

MONTHLY ILLINOIS SOCIETY « OF ARCHITECTS » BULLETIN

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An All-Steel Plate-Welded Restaurant Building

By Winston Elting, Architect

Those passengers on the Rock Island who are given to looking out of windows have perhaps wondered at the peculiar igloo type steel structure which has been for some time under construction on the east side of the right of way at Washington Heights.

The purpose of this building is primarily to serve as a lunch room for the 100 to 150 office workers at the Chicago plant of the Chicago Bridge & Iron Company. In addition, it is to fill the function of a center for the occasional dances and other festivities held by the employees of the company at various times during the year. For such events it has been assumed that some 400 or 500 persons will attend.

The original sketches for the building called for a more orthodox wood and masonry structure in contemporary form. The sketches showed nothing particularly peculiar to the function of the building nor to the character and performance of the company and its President, George T. Horton. They showed, it is also true, no particular originality nor that type of progress in construction which has long been associated with the activities of that company, its officers and directors. When the President suggested the possibility of fabricating and erecting an all steel welded plate structure, the program became clear.

After the Company's engineer founder Horace E. Horton had built in 1866, a 186-foot bridge across the Oronoco River in Minnesota, the concern's activities progressed through a combination of wood and metal construction to all metal construction, through bridges to the designing, manufacturing and erection of steel containers of all kinds for the storage of liquids and gases often under great pressure. Of great importance is the fact that some of the more advanced tank designs, not to mention this building, have been made possible only by the development of the process of welding, a field in which Mr. Horton and his company have taken a leading part.

It can be stated that the process of welded steel plate spheroid construction was somewhat of a mystery to the writer. It should therefore be understood that throughout the development of this building the architect has worked closely with the engineers of the company who designed the steel work and supervised its erection. In the process, the building has proved that architects and engineers can, if necessary, work together to mutual advantage and that they furthermore do not regard each other necessarily as dispensable. Strictly speaking this is not an architect designed structure nor is it engineer designed but is rather the result of a cooperative effort.

Its general form is an adoption of the hemi-spherical construction used on spheroid tanks. That is to say, it is built up of three-sixteenth inch "dished" steel plates, welded into manoeuvrable sections in the shop and butt-welded together in the field. The effect of this method of construction

is that of an eggshell; a thin-skinned self-supporting structure whose rigidity depends on its integral design rather than on any post and lintel or arch construction. Roofs and walls are merged into one system, dead loads are almost equally transmitted around every foot of circumference. Wind loads are cut to a minimum by the streamlined quality of the exterior surfaces.

The building naturally is circular with a diameter of approximately 108-feet. The lunch room, located in the center of the building is 80-feet in diameter and some 28-feet in height at the center. The dome itself springs from a cylindrical wall approximately 8-feet above the floor line. Surrounding this room are various services and appendages including a mechanical and boiler room, kitchen, service bar, toilets and coat rooms, entrance vestibule and storage space. This so-called shed butts up against the central dome 15-feet above the floor line, its roof springing from a vertical ring wall 5-feet high.

There are no openings in the exterior surfaces of this structure save to and from the vestibule, rear entry, storage, mechanical and service bar areas. The building is accordingly artificially lighted and ventilated. The function of the kitchen is comparatively simple insofar as the noon-day meal is placed on the table in advance and there is no service to speak of taking place during the meal itself. There is furthermore no buffet service.

The immediate problems to be faced, once the general arrangement was decided on, were first, the visual form of the exterior; second, the method of heating and air conditioning and ventilation; third, the method of lighting; fourth the method of insulation and acoustics.

The original plans for the building called for an overall width of 101-feet, an overall height of the central room of 24½-feet with a width of 70-feet. The lean-to was to abutt the central dome 14-feet above the floor line. A wooden model of this structure was made and its proportions and general appearance were found to be unsatisfactory. The height was accordingly increased 4-feet; 1-foot was taken off the width of the lean-to and ten feet added to the diameter of the central room.

To advise on the mechanical problems of the building Samuel R. Lewis, Mechanical Engineer, was called in. It had originally been proposed that panel heating with water pipes in the floor be used in conjunction with a ventilating system. This type of installation was abandoned due to the cost factor plus the fact that as air conditioning and ventilation were required, it seemed sensible to heat likewise by forced warm air, at least as far as the lunch room itself was concerned. To heat the service rooms force flo hot water radiation seemed best, together with the required amount of ventilation in those areas. The problem of supplying air to the central room was answered by building in an air duct as

a component part of the structure itself. Thus besides its use as an air transmitter it provides further a circular ring bracing around the entire building some two feet below the intersection of the two roofs.

After a consideration of many methods of indirect lighting, both from the point of view of cost and effect and after one unsatisfactory experiment using 46 concealed floodlights set on the top of the air duct a dished plate fixture was hung from the center of the dome. This bowl is 8-feet in diameter and 12-inches at its greatest depth. It produces a uniform overall light on the dome and gives 9-foot candles in the center of the room.

From the point of view of insulation there could never be any doubt but that a building built of three-sixteenth inch steel plate was about the meanest possible problem.

Likewise from the point of view of acoustics it was certain that the general contour of the lunch room was also almost as bad a form as could be devised. It was also apparent that aside from certain known qualities of reverberation and echo, very little could be agreed upon as to the actual results that would be found to exist once the room was finished. Unfortunately, or perhaps fortunately in this case, instruments and formulas devised by man cannot interpret to the brain the same effects that are attributed by the human ear. There are too many degrees of noise quantity and quality not to mention extraneous elements such as personal absorption in food, drink, conversation and thoughts. It is only when the brain is consciously aware of noise in proportion to these other things that it becomes disturbed and no instrument or formula can measure the degree of such discomfort other than in possibilities.

Fundamentally there were three alternatives; either, (1) insulation applied to the exterior steel surfaces; (2) some type of rigid or semi-rigid insulation applied inside and fastened to clip-angles in the form of a suspended ceiling; or (3) insulation applied directly to the interior surfaces of the steel. The first method was immediately abandoned due to acoustical problems that would result, not to mention appearance and difficulties of application and maintenance. The second was eliminated due to condensation problems, cost and appearance. The third was adopted.

It was accordingly decided to employ the method of spraying asphalt mixed with paper directly on to the steel. As far as the lunch room itself was concerned, this material, when installed, was finally covered with rock wool sprayed and tamped on over the insulation itself. This surface without painting presents a pleasing appearance as far as color and texture are concerned, as well as the best possible sound deadening surface. This type of insulation in the main room is carried down to the spring line of the dome.

With the completion of the insulation on the dome itself it was found that while there appeared to be no reverberation or echo from the dome at any point in the room, the focusing echo off the cylinder wall itself was disturbing. When the floor was put in about 3-feet above the ground level from which the early experiments had been made, the echo was found to have been greatly reduced both in duration and in frequency. It is now anticipated that with the further benefits that will accrue from furniture and human occupancy, the echo will cease to be a serious problem. On a purely scientific basis it had seemed improbable that this echo could be greatly reduced or anywhere nearly overcome.

The human ear has seemed in this case however to have been unmindful of any casual rules of thumb. There remains but the possibility of covering the lower section of the wall with sound deadening material should it prove necessary. So far it has not.

In the shed portion insulation was sprayed on the roof and outer wall surfaces including the air duct. The vertical surfaces of exterior walls were sufficiently tamped to provide a firm plaster base and were accordingly plastered to a height of 5 foot 4 inches in all areas except the storage room. This was done purely as a manner of protecting the rather soft surface of the insulation. Elsewhere the insulated surfaces were sprayed with aluminum.

The actual fabrication and erection of the structure itself was a comparatively simple one for the company. Three-sixteenth inch steel plates were shaped to their proper one or two way curvature by a process known as "dishing." That is the way each plate is worked manually by a pile ring on the block of a housing with a large punch plunger. Although a comparatively inexpensive process it is one which requires considerable skill as any sheet over-dished must be rolled out again and brought to the shape required by the template. These individual plates together with the air duct sections were shop welded into sections and field welded in place. After the foundation walls were placed the conical top section was set on a scaffold. Then the steel ring walls were welded to the top of angles bolted to the foundation after which the air duct section was welded and held in place followed by the dished plates; one row between the shed vertical wall and air duct and two rows between the air duct and the circular dome plate. There followed then in order the mechanical trades, insulation, plastering, floors, (reinforced concrete slabs topped with asphalt tile in the lunch room, coat rooms, entry and service bar, and Hubbellite in the kitchen and toilets), decorating and installation of fixtures. The main entrance doors are of Herculite, all other doors flush wood doors painted. The building is painted a self-chalking white. Water running off the roof surfaces is caught by a gutter forming an integral part of the footing.

What then finally does this building prove? Aside from certain technical methods and adaptations it probably proves very little in a material sense. It is not the first all-welded building. It is perhaps the first all-welded plate construction building in existence. Further than that it is a monument to the ingenuity of its owners, a tribute to the interest and farsightedness of the Building Commissioner of the City of Chicago, and finally it is proof that the art of building has not and will not remain static.

Making St. Augustine the center of Spain's northern New World Empire in 1565, settlers and soldiers built the first houses mainly of wood, copying Indian construction. Bare earth served as floors. Roofs, sharply pitched, were thatched with palm, says Verne E. Chatelain of Carnegie Institution of Washington.

Later, more permanent houses had thick, solid walls and an upper story reached by outside stairs. Kitchens were outside the houses, and rudely fashioned.

In time, Florida's rock-like coquina, formed of small shells naturally cemented together, became the building stone of St. Augustine's important buildings and of many homes.

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Editor Monthly Bulletin

ARTHUR WOLTERSDFORD, 520 NORTH MICHIGAN AVE., CHICAGO

While Professor Martin Wagner's projected prefabricated housing igloos and Buckminster Fuller's prefabricated and materialized steel bin housing were being discussed in the architectural press, there has been erected at 105th Street in the city of Chicago, a Gargantuan steel mushroom, without benefit of publicity, to serve the purpose of a dining hall, with accessory rooms in a steel lean-to around the perimeter. The great mush-room is, to all intents and purposes, a three-sixteenth inch steel plate welded tank with a concentric lean-to, likewise of welded steel. There are no windows, the entire structure being lighted, heated, and air conditioned within the unit. The lean-to contains a kitchen, pantries, storage rooms, toilet rooms, heating and air conditioning apparatus with a continuous air duct secured to the exterior of the central dome under the roof of the lean-to.

The Bulletin is glad to be able to present in this issue, Architect Winston Elting's description of the building, together with a supplemental plate of illustrations to add to the lucidity of Mr. Elting's words.

Architects will discuss whether the forms used, supplemented by available mechanical equipment, are the nucleus of a new phase in modern architecture. Is this the forerunner of a school of windowless, beamless, steel plate housing shells? The Bulletin invites expressions on the part of its readers on the likely influence such conceptions are destined to have.

The Present and Future of the Architect

On August 20, 1941, there appeared in The Chicago Daily News, an article captioned "Get Your Architect Free." It stated, "Defense housing officials announced that the government would provide free architectural service to prepare estimates for remodeling old homes for defense workers."

This brings to my mind the question, *How far will the architect allow the public to be disillusioned, without in any way trying to explain his side of this situation?* Neither professional ethics nor modesty should deter him from bringing to the attention of the government, the industrialist, the business man, and the home owner, the facts that the architect alone, through his education and training, is prepared to give them the utmost in values and service, in the designing and planning of their buildings and that these services can not be given free.

They should also understand that in the employment of an architect, the greatest assurance of economical construction and practical design is obtained, which safeguards their investments, and the fee for the architect's services is as necessary an expenditure as the cost of the foundations of the structure.

Professional ethics will not pay the salaries, rents, and many other expenses of the present day architect's office. In the collection of money for the maintenance of the office the architect receives no consideration for his professional status from the parties to whom he is indebted. The engineer-contractors and speculative builders have recognized the reticency of the architect to demand the position of authority which he is educated to hold because of his artistic and technical schooling and they are endeavoring to convince both the government and the public that they alone merit responsibility for the construction of any project.

Much of the defense work is turned over to bureaus which absorb the architects, or to contractors who immediately assume the authority of the architect. In many instances, where awards are made direct to contractors, the architect is employed by the contractor just as he employs his construction superintendent, and the architect has no executive authority nor can he control the construction or the type or character of the materials used.

The government has not made wide use of the architectural profession in awarding the contracts for defense work and it has explained that, due to the emergency, it was necessary to award the contracts to firms capable of handling the work expeditiously and having in their employ structural and mechanical engineers sufficient in number to handle all the work in their offices,—which only the larger firms of architects have.

Many of the architects have offices large enough in personnel to handle projects costing several millions of dollars and they have available structural and mechanical engineers whom they can employ, to increase their regular force, if the urgency of turning out the work in a limited time should require it.

These architects and their organizations stand ready and willing to do their parts in the Defense Program, should a commission be awarded them.

The government has overlooked these men entirely and has awarded many contracts to contractors who make subordinate arrangements for the necessary technical services.

The government has advanced money to build plants. This has been an inducement to manufacturers to expand their facilities and receive defense work and with this thought in mind, the owners have allowed the work to be awarded as the government dictates.

With priorities taking effect, private work is being halted because of the fact that without a priority rating, no owner has any assurance as to when his building will be completed. This condition leaves many architects' offices with their personnel idle.

Now, the government advertises, "Get Your Architect Free." This means only that the government will hire and pay architects and donate their services and charge this expense to the Defense Program. The public can not be asked to make an analytical study of who pays the architect, but the public must know that they are paid and must reason that the government is subordinating the architectural profession.

What his relation to the building and economic post-war situation will be, depends upon what is done by the architects to familiarize the public with the work he performs in the practice of his profession and with the fact that no one

(Continued on Page 8, Column 2)

Illinois Society September Meeting

The first regular monthly dinner and meeting of the Society year was held September 23 by the Illinois Society of Architects at the quarters of the Chicago Bar Association with an attendance of fifty members. In welcoming the members, after the summer respite, the new president, William J. Ryan, singled out for special mention Peter E. Cambreras, new member; Karl H. Sheldon of Madison, Wisconsin; S. H. Oman, restored to health after a trying illness.

Secretary Newhouse reported receipt of a letter from the Southern Illinois Association of Registered Architects condemning the report of the I.S.A. Small House committee reviewed in the Bulletin for August-September, 1941.

The President announced the names of chairmen of important committees and suggested that members write to these chairmen on the subjects to be handled by the respective committees. These are: Membership committee, H. L. Palmer; Legislative committee, Benjamin Franklin Olson; Public Action committee, Marvin Probst; Entertainment committee, William Paul Fox; Materials and Methods committee, Francis A. Flaks; Building Valuation committee, Eugene Fuhrer; Small House committee, Bertram A. Weber, chairman, Henry L. Newhouse, associate chairman; Credentials committee, Henry L. Newhouse; Publicity committee, H. L. Palmer.

President Ryan referred to letters received by him from architectural bodies of other states. Most of these bore on the subject of publicizing architects and sought the co-operation of the Illinois Society. William Paul Fox, Entertainment committee chairman, pleaded for a large and representative attendance at the statewide meeting at Champaign-Urbana on October 25-26.

The general business of the meeting disposed of, the president introduced Mr. E. W. Dienhart as the speaker of the evening. Mr. Dienhart is chairman of the sub-committee on Concrete Products of the American Standards Association and assistant manager of the Cement Products Bureau of the Portland Cement Association. His subject was "The Co-ordination of Dimensions of Building Materials and Equipment." The speaker dwelt on co-operative efforts in the building industry aiming at co-ordination of dimensional standards for building materials and equipment; a method of determining standard sizes to be retained for all products entering into the finished building; correlation of building plans and details with such dimensions and agreement on sizes and dimensions as standards.

In opening his address the speaker paid his respects to Secretary of Commerce, Herbert Hoover, in the Coolidge administration, for his efforts at standardization and limitation of patterns in the interest of economy. What the summation of Secretary Hoover's efforts has been, the speaker could not say. He next gave credit to Albert Farwell Bemis, an M.I.T. engineer, who in his lifetime, as manufacturer, business man, banker, building promoter and writer, had become convinced of the necessity of standardization of all building materials to a module or modular system in the interest of economy. Mr. Bemis in his will, left bequests to institutions with instructions to further the cause of a modular system. Mr. Dienhart explained the benefits of the modular units and standard assembly detail. Then he turned to the screen on which were thrown diagrams and tabulations showing the application of the system to brick and concrete blocks. It was interesting and vital, if not entirely new, to students of architectural practice. The speaker made clear that for architectural problems, where great sensitiveness of design and subtlety were required, and where economy might be waived in the interest of aesthetics, the system would not be resorted to.

The meeting adjourned on a hopeful note of a prosperous year for the Society.

American Standards Association will be glad to forward to those interested, without charge, a book on Standards Co-ordination. Address Mr. M. W. Adams, Secretary, Committee A. 62, 110 Arlington Street Boston, Massachusetts.

To Urbana for I.S.A. October Meeting

For its sixth annual statewide meeting, the Illinois Society of Architects goes to Champaign-Urbana on Saturday, October 25, 1941. Three years ago the Society held its statewide meeting in Champaign-Urbana. On the invitation of the architectural authorities of the University of Illinois to visit and inspect their new Illini Union, the Society determined upon Champaign-Urbana for its 1941 statewide meeting.

A large attendance of members, accompanied by their wives and friends, is sought and expected. The meeting covers Saturday and Sunday, October 25 and 26.

October Twenty-Five

Business meeting — Faculty lounge, Illini Union Building, 2:00 P. M.

This afternoon's meeting is instigated primarily to afford opportunity for members outside of the Chicago area to express themselves from the floor. This meeting should relieve the evening meeting of the business routine. A large attendance is expected.

Inspection of the Union Building occurs immediately after the business meeting.

Reception and Dinner at the Illini Union, 6:30 P. M.

Evening meeting, 8:00 P. M.—William J. Ryan, president, in the chair. Speaker—Professor A. K. Laing, Professor of Architectural History, U. of I.

October Twenty-Six

Breakfast at Inman Hotel, 9:00 A. M.

Assemble for conducted tour of newly completed buildings: Gregory Hall—Addition to Library—New Power Plant—Men's Dormitory—McKinley Hospital Addition—Natural Resources Building—Geological Survey Laboratory for Research for Fuels—Other points of interest.

More details will be sent members through the mail. On transportation it may be said: Illinois Central train leaves 12th Street Station, Chicago, at 9:00 A. M., arriving at Champaign at 11:00 A. M. Return train leaves Champaign on Sunday at 5:50 P. M. Standard Time. Round trip \$4.60.

Rates at Hotel Inman: Single room with bath—\$2.75 and \$3.50; Single room without bath—\$1.75 and \$1.95; Double room with bath—\$3.50 and \$4.50; Double room without bath—\$3.00. Dinner at Illini Union—\$1.50 per plate. Make reservations with H. L. Palmer, 134 No. LaSalle Street, Chicago.

—Ernest L. Stouffer, General Chairman,

William Paul Fox, Chairman, Entertainment Committee

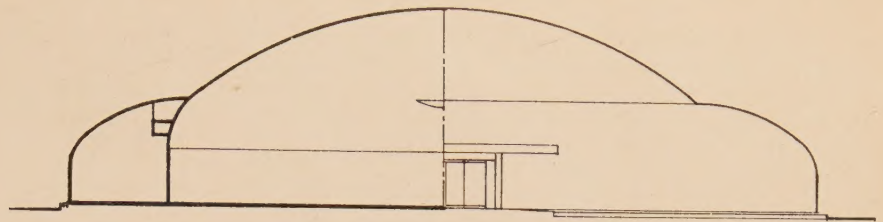
Structure

Architectural solids exhibit concretely all the host of theoretic shapes and planes dealt with abstractly by geometry. Architectural engineering may be legitimately described—in an essay at least—as a branch of solid geometry, notwithstanding the fact that architecture is not solid in the literal sense and engineering uses less solid than plane geometry and less geometry than other mathematics. The geometrician is interested in the mathematical relationships of three-dimensional forms and so is the engineer. The main difference is that the former occupies his mind with Platonic ideas that have no space-time existence whatever, whereas the latter is a materialist dealing with extremely tangible data.

—Philip N. Youtz in "Sounding Stones of Architecture"

The Vanderbilt house at 640 Fifth Avenue, N. Y. is to be torn down. This is the last remaining of the three Vanderbilt mansions on Fifth Avenue. It and its neighbor of the same design were built for William H. Vanderbilt in 1879 by Herter Brothers, contractors and decorators, and modernized by architect Horace Trumbauer in 1916.

These two houses were designed by the late Charles B. Atwood, architect employed by Herter Brothers for this work.



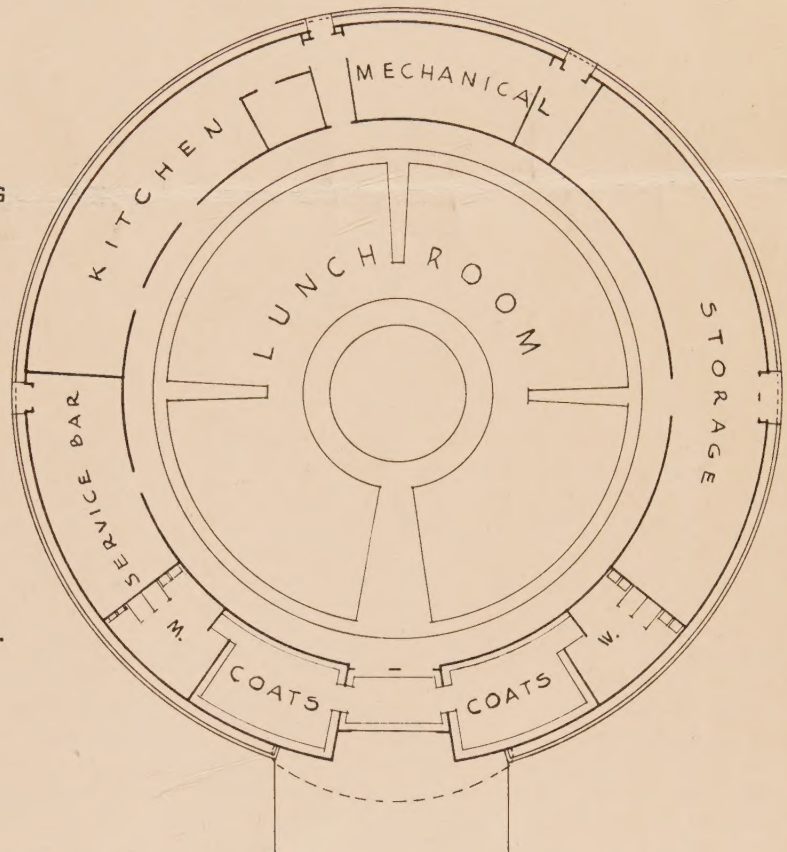
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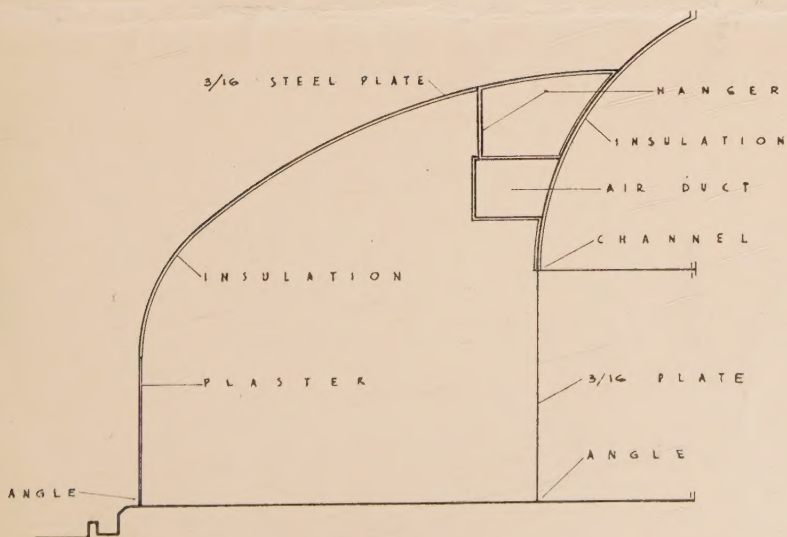
RESTAURANT BUILDING

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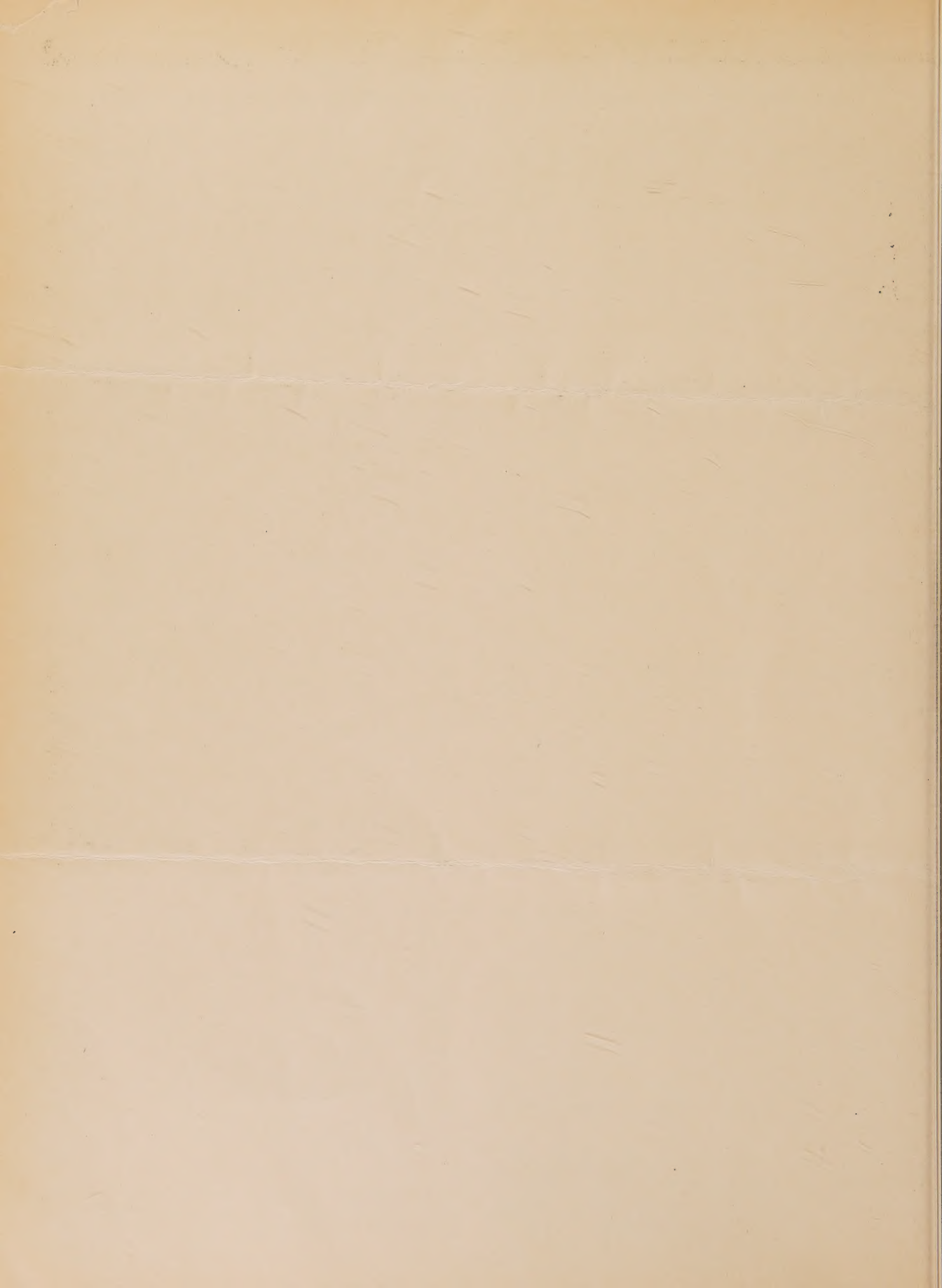


PLAN



DETAIL

WINSTON ELTING
ARCHITECT



A.I.A. President Shreve Says:

"If your question as to the architect's future means, is he going to see soon again the lush days of the 20's, the answer is 'Not soon.' The sort of practice we look back upon with yearning had for its principal element a rich man. Rich men built great manor houses, college memorials, art museums. They made possible the costly churches, university stadia. Such commissions will appear less frequently.

"The whole trend of the times, insofar as we can see it, is towards a leveling off of our national economy. That must mean building with rigidly budgeted funds for the services of necessity—national defense first, and a lot of its blood brothers following after for some time to come.

"That calls for an attitude of the architect very different from that of 'the good old days.' Those who look backward in a nostalgic dream are likely to go hungry.

"To say that designers are coming to be less in demand and will go out like the dodo, is to talk foolishness. Plain common sense should tell us that the technician, whether in building or any other activity of mankind, is more and more needed as we settle down to a community life founded by necessity on economy of structure and precise fitness to new needs. Buildings in that category do not get themselves built—they have to be designed with all the skill mankind can muster!

"I doubt that we shall see in the next decade or more the architecture of pride, of display, or of self-gratification. But we shall undoubtedly see outdated, inefficient, uneconomical structures torn down to make way for new and efficient and economical buildings, in tune with the time and meeting our constantly growing needs.

"Another thing: the hallowed six or eight or ten or any other percentage of the cost as an equitable fee is being challenged. It was a workable basis of remuneration from the rich patron of the arts. Today, government, state, municipality are becoming harder buyers. They think—and those who direct big business are likewise coming to think—that a highly skilled technical service can more accurately be measured in comparison with other skilled services of the individual in terms of yearly income, entirely dissociated from the necessary costs of assistance and overhead. The cost-plus-a-fixed-fee contract, such as the Government has put into effect, is likely to change the nation's thinking in the matter of architects' remuneration. Those who think of architecture merely as an art may regret, but cannot stop, the trend."

—From the August "Architectural Record"

Genesis of The Modern City

In the Middle Ages, building in its highest form was ecclesiastical; in the time of the baroque it became worldly but remained authoritative. Here and there, necessities which could not be ignored were transformed into the spiritual and metaphysical. These clarified necessities found legitimate representatives in building owners, governors representing power. The work of the master builder was service: religious service or service to a master; in any case, it was service to an idea.

The master builders glorified the church or the state as if by order of the time. In every case, they followed a categorical imperative. Now it may be granted that metropolitan city architecture would have served correspondingly. This metropolitan architecture, however, has neither the ecclesiastical or state authority, and has in no way served a corresponding idea of power. It served neither barren material utility nor bourgeois aim to improve; its client was neither the priest nor the nobleman, but rather an abstract quantity: the self-important money power.

It is a rare phenomenon in history that at the moment when architecture failed aesthetically, building activity in the metropolitan city increased by leaps and bounds. One cannot speak of the organization of building development without being impressed with the material, industrial, and technical achievement. On the other hand, one must acknowledge that this comprehensive activity was of no value from an artistic point of view. An optimism in building arose such as Germany had never before experienced; it was building without a master. There was no longer a church able to advance a building program; for in the ambition to recognize youthful striving

for natural science, there was forgotten the best of the clarified thinking of the citizen possessed of the general common school education.

Religious need became conventional, and so the church, Catholic as well as Protestant, became likewise conventional. Even the noblemen could no longer function as clients as they did in the time of the baroque when the architectural styles under the various kings were at their fingers' ends; they could not even be outsiders as in the days of Napoleon; they became constitutional and had hardly half their old power. Parliament had the other half. Total power necessary to architecture was possessed by no one. That is why the master builder or architect was no longer the king's companion.

In Bavaria, the last attempt toward an ideal mutuality was made in the reign of Ludwig I, though this produced only an academic formalism. Cities could no longer dispose of commissions as they did in the fifteenth and sixteenth centuries, for the modern self-government undermined unified order. These cities were not, as of old, closed integrants, but rather center points of world-wide industrial interests. This tended toward formlessness. Parties governed and there were as many conflicting voices as there were individuals. The result was that certain forms of organization dissolved. Inheritive position had been outlived. Trade organizations formed no rigid social organization. All the people became citizens of the state with equal rights. Differences—truly very crass differences, were created solely through money. There arose classes of the haves and have-nots. The result was bitter class hatred. The real dominance, even though not always formal, was in the hands of the haves, the burghers. But they were not authoritative; they were not approachable as building clients.

—Translated from Karl Scheffler's "Deutsche Baumeister"

Chicago Regional Planning Association

At the annual meeting of the Chicago Regional Planning Association, held on September 12, president Daniel H. Burnham, after welcoming guests and presenting the objects of the association, called Robert Kingery, general manager of the association, to the chair to function as toastmaster. Among the 24 at the speakers table was William J. Ryan, president of the Illinois Society of Architects.

President Burnham announced the unavoidable absence of John M. Carmody whose address, "Planning a Post-Defense Public Work Reserve," was spotlighted as the evening's attraction. Though Mr. Carmody was not present in the flesh, Jacob Baker, Public Work Reserve, read Mr. Carmody's paper. This Public Work Reserve envisions vast unemployment and a general "capital blight" in the post-war period. The agency hopes to induce local communities to spend between four and six billion dollars a year on new work. About fifteen architects were present.

To Save Chicago's "Auditorium"

At the September 5 executive advisory committee meeting to save the Auditorium the speakers were Mayor Kelly of Chicago, Robert Hall McCormick, Mrs. Headburg, and William A. Dudley. They made a strong appeal to assist in raising \$400,000 for the purpose of saving the structure from the wreckers hands.

The purpose is to make the Auditorium a Music Foundation; to open and keep open the Auditorium theater and office building; to lease the Hotel section; to lease office floors as offices, studios, and schools of music, dancing, and the like arts; to rent the theater to such attractions to which it has been devoted in the past. Net income to be used by the Foundation to promote the arts and for charitable purposes.

To make the Auditorium self-sustaining the \$400,000 reserve fund is necessary. Contributions to it are invited.

A lease of the new A.I.A. Administration Building in Washington, D. C., built with funds from the Dan Everett Waid estate, effective July 1, 1941, turns the building over for a term of one year to the Department of State. The Department will use the premises for the occupancy of the Division of Commercial Treaties and Agreements.

Danger in Pipe Materials

We built a fish hatchery a number of years ago and one of the requisites was that the pipe be non-corrosive. It was salt water, right on the sea coast. The pipe was available at very great expense; it was composition pipe, non-metallic. It worked perfectly, absolutely resisted salt water. It had only one fault; it killed all the fish. There was just enough formaldehyde in the composition to kill the fish.

I was discussing with a sanitary engineer the problem of static electricity in a hospital operating room. It had been thought that air conditioning, that is, a fairly high moisture content or relative humidity would solve the problem of static electricity. For many years hospital operators have worn conductors, chains fastened to the end of their trousers, and so on, and floors have had grids of brass which have been circuited to the water pipes in order to prevent electrolysis, or sparks which are extremely dangerous in the case of many anesthetics. Many of the anesthetics are highly explosive.

It was thought, as I said, that the high humidity of an air conditioning system would overcome this, but the last thesis on the subject published by the American Medical Society shows that there were cases which baffled them for a long time, and that the static was developed by the gas running from the container down the rubber hose to the mouth of the patient and it exploded just at the worst point. High humidity will not prevent that. Wrapping the hose with wire is so far thought to do it.

I think the Medical Profession over a period of two years had a record of about an average of two hundred explosions a year due to static in operating rooms, two of them fatal due to explosion in the lungs, the others running from zero damage up to burns or fright. The problem is not yet solved.

—Ernest E. Weihe, Architect, San Francisco

It is not only necessary to ground the various items mentioned by Mr. Weihe, but also every person and all other things in and about the operating room. There should be a grounded floor grid; surgeons and nurses should not wear shoes with soles of ordinary rubber. However, when persons are grounded there is danger of injury by electric shock from the lighting current when holding or touching a defective fixture.

Light cord extensions should be fixed, that is non-removable; ordinary switches will not do; non-sparking extension sockets and plugs and switches are commercial articles; extension cord sockets and all other lamp sockets should be switchless, and lamps should be protected against breaking.

The use or installation of anything and everything that can produce a spark must be avoided. The surgeon's cauting instrument will cause an explosion if explosive mixtures are present; that motors often do spark is common knowledge.

Until a way is found to do away with sparking in the operating room there occasionally will be explosions.

—Richard E. Schmidt, Architect, Chicago

Copper Cement Flooring

A copper cement flooring material called Hubbellite reduces the danger of getting athlete's foot and warts on the soles of feet from swimming runways, locker and shower rooms, according to Dr. W. L. Mallmann of Michigan State College, reports the Journal of the American Medical Association.

When the fungus that causes athlete's foot was spread on blocks of glass plate, ordinary cement and Hubbellite, Dr. Mallmann reports, the fungi multiplied on the glass plate and ordinary cement to double and triple the original number after four and eight hours. On the Hubbellite the fungi were reduced from 72,000 to 74 after eight hours. Hubbellite was developed by D. S. Hubbell at the Mellon Institute for Industrial Research at Pittsburgh.

A mural, sandblasted into a 7/8-inch thick ivory colored Carrara structural glass panel, occupies a wall in the public lobby of the United States Post Office at Ford City, Pennsylvania. Its deepest cut reaches half way through the 7/8-inch glass. The exposed surface of the glass is polished. Josephine Mather of Pittsburgh did the modeling.

Federal Housing Projects

Frances Cabrini Homes: The Chicago Housing Authority is building a community of modern, low-rent homes on the near North Side of Chicago for families of low income. They will be built on a six square block area, bounded by the alley north of Chicago Avenue, Oak Street, the alley east of Larrabee, and Hudson Avenue. There will be 586 homes or apartments. The homes will range from two to six rooms in size and will accommodate families of from two to eight persons. Each apartment will be heated by hot water radiators. Each tenant will furnish his own heat, as he would in his own home. A modern furnace, installed by the Chicago Housing Authority, will be in a small utility room.

The apartments will be arranged in both two-story row houses and three-story garden row houses. The latter will have apartments on the ground floor with two-story row houses on the second and third floors. Rents in the Frances Cabrini Homes will be as low, or lower than those in any other project operated by the Chicago Housing Authority, and will be as low, or lower than prevailing rents in the neighborhood. To be eligible for the new homes, families must be citizens of the United States, residents of Chicago.

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400-plus USHA Projects Completed: The number of USHA low-rent projects completed or under construction has now passed the 400 mark, according to Administrator Nathan Straus. More than a third of a million people are now living in the low-rent projects built under USHA or the former PWA Housing Division. At the conclusion of the present low-rent housing, slum clearance program 750,000 people will be housed in USHA projects.

Unborn Illinois State Building Code

Our efforts should now be concentrated upon the passage of a State Building Code. It will be more helpful to the profession than an amendment to the Architectural Act. It makes the filing and sealing of drawings and specifications compulsory, and will apply to all buildings within or without corporate limits. This is especially true now that the Professional Engineers' Act has passed.

Professor L. H. Provine is revising the National Fire Underwriters' Code this summer. I am certain we shall obtain from him many valuable suggestions for our proposed Code.

We must work out a plan to secure the support of all groups interested, as well as the active support of all members of the A.I.A. Chapters, the Illinois Society and the Registered Architects of Southern Illinois. Furthermore, we must be prepared to contribute to a fund to be used to defray expenses necessary in connection with such a campaign.

—Pres. Leo H. Pleins in Central Illinois Chapter A.I.A. Quarterly Bulletin

Missouri Architects and Engineers License Law

On August 4, Governor Donnell signed the Registration Act for license architects and engineers in Missouri. Registration begins October 10, 1941. One bill covers both professions. There is the usual "grandfather clause" covering registration of men now practicing in either profession. The Act sets up a seven-man registration board of three engineers, three architects, and a chairman who may be either an engineer or an architect.

Wooden Temple 1084 Years Old

Dr. Liang Ssu-ch'eng, technical director of the Institute for Research in Chinese Architecture, has discovered in the mountain fighting zone of Shansi province a wooden Buddhist temple which has stood through wars, wind, and weather for 1084 years. One of its columns carries the date which, when translated into Christian chronology, is 857 A.D.

In the temple are giant clay images of deities and a life-size figure of a woman who was "Donor of the Hall of Buddha, Woman Disciple Ning Kung-yu." The temple stands (if it still stands in these war days) on the sacred mountain Wu-t'ai Shan.

Architects' Monographs through Contractors' Ads

The Editor: I wish to bring to the attention of the Illinois Society, for whatever action it may wish to take, the following described situation.

A number of architects in this vicinity have recently had published for them a brochure showing pictures of their work. The brochure is paid for by contractors' advertisements appearing in the back portion of the brochure. The architect furnishes and pays for the photographs to be produced. The publisher presents the argument that the advertisements are worth to the contractor what he pays and, therefore, it is a worthy proposition.

My own inquiries do not confirm this view. I feel certain that contractors buy the advertising space only to "go along" with the architect. In cases where several architects in the same territory publish brochures, contractors are compelled to buy space in all the brochures which is a hardship for small firms.

Our firm published one of these brochures several years ago. Going into the proposition with some misgiving, we were shown previous publications of eminent architects and assured that everything was all right. After our publication appeared, brochures of many architects and a few of prominent builders were circulated. We have recently been approached to publish a second brochure and I presume that the publishing company is about to make the rounds again; so it would be well to consider the proposition now.

—James H. Ticknor
Anderson & Ticknor, Architects
Lake Forest, Illinois

Sky Hostel on Mt. Evans, Colorado

Three miles above sea level Sky Hostel stands atop Mt. Evans, 62 miles from Denver and 150 feet higher than the top of Pikes Peak.

It is a massive, turtle-backed sky hotel 14,259 feet above sea level, a height where internal combustion engines are ineffective. The structure is built of massive granite slabs found on the ground and everything about the building had to be done entirely by hand. Two to five ton stones were selected that would fit and hauled into place by manpower. These granite blocks are vitually mortised into the granite of the peak with concrete. Wind at the peak reaches a velocity of from 140 to 150 miles an hour.

Nearly half the exterior surface is of glass—glass cemented into steel sash. The walls are from five to eleven feet thick.

Denver workmen living 9,000 feet lower could not stand the altitude more than a day or two. The contractor, W. H. Roehling, brought brawny Scandinavian miners from a camp, 9,000 feet up the mountains, to do the work. But even then the work day was but four hours. Frequent lightning storms presented another problem. Finally, after trying to insulate the building, it was grounded instead—with scores of thick copper leads buried into cinder-beds among the rocks.

Everything except the granite and the water had to be brought up from below, even the logs for the big fireplace, since timberline is 3,000 feet below the hostel.

The building is revolutionary, too, in that it is not tied down by cables, as are most buildings at such altitudes and as is the cosmic ray laboratory of the University of Denver, a hundred yards away.

The hostel cost \$50,000 to build and the owner is the Mt. Evans Club, a group of Denver business men who have agreed to turn it over to the Forest Service in 20 years. Edwin A. Francis, of Denver, is the architect.

School of Design in Chicago, L. Moholy-Nagy, director, in its calendar 1941-42 announces 18 courses beginning with "Basic Design" and ending with "Children's Workshop Research and Practice." "The program of work has been chosen to liberate the imagination of the student and fit him to meet the challenge of new techniques and materials."

Roscoe Woods is president of a realty company in Hammond, Indiana. On June 19, he appeared in federal court asking for an application to reorganize his company. In his vehement description of the sylvan beauties of his subdivision, his belt broke and his trousers dropped to the floor. "Not the first time I lost 'em," he remarked.

New York Architects Invite I.S.A.

On behalf of the Officers and Directors and the Convention Committee of the New York State Association of Architects, I extend to you and to the members of your State Society a very cordial invitation to attend our Annual Convention which will be held this year in Syracuse, New York, on October 16th, 17th, and 18th.

Dean L. C. Dillenback of the College of Architecture, Syracuse University, is the Chairman of a very energetic Convention Committee which has this year prepared an exceptionally fine program. With the unfortunate dislocation of business due to the Defense Program it is increasingly important that our profession give serious consideration to maintaining its position and, if possible, to improve our current status. The program which has been arranged has had a thorough discussion of this subject in mind.

I am sure that should you or any of your fellow architects from Illinois be able to attend that they will enjoy meeting the three hundred or more New York architects and joining in this discussion.

—James Wm. Kideney, President
Buffalo, N. Y.

Integral Concrete Wall Insulation

A novel method for putting heat-insulating air spaces into a concrete wall is being used in the erection of a new WPA warehouse in Bismarck, N. D. Short lengths of split green cotton-wood logs are set, like bricks, into the wet concrete. In a short time the green wood will shrink and decay, leaving the spaces practically empty.

The method is very economical, constructors says, and produces a wall stronger than hollow tile, and with better insulation properties. The idea originated in Scandinavian lands, and was brought to this country by immigrants. It has been used in farm buildings in the region, but the Bismarck warehouse represents its first introduction into public buildings.

Commerce Department Predicts

August 10 the Commerce Department predicted that new construction, boomed by armament plant building, would total \$10,200,000,000 this year compared with \$6,850,000,000 in 1940.

It estimated that 1941 private construction would total \$4,900,000,000 and public construction \$5,300,000,000 compared with \$4,183,000,000 and \$2,667,000,000 respectively last year.

Public Works Planning

During the past few weeks preliminaries have been cleared out of the way to permit the Public Work Reserve plan to begin functioning. Its sponsors, the Federal Works Agency and the National Resources Planning Board, have appointed regional directors and have conducted meetings in various cities to familiarize federal officials with their necessary jobs of co-operation with local governments. Manning of the regional offices is now under way, and before long representatives will begin calling on state, city, and county officials.

It is important that the PWR and its function be understood, for its purpose is laudable, and its present objective, if we understand it correctly, is compelling.

—Editorial, "Engineering News-Record"

One South American fish can climb vertical stone walls in a stream bed, aided by a modified sucker-like mouth and an apparatus formed by the lower surface of its pelvic fin. (Can this be a fish story?)

In September "Pencil Points" Professor Talbot F. Hamlin discusses "George Grant Elmslie and the Chicago Scene." The article is a sympathetic and appreciative statement of Mr. Elmslie's architectural achievements through the years with and without other associated architects. It will be remembered that Mr. Elmslie was for more than twenty years Louis Sullivan's first assistant.

Pierre Menard's Home

One day in 1933, while examining the Menard Home, we came upon some old shingles on a portion of the main roof, but under the connecting roof of the passage to the kitchen. They were painted red and appeared to be old and we could see that at one time they had been exposed to the weather. At the time, we were piecing together the story and sequence of its erection and these shingles appeared to be a possible source of vital information. We removed several of them, together with their nails, also some nails from another portion of the house, which we knew to be original, and then had all of them analyzed.

The shingles proved to be cottonwood. They were of the "tapered" type and the butts were sloped to make them appear thicker. They were painted red on the "exposed-to-the-weather" surfaces and showed a little decay around the nail holes. The shingle nails were early machine made cut nails and had hand made heads. They broke easily when bent, which told us they had been made prior to 1870 when the first iron nails were made which could be bent and clinched without breaking. They were made after 1795 when the first machines were used in Pittsburgh to shear plates into tapered nail shanks. The original nails and the shingle nails were then compared, and both were sliced into thin sections and photographed under a microscope. The results of these x-ray refraction tests showed that the shingle nails were of a slightly more advanced type of iron than the original nails, but of an old formula. Thus they could have been a part of the original house, built in 1802, although new products such as machine made cut nails did not spread then with the speed of today, so we believe they were probably a part of the second roof, possibly erected about 1830.

The story was now unfolding for us and told us that Pierre Menard, Illinois' first Lieutenant Governor and wealthy settler of French descent, erected this fine house on the west bank of the (then) Kaskaskia River (now the Mississippi) patterned after a common type of Louisiana plantation house with a porch on three sides and the separate kitchen at the rear with the basement floor of the house level with grade. About 1830 he stripped off the original shingles and installed a new cottonwood roof. About 1835 he noticed they began to show signs of decay and painted them red. A little later (about 1840 by the condition of the paint) he decided to cover the passage from the dining room to the kitchen and added the roof, butting it against the main roof, thus covering the shingles which are the subject of this discussion. The house has a heavy oak and walnut frame of the French type and the exterior is covered with siding painted white, and the details are a combination of Colonial French, Georgian, and American Colonial.

The foregoing account is given in detail to illustrate how little details can tell so much, also to illustrate how we sometimes are called upon to seek assistance from experts in many branches of science. In this particular instance we are indebted to Mr. V. L. Glover, Engineer of Materials, Division of Highways, Professor J. T. Buchholz and Rexford Newcomb of the University of Illinois, Charles S. Walters of the Department of Forestry of the University of Illinois, and Dr. H. P. Brown of the New York State College of Forestry for the cottonwood identification. George L. Clark, Professor of Chemistry at the University of Illinois conducted the x-ray refraction tests of the nails. Dr. Russell H. Anderson of the Rosenwald Museum of Science & Industry gave us valuable assistance as he had done many times since with other problems. The use of cottonwood with its state of preservation has been of keen interest to students of forestry.

The home remained in the Menard family until 1890. After two succeeding ownerships it was acquired by the State in 1928. It has been partially restored to its original state and many of the original family furnishings have been returned to their former setting. This house represents the Territorial Period and the early years of Statehood and is linked with the French occupation of Illinois. It stands less than a mile away from the former site of the great French city of Kaskaskia, first capital of Illinois, wiped out by the flood of 1882, and now but a yellow sand bank in the distance. On the bluff just above the home stands the site of old Fort Kaskaskia erected by the French in 1733.

The home, now a part of the State's system of Parks and Monuments, is open to visitors, is three miles east of Route 3, is on the

Mississippi River about seven miles north of Chester and 60 miles south of East St. Louis.

—Joseph F. Booton, Chief of Design

Division of Architecture and Engineering, State of Illinois

(Continued from Page 3, Column 2)

else has the education or ability to function as he does, in the construction of a building.

The architect alone possesses the knowledge of design, the ability to plan practically the physical functions of the building, and the technical knowledge to supervise the construction, so as to assure the use of all materials at the proper time and in a manner to best serve the purpose for which they were intended.

When the public fully understands the many ways in which an architect serves it in its building investment, it will know the need for first consulting him, then following his advice, thereby obtaining the greatest security on its investment.

Understanding these facts, no one would consider building without proper guidance and then the architect would control the project from its inception until its completion, being free to use unbiased judgment in design and use of materials, so that the completed building will be practical in arrangement, pleasing to the eye, and safely and economically built.

After the Defense Program is over, the government will expect the architect in private practice to re-employ the designers, draftsmen, stenographers, etc. and proceed as in the past. This will not be possible, if the public, through government education expects free service and this condition, together with the paucity of work and the low incomes of the architects in general, brought about by the present emergency, will result in a peak of unemployment in the architectural profession.

—William J. Ryan, President
Illinois Society of Architects

Announcement is made of the formation of a new professional society called "American Society of Architectural Hardware Consultants." Founded in 1940, the Society aims to act as a liaison between the hardware industry and professional organizations such as the American Institute of Architects, United States Bureau of Standards, and the National Board of Fire Underwriters.

With growing complexity in building construction, the need of trained hardware consultants becomes apparent. A rigid examination by the Society for its members is provided to show competency.

Besides a president, two vice presidents, and a secretary-treasurer, the management of the Society is staffed with 19 directors.

Col. Horatio B. Hackett, prominent for some time in the building industry, died September 8 in Henrotin Hospital, Chicago, age 61. Col. Hackett was born in Philadelphia, Pa. and graduated from the U. S. Military Academy, 1904; architectural superintendent for D. H. Burnham & Co., Chicago, 1906-14; war service at the front, 1917-19, awarded D. S. M., Silver Star and Purple Heart decorations; member firm Holabird & Root, architects, Chicago, 1922-34; general manager, housing director, assistant administrator, successively, of P. W. A., 1934-37; president Thompson-Starrett Co., general contractors, 1938; member Board of Local Improvements, Chicago 1932-34; elected president of Material Service Corporation, Chicago, 1941. Though Col. Hackett was not a licensed architect in the state of Illinois, the American Institute of Architects elected him a member in 1935.

George E. Morris, architect of Elgin, Illinois, after practicing his profession for 40 years in that city, died there on August 20 in St. Joseph's hospital, age 66. Many of his works stand in Elgin and the surrounding country to testify to his ability. Joining the Illinois Society of Architects in April, 1930, he remained a member to his end.