The AMERICAN ARCHITECT

THE COURTYARD, PALAZZO VECCHIO, FLORENCE

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NO romance of the Oriental poets, no tale of the ancient genii (who by their wizardry constructed, between dusk and daylight, a city of palaces and mosques, guarded by crenelated battlements), is more thrilling than the evolution of the World of Architecture.

This *World*, unfolding between the dawn and noonday of human history, found Man living in apertures of the rocks, sharing his bedroom with the reptiles and the moles. Today (thanks to Architecture) he can live in a palace of exquisite workmanship, of beautiful design within and without, fitting itself to his every wish and convenience, his floors, ceilings and walls jointed and cemented with such skill that vermin of the earth, moisture of the clouds and draft of the elements cannot possibly enter.

The genii of Electricity and Steam are his servitors, close at hand, to light his house with artificial sunlight and warm it with artificial sunheat, to fan him through the long hours of the stifling summer night, to carry him in their arms up and down to the many levels of his home or work place.

Since Architecture first took up its tools, it has bridged the river with log and boulder and beam of steel. It has dug deep down in the living rock, and laid its everlasting foundations; it has climbed far toward the sky, until the clouds have slid along its topmost cornices.

It has taught Man the beauty of symmetry, and filled his life with untold comfort.

TEMPLE, ON LAKE OF VILLA BORGHESE, ROME

THE AMERICAN ARCHITECT

VOL. CXV WEDNESDAY, JUNE 18, 1919 NUMBER 2269

WEST FACADE OF CASINO. FROM DESIGNS OF VASANZIO

The Villa Borghese

By JOY WHEELER DOW

Illustrated by Photographs by the Author.

"A *GRACE of winter breathing like the Spring:*
Solitude, Silence, the thin whispering
Of water in the fountains, all that day
Talk with the leaves; the winds, gentle as they,
Rustle the silken garments of their speech
Rarely, for they keep silence, each by each,
The dim green silence of the dreaming trees,
Cyprus and pine and the cloaked ilexes,
That winter never chills; and all these keep
A sweet and grave and unawakening sleep,
Reticent of its dreams, but hearing all
The babble of the fountains as they fall,
Chattering bright and irresponsible words
As in a baby-speech of liquid birds."

—Arthur Symons in Harper's Magazine.

Mr. Symons' poetry correctly visualizes the attitude of mind in which good society expects you to approach the awe-inspiring subject of the Roman villas of the Renaissance, of which the Villa Borghese is a noted example. I pray you not to sigh, not to weep for my iconoclastic spirit when I say: "Now I will tell you about the Villa Borghese labeled as pieces of broken china on the bargain counters of department stores are labeled—*'as is.'*"

First, let us see if we know what a Roman villa of the Italian Renaissance was, what it represented, and for what it stood. It was not a palace. It was not a place of residence. It was not a dwelling—it was not a home. It was not a park for the people, nor a museum, nor an advertising medium of building materials, nor a public place of amusement for the encouragement of art, music or the drama. Indeed, we have nothing amid all our

INNER GATEWAY LEADING TO CASINO TERRACE

modern and varied requirements that would call for the offices of such an egregious proposition as one of these Roman villas in its pristine magnificence.

In the days of Imperial Rome and the Republic, although not exactly exemplifying the Anglo-Saxon idea of home, the villa was an essential part of the social fabric, and stood for the equivalent of a modern gentleman's country seat; whereas, for the anomalous villa of the Renaissance, perhaps as comprehensive a definition as any, would be to call it a private playground de luxe for adult members of the pontificial families as well as for the dead-game sports themselves.

If Germany had won the war, and the Junkers had desired to commemorate the triumph of Prussian organization, they could have found no more fitting monument to erect than a Roman villa: For as a monument to the splendid organization of the church of the Renaissance period, its business acumen and material achievement in corralling and harnessing people, to produce income, I can conceive of no means of expression to equal such an amazing conception of outlay without conscience, without use, without benefit—except to spend burdensome income and discourage avarice—than one of these villas belonging, ostensibly, to the nephew of some opulent pontiff or cardinal-prince.

When the altars of the churches would hold no more sacrificial jewels, when no more baroque enrichment could be superimposed upon the interior walls, and the glass cabinets containing the tawdry gold and silver trinket offerings of the poorer parishioners would not longer contain them—when the urban palaces of the clergy had room for no more sacrifices, there had to be some way to take care of the overflow.

The Borghese family already possessed numerous estates, palaces and suburban villas, more than they could possibly use; but Pius V was in the habit of tipping his relatives handsomely—his nephew, Cardinal Scipio Borghese, in particular. Between them, they conceived the idea of a far more extensive villa for the Pincio than any hitherto erected in this favorite section of Rome. Hence, in 1615, Vasanzio was employed to design the casino of the present Villa Borghese, and doubtless the interesting and extremely "busy" dependencies where the same introduction of plastic art in combination with sculptured detail is carried out—a fashion said to have been set by the neighboring beautiful Villa Medici, which stands on the steep side of the hill overlooking the "eternal city," with St. Peter's in the distance. The Villa Borghese has no view from the sites chosen for its architectural exhibits which are inclosed in a vast park. Although nominally belonging to the environs of Rome the villa is as much a part of the city proper as Prospect Park is a part of Brooklyn. It comprises an irregular reservation less in area but with boundaries that give to it a marked resemblance particularly so if we pretend the Via Porta Pinciana to be Flatbush Avenue, running along the north side of the park rather than the south, and what would happen if the park commissioners neglected the upkeep of the public's property for a number of years.

Take, then, Prospect Park, allow the turf to remain unclipped, let it become parched and dead, let the walks become dirt walks with undefined borders, widening and encroaching upon sections of the map where turf formerly grew, turn the leaves

EAST FACADE OF THE CASINO

of the trees into rusty-brown leaves, such as we see on the trees of certain of our Western cities in the autumn, affected, they tell me, by the fumes and smoke from bituminous coal, litter the park

GATEWAY IN THE WALL, VIA PORTA PINCIANA, VILLA BORGHESE, ROME

with empty pasteboard boxes and the paper wrappings of picnic luncheons, discharge the attendants in uniform, substituting a few peripatetic laborers in overalls, remove the pleasure craft from the lake,

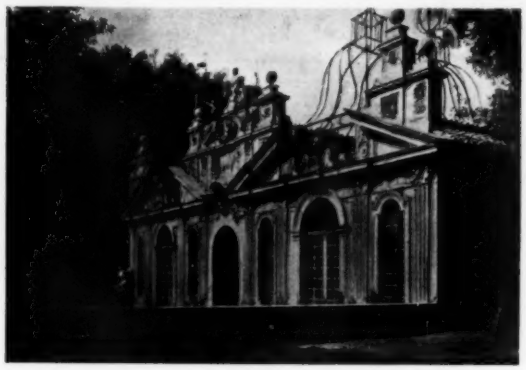
denude the aviaries of birds, the conservatories of plants, the dairy, restaurants and pavilions of tenants and guests, dismantle the casino of everything but cold statuary too heavy to be easily moved and some venerable pictures on the second floor, restoring the exterior to a semblance of cleanliness by an application of white lead, let the annual and perennial flowers go to seed, let the parterres, the ter-

races, the ramps, porticos and exedras fall into a state of semi-decay, dust the whole place with a fine, brown powder, infuse into the atmosphere a palpable haze, not the saintly aureola I was talking about in my essay on the "Dramatic Note" (see THE AMERICAN ARCHITECT for October 9), but a haze of indescribable *tristesse*—a miasmatic haze rising from the Campagna over the escarpment of the Pincio, add the varied assortment of smells incident only to an Italian city, conceive all this—all these, if you can, and—that's the Villa Borghese, or as it was a few years ago, and I do not believe it has materially changed.

It may be only gossip that—

> "———— unmerciful disaster
> Followed fast and followed faster"

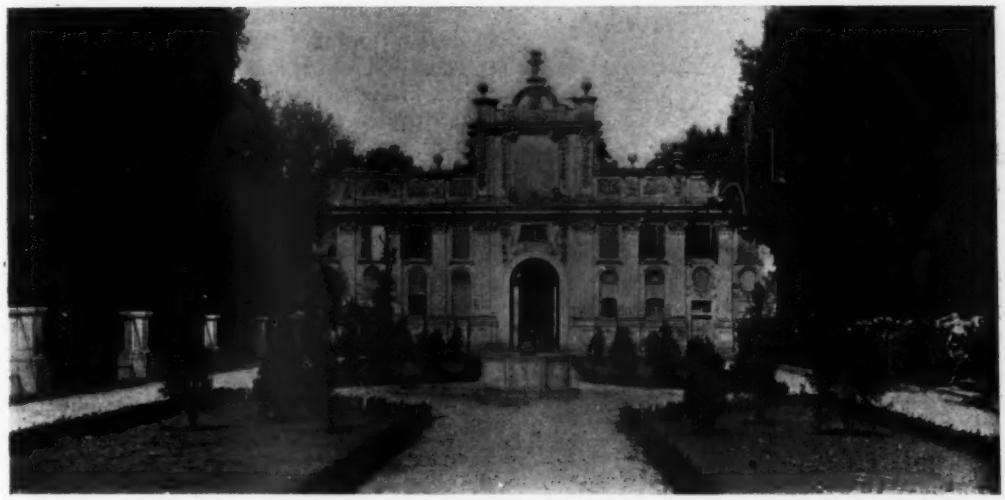
—in recent times, with Prince Borghese, and that he saw his only way out by turning his villa over to the tender mercies of the municipality, which has changed its name to the Villa Umberto Primo; but this is what has occurred, and while the mercies of the municipality are sufficiently tender, its exchequer is low. Even at Versailles, available appropriations of the French Republic do not suffice to restore and keep the chateau, its prodigious landscape gardening and vast environs in Prospect Park order, while the waste of water necessary to play the grand fountains is considered, by the standard of economy introduced since the great war began, to be sinful prodigality. One cannot read in the engaging "Letters of Mme. de Sevigné" that Louis XIV would not heed the number of lives he sacrificed to start a piece of work which all our modern wealth and resources shrink from attempting to complete, without wondering if these



THE AVIARY—CASINO FACADE

white elephants, for whatever charitable capacity they are destined ultimately can ever indemnify for the appalling attrition in flesh and blood they have cost. As far as educational purposes are concerned, the architecture of the Villa Borghese, which is as representative as any, does not supply

STEPPED RAIL, WITH SEATS



VISTA OF THE PARTERRES

us with a great deal of inspiration. It is in the domain of the formal garden that the Italian villa comes into its own, has its enduring claim upon posterity, serving as it does for the universal model. The gardens of the Villas Lante and d'Este are finer and more elaborate gardens than those of the Villa Borghese, but at the expense again of the architectural development, which is arrested and uninteresting.

The Italian school of architecture is incomplete. It has a defective grammar. One important part of speech is missing. There is no roof, i. e., no roof rising above the dignity of the lid to a cabinet, though the roof of a building has always been con-

THE AVIARY—LOOKING TOWARD CASINO

ARCHITECTURAL TREATMENT OF APERTURES IN BOUNDARY WALL

sidered the determing factor in architectural design. After concerning itself assiduously with the walls of a villa, the Italian school leaves the student to roof them any old way. It was funny and clever when John Drew told Kitty Cheatham to *exit* any old way, in Sheridan's "Rehearsing a Tragedy," for her to improve the opportunity, as a ballet dancer, and throw kisses to the audience; but in architectural practice that won't do. For educational purposes, our neglected American Renaissance in wood has a far greater value than have the villas of Rome. The Colonial houses did have roofs—academic roofs, splendid roofs, and in great variety.

Owing to the rigor of our winters, we may not avail ourselves of the possibilities of plastic art, of which the Villa Borghese is full of suggestion. The climate of Italy is kindness itself to all architectural detail, even to that executed in plaster. How all that wedding-cake frosting could have remained intact on the façade of the aviary facing the casino all these years is incomprehensible. Indeed, I should not dare to guarantee the travertine facing of the churches of Rome, so new looking and well preserved, if transplanted in America. I fear its destination would be so many heaps of spalls, the same that awaited the Egyptian obelisk in Central Park before it was processed with wax.

Among the architectural exhibits of the Villa Borghese—and there are many not illustrated—not the least interesting and admirable are the gates inserted in the city wall. They are the real stuff—beautifully carved stonework without a suspicion of ignoble staff with wisps of cocoanut fiber visible under the abrasions. The formidable gates one meets everywhere in Italy are curiosities. What danger do they avert? There is nothing to steal within this park, nothing to eat, no flowers to gather, little danger of injury to anything; yet these gates are opened and closed at certain hours of the day, as though they guarded the crown jewels of Italy. Note, also, the cage-like window grilles that disfigure the casino. I don't know anybody who wants to break into the Villa Borghese, and I see no reason for aimlessly detaining those who want to get out. The only tenable hypothesis for the custom is that the gates are a relic of feudal times to which the Italians tenaciously cling. But in spite of grilles, gates and high walls, the Villa Borghese, like the king's chamber in the Great

VASE AND GARDEN GOD ON CASINO TERRACE

Pyramid, appears to have been thoroughly looted long before our visit. Nothing is left for us but memories.

This paper, I hope, will be read as analytically as it has been written, and that people will see the Villa Borghese through their own horn spectacles rather than mine. After some people have read something, the art, power or magnetism of the author, we may visibly note, has produced a mildly hypnotic spell. Let us say that it is all three together. Now, I am going to preclude any possibility of that here by one wave of the disenchanter's wand, when I say I have no desire to Rasputin anyone. And this is saying nothing of certain dependent natures who can accomplish nothing, scarcely exist, in fact, without a Rasputin or two hanging about. Necessary as it may be to them, I am an honest guy, and have an innate horror of all that sort of thing. "Behold, there is a woman that hath a familiar spirit at Endor," and they may consult her. For herein is the inception of the wrong kind of organization which, at its culmination point, permitted the political machine of Germany to make war upon the world. It is the kind of organization that leads to the vanishing point, the sovereign rights of the individual, of that "elder day" before the Renaissance, "when to be a Roman was greater than to be a king."

ENTRANCE, VILLA BORGHESE, ROME

Our Army Educational Commission

Its Admirable Work in Europe Described by an Architectural Student

Mr. James N. Holden, who writes the following article describing the work of the Army Educational Commission in Toulouse, is the 34th holder of the Rotch Travelling Scholarship. The prize was awarded to him in 1917, but on account of war conditions he was advised not to go abroad. He enlisted in war work with the 33rd Engineers, going to France in 1918. He is a young man of promise and displayed a high degree of ability in the work he did in connection with the work of the Scholarship. His judgment of the conditions at Toulouse, therefore, have more weight than if he had not won the position which he now holds. He is not even now officially on the Scholarship, but is simply profiting by his experience abroad, availing himself of this most extraordinary opportunity which has come to so many of the A. E. F. The educational value of an experience of this kind cannot be too strongly emphasized. It is exactly the sort of training that will make a young man appreciate the real significance of art and architecture, quite aside from the value of the training for general cultural purposes; and our soldier boys who are able to avail themselves of this training are certainly to be envied, while the opportunity to have an intimate acquaintance with French home life is something that few architectural students are ever able to accomplish. This is one of the compensations for the terrible war through which we have passed.—*The Editors*, The American Architect.

THE period since the signing of the armistice has been somewhat tedious to most members of the American Expeditionary Force, particularly to those whose organizations had apparently but a remote chance of a return to the U. S. in the near future. Along in February when perhaps the "demobilization fever" was most acute among us, the Army Educational Commission announced that enlisted men and officers having the proper qualifications and desiring to attend foreign universities, would be granted this rare privilege. Thousands of Uncle Sam's soldiers quickly grasped this opportunity, with the result that the famous old university buildings of France, deserted for four long years, are once more echoing to the tread of student footsteps; students clothed in khaki and speaking a tongue quite different than these sacred halls formerly knew.

From the beginning the main objective of the Army Educational Commission was to offer the American college man of the A. E. F. the advantages of useful study of subjects particularly interesting to himself while he awaited the necessarily slow process of his return, also a more intimate association with the better class of French society and thereby cultivating the mutual understanding of two great peoples; a very worthy motive in this day of the young League of Nations.

This program adapted itself particularly to the soldier who had left the classroom for the army; for the graduate desiring further study and research in the many admirable courses offered by French institutions; and for the ambitious soldier-student possessing an equivalent of 2 years' academic work and the will to take advantage of all opportunities of self-improvement. The requirements of 2 years' college credits, or an equivalent, brought forth many applications from the A. E. F., which after all is nothing but the best of American manhood transported to another clime. Scarcely daring to hope that our individual appointments would materialize, we anxiously awaited the good word that would spell *fini* to army life, temporarily, at least, and a return to the pursuit of knowledge in more congenial surroundings.

Events transpired quickly, for the Army Educational Commission was in earnest, and one bright day shortly after, the fortunate ones received the glad tidings to "report with the least delay" at the designated universities. As if we could delay in the face of Dame Fortune! It was the sweetest military command we had ever heard.

The University of Paris claimed 5 men from my company, Edinburgh 2 and Glasgow 1. Three, including myself, journeyed to the fine old University of Toulouse, situated in southern France within a short train ride of the Spanish frontier. Arriving at the *gare* one sunny morning, loaded with the usual packs, barrack bags and equipment, we were directed to proceed to the outskirts of the city. Making our way along through the curious stares of the populace (many gazing for the first time on American soldiers), we finally arrived at the quarters reserved for us, formerly an industrial settlement and once occupied by the workers of the adjoining powder mills. The *poudrière* was easily adapted as dormitories, dining and recreation halls for the welfare of the new student colony and its many adjuncts.

The city of Toulouse itself is famed from time immemorial as a center of the best art, learning and culture of France. Situated on the River Garonne some 31 miles from the Pyrenees Mountains, it has ever been the mecca for the student, and is second only to Paris as a great intellectual power. With its charming architecture, mostly of the Roman-

esque period, its interesting museums, grand opera, theaters and innumerable attractions, one could scarcely find more ideal conditions for profitable study. Because of its many brick structures and Spanish tile roofs, it is commonly known as the "Rose City," a particularly appropriate name, as all will agree who have ever been fortunate enough to enjoy the charms of this southern French town. War and bloodshed seemed part of another world in this peaceful, academic corner of "La Belle France." All were quite content with the Army Educational Commission's judgment in selecting Toulouse as our special field of endeavor for the coming four months.

Several days elapsed before the complete quota of 1500 men had arrived. In the meantime general lectures were outlined, all men organized into companies and platoons which corresponded to the lecture groups and French language classes, and the educational program at Toulouse made its beginning. A formal reception at the Église de Jacobins was accorded the new student body by the Mayor and other prominent public officials and a large representation of the civilian population.

The general policy for the first month was to concentrate on the study of the French language as a preliminary to later specialized lecture courses delivered by eminent French professors. This was supplemented by intensive classroom exercises in the practical French conversation. Naturally ear training was the essential thing, as a majority of the students had had a previous academic training in the construction of the language. Building upon this foundation, rapid progress was soon made.

At the time of our arrival, city homes were crowded with many refugees from the devastated regions of northern France and by the billeting of large numbers of French soldiers. This had necessitated our temporary quartering at "La Poudrière," but eventually as rooms were vacated by departing refugees and soldiers, we moved by groups into the city. Thus by our residence with French households, one of the principal objects of the Army Educational Commission was accomplished. The advantages are quite obvious, for what better method could be devised for acquiring a knowledge of the language, customs and life of a people than by this intimate contact?

The authorities required each student to present a personal invitation from a French friend to reside *en famille*. This regulation was easily complied with, for the attitude of the Toulousians had been one of cordial welcome. Undoubtedly the great similarity in many ways of the American and French temperament made the process of creating friends an easy one, and this, coupled with the Frenchman's warm desire to show hospitality and render aid to Uncle Sam's soldiers resulted in quick friendships on both sides. The better class of French were easily approachable under the peculiar conditions existing, and valuable friendships were formed of mutual benefit to both parties concerned. Obviously the type of American represented at the universities was the sort readily to adjust himself to the circumstances of the moment.

In a few brief weeks 1500 Americans had been absorbed in the local society and activities of one of France's foremost municipalities and the mutual knowledge acquired aided materially in promoting to a higher degree the ancient friendship of France and America. We proved that Americans were not "savages" at all and also learned in return that there is something more to French life and character besides the café. If one has never been privileged to be the recipient of French hospitality and friendship, he has surely missed one of life's charms. Our fellows have been made to feel as though they were an actual part of the family household, and home never seemed quite so close as now. The French "maman" can always find place in her family for another son, and many are the motherly things she can find the time to attend to.

Within a month after our arrival in Toulouse many organizations sprang into existence, representing army divisions, American universities, fraternities, etc. The Americans enrolled at the various faculties formed clubs and societies for the promotion of social relations between themselves and the French students. A debating, economic and law society was created, athletic programs planned and gotten under way. Even a Toulouse Ministerial Association was formed. Musical organizations made their appearance, orchestras, glee clubs, quartets, etc., and a genuine musical comedy of, by and for the student body was undergoing rehearsal. This play was written entirely by the men at the University and is original throughout, both as to words and music. Three weeks after the first students had arrived, the University paper, published weekly by the American students, made its initial appearance. This was record time and it holds the distinction of being the pioneer of its kind in France, just beating out several others by a few days. Up-to-date and strictly American from its front page headlines to its editorials, sporting page and cartoons, it serves as a medium of exchange in ideas between our French friends and ourselves.

Of particular interest to the architectural profession and artists is an account of the conditions existing at the École des Beaux Arts of Toulouse

as we found them. In the first place the building had been serving as a war hospital and was still used as such with the exception of a small portion occupied by the few meagre classes of the young Frenchmen. During the war the school's alumni had suffered a loss of 1000 killed on the field of honor, besides the greater number of maimed and wounded. In happier years the students of all courses totalled about 700, but the terrible toll of the war had reduced this number to a mere handful. Of course many students are still retained with the Army of Occupation, but nevertheless the institution has suffered a severe blow.

So naturally the American students of Architecture and Art found a dead state of affairs when negotiations began for formulating the courses desired. Considerable official manœuvring was undertaken with faculty and city officials and even the Mayor himself, for the École is a municipal institution and not connected with the University. After satisfactory agreements had been reached regarding tuition, etc., we pitched in with true American spirit and soon had the classrooms and drafting rooms assigned for our use, looking as they formerly did before the Hun became obnoxious. About a week after our first negotiations, the old building had taken on a rejuvenated appearance and classes held forth once more there. With admirable professors and a fine equipment what wonder that we thought ourselves thrice blessed for all this good fortune. The outstanding figure among the professors is Capt. Bonamy of the French Artillery, professor of architectural design. His ability is not limited to architecture, however, for his three crosses of honor testify to his soldierly qualities also. It will be of interest, I believe, to make note of those neighbors whom we have here in Toulouse in our particular case and which is more or less typical of the whole city. Any American's heart would be touched to observe these poor unfortunates who bore the brunt of the Hun's hate in their home towns of northern France.

In our house there is a family from the town of Luneville and their stories of the Hun invasion with its deadly dangers cause an American to appreciate fully what these brave people have borne, and thank the Lord that America was spared this phase of warfare. In spite of their dark days of the recent past, these refugees are decidedly cheerful and live down their misfortunes in the characteristic French manner.

Certainly after our few months' sojourn in Toulouse and our intimate contact with France and her remarkably courageous people who have so nobly endured the greatest calamity ever to fall upon a nation, we shall carry back to America a valuable experience which should ever remain a source of inspiration and emulation to us in the life of our own country. This most unique experience through which we are passing has well served its purpose, and should prove a potent factor in the coming years for cementing the bonds of friendship between France and the United States of America.

The basis of all friendship is mutual understanding, and undoubtedly that is being established on a far higher plane by the many thousands of Uncle Sam's soldier-students scattered in universities throughout the length and breadth of France. May this interchange of knowledge, experience and friendship develop on a more permanent basis by the intermingling of students of both France and America in the great universities of both lands, so that the cause of international sympathy, co-operation and unity will become an accomplished fact.

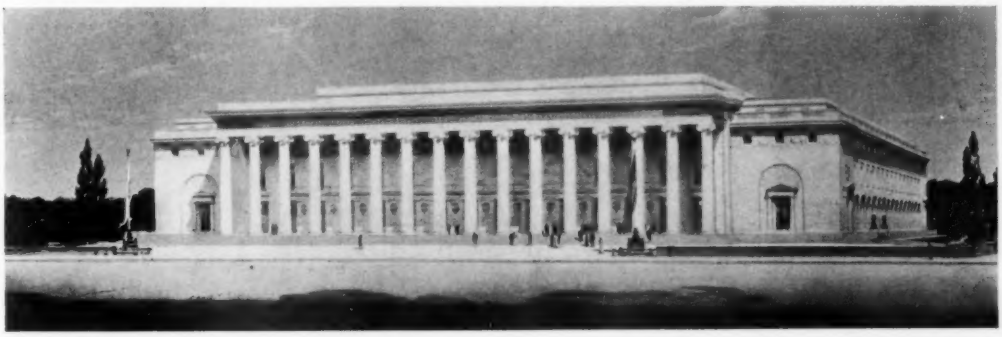
JAMES N. HOLDEN,
Co. "A," 3rd Platoon,
University of Toulouse, France.

National Victory Memorial Building, Washington, D. C.

TRACY & SWARTWOUT, *Architects*

WITH initial subscriptions of approximately one million dollars already in hand, it is now proposed to inaugurate a nation-wide drive in an effort to raise by popular subscription an additional nine million to carry to completion the National Victory Memorial Building in Washington.

While this important structure will have a very large sentimental appeal to every American, it will combine with this sentimental aspect and its very excellent architectural design, a building of great practical worth. It will contain a convention hall seating more than 7000 people, a banquet hall with a capacity of 600, and various smaller halls for the use of patriotic organizations, and it will serve as the center for all nation-wide gatherings.



The site for this memorial building has already been selected. It will be erected on ground granted to the George Washington Memorial Association by Congress. This land comprises the north end of the reservation on the Mall between Sixth and Seventh Street, where temporary buildings of the war department are now located.

An interesting architectural feature of the building will be the acoustical dome which, it is said, will be three times the diameter of the dome of St. Peter's in Rome. The plan provides space for the establishment of museums and rooms for the safekeeping of the archives and relics of the nation's wars. These are located on the ground floor. The national banquet hall and rooms for permanent national headquarters for military organizations are located on the second floor, while the rooms assigned to the various States are on the third floor. The fourth floor is entirely given over for office space for the various patriotic societies promoting the general welfare of the country.

The George Washington Memorial Association, of which Mrs. Henry F. Dimock is president, has pledged its support to this project, and Mrs. Dimock has announced that she has received assurances that the nine million dollars necessary to complete the funds will be promptly received. Explaining just exactly the purpose that this building is undoubtedly to serve, Mrs. Dimock has stated:

"We want the National Victory Memorial Building to be typical of the spirit that won the War of the Revolution and that won our World War. We want to have it written in the pages of American history that this building was put up by and for all the people of the United States. I should like to have school children subscribe pennies, young people in colleges, dimes and quarters, and I should like to see the grown-ups give just what they can afford. And in the National Victory Memorial Building there will be a record containing the name and address of every subscriber to the National Victory Memorial Fund. Thus we will have a building unique in American history—a structure that typifies the 'one for all and all for one' spirit of our Republic.

"We realize that a great deal of work is ahead of us in raising the funds for this structure along the lines that we have laid down, in building it, and in maintaining it as a monument to our soldiers, sailors and marines.

"I desire to give a warning to the public that any person who solicits funds for the National Victory Memorial Building and is unable to present credentials from the George Washington Memorial Association is an impostor and should be dealt with accordingly."

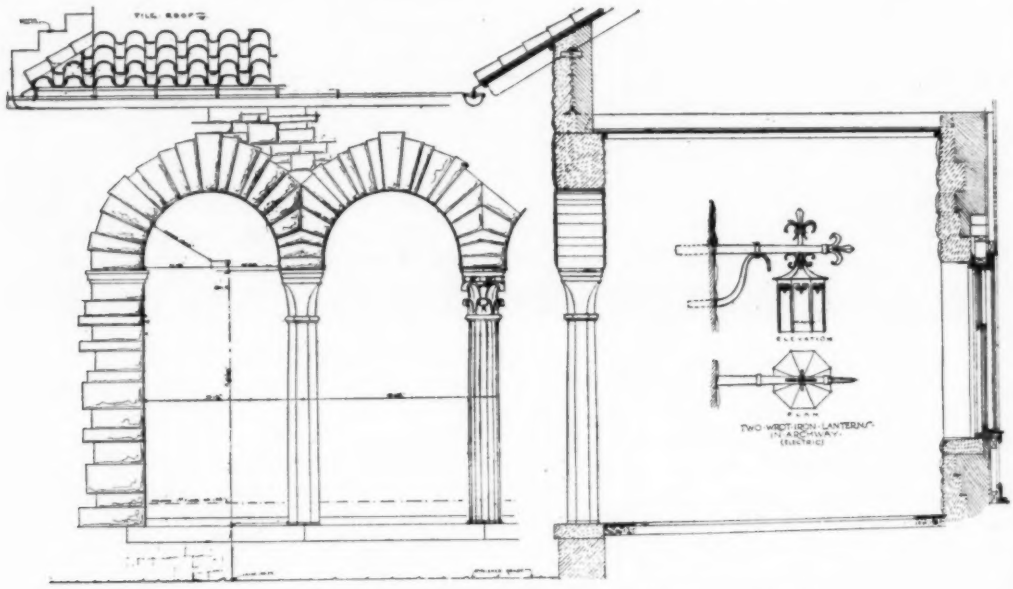
Entrance to the Tod Homestead Cemetery, Youngstown, Ohio

J. A. SCHWEINFURTH, *Architect*

(*For additional illustrations see plate section*)

THE Tod Homestead Cemetery, now in process of development, is situated in the suburbs of the City of Youngstown, Ohio.

It comprises, first, the lands of the old Tod homestead, given by the late George Tod, a descendant of the original owner, the war-governor of Ohio, and, second, the Memorial Chapel connected with the entrance, given by other descendants, among them John Tod of Youngstown. It is proposed in the future to have a monument erected to the war-governor and his family and descendants and this circumstance largely dictated the character of the design of the entrance. The principal feature of the design is a pointed arch of fifty feet span, and thirty-eight feet high, which is on the axis of the principal approach, at present a street nearly a quarter of a mile long, to be lengthened at some future time. Through this arch it is proposed to place the monument, to be seen thus framed in for a long distance. At the right of the arch, before one reaches the building, are the administrative offices of the cemetery, and, at the left, the memorial mortuary chapel with its campanile about ninety feet high and twenty feet square. Conveniently located in the rear is a receiving vault. There are also wide loggias which so few cemetery entrances have, and which are so convenient in case of sudden storms. The buildings, drives, shelters, vault and chapel are so planned as to afford the most convenience for their intended uses, and are designed in a severe rendering of an early Italian style which might be called "Italian Gothic" of the Campagna, reminiscent of the earlier architecture of many an old hill town of Italy, and built of the local Ohio limestone with Indiana limestone trimmings. At one side of the arch is a sculptured figure representing "Death," and at the other a figure representing "Time," each ten feet high. From these two figures, running across the wall over the arch through which for a hundred years will pass the funeral cortege, is a scroll bearing these words from William Cullen Bryant's "Thanatopsis":

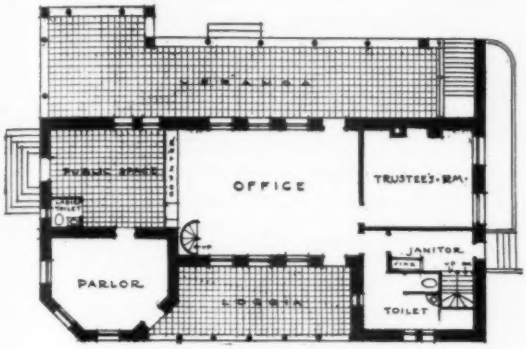


ELEVATION OF FRONT LOGGIA SECTION AND DETAILS

"The innumerable caravan, which moves
To that mysterious realm * * * * *"

A few scale drawings are presented, in order to show the character of the detail.

Built during the war, under the greatest difficulties, and consequently requiring nearly two years in its erection, where ordinarily eleven months



GROUND FLOOR PLAN

would be sufficient, the contractors, the W. B. McAllister Company of Cleveland, Ohio, are entitled to receive the "medal with palm" for most efficient and satisfactory service.

Memorials of the War

The May issue of the *American Magazine of Art*, devoted entirely to the discussion of war memorials, is ably reviewed by the *Boston Transcript*, as being the official organ of the American Federation of Arts, which has just held its important annual meeting in New York. This issue, says the *Boston Transcript*, makes a most valuable contribution to the growing literature of this important subject, and provides a very timely and admirable mass of data relating to the best existing examples of memorial art.

Charles Moore, chairman of the American Federation of Arts, general committee on war memorials, and chairman of the National Commission of Fine Arts, thinks it may be doubted whether the time has come to express the ideas and ideals of the great war. It will require some years of consideration before we can make proper estimates—before the real artist can find his symbols. He feels certain that the great expression of national feeling will not be wrought for many a long year to come. What we may do today will be only temporary and tentative. He contends that the men and events worthy of commemoration will not suffer for waiting; they will not fail of recognition in due time. Mr. Moore quotes this excellent passage from a recent article by Cass Gilbert:

"The most impressive monument is one which appeals to the imagination alone, which rests not upon its material use, but upon its idealism. From such a monument flows the impulse for great and heroic action, for devotion to duty and for love of country. The Arch of Triumph in Paris, the Washington Monument and the Lincoln Memorial are examples of such monuments. They are devoid of practical utility, but they minister to a much higher use; they compel contemplation of the great men and ideals which they commemorate; they elevate the thoughts of all beholders; they arouse and make effective the finest impulses of humanity. They are the visible symbols of the aspirations of the race. The spirit may be the same whether the monument is large or small; a little roadside shrine or cross, a village fountain, or a memorial tablet, speaks the same message as the majestic arch or shaft or temple, and both messages will be pure and fine and perhaps equally far-reaching if the form of that message is appealing and beautiful."

Summing up, Mr. Moore says that communities may express their ideals in any one of many ways, provided always that in whatever they do the memorial spirit prevails. The memorial spirit originates only in the mind of the artist. He is and must be the leader. No layman is fitted for leadership—if he were, he would not be a layman, but an artist. We shall have more indifferent memorials than great ones, because few artists rise into the realms of genius. But there is no reason to despair. If we can put an effectual ban on the stock soldier, the stock tablet, the stock anything, we shall take a long step forward. We can accomplish this result only by impressing on communities that each memorial shall be a separate, distinct creation of an artist. The simple, direct, conscienceful work of a trained mind and hand is always welcome, is always enduring. The great poets did not write all the poems that have found abiding places in the human heart."

In his article on "The Permanent Memorial," Arnold W. Brunner, chairman of the New York regional committee of the American Federation of Arts, takes the position that grandiose triumphal arches, over-pretentious architectural and sculptural compositions, typifying the victory of an army and navy, are not satisfactory memorials of a war fought on moral grounds. "To typify the splendid victory of force combined with the success of high ideals and a belief in universal and continuous peace, we naturally look for new forms and new methods of expression." Speaking of the kind of memorials which serve a practical purpose, Mr. Brunner says this is like giving one's wife a barrel of flour or a ton of coal for a Christmas present.

Frederick W. Macmonnies, the sculptor, points out some of the pitfalls to be avoided. Sentimen-

tality, for one, he thinks, "is apt to lead in the end to the angel in the cemetery." Monotony, another, produces literal figures of soldiers, "with not a button missing," the type that has become standardized and can be bought very reasonably from any firm of stone cutters.

Plans for Greater Paris Are Forming

By authorizing the demolition of the wall of Paris and the cession of the site and the military zone outside the wall for city improvements, the French parliament has just removed the principal obstacle to a "Greater Paris." This is learned through the Associated Press. The city will thus obtain the room it needs, and one of the most remarkable parks in the world. With a width of 250 yards and a length of 25 miles, the park will completely surround the city, adding one more to the circular systems of improvements that have successively taken the place of disappearing walls since the time of Philippe Auguste, which show the growth of the city as rings mark that of the oak.

Americans revisiting the city ten years hence will come upon "Greater Paris" without knowing it if they look for the old landmarks. The rag-pickers' huts, truck gardens and piles of refuse that made the military zone look like "Shantytown" and gave arrivals the first warning of approach to the city will have disappeared to give place to the park. In place of the massive stone wall and deep moat in front of it that marked the city limits there will be another belt 140 yards wide and 21 miles long composed of buildings in the best French style built according to a general plan combining harmony with the most approved hygienic installations.

The demolition of the wall will release 1150 acres of ground, of which 300 acres will be taken up by new streets, boulevards, railroads and canals. The suppression of the military zone will make available 1,875 acres of space, of which 1,750 will be devoted to the new park, constituting a third of all the park area of the city. The rest of the space will be utilized for the erection of a permanent exposition building between the gates of Saint Cloud and Auteuil.

This improvement will involve the suppression of the sixty "gates" of Paris. New and wider thoroughfares will connect the city with the suburbs and, eventually, most of the immediately neighboring communes will be incorporated in the greater city.

Architect Urges Advertising Need

Discussing the merits of the structural work of the large building company as contrasted with that of the architect, in an opinion submitted to the Post-War Committee on Architectural Practice of the American Institute of Architects, Elmer Grey, of Los Angeles, says:

"The product turned out by the building company method is not at all the same as that turned out by capable architects. Much of the public, however, does not know the difference—and here is where advertising should come in.

"The rates the building companies charge are no lower than those which high priced architects charge, only they are so camouflaged as to appear to be lower to those who do not investigate the matter thoroughly. The standard of work of the building companies is not high, however. Their business success depends upon the fact that at their heads in each instance, is a man who is a wizard at salesmanship. Theirs is a talking game.

"One of their heads, for example, recently spent an entire afternoon trying to get me to join his organization, and in order to do so he told me about his methods. It was illuminating! He was not an architect, not possessed of an architect's training or ability, yet he professed to be the intelligent creative genius and director of his designing department. The designers these companies usually employ are draftsmen of mediocre ability.

"If the building company plan were giving the public better service than the professional plan, it should survive and supplant it. I should then wish to join with a building company, and as I have said, I have had an opportunity. But it does not. The above experience is not the only one I have had with building companies. In another instance one of my clients who succumbed to the wiles of a building company salesman let him have their construction work on a percentage basis, and on a $10,000 house her decision, against my advice cost her something over $600. I had a bona fide bid for that much less amount from a reputable contractor.

"I believe from this and other experiences that the professional plan separated from the contractor is distinctly better for the owner than the building company plan—better not only from an æsthetic point of view, but also from a financial—and it is only advertising that will acquaint the public with the difference. I believe the war has taught us the value and the necessity of such propaganda."

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Plan Service by Institute Chapters

CAN there be any amicable relation between standardization and art? There is much diversity of opinion on this topic. Some will maintain, and with much reason, that while a single unit may be artistic to the highest degree, a combination of many similar units would be monotonous and therefore inartistic.

Buildings are first of all utilitarian. They are built for a certain use. While art should dominate design, it will not necessarily dominate all of the various elements that enter into the completed structure.

It is therefore possible to effect standardization and secure the economy that is the result, and at the same time insure the utmost in artistic refinement. This has been demonstrated many times in the industrial towns that have been erected by the Government at shipyards all over the country. These towns have been built up of houses of varying number of units, each different in design, but thoroughly standardized as to their dimensions and equipments.

FROM time to time there arise complaints among architects, because in some of the larger building industries and mail order stores, plans and specifications are offered at a merely nominal price for small houses, and lately for dwellings up to ten thousand dollars in cost.

It is claimed that this is a direct invasion of the architects' proper field. Perhaps it is, but do architects show, until these conditions are pointed out, any great amount of interest to secure business of the isolated client who desires to build a low cost house? These plans and specifications are of the purely standardized type. They are sent broadcast all over the country. They are in some instances well designed and planned low cost houses.

If these building industries and the mail order stores should cease the publication and sale of these standardized plans, would the business then revert to architects? It is not believed that it would. The houses that would then be built by the class of people who buy and use these standardized plans would be handed over to local carpenters with the usual result. What that result would be we know. These United States are filled with this type of house, the greatest retardent to the architectural growth in design of the low cost house that has ever existed. Far better the standardized plan than such a house.

WHY is not this subject one that might seriously engage the attention of the American Institute of Architects?

If, for example, the lumber interests find that they can more easily sell a bill of lumber where they show its final use as assembled in a well planned standardized house of good design, why might not the Institute, through its Chapters, evolve types that would suit the various localities and place them at the disposal of the prospective interests and builders at a fair price?

The designing and planning of low cost houses would by this means be placed in the most competent hands and the artistic architectural development of our small towns secured beyond peradventure.

A Wasted Opportunity Recovered

IN the issue of April 2, comment was made on a letter received from "An Architect Doughboy," in which the writer deplored a wasted opportunity while in France. It was urged that it would be a wise thing on the part of the Government to afford members of the A. E. F., who had previous training as architects and engineers, a chance for travel and study before their return to this country and discharge from service.

It has been gratifying to know that since that time measures were taken by the army authorities to accomplish this very desirable purpose, and that

a large number of men were assigned for certain periods to various colleges and universities in Europe for a course of technical training prior to their return to the United States.

Just how admirably this plan is working out is set forth in a communication received by the editors of THE AMERICAN ARCHITECT from an architectural student, one of the A. E. F., who has been assigned to a course of study at the University of Toulouse, France. This communication will be found in this issue.

WHO shall be able to compute the great influence that will be exerted upon the future of the professions of architecture and engineering by that group of more than fifteen thousand men, now detached from military service and distributed among the high seats of learning in Europe. A course of study, first a student period in this country, interrupted by the call to arms, then followed by intensive military training and later, by what might perhaps be designated as a post-graduate course in the universities of Europe, the very fountain head of knowledge in art, is filled with the greatest opportunities for progress.

Those who may reasonably expect to survive the next two decades will have occasion to watch the development of men who have had a course of education on such novel lines, while those who may not, can with the mystical lore that surrounds the sunset of life, predict the future greatness of men so thoroughly trained in their professions.

IT would have been a great pity, if from among the more than two million men who went overseas, there had been returned to this country the great number that had been before their enlistment trained in the arts and professions without first affording them an opportunity to apply by actual study and observations the principles of their early training.

France and Italy, the meccas of every architectural student, were at last reached by these men. But there was up to a certain time the tantalizing situation of close proximity to places that men had hoped for years to see and that then, owing to the rigor of military discipline they were unable to visit.

Many instances have been reported where whole regiments of men have been closely confined to the trains on which they were by slow stages being carried to the port of embarkation with no opportunity for sightseeing in Paris or other equally interesting European cities.

OUR Revolutionary and Civil Wars, having this country for their field of action, created large areas of historical interest, and left to the care of an appreciative posterity many buildings of historical association. These constant reminders of conflicts in which our forefathers took an active part, are incentives to patriotism and good citizenship. In the Spanish War and the World War just approaching its end, however, our battles were fought on a foreign soil. There will not be for future generations any hallowed localities in this country which will mark the spot of victorious action. All we shall have will be pictorial and written histories and the recitals of those who actively engaged in our Army and Navy. In fact, so closely has our participation in this great struggle been interwoven with that of our allies that in most important engagements the individuality of our encounter is merged by our men having been billeted with the troops of other nations.

THE great opportunity, and the greatest measure of good to this country will be found in the chance for education that will have come to every man, exclusive of rank, who has served abroad. This great educational service will have a direct influence on every community, large or small, that has sent men overseas. Aside from the fine influence of military training, there is the broad education that comes from travel. Whether the man comes from the mountain fastnesses of our Southern or Western States, or out of the hearts of our larger cities, he will return broadened and with largely increased value as a citizen. It is in this that we shall probably reap the greatest advantage from our participation in this war, and it will serve as perhaps no extent of local tradition would, to implant in the minds of coming generations a respect for this country and the men who so ably represented it.

PLATE 195

FRONT VIEW

ENTRANCE TO TOD HOMESTEAD CEMETERY, YOUNGSTOWN, O.

J. A. SCHWEINFURTH, *ARCHITECT*

PLATE 196

REAR VIEW

ENTRANCE TO TOD HOMESTEAD CEMETERY, YOUNGSTOWN, O.

J. A. SCHWEINFURTH, *ARCHITECT*

PLATE 197

ENTRANCE TO TOD HOMESTEAD CEMETERY, YOUNGSTOWN, O.

J. A. SCHWEINFURTH, *ARCHITECT*

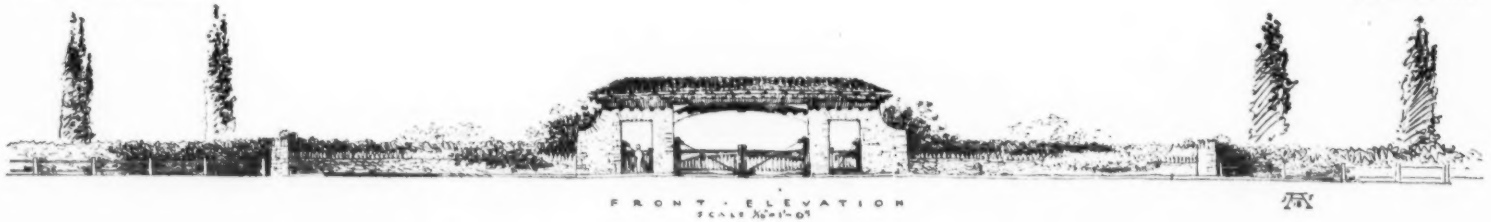
EXTERIOR DETAIL

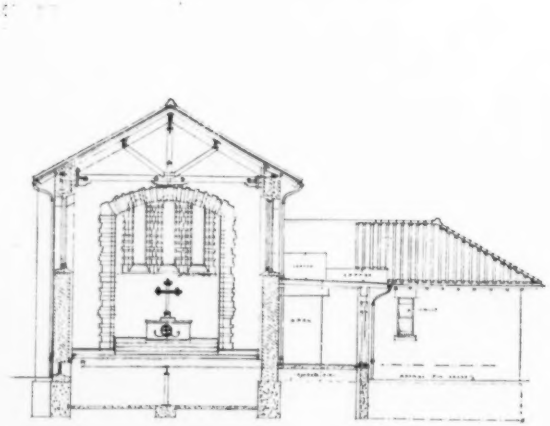
INTERIOR OF CHAPEL

PLATE 198

ENTRANCE TO TOD HOMESTEAD CEMETERY, YOUNGSTOWN, O.

J. A. SCHWEINFURTH, *ARCHITECT*





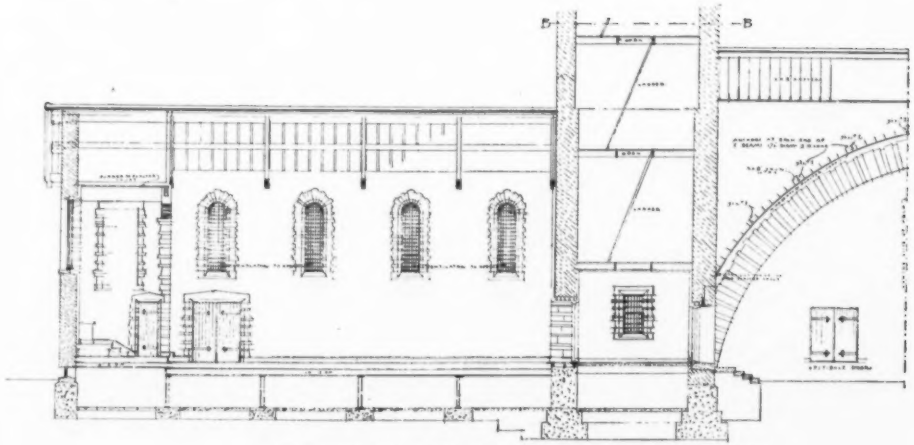
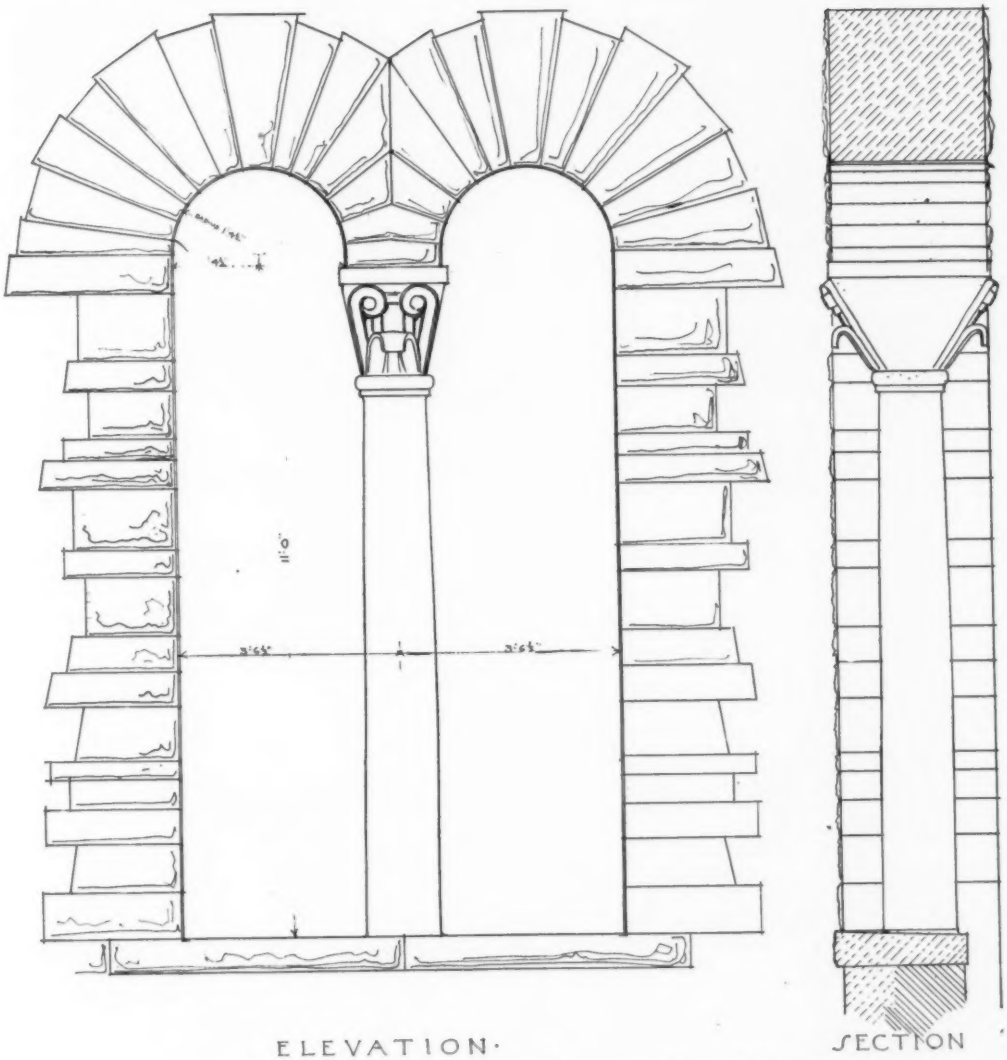


PLATE 199

ENTRANCE TO TOD HOMESTEAD CEMETERY, YOUNGSTOWN, O.

J. A. SCHWEINFURTH, *ARCHITECT*



ELEVATION · SECTION

OPENING · AT · TOP · MAIN · TOWER ·

PLATE 200

ENTRANCE TO TOD HOMESTEAD CEMETERY, YOUNGSTOWN, O.

J. A. SCHWEINFURTH, *ARCHITECT*

PLATE 201

HOUSE AND GARAGE OF F. A. SCHICK, BETHLEHEM, PA.

C. E. SCHERMERHORN, *ARCHITECT*

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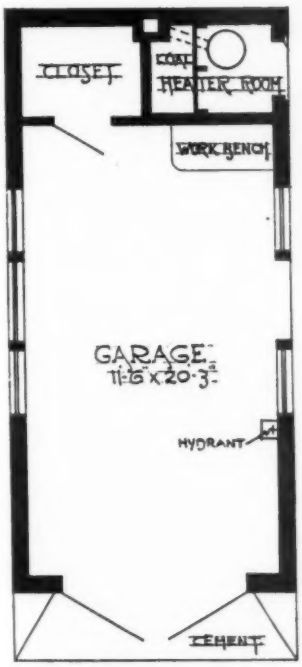
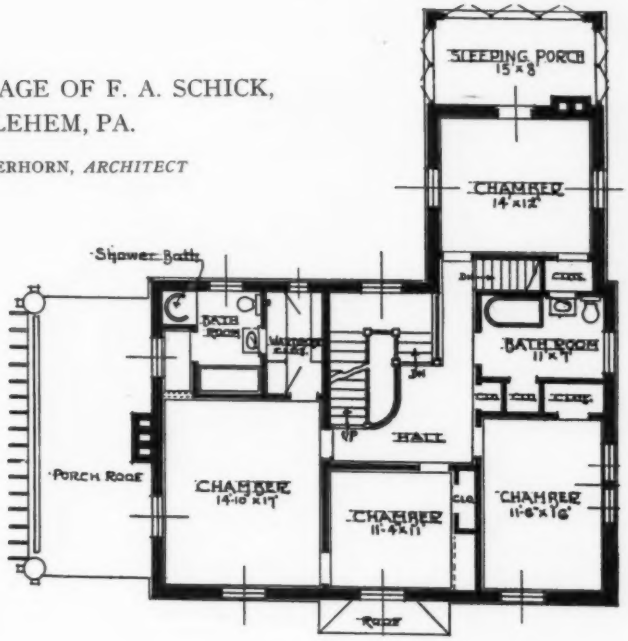




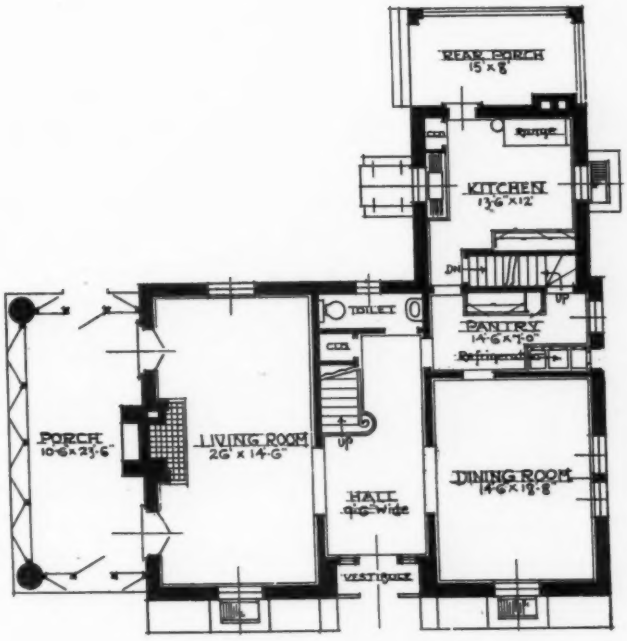


PLATE 202

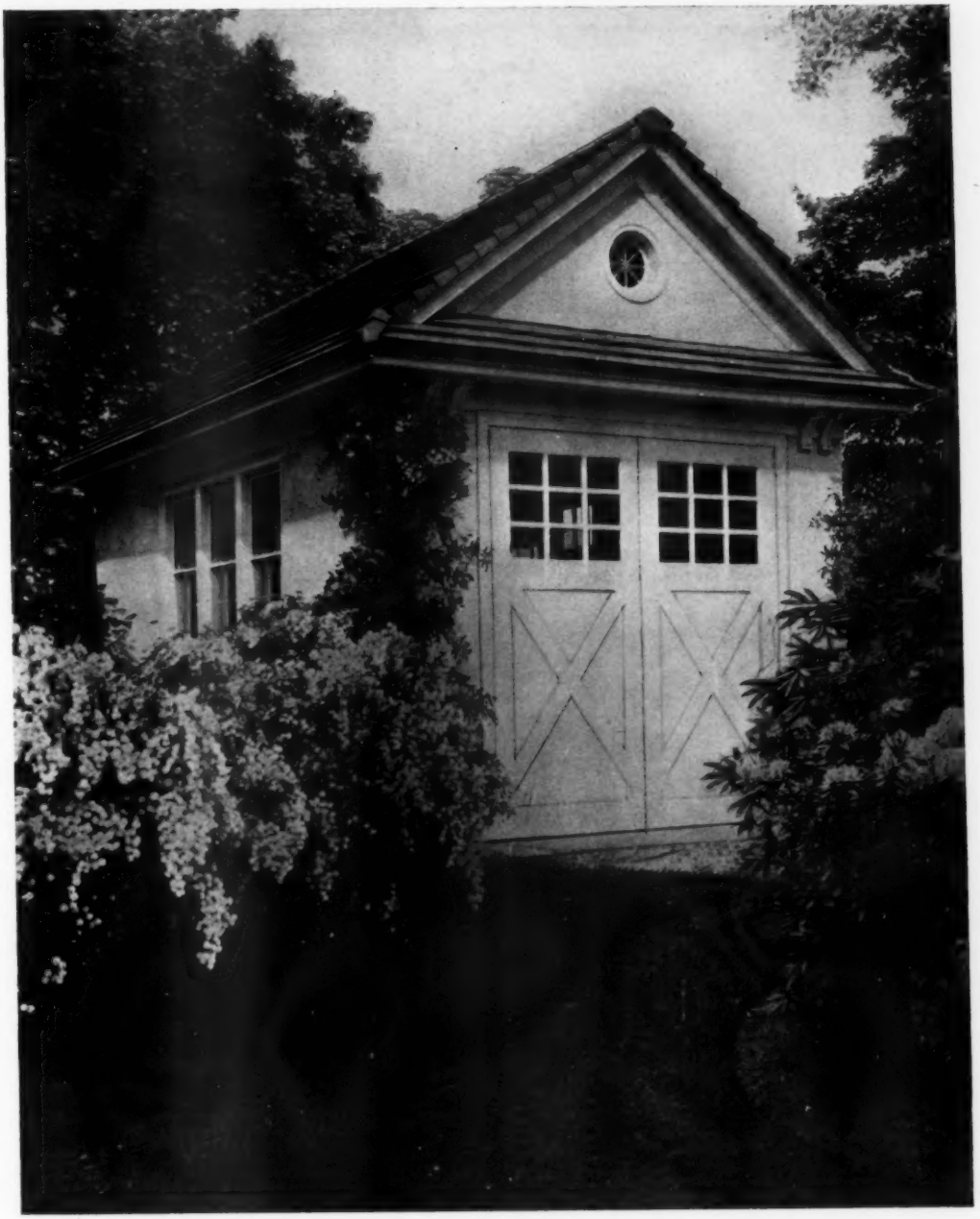
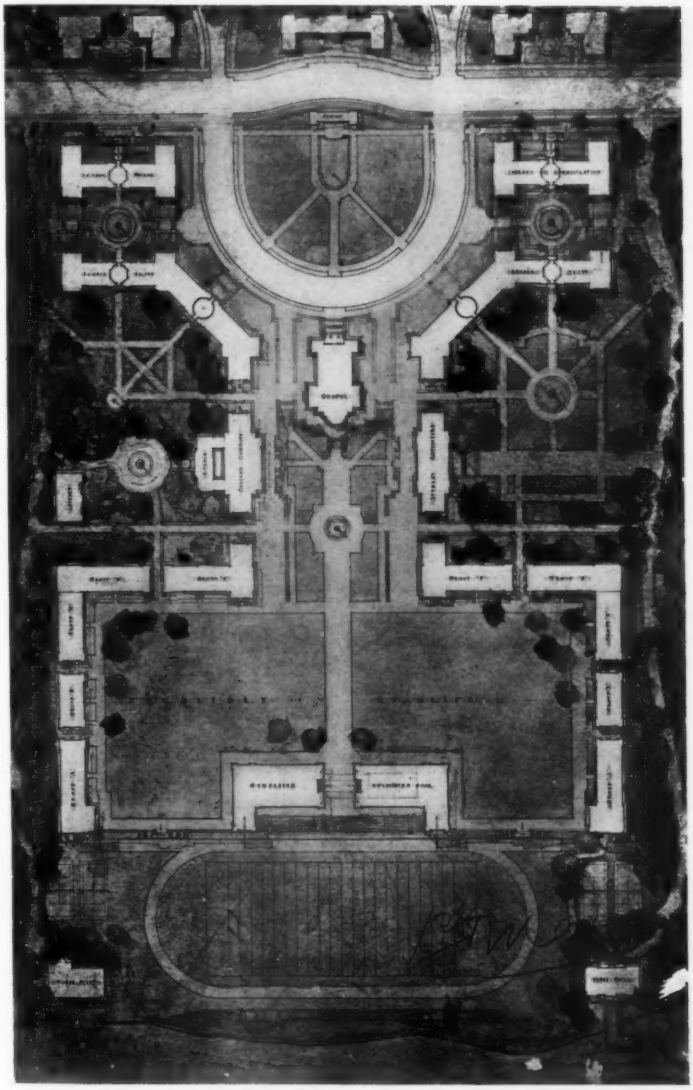


PLATE 203

GARAGE OF F. A. SCHICK, BETHLEHEM, PA.

C. E. SCHERMERHORN, *ARCHITECT*



CLASS "A"—III PROJET

A COLLEGE GROUP

—

A. C. BIEBER

FIRST MEDAL

UNIVERSITY
OF PENNSYLVANIA

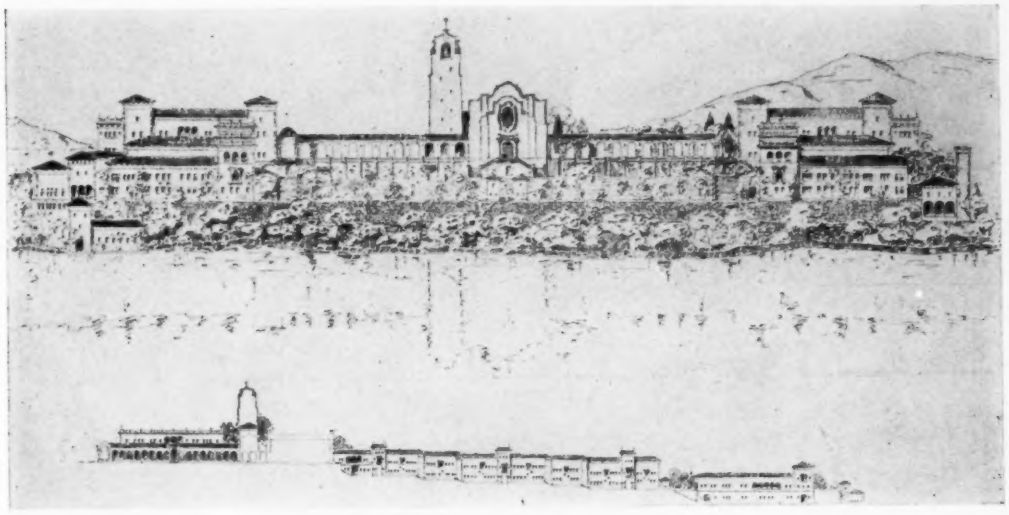
—

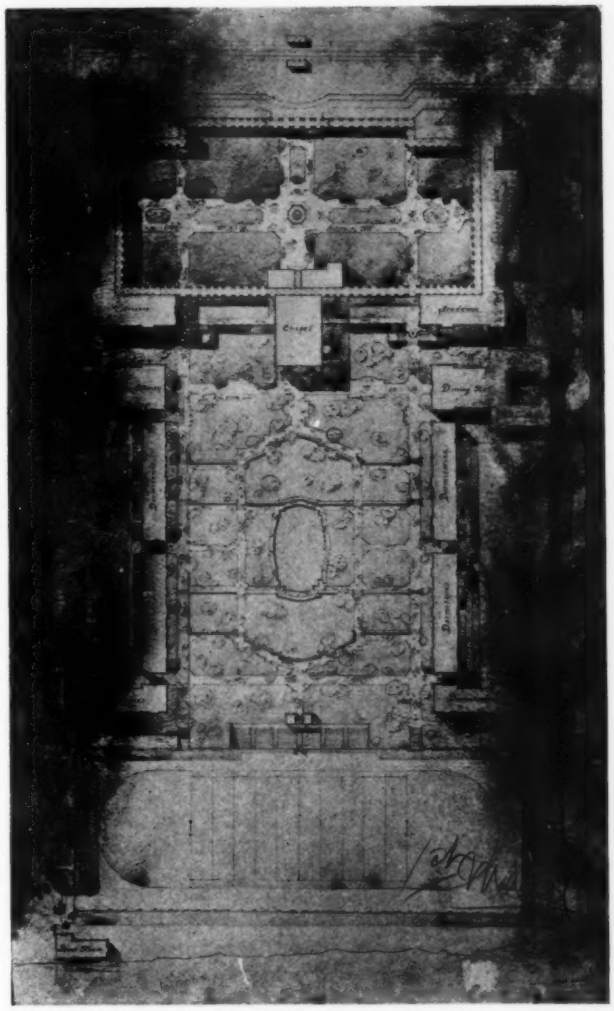
STUDENT WORK

BEAUX-ARTS INSTITUTE

OF DESIGN

PLATE 204





CLASS "A"—III PROJET

A COLLEGE GROUP

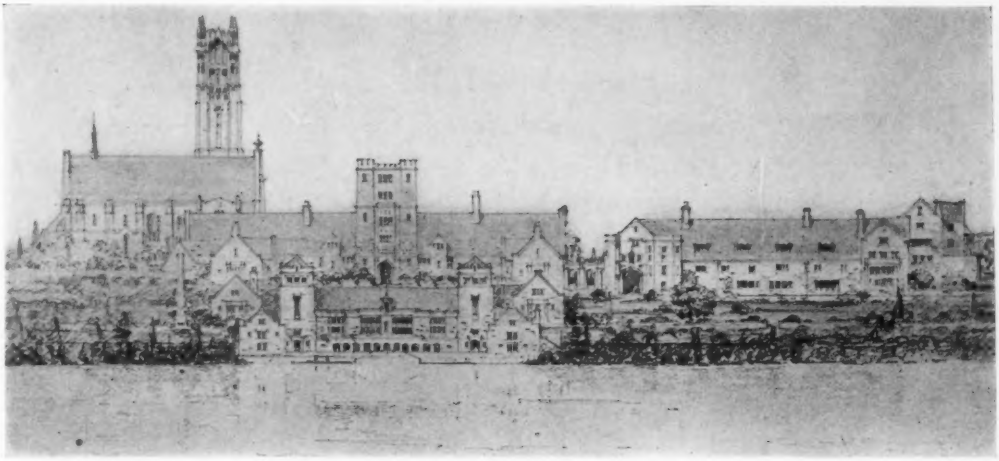
T. P. ROBERTS

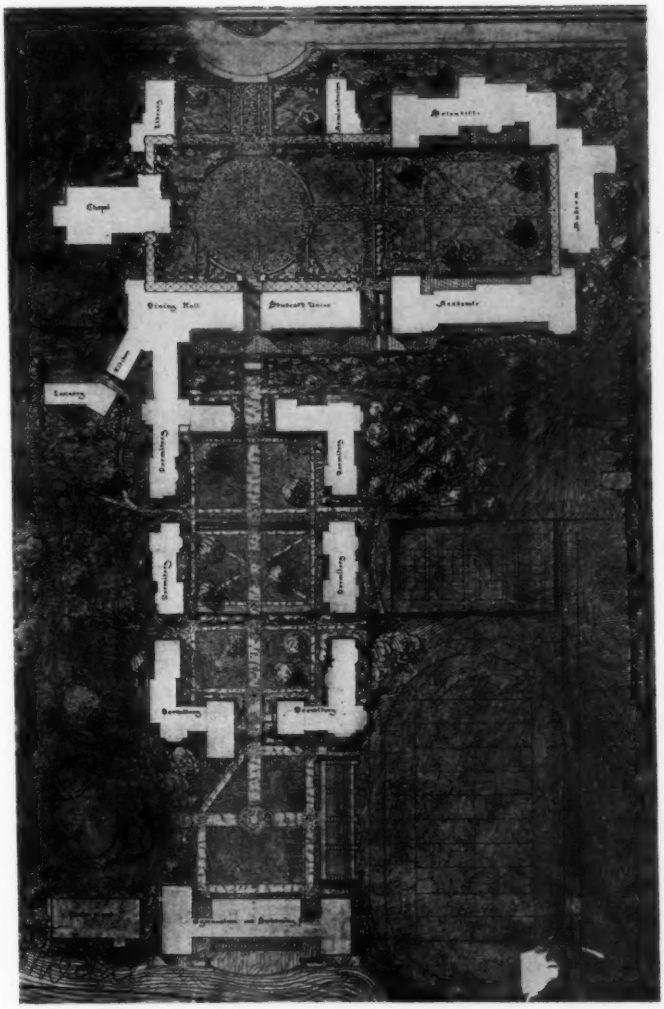
FIRST MEDAL

UNIVERSITY
OF PENNSYLVANIA

STUDENT WORK
BEAUX-ARTS INSTITUTE
OF DESIGN

PLATE 205





CLASS "A"—III PROJET
A COLLEGE GROUP

J. R. SMITH
FIRST MEDAL
UNIVERSITY
OF PENNSYLVANIA

STUDENT WORK
BEAUX-ARTS INSTITUTE
OF DESIGN

Criticism and Comment

The Editors, THE AMERICAN ARCHITECT:

The building material dealers in the Northwest and other sections of the country have had in the past few years enormous demands upon them for plans and specifications of moderate cost dwellings and in sections where the services of a good architect are not possible, have developed plan service organizations which have more or less merit, but the designs furnished by them are by no means up to the standard of the recognized architectural profession and in consequence have received great criticism from many of the best known architects, and since the ethics of the American Institute limit the activities of their members in the business of selling plans, it has seemed impractical up to the present time for the legitimate architect to engage in a business of this nature.

Our Association receives continually requests for not only plans for moderate cost dwellings but all manner of requests for farm buildings of every character and if we were able to refer them to some central architectural plan service corporation, recognized and supported by the American Institute of Architects, or a group of architects represented by one of the Chapters of the American Institute, we would feel that we were performing a service, not only to the prospective owner but to the community in which he lives, as well as encouraging the practice of the architectural profession to take an interest in the field of designs represented by the small dwellings and encourage the man with small means, by furnishing him plans for small houses, properly planned and well designed.

It seems to me that the architect of today who criticizes the arrangement and design of small houses and groupings in both large and small cities, with reference to proper town planning, is not justified in his criticism because, generally speaking, he has not up to the present time rendered his service to better these conditions and it seems to me that through a service of this kind, as referred to above, results from the efforts which the architects might make toward this end, would in a very few years be very beneficial in educating the general public to a realization of the difference between good and bad designs.

My attention has recently been called to the Architectural Service Corporation, recently organized by a group of architects in Minneapolis and St. Paul, Minnesota, who have organized, so I am informed, for the purpose of developing just such a scheme as I have outlined here and I feel assured that it will not only supply a great need for better designs, but encourage the erection of more and better buildings.

I sincerely hope that THE AMERICAN ARCHITECT may be convinced of the merits of this idea and through its columns urge the organization of a powerful Architectural Plan Service whose efforts may be recognized and whose influence may have a lasting effect upon American architecture.

R. S. WHITING,
Architectural Engineer,
National Lumber Manufacturers' Assn.

The Editors, THE AMERICAN ARCHITECT:

Having been absent from active participation in practice pretty largely since the fall of 1917, I was amazed to discover, on my return, that a great deal of house planning was being done by retail lumber dealers in the Northwest who are maintaining large and expensive draughting rooms for the production of these plans.

Judge further of my surprise to find that these firms were not only dealing in the small plant but were getting out plans for houses costing from $10,000 and upwards. I was still further amazed to find that efforts were being made and were sometimes successful in hiring away from legitimate architects' offices, architectural draughtsmen who were lured by the promise of pay beyond what they were considered worth in an architect's office or that the architect can afford to pay under present rates of compensation for similar grades of draughtsmanship.

Please note that in making this assertion I am acting upon an impression conveyed to me by my own draughtsmen as well as by the almost universal upward tendencies of draughtsmen's salaries.

Another interesting fact is that there is a very great shortage of draughtsmen, far under the normal supply. This shortage of course, is not wholly attributable to the fact that the men are still mobilized, but may be ascribed to the increased use of our architectural draughtsmen in retail lumbermen's draughting rooms, railroad draughting rooms, etc., or by men who, during the war, have left the profession.

At a recent meeting of the Minnesota Chapter of the A. I. A., the faculty of the architectural department of the University of Minnesota stated

that the graduating class was already being solicited by these companies to come over into their field and the faculty did not relish the idea, after their four years' work in producing a graduating class, of having them go over into the service of those outside the legitimate profession.

Now in stating the above, which apparently are facts, I have been trying to ask myself what should encourage the lumber dealers to invade a field which certainly should belong to the architect and the only answer which I can find, which seems to me to partially satisfy, is first, that inasmuch as shelter is a fundamental need of human life, they are using the appeal of attractive plans to merchandise their raw product. There is no appeal in the raw product as such, unless it can be visualized in its final form in the minds of those interested; and the other fundamental reason probably is that the architect who is competent enough to build up a practice cannot afford and generally does not do the very small house or should I say rather, that the small average home builder does not go to the architect for his house plans because he cannot afford to pay a sum which would be profitable to the architectural firm in the production of his plans; hence the small average would-be home owner must procure his plans from some catalog house or popular publication, or from some other organization like the Lumber Dealers' Association; or buy his house ready built from the speculative carpenter-contractor or speculative real estate builder.

I took occasion, at the recent Convention, to plead for an appointment of a committee of the Institute that would actively study this problem and suggest methods whereby this fundamental economic difficulty might be solved, and I confidently expect that the profession will, in a practical way, find a solution.

I do not believe that the lumbermen, as a whole, particularly care about making the plans. Why should they? Their principal concern is to merchandise their product, and it seems to me that the architects, as a whole, are interested in their disposing of their product in a reasonable and safe form so that individual owners and communities may enjoy the employment of the material in as economic and useful a way as possible, not forgeting the aesthetic.

It seems to me that the time is ripe now for an open discussion of this matter while we are on the threshold of very active times in our profession and in the days to come we should seek every method of co-operation rather than friction in the new days that we are facing. If the architects have been remiss in their obligations, in a way, towards society, it is time for us to know it and to find a way to bring to this question the skill and brains which we assume we possess.

EDWIN H. HEWITT,
Minneapolis, Minn.

Current News

New York State Association of Architects

At a meeting held in Utica, N. Y., on June 7, the New York State Association of Architects was organized. The purpose of this organization is set forth as seeking to unite the architects of the State of New York in fellowship that they may combine their efforts for the promotion of efficiency of the profession and to make the practice of architecture of necessary service to society. All architects registered in the State of New York, and all architects whose standing in practice is approved by the Board of Directors, are eligible to membership in this association. The dues of this group are placed at $5.00 per year.

Provision is made for a Junior Membership, to include draftsmen employed in the offices of members or of architects qualified to be members. The dues in this class will be $3.00 per year.

It is proposed to make this association so independent and democratic that it will attract to membership the entire eligible body of architects in the State. At the present time there is an enrollment of about 400 architects. The following officers have been elected:

President Ornan H. Waltz, Ithaca.
First Vice-president, Robert D. Kohn, New York
Second Vice-president, Edward B. Green, Buffalo.
Third Vice-president, Frank H. Quinby, Brooklyn, N. Y.
Secretary, Walter G. Frank, Utica.
Treasurer, H. W. Greene, Watertown.
First Director, J. Riley Gordon, New York.
Second Director, Frederick L. Ackerman, New York.
Third Director, Gordon Wright, Syracuse.
Fourth Director, Maurice M. Feustman, Saranac Lake.
Fifth Director, W. P. Bannister, Brooklyn, N. Y.

The following committees have been appointed:

Public Information

J. Riley Gordon, Chairman, New York.
Frederick L. Ackerman, New York.
A. F. Lansing, Watertown.

Membership

Frank H. Quinby, Chairman, New York.
Edward W. Loth, Troy.
John B. Slee, Brooklyn.
Edward B. Green, Buffalo.
Gordon A. Wright, Syracuse.

War Pictured in Natural Colors

An exhibition of natural color pictures photographed on the battlefields of France by what is called an autochrome process has been held in New Orleans and will doubtless make the rounds of the larger cities.

The collection was taken by authorization of Foch, Petain, Joffre and Pershing, and includes scenes of the Marne, the English front, and places in France and Belgium which show the devastation caused by the war.

Starting with the first battle of the Marne, the photographers show the battlefields as they were at the beginning of the war, the guns used, the different methods employed, and the brilliantly colored uniforms of the French army in their natural colors. Pictures of the regions laid bare by the Germans are next shown, and the work of the American relief committee restoring recaptured sections.

Verdun, the greatest battlefield of the war, is another subject of the new photography, and the forts of Souville, Douamont and Tavanne are also brought in.

William S. Wicks

William S. Wicks, for a period of thirty-eight years, of the firm of Green & Wicks, architects, of Buffalo, New York, died on May 30. He was in his sixty-fifth year.

Mr. Wicks' early education was in the public schools of Trenton, N. J., and Utica, N. Y. Later he entered Cornell University, from which he went to the Massachusetts Institute of Technology.

Mr. Wicks combined with his activities in the practice of his profession considerable ability as a writer on architectural subjects. He was a Fellow of the Institute and a past president of the Buffalo Chapter.

His identification with the architectural growth of Buffalo and the surrounding country resulted in the erection of a varied class of buildings of the highest artistic excellence.

Venice Since the War

The following extract from a Canton, Ohio, paper, tells some of the history of an illustrious city and shows one way out of an almost hopeless situation. Under the caption "The Renaissance of Italian Art," the writer states:

"Venice, transfigured, silent and heroic, full of passion and of faith, is born anew into a grandeur worthy of her olden days. Her people who in the dark scenes of the tragedy of Europe suffered, hoped and toiled in courage and silence, greet her modern Renaissance.

"In the years before the war Venice had been a center of art and beauty. Life slipped by easily and quietly; the harbor was busy with its thousands of workers; the trades and industries were prosperous. She was the mecca for all the artists and lovers in the world. The war came. The lights were extinguished; the lovers fled. The city was suddenly deserted by all its own people, and stood, an outpost facing the enemy, in the dark.

"Life there grew harder and harder. For when every form of commercial activity had ceased, the harbor closed to traffic, all the factories and shops shut, Venice found herself utterly without means of livelihood. In August, 1914, the people of the city appealed to the Mayor for work, and then was formed the Association of Venetian Industries. This opened shops, provided materials, took over the finished products and arranged for their sale in behalf and in the interests of the industries. It fostered especially the industrial arts and crafts, the small manufacturers of glass, mosaic, furniture, iron work and pearls—those heirs of the ancient traditions of Venice, her eternal glory and the riches of the world.

"The objects which they created in those hard days are of manifold beauty. The glass workers of Murano, aided only by their iron pipes, long as organ pipes, and their traditional instinct, blew their vases and their magic galleons; the women of Burano, alone with their grief, wove the hangings for their lost altars and snow-white linen starred with flowers. The woodworkers carved in walnut old chairs like those where their Doge sat on days of state, or saved old fragments, fashioning them in new forms, and restoring the old pieces which had been saved and brought away in safety. The marble workers carved in stone well tops and Byzantine fountains. The ironworkers fashioned lamp stands and gates of grill and hammered out cups, lighter and more delicate than those of their brothers, the glass-workers."

Chicago Soon Will Construct Stadium to Cost $1,000,000

Chicago in the near future can boast of having the largest stadium in the world, the cost of which will be $1,000,000. The site chosen is in Grant park.

The South park board unanimously voted to raise $1,000,000 for the project. Mayor Thompson has pledged that "money would be no object" in putting the plan through to its last and most elaborate detail.

Jugo-Slavs to Build Monument to Union

Word comes from Belgrade that in Kossovo plain, where Jugo-Slav troops were crushed in 1389 by the Turks, a great monument is to be erected to commemorate the Jugo-Slav union. It will be known as the Temple of Kossovo. Ivan Mestrovic, Dalmatian sculptor, will execute the work.

New York's Oldest Building Going

The building in which Alexander Hamilton lived at 122 William Street, said to be the oldest building on Manhattan Island, is about to be torn down to make way for another structure. It was built of bricks imported from Holland and was the headquarters of General Washington during the battle of Golden Hill.

Theater Curtain a Mirror

The Little Theatre, one of London's smallest playhouses, is to have a mirror drop curtain. The theater will change its name to the Looking Glass Theatre.

Would Let the French Rebuild in Own Way

America is going to do her full part in the rebuilding of France, but we are going to let France proceed in her own way, asserts Edward Hungerford, writing on "France Faces Forward," in the June issue of the *New Red Cross Magazine*, in which he tells why various schemes for the "adoption" of ruined French towns by American communities are not feasible.

"Back of the well-organized work of the French Government," says Mr. Hungerford, "back of such real assistance as we Americans may be privileged to give, must stand at all times the desires and the efforts of the French people themselves. There is no mistaking these last. The French are a peculiarly clannish and home-loving people. They cling tenaciously to their language and their traditions—and their homes.

"Long before the war was ended certain groups of well-meaning but impulsive Americans began formulating rather precise plans for the reconstruction of France at the end of the conflict. Their plans were good, their intentions even better. * * * But France is the most highly civilized country in the world, and has very definite ideas of her own on architecture and city planning. * * * If the Germans had swept across New England we probably should resent committees of Frenchmen or Spaniards or Italians trying to tell us how to reconstruct Providence or Worcester, but we would not resent their interest. * * * And much real work has been accomplished by Americans, without either the 'adoption' of towns or the hurting of the rather delicate sensibilities of the French at this time."

Hidden Beauties

Rare paneling of old Jacobean oak, worth $10,000, was discovered under the plaster and wall paper of an old house which was torn down in Cambridge, England, a short time ago. There are probably no houses in America, even those dating back to the early history of our country, which could reveal hidden beauties of equal value; but there is many a beautiful old fire-place walled up. Many a trim of oak, walnut or mahogany has been covered with that hideous travesty upon fine woods, a coat of graining. More than one table, bed or chair made of wood which today is almost priceless but no more beautiful than when the article was first constructed, has been covered. It is natural to like a modern, up-to-date home, but too few of these possess the charm which breathes from those houses where year after year the plain, old-fashioned things have come to be a part of the very family life itself. Things are not necessarily beautiful because they are old, but things which are beautiful should not be sacrificed for anything so ephemeral as style in house furnishings. "Beauty is its own excuse for being."

American Hospital for London

It is probable that London will soon possess an American hospital. A very large sum of money has been promised to found what will amount to a headquarters of the American Medical Association in that city. The headquarters are to consist of a hospital, a library, lecture theaters and demonstration rooms and reading rooms. The new hospital may, it is hoped in some quarters, become a kind of Rockefeller Institute in London.

The Historic Site of Fort Washington on Manhattan Island Preserved

Included in that tract of land on Fort Washington Heights in New York City, belonging to the estate of the late James Gordon Bennett and recently sold at auction, is the site of Fort Washington, where the Continental troops made their last stand on Manhattan Island before they retired across the Hudson to Fort Lee and Hackensack.

The possibility that this historic site would become the property of speculative builders was greatly deplored by all patriotic people who regret the rapidly disappearing landmarks that should properly become the objects of preservation and guardianship.

At the eleventh hour, the American Scenic and Historic Preservation Society has purchased the site with the co-operation of the Sons of the Amercian Revolution. It is the present intention to convert the property into a memorial park.

The property is now marked by a monument commemorating the historic traditions of the neighborhood.

Personal

Berry & Commiskey, architects, have just opened an office at 1237 Real Estate Building, Philadelphia.

Delbert K. Perry, architect, formerly of Unkelbach & Perry, has opened offices at 408 City Hall, New Britain, Conn.

Guy Mahurin, architect and consulting engineer, 519 Lincoln Life Building, Fort Wayne, Indiana, desires catalogues.

MacKenzie & Wiley, architects, 806 Liberty Building, Philadelphia, desire catalogues on materials for building construction.

Berenson & Moses, architects, announce the removal of their offices from 26 State Street, to 1026 Main Street, Hartford, Conn.

Robert Frank Jordon, architect, 4 E. Redwood Street, Baltimore, Maryland, has recently opened offices and desires catalogues.

Architect James Rice, formerly with the Morgan Spring Co., of Worcester, Mass., has moved to 306 Main Street, Worcester, Mass.

Carl Hoermann, architect, formerly of Highland Park, Ill., has opened an office at Room 1414, 8 S. Dearborn Street, Chicago, Ill.

H. A. Brown, architect, First National Bank Building, Trenton, New Jersey, has moved his office to River Bank, Burlington, New Jersey.

Harry H. Hill, architect, P. O. Box 207, Stuttgart, Arkansas, desires catalogues of materials pertaining to construction of hotels and courthouses.

The partnership of Ottenheimer & Stern, architects, has been terminated. Mr. I. S. Stern will continue to practice at 220 S. State Street, Chicago, Ill.

Edward L. Gahl, formerly of Chicago, announces that he has opened an office in the Ione Hotel Building, Guthrie, Okla., for the practice of architecture and wishes samples and catalogues.

B. J. Schwertzer, architect, formerly located in the Record Building, Stroudsburg, Pa., has recently opened an office in the Security Trust Building, and desires catalogues of building materials.

Late News from Architectural Fields

Special Correspondence to THE AMERICAN ARCHITECT

Federation of Art Defines Attitude Toward War Memorials

WASHINGTON, D. C., June 16.—The American Federation of Art through the general committee on war memorials has defined its attitude on forms of memorials. All members and professional advisers have received a communication from Charles Moore, chairman of the general committee, in which the Federation expresses its opposition to the standardized building, monument or tablet.

The chairman states that the particular and fundamental idea which the Federation has in view in taking up the question of War Memorials is to bring the communities and committees in touch with artists, architects, sculptors and painters. The Federation favors the individual memorial made to suit the particular location, to satisfy particular needs and one that will express the patriotic emotions of the individual community.

Mr. Moore believes that if a building is needed, it should accommodate the special requirements of the community. He urges the study of these requirements by the committee in consultation with a person trained in the arts. Members of the Federation are advised to advocate the use of the best materials, getting the best design and carrying out the work in a thorough and adequate manner.

The committee of the American Federation of Art in discussing their views on community buildings reached the conclusion that a memorial building should cost at least $75,000, exclusive of the site. Other views concerning architecture are set forth as follows:

The problem of the community building is difficult. If the building is to have a memorial character it should be architecturally good. This means that it should be located so as to have an adequate landscape setting, preferably with grass and trees. This is a feature to be insisted upon. The structure should partake of the nature of a temple—a place cut off and separated from the commercial activities of the town. It should be what its name implies, a center for the community and for every person in it, a shrine dedicated to the service of just so much humanity as it can possibly reach out to, always beginning at home. For such a building the grove has always been considered the most appropriate location.

Again, the materials of construction should be good. Every portion of the building inside and outside should manifest thorough and enduring workmanship. This means that by far the greater portion of the cost will not make a show to the untrained eye. The man on the street will have to be disregarded and opposed; he never can be convinced. He has no standards of judgment and acknowledges no laws of good taste.

Few people realize what are qualities in a building which impart to it the gift of eternal life. It is true that the Parthenon was ornamented richly; but shorn of its ornaments it still is, even in its ruins, the incarnation of beauty. The subtle harmony of its proportions make it supremely, immortally beautiful.

Then the community building must be adapted to the purposes for which it is to be used. Shall it be the meeting-place for the men and women who were engaged in the Great War against a foreign foe and are now turning the forces for good against the foes of their own household? Shall it have an auditorium, a museum, a library, a bowling-alley, a kitchen? Is it to minister to both mind and body?

All these and perhaps many other elements enter into the problem of the community building; and every building must, by reason of the particular demands of the individual community, differ from every other building. In the same manner, the location imposes special conditions, so that a plan and design adapted to one site might not answer for any other. The goal sought is a perfect memorial. The problems are inherent in the undertaking and must be met. No smooth and easy road can be devised. One cannot buy a memorial as one buys a Christmas present. Time and thought and training are essential if the result is to be worthy of the cause commemorated. Unless the memorial committee approach their task in the spirit indicated; unless they are prepared to pay the cost of thorough work; unless they employ an architect who will support them and lead them into right ways, then they will not build a memorial that will endure.

The minimum cost of a memorial building may be set at $75,000, exclusive of the land. Arrangements should be made to provide maintenance; otherwise the building will soon deteriorate and go to pieces. The only safe way is to provide an endowment fund. This is most easily accomplished at the beginning of the enterprise.

Building Zone Restrictions to be Urged

WASHINGTON, D. C., June 16.—Establishment of a zone system for the construction of buildings in the District of Columbia, to prevent the mushroom growth of unsightly and objectionable buildings, principally in the residential sections of the National City, again will be sought by Senator Calder of New York during the coming session of Congress.

Drastic steps should be taken, in the opinion of Senator Calder, to curb the growing tendency among real estate dealers and builders to mar the beauty of certain sections of the city by the erection of unsightly buildings in strictly residential streets. It is Senator Calder's plan to provide that property owners in these streets shall have a majority right to decide upon the character of new buildings to be erected in their blocks. The consent of 75 per cent of the property owners and residents would have to be obtained before a builder could apply for a permit to build, the final decision to rest with a board to be appointed especially for that purpose.

Such streets as Sixteenth Street, in the smartest section of the Capital, are threatened seriously by the increased amount of building going on in the District, Senator Calder declared, unless measures are taken to prescribe the kind of buildings to be erected.

Restriction would enhance the value of real estate in the residential sections, he indicated, besides preserving the architectural symmetry of the city.

Barge Men Halt Brick Shipments

Brick barge captains in New York harbor have left their boats to enforce a demand for a new wage of $175 a month instead of $125. Unloaders have gone on strike for $1 per 1,000 bricks, an advance of 20 cents. There are six barge loads of bricks in New York to be unloaded, and these bricks will last the present market only about ten days. Brick manufacturers are unwilling to go to prospective customers with the price advance of from $2 to $3 a thousand wholesale in case the new demands were granted and have decided to stop sending brick to this market.

The price of Hudson common brick in ordinary grade in this market to-day is $15 a thousand, to which price the consumer must pay cartage, handling costs and 10 per cent. Before the war the price of this commodity was from $5 to $6 a thousand. If the new wage rate went into effect the base price to the manufacturer, with not more than 6 per cent profit to manufacturers, would be in excess of $16.50 wholesale dock.

To Exhibit an American House at Norwegian Exposition

WASHINGTON, D. C., June 13.—U. S. Trade Commissioner Axel H. Oxholm, recently returned from a two years' study of lumber conditions in the Scandanavian countries, has advised the Department of Commerce of an American architect's intention to exhibit an American house at the Norwegian-American Exposition at Christiania, Norway, next fall. The Bureau of Foreign and Domestic Commerce holds the name of the architect confidential, though his name and business connections will be given out on an approved request.

The architect is scheduled to sail for Norway July 3. He is the representative of a company in Christiania and plans to erect a wooden house built of American material. In order to achieve this result, the architect is desirous of communicating with American firms interested in the exhibition of such material.

Wants Stock Exchange to Trade in Mortgages

Loans Should be Made More Attractive to Investors, Says New York City Tenement House Commissioner

DECLARING that if facilities are provided for the sale of building bonds and mortgages on the Stock Exchange in the same way as railroad and municipal bonds and mortgages are sold that construction will proceed with greater speed, Frank Mann, New York City Tenement House Commissioner, this week cited his chief reasons why it has been hard to obtain loans in sufficiently large amounts, from the point of view of percentage, compared with the cost of the building and the amount of the loan.

"In pre-war times," said Mr. Mann, "the amount of money loaned upon a building would be about 60 to 65 per cent. on first mortgage at 5 per cent. interest. The banks and the title companies and the mortgage and bond companies, which were the principal agencies through which money was obtained, made loans upon that basis.

"Under present conditions capital seems to be timid and lenders are apprehensive that if they made loans upon the old basis to-day within four or five years the value of the building—that is to say, the cost of construction, labor and material—would be lower to such an extent that a building erected now would then have to meet the competition of lower prices and would be lowered in value accordingly. The companies do not want to loan now more than 60 or 65 per cent of what would have been the cost of construction in pre-war times, or what it might be five years from now.

"My suggestion, or rather my views, on the subject are that if capital would be less timid and would realize—and the public would realize—that it is probable there will not be any change in the cost of construction—any lessening in the price of labor and material for the next ten years—and therefore it would be perfectly safe to invest in mortgage loans on the same percentage basis on the cost of construction as in pre-war times, there would be considerable stimulation in building enterprise."

When asked if he thought capital could be induced to lend itself to aiding building operations if some way could be found to adopt a ten-year semi-amortized mortgage, Mr. Mann said:

"It would be still better to adopt a twenty-year amortized mortgage. Since the Federal Government has organized and created a law organizing the Federal Farmers Loan Bank to aid agriculturists, the same thing might be done to aid real estate interests and to aid housing in cities. In other words, a mortgage loan bank might be created."

Mr. Mann said he believed there would be a flood of money to lend if Federal and State Governments would exempt from income taxation the interest received by the holder of a mortgage of $5,000 or less, which was a lien upon a home.

"There is another reason why mortgage money is not available," went on Mr. Mann, "and that is that a mortgage investment is not a liquid asset like an investment in mortgage railroad bonds or municipal bonds or industrial bonds, that pay practically the same rate, or even a larger one, to-day. In addition the man who has a mortgage investment cannot even borrow money on it and offer it as collateral in a bank, except in limited quantities. The banks in our States are prohibited from accepting real estate mortgages as collateral in excess of a limited percentage of their capital and surplus.

"I believe that facilities should be provided for the sale of bonds and mortgages on the Stock Exchange in the same way as railroad and municipal bonds and mortgages are sold. It could be done by a feasible plan whereby the State under the Torrens system, or some of the title companies, could guarantee the validity of the titles and the validity of the mortgage itself."

When asked if he thought the real estate borrower should be placed on the same level with the commercial borrower, who now has the advantage, Mr. Mann answered:

"It is my contention that it should be less difficult to obtain mortgage loans, or rather they should be made more attractive to induce capital to invest in them."

"Is it not a fact," it was suggested, "that the reason the financial status of the owner of a building, or the bondsman, is not taken into account is the very general custom of having a bond made by a so-called dummy when the mortgage is given?"

"I do not know if that is always the case. It has become a custom among real estate borrowers to have the property in the name of a dummy, and then have the mortgage made and transferred back to the original owner, but that is not always so."

Although the assessed valuation of real estate should be taken as a fair guide by appraisers of property, Mr. Mann said it could not always be regarded as final.

"The assessor takes into consideration the cost of construction, the character of the building and the use it is put to," explained Mr. Mann. "For instance, a man may erect a mansion that costs him a million dollars, and the city may assess it at a million dollars, yet the actual market value if the building were offered for sale might not be $500,000 within a year after it was erected."

Increased Production Logical Remedy for Expected Labor Shortage and Higher Building Material Costs

FURTHER complaints regarding the difficulty of obtaining labor sufficient for increased construction work now under way, which were accentuated this week by reports that thousands of foreigners are about to leave this country for their native lands with millions of American dollars, is expected to force a decidedly more acute labor situation before the summer is far advanced. This development confirms the recent statement of the United States Employment Service to the effect that if the decrease in unemployed labor continues at the same rate—approximately 10 per cent weekly—much longer there will be a serious shortage.

If there is to be a pronounced depletion of labor during the coming months, a period which will undoubtedly show the greatest amount of building operations ever known in this country, it will probably result in higher wages. This, in turn, may be reflected in increased costs of building materials, prices of which are now holding firm in all markets with the exception of an upward tendency in lumber and brick.

It therefore becomes necessary, if in the future, labor maintains its present wage scale or goes to new high levels, that production must be increased to the highest possible point. By this means there would result no further advance in commodity prices. As conditions develop it will be less difficult to impress on organized labor the fact that the only way in which it can hope to maintain the present high scale is to encourage the fullest measure of production.

It is inconsistent to maintain that there will be any decided cheapening of labor in the near future, and any hesitation as to the starting of building projects based on a lower scale of wages will not be justified. Since 1914 there has been a tremendous narrowing of the labor supply. It is estimated that a million men left this country before we entered the war. These men returned to Europe in response to the call to arms of their native countries. Now the men who made big money in various war enterprises here are returning to settle and spend it abroad. It is predicted that at least a million men will remain in the army and navy and their branches at the close of the year. In addition, this country is short the millions of immigrants that normally would have reached here during the past three years.

All these factors indicate that in the not distant future when normal building activities are resumed they will have a large influence on labor conditions in the United States and that there will exist a shortage of men in all lines of work. This means that to a greater extent than ever before does the problem of labor inject itself into every economic question. By what terms shall we describe a labor system that permits thousands of people to suffer for want of proper housing while labor all over the country is seeking employment?

Restricting the law of supply and demand has in the past been so insistently practised that it has become accepted by labor as a rule and guide of their organizations. Seeking to maintain high costs by restricting supply is now demonstrated as fallacious. The reacting influence is shown to be always detrimental to labor. Labor is beginning to learn this salutary lesson, and further to realize the error of their stoutly maintained contentions. It is productivity that really is the test.

Pomeroy Burton of England in an address on labor conditions in that country has clearly pointed out that the chief errors of trade unionism have been the deliberate and persistent policy of restricting output and the opposing of the introduction of labor saving machinery. He directed attention to the relatively greater prosperity of the United States, and stated that it was because the average production per workman in this country is three times that in England.

The attitude of organized labor is becoming broader and shows a better inter-relation with capital. It is showing in the solution of its problems the same business principles and patriotic impulses that should properly dominate a group of men whose influence is so far-reaching and whose scope for bettering working conditions is so wide. This is very emphatically shown in the recent statement made by Hugh Frayne, general organizer of the American Federation of Labor, in which he said that union labor's interest in putting down Bolshevism in America is equal to or greater than that of any other class. This declaration that organized labor is not tainted by Bolshevik unruliness is most sane and it is to be hoped that the convention of the American Federation this month will heartily endorse Mr. Frayne's statement. He said, for all trade unions:

"They don't want to confiscate. They don't want to seize property. They don't want to live in idleness. They believe that capital deserves a decent profit on its brains and investments. They want to keep America as she has been for a century and a third. Those are our ideals and the convention is likely to express them."

(*Continued on page 868-A*)

Beaux-Arts Institute of Design

Director of the Institute—LLOYD WARREN

Architecture—WILLIAM F. LAMB. *Sculpture*—JOHN GREGORY.

Interior Decoration and Industrial Art Design—ERNEST F. TYLER. Mural Painting—ARTHUR CRISP.

(*See plate section for illustrations*)

Official Notification of Awards—

PROGRAM

CLASS "A"—III PROJET

The Committee on Architecture proposes as subject of this Competition:

"A COLLEGE GROUP"

The subject of this projet is the group plan of a new college for men on a country site, four miles from a large city. It is enough in the open country so that a certain informality would be appropriate—but near enough the city so that formality if desired would not be out of place. Of the 800 students, 500 will live in residence in the college dormitories, the other 300 coming each day from the city and neighboring towns.

The property is a rectangle 800 ft. by 1200 ft., with the long axis running north and south. Across the north end is the main automobile and trolley road, which is the chief approach to the college. On the opposite side of this road is a residential park where the President and faculty have their houses, and where the infirmary is located. The property is bounded on the South by a large lake with extensive views to the South. The level of the main road is 60 ft. above the level of the lake—an even slope of 1 ft. in 20 running between the two. As no rock exists this slope may very readily be changed if so desired into several terraces at different levels.

An Athletic Field should be arranged for on the site, comprising a full ¼ mile oval cinder track, with 200 yards straightaway—with football and baseball fields alternately inside the oval. At least four tennis courts are desired as near this main field as possible.

Vehicle access is only desired for service approach to the buildings. No driveways within the site will be used by students or visitors, who will be entirely on foot inside the college grounds.

The Buildings may be grouped in quadrangles if desired, but should not be continuous. They should be separated at places for light and air, as suitable to a country site. For this reason also, none of the buildings should be wider than 60 ft.—and some of them, such as the dormitories, might well be as narrow as 40 ft.

The following buildings should be arranged in the groups mentioned as far as possible. The ground area of each building may vary 10 per cent more or less from the areas given below:

COLLEGE GROUP:

	sq. ft.
Library and Administration	6,000
Academic Buildings (1 or 2) to total	10,000
Science Museum	6,000
Science Buildings (1 or 2) to total	10,000
Auditorium and Chapel (to seat 1000)	8,000

RESIDENCE GROUP:

Dormitories for 500 men (at least 4 buildings)	40,000
Dining Hall	6,000
Students' Activities Building	5,000

SERVICE GROUP:

Kitchen and Service (connected to Dining Hall by Serving Pantry)	2,000
Laundry	2,000
Power Plant (at low level)	5,000

ATHLETIC GROUP:

Gymnasium	6,000
Indoor Swimming Pool	3,000
Boat House	2,000
Uncovered Grand Stand	6,000

JURY OF AWARD: F. A. Godley, H. W. Corbett, J. F. Harbeson, L. H. Burnham, D. J. Baum, Mr. Blum, F. H. Haskell, H. A. Davenport and Paul Cret.

This Jury also served as Jury of Award for the Class "A"-III Esquisse-Esquisse the Class "B"-III Esquisse, Archaeology-III Projet and Archaeology-III Measured Drawings.

Number of drawings submitted—38.

AWARDS:

FIRST MEDAL:—J. P. Roberts, J. K. Smith, A. C. Bieber and W. H. Livingston, Univ. of Pennsylvania, Philadelphia.

SECOND MEDAL:—A. E. Middlehurst, Cornell Univ., Ithaca; B. Laub, "T" Square Club, Philadelphia; H. G. Antenen and S. B. Baylinson, Univ. of Pennsylvania, Philadelphia.

MENTION:—D. F. Levy, N. M. Tinkham, Y. C. Lu, R. Bailey, A. F. Darrin, E. T. Seeley and R. E. DeWolfe, Cornell Univ., Ithaca; W. H. Wolcott, F. R. Schreyer and L. W. Devereux, Columbia Univ., N. Y. C.; R. H. Segel, Patrons G. & E. Blum, N. Y. C.; S. H. Brown and T. E. Ash, "T" Square Club, Philadelphia; E. W. Beacham, P. F. Taylor, L. D. Cook, H. L. Stone, A. Levy, H. M. Klaisz and S. H. Gordon, Univ. of Pennsylvania, Phila.; W. F. McCaughey, Jr., Univ. of Illinois, Urbana; H. I. Feldman and D. W. Orr, Yale Univ., New Haven.

H. C.:—E. P. Vianna, Univ. of Pennsylvania, Philadelphia.

Department of Architectural Engineering

A Typical Complete Water Supply System for Installation in Garage Basements

By J. Albert Deyo

A MOST satisfactory method of solving the important question of water supply in country residences is the installation of a private system in the garage or garage basement. The accompanying illustrations show the home of Everett L. Brown at Red Bank, New Jersey, and the garage where the system of water supply is installed, together with a drawing of the system itself.

Residence of Everett L. Brown, Red Bank, N. J.—Ernest A. Arend, New York, Architect.

The advantages of such a location are many, while objections are practically absent. By locating the well in the basement, it is possible to place the pump directly over it, obviating the necessity of a separate pump house, with the attendant disadvantages of cost of erection and heating. If a manhole or other opening is provided over the well, it is entirely practical to remove the lower cylinder for inspection or repair, without extra inconvenience, and at minimum cost.

As the chauffeur usually is given the charge of caring for the plant, the location, from this point of view, is ideal. While caring for the cars, it is a simple matter for him to give the water system all the attention it needs, without interfering with his other work. The pump is less apt to suffer from lack of attention, when so located, than if it were placed, as is commonly the practice, in a separate pump house or in the basement of the residence.

While the best pumps are practically noiseless, there is always more or less sound, especially when the motor first starts or in the case of an engine driven plant, when the engine is running. As the garage is usually located at least a few feet from the main house this disadvantage is entirely overcome by the method here suggested.

In planning a home of this type, space in the basement is many times at a premium and as a system of this kind requires a room at least twenty feet by twelve feet, it is frequently much more convenient to arrange for this in the garage. The logical place for the storage of oil and gasoline is also in the garage, and by confining all of the machinery to this one building the odor and inconvenience may be kept there and away from the main house which is very desirable.

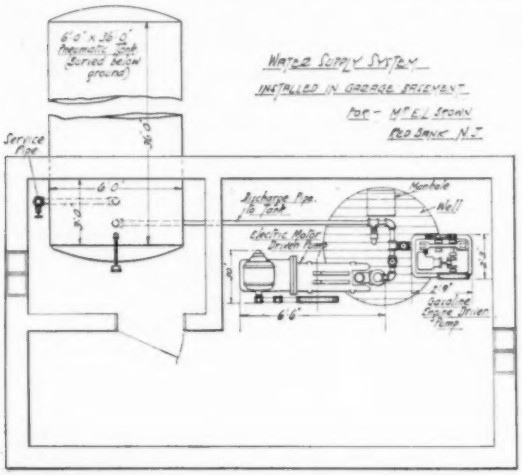
While it was not found advisable to do so in this case, it is many times practical to include the heating furnace or boiler in the garage, near the water supply system. This is especially practical if the method of heating is steam or hot water. All dust from coal or ashes is thus effectively banished from the home, without loss of efficiency.

By properly protecting the heating pipes between the garage and the house there is practically no loss of heat in transmission. A good insulating material

Garage of Everett L. Brown, in the basement of which is installed his private water supply system.

around the pipes will absolutely protect them and, as they are laid below frost line, they will need no attention for an indefinite period of time. Municipal heating plants convey steam for many blocks and still the companies are able to give very satisfactory service. In practically all large buildings and institutions, where land is not so valuable as to make such a scheme prohibitive, heating plants are placed in separate buildings.

The size of the water supply system depends entirely on the service which it is expected to give. In some instances the main source of supply is secured from public service mains and the private system is only used for soft or cistern water. In other cases the well furnishes all of the water and in still other



Drawing showing installation of private water supply system in basement of garage of Everett L. Brown.

installations both soft and hard water are furnished by private plants.

In the case of the house illustrated, the private system of water supply was depended upon to furnish all the water used on the place from the well. In order to make the installation entirely self-contained and, if necessary, independent of any other service, a motor driven pump was installed for general use to furnish the ordinary supply, but an engine driven pumping unit was installed with the tank, in case of emergency. As the entire buildings are dependent for fire protection upon this water system, it will be readily seen that this is a wise provision. Even should there be a fire which burned off the electric wires and thus put the motor out of commission, the water system would still be able to furnish water, by means of the auxiliary gasoline engine.

As this installation is somewhat unusual but still a highly practical and desirable one, a description will undoubtedly prove of interest. The pneumatic tank, in which the water is stored under pressure, is six feet in diameter by thirty-six feet long. It is buried under ground, at a depth protecting it from frost and at the same time insuring water of an even temperature the year round, regardless of weather conditions. One end of the tank extends through the basement wall, three feet into the garage space. On this end of the tank are mounted both the water and pressure gauge and a glance at them indicates the amount of water left in the tank and the pressure.

A tank of this size has a total capacity of 7,610 gallons but as it is one-third filled with air, to provide the necessary cushion, the actual water storage or working capacity is 5,140 gallons. Starting with the tank two-thirds full of water under a pressure of seventy pounds, four thousand gallons of water are available before the pressure falls below twenty-five pounds. As twenty-five pounds pressure is equivalent to a height of 57.72 feet, it will readily be seen that in addition to a plentiful supply of water for ordinary purposes an installation of this kind gives excellent fire protection.

The motor driven pump, which is used under all ordinary conditions is the larger of the two, and has a capacity of 20.7 gallons of water per minute. The pump is equipped with a differential cylinder and furnishes air with the water to the pneumatic tank, so that no auxiliary air compressor is necessary. It is operated by a four horsepower motor and will work against a maximum pressure of one hundred pounds per square inch. As the tank is tested under a pressure of one hundred and twenty-five pounds per square inch this gives a system from which exceptionally high pressure may be secured if necessary.

The pump is automatically controlled, so that it needs no attention other than an occasional oiling or cleaning. For an installation of this kind an automatic regulation of twenty pounds variation is sufficiently close. That is: when the pressure in the tank reaches a pre-determined point, say forty pounds, the automatic device stops the motor. When sufficient water has been used from the tank to lower the pressure twenty pounds (in this case to twenty pounds per square inch), the automatic device throws in and the pump is started running until the higher pressure is again reached.

With a pump of this capacity and a tank of this size, starting with an initial pressure of seventy pounds and the tank two-thirds full of water, there is instantly available 4,000 gallons of water and this is augmented by the pump capacity so that there may be used during the first hour 5,246 gallons of water at a maximum pressure of seventy pounds, and a minimum pressure of twenty-five pounds. The auxiliary engine driven pump could also be

Motor driven pumping unit installed for Everett L. Brown

started, increasing the capacity by 770 gallons.

This capacity is sufficient to keep approximately two five-eighths inch fire nozzles working simultaneously for one hour. Starting at seventy pounds pressure these nozzles would throw a stream nearly one hundred and ten feet high and even at the minimum pressure of twenty-five pounds, the height of the stream would be forty feet. As this water is instantly available it gives a fire protection at least equal to that to be obtained in most cities, and this is taken into consideration by the fire underwriters in determining the insurance rates.

The auxiliary pump consists of a combined gasoline engine and deep well pump, direct connected by gears. Both this pump and the larger one are mounted directly over the well and are connected to the same discharge pipe. Gate valves are placed in this discharge line so that either pump may be cut off from the system. Under ordinary conditions the gate valve between the motor driven pump and the tank is left open so that the automatic device may control the operation of the pump, depending upon the tank pressure. In the event of an accident to the electric current or a break down of the larger pump it is only a matter of closing this valve and opening the one on the auxiliary pump discharge line, before the other pump is in commission and working without causing inconvenience.

The engine driven pump is also equipped with an automatic stopping device, so that it may be started and then left without attention. When the pressure in the tank reaches the pre-determined working pressure, the engine and pump will be automatically stopped. While both pumps are equipped with automatic devices, the best practice is to install a relief valve in the discharge line, between the pumps and the tank for added safety.

With such a relief valve installed, the machinery is protected against any undue strain which might be caused by failure of the automatic devices to work, causing excessive pressure in the tank. Such pressure might also easily cause a break in the plumbing and considerable damage to furniture and decorations before it became known. The relief valve is therefore installed and set at a pressure usually five pounds over the maximum working pressure. Should the automatic devices fail, this valve opens as soon as the pressure increases five pounds over the maximum and, in this case, discharges the water from the discharge pipe back into the well. While this does not stop the pump it effectively protects the machinery and plumbing from excessive pressure, which is sufficient.

The following specifications are suitable for an installation of this kind and may be used for similar work, with minor changes to meet local conditions:

Specifications

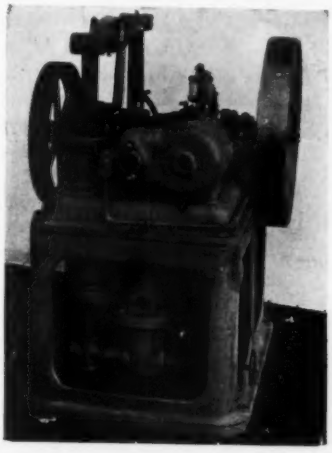
The contractor to furnish and install complete, where shown on plans and in accordance with these specifications and following the details and instructions furnished by the manufacturer, one complete water system consisting of the following:

Equipment

One six foot by thirty-six foot plain pneumatic tank, having a total capacity of 7,610 gallons and a working capacity of 5,140 gallons. Tank to have manhole in head and to be tested under a pressure of 125 pounds per square inch and guaranteed by the manufacturer for a working pressure of 75 pounds per square inch. Tank to have longitudinal seams double riveted lap joint. Shell to be of five-sixteenth inch steel and heads of one-half inch steel.

One stringer containing two water gauges and one pressure gauge.

One deep well pumping unit, consisting of long stroke working-head fitted with differential plunger and having a capacity of 20.7 gallons per minute from a depth of 200 feet against a maximum pressure of 100 pounds per square inch, belt driven by a four horsepower, 110-220-volt, 60 cycle, single phase alternating current motor, mounted on cast iron subbase.



Auxiliary engine driven pumping unit installed for Everett L. Brown

One automatic starting and stopping device for

electric motor with not to exceed twenty pounds variation between maximum and minimum pressures.

One deep well pumping unit, consisting of deep well pump, fitted with differential plunger and having a capacity of 12.8 gallons per minute direct connected by means of gears to a two horsepower gasoline engine, mounted on the same cast iron sub-base.

One automatic stopping device for gasoline engine.

40 feet of 3½ inch galvanized drop pipe.

40 feet of 2¼ inch wood rod.

One 3¼ inch by 16 inch all brass artesian well cylinder.

Connections for three inch service pipe.

Connections for three inch discharge pipe.

One 1½ inch all brass water relief valve.

One 2¾ inch by 10 inch all brass artesian well cylinder.

Forty feet of three inch drop pipe.

Forty feet of 1⅝ inch wood rod.

Connections for 1¼ inch discharge pipe.

Both pumps to be equipped with devices for furnishing air and water at the same time, so that no auxiliary air compressor will be necessary. Pumps to have combined air chambers and check valves. Valves to be hard rubber disc on bronze seat. All bearings in pumps and engine to be fitted with removable bronze bushings. All pins, shafts and plungers to be ground to perfect circle and mirror finish. Both units to be furnished complete with sight feed oilers, hard oil cups and necessary tools for repair or adjustment, if special tools are required.

Settings

Pressure tank: Tank to be buried underground, at sufficient depth so that water will be below frost level when tank is full, with head extending three feet inside basement wall. Tank to be carefully set in place on wood bases or sand cushion, which shall be free from stone or other hard substances, and not to be allowed to be dropped or to fall. After tank has been set and all connections made, the outside surfaces shall be cleaned free of all dirt and rust spots, using a steel brush. The surface shall then be given two coats of asphaltum varnish, allowing the first coat to dry before the second coat is applied.

Motor driven pumping unit: The motor driven pumping unit shall be installed directly over the well, as shown and fastened in place by anchor bolts set in concrete floor. Sheet lead cushions shall be used in making the pumping unit set perfectly level; these lead cushions to be placed at corners of pump and motor frame, with anchor bolts extending up through the cushions.

Engine driven pumping unit: The engine driven pumping unit shall be installed directly over the well, as shown, and fastened in place by anchor bolts set in concrete floor. Sheet lead cushions shall be used in making the pumping unit set perfectly level; these lead cushions shall be placed at the four corners of frame, with anchor bolts extending up through the cushions.

Connections

Install the 3¼ inch by 16 inch cylinder in the well for the motor driven pumping unit, using forty feet of 3½ inch pipe and 2¼ inch wood rod. The drop pipe and rod to be cut to proper length, in accordance with instructions furnished by the manufacturers of the pumping unit.

Install the 2¾ by 10 inch cylinder in the well for the engine driven pumping unit, using forty feet of 3 inch drop pipe and 1⅝ inch wood rod. The drop pipe and rod to be cut to proper length, in accordance with instructions furnished by the manufacturers of the pumping unit.

Well casings to be cut off above the pump room floor and threaded by this contractor, who is to furnish and install stuffing boxes, packing nuts and reducers to make water tight joints between the drop pipes and well casings.

Install a three inch discharge pipe from the motor driven pump to the tank. On this pipe install one three inch gate valve near the pump, as shown on drawing and a two inch water relief valve on this pipe between the pump and gate valve and run waste pipe from relief valve to discharge into well.

Install a one and one-quarter inch discharge pipe from the engine driven pump to the three inch discharge pipe, making the connection between the gate valve and water relief valve. On this pipe install a one and one-quarter inch gate valve and a one inch water relief valve between the pump and gate valve and run waste pipe from the relief valve to discharge into well.

Install and connect automatic starting and stopping device for electric motor in accordance with details furnished by manufacturers. Install and connect automatic stopping device for engine in accordance with details furnished by manufacturers.

Install a three inch service pipe from the pressure tank. On this service pipe install one three inch all brass angle valve.

Workmanship

All work in connection with the installation of the water supply system to be done in a neat and careful manner by competent mechanics. All pipe and fittings to be of merchant stock and of full internal diameter through entire length. All pipe ends to be reamed after cutting.

TEST: A test of 75 pounds per square inch shall be applied to the discharge and service pipes and the service tank. The pressure tank shall be filled two-thirds full of water and the service and discharge pipes shall be filled full of cold water. This test to be applied for a period of three hours in the presence of the architect or his representative, without loss of pressure. Should any leaks appear in the discharge or service pipes, these leaks shall be made perfectly tight in the usual manner. Any leaks appearing in the pressure tank shall be made perfectly tight in accordance with instructions furnished by the tank manufacturers. Such installations should give entire satisfaction.

Short Cuts to Accurate Calculations

The Reinforced Concrete T-Beam

By E. A. KUNZE, *Architect*

IN the following analysis we will attempt to criticize the reinforced concrete T-beam with a view to laying down some recommendations which it is hoped will lead to safer if not more economical design.

The majority of tests on T-beams have been confined to the single span, freely supported at the ends, and the results of such tests agree quite closely with calculated values. However very little practical information can be gained from these results since a simple beam of this type is rather the exception than the rule in ordinary building construction. Tests on the continuous and restrained beam generally show considerable difference between actual performance and calculated values, but whereas this difference is on the safe side, it nevertheless indicates a lack of economy in design.

Not so long ago it was the practice of some engineers to design their continuous beams for a moment of $\frac{WL}{8}$ at the center, assuming thereby that the added stiffness would reduce the bending moment at the support, only enough steel being introduced at the support "to tie the beams together." This can easily be proved to be not only a dangerous but a highly uneconomical design. In all continuous beams a definite moment exists at the supports and enough section must be provided to take up the stresses developed.

It is very commonly recommended that the unit compressive stress in the concrete at the support end of a continuous beam be increased to say 750 pounds per square inch when the normal value is 600, with the explanation that the moment changes very rapidly at this point and only a small section of the beam is affected. It is somewhat doubtful whether this assumption is warranted. Since the shearing value of the concrete at this point is somewhat disturbed due to the tension cracks which must necessarily occur to bring the steel into full action, and the proper inspection of the installation of the concrete in this location is likely to be overlooked, it would seem that a lower rather than a higher than normal unit stress should be adopted. With a view, however, to the rapid growth of our knowledge in the mixing and placing of concrete and considering the fact that the usual maximum safe stress allowed in the steel is as much as one-half the elastic limit whereas the stress in the concrete is based on a factor of safety of 4 or 5, it would seem that the time is not far off when the allowable safe unit stress in the concrete will be placed at about 700 pounds per sq. inch.

On the basis of quantity of materials, economical design calls for haunched beams. In so designing, the flanges at the center of the beam can more fully be brought into action and with the increased depth of beam at the support a more economical section obtains throughout. This type of beam, however, requires more complicated form and rod work and on the whole a beam of constant section throughout the span may very well prove more advantageous. In this case the flange of the T-beam holds very little theoretical importance and in the continuous girder may be almost entirely neglected. Our theoretical section, therefore, is rectangular throughout. If we introduce 1 per cent of steel in the tension side and 0.5 per cent in the compression side the compressive stress in the concrete is about 650 pounds per square inch. This condition obtains where we bend up one-half the rods in each span and carry them over the support. One-half of the rods would remain in the bottom and form the 0.5 per cent of compressive reinforcement at the supports. At the center of the span we would thus have 1 per cent of steel. Considering the rectangular section throughout, the moment of resistance at the center of the span becomes approximately 100 per cent of the moment of resistance at the support. That we have approximately 760 pounds per square inch stress in the concrete at the center of the span is of no consequence since we have the

flange to reduce it. We have assumed our steel stress at 16,000 pounds per square inch. It will be seen that this stress is somewhat reduced due to the flange raising the neutral axis.

If we were to introduce more steel than here specified we would increase our concrete stresses at the support and if we were to reduce the steel we would have a less economical beam throughout. It will be seen that the girder so designed for interior spans would fulfill the moment requirements recommended by the Joint Committee on Concrete and Reinforced Concrete, that is, $\frac{WL}{12}$ at both the support and center of the beam.

It is somewhat doubtful, by the way, whether these moment recommendations will stand in future practice.

It seems to the writer that for interior spans the moment at the center should be assumed at say 75 per cent. of or at least somewhat less than the moment at the support. On account of the actual span between columns being less than the theoretical span (center to center of columns), the moment at the ends of the beams and girders framing into interior columns may be taken at $\frac{WL}{12}$. For beams framing into girders, however, the moment at the support should be fixed at $\frac{WL}{10}$, it being assumed that the tortional deflection of the girder will make the actual and theoretical span practically identical.

Were the continuous girder resting on knife edge supports, the moment at the center of an interior span would be approximately $\frac{WL}{12}$ and at the support $\frac{WL}{10}$ for maximum conditions of loading. Were the span framed into inflexible columns it would become a beam with fixed ends, our moment at the center being $\frac{WL}{24}$ and at the support, $\frac{WL}{12}$.

The two cases mentioned are extremes. Between them lie the cases where the continuous girder is partially restrained by the columns. In the majority of cases the maximum moment at the center of the span is substantially less than the maximum moment at the support. Add to this the fact that the shear considerations at the center of the beam are of no consequence in complicating the internal stresses at that point and reason would seem to dictate that a reduction of moment in the center as against the moment at the support would be amply warranted.

The design of the outside span should be governed by the special considerations usually existing at that point but the moment at the center of the span framing into columns should not be taken at less than $\frac{WL}{12}$ nor less than $\frac{WL}{10}$ where it frames into a girder. Considering all the points mentioned we may finally make the following recommendations for the beam of constant cross section (the beam without haunches). The bending moment at the support for interior beams framing into girders shall be $\frac{WL}{10}$ and for interior beams and girders framing into columns $\frac{WL}{12}$.

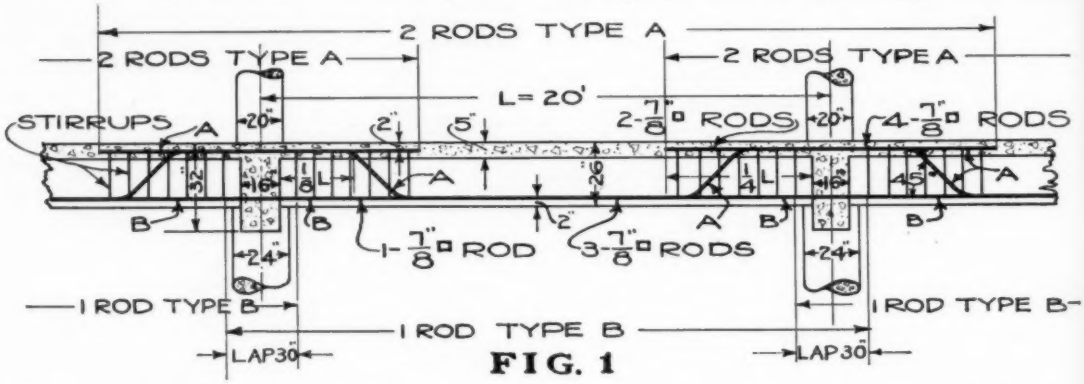


FIG. 1

The effective section of the continuous beam and girder shall be rectangular throughout. There shall be 0.75 per cent of steel at the center of the span, 1 per cent of steel in tension and 0.25 per cent in compression, at the support.

By so arranging the steel we will have very closely a compressive stress of 640 pounds in the concrete and a tensile stress of 16,000 pounds in the steel at the center of the beam, and 700 pounds in the concrete and 16,000 pounds in the steel at the support. On the same basis the moment of the resistance at the center of the beam is very closely 75 per cent of the moment of resistance at the support.

In designing it will only be necessary to calculate the section at the center of the span.

The center moment of interior beams framing into girders is to be calculated for a moment of

$$M=0.75\times\frac{WL}{10}=\frac{WL}{13.33}.$$

The center moment of beams framing into columns is to be calculated for a moment of

$$M=0.75\times\frac{WL}{12}=\frac{WL}{16}.$$

By introducing the unit moment of resistance into these equations we have for the effective depth of the beam in the first case $d=\sqrt{\frac{WL}{1400b}}$ and for the second case $d=\sqrt{\frac{WL}{1700b}}$.

The total load applied to a girder may be considered as uniformly distributed.

In the following example (illustrated in Fig. 1, page 866) we will design an interior beam framing into girders.

The distance center to center of columns is taken as 20 ft. 0 in. in both directions.

The beams are spaced 6 ft. 8 in. center to center.

The live load is 200 lbs. per sq. ft.

The slab weighs 60 lbs. per sq. ft.

The stem of beam weighs 300 lbs. per lin. ft.

The total assumed dead and live load on the beam is thus

$W=(260\times 20\times 6\ 2/3)+(300\times 20)=40{,}666$ lbs.

Assuming the width of the beam to be b=12 in. the effective depth becomes

$$d=\sqrt{\frac{40{,}666\times 20\times 12}{12\times 1400}}=24 \text{ in.}$$

The rod area at the center of the beam is thus $0.0075\times 24\times 12=2.16$ sq. ins., or three 7/8-in. square rods. Two of these rods are bent up and together with the two bent-up rods from the adjacent span make the required 1 per cent of reinforcement in tension at the support. The remaining rod at the bottom of the beam forms the 0.25 per cent of compressive reinforcement at the support. The rods in tension at both the center and the support are thus stressed to 16,000 pounds per sq. inch. The compressive stress in the concrete at the support is 700 pounds per sq. inch.

The distance from the face of the girder to the upper bend in the two rods is one-eighth of the span and the distance from the face of the girder to the end of the two rods from the adjacent span is one-quarter of the span. A few stirrups are introduced to take up the excess longitudinal shear.

Physical Properties of Dense Concrete as Determined by the Relative Quantity of Cement

UNDER the above title the University of Texas has just issued a bulletin containing information to those having to do with concrete construction. There seems to be no doubt that our present method of specifying concrete mixtures is defective. A thorough study and analysis of the results of tests, such as those made by the University of Texas, the University of Illinois, the Lewis Institute and others, will help us to proportion concrete mixtures on a more scientific basis, so that maximum strength may be attained with the minimum use of cement.

This recent bulletin shows how the compressive, tensile and transverse strengths and other physical properties of dense concrete vary with the per cent of cement used in the preparation of the concrete. Thereby the designer and the builder of concrete structures is enabled to effect the greatest possible economy in the use of concrete by requiring the fine and coarse aggregate for the concrete to be mixed in such proportions as will secure a dense mixture, and adding only such a per cent of cement as is necessary to produce the strength or other physical properties desired in the concrete. In these tests the usual method of specifying cement, fine and coarse aggregates is dispensed with, and the quantity of cement per cubic yard of concrete is substituted. The proportions of sand and gravel or broken stone used were designed to produce maximum density, the cement content being the variable, ranging from 1.66 to 12 sacks of cement per cubic yard of concrete. Concrete was aged from 12 days to 3 months at the time of testing. A study of the curves platted from the many tests indicate a rapid increase in compression strength as the cement content increases from 1.66 to 6 sacks per cu. yd. This latter would approximate a 1:2:4 mix. The curves then become flatter but show a further increase in strength up to 9 sacks per cu. yd. of concrete. This would represent about a 1:1½:3 mix. Mixes richer than this appear to add practically nothing to the strength of the concrete.

The modulus of elasticity increases up to a 6-sack per cu. yd. mix, after which it remains at practically the same value for the richer mixes. The ultimate tensile strength and modulus of rupture also increase but little beyond the same mix.

The bulletin is for free distribution on application to Publications Committee, University of Texas, Austin, Texas.

How to Make Factory Roof Timbers Last Longer

ALTHOUGH there is scant information on the service and cost of treated roof timber in cotton mills, paper mills, and other buildings where high humidity causes rapid decay, a number of preservative treatments which it will undoubtedly pay to use may be suggested.

Preserving Timbers by Steeping Process

The steeping process consists merely in soaking the timber in a water solution of a preservative such as zinc chloride, sodium fluoride, or mercuric chloride. The wood must be thoroughly seasoned. It is left in the solution one day for each inch in thickness and one additional day. After treatment, the timber should be air dried before using. Specific directions for the use of this process (and they are especially necessary for handling mercuric chloride) may be secured from the Forest Products Laboratory, Madison, Wisconsin. Zinc chloride attacks lead paints, but is very desirable otherwise. Mercuric chloride is very effective, but is poisonous and has a decided corrosive action on steel, so that steel tanks cannot be used with it. Sodium fluoride does not attack paint, is not corrosive, and in most other respects is very desirable.

Non-Pressure Creosote Treatments

Timbers may be coated with coal tar creosote by a brush treatment, by dipping in hot oil for 5 to 15 minutes, or the hot and cold bath method. This last method consists in submerging the lumber in hot oil for several hours and then either allowing the oil to cool down slowly with the wood in it or plunging the wood into cool oil and leaving it for several hours.

Coal tar creosote is objected to by some insurance companies as a fire hazard, but whether or not it really does add greatly to the inflammability of wood is a debatable question. The odor of creosote may be objectionable in food storage rooms, but is not usually displeasing to workmen. Creosoted wood cannot be painted over successfully because the oil quickly comes through the paint and discolors it.

Pressure Treatment

Although pressure treatments are the most expensive, they are the most effective because they result in the greatest absorption and penetration of preservative. Roof planking should receive 8 to 12 pounds of creosote per cubic foot, or ½ pound of the salt if zinc chloride is used. Such treatment should add at least 20 years to the life of roof plank.

Effectiveness of Treatment

The effectiveness of treating timber depends upon maintaining a complete envelope of treated wood around the untreated interior of the piece. If this treated layer is broken through, decay can enter and destroy the untreated interior in spite of the treated outer layer. For this reason lumber should be cut to final dimensions before treatment. Whenever it becomes necessary to cut into treated timber the untreated wood exposed by cutting should be given two brush coats of creosote or some other preservative.

The addresses of wood treating companies adjacent to any given locality may be obtained from the Secretary of the American Wood Preservers' Association, Mt. Royal Station, Baltimore, Md., or from the Forest Products Laboratory.

Notes of Interest

ANNUAL MEETING OF THE AMERICAN SOCIETY FOR TESTING MATERIALS

The Annual Meeting of the American Society for Testing Materials will be held at Atlantic City, N. J., June 24-27, 1919. The Hotel Traymore will be the headquarters.

APPOINTMENT IN CIVIL ENGINEERING

The Board of Governors of the University of Manitoba, Winnipeg, Man., Canada, announces that it will proceed shortly to appoint a Professor of Civil Engineering to take charge of the Department, at an initial salary of $3,500 per annum. Applications for the position, accompanied by a full statement of training and experience and ten copies of testimonials, will be received by the Secretary of the Board of Governors, up to July 15, 1919.

BUSINESS TRAINING FOR ENGINEERS

The Commissioner of Education has issued a call on behalf of the Conference Committee on Commercial Engineering recently appointed by him, for a public conference on business training for engineers and engineering training for students of business. This conference, national in scope and in character and fully representative of all interests, will be held at the New Willard Hotel in Washington, D. C., on Monday and Tuesday, June 23 and 24, 1919. All educational institutions, commercial organizations, manufacturing associations, and educational and engineering societies are cordially invited to co-operate and to designate one or more representatives to attend the conference. Prominent engineers, educators, and business men will be invited to discuss the following major topics: Business Training for the Engineer; Engineering Training for Commercial Enterprises; Significance of the War Experience for Engineering Education; Training of the Engineer for Overseas Engineering Projects.

Late Building Market Reports

(*Continued from page 859*)

(*From our Special Correspondent*)

PHILADELPHIA, PA., June 16.—Unless more main sewers can be constructed, more water pipe laid, and more streets opened, paved and improved at an early date, house building must come to a stop in Philadelphia, and for these reasons, the Philadelphia Operative Builders' Association is urging that all citizens call upon the Councilmen from their wards, to pass the $14,000,000 loan, which carries with it an appropriation of about $3,000,000 for main and branch sewers and also money for the installation of water pipe, for paving, grading, etc.

It was pointed out by President Crawford and others, that unless the loan passes and the street improvement work provided for under it is put under contract and begun within a few months the supply of available building lots in the city will be exhausted, house building will stop, and a tremendous increase in the tax rate, probably to five per cent, may be anticipated.

It was asserted that a careful canvass of the situation about the first of the year, showed that only 3500 lots, in round figures, fronting upon streets in which all improvements, such as sewers, water pipe, etc., are in, remained for development in this city. Since the first of the year to date, permits have been taken out, it was said, for about 1400 to 1500 houses, leaving about 2000 yet capable of development.

Should the loan pass, the construction of main and branch sewers go on, it was said, sufficient land might be opened up to permit of the continuance of building for about two and one-half more years.

(*From Our Special Correspondent*)

CHICAGO, ILL., June 14.—Architects in this city are all very busy. There is a scarcity of draftsmen and those available are asking greatly increased remuneration.

Building is going ahead briskly in all sections of the city. There is not only a large amount of planning for low cost houses, but actual work has started on many factories, stores and other types of commercial construction. All this activity is reflected in a greater demand for building material. Lumber is moving from the yards to regular trade channels in exceptionally heavy volume, and with an acute scarcity of stocks, manufacturers and dealers are experiencing difficulty in replenishing supplies to meet the demand. All lumber is holding firm in price, with advances during the week in the wholesale values of yellow pine, hemlock, fir, cypress, and some of the hardwoods.

Brick, and all clay products are in good demand. The same is true of the metal building material items, especially radiation. Officials of the American Radiator Company report a marked improvement in business. They say that in consequence of bigger building projects there is a substantial gain in the demand for boilers, radiators, and all heating equipment. Prices of radiation are unchanged.

In practically all lines of business the former policy of waiting for lower prices has changed to one of buying at present quotations and there are few who now cling to the belief that reconstruction will go ahead on a lower price basis. Some are now realizing that they waited too long, and they are being forced into the buying market and paying the price.

Labor apparently is satisfied, and there is at the present time no talk of strikes or other serious differences in the ranks of the building trades.

In the mind of the ordinary business man and the ordinary working man the war is history. They are fast readjusting their businesses and their work on a peace-time basis. Financiers and the heads of big corporations now see nothing but activity ahead with a building movement following the signing of the peace treaty, likely to develop into a boom.

Late Quotations in Building Material Markets

(Price quotations now current on building materials and supplies as quoted by dealers and jobbers for delivery in New York and Chicago follow. The quotations set forth are placed before readers of THE AMERICAN ARCHITECT to afford an accurate review of market conditions rather than for use as a basis for actual purchase. They will not only provide knowledge of the exact state of the market as to items quoted, but will also present a basis to judge conditions as affecting correlating materials. Items marked (*) indicate an advance over last week, while those marked (†) record a decline. Other prices did not fluctuate during the week.)

	New York	Chicago
BRICK		
Face brick (delivered on job):		
Common (Delivered at job in Borough of Manhattan only), per thousand	$17.85	$12.00
Rough red	29.00	40.00
Smooth red	26.00	40.00
Rough buff	32.00	40.00
Smooth buff	32.00	40.00
Rough gray	38.00	42.00
Smooth gray	40.00	42.00
Colonials	24.00	30.00
BROKEN STONE		
(Delivered on job):		
1½ in. per cu. yd.	$3.25	$2.35
¾ in. per cu. yd.	3.25	2.35
BURNED CLAY		
(Delivered on job)		
Block partition:		
3 in., per sq. ft.	.13	.10
4 in., per sq. ft.	.15	.11
Chimney tops:		
12 x 12 for 8 x 8 flues	$3.50	$2.25
Flue lining:		
4½ ft. x 13 ft., per lin. ft.	.24	.12
4½ x 8½, per lin. ft.	.18	.16
8½ x 8½, per ft.	.24	.16
8½ x 13, per ft.	.54	.20
13 x 13, per ft.	.46	.28
8½ x 18, per ft.	.54	.32
13½ x 18, per ft.	.70	.42
18 x 18, per ft.	.90	.55
Wall coping (double slant):		
8 in., per lin. ft.	.16	.14
12 in., per ft.	.26	.18
18 in., per ft.	.54	.30
Wall coping (single slant):		
8 in., per lin. ft.	.16	.14
12 in., per ft.	.26½	.30
18 in., per ft.	.54	.30
(Corners and angles four times the price of one foot of coping the same size.)		
Hollow Tile		
(Delivered at job, in New York below 72nd St.)		
2 x 8 x 12 partitions, per 1,000 sq. ft.	$70.15	....
3 x 12 x 12 partitions, per 1,000 sq. ft.	102.00	$67.90
4 x 12 x 12 partitions, per 1,000 sq. ft.	114.75	72.50
6 x 12 x 12 partitions, per 1,000 sq. ft.	153.00	99.60
8 x 12 x 12 partitions, per 1,000 sq. ft.	....	135.80
10 x 12 x 12 partitions, per 1,000 sq. ft.	....	167.50
12 x 12 x 12 partitions, per 1,000 sq. ft.	....	194.60
2 x 12 x 12 split furring, per 1,000 sq. ft.	63.75	....
CEMENT		
Per bbl. in 15 cent bags (Rebate 60c. per bbl. for bags)	$3.25	$2.80
COPPER SHEETS		
At the mill, hot rolled, 16 oz. base-price, per lb. (From jobber's warehouse add 2 to 3 cents. Cold rolled add 1c. per lb. to hot rolled.)	24c.*	24c.*
CORNER BEAD		
Per foot	.05	.05
FIBRE		
Per bushel	.30	.30

(*Continued on page 868-B*)

Late Building Material Prices

(*Continued from page 868-A*)

GALVANIZED SHEETS

	New York	Chicago
Nos. 18 and 20 gauge, per lb	$6.12	$6.12
No. 26	6.42	6.42
No. 27	6.57	6.57

GLASS

(Discounts from manufacturer's price lists)

Single strength, A quality, first three brackets	77%	77%
Single strength, B quality	77%	77%
Double strength, A quality	79%	79%
Double strength, B quality	81%	81%
Plate—up to 5 sq. ft	82%	....
Plate—over 5 sq. ft	84%	....
Plate—up to 10 sq. ft	...	83%
Plate—over 10 sq. ft	...	82%

GRAVEL

1¼ in. (Borough of Manhattan only), per cu. yd	$2.75	$2.35
¾ in. (Borough of Manhattan only), per cu. yd	2.75	2.35

GYPSUM

Plaster Board: Delivered at job, Boroughs of Manhattan and Bronx.

27 x 28 x 1	35c.	....
27 x 48 x ½	30c.	....
32 x 36 x ¼	21c.	25c.
32 x 36 x ⅜	21c.	26c.
32 x 36 x ½	23½c.	....

Plaster Blocks: Delivered at job, Boroughs of Manhattan and Bronx.

2 in. solid, per sq. ft	7½c.	....
3 in. solid, 12 x 30, per sq. ft	10½c.	....
3 in. hollow	10½c.	10c.
4 in. hollow	12½c.	11c.
6 in. hollow	17½c.	....

LATH

Eastern spruce, per thousand	$6.80*	....
No. 1 white pine, per thousand	....	$6.50
No. 1 hemlock, per thousand	....	6.00
No. 1 yellow pine, per thousand	6.40*	5.25

LEAD

America pig, per lb	5¼ to 5¾	6 to 6½*
Bar, per lb	7½ to 8	5½ to 6¼

LIME

Common, 300 lb. bbls., per bbl	$2.50	$1.40
Finishing, 300 lb. bbls., per bbl	3.70	....
Hydrated, in paper bags, per ton	17.25	17.00

LUMBER

(Retail prices per M, delivered.)

Yellow pine, 2 x 4	$56.50*	$47.00
Yellow pine, 2 x 6	54.00*	45.00
Yellow pine, 4 x 4	63.00*	52.00
Yellow pine, 8 x 8	73.00*	52.00
Yellow pine, 12 x 12	59.00	57.00
Yellow pine, No. 1 boards, 1 x 6	60.25	53.00
Yellow pine, No. 1 boards, 1 x 12	62.50	56.00
Yellow pine, B and better flooring (plain)	64.00*	57.00
Yellow pine, B and better flooring (quartered)	76.50*	70.00
Douglas fir, 6 x 6 to 12 x 12	63.50	63.00
Douglas fir, 12 x 14 to 14 x 14	....	64.00
Norway pine, 2 x 4	60.00	50.00
Norway pine, 2 x 12	65.00	57.00
Hemlock, 2 x 4	49.50*	46.00
Hemlock, 2 x 12	53.00*	48.00
Oak flooring, 13/16 quartered white	167.00*	130.00
Oak flooring, 13/16 quartered red	138.00	123.00
Oak flooring, 13/16 plain white	97.50*	90.00
Oak flooring, 13/16 plain red	97.50*	90.00
Maple flooring, 13/16 clear	89.50*	89.00
Maple flooring, 13/16 select	85.00*	75.00
Maple flooring, 13/16 No. 1 factory	74.50	62.00
Mahogany, 1" F. A. S.	300.00	300.00
Quartered oak, 1" F. A. S.	180.00	150.00
Plain oak, 1" F. A. S.	120.00	100.00
Red gum, 1" F. A. S.	89.00*	75.00
Sap gum, 1" F. A. S.	57.00*	60.00
Chestnut, 1" F. A. S.	87.50	80.00
Poplar, 1" F. A. S.	133.50*	110.00
Birch, 1" F. A. S.	72.00*	70.00
Spruce, random 2"	52.00	50.00
Spruce, wide	62.50	60.00

METAL LATH

Under 100 sq. yd., per sq. yd	40c.	40c.

MORTAR COLORS

Red, per lb	.05	.05
Brown, per lb	.05	.05
Chocolate, per lb	.05	.05
Black, per lb	.05	.05

OILS

Linseed, city, raw	$1.73†	$1.73†
Linseed, boiled, advance, per gal	.01	.01
Out of town, American seed at	1.73†	1.73†

PAINTS

Leads: American white, in oil, kegs; lots over 100 lbs.	13c.†	14c.
White, in oil, 25-lb. tin pails; add to keg price	¼c.	¼c.
Red, bbl., ½ bbl. and kegs; lots over 100 lbs.	13c.†	14½c.
Dry Colors: Red Venetian, American, per 100 lbs.	$2.00 to $4.50†	$2.00 to $5.00
Metallic Paints: Brown, per ton	$32.00 to $36.00*	$24.00 to $32.00
Red, per ton	35.00 to 40.00*	24.00 to 32.00

PIPE

Cast Iron: 6 in. and heavier	$52.70*	$51.80
4 in.	55.70	54.80
3 in.	62.70	61.80

(and $1 additional for Class A and gas pipe.)

(Discounts to jobbers for carload lots on the Pittsburgh basing card; freight rates from Pittsburgh to New York, and also from Pittsburgh to Chicago, in carloads, per 100 lbs., are 27c.)

Wrought: Steel: Butt Weld		
Black, ⅛ to 3 in.	50½%	57½%
Galv., ⅛ to 3 in.	24 to 44%	41 %
Iron:		
Black, ⅛ to 1½ in.	29½ to 39 %	39½%
Galv., ⅛ to 1½ in.	2½ to 23½%	23½%
Steel: Lap Weld		
Black, 2½ to 6 in.	53½%	53½%
Galv., 2½ to 6 in.	41 %	41 %
Iron:		
Black, 2½ to 6 in.	34½%	34½%
Galv., 2½ to 6 in.	21½%	21 %

PLASTER

Neat wall cement in 15 cent bags, per ton	$20.30	$18.50
Finishing plaster	24.00	21.00

PUTTY

In bladders, per 100 lb	$6.25	$6.25
In 1-lb. to 5-lb. tins, per 100 lb	6.75	6.75

RADIATION

(A further discount, effective April 4, of 15% on direct radiators, 12½% on wall radiators, and 10% on steam and hot water boilers is announced. This approximates a drop of 36% on radiators and 33% on boilers from prices in effect before the 1st of January, 1919.)

Chicago reports a 57% discount on standard heights.

REGISTERS

Cast iron semi-steel or steel, in black or white japan or electro plate and small faces and borders	40%	40%
Wall frames	40%	40%
Large faced, 14 x 14 in. and larger	60%	60%
Base board registers	40%	40%
Base board intakes	40%	40%
White enameled goods	15%	15%
Solid brass or bronze goods, except grilles	net	net
Grilles in black and white japan or electroplate in cast iron, plain lattice design—smaller than 14 x 14 in.	40%	40%
—Less than 14 x 14 in.	60%	60%

REINFORCING BARS

High carbon steel from mill	$48.50	$49.50
Medium steel from mill	48.50	49.50

ROOFING MATERIAL

Tarred Paper: 1-Ply, per ton, per roll, 108 sq. ft.	$56.00 to $58.00†	$65.00
2-Ply	98c.*	95c.
3-Ply	1.33*	1.30
Rosin sized sheathing	per ton 60.00	60.00

Corrugated roofing, galvanized, 2½ in. corrugation, over flat sheets, 30c. per 100 lbs.

SAND

Mason, per cu. yd	$1.80	$2.25
Torpedo, per cu. yd	1.80	2.35

SHINGLES

Red cedar, 5 to 2, clear, per thousand	$8.75*	$6.50
White cedar, extra star, A star, per thousand	7.55*	5.50

SLATE ROOFING

Pennsylvania:	F.O.B. cars, Quarry Station	F.O.B. Chicago
Best Bangor	$7.75 to $9.00	$10.20 to $11.45
No. 1 Bangor Ribbon	6.75 to 7.25	9.20 to 9.70
Pen Argyl	7.25 to 8.00	9.70 to 10.45
Peach Bottom	10.00 to 12.50	12.45 to 14.45
No. 1 Chapman	7.25 to 8.25	8.70 to 9.95
Vermont:		
No. 1 Sea Green	3.50 to 6.75	5.95 to 9.20
Unfading Green	5.50 to 9.25	8.30 to 11.05
Red	12.00 to 20.00	14.80 to 22.80
Maine:		
Brownsville, U'f'g Black, No. 1	11.00 to 12.00	14.10 to 15.10
Slaters felt, 30 lb. roll	1.75	.....
Slaters felt, 40 lb. roll	2 25	.....

SPIRITS TURPENTINE

Per bbl.	.66½	.66½

STONE SCREENINGS

Lime, per cu. yd	$2.35	$2.35

STRUCTURAL STEEL

Beams and channel, 3 to 15 in., per lb	2.45c.	3.47c.
Beams and channel, over 15 in., per lb	2.45c.	3.57c.
Angles, 3 to 6 in.	2.45c.	3.47c.
Zees and tees	2.45c.	3.47c.
Steel bars, half extras, from mill	2.35c.	3.47c.

STUCCO

In cloth, per ton (white, mixed)	....	$21.50