fellows of the Royal College of Physicians publicly competing for a Doctorship to a great hospital by submitting prescriptions and demonstrating on patients before a lay selection committee advised by a Fellow; the general public invited to see the written applications and view the demonstrations and criticize in the press. Or, again, if a shipping company desires to extend its trading and docking facilities, it does not advertise to all and sundry its needs in the *Law Journal*, and stating that it is proposed to pay premiums for the three best draft bills to lay before Parliament, and that all the other competitors will have the privilege of having their draft bills publicly exhibited with a view to other companies extracting such sub-clauses as they desire free of charge!

Look at this last competition sponsored by the Institute. Hundreds of qualified architects are designing little cottages for builder., land companies, quantity surveyors, and the public generally to utilize free of charge! Certainly a chosen few will receive monetary prizes, but they are given no guarantee that they will complete their schemes or carry out the works.

Michigan Chapter, A. I. A.

The Annual Meeting and Election of Officers

The Michigan Chapter of the American Institute of Architects at its annual meeting elected officers as follows:

President, Charles Kotting; vice-president, D. J. Von Schneider; secretary, Adolph Eisen; treasurer, James B. Nettleton.

The lecture committee announced plans for addresses to be delivered before the chapter in February by Mr. Ballin and Ralph Adams Cram.

Members of the chapter placed themselves on record as favoring a modified form of convention in place of the regularly constituted annual convention of the American Institute of Architects. In the next convention careful consideration is to be given not only to the legitimate interests of the Institute but to the special conditions which the country is now confronting.

A report was made in the course of the meeting by the committee on public information of the Michigan Chapter, outlining in considerable detail the progress made by the Detroit building code revision committee. A review of the chapter's accomplishment during the year was made in an address by the retiring president, Marcus R. Burrows, and reports of the secretary and treasurer were read and accepted.

Architectural League of New York

The 1918 Exhibition Excels All Previous Efforts by the Society

It is considered noteworthy that the Architectural League of New York has included manufacturers among its exhibitors. The desire has been to demonstrate to the American people what beautiful furnishings may be made and are in fact being made

for houses by the artists in America who are working for the manufacturers, and to show how desirable it is that a spirit of enthusiasm for American art should be created, so that there will be no motive for the dealer in wares into which art enters to pretend that American designs are imported, or, in the case of dealers of a higher sense of honor, to import designs in order to cater to an artificial public taste. Men are beginning to feel that the time has come to prove that art cannot be kept out of business and that co-operation between the business men who sell art and the artists who make it, with a view to showing the public who buy it the best thing in the best way, must be to the advantage of all.

This exhibition will be fully illustrated and described in THE AMERICAN ARCHITECT, issue of February 20.

Obsolete Building Regulations

BOSTON TO REVISE ITS OLD LAWS

The removal of obsolete building laws from the statute books and the enactment of new laws to cover present building conditions has been urged before Boston real estate men. An interesting talk on the inconsistency of the old laws and their inability to keep pace with the growth of the building industry was made by Carl Gerstein, chairman of the board of appeals of the Massachusetts Real Estate Exchange. He cited several instances to show the powerlessness of the building commissioner to modify the existing laws and give a fair and equitable decision to the builder under present conditions, and indicated how this thwarted the improvement of realty. George F. Washburn, president, then proposed a measure for future legislation giving more discretionary powers to the building commissioner and allowing the board of appeals to grant petitions on a majority vote instead of the unanimous vote now necessary.

The Barnard Lincoln

ENGLISH ARCHITECTURAL PRESS MILDLY ENTHUSIASTIC

The Architects' and Builders' Journal of London prints side by side in a recent issue illustrations of the St. Gaudens Lincoln and the one by Barnard, around which there has raged in this country a tempest of criticism, both for and against.

Comparing the two statues, the editor states:

Both sculptors have accomplished their purpose. St. Gaudens has given us a fine, dignified Lincoln, in which all the great qualities of the man seem to be synthetized and expressed. But the physical likeness is not striking. Barnard, however, has gone to the extreme of realism (it is said that he modeled the face from a death mask), and given us a statue which would appear to be unnecessarily lifelike. It is not a graceful figure; indeed, it is gaunt and ungainly to the point of caricature. The frock coat would be better suited to a much stouter man, for it is made to hang in loose, baggy folds. Hands are unduly big and bony and feet are unnaturally large. Barnard, it would seem, in attempting to portray Lincoln as he really was, has exaggerated his physical peculiarities. For all this, however, he has given us a vivid portrait. Parliament has accepted the Barnard replica, so this is the statue that we may expect to see set up eventually in Parliament Square.

For Better Buildings

INDIANAPOLIS ARCHITECTS WILL AWARD MEDAL

The Architects' Association of Indianapolis has decided to make an annual award of two bronze tablets, one to the owner of the best domestic structure and the other to the owner of the best commercial one erected during the year. The tablets will be inscribed with the name of the owner and that of the architect. It is probable that a contest will soon be held among Indianapolis architects for the most suitable design for the tablets. A jury of disinterested persons, probably from other cities, will be selected to make the awards.

Some Essentials in Industrial Housing

CONCLUSIONS DERIVED BY JOHN NOLEN FROM LONG EXPERIENCE

To recognize the inter-relation between industrial housing with numerous large and difficult problems is the first step in acquiring a good home for every wage-earner. Many housing schemes have been conceived as though they were isolated phenomena, and have accordingly failed of their purpose. Some of these are planning problems, some are questions of broad economic policy. John Nolen, city planner and vice-president of the American Civic Association, has set down certain general conclusions based on a study of the problem of the factory and the home. Briefly stated, new factories should locate on the outskirts of cities or establish independent industrial centers wherever practicable, and factories already located within city limits should be encouraged to remove to more open situations. Employers and employees should cooperate in a social and democratic way to create a community around these points, each doing his part to make it healthful, convenient and attractive.

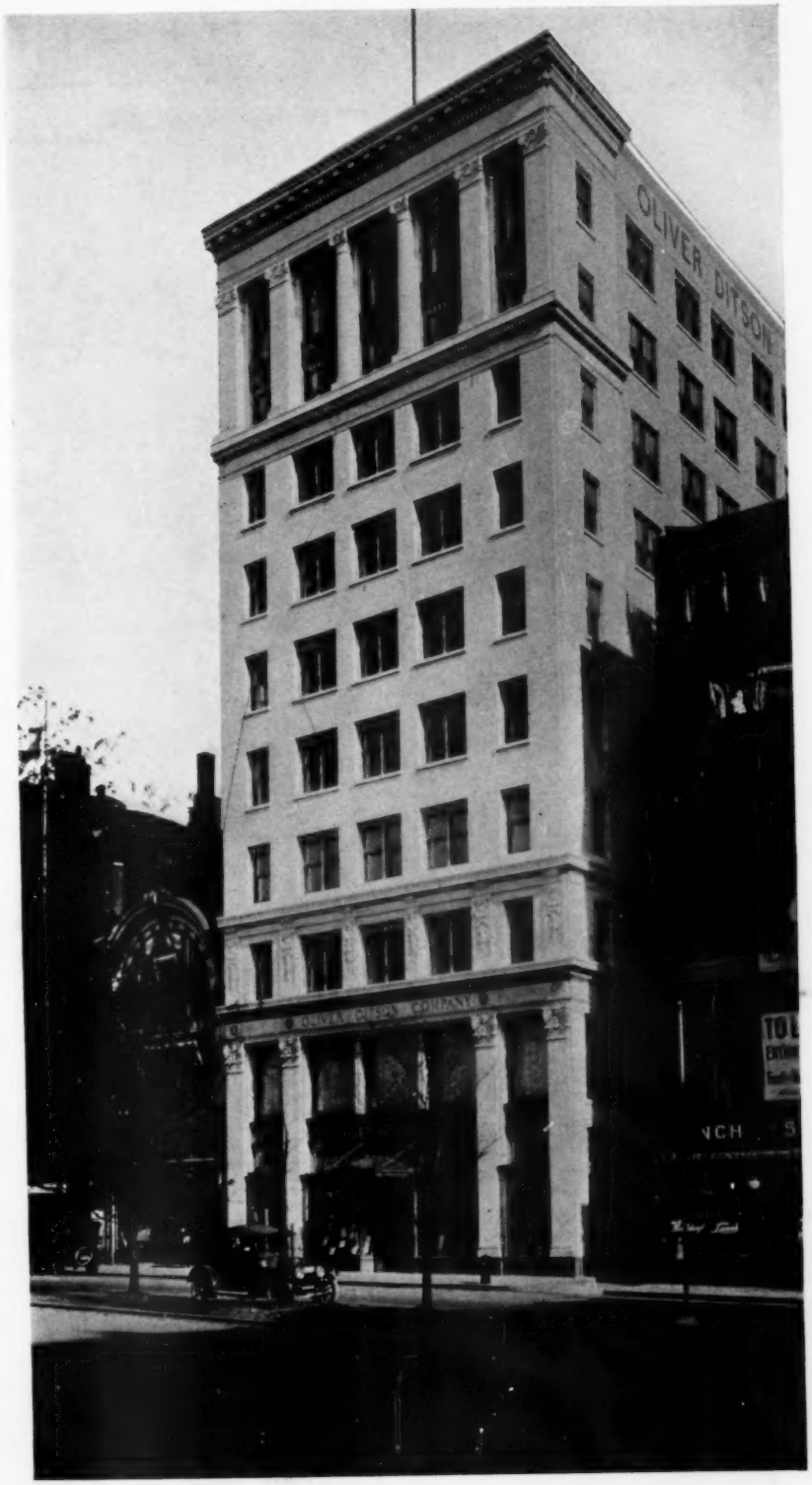


PLATE 57

DITSON BUILDING, TREMONT STREET, BOSTON, MASS.

C. HOWARD WALKER AND TOWNSEND, STEINLE & HASKELL, *ASSOCIATED ARCHITECTS*

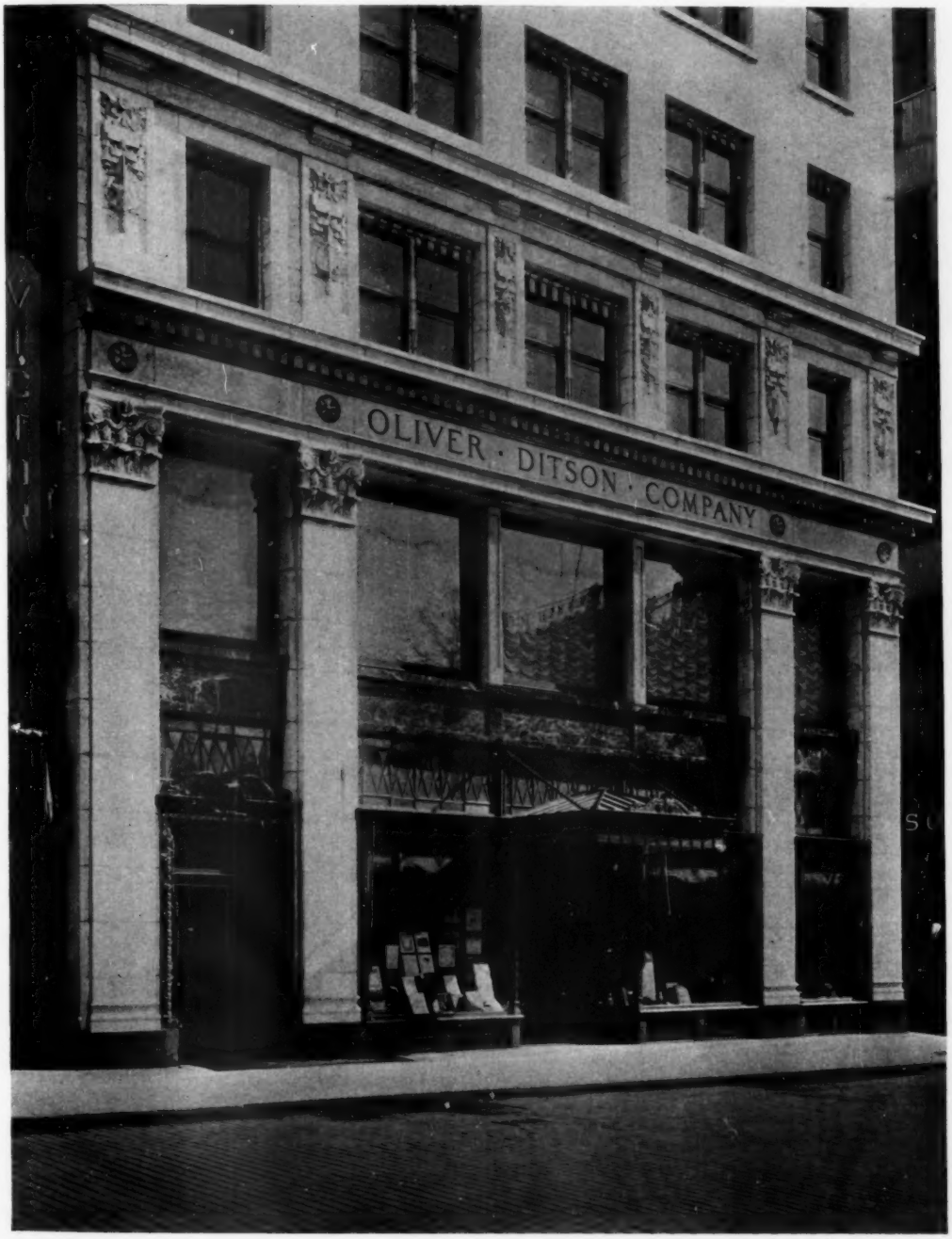


PLATE 58 DETAIL OF LOWER STORIES

DITSON BUILDING, TREMONT STREET, BOSTON, MASS.

C. HOWARD WALKER AND TOWNSEND, STEINLE & HASKELL, *ASSOCIATED ARCHITECTS*

PLATE 59 DETAIL OF UPPER STORIES

DITSON BUILDING, TREMONT STREET, BOSTON, MASS.

C. HOWARD WALKER AND TOWNSEND, STEINLE & HASKELL, *ASSOCIATED ARCHITECTS*

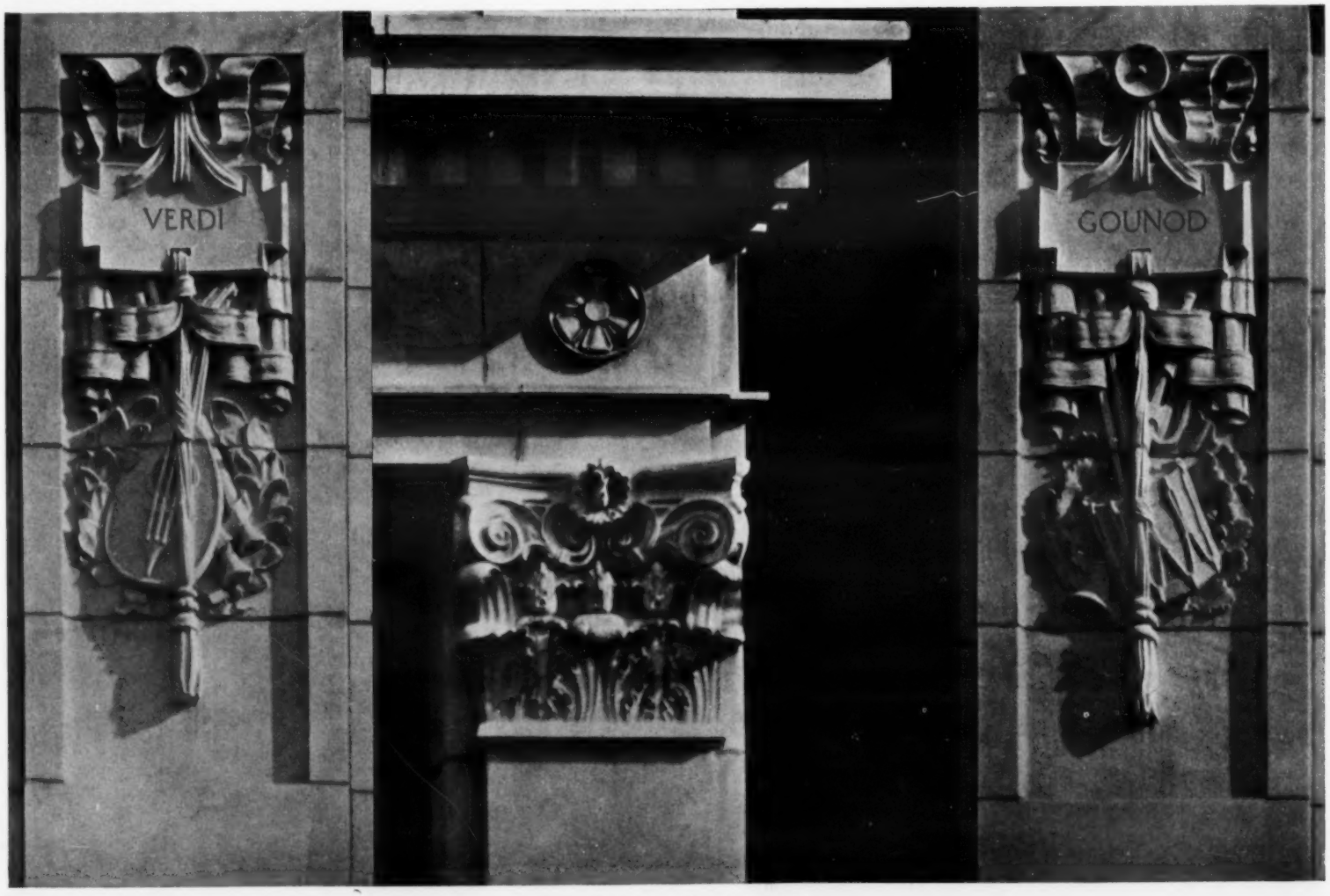


PLATE 60

EXTERIOR TERRA COTTA DETAILS

DITSON BUILDING, TREMONT STREET, BOSTON, MASS.

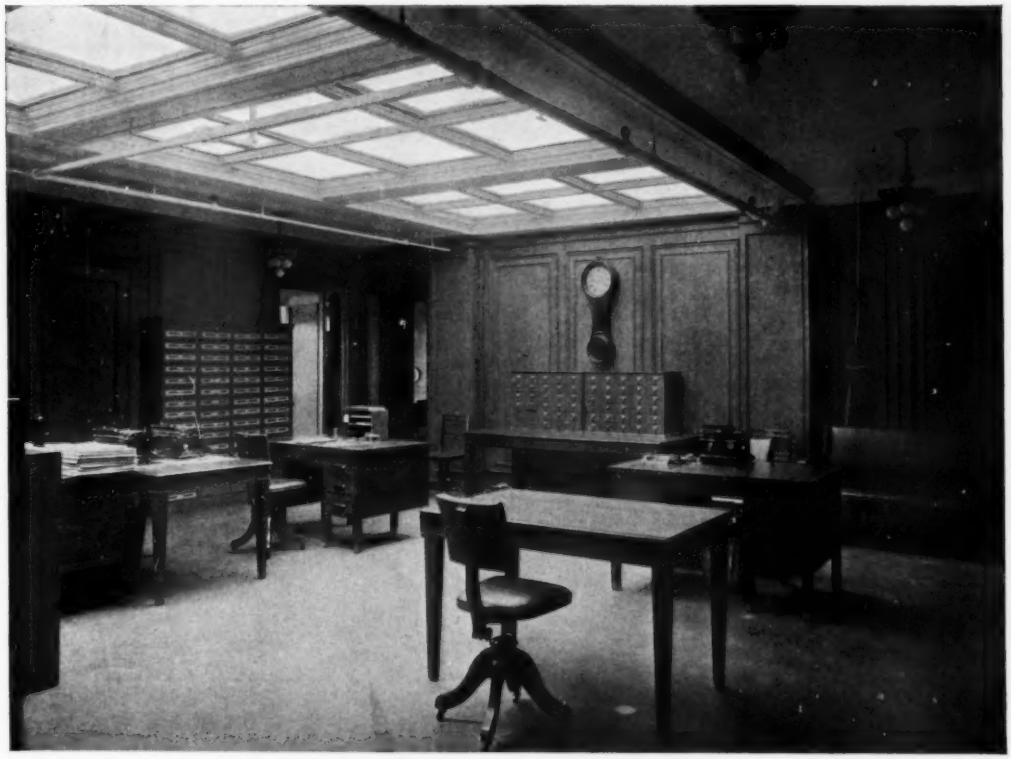
C. HOWARD WALKER AND TOWNSEND, STEINLE & HASKELL, *ASSOCIATED ARCHITECTS*

EXTERIOR DETAIL PHONOGRAPH DEPARTMENT EXTERIOR DETAIL

DITSON BUILDING, TREMONT STREET, BOSTON, MASS.

C. HOWARD WALKER AND TOWNSEND, STEINLE & HASKELL, *ASSOCIATED ARCHITECTS*

PLATE 61

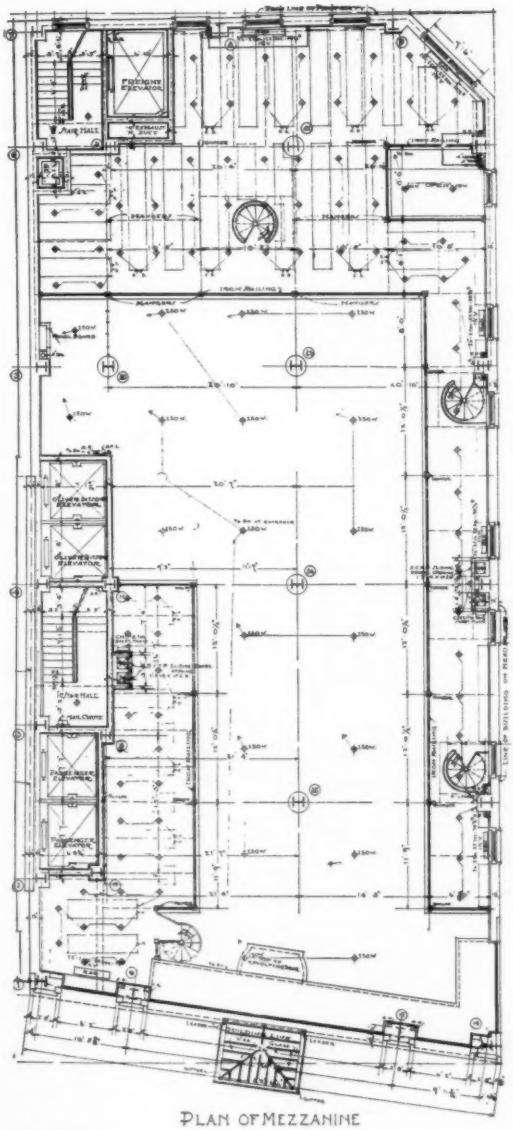


GENERAL OFFICES

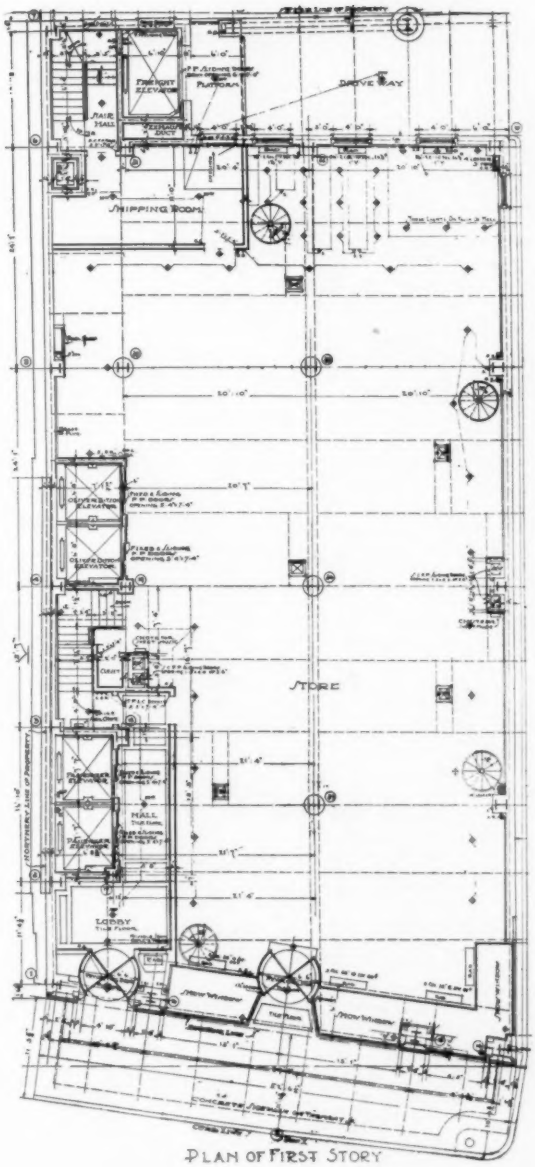
PLATE 62 SALESROOM, MAIN FLOOR

DITSON BUILDING, TREMONT STREET, BOSTON, MASS.

C. HOWARD WALKER AND TOWNSEND, STEINLE & HASKELL, *ASSOCIATED ARCHITECTS*



PLAN OF MEZZANINE



PLAN OF FIRST STORY

PLATE 63

DITSON BUILDING, TREMONT STREET, BOSTON, MASS.

C. HOWARD WALKER AND TOWNSEND, STEINLE & HASKELL, *ASSOCIATED ARCHITECTS*

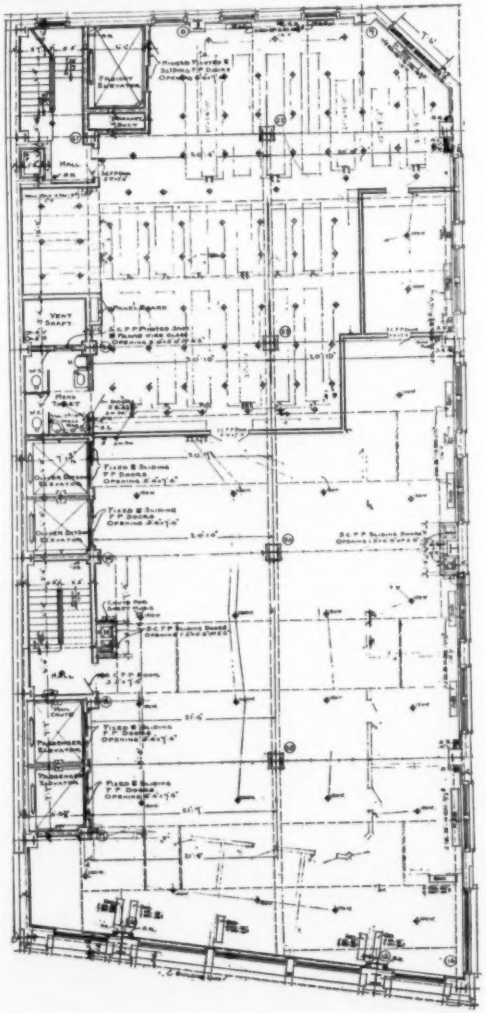
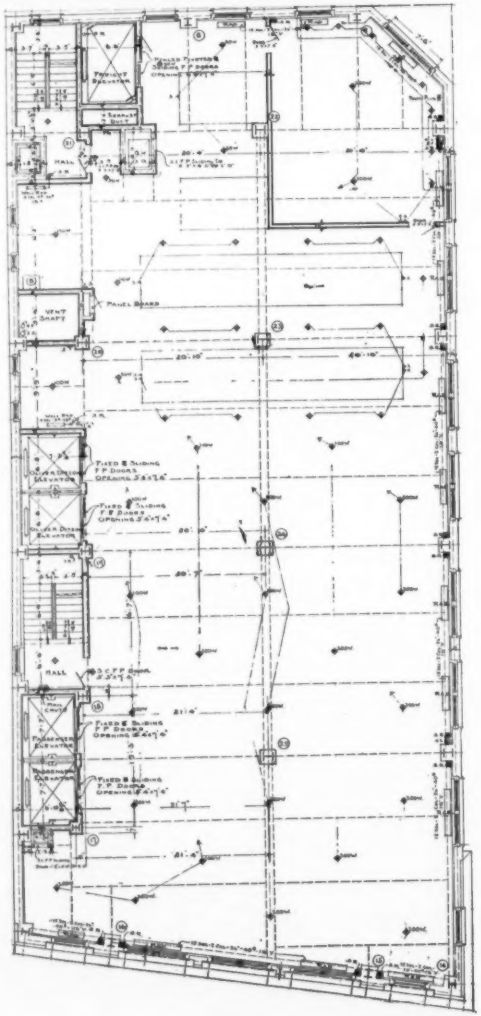
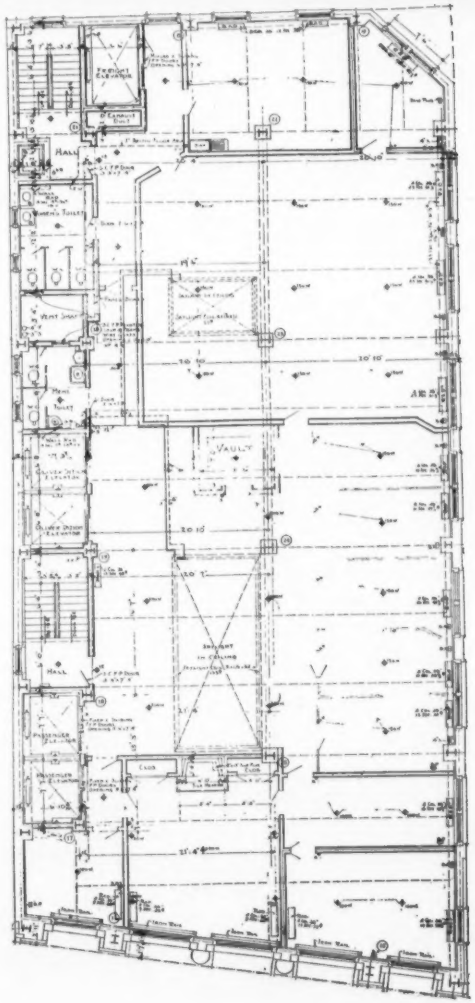


PLATE 64 SECOND STORY



FOURTH STORY



TENTH STORY

DITSON BUILDING, TREMONT STREET, BOSTON, MASS.

C. HOWARD WALKER AND TOWNSEND, STEINLE & HASKELL, *ASSOCIATED ARCHITECTS*

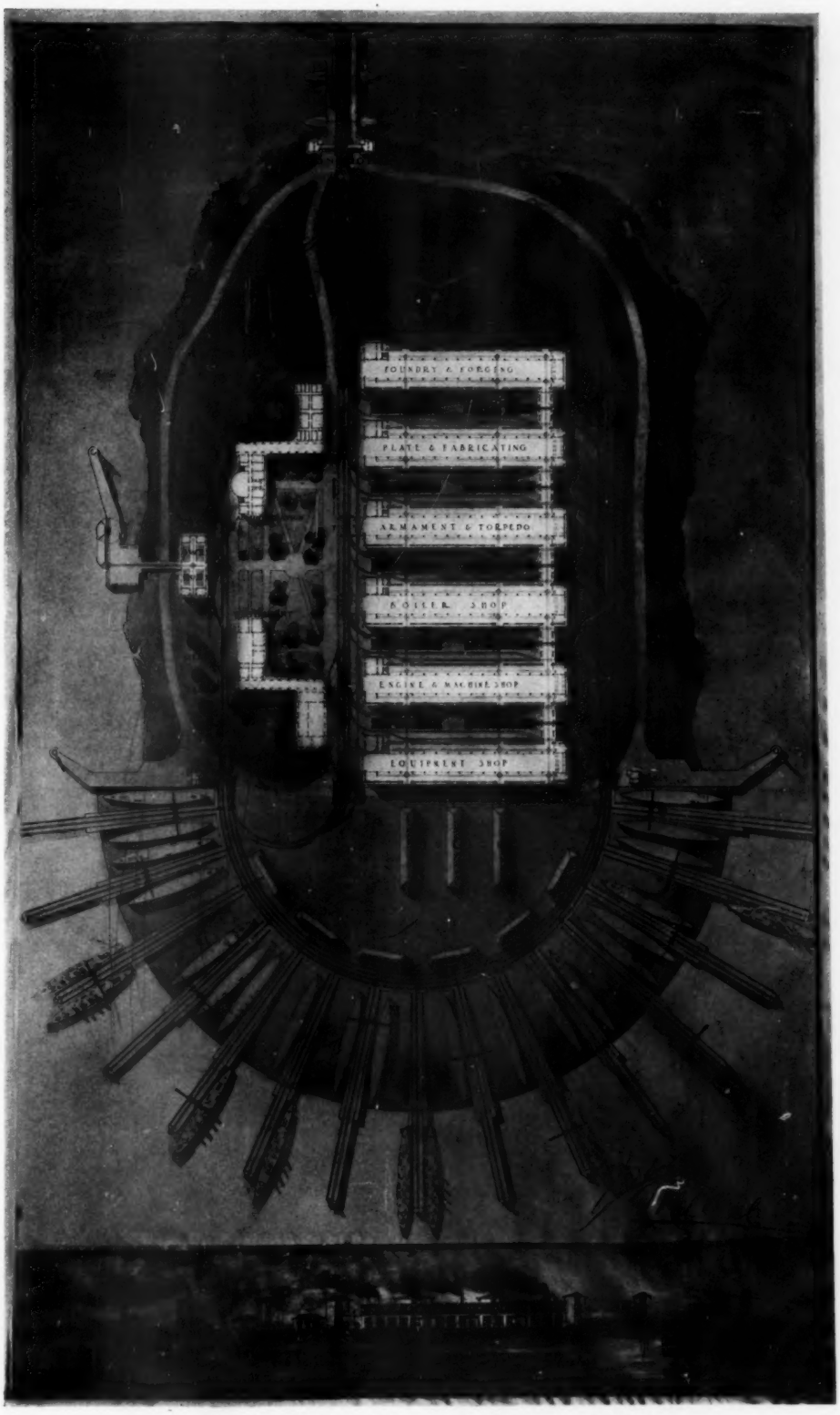


PLATE 65 FIRST MEDAL—M. S. DIAMOND, COLUMBIA UNIVERSITY

CLASS "A"—II. PROJET—A GOVERNMENT SHIPBUILDING YARD

STUDENT WORK—BEAUX-ARTS INSTITUTE OF DESIGN

FIRST PRIZE—L. V. LACY, CORNELL UNIVERSITY

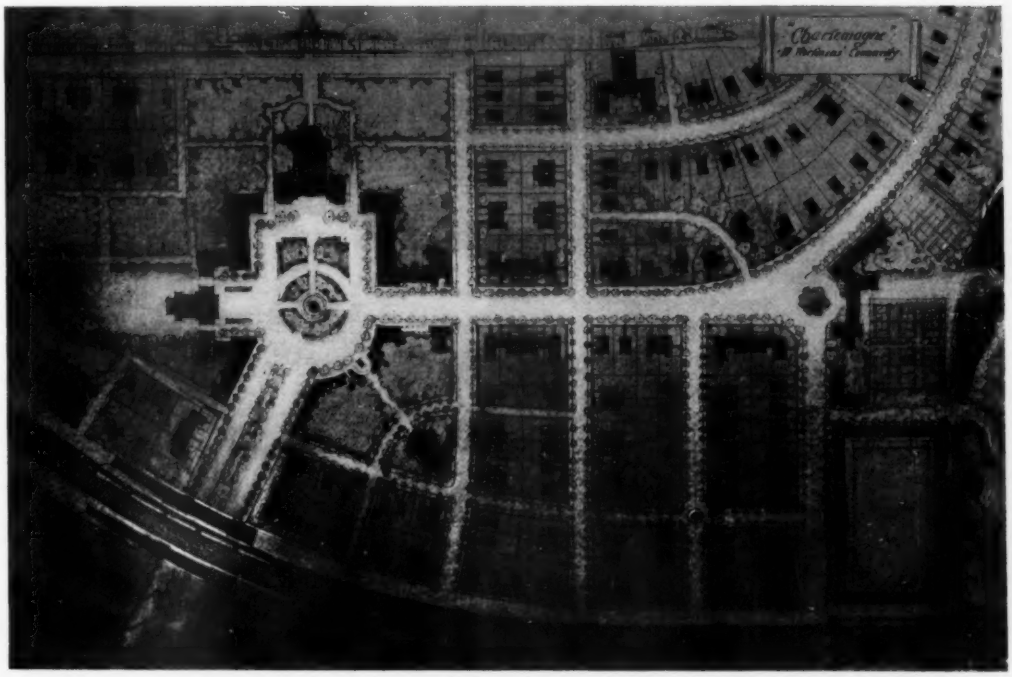


PLATE 66 SECOND PRIZE—J. P. MORGAN, CARNEGIE INSTITUTE, PITTSBURGH

WARREN PRIZE COMPETITION

STUDENT WORK—BEAUX-ARTS INSTITUTE OF DESIGN

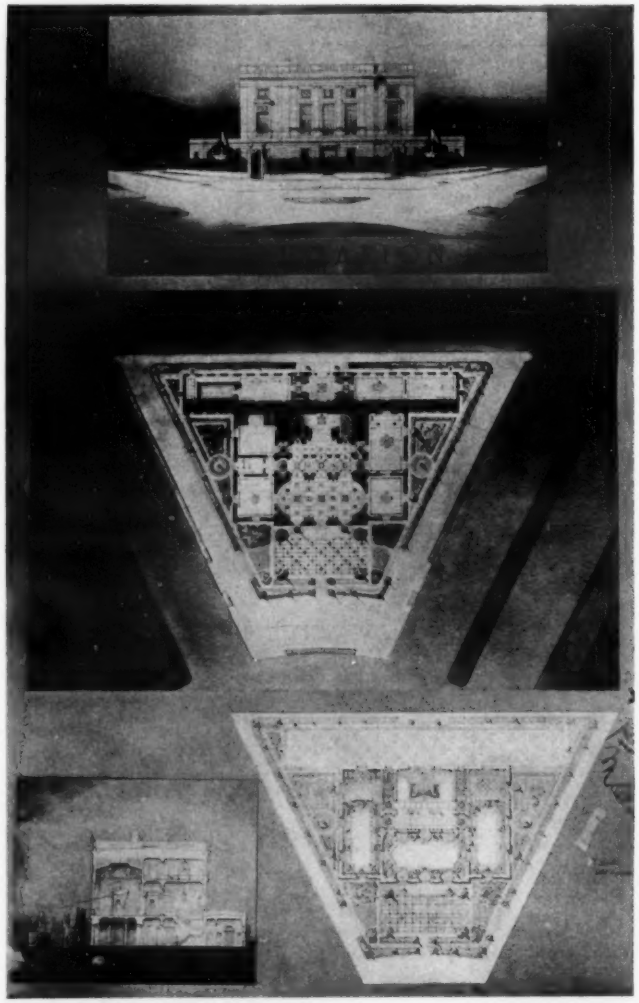
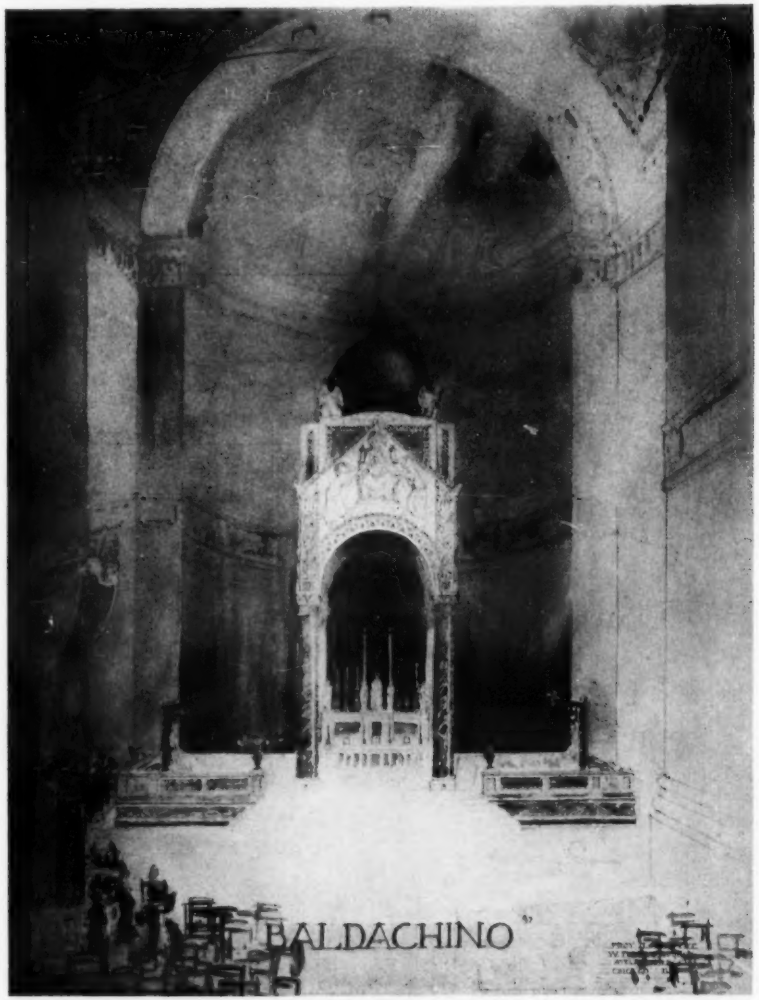


PLATE 67 FIRST MEDAL—L. FENTNOR, ATELIER WYNKOOP

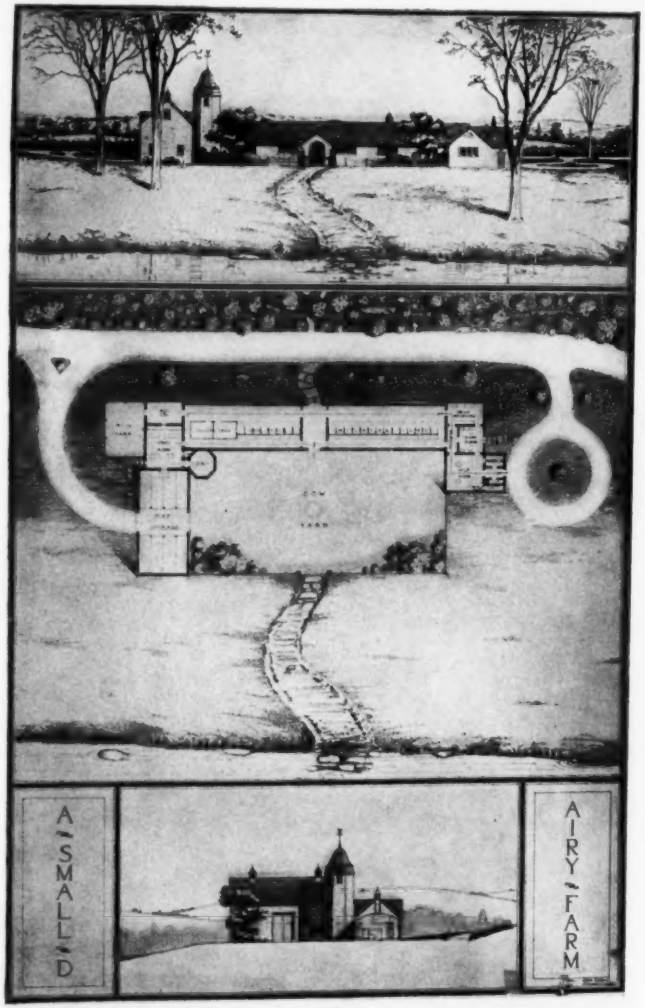
CLASS "A"—I. PROJET—A LEGATION



FIRST PRIZE—W. F. McCAUGHEY, ATELIER REBORI

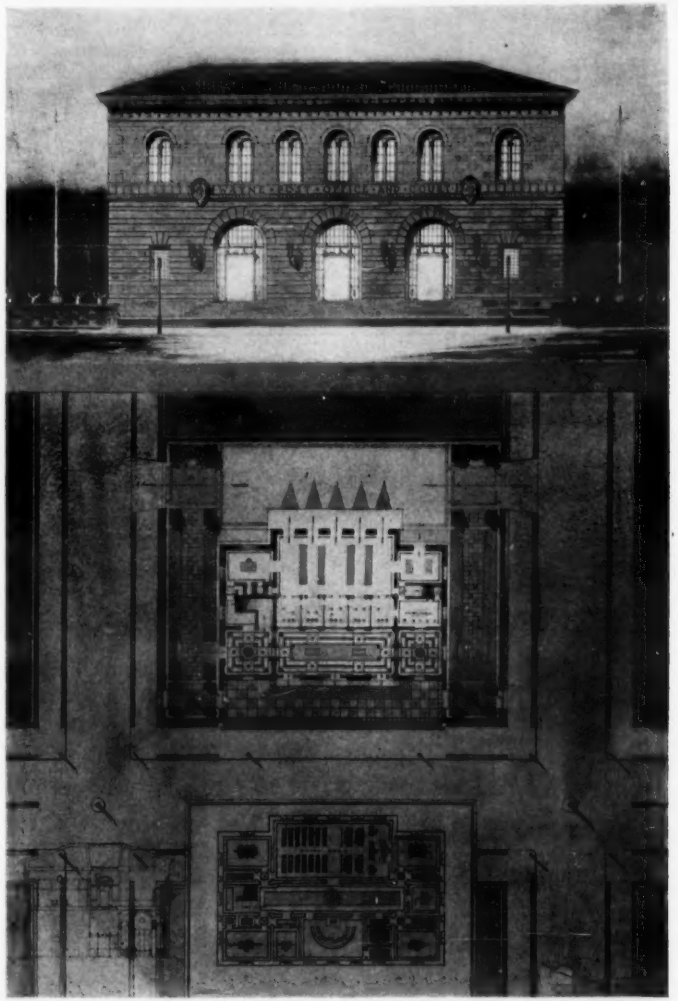
FIRST LOEB PRIZE COMPETITION

STUDENT WORK—BEAUX-ARTS INSTITUTE OF DESIGN



FIRST MENTION PLACED—JOHN REGAN, ATELIER WYNKOOP

CLASS "B"—II. PROJET—A SMALL DAIRY FARM

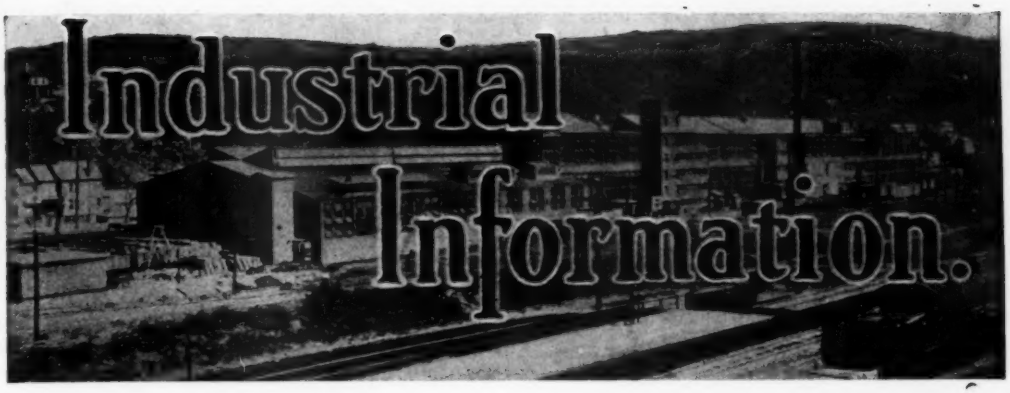


FIRST MENTION PLACED—P. N. JENSON, ATELIER WYNKOOP

CLASS "B"—II. PROJET—A FEDERAL BUILDING FOR A SMALL TOWN

PLATE 68

STUDENT WORK—BEAUX-ARTS INSTITUTE OF DESIGN



Electric Safety Devices

The Metropolitan Electric Manufacturing Company, Boulevard and Fourteenth Street, Long Island City, with sales offices in principal cities, aims to specialize in the manufacture of switchboards and electric appliances. In their catalogs they give much information in regard to their products. Prices and many details are furnished, and also a list of many buildings in which their electric appliances have been installed

Temperature Control

The annoyance and menace to health often caused by improper regulation of temperature, both in private dwellings and public buildings of all sorts, has given rise to the development of various types of thermostatic control.

The Gold Car Heating & Lighting Company, 17 Battery Place, New York City, has placed on the market a system for heat regulation which has a number of points worthy of consideration. This system consists of two devices: one an electric thermostat, usually placed on some convenient spot on the wall, which operates through the contraction and expansion of a temperature-sensitive diaphragm; the other a special electro-magnetic valve, which is connected to the thermostat and takes the place of the ordinary inlet valve on the radiator.

Thermostatic control should mean very appreciable savings in fuel, which is a thing of prime importance in these days of coal shortage. It should also mean a safeguard to health, inasmuch as authorities on the subject say that a goodly percentage of our illness is due to improper regulation of temperature.

The Gold thermostatic heat regulating system does not use compressed air, thereby eliminating the expensive installation and maintenance of an air compressor, air lines, etc. The manufacturers have made exhaustive tests and are willing to back the assertion that their instrument will give perfect heat regulation without any attention whatever.

Rockport Granite

Owing to the extraordinary demands being made upon the steel industry at the present time it would seem that there might be possible an extension of the field of masonry construction. There is always an air of great permanence about masonry construction, and it is extremely attractive in appearance. The solidarity of granite is particularly prepossessing in institutional and monumental work. It is lasting, safe, and economical and can be made very beautiful.

The Rockport Granite Company of Rockport, Mass., has issued a booklet showing several buildings constructed of their product. Rockport granite is available in three colors—gray, pink and sea-green, and the company's facilities are of such magnitude that granite can be quarried in monoliths of sufficient size to meet any architectural requirement.

Ball Bearing Door Hangers and Drawer Slides

Reliance Ball-Bearing Hangers are made from special analysis steel, which is high carbon, compounded and rolled to special specification. The grooves are milled and set to proper gauge by hand, so that the balls run perfectly free with no binding at any point. The balls are retained in their respective places by spacers. The hangers are made to suit the weight of the doors, and have a large factor of safety.

The service offered by the Reliance-Grant Elevator Equipment Corporation, 101 Park Avenue,

New York City, manufacturers of these products, is unsurpassed. They have modern equipment, highest grade materials, together with excellent workmanship by skilled mechanics, while the fact of their having agencies in most of the large cities of the United States and Canada makes their products easily available.

In addition to the manufacture of door hangers and elevator-door locks, this company has on the market a ball-bearing drawer slide. This drawer slide is valuable not merely because it operates with extreme ease, irrespective of the weight of the drawer or its contents, but also because it permits the drawer to be pulled out all the way—its entire depth. It is particularly valuable for use in connection with built-in linen drawers, cedar drawers, etc., so important in the plan of a modern residence. A drawer slide of this kind should also be valuable in offices, banks, libraries, hospitals, and other large institutions.

The only measurement required when ordering is the distance from the back of the front panel to the back of the drawer.

Automatic Fire Alarms

America has the biggest fire departments and the biggest fires in the world. If these fires were discovered sufficiently early an enormous amount of this loss could be prevented.

The Aero Fire Alarm Company, 6 Church Street, New York City, has developed an automatic alarm which is said to make possible the detection of fires in their early stages. The principle upon which the alarm is based is the fact that air expands when heated. A copper tube, less than one-tenth of an inch in outside diameter, runs from room to room, usually installed behind the picture molding. The air in this copper tubing is extremely sensitive to temperature changes, and when the heat rises above a certain degree the volume of air in the thin copper tubing has expanded, carrying the pressure to the end of the tube, where an electrical contact is made, and a gong responds.

One hundred miles of this tubing were used in the Panama-Pacific International Exposition.

Solving the Lighting Problem

The Southern Pacific Building in San Francisco was erected with a great deal of haste. It is interesting to note the high standard of efficiency which was nevertheless maintained throughout. This building has a very large basement area, and its proper daylighting was an important factor in the construction. The architects, Messrs. Bliss and Faville, and the Engineering Department of the Southern Pacific, conducted a thorough investigation of sidewalk light installations. The survey resulted in the selection of "Luxfer" non-shaleable lenses, manufactured by the American Luxfer Prism Company, 29 East Madison Street, Chicago, Ill., in flat slabs of reinforced concrete, and this system was installed over an area of 3000 square feet.

The Barrett Specification Roof

The Barrett Company, with offices in principal cities, have issued a new booklet illustrating the largest dye plant of the National Aniline and Chemical Company at Buffalo, N. Y. All of these buildings are covered with Barrett Specification roofs.

The twenty-year surety bond is now given on all Barrett Specification roofs of fifty squares and over in all towns in the United States and Canada with a population of 25,000 or over, and in smaller places where the company's inspection service is available. The quality of the materials used and the careful workmanship and supervision constantly employed make the Barrett Specification roof pre-eminently satisfactory.

Moonstone Glass

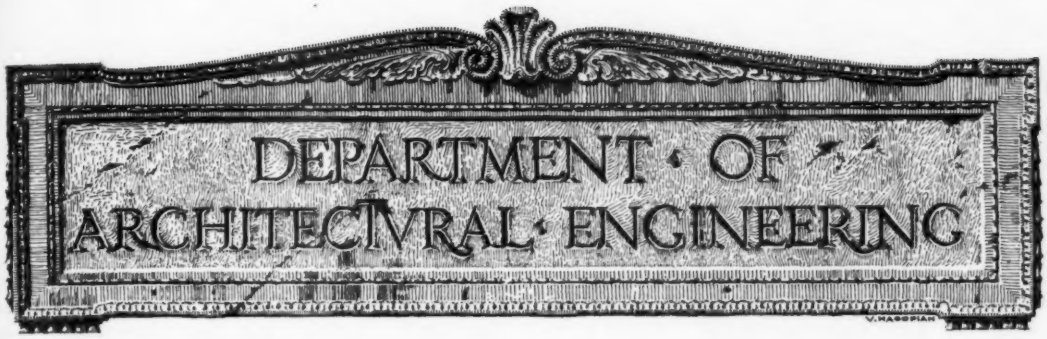
The Jefferson Glass Company of Follansbee, W. Va., is putting on the market a new two-piece lighting unit, embodying the transmission-reflection system. The high light transmission and diffusion qualities of the glass, together with the perfection of design, make for increased lighting efficiency. They also eliminate the shadows or dark spots on ceiling, walls or floor.

This lighting fixture is available in a wide variety of styles. There are adaptations from all the period styles, as well as other popular designs from modern motifs.

Diversified Uses of Wire Fence

Attractive wire fence can be put to a multiplicity of uses. Trellises, tree-guards, tennis courts, chicken runs—all these and more can be constructed of good wire fence.

The Wright Wire Company of Worcester, Mass., manufactures fence which they claim will fill the bill—and to judge from the attractive photographs, contained in their new booklet on the subject one would think it might. Incidentally, these fences are galvanized after being made, and this, they claim, makes them absolutely rust-proof. The Wright Company admits that they are the most durable wire fences now on the market.



The Design of Flag Poles

As a rule flag poles are not carefully designed because of the lack of data on which to base the solution of the problem. The data which is not readily available is that pertaining to the flag and the stresses induced by it. With these stresses known, the design of the pole is quite easily accomplished. In so far as the flag is concerned, it exerts a maximum stress when it is extended in rectangular shape by the wind and carries as much water, due to rain, as the wind permits.

The following table gives the stock sizes of flags as made by leading manufacturers. It also gives the weights, both dry and wet, and the force required to extend the wet flag in rectangular shape. This force is called the wind load.

The increment in the weight of the flag due to water is determined by weighing a piece of dry bunting and weighing the same piece after saturating with water and shaking it vigorously. From the difference in weights the percentage of increased weight is calculated and applied to the weights of dry flags as given by the manufacturers. During a rainstorm a flag undisturbed by wind carries a large volume of water which can be easily wrung from it, but a flag extended by the wind carries very little water. In the first instance the interstices between the threads evidently are filled with water, and in the second the water present consists of that absorbed by the threads alone.

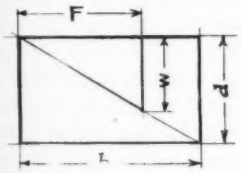


FIG. 1

d = width of flag
b = length of flag
w = weight of wet flag
F = wind load = bw/d

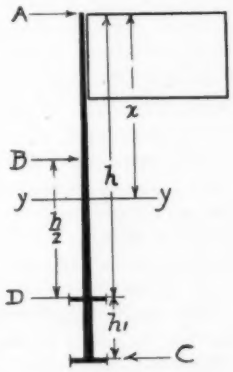


FIG. 2

The force exerted by the flag when extended depends on the shape and weight of the flag and is proportional to the triangles made by drawing a diagonal through the flag and determined graphically or calculated as indicated in Fig. 1.

The maximum moment developed by the flag will occur when the flag is at the mast-head. The force exerted by the lower end of the halyard produces a shear in the base of the pole and increases as the flag is lowered, as at half-mast. But as the moment will decrease as this shear increases the consideration of the shearing stress can be neglected.

In the case of a vertical pole two moments are developed, one due to wind action on the flag and the other due to the wind pressure on the pole itself. In the case of a horizontal or inclined pole two added moments are developed, one due to the weight of the flag and the other caused by the weight of the pole.

Notation:

A=wind load as given in table.

A_1=wet weight of flag as given in table.

B=wind pressure on pole.

B_1=weight of pole.

h=height of pole above support D in inches.

h_1=length of pole below support D in inches.

l=horizontal projection of pole from support D in inches.

l_1=horizontal projection of pole back of point of support D in inches.

x=any distance in inches.

S=section modulus.

M=bending moment in inch pounds.

f=fibre stress in pounds per square inch in extreme fibre.

The stress developed in a vertical pole, see Fig. 2, are calculated as follows:

The moment due to the force exerted by the flag is

$$M=Ah \qquad (1)$$

The moment due to wind pressure on the pole is

$$M=\frac{Bh}{2} \qquad (2)$$

in which B is equal to the exposed area of the pole multiplied by the wind pressure per square foot. It is understood that all poles are tapered and that the center of gravity of the wind load would be below $\frac{1}{2}h$, but this error is not of enough importance to

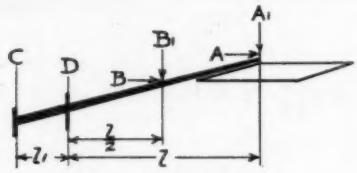


FIG. 3

solve the matter to such a degree of refinement. The area of the pole can be taken as its average diameter times the distance h, all in feet, and the wind pressure usually assumed is 30 pounds per square foot. It is understood that the wind pressure on a round pole is less than that of a square

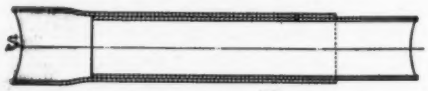


FIG. 4—SHOP JOINT

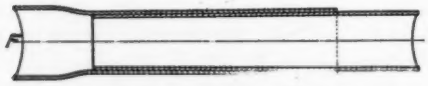


FIG. 5—FIELD JOINT

pole of the same projected area, but this error is hardly worth consideration in this case.

The sum of the moments from equations (1) and (2) is the maximum moment at point D.

The moment at any selected point y, and due to load $A=M$, distance $x=Ax$. The moment due to load $B=M$, distance $x=\frac{Bx^2}{2h}$. The sum of these moments is the maximum moment at point y.

The force $C=\frac{Ah+Bh/2}{h_1}$ and acts in any direction as the course of the wind varies.

The stresses developed in a horizontal or inclined pole, see Fig. 3, are found in a similar manner. The moment due to the flag is

$$M=(A+A_1)\,l \qquad (3)$$

The moment due to the weight of the pole and the wind pressure on the same is

$$M=(B+B_1)\,l/_2 \qquad (4)$$

The sum of these moments is the maximum moment at the point of support D. The moment at any point y and the force C is found in the same manner as for the vertical pole. Having the maximum bending moment the required section modulus is

$$S=\frac{M}{f} \qquad (5)$$

The required section modulus can be selected from the tables giving the values of that function for steel pipe and solid wooden poles. The tables for steel poles are for the "standard," "extra strong" and "double extra strong" sections made by the National Tube Company, and the values given are taken from that company's handbook of 1917. The weights and dimensions given are nominal; the weights in pounds, dimensions in inches and areas in square inches. Where more than one weight is given for the same size of pipe, the desired pipe must be indicated by the size and weight.

For the wooden sections the size is in inches and the minimum section modulus is given for each section. Although the vast majority of wooden poles are round, the table includes the section moduli for square and octagonal poles. The size given is the diameter for a round pole, the side of a square pole and the diameter of an inscribed circle for the octagonal pole and all in inches.

Standard steel pipe of the National Tube Company make is made of steel having a tensile strength of 52,000 to 62,000 pounds per square inch and with an elastic limit of not less than 30,000 pounds per square inch. Under ordinary service for bending a fiber stress of 15,000 pounds per square inch would be permissible, but by observing a flag pole during a heavy wind a very perceptible vibration is seen. This is caused, in the case of a pole with no flag flying, by the uneven pressure of the wind on the pole and when a flag is flying it follows that the forces producing vibration are much greater. This condition cannot be compared to the action of impact loads as there is always a stress present due to the action of the wind on the flag. It would probably be safe to assume a fiber stress of 12,000 pounds per square inch when applying a fiber stress to equation (5).

The most satisfactory method of jointing pipes, used as poles, is to insert the smaller pipe into the larger pipe when the latter is at a red heat, swaging down the heated portion and then allowing the joint to cool and shrink.

Fig. 4 shows the joint when completed. This joint, which is assembled in the shop, is called a "shop joint" to distinguish it from the slightly tapered "field joint" shown in Fig. 2.

Poles over 40 ft. long would require two cars for shipment by railroad and it is often economical to make a pole in two lengths to be joined at the place

of erection. The joint is slightly tapered, and to assemble the two parts they must be in alignment, the lighter section on rollers so placed that the section can be slid endwise without getting out of line. The outside end is heated for a length of 18 in. to a red heat and the smaller pipe inserted and allowed to cool. Where poles are shipped such joints are essential as they are often over 40 ft. long. If the pole is to be erected where team delivery is possible the joints can be made in the shop. The 18-in.-long joint is standard with the National Tube Company. It is apparent that for small size of pipes a 12-in. joint would be ample, but the economy in material and labor would not be of any consequence.

Experiments made to test the strength of poles jointed in this manner show that the joints neither increase or decrease the lateral strength, stiffness, or set of the poles, provided the joints have sufficient insertion and are properly fabricated. Poles tested to destruction have never crippled at the joints. The joint should be water tight to prevent interior corrosion.

Where steel poles are placed in the ground the argument has been advanced against the use of large diameters and thin walls as presenting greater surface and less thickness where corrosion is greatest. The deterioration of poles, of any material, occurs most rapidly at or near the surface of the ground. In order to prolong the life of poles, it is necessary to protect this portion. Steel poles can be most readily protected by a "dog-guard," made of a piece of larger and thicker pipe, slid over the pole from the butt end, and then swaged and shrunk on, about one-third of its length being below and two-thirds above ground. These "dog-guards," usually made 2 ft. long and ½ in. thick, are applied at a red heat, and effectually prevent water entering between the pole and "dog-guard," this at least doubles the life of a pole of extra heavy pipe, adding even more in the case of a pole made of standard pipe.

The locality in which wooden poles are made generally determines the species of wood used. The fiber stress to be used can probably best be decided by considering the strength of small clear pieces. A recent professional paper issued by the U. S. Department of Agriculture as Bulletin No. 556, written by John A. Newlin and Thomas R. C. Wilson of the Forest Products Laboratory at Madison gives the results of tests on small clear specimens. These tests were made on 2 in. by 2 in. specimens, 30 in. long for bending tests. They were made in both green and air-dry material, and it is a well-known fact that green or wet material is less strong than dry material. It is possible to so paint or varnish poles that the wood content would be dry, even though exposed to the weather, but the development of a crack or the failure to refinish the pole often enough justifies basing the fiber stress on the results of tests on green material.

The results of the tests are as follows for the species noted and the fibre stresses are for static bending and given in pounds for square inch.

Species	Locality where grown	Fibre stress at elastic limit	Modulus of rupture
Cypress	La., Mo.	4000	6800
Douglas fir	Mont., Wyo.	3600	6400
Douglas fir	Wash., Ore.	5000	7800
Hemlock (black)	Mont.	3500	6000
Hemlock (eastern)	Tenn., Wis.	4200	6700
Hemlock (western)	Wash.	3400	6100
Yellow pine, Cuban	Fla.	5000	8800
Yellow pine, long leaf	Fla., La., Miss.	5400	8700
Yellow pine, short leaf	Ark., La.	4500	8000
Norway pine	Wis.	3700	6400
Sugar pine	Cal.	3300	5300
Western white pine	Mont.	3500	5700
White pine	Wis.	3400	5300
Red spruce	N. H., Tenn.	3400	5700
Sitka spruce	Wash.	3000	5500
White spruce	N. H., Wis.	3300	5400
Tamarack	Wis.	4200	7200

It is obvious that a large timber would have defects common to all natural products which materially reduces its strength. By comparing the tests on small clear specimens with tests on large-sized pieces the percentage of reduction can be approximately measured. The timbers used for flag poles would naturally be selected with care and will be free from such knots, shakes and cross-grains that would materially weaken them. If the modulus of rupture is reduced by 40 per cent to allow for the defects of large-sized timbers, we can use 25 per cent of this reduced amount as a working stress, and which would allow for the vibration due to the wind. These reductions will make the working stress 15 per cent of the modulus of rupture as given in the table.

It is the usual practice to make a vertical pole, which is on top of a building, three times as high as the flag is long. This would hold good for buildings up to four stories high, and with the poles placed near the outer wall of the building. In extremely high buildings the foreshortening of the apparent height of the pole, due to its altitude and the point of vision, will require another proportion than the one stated. A pole that was not of the proper height would apparently bring the flag too close to the building, when in reality it is at the proper height above it, if it were placed on a low building. The height of a pole should then be designed with reference to the viewpoint and angle of vision. Poles placed in the ground and standing free from buildings should have a height at least three times the length of the flag.

Details of flag pole installations will be given at a future time.

Tables of Weights, Sizes and Section Moduli

DIMENSIONS AND WEIGHTS OF FLAGS

Size, Feet	Dry Weight Pounds	Wet Weight Pounds	Wind Load, Pounds
2 x 3	.31	.69	1.03
2¼x 4	.44	.96	1.71
3 x 5	.63	1.38	2.30
4 x 6	.88	1.93	2.89
5 x 8	1.44	3.16	5.06
6 x9	1.94	4.26	6.40
6 x10	2.00	4.40	7.33
8 x12	3.19	7.01	10.52
9 x15	4.31	9.49	15.81
10 x15	5.31	11.69	17.53
10 x18	6.25	13.75	24.75
12 x18	7.19	15.81	23.72
12 x20	8.00	17.60	29.33
12 x22	8.80	19.36	35.49
12 x24	9.63	21.18	42.35
15 x24	11.88	26.13	41.80
15 x25	12.50	27.50	45.83
18 x27	16.20	35.64	53.46
20 x30	18.50	40.70	61.05
20 x36	22.32	49.10	88.39
a20 x38	23.56	51.83	98.48
25 x40	31.00	68.20	109.12
30 x50	49.50	108.90	181.50
40 x60	74.50	163.90	245.85
b10 x19	6.50	14.30	27.17
c 5 x 9½	1.71	3.76	7.15

a, U. S. garrison flag.
b, U. S. post flag.
c, U. S. post storm flag.

STANDARD PIPE

Size	Diameters		Thickness	Weight per Foot	Section Modulus	Area of Metal, Sq. In.
	External	Internal				
1½	1.90	1.61	.145	2.717	.3262	.7995
2	2.375	2.067	.154	3.652	.5606	1.075
2½	2.875	2.469	.203	5.793	1.064	1.704
3	3.500	3.068	.216	7.575	1.724	2.228
3½	4.000	3.548	.226	9.109	2.394	2.680
4	4.500	4.026	.237	10.790	3.214	3.174
4½	5.000	4.506	.247	12.538	4.177	3.688
5	5.563	5.047	.258	14.617	5.451	4.300
6	6.625	6.065	.280	18.974	8.496	5.581
7	7.625	7.023	.301	23.544	12.200	6.926
8	8.625	8.071	.277	24.696	14.69	7.265
8	8.625	7.981	.322	28.554	16.81	8.399
9	9.625	8.941	.342	33.907	22.35	9.974
10	10.750	10.192	.279	31.201	23.42	9.178
10	10.750	10.136	.307	34.240	25.57	10.07
10	10.750	10.020	.365	40.483	29.90	11.91
11	11.750	11.000	.375	45.557	36.93	13.40
12	12.750	12.090	.330	43.773	38.97	12.88
12	12.750	12.000	.375	49.562	43.82	14.58
13	14.000	13.250	.375	54.568	53.25	16.05
14	15.000	14.250	.375	58.573	61.46	17.23
15	16.000	15.250	.375	62.579	70.26	18.41
17	17.000	16.214	.393	69.704	83.21	20.50
18	18.000	17.182	.409	76.840	97.20	22.60
20	20.000	19.182	.409	85.577	120.80	25.17

EXTRA STRONG PIPE

Size	Diameters		Thickness	Weight per Foot	Section Modulus	Area of Metal, Sq. In.
	External	Internal				
2	2.375	1.939	.218	5.022	.7309	1.477
2½	2.875	2.323	.276	7.661	1.339	2.254
3	3.500	2.900	.300	10.252	2.225	3.016
3½	4.000	3.364	.318	12.505	3.140	3.678
4	4.500	3.826	.337	14.983	4.271	4.407
4½	5.000	4.290	.355	17.611	5.621	5.180
5	5.563	4.813	.375	20.778	7.431	6.112
6	6.625	5.761	.432	28.573	12.22	8.405
7	7.625	6.625	.500	38.048	18.72	11.19
8	8.625	7.625	.500	43.388	24.51	12.76
9	9.625	8.625	.500	48.725	31.09	14.33
10	10.750	9.750	.500	54.735	39.43	16.10
11	11.750	10.750	.500	60.075	47.68	17.67
12	12.750	11.750	.500	65.415	56.71	19.24
13	14.000	13.000	.500	72.091	69.11	21.21
14	15.000	14.000	.500	77.431	79.91	22.78
15	16.000	15.000	.500	82.771	91.49	24.35

DOUBLE EXTRA STRONG PIPE

Size	Diameters		Thickness	Weight per Foot	Section Modulus	Area of Metal, Sq. In.
	External	Internal				
2½	2.875	1.771	.552	13.695	1.997	4.028
3	3.500	2.300	.600	18.583	3.424	5.466
3½	4.000	2.728	.636	22.850	4.924	6.721
4	4.500	3.152	.674	27.541	6.793	8.101
4½	5.000	3.580	.710	32.530	9.047	9.569
5	5.563	4.063	.750	38.552	12.09	11.34
6	6.625	4.897	.864	53.160	20.02	15.64
7	7.625	5.875	.875	63.079	28.18	18.56
8	8.625	6.875	.875	72.424	37.56	21.30

SECTION MODULI OF WOOD POLES

Size	Round	Square	Octagon
3	2.65	3.19	2.73
4	6.27	7.55	6.47
5	12.25	14.75	12.64
6	21.17	25.49	21.84
7	33.61	40.47	34.68
8	50.18	60.42	51.76
9	71.44	86.02	73.70
10	98.00	118.00	101.10
11	120.44	157.06	134.56
12	169.34	203.90	174.70
13	215.31	259.25	222.12
14	268.91	323.79	277.42
15	330.75	398.25	341.21
16	401.41	483.33	414.11
17	481.47	579.73	496.70
18	571.54	688.18	589.62
19	672.18	809.36	693.44
20	784.00	944.00	808.80

The Finish of Radiating Surfaces

THE heating engineer designs a plant to perform a certain service, but the actual operation of the plant may produce a result not intended in the design. One of the many conditions which may affect the operation of a heating system is the finish applied to the radiating surface. This may appear to be a trivial matter, but investigation shows that it has a decided influence on the efficiency of the apparatus.

A very interesting series of tests were made by Prof. John R. Allen and reported to the American Society of Heating and Ventilating Engineers some time ago.

In these tests cast iron radiating surfaces were used and the tests were conducted on two cast iron boxes placed near the inside wall of the room in the same relative position to the outside wall surface. The conditions of steam supply and pipe covering were practically identical, the steam being taken from a chamber on the floor below to which it was supplied through a reducing valve. The condensation was piped to two chambers on which were placed glass water gages so that the water of condensation was kept at a uniform level. From these chambers the water passed through cooling coils on the floor below, where the water was weighed.

The period of time devoted to the test was three hours, and before a test was accepted the work of two successive hours was compared, and if a variation of more than 2 per cent occurred the test was not considered satisfactory.

The actual surface of one radiator was 9.99 sq. ft. and the other had a surface of 9.9 sq. ft., the difference in surface being negligible. A uniform steam pressure of 4¼ pounds was maintained throughout the test.

One of the radiators was left unfinished throughout the test and the finishes applied to the other radiator.

When two coats of copper bronze were applied there was a reduction of heat transmitted amounting to 24 per cent. Four coats of copper bronze gave the same result, but when two coats of terra cotta enamel were applied there was an increase of 3.8 per cent above the transmission effect of the bare radiator or 28.6 per cent above the transmission effect of the radiator with copper bronze finish. On top of these coats of terra cotta enamel was applied two coats of copper bronze, the same as first applied, and the loss in heat transmission was 26.5 per cent. This was about the same as was obtained in the first experiments with copper bronze.

The question then arose as to whether this loss was caused by the pigment or the vehicle which carried the pigment and a test was made using only a light brown varnish as the vehicle. The loss was 2.8 per cent as compared with the unpainted radiator, and the same result was obtained when a light oak brown varnish only was used. This varnish was applied on top of the coats previously mentioned. The varnish was followed by two coats of aluminum bronze, and the heat transmission showed a loss of 27 per cent, nearly that of the copper bronze.

When fourteen coats of paint were applied to the radiator the result was the same as for two coats, the result apparently depending on the last coat applied and the intermediate coats having no apparent effect. The heating effect of a radiator is then more affected by the condition of the surface than by the material through which the heat is conducted.

Six tests were made, starting with two coats of aluminum bronze, with the same result obtained by the use of aluminum bronze before and the various coats beneath the last coat making very little difference in the heat transmission.

These coats of aluminum bronze were followed by a series of enamels of different colors. Snow white enamel gave the best results and the lowest result was given by "no-lustre" green. The extreme difference due to color was 5.4 per cent. Copper bronze and shellac gave better results than when used with linseed oil, indicating that the vehicle carrying the pigment may have some effect.

Three tests made with white lead and oil give results practically the same as for unpainted radiators.

These white lead paints were followed by coats of zinc paint and for light green and white the transmission effect was practically the same as for unpainted radiators. For terra cotta there was a slight reduction.

The tests show that the poorest coverings are the copper and aluminum bronzes, the best materials tried were the enamels with the white lead and zinc paints slightly less in transmission effect than the enamel.

It is then of some importance to consider the finish of radiators in connection with their efficiency as heating factors. If the artistic sense of the architect or decorator demands a bronze finish it is apparent that the radiating surface should be increased about 33 per cent more than if they are covered with enamel or lead and oil paints.

American Concrete Institute Postpones Meeting

Those who look forward to the winter meeting of the American Concrete Institute will be disappointed to learn that this meeting has been postponed until the annual convention of the Institute at Atlantic City, June 24-26, 1918. This action was taken on account of the congestion in the railways, particularly the difficulty of travel to and from Chicago. The convention had already been arranged to be held in Chicago, Feb. 7-9, and a program was off the press. This program, together with reprints of papers and committee reports, will be sent very soon to all members of the Institute in the hope that written discussion will be made available for presentation at the June meeting. The meeting at Atlantic City immediately precedes the meeting of the American Society for Testing Materials, which has always been attended by a number of members of the American Concrete Institute.

Governmental Needs for Engineers

The United States Public Service Reserve, a branch of the Department of Labor, with headquarters at 1712 I Street, N. W., Washington, D. C., is compiling a list of qualified men in all branches of activity for war work under the Government. It is particularly desirous of registering engineers who are willing to accept positions in Government service or commissions in the army or the navy. Under date of Dec. 28 it issued a special appeal to such engineers:

"The army and navy staff departments continue to demand men of engineering experience, especially in industrial lines. At present the outlook is that this demand will continue throughout the period of the war.

"In calling attention to this, the United States Public Service Reserve, Washington, D. C. (where records of men willing to serve when called will be kept on file), points out that a man of engineering experience has a rare combination of opportunities open to him, which are not open to the average patriotic American, as follows:

"1. To serve the country in his most effective capacity.

"2. To keep in touch with his own profession, with the result that his patriotic service will not have caused him to become rusty by the time peace returns.

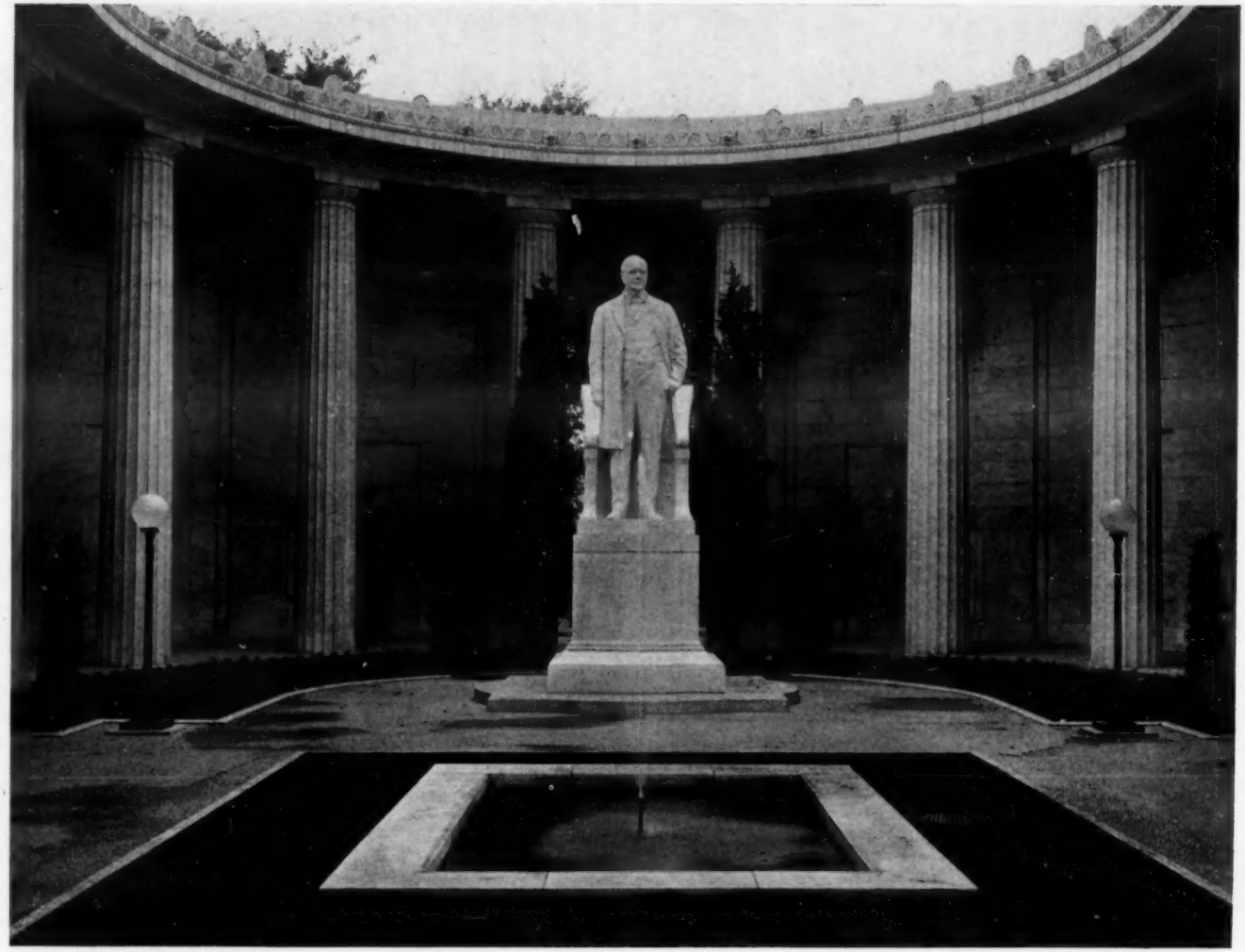
"3. To become a commissioned officer, and receive much better pay than the average man who has wholly subordinated personal interests and now works for the national good.

"4. To perform his service usually without leaving the United States."

Those writing to the Washington office will be asked to fill out blanks registering qualifications, but will not be obliged to accept positions.

Government Needs Ship Draftsmen

The Federal Civil Service Commission is urging heads of colleges and technical schools to give intensive training in naval architecture during the coming spring to senior students, and also urges qualified architectural, mechanical and structural-steel draftsmen to enter the Government service as ship draftsmen. There is a dearth of ship draftsmen, the commission asserts, to carry out the Government's shipbuilding programs.



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