

The AMERICAN ARCHITECT



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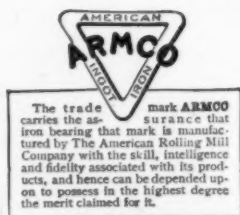
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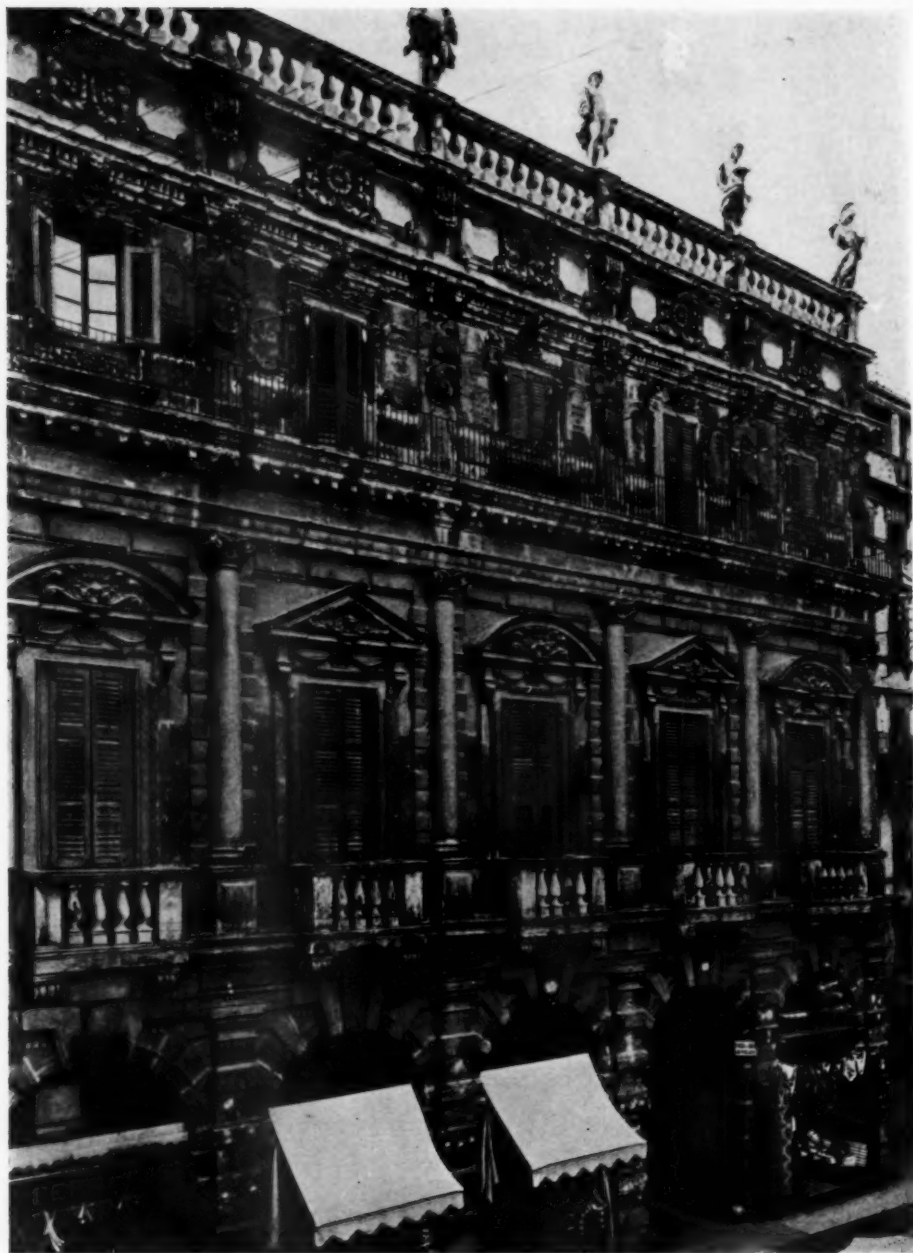
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THE AMERICAN ARCHITECT

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VOL. CXV

WEDNESDAY, MAY 14, 1919

NUMBER 2264

The Nashville Convention of the American Institute of Architects

The Second and Third Days' Proceedings

An Historical Pilgrimage to the Hermitage, and an Old-Time Barbecue Mark the Close of an Epoch-Making Meeting

AT the opening of the morning session, the report of the Committee on Credentials was presented. This report showed that the full quota of delegates certified to the convention was 213, of which 145 were registered, leaving delegates certified but not attending as 68.

In analyzing this non-attendance, it was found that the Baltimore, Brooklyn, Buffalo, Toledo and Wisconsin Chapters were entirely unrepresented. Boston, with fourteen delegates, had seven present with seven proxies, Cleveland presented a full delegation of five, and Illinois, entitled to thirteen delegates, presented a full attendance. The New York Chapter, with a total accredited delegation of twenty-two, was represented by eight delegates with fourteen proxies.

The Committee on Credentials recommended that the present system of registering delegates be discontinued, and that in future conventions a room be provided for the Credentials Committee and that delegates be instructed to file their credentials with the committee in advance of the opening session of the convention.

Following this report, Irving K. Pond read an appreciation of the late Frank Miles Day. When Mr. Pond's paper was concluded, the delegates stood in silence for a period as a tribute of respect to the memory of Mr. Day. Mr. Pond's address of appreciation was as follows:

AN APPRECIATION OF THE LATE FRANK MILES DAY

In honoring Frank Miles Day, the American Institute of Architects honors itself, for its honorable progress is linked insistently with the development of that many-sided man who lived to serve it with untiring devotion in its every need. There is scarcely a copy of the proceedings of the Institute for the last two decades which is not a chapter in the

graphic history of his profuse contributions to the cause he loved—here the scholarly report, there a tribute to a fellow architect done in beautiful English; here a timely warning against ill-considered action, there helpful interpolation wherefor to clarify the turbid waters of a convention debate.

And so, in setting forth the Institute's estimate of the man, Frank Miles Day, on the pages of the proceedings of the Fifty-second Annual Convention the record is complete, just as he would have wished it, and just as his family will want to find it, not in high-sounding phrases of formal resolution, but just the simple record written in loving appreciation and approval by a silent, heartfelt tribute to his memory.

In the prime of his professional career, Frank Miles Day, architect, teacher, practical man of affairs, and in all and through all an indefatigable worker, passed away. From his first day of service to the profession in its national organization, down to the day of his death, he worked unceasingly for the good of the profession with utter devotion and a complete disregard of self.

During the years of Mr. Day's active connection with the Institute, it grew from a small group of Eastern men who practiced architecture almost as amateurs, to a society embracing architects from every part of the country, and including the best men of the profession everywhere. He entered the profession when, as already suggested, it was almost an amateur occupation; he left it when it was one of the most complex and difficult professions; he kept pace with that progress, at many stages he led or directed its progress, and if his fellow architects owe him a debt of gratitude for his unselfish life of devotion to their profession, the public owes him a debt for his share in uplifting architecture.

Mr. Day shared in and took an active interest in the growth of the Institute, but also demanded the

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highest standards of those who were admitted to it. He believed in the growth of the Institute, but he believed still more strongly that its growth should be sound. Believing that the best way to maintain its standards was to better them and the best way to convince others, whether the public or the profession, of the value of the Institute was to improve the practice of architecture among those who composed the Institute, he devoted himself to that work. The code of ethics, the innumerable studies on the subject of competitions resulting in what is now established, and the vexed schedule of minimum charges, were among the subjects which he gave his unswerving attention. The Institute is his debtor for these, but much more is it indebted to him for the Standard Documents. No one who had never worked with him can appreciate the great amount of patient work which has gone to the perfecting of those documents. That was his great contribution. It is the more remarkable in that nearly all the work on these documents was done after he had served the Institute for years, risen from one office to another until he was honored by being made president, and after his term took up this laborious committee work, and was at the time of his death completing a general treatise on the profession. Such is the tribute the Institute owes to Frank Miles Day.

As an architect and practical man of affairs, Mr. Day was a leader. He began to practice in 1886. Architecture was then just beginning to wake from a period of terrible torpidity. From just before the Civil War until the eighties there had been hardly a good thing done in architecture, and of all the cities probably none was at a lower ebb than Philadelphia, notwithstanding the fact that then, as now, it was surrounded by innumerable examples of delightful country places and had not a few fine old buildings in the city. It was to this existing fine work that Mr. Day was attracted. Mr. Day, always associated in our minds with John Stewardson, Walter Cope and Wilson Eyre, struck out on new lines, new, yet old, for they were on the sound foundation of old work and led the way to much of that which is best today.

There was at that time in Philadelphia, as there is today, a group of very able painters, sculptors and illustrators, and many workers in the minor arts. With all of these Mr. Day was intimate and gained immensely, as one always does, from such companionship. Like all true lovers of the arts, he loved the country and was as skillful in handling that most fascinating of all materials, the growing thing, as he was with brick and mortar, so that his gardens, whether designed for himself or for his clients, were as charming as his houses. He was

one of the many architects who demonstrated in practice that the garden is as much a part of architecture as is the front hall, and also that no one who does not think in terms of architecture can design gardens.

With all this, he was an intensely practical man. He studied the economics of his office and his buildings. He delighted in devising ways and means of doing work better and more economically and, what is more, he knew what true economy is; for all this the profession and the public are his debtors. Those who knew him best will, however, remember him best not for his architecture, not for his service to the profession, but for himself, the true friend, the kindly, lovable companion.

NOMINATION OF OFFICERS

The nomination of officers then followed. These were:

For President, Thomas R. Kimball of Omaha.
For First Vice-President, Charles A. Favrot of New Orleans.

For Second Vice-President, C. C. Zantzinger of Philadelphia.

For Secretary, W. Stanley Parker of Boston.

For Treasurer, D. Everett Waid of New York.

For Directors (for term of three years), three receiving highest vote to be declared elected:

Edward N. Hewitt, Minneapolis.

William B. Ittner, St. Louis.

Henry H. Kendall, Boston.

Frederick W. Perkins, Chicago.

Wm. J. Sayward, Atlanta.

Charles Coker Wilson, Columbia, S. C.

In addition to the above, the following members were nominated for election to Fellowship:

Elliston D. Bissell, Philadelphia.

N. Max Dunning, Chicago.

William Emerson, New York.

Robert D. Farquhar, Los Angeles.

Walter H. Kilham, Boston.

Henry McGoodwin, Philadelphia.

W. S. Richardson, New York.

UNFINISHED BUSINESS

Under the head of unfinished business, a discussion was held relative to enlarging the duties of the Secretary. The Board of Directors had recommended that the work of the Secretary be enlarged; that he devote his entire time to the Institute and that he be made editor-in-chief of the *Journal*. In addition, that the Secretary should assume the business management of the Institute, and should receive a salary of \$8,000 a year. There was a spirited debate on this measure, during which the delegates expressed in the highest terms their appreciation of

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the very painstaking and efficient efforts of Secretary Parker. The report of the Board recommended that the entire matter of a proposed executive secretaryship be referred to the Post-War Committee, and the convention voted accordingly.

An effort was made to take from the table a resolution offered at a former convention favoring universal military training. The motion was lost.

In the matter of war memorials, it was voted as the sense of the Institute that no undue haste be made in the matter of erecting war memorials, but that deliberation be given to such memorials to the end that architectural monstrosities be held down to the minimum. It was pointed out that France is now pursuing a similar course.

Burt L. Fenner of New York read a telegram received by him, stating that the Housing Corporation had decided to omit the author's name when a design should be published. The convention directed that a message should be sent to Lerry K. Sherman, president of the Housing Commission at Washington, protesting against such action. It was represented that the engineers, landscape designers and architects of the country had given faithful and patriotic service during the war, and that the Institute, respectfully but firmly, maintains that the slight recognition that would be accorded them by the publication of authors' names is their just due and is a matter of public interest.

AFTERNOON SESSION

The afternoon session was a meeting of the Post-War Committee on Architectural Practice. N. Max Dunning was in the chair.

The following address was made by Irving K. Pond, past-president:

MR. POND ON THE STATUS OF THE ARCHITECT

I am asked by the chairman to speak for a few moments to the topic (C) "The Status of the Architect: Art, Profession or Business." If this is a question it was answered properly many decades ago for the Institute by *itself*. If it is a statement, the form is improper and should be: Art, profession *and* business; a "Trinity" and withal a "Unity"; a paradox which, in another field, the dogmas of orthodox Christianity have forced many to accept, and many others to contemplate with more or less strained acquiescence, or with no emotion whatsoever. But perhaps in the architectural field it is not a paradox, but upon analysis will prove to be a clean-cut statement of fact. Under whatever phase it may be discussed, however, I am going to regard it all in the light of the words of old Polonius, whose advice holds just as good

under post-war as it held under pre-war conditions, and it held with firm grip then: "Above all," he says, "Above all to thine own self be true; and it must follow, as the night the day, thou canst not then be false to any man." If the architect sincerely maintains that attitude the public will soon enough recognize him in and through it, and repose confidence in him as an artist, and as a professional man who, with the ordered instinct of business, co-ordinates his powers and faculties and accomplishments to the end of a deeper and richer personal and public service. "To thine own self be true"—and let post-war committees and a complaining public—if it exists—go hang.

And if the architect be true to himself what does he mean by Art? Is it what the narrow-minded structural engineer—not the engineer in general, but the narrow-minded structural engineer—for his own immediate, selfish, commercial advancement, says it is—though down deep in his own heart he knows better—a mere ornamenting of the inherent structure with pretty, or supposedly pretty, decorations? I shall not deny—but, rather, shall insist—that architects have too frequently given the public as well as the structural engineer some show of reason for entertaining at least such a suspicion. Art means, in architecture, not the *application* of anything, but the presence of a guiding and directing spirit through whose intervention the problem shall be so solved that function shall be perfect while through and permeating the material mass the spiritual essence of order, appropriateness and charm shall warmly irradiate. Charm is a rare word, and its essence is all too rarely distilled into architecture. Catch and hold its fleeting beauty! Art in architecture means that the desires of the soul as well as needs of the body are fully ministered to. In this age it were perhaps better to say the needs of the soul and the desires of the body. So much, and briefly, for the art. Now for the profession.

The architect who is true to himself will be true in his professional capacity, and so cannot be untrue to the profession. (My inadvertent introduction of "and so," just here, reminds me pleasantly of the rather anomalous position I occupy in discoursing in this august presence, even in response to an invitation, upon architectural art and professionalism. The *Journal* of the A. I. A. maintains and has promulgated the idea that my aesthetics, and the ethics involved therein and practiced by me throughout a long series of years, are a *blight* on architecture, "from which, however," it opines, "the profession will be secure." In spite of that bar sinister, as it were, across my professional shield, I am inclined to proceed.) What is the attitude,

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the state of mind, the state of being almost, which distinguishes professionalism from business? It lies in a dual function of the professional mind: the one phase touching the attitude of the professional toward his client and the other touching his attitude toward his calling, including self and brother practitioner. As toward his client the professional must always hold himself in position to give full and frank advice removed from the slightest possibility of being affected by self interest. This necessarily prevents the professional architect from engaging in the building trades, or in any building trade; or from letting a direct contract for a client in the architect's name; from operating similarly through a "cost-plus" contract, or even a fixed fee, as this is liable—extremely likely—to bring architects into competition with each other in point of fees. The architect's disinterested position, that is from the standpoint of self, has been wisely safeguarded in the past. I hope that the Institute as a professional body will never fall from that high estate. Post-war conditions have not made it necessary.

As to the architect's attitude toward his professional self: it should be one of dignity and self-respect, so that he should not feel called upon to slink out of his clothes in the dark when he retires, shunning any waking thought of himself, but so that he should be free and glad to behold his face in the mirror as he brushes his hair in the morning. A man who considers his creative power valueless, who is willing to let any wished for or hoped for client illegitimately mother, and, through ignorance, impotence or abortion, fail to bring forth well formed the children of his brain, has no self-respect, is not respected by others; has no sense of personal dignity and could not impart dignity or charm even to his legitimate offspring—which are justly looked upon with derision, at least with suspicion, by others. The man who offers his advice for nothing gets just exactly what it is worth—and finds the sum or the equation balanced in the minds of his clients and of the public. If architects, as a rule, were to place a value on their creations and on their advice, giving themselves not in anticipation of favors, but only for the public weal, the

vexed problem of competitions would mainly settle itself; a very minor code would be needed. Until that status exists, however, a real code will be required—not a code, by the way, such as has been suggested, which inadvertently opens the field to competitions without sign of supervision, placing restrictions only about a "formal competition" which under such circumstances never would be instituted. Self-respect will beget a respect for others and will be treated with respect by others.

As for business, that term must be made to cover all, and only, the necessary financial and executive or administrative side of the profession, and must not include the participation of the professional man in contractual relations except as with the client. The Institute, through its schedules and codes, should in these business matters be of much fuller assistance to its members—and so incidentally to the profession, which depends upon the Institute for leadership and guidance. If the Institute sets the example and is true to itself it will make a real study of the schedule nor hesitate through fear of confusing the public or creating in its mind the impression that the architectural mind is not a unity within itself—a fact which is fairly apparent to that small section of the public which knows or cares anything about the internal workings of the profession.

In the art, the profession, the business of architecture, it is the duty of the Institute to set the standard high, to draw all adherents of that high standard to itself—to educate the public and the profession at large to an appreciation of that standard, and to shut the door upon all who drag it down. There is no conflict between the art and the business of architecture; neither should be developed at the expense of the other; neither *can* be. An individual may be proficient in one branch or the other, in both, or in neither. His proficiency and his professional integrity will determine as to how each branch shall develop in the practice of that individual, while a reasonable proficiency in each branch and in all branches, and a reasonable amount of self-respect, will beget in the public mind confidence in and respect for the professional and the profession.

Third Day's Proceedings

AN HISTORIC PILGRIMAGE AND AN OLD-TIME
SOUTHERN BARBECUE

THE brief session held on the third day was devoted to unfinished business and the report of the tellers of the ballot.

The entire ticket for officers and Fellows was unanimously elected. The directors chosen were Edward H. Hewitt, Wm. B. Ittner and H. H. Kendall.

At eleven o'clock the convention adjourned to accept the invitation of the Nashville Society of Architects to a motor ride to points of architectural interest, with a barbecue at The Hermitage, the stately home of Andrew Jackson.

Much has been written of southern hospitality. If any members supposed that the cordiality in the South was a thing of antebellum days, but had now suffered in quality, they were soon to be shown their error. As the delegates moved in a body to the steps leading down from the Capitol building, they saw in the long vista of the street a great gathering of motor cars. As there was a full attendance of delegates, together with many guests of the Institute and the Nashville Society, there were probably two hundred to be taken on this enjoyable trip. The arrangements were so perfectly planned that soon a long *queue*, stretching along many blocks, was swiftly moving.

The route, first through Nashville, was then out into the beautiful blue grass region, circling about to reach the famous Belle Meade farm, the birth and training place of many famous race horses. On the sloping lawn of the mansion there lie buried many horses, and above them are stones setting forth their records. In some instances pretentious monuments have been placed.

From Belle Meade, over an undulating and beautiful country, The Hermitage was reached. Here the Nashville Society was assisted in entertaining the delegates by a group of women representing the organization that has secured and preserved this historic mansion and its contents. Proceeding up a long avenue flanked with pine trees, the house is reached. It is of the type so familiar as the residence of the well-to-do during the days of the Colonial period up to just before the Civil War. In these houses the owners of broad acres lived a life of dignified ease and luxury surrounded by large families, supplemented by numbers of guests. About the house were grouped the quarters of the slaves and the dependent buildings, while at one side the beautiful old-fashioned garden, full of carefully tended plants and shrubs made a delightful spot of color.

It is of this type that The Hermitage is. The wide central hall with its staircase is flanked on both sides with rooms, the first floor with those for ceremonial purposes—large drawing-rooms, their walls covered with paper of classical design, so much affected at that time, and all excellently well preserved. The beautiful mahogany furniture, that makes the collector envious, the many portraits of Jackson on the walls, all preserve the atmosphere of the day when Jackson sought this dignified retreat to rest from the many vicissitudes of a strenuous life.

The large dining room with its spacious mahogany table and old English chairs is set with the very china and cut glass used by Jackson, while the many prised candlesticks are placed as if it needed only the entry of the serving men and women to lay a feast such as marked these southern homes at that time.

The various bedrooms in the upper story have each their "four-poster," and each a rare example of honest mahogany craftsmanship. The broad porches afford a pleasant shelter from the heat of the southern sun, and through the air is wafted the delicate odor of the surrounding pine trees. A most delightful and restful spot, a very haven of rest for the delegates who had for three days and nights been actively engaged in their deliberations.

In the garden, under a classic temple, repose the remains of Jackson and his wife, while near by are buried other members of the family.

In a grove of trees, opposite the entrance to the grounds of The Hermitage, the barbecue was held. This form of entertainment was new to many of the delegates, who surveyed the pits of glowing coals on which were roasting sheep and hogs, fish and chickens, and all the many things that long and honorable custom has declared are essential to the successful conduct of this feast.

A more enjoyable occasion it is difficult to imagine. In the shade of the trees on long tables heaped high with everything that is good to eat, and in Tennessee, proper to drink, the delegates gathered about. The contrast between this delightfully informal occasion, when many prominent architects were noted enjoying with evident relish the good things spread before them, and the formal full dress dinners of previous conventions was strongly to be noticed.

It is difficult without effusion to state just exactly how fine an occasion this was. It is difficult to express a proper sense of appreciation of the well-bred hospitality that was strongly in evidence at every hand. Certain it is that every man who was fortunate enough to have been present will "mark that fortunate day with a white stone."

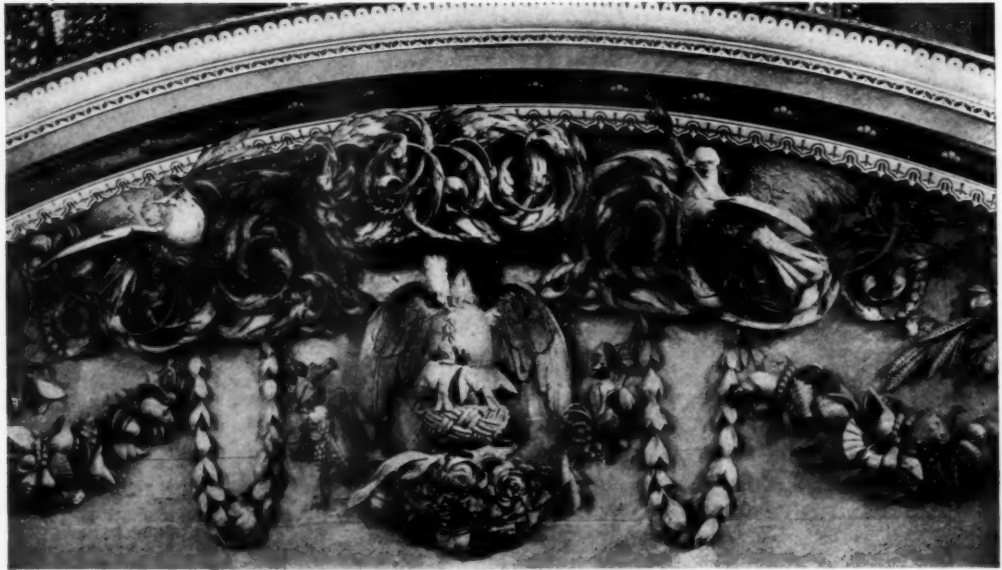
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The weather was perfect, and the ride back to Nashville during the early evening carried the party through the grounds of the large Government powder plant. There at the entrance an officer politely but firmly demanded that every man give up his matches, and while the long line of cars was passing through the grounds mounted soldiers galloped their horses alongside to make sure that someone through force of habit did not fetch from a neglected spot a stray match and attempt to smoke.

And so back to town, tired but contented. First the traces of a day afield to be removed, then a hasty dinner and finally as a conclusion to a most

successful convention, a meeting of the Post-War Committee.

The late night trains on Friday carried to every point of the compass many tired but well contented men. Great questions had developed, and great and successful efforts had been made to solve them. The fifty-second convention of the American Institute of Architects was now history. Its results will undoubtedly be far-reaching. With the well-directed activities of the Post-War Committee, and all the efficiently working regular committees, we shall undoubtedly see a greater, a more influential Institute than ever before. A thousand new members in 1919? Why not?





SKETCH FOR MURAL PANEL, "GIFTS TO THE GODS"

HARRY WATERS ARMSTRONG

The Thirty-second Annual Chicago Architectural Exhibition

IMAGINE, if you please, an architectural exhibition, covering the walls of three large galleries in one of the most important art institutes of this country. Then, further visualize that on one side, this exhibition is reached through a large gallery filled with the work of the greatest American landscape painters, and on the other, through a gallery whose walls contain the best lot of Claude Monet's pictures that are to be found in the United States. Having all this in mind, receive the assurance that the exhibition of architecture suffers nothing adversely by comparison. There is no feeling of incongruity, no sense of a lack of fitness.

We have been referring to the thirty-second annual Chicago architectural exhibition which for more than three weeks has been hanging on the walls of the Art Institute of Chicago. This exhibition was given jointly by the Chicago Architectural Club, the Illinois Society of Architects and the Illinois Chapter of the American Institute of Architects.

If a man may be judged by the company he keeps, so may this exhibition be judged by its associates and by its neighbors. The writer hereof took a seat on one of the huge couches from which point he could command both entrances. The object was to learn, if he might, whether the large number of people who thronged the picture galleries would hastily pass by the architectural exhibit and continue their study of the painting and sculpture. They did not. On the contrary, there was a very



HOUSE OF MR. OTTO R. LIEBER, INDIANAPOLIS, IND.

HARRY H. BENTLEY, ARCHITECT



FACTORY BUILDING AT ST. PAUL, MINN.

RICHARD E. SCHMIDT, GARDEN & MARTIN, ARCHITECTS

vital interest shown, a decided loitering in the three architectural galleries, and a keen appreciation of all that was hung on the walls. Further, this happening to occur on Saturday, there were throngs of young people. The drawings, renderings, photographs and models that made up this

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splendid showing of good architecture appeared to interest these young people to an unusual degree.

All these things have been set down here to support the contention, many times made in these columns, that when an architectural exhibition has been well selected and carefully hung, it holds its own in interest with exhibitions of the painter's and sculptor's art. Further, its opportunity for a

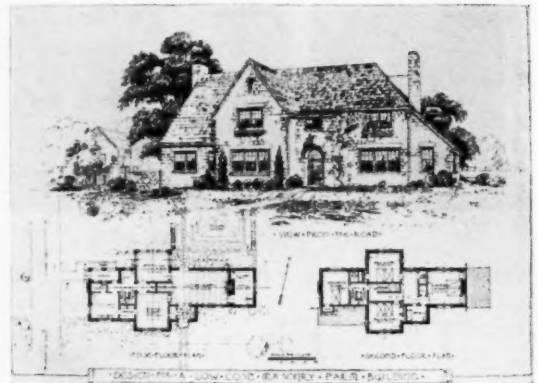


EDUCATIONAL BUILDING, UNIVERSITY OF ILLINOIS, URBANA, ILL.

JAMES M. WHITE, SUPERVISING ARCHITECT

wide appeal, an educational influence, is so greatly extended under conditions such as we are now referring to as to leave no room for doubt that it is in our art galleries that architectural exhibitions should be held.

It was well enough, perhaps, at one time to isolate them in clubhouses or their galleries where they would be only viewed where those directly interested might seek them. To such as those there was no novelty nor was there great need to stimulate interest. Hung as this Chicago exhibition is, its influence is so great and



SKETCH FOR FARM HOUSE, PEN AND INK

FREDERICK M. HODGDON, ARCHITECT

its potentiality for the higher education so strong, that the allied societies who have brought this result to consummation are to be congratulated. And these congratulations may be specifically given to the committees of selection and the hanging committee. Their work has been admirably carried forward. There is of the ultra technical phase enough to stimulate the interest of the deeply technical observer, there is sufficient of the elemental aspect of the student work to make their visits worth while. There are renderings that are works

of good art, sketches in crayon and pencil that are deeply interesting and all very good. For the man who likes color, there it is in a most harmoniously beautiful arrangement. Every detail well balanced, all carefully grouped, the



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QUIGLEY PREPARATORY SEMINARY, CHICAGO, ILL.
ZACHARY T. DAVIS, ARCHITECT

Thirty-second Annual Chicago Exhibition

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ensemble is just what it would naturally be when men well grounded in their art set about a thing of this kind.

So much for the artistic phase. As for the architecture, it is certain that the men in the Middle West have been progressive and in their progressiveness have they clung to their ideals. There is a certain well indicated originality in the work of these Chicago men that would seem to show that there is being developed a strong tendency toward what may be called a regional type. We are too broadcast a country, too widely diversified, to hope to evolve what may be known as a national type of architecture, so we shall perforce create regional types that will mark the section from which they spring.

The Middle West, like all the rest of the country, has during the past two years been almost stagnant in its building operations. But the architects in that section appear to have given strict attention to the admonition "plan now." This is apparent at the exhibition. There are many projects shown that only await some stabilizing influence when they will go rapidly forward. They range through every type of building, and they show the development of certain ideals in design and plan that will create a widespread interest and, it is believed, gain general approbation.



CLUB HOUSE



RESIDENCE STREET

INDUSTRIAL VILLAGE, MORGAN PARK, MINN.

DEAN & DEAN, ARCHITECTS

Considering such an exhibition as this, and its great educational influence on all of the people, the question arises, why, in the future isolate exhibitions? Why not follow this present excellent example in all cities where important exhibitions are held? Philadelphia was first to set a precedent. The warmly commended exhibitions of the T-Square Club, held in the art galleries on South Broad Street some years ago, are known to have been highly successful and to have yielded the most fruitful results.

Here in New York, with our Metropolitan Museum of Art doing all it can to elevate the art of the

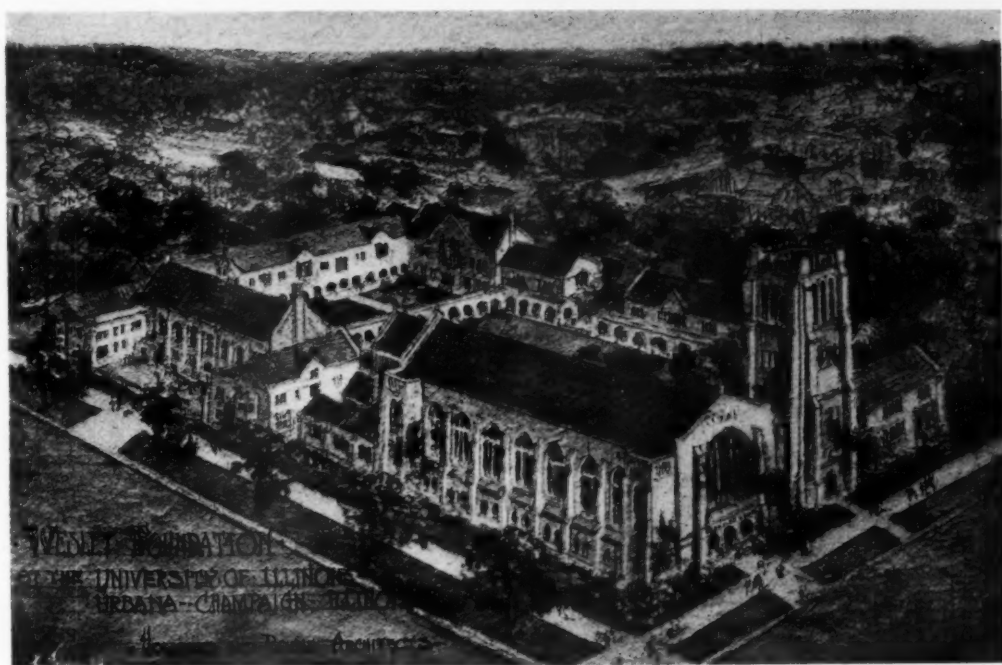


OFFICE BUILDING, THE WOMAN'S BENEFIT ASSOCIATION OF THE MACCABEES, PORT HURON, MICH.

RICHARD E. SCHMIDT, GARDEN & MARTIN, ARCHITECTS

craftsman, what more logical place to hold an exhibition of architecture than in some galleries near to the Willard exhibition of architectural casts? Can anyone doubt how measurably the good would be increased over a similar exhibition held in the Fine Arts building, whose very atmosphere breeds a sense of aristocratic aloofness that keeps away the thousands that would see an exhibition at the art museum? The genealogical tree of architecture has for its roots

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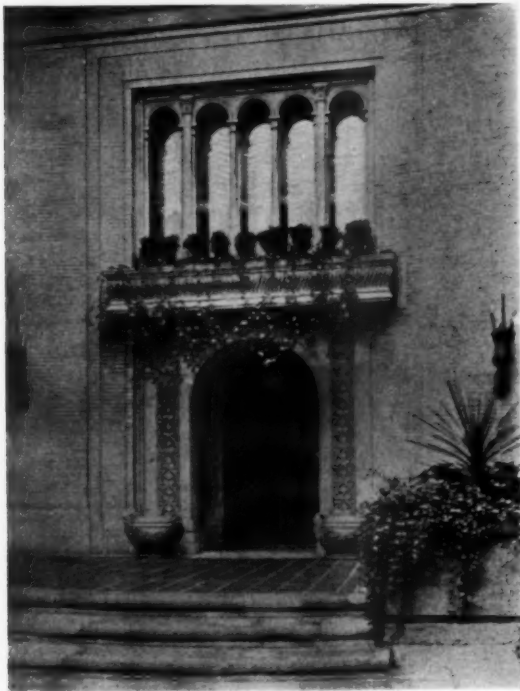
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HOLABIRD & ROCHE, ARCHITECTS

Thirty-Second Annual Chicago Exhibition

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the finest of the arts. Its trunk and branches indicate its many ramifications through all the arts, many of the sciences and numerous of the crafts.



RESIDENCE OF MR. S. S. HUTCHINSON, SHERIDAN ROAD, CHICAGO.
TALLMADGE & WATSON, ARCHITECTS

When the general public come to a closer knowledge as to what an architect really is, what he must know and do to practice his profession and how he must run the gamut from the most aesthetic to the

most prosaic and practical of things, they will have a better knowledge and a deeper respect for him and his work.

Interest in the thoughts that this Chicago exhibition has aroused has led to a drifting away from a specific review of it. That, however, is not necessary, perhaps, for enough has been set down to show how good it is and in its goodness how it points a method of conducting exhibitions that can be followed with the greatest success.

The book of the exhibition has been admirably prepared, and copies may be secured by application to the Secretary of the Exhibition Committee of the Chicago Architectural Club. A number of reproductions from the catalogue are presented herewith.

Awards in Competition for a Memorial Tablet

Charles Ewing of Ewing & Allen, architects, chairman of the Jury of Award in the Polachek Memorial Tablet competition, has announced the following prize awards for original tablet designs:

John O. Vegezzi, care of J. E. R. Carpenter, 681 Fifth Avenue, New York City, first prize; Edgar Salomonsky, 491 West 119th Street, New York City, second prize; D. M. Allison, University of Illinois, third prize; Rudolph Holsstein, 701 Crotona Park North, New York City, fourth prize; August Reuling, McKim, Mead & White, New York City, fifth prize; and A. E. Fettis, Ascot Place, Queens, L. I., sixth prize. Designs by the following were also accepted by the Jury of Award: Allen W. Fraser, 2215 Tilden Avenue, Brooklyn; Ellason R. Smith, 26 Indianola Avenue, Dayton, Ohio; and A. E. Fettis, Ascot Place, Queens, L. I.

THE AMERICAN ARCHITECT

THE AMERICAN ARCHITECT

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A Thousand in 1919

WHY not a thousand new members for The American Institute of Architects in 1919? President Kimball in his admirable address on the occasion of the opening of the recent convention stated that it should not be a hard task to secure this increase. Nor should it. With the Institute now off to a start that bids fair to widen its scope and largely increase its usefulness to every architect in good standing, it becomes the duty of such men to offer substantial support.

As the convention has given its endorsement to the program of the Post-War Committee, and as that program is a most constructive presentation of just what the policy of the Institute will be, there need no longer be any doubt in the minds of men who have heretofore failed to affiliate, but who undoubtedly should, of their present duty in furthering the high aims that will in the future dominate architectural practice.

It was, perhaps, an error on the part of the convention to decide not to follow President Kimball's suggestion for a reduction of the initiation fee. If the present fee is a deterrent to joining the Institute, though it should not be, it becomes as much the duty of men in the profession to make certain economies in order to join the Institute as it would be to subscribe to our various liberty loans.

There are patriotic duties in times of peace as well as in war, and it is a duty to lend aid to a group of men whose efforts are not confined to the betterment of its immediate membership, but which include every man who engages in the practice of architecture.

It is only fair to surmise that now the Institute has declared a policy which should meet the approval of all reasonable men, this approval should be shown by a largely increased membership. With a thousand new members there would be removed to a great extent the onus of the statement that the Institute is not a representative organization. As its policy is now outlined it certainly will be, and if this policy is strictly adhered to, it is the worst form of ingratitude to withhold support. So then, let there be a thousand new members in 1919.

Iowa's Housing Law

THE State of Iowa has now a housing law which has for its chief purpose the elimination of slum districts in all cities of more than 15,000 inhabitants. Iowa is not the first to enact such a law, as other states have preceded her in similar efforts. But two things, it appears, may be expected to dignify the present undertaking: the fact that wide publicity was given to the subject, to formulate general opinion on the importance of the situation, and the further reason that the matter will not be permitted to rest after enactment of the law, but will be enforced by health officials throughout the State. Labor organizations, women's clubs, civic bodies, and many other societies all took active part in promoting the idea and the accomplishment. This law becomes effective July 1 next. Landlords are no longer to be permitted to erect shacks without windows, proper ventilation and sanitary facilities, and where such conditions already exist, they will have a year from that date to make the buildings conform to the law. After that time, the builder will have to submit his plans to the city board of health, where the details of construction are to be examined. If these are found satisfactory, the building may continue, but no one shall take possession of the dwelling until examination of the completed structure shows it has followed specifications. A written permit will then be signed by the health department after the inspection proves the building satisfactory.

The enforcement lies largely with the city health officer. Jurisdiction is also given the State board of health to enforce this law, and it may enlist the aid of any court or judge for an injunction, either mandatory or prohibitive, such action to be prose-

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cuted by the county attorney or the attorney general.

While housing laws exist in other states, they have not the wide application that the present one possesses. Minnesota's law affects only Minneapolis; Wisconsin's, Milwaukee, and Detroit's is restricted by the Michigan law, it is said.

That each new housing law passed presents an opportunity to architects need not be proved. Where is there a greater appeal than in the eradication of ramshackle hovels and tenements in slum districts and the substitution of buildings to instill civic pride, encourage refinement of taste and guard personal and community health?

Where states have no housing law, it is the part of architects to urge them; where states have them, it is their chance to make them better.

Safeguarding the Profession

THE encroachment upon professionalism, another one of the important matters dealt with in President Kimball's address, may very well be considered a menace to the practice of architecture. No one may with success encroach on the rights of another if those rights are alertly and carefully guarded. In fact this safeguarding against encroachment is the very essence of preparedness. The dangers pointed out in the address are not overdrawn. They have really existed. Now that the warning has been sounded, there should be a proper defence. It is believed that that defence has been set up in the present policy of the convention and the strong stand that the Institute has taken as to the future.

If there has been encroachment in the past, it has been simply because there has been more or less a transference of the architect's functions. It is because of a certain spirit of aloofness, a failure to be constantly on the alert against usurpation of prerogative. It is because there has occurred a delegation to other and less competent hands of duties that should be performed by the architects themselves, and an absence of personal service.

The lessons taught by these things, if we are to judge by the temperamental attitude of the recent convention, have been thoroughly learned. There is less chance for the would-be aggressor to encroach

on the professionalism of architecture than ever before, because he will find that architects are now so wide awake, so much better organized, that any attempt to rob them of their rights and privileges will not only be individually repelled, but also that the Institute, carrying forward its new policy, will lend its aid in such instances.

A False Argument

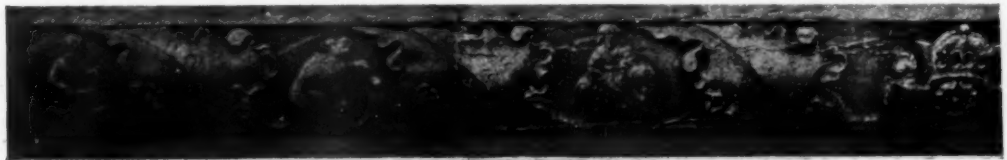
IT is curious to observe how some men will borrow another's argument on a certain topic in no way related, to bolster their own contentions. For example, some delegates on the convention floor urged that the lowering of the initiation fee to ten dollars would result in attracting to the Institute a lot of undesirable men, that a low initiation fee meant a low standard of membership. This is reminiscent of a campaign slogan of some years ago that a cheap suit meant a cheap man.

It is the young and promising men in the profession whom the Institute needs to attract. If they find it difficult to set apart a considerable sum from a not too adequate income to maintain their Institute membership, they certainly will not seek that membership.

President Kimball in his address stated the case very clearly when he said: "I am confident that architecture—the Art I mean—can never come into its own until some way has been found to make it easier for the young man in the profession to earn an honest living. Surely he can not hope to contribute much to art while 90 per cent of his time and energy is required to keep the wolf from the door."

Paternalism is obviously one of the duties of the Institute. In its highest expression it may help the young man of demonstrated ability toward progress in his profession. If it builds a stockade about itself, it makes it impossible for the young man to become affiliated. It should, by promoting association with men of this class, encourage them in their work. If it does not do this it will have lost a great opportunity.

It is a pity this motion to reduce the initiation fee was not carried. It would have materially aided the campaign of recruitment.



New Houses for Old

Alteration of House of O. L. Schwenke, at Bay Shore, Long Island, New York

DWIGHT JAMES BAUM, *Architect*

(For additional views see plate section)

THE structure was originally of that most unattractive middle period, partly erected about 1840, the greater part in the Queen Anne style, with jigsaw work, narrow front porch, and upright batten treatment on the service extension.

The house and land were purchased for a price which practically ignored the standing old buildings and the alterations, which were very extensive and included all the newer conveniences, cost one-half the price of a new house of similar size and requirements. The charm of the old place was there to be enhanced by well studied restoration.

The Schwenke house stood on brick piers, the first floor about three feet above the level ground surrounding the building. The building consisted,

as shown in its original state, of a long house with a large dormer, which, luckily, had the same height and width as the one on the end of the main building. This, together with the fact that the main cornice was not broken but carried straight through, gave the architect the idea by which the entire house was greatly simplified. The large front gable was removed bodily to the left end, the smaller dormer removed from the main roof, while the entire roof was reshingled with hand-hewn cypress shingles laid wide to the weather, with courses narrowing in width as they approached the ridge.

The three central windows on the second floor were raised to line up with the others, and flower boxes were added to two of these. The old jigsaw-



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decorated porch was completely obliterated and a simple pedimented portico with seats on each side was built. A new doorway with leaded glass side and fanlights was installed, completing the entrance treatment. A new grouping of windows was arranged on the first floor, while porches were added at each end, giving length to the house besides real comfort to the occupants.

The main transformation was secured by taking



HOUSE BEFORE ALTERATIONS

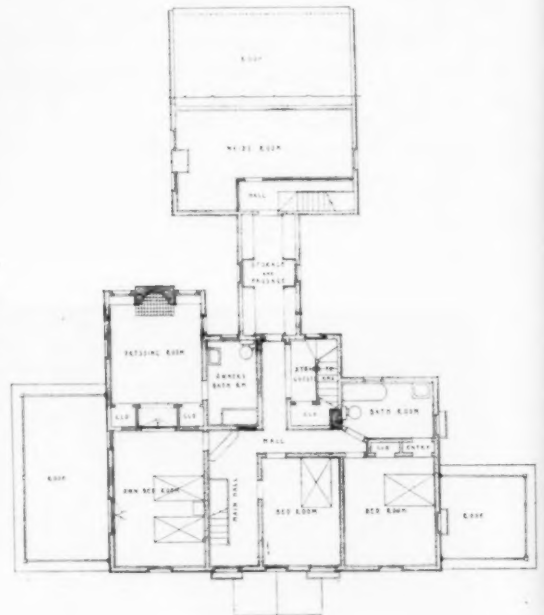
the fill obtained from the new excavation under the main house for a cellar and using this to form a terrace around the house. This had the effect of lowering the entire house. As rich loam was not obtainable along the south shore, this had to be hauled from the center of the island. After about



FIRST FLOOR PLAN

a year's constant search all over Long Island, the beautiful box bushes and hedges were assembled and planted, giving an aged appearance to the restoration, and taking away whatever newness there was in the finished effect.

The interior was given many changes; for instance, there was originally no cellar under the house, there being only a small excavation under the kitchen extension. This work was improved with modern hot water and electric lighting facilities throughout, modern plumbing with tile bathrooms, etc. The original and the usual two parlors were made into one large living room to do



SECOND FLOOR PLAN

away with the long, narrow appearance, and an alcove with fireplace seats was built. A fireplace was also added in the former bedroom above, which was changed to a dressing room, opening by French doors to the owner's bedroom.

To the dining room was added a large fireplace with hanging crane, after the manner of the older kitchens. Wherever possible the old trim and doors were retained, repairing and adding to them to complete the old effect; lighting fixtures and hardware were specially designed to carry out this treatment.

It is intended at some future time to lay out a small formal garden on axis with the living room porch, and to build a new stable with chicken runs, etc., in keeping with the house at the rear of the building.



PLATE 156

ALTERATIONS TO HOUSE OF O. L. SCHWENKE, JR., BAY SHORE, LONG ISLAND, NEW YORK

DWIGHT JAMES BAUM, ARCHITECT

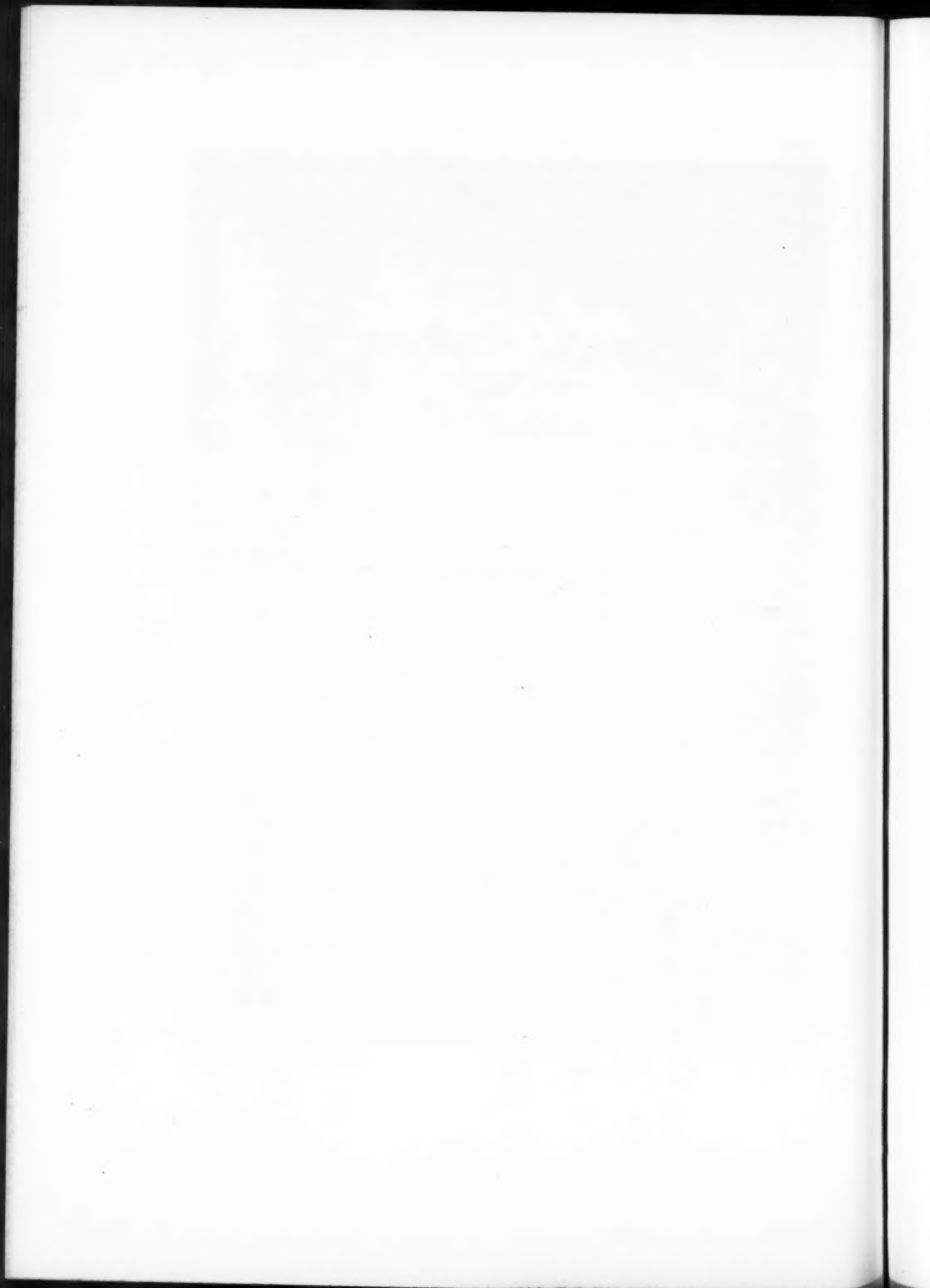




PLATE 157

ALTERATIONS TO HOUSE OF O. L. SCHWENKE, JR., BAY
SHORE, LONG ISLAND, NEW YORK

DWIGHT JAMES BAUM, ARCHITECT

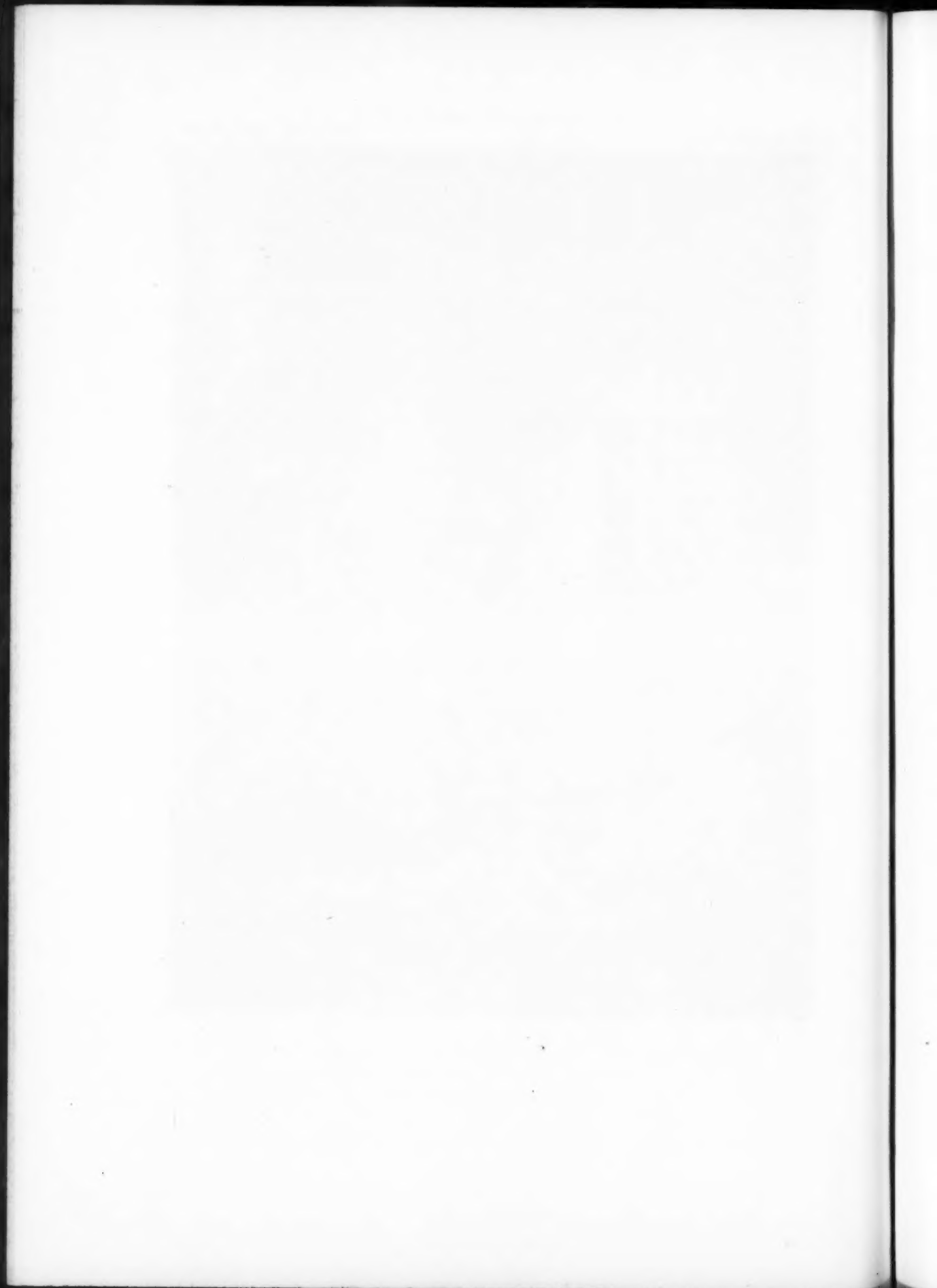




PLATE 158

ALTERATIONS TO HOUSE OF O. L. SCHWENKE, JR., BAY SHORE, LONG ISLAND, NEW YORK
DWIGHT JAMES BAUM, ARCHITECT

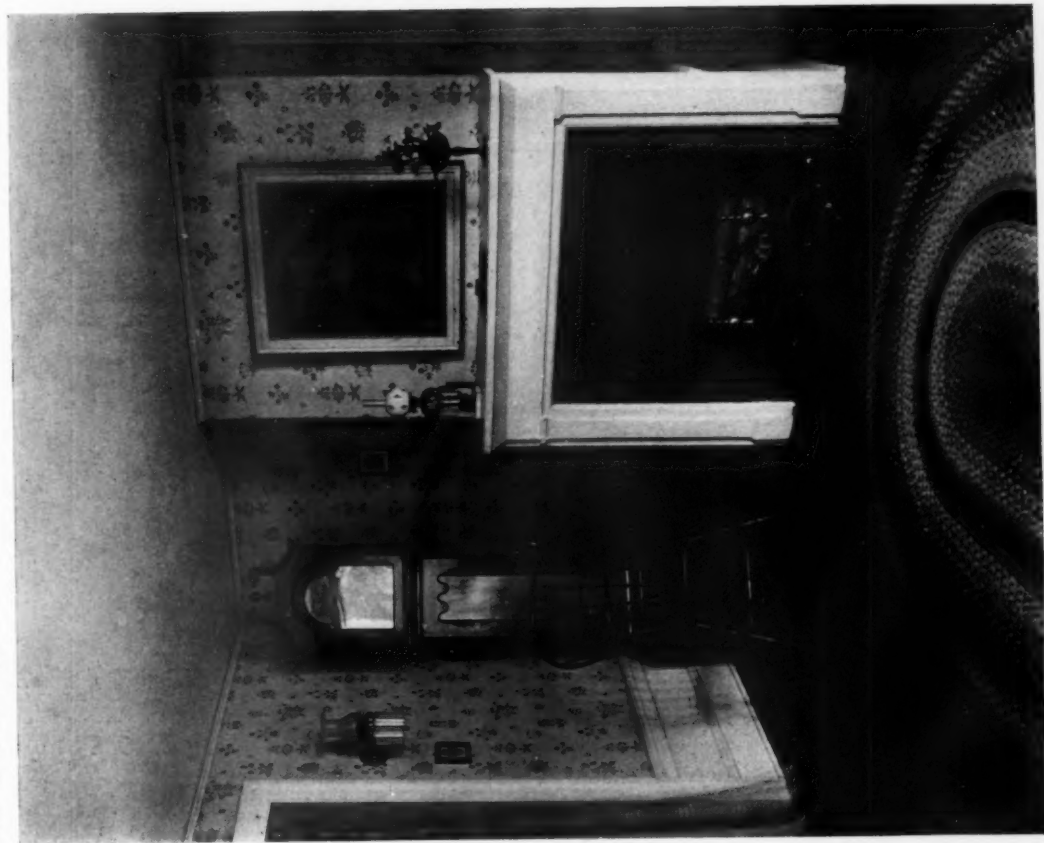


PLATE 159



ALTERATIONS TO HOUSE OF O. L. SCHWENKE, JR., BAY SHORE, LONG ISLAND, NEW YORK
DWIGHT JAMES BAUM, ARCHITECT

MAY 14, 1919

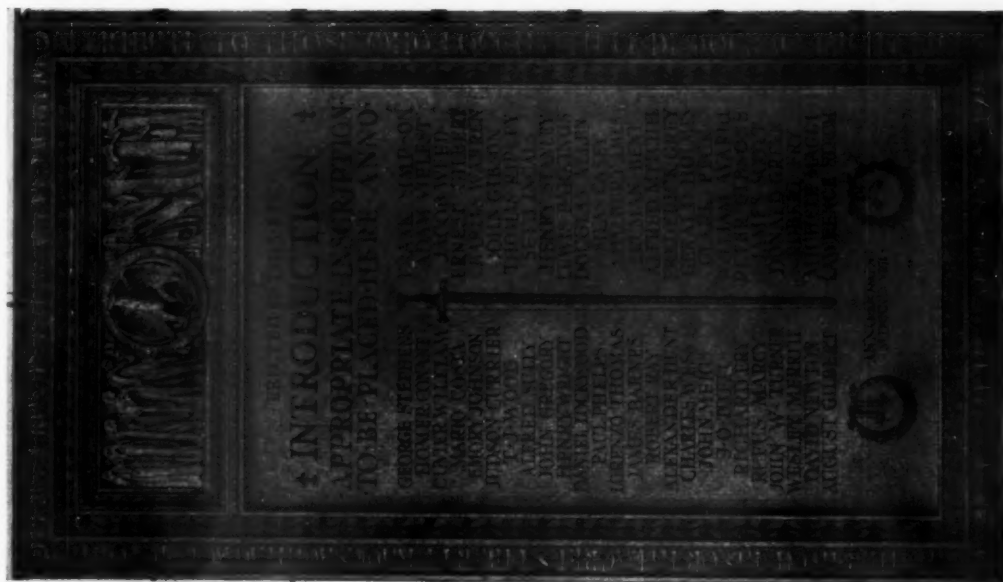
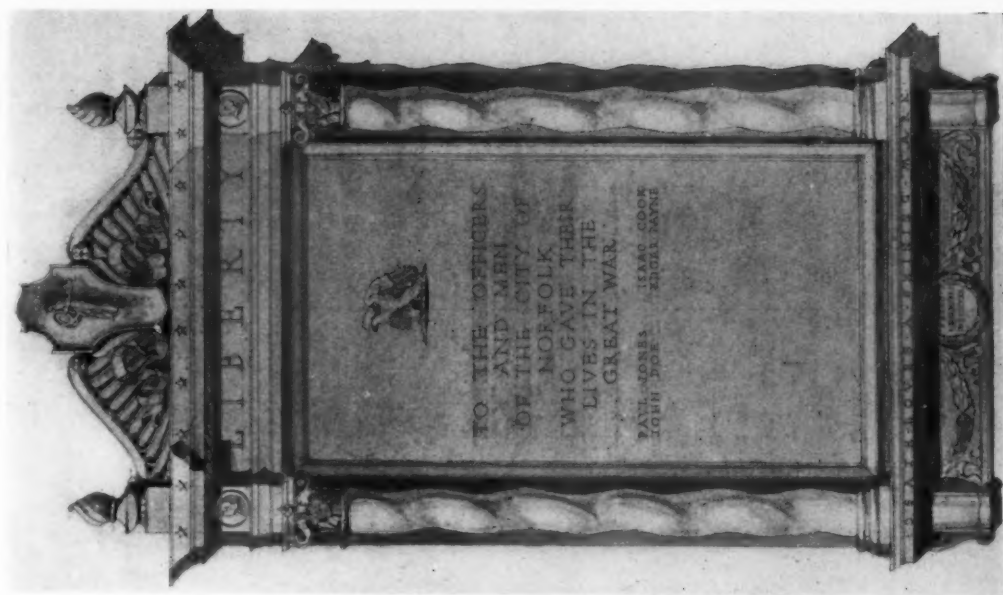


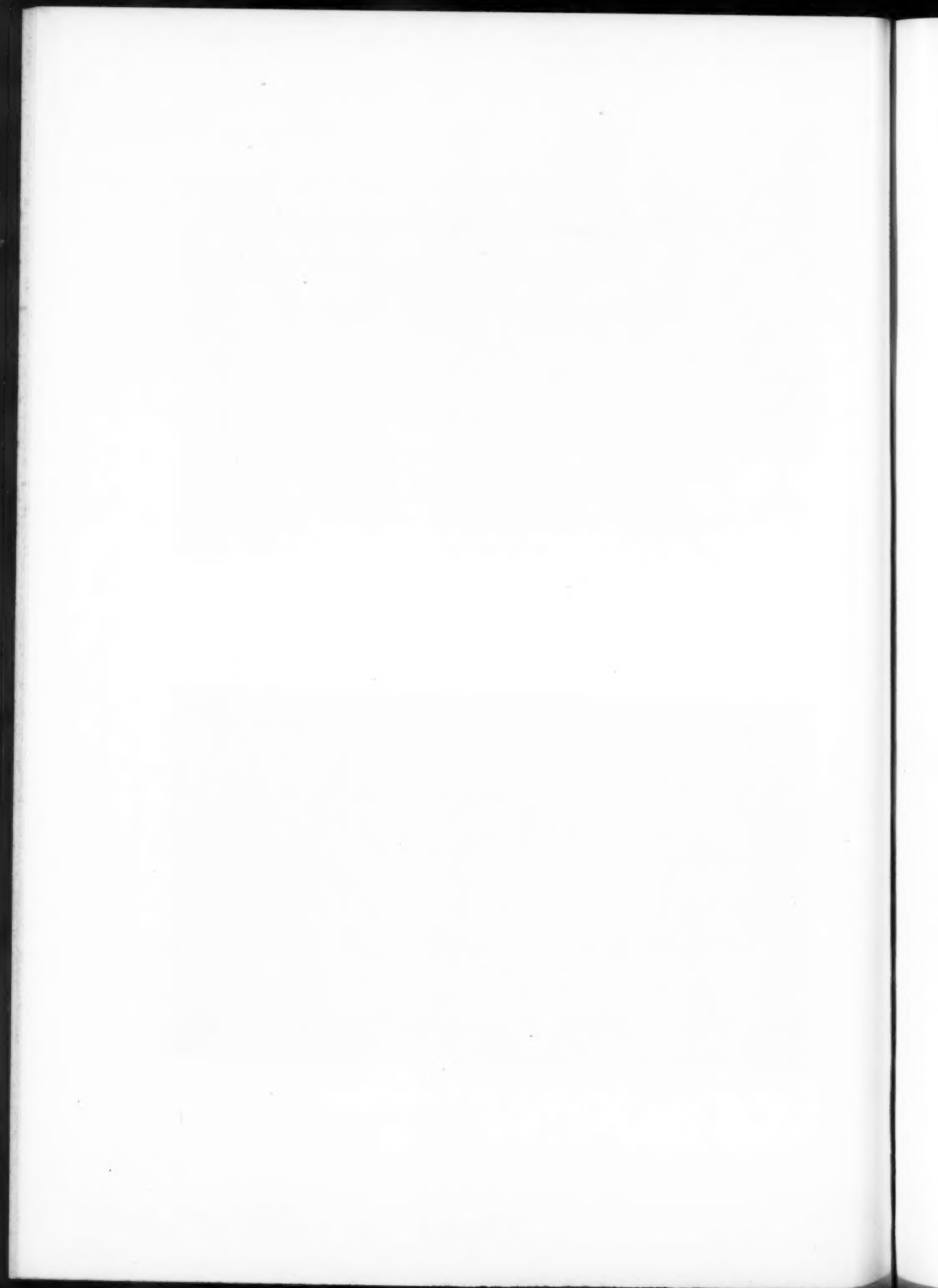
PLATE 160

FIRST AWARD TO JOHN O. VEGEZZI, NEW YORK CITY



SECOND AWARD TO EDGAR SALOMONSKY, NEW YORK CITY

COMPETITION FOR A MEMORIAL TABLET HELD BY THE JOHN POLACHEK BRONZE & IRON COMPANY
NEW YORK



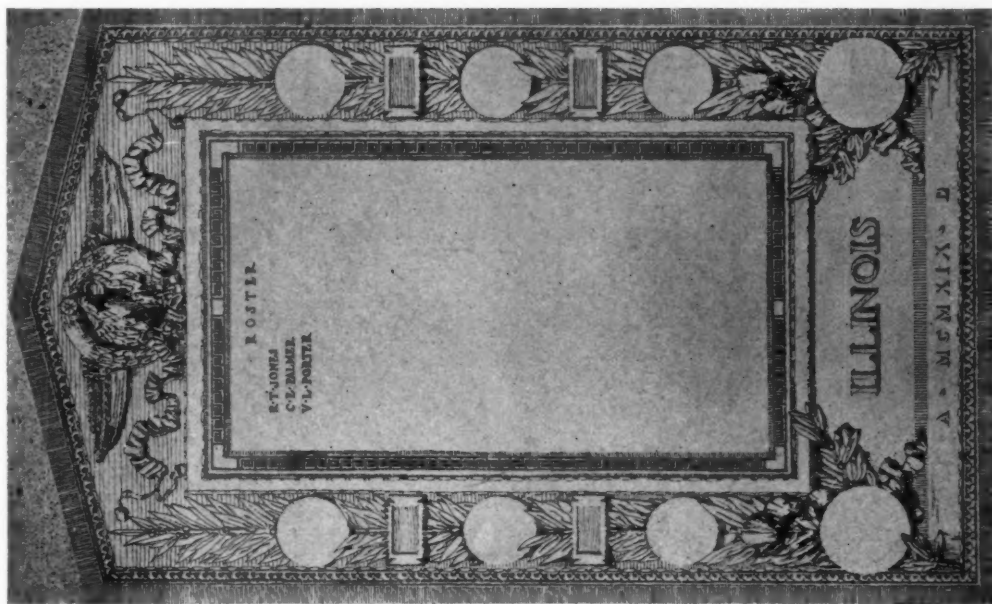
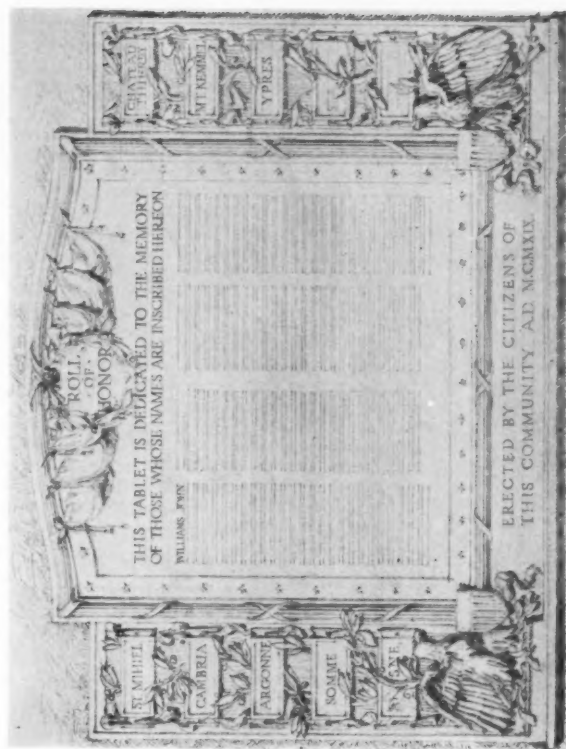


PLATE 161

THIRD AWARD TO D. M. ALLISON, URBANA, ILL.



FOURTH AWARD TO RUDOLPH HOLSTEIN, NEW YORK CITY

COMPETITION FOR A MEMORIAL TABLET HELD BY THE
JOHN POLACHEK BRONZE & IRON COMPANY, NEW YORK

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Current News

Registration of Michigan Architects

A bill has been passed by the Michigan legislature providing for the registration of architects, engineers and surveyors. Persons desiring to practice in any of these fields are hereafter to be registered by a board to be appointed by the Governor of the State and to be composed of three architects and five engineers.

Those who have for two years prior to the adoption of the act been engaged in active practice in these fields shall be registered without examination in the particular branch in which their qualifications lie.

Persons hereafter to begin practice in these professions shall pass an examination in the English language and in such other subjects as the board shall deem appropriate. Those of recognized standing, resident in other states, may be admitted without examination.

After the building season of 1919, no public work of an architectural or engineering character, the completed value of which totals \$2,000 or more, shall be undertaken by the state, or any division thereof, unless the plans therefor shall have been prepared by a registered architect or a registered engineer.

No restrictions are put upon carrying on architectural or engineering work for private parties by persons who do not call themselves architects or engineers. The act repeals the previous act for the registration of architects and provides that all registrants under that act shall be considered as registered under the new.

Safeguarding Civic Beauty

With the resumption of building operations following the wartime slump, the Fifth Avenue Association of New York is planning a vigorous campaign to prevent any more large apartment houses being erected in the residential part of Fifth Avenue. A meeting of the Board of Directors held in the Bankers' Club saw the appointment of a special committee to inaugurate and carry on the fight. Elbert H. Gary was selected as one of the members, and Michael Dreicer, President of Dreicer & Co., as its chairman.

"If the building of these huge, unsightly structures continues, the most famous avenue in America will be ruined as a street of beautiful and exclusive residences," Mr. Dreicer said. "When the construction of one of these apartments commences, the value of adjacent land and properties immediately goes down, in many cases as much as 50 per cent.

"As members of the Fifth Avenue Association, we are anxious to see the beauty and fame of this avenue retained, but our interest is from a civic and not a mercenary point of view, for we are not the land owners concerned. The financial concern is theirs, and we should like to have them, and all others who are interested in the preservation of the avenue, communicate with us and join the fight. After all, it is a matter in which the people of the city at large should take great interest, for every New Yorker is directly concerned.

"What we hope to accomplish is to have the Board of Estimate rule that no building of more than 75 feet in height shall be constructed on Fifth Avenue between Fifty-ninth and Ninetieth Streets, with the same regulation for the side streets between Fifth and Madison Avenues in this

sector. The association, however, has attempted to accomplish this before; and it cannot be accomplished without public support and real public effort."

Mr. Dreicer said the fact that the law permits construction of high apartments on Fifth Avenue affords real estate men an opportunity virtually to blackmail owners of expensive private homes on the avenue, in that the former were able to purchase adjoining or nearby property and then threaten to erect apartments unless a high price were paid for the land concerned by those most interested in escaping the immediate presence of an apartment.

Lawson Purdy, formerly Vice Chairman of the Zoning Commission, attended the conference as an adviser and said that the commission would have recommended limiting the heights of buildings in this section several years ago had the property owners concerned taken an interest in the matter.

France Chary in Rebuilding

Paris correspondents of New York newspapers, writing on the question of Americans being permitted to take part as business men in the rebuilding of northern France, express the opinion that sentiment is divided about permitting this country to aid. Some believe that the French Government will throw a protective wall around the devastated regions and admit only builders of their own nationality, on the theory that whatever profit is to be derived out of the reconstruction ought to go to those who have suffered most on account of the war.

One writer states that each side has its defenders and that each is eloquently sustained. He says there are signs that the "anti-wall" crowd will win and that France will welcome both American gold and American organizers and builders.

The thesis of the protective wall faction is that France is in such a run down condition as the result of war that her industries are scarcely in a position to fight successfully against their brothers from America. Americans, with their huge factories, cheap raw materials and superior organization, can build machinery such as is needed in the mills of northern France more quickly and cheaply than can be done in France, and that such being the case there is a danger of Americans—and the English, also a great industrial people—running away with the business of starting up northern France again, pocketing the profits and leaving the Frenchman in the position of Mother Hubbard's well-known dog.

The "antis" use the same argument, but with reverse English. They admit much of the reconstruction business would be captured by Americans and British because they are in a position to do the work without delay, but—and here is the whole point—it is greatly to the advantage of France as a nation that there should be as little delay as possible. They point out that Germany has not been damaged by shellfire; that her mills are in a going condition; that, in order to keep the economical life of Germany moving, German industries must be permitted to start up as soon as possible—otherwise the Germans will not be in a position to meet their own home expenses, let alone pay the huge debt they owe the Allies as the result of the war.

This being the case, with German industry grinding full

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blast, French industry must likewise hurry full speed ahead and at once, otherwise it will be hopelessly outdistanced.

A high French official of the Ministry of Reconstruction asserted that American co-operation would be welcome in France, thus forecasting the victory of the open door faction.

"The real opposition," he said, "comes from the interested parties, those who wish personally to profit through enterprises undertaken in the north. The opposition is not national. France realizes she absolutely must have this co-operation and France and America will find a way. And there is ten years of intensive work rebuilding the devastated regions, ten years of it for all of us working hard together, Americans with the rest."

America Must Wake Up in Industrial Art

"America is an industrial nation without an industrial art," declared Dr. James P. Haney at a recent lecture in the Art Institute of Chicago. "We have the talent, but lack the training," he stated. Dr. Haney is director of art in the high schools of New York.

"This country," he said, "has never awakened to its need for trained designers. We have schools for the training of painters and architects, but no great group of public schools like those of continental countries, prepared to give fundamental instruction in the design and craftsmanship of the art trades. This lack on our part is going to cost us dear in the world-wide reconstruction of trade following the war."

Heretofore, we have depended entirely upon artisans from abroad. The war has curtailed the number of designers needed to supply our various industries. France, England and Germany are doing all they can to conserve every ounce of their own talent and prepare it for the commercial struggle ahead. Dr. Haney says:

"It is the adolescent, the young high school boy and girl, who is now looked upon through European countries as one of the most precious assets of the state. The adult adapts himself with difficulty, but the adolescent can be shaped and formed to meet new conditions. These new conditions are coming in different ways within the next decade, and that state is wise which uses its mobile youth to meet these changes. Now is the time to train our talented."

We need not experiment, says Dr. Haney. The large number and varied quality of industrial art schools abroad make it only necessary for us judiciously to select from the methods already employed, and adapt them to American uses. England is covered with a network of great industrial art schools, some forty in all. France is similarly provided with over thirty large city schools, and scores of local schools of design. Paris alone has a dozen craft schools, headed by the great institute of design named after Bernard Palissy.

A survey of our industries reveals over a hundred trades requiring trained designers, and many of them affect architecture directly, or are closely related to its nearest allies. Certain of these will be found in a great group under the heading of textile workers, rug and carpet weavers, and linoleum makers. Another group will be found under graphic arts: printing, lithography, commercial design, makers of posters and of book covers. The metal working division includes silver and goldsmiths, bronze workers, and designers of lighting fixtures. The wood working

group takes in carvers, cabinet makers, and designers of furniture and picture frames.

The interior decorators form a division in themselves with a dozen departments, all requiring trained talent. There are besides a score of miscellaneous trades: china decoration, lace making, enameling, wallpaper making, millinery, embroidery, stonecutting and mosaic work. Each one of the trades has a design technique of its own, and for each the designer must have some general preparation followed by specific training in the business itself.

Accordingly, Dr. Haney very properly states that our need for industrial art schools is pressing. Foreign schools offer examples which we may study, but exact duplication is undesirable. The indications, he believes, are that two types of schools are necessary: The "general" industrial art school and the "special" school.

The general industrial art school is one which admits its pupils at the age of sixteen or seventeen, and keeps them for three or four years in a course offering all forms of practice in drawing, design, and color. After this preparatory work, the student pursues two years of special training as a designer for a particular industry.

Aside from the fact that foreign states can no longer supply us with designers, America should learn to depend upon her own resources in industrial arts. Any other course would be inconsistent with her high ideals of national pride.

Private Capital and New Construction

That the small investor is to be more than ever before in financial history an important factor in the financing of building in the United States is the opinion of Walter Stabler, comptroller of the Metropolitan Life. Mr. Stabler is quoted to the effect that large mortgage lenders will not be plentiful in the market, and borrowers must look to small investors whose participations may be pooled under the trusteeship plan.

Replies to a comprehensive questionnaire, recently distributed to a selected list of representative institutions throughout the country, indicate an absolute decrease during 1918 of funds available for investment in real estate mortgages, and indicate also a relative decrease since 1914 of funds so invested compared with the total resources of the institutions considered.

It is essential, in the opinion of the Department of Labor, to devise ways and means of availing of the small investors' capital, and for that reason the American Bankers' Association's plan, advocating the adoption of amortization schedules for real estate loans, together with the building and loan associations' agitation for a Federal system of "home loan banks," have challenged the sympathetic interest of the Labor Department.

Just how to gather the comparatively small amounts of capital held by the small investors, and marshal them in amounts necessary to finance extensive building projects is a problem which must be met by local initiative where the problem arises.

The Division of Public Works and Construction Development points out that the small investors were the balance of power necessary to the success of the Government's war finance program, and they may now be made the balance of power in the reconstruction work of the nation.

The home builder—he who builds for his immediate use rather than for rental purposes—appears to be getting under way with his building plans. This especially is noted

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in the Central West. The home building program will be facilitated and augmented if small investment money is made available for building loans.

In one or two communities this is being attempted by private organizations, brought together for this sole purpose. In other and more numerous cases the regular banks are giving thought to the problem.

The building and loan interests already have formulated a plan under which a system of Federal home loan banks would enable them to rediscount their first real estate mortgages, and make available for further loans more than a billion dollars of their assets.

Workmen's Houses in Britain

E. Y. Bragger of Edgewood, Rhode Island, a specialist in concrete construction and representative of a large cement company, just returned from a visit to England in connection with the housing problem that now faces the British Government, reports that a serious condition exists in the home life of the working class.

Baths are almost unknown, he says. The open fireplaces and stone floors with earthen or small galvanized iron tubs have little attraction for those who desire to bathe. Consequently, many go without a bath for a long period.

The more prosperous families who possess a bathroom often rent it to a neighbor who is less fortunate. He finds that several of the larger cities conduct public bath-houses, where a bath may be obtained for a small fee. Many of the better class houses have a bathroom but no running water. Toilets are erected in the yard with no water connection.

Dampness is very pronounced in nearly every home and walls are damp continually.

The British Government fully realizes the serious conditions that exist and is considering various methods to improve the home life of its people. The architects and engineers connected with the local Government board, including the office of Sir Frank Bain, principal architect to His Majesty's official work, are very much interested in American construction work and desired to know more of the possibilities of American material.

Home Improvement Week

A fine example of co-operation was to be seen in the recent "Home Improvement Week," held in Indianapolis. The object, as might be surmised, was to present an opportunity for gathering new ideas and suggestions for improvements in the home.

The plan was part of an extension course conducted by Purdue University and was a state-wide movement in connection with the home economics department.

Local merchants gave their co-operation and many had on display model rooms and various articles pertaining to the household.

To show how things should be done, a visual stimulus of this kind is very valuable. It causes discussion, and creates desire, which is the first step toward accomplishment. The fact that this had its inception in an institution like Purdue University is of particular interest. It serves as an instance of the practical aspects which education is more and more receiving and gives a feeling of confidence in the authoritative and competent carrying out of the undertaking.

Giving the Builder a Chance

A recent editorial comment in the Brooklyn (N. Y.) *Eagle* discusses interestingly the present housing problem from the standpoint of the builder. A man, it states, will not want to build unless he can raise his rents enough to get back the extra costs due to high prices. In that case, he must compete not only with old apartments built at the cheaper figure, but he may have to compete also with the new ones to go up next year, should there be a sudden slump in the cost.

Continuing, the article goes on to say that some few builders take those chances, relying on special attractions which they may devise. More men would take them because the American business man is naturally adventurous and daring in his pursuit of fortune, but there is arising the fear of governmental interference in the shape of the arbitrary limitation of rentals. The danger comes from the agitation about profiteers and the wild rush for remedies which is being entered upon by politicians and philanthropists.

A good analysis then follows:

The speculative builder is accustomed to taking his chances with the natural laws of the market. He has studied them and can foresee their operation with reasonable accuracy. But governmental interference knows no law. It is invoked to meet a temporary need and it is empirical in the choice of remedies under emotional stimulation. It may take the form of wholesale city building, of a limit in the price of rents or in taxation of income from rents above a certain figure. In the face of such possibilities the builder discharges his men and lives on such money as he can raise until the storm blows over. Government aid to building may be necessary here, as it is in England, but it should take the form of making credit easier for builders and of encouraging them to resume their activities of six years ago by providing some sort of assurance of a living income from the houses they may put up.

Building Optimism Grows

Dun's reports \$51,782,000 in building permits for March, which was 54 per cent above March, 1918, says *Business Digest*.

Housing is becoming everywhere increasingly scarce and expensive, so that with any sort of reasonable indication of price and wage stability in the building field, new construction will undoubtedly begin and will probably reach unprecedented proportions. The Government's proposed home and loan fund plan which, it is claimed, will do for the would-be house owner what the Federal farm loan banks are now doing for the farmer, has met with general approbation. Anything that will make home-owning easier is undoubtedly desirable, socially and economically; and nothing would do more at this time to stimulate what has been for four years (except for a Government construction) an almost dormant industry.

Building is a basic industry; normally it is a flourishing and profitable one. Just now all signs point to an approaching boom. The recent Seattle home building campaign shows how easily local booms can be started. The campaign, which was fostered by the Seattle Commercial Club and Chamber of Commerce, lasted only five days, but it created such a phenomenal stimulus to building that 3,700 new homes are now under construction in that city.

Securities based, directly or indirectly, on construction requirements, as a class, "look good" about now.

The Dishonest Memorial

In the annual report of the Art Jury of Philadelphia, made by its president, Joseph R. Widener, to the mayor of that city, he warns the public that adept salesmen are abroad, seeking to take advantage of the patriotic impulse to invest in war memorials, and he foresees that Philadelphia, in common with every other city and town in the United States, will have offered to it many designs for monuments.

It is firmly stated in this report that no memorials whatever will be accepted and approved by the Art Jury unless they possess unquestionable artistic merit. As all monuments are intended to last as long as the city itself, quality is essential and nothing but the best can be approved by the official experts.

The public is further cautioned against stock model and ready-made monuments, also against any advertising on the monument of the individual or organization which caused it to be erected.

These warnings are timely and of more than local application. To perpetrate anything at all dubious in purpose or result would be to oppose the whole aim of the undertaking.

Rush Building to Cut Down Rents

It is expected that there will be no time lost in beginning the erection of apartment houses in New York City through the use of private capital as a result of a definite plan for the stimulation of building on a scale comprehensive enough to remedy the apartment shortage by next winter. The plan, the result of efforts of the Executive Committee of the State Reconstruction Commission, includes apartments which will provide homes for families able to pay from \$30 to \$40 a month, and at the same time will include improvements in accommodations which have been worked out from the experience of the United States Government in housing war workers. It is also understood that enough money has been assured to finance the project, and that it will be carried to completion in time to provide for a large majority of the men and women of New York before the cold weather sets in next fall.

The detailed plan will be presented to the public within a few weeks. Tax Commissioner Hirsch expresses himself as being optimistic as to the effect which the work of the committee was having upon the landlords. Many have gone to Mr. Hirsch and declared that they would not attempt to enforce the demands they had made upon their tenants to take effect on May 1. When the situation was placed before them, they seemed willing and anxious to co-operate with us.

Another angle of the situation was pointed out by Mr. Hirsch. It appears that some owners are attempting to evade the responsibility of increasing rents, and the consequent possibility of being called before the committee, by leasing out their rents. In this way they are enabled to share with another immense profits and at the same time be safe from investigation.

In peace times building ran anywhere from two to three years ahead of the demands of the population; free rent and filled coal bins used sometimes to be offered to fill up apartment houses which speculative builders were anxious to sell. Now that there are fewer apartments than families, of course, tenants bid against each other for desirable quarters and landlords raise their rents not always on the basis of a fair income from the property,

but on the difficulty of their tenants in finding another place to move to.

The cure for that state of things is not more law, but more building, states the *Brooklyn Eagle*, New York, and two committees of the State Reconstruction Commission recently held a meeting during which they decided to call a conference of the business and financial interests of the city to stimulate a campaign of apartment building as a means of promoting general prosperity for the city as well as for meeting the needs of the people who cannot now find homes. Ordinarily there would be no need of such an official impetus. Builders have been only too ready to take risks in the past, but now the high prices of materials and labor hold them in check. Before they start building this year they want some sort of assurance that they could not have done the work for two-thirds of the money if they waited till next.

That situation is not confined to New York. It is so widespread that one of the Federal agencies in Washington is trying to deal with the problem in the same spirit as shown by the State Reconstruction Commission. One of the officials there calls it "a psychological hold up," based on the belief that prices of labor and material will be cheaper next year. He insists that this belief is mistaken and that prices will not be enough lower to give any advantage to builders who wait. It is clear that both the need of finding work for returned soldiers and of finding homes for the growing population of the cities would be met by an immediate campaign of building. We have not reached the point of a national housing commission as they have in England, nor of pledging the national credit for the erection of more homes, as they are doing to get rid of their slums in London. But we may come to that unless some simpler way is found to start building on a large scale. There has already been excited talk about putting tents in the parks for the evicted, and if such a step should become necessary the demand for either a Federal or a municipal building plan on a large scale would grow to formidable proportions.

Issue Bonds to Promote Exports

The War Finance Corporation has announced the issuance of \$200,000,000 worth of 5 per cent bonds to enable the furtherance of American export trade.

The new bonds will be put out in denominations of \$1,000, will be payable in one year, and will bear interest at 5 per cent. They will be exempt from State and local taxation and will also be exempt from taxation by the United States, with the exception that they will be subject to estate or inheritance taxes and to surtaxes and excess profits taxes now or hereafter imposed by the United States upon the income or profits of individuals or corporations. Another important tax exemption relating to these bonds is that the interest on \$50,000 worth of them owned by any person will be entirely exempt from all income taxes, surtaxes, excess profits, or war profits taxes.

George Tremaine Morse

George Tremaine Morse, born in Plainfield, N. J., in 1874, died on April 25 at Saranac Lake, N. Y. He devoted his life to the practice of architecture for which he studied in the Polytechnic Institute in Brooklyn, Columbia University, and the École des Beaux Arts, Paris.

Prices Doubled Since 1914

The average prices of articles bought by farmers in 1918 is estimated by the Bureau of Crop Estimate to be about 32 per cent higher than in 1917, about 97 per cent higher than in 1914, and about 108 per cent higher than prices of articles bought by farmers in 1909.

Prices of articles which farmers sell were only about 14 per cent higher in 1918 than in 1917, but about 97 per cent higher than in 1914. That is, since 1914 the prices of articles which farmers buy and prices of articles which farmers sell increased in about the same proportion. Farmers' products were the first to advance, but other products during the last year have overtaken the advance of farm products. Thus from 1914 to 1917 the advance of farm products was about 74 per cent as compared with an advance of about 49 per cent for articles farmers buy, but in the last year the increase of farm products was as stated only about 14 per cent compared with an advance of 32 per cent for the other articles.

Detailed comparisons of prices of many articles bought by farmers are obtained from about 5000 dealers throughout the United States by the Department of Agriculture. Schedules asked for average prices in 1918 and 1917. The inquiry a year ago asked for prices in 1917 and 1916. Therefore two sets of averages are obtained for each year. When the two averages differed an adjustment was made by adopting approximately the average of the two.

Farm Land Values Rise

The value of farm lands is increasing steadily in the United States, the average for average grade plow lands being about \$74.31 per acre, as compared with \$68.38 a year ago, \$62.17 two years ago and \$58.39 three years ago.

Greatest percentage increase in values during the last year occurred in the South Atlantic States, in the Carolinas and Georgia, and extended to Alabama, Kentucky, and Arkansas. Small or no increases were made in the New England States, the Pacific Coast States, and Louisiana, Texas, Kansas, and Montana. Material increases were reported from Nebraska and South Dakota.

Iowa stands first in value of plowing lands, her average being \$169 per acre, followed by Illinois with \$144, California with \$121, and Indiana with \$100. Alabama reports the lowest average value of plow lands, at \$24 per acre, and Mississippi next, at \$25.50.

Average farm land in New York has increased from \$53 an acre to \$60 in three years, while in New Jersey it has risen from \$65 to \$76. In Connecticut the advance has been from \$49 to \$55, and in Massachusetts from \$62 to \$68. Iowa not only has the dearest land, but in three years it has advanced from \$135 to \$169. Pennsylvania farmers have gained exactly 20 per cent by natural increment, the rise being from \$50 an acre to \$60.

Homes for Standard Oil Employees

Employees of the Standard Oil Co. in Elizabeth, N. J., are to have an opportunity to own their own homes. After a conference between a committee of the company and a committee of employees an option was obtained on a tract of land comprising 35 acres, easily accessible by trolley. Plans were then drawn for several types of houses, the cost of each being \$3,000 and upward, and the property was procured. These houses are to be

sold to employees on a monthly payment basis, the property to be managed jointly by a committee of the company and a committee of employees, which will finance the project on a 5 per cent return for the capital, no profit being sought. Work will be begun at an early date.

First American Built Battle Plane Placed in National Museum

The first American built battle plane, the DeH. 4, now is on exhibition in the National Museum in Washington. The machine, built at the Dayton-Wright company's plant in Dayton, was completed in September, 1917, and was the first plane flown with a Liberty 12 motor. It was adopted by the government for use by the American Expeditionary Force in France as a day bomber and observation plane. In all, more than 2500 experiments ranging from motor tests and different propellers to slight changes in control surfaces, have been made on this machine. It has been used in more than 4000 flights, has been in the air 1078 hours and has traveled more than 111,000 miles, but with the exception of a patch on the landing gear and a new section on the side cowling, there have been no repairs made to the craft. As exhibited the plane carries full equipment, including machine guns and wireless.

Despite its weight of 3800 pounds with a full load and armament, the DeH. 4 has developed a much higher speed than 122 miles per hour, and when sent up with a light load for combat work was able, it is said, to attain at 1700 feet a greater speed than any other ship used in the war.

A Larger—"Largest" Hotel Proposed

The present record for size in hotels now held by the Pennsylvania in New York is soon to be exceeded by the work of the same architects.

Plans have been prepared by McKim, Mead & White for an immense hotel of twenty-four hundred sleeping rooms and twenty-four hundred baths to be erected in Atlantic City, N. J., on three blocks of beach frontage at Albany Avenue, Chelsea. A theater and swimming pool are incorporated in the designs, as well as other novelties.

The proposed site is owned by the Philadelphia and Atlantic City Improvement Company.

Personal

Albert C. Wirth, architect, has opened offices in the Banner Building, Greensboro, N. C. Manufacturers are requested to send literature and samples.

Charles Archibald, architect and civil engineer, St. Johns, N. B., Canada, late of Department of Militia and Defence, is opening offices in the Ritchie Building of that city, for private practice. He desires to receive manufacturers' samples and catalogs.

A partnership for the practice of architecture has been formed by Floyd F. Glass and Ernest W. Austin, under the name of Glass & Austin, architects and engineers, with offices at 55 East State Street, Columbus, Ohio. Samples and catalogs are desired.

Late News from Architectural Fields

Special Correspondence to THE AMERICAN ARCHITECT

Urge Code Changes to Aid Construction

PORTLAND, ORE., May 12.—As an aid to the stimulation of building in this city several amendments to the housing code have been agreed upon by members of the Portland Housing Association for presentation to the city council. The amendments will be in the form of modification which will avert much of the criticism directed at the code by Portland architects.

One amendment will allow development of an entire block for apartment houses without requiring a rear yard, as under the present code. Not more than 60 per cent of the ground area of the block may be used under these modifications, however, it being the purpose of the code to have restrictions which will force the builders of apartment houses, hotels and rooming houses to provide ample light and ventilation.

Under the present housing code rows or terraces of single or double family dwelling houses are barred entirely, through a provision which requires side yards. This provision has resulted in much dissatisfaction and H. E. Plummer, chief of the city bureau of buildings, after making extensive study of how similar situations have been handled elsewhere, prepared an amendment to modify the provision.

Under his amendment side yards will not be required when rows of dwelling houses are built, provided that not more than 40 per cent of the lot area is used. This can be done, even by building the rows of dwellings without side yards as the yard area needed can be provided in the rear and front of the houses.

Models Prepared for Home Builders

MINNEAPOLIS, MINN., May 12.—Six model homes have been planned by architects of the Minnesota Chapter of the American Institute of Architects and will be erected on two and one-half blocks of lots on opposite sides of a city street, to give persons planning to build this spring and summer opportunity to view them before selecting their plans and making financial arrangements for actual building operations. Forty plans are available, and blueprints of any of these are furnished at a nominal cost. After the model homes are built, landscape experts of Minneapolis will furnish plans for beautifying the grounds.

The Minneapolis Real Estate Board and Builders' Exchange, who are in charge of the plan to stimulate building in this section, will also have a permanent building material exhibit at the Builders' Exchange. Prospective home builders will have every opportunity to become posted on any building information. The exhibit will include all kinds of doors and just how they are made. All kinds of woods and the effects of stains on woods will be shown. One exhibition will give proper methods of insulation. There will be an elaborate exhibit of hollow tile construction, and also a model kitchen and laundry and a library for moderate cost houses.

Ask Federation's Aid in Planning Memorials

WASHINGTON, D. C., May 12.—The American Federation of Arts has received many requests for appropriate designs for memorials. State and civic bodies determined to honor the men who served in the Great War have sought the advice of the Federation in an effort to formulate plans for their tributes to the fighting men.

The Indiana State Chamber of Commerce in a communication to Miss Leila Mechlin, secretary of the Federation, with headquarters at 1741 New York Avenue, Washington, D. C., requests the assistance of the organization in designing memorials throughout the state. The Chamber of Commerce organized a special committee in Indiana, one member from each Congressional district, for the purpose of securing legislative action on memorials. The subcommittee drafted a bill which was later adopted by the state legislature. It provides that any taxing unit, city or county, upon proper petition can have spread on the tax rolls a tax levy to bond or retire sufficient money for memorials in the form of community houses, library, hospital, auditorium or some other public building. Hammond has already passed the bill and twelve other Indiana cities are preparing for similar action.

The Mississippi Memorial Association proposes a \$500,000 memorial fund. It has announced its intention to consult with the National Memorial Commission, represented by the Federation, as to the location and form of the Memorial Hall.

A communication from the El Paso, Tex., memorial committee, asks the Federation to suggest landscape architects to prepare plans for a memorial park. The committee points out that the architects competing for this project must have a wide knowledge of the climatic conditions of the arid West.

It has been definitely decided to reclaim some twenty-three acres in the residential section of El Paso. A memorial in the form of a grove has been approved by civic organizations. A tree will be planted for every man who answered the call for service. The heroic officers who died for their country will be remembered. The city plans to name the walks in the memorial grove after some prominent officers.

American Lumber Stocks in France

WASHINGTON, D. C., May 12.—All sawmills which have been established in France by the Army Engineers of the United States have been shut down except the eleven mills operating in the fire-killed timber in the Landes. These mills will be in operation until about the middle of May.

The surplus stock of road plank, bridge timbers, and other thick lumber is being remanufactured at several plants into inch and two-inch dimensions for current army requirements. Contrary to expectations, the demands of the army for timber have kept up to a surprising degree and will use up all the stock on hand.

The material is needed for improvements at the large embarkation camps, for packing material and all sorts of

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structures at the divisional areas. Even the products from the fire-killed timber, the operations in which it was thought would be turned over to the French, will be used by the A. E. F. Some material will probably also be furnished the Belgium Relief Commission.

Many vexatious delays are being encountered in the settlement of the forest purchases. An adjustment of purchase contracts for timber which was but partly cut is under way to make the A. E. F. pay only for the timber actually cut.

Abandon Housing Plan in New London

The United States Housing Corporation has abandoned its entire housing project at New London, Conn. As many as 116 houses, badly needed and all but 3 per cent completed, have been closed and no further effort made to finish them.

This was the culmination of weeks of futile negotiations with the New London engineer in charge of water and sewer connections. His attitude in insisting that the housing corporation abandon a modern plumbing installation for one more expensive and obsolete compelled the corporation to forego any return on a large investment which prevents more than 100 New London families from enjoying modern homes. L. K. Sherman, director of the Bureau of Industrial Housing, said in ordering the abandonment of the project:

"We are not going to proceed as violators of the law, but we have decided to abandon the entire New London development rather than submit to the injustice of an archaic, obsolete and unwarranted plumbing code that adds to the existing high costs to burden the home builders, owners and renters. We will not be consistent in our relations with the numerous other municipalities which permit the simplified plumbing if we relinquish the same class of plumbing in New London. We cannot justify ourselves in establishing a precedent there for expenditures which increase the cost of plumbing to the home owner and which are not warranted by sanitary requirements."

Wide Interest in Arts Convention

Considerable significance is attached to the address of the Hon. Charles D. Wolcott, secretary of the Smithsonian Institution, before the American Federation of Arts at the tenth annual convention to be held at the Metropolitan Museum of Art, New York City, May 15, 16 and 17. He will discuss the need of a national gallery of art in Washington. It is expected that his talk will have the influence necessary to inaugurate a nation-wide movement among artists and art patrons for an appropriate building to house the country's art treasures.

The most distinguished patrons of art have been invited to the convention. Their influence in national affairs may have the desired effect of bringing Congressional action for the maintenance of a National Gallery. The plan is to bring public opinion to bear on the legislators to such an extent that Congressional appropriations will be made permitting the construction of a building worthy of the nation and the works of art it will store.

By charter, the Smithsonian Institution is recognized as the custodian of the National Gallery of Art. The National Museum has become overcrowded with the many acquisitions. The problem which confronts the Institution

now is to secure adequate accommodations for new collections.

One entire day, May 15, will be devoted to the subject of War Memorials, when the delegates assemble in the Metropolitan Museum lecture hall. A reception will be held on the preceding evening. Charles Moore, chairman of the general committee on War Memorials and chairman of the National Commission of Fine Arts, will open the discussion. He will be followed by Edwin H. Blashfield, N. A., mural painter, past president of the National Institution of Arts and Letters. Frederick Law Olmstead, A. I. A., landscape architect and member of the Washington Park Commission of 1900, will be the third speaker at the morning session.

The subject will be continued in the afternoon when the Hon. Elihu Root will address the assembly. Cass Gilbert, F. A. I. A., past president of the American Institute of Architects, Harold S. Buttenkein, secretary of the National Committee on Memorial Buildings, and Morris Gray, president of the Museum of Fine Arts, Boston, will outline their views on the subject.

The delegates will be accorded the privilege of visiting the private collections of former Senator William A. Clark, J. P. Morgan, Mrs. H. O. Havemeyer and Henry Frick.

The general subject for the second day will be "The peace program of the Federation—its opportunities, the extension of its activities." The third day will be devoted to a discussion of "Art and the Nation."

Many Disabled Soldiers Studying Architecture

There seems to be a general impression that vocational education means a manual trade, and a good many disabled soldiers have at first rejected the idea of taking the training available to them through the Federal Board for Vocational Education on that account. Such is by no means the case, and the list of men already in training shows a considerable portion of the number to be pursuing strictly professional courses.

For instance, there are 24 studying architecture; 30 taking chemistry; 21 dentistry; 68 drafting; 178 engineering; 2 are taking a course in foreign trade; 9 are studying journalism; 7 are taking languages; 61 are taking mechanical drawing; 8 are studying music; 2 are qualifying as opticians; 49 are studying law; 8 are qualifying as teachers; 4 are studying theology; 3 as veterinary surgeons; and 8 as wireless operators.

Bank Loans Increase in Washington

WASHINGTON, D. C., May 12.—Washington banks by their new plan of co-operation with building contractors, have provided a much needed stimulant for construction. A survey of the financial situation in the District of Columbia shows that banks are now lending at least 10 per cent more on building than heretofore. They have apparently accepted the general view that no reduction in building prices can be expected this year.

Architects having many deals held up through the failure of contractors to secure loans look forward to renewed activity as a result of the bankers' attitude. The banks have indicated their willingness to advance a loan of about 45 per cent.

Steel Men Win Fight for an "Open" Price Market

An "open" market in steel, with the price completely responsive to the law of supply and demand and with the United States Railroad Administration asking for competitive bids at once on 200,000 tons of steel rails, resulted from the final conference last Thursday at the Hotel Plaza, New York, between representatives of the United States Railroad Administration and the manufacturers' committee of the American Iron and Steel Institute.

Some of the steel men who attended the seven-hour conference said that the decision to flout the Industrial Board and to refuse to abide by the prices fixed by that body in an effort to stabilize the industry means increased business in the steel trade.

The opinion was expressed freely that prices would work higher, as there was in abeyance a considerable volume of orders which awaited only the removal of uncertainty.

It was said in steel circles that the breaking up of the conferences means the end of stabilization, that the Industrial Board will probably go out of existence and that Secretary Redfield might resign on account of the defeat of his plan.

E. H. Gary, chairman of the United States Steel Corporation, who presided, issued the following statement:

"After a long discussion the representatives of the Railroad Administration and the iron and steel industry have failed to reach any agreement for reduction of the schedule of prices approved by the Industrial Board of the Department of Commerce, the former claiming the prices are not low enough to satisfy them and the latter insisting further reductions cannot be made without decreases in costs of production, which would necessitate a lowering of wage rates."

Judge Gary's statement was approved by steel officials present.

Points made by Director General Hines follow:

1. Reduction in cost of scrap material has been so great as to make prices proposed by steel interests and the Industrial Board as profitable to the steel interests as were the higher prices that prevailed during the war.

2. Prices proposed represent no concessions whatever from war-time profits.

3. Steel interests apparently included in war costs the increased profits in ore and on these war costs the proposed prices are based.

4. Representatives of the Railroad Administration remain entirely satisfied that the reduced prices could and ought to be adopted without affecting the wages paid labor in the steel industry.

Increased evidence that architects and builders are warming up for the big construction spurt which is expected shortly was to be found in the New York situation this week. Co-operation from large loaning interests, so vitally necessary if there is to be a big boom in the face of material and labor costs, is now assured, if intimations given by prominent mortgage and banking houses to the effect that building money will be much freer after June 1, come true. However, there is just one right way to meet this phase of the situation which has retarded the progress of construction on a big scale so far this spring, and that is Federal co-operation in the extension of credit to builders so that they may go ahead more rapidly and meet the pressing demand for dwellings.

This sane view was put before the State commission a short time ago, and follows the attitude of most foreign governments which are devoting funds and their power to improve housing conditions following the war. If Federal assistance can be secured the last hindrance to the free resumption of building would be removed.

In the New York market the price tendency is downward on neat cement, lime and hollow tile. All common brick remains firm at \$15 per thousand wholesale, with some grades at a slightly higher level.

Lumber prices, however, are not likely to drop for a long time to come. Mills in every section of the country are now operating at a loss or barely making expenses. In the North Carolina Pine region the average cost as shown by reports from 33 mills for the month of December was \$37.58 f.o.b. mill; the average selling price was about \$34.

From the west coast come statistics showing that for 24 operations in February cutting 64 million feet, the total return from the log f.o.b. mill, was \$21.22 and that the cost of producing this lumber was \$25.45. During January 28 operations cost \$28.10 with returns of \$22.61, making a loss of \$5.49.

The northern hemlock and Hardwood Manufacturers Association at Oshkosh, Wis., states that "the cost to transport logs, saw, pile and ship lumber is costing more in our territory than the product of the logs is bringing, and it has cost 25 per cent more to log in January and February than it did for the entire year of 1918. Until costs are reduced very materially, operating means an inevitable loss and the prospect of lowering cost is very poor."

Manufacturers in the great Southern Pine region are finding that their cost is very close if not greater than what the lumber brings. In December the average cost of producing lumber manufactured by 86 mills was \$28.76 while the average selling price reported was \$28. This basis allowed only about one-half of the mills to operate. In January the cost figures showed a reduction to \$25.85. As a general rule, labor conditions in the South have not been quite so bad as in the West, although the average of efficiency is lower.

The past week has shown architects, that they should by all means advise clients that the material market is more favorable now than it has been since the war or will be for the next few years. They realize that there is an abnormal demand, that there is a below normal supply and that price levels are at a consequent low artificial level. Lumber has already started to advance while many of the other commodities are being held down at levels which are claimed cannot be lowered in view of the potential demand and present wage scales.

(From our Special Correspondent)

CHICAGO, ILL., May 12.—Statistics compiled by the Government show that this city leads the entire country in the value of engineering contracts and actual small building activities. In all branches of the building material industries conditions during the week have developed a marked improvement. All clay products, as well as manufactured goods in metals, are in better demand with wholesalers and dealers busy with orders for immediate delivery. Lumber is moving from the yards to the contractors in exceptionally good volume.

A feature of this market is in the announcement of building permits issued during the week. The permits show that contemplative builders are becoming more and more convinced of stabilization of prices and are going ahead with speculative projects. The Commissioner of Buildings announces that in April permits were issued for nearly seven and one-half million dollars' worth of new buildings, almost three times the total for April of last year.

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 co-relating materials. Items marked (*) indicate an advance over last week, while those marked (†) record a decline. Other prices did not fluctuate during the week.)

BRICK		New York	Chicago
Common (Delivered at job in Borough of Manhattan only), per thousand.		\$17.85*	\$13.00

CEMENT		New York	Chicago
Per bbl. in 15 cent bags (Rebate 60c. per bbl. for bags)		\$3.25	\$2.80

COPPER SHEETS		New York	Chicago
At the mill, hot rolled, 16 oz. base-price, per lb.	22½c.		22½c.
(From jobber's warehouse add 2 to 3 cents. Cold rolled add 1c. per lb. to hot rolled.)			

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		New York	Chicago
(Discounts from manufacturer's price lists)			
Single strength, A quality, first three brackets.	80%	77%	
Single strength, B quality.	79½%	77%	
Double strength, A quality.	80%	79%	
Double strength, B quality.	82%	81%	
Plate—up to 5 sq. ft.	82%		
Plate—over 5 sq. ft.	84%		
Plate—up to 10 sq. ft.	83½%		
Plate—over 10 sq. ft.	82%		

GRAVEL		New York	Chicago
1½ in. (Borough of Manhattan only), per cu. yd.	\$2.75	\$2.35†	
4 in. (Borough of Manhattan only), per cu. yd.	2.75	2.35†	

GYPSUM		New York	Chicago
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 ¾.	21c.		
32 x 36 x ¾.	21c.		
32 x 36 x ¾.	23½c.		

Plaster Blocks:		New York	Chicago
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.		
4 in. hollow	12½c.		
6 in. hollow	17½c.		

HOLLOW TILE		New York	Chicago
(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		

LATH		New York	Chicago
Eastern spruce, per thousand.	\$6.50		
No. 1 white pine, per thousand.	6.50		
No. 1 hemlock, per thousand.	6.00		
No. 1 yellow pine, per thousand.	5.75	5.25	

LIME		New York	Chicago
Common, 300 lb. bbls., per bbl.	\$3.50	\$1.40†	
Finishing, 300 lb. bbls., per bbl.	3.70		
Hydrated, in paper bags, per ton.	17.25	17.00†	

LUMBER		New York	Chicago
(Retail prices per M, F.O.B.)			
Yellow pine, 2 x 4.	\$49.00	\$47.00	
Yellow pine, 2 x 6.	46.50	45.00	
Yellow pine, 4 x 4.	56.00	52.00	
Yellow pine, 8 x 8.	65.00	52.00	
Yellow pine, 12 x 12.	52.50	57.00	
Yellow pine, No. 1 boards, 1 x 6.	55.75	53.00	
Yellow pine, No. 1 boards, 1 x 12.	58.00	56.00	
Yellow pine, B and better flooring (plain).	58.00	57.00	
Yellow pine, B and better flooring (quarterd).	70.00	70.00	
Douglas fir, 6 x 6 to 12 x 12.	62.50	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.	47.50	46.00	
Hemlock, 2 x 12.	51.00	48.00	
Oak flooring, 13/16 quartered red.	132.50	122.00*	
Oak flooring, 13/16 plain white.	82.50	82.00*	
Oak flooring, 13/16 plain red.	82.50	82.00*	
Maple flooring, 13/16 clear.	75.00	72.00*	
Maple flooring, 13/16 select.	70.00	69.00*	
Maple flooring, 13/16 No. 1 fancy.	62.50	58.00*	

Mahogany, 1" F. A. S.	300.00	300.00*
Quartered oak, 1" F. A. S.	180.00	135.00*
Plain oak, 1" F. A. S.	120.00	100.00*
Red gum, 1" F. A. S.	87.00	70.00*
Sap gum, 1" F. A. S.	56.00	60.00*
Chestnut, 1" F. A. S.	87.50	75.00
Poplar, 1" F. A. S.	130.00	100.00*
Birch, 1" F. A. S.	70.00	65.00*
Spruce, random 2"	52.00	50.00
Spruce, wide	62.50	60.00

LEAD		New York	Chicago
American pig, per lb.	5½ to 6	5½ to 6	
Bar, per lb.	7½ to 8	6 to 6½	

METAL LATH		New York	Chicago
Under 100 sq. yd., per sq. yd.	40c.	40c.	

PAINTS, OILS, ETC.		New York	Chicago
Leads:			
American white, in oil, kegs; lots over 100 lbs.	14c.	14c.	
White, in oil, 25-lb. tin pails; add to keg price.	¼c.	¼c.	
Red, bbl., ½ bbl. and kegs; lots over 100 lbs.	14½c.	14½c.	

Dry Colors:		New York	Chicago
Red Venetian, American, per 100 lbs.	\$2.75 to \$5.00	\$2.00 to \$5.00	
Metallic Paints:			
Brown, per ton	24.00 to 32.00	24.00 to 32.00	
Red, per ton	24.00 to 30.00	24.00 to 32.00	

PIPE		New York	Chicago
Cast iron:			
6 in. and heavier	\$57.70	\$56.80	
4 in.	60.70	59.80	
3 in.	67.70	66.80	

(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:		New York	Chicago
Butt Weld			
Steel:			
Black, ½ to 3 in.	50½%	57½%	
Galv., ½ to 3 in.	24%	41%	
Iron:			
Black, ½ to 1½ in.	29½%	39½%	
Galv., ½ to 1½ in.	2½%†	23½%	

Lap Weld		New York	Chicago
Steel:			
Black, 2½ to 6 in.	53½%	53½%	
Galv., ½ to 3 in.	41%	41%	
Iron:			
Black, 2½ to 6 in.	34½%	34½%	
Galv., 2½ to 6 in.	21½%	21%	

PLASTER		New York	Chicago
Neat wall cement in 15 cent bags, per ton.	\$20.30	\$18.50	
Finishing plaster	24.00	21.00	

RADIATION
(A further reduction, 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% reduction on all standard sizes.

SLATE ROOFING		F.O.B. cars,	F.O.B. Chicago
Pennsylvania:			
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:		New York	Chicago
No. 1 Sea Green	3.50 to 6.75	5.95 to 9.20	
Unfading Green	3.50 to 9.25	8.30 to 11.05	
Red	12.00 to 20.00	14.80 to 22.80	

Maine:		New York	Chicago
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		

ROOFING MATERIAL		New York	Chicago
Tarred Paper:			
1-Ply, per ton, per roll, 108 sq. ft.	\$63.00 to \$65.00	\$65.00	
2-Ply	95c.	95c.	
3-Ply	1.23 to 1.30	1.30	
Rosin sized sheathing	per ton 60.00	60.00	
Corrugated roofing, galvanized, 2½ in. corrugation, over flat sheets, 30c. per 100 lbs.			

SHINGLES		New York	Chicago
Red cedar, 5 to 2, clear, per thousand.	\$8.00*	\$6.50	
White cedar, extra star, A star, per thousand.	7.00*	5.50	

STRUCTURAL STEEL		New York	Chicago
Beams and channel, 3 to 15 in., per lb.	2.45c.	3.47c.	
Beams and channel, 3 to 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.	

REINFORCING BARS		New York	Chicago
High carbon steel from mill.	\$48.50	\$49.50	
Medium steel from mill.	48.50	49.50	

SAND		New York	Chicago
Mason, per cu. yd.	\$1.80	\$2.25	
Torpedo, per cu. yd.	1.80	2.35†	

Financial and Commercial Digest

As Affecting the Practice of Architecture

Urges Building by Employers

Calling on the manufacturers' and the employers' associations of this city to take the initiative in forming an emergency building corporation with \$5,000,000 capital, Mayor Couzens of Detroit, Mich., has announced his willingness to join any such organization of public-spirited citizens in an effort to solve the shortage of homes. The mayor has abandoned his plan for a municipal bond issue. Although the legal difficulties in the way of such a move are not insurmountable, the delay would render ineffectual any attempt to relieve the situation immediately, his legal advisers told him.

"It is my judgment that a lot and a comfortable home can be secured for less than \$5,000, perhaps between \$3,500 and \$4,000 if a big organization takes hold of the problem without any idea of profit," said the Mayor. "Five million dollars could buy all the material for the houses and the lots, and contracts could be let for 100 houses at a time. There would be uniformity in quality, not in design, and thus a saving would be effected.

"I do not believe it should be a continuing company, to interfere with private initiative. It should be organized to meet the great necessity of the moment which private interests are not able to meet. There would be no danger of paternalism in this. It is simply meeting a problem which is a civic problem, like a flood. Surely building homes for flood victims is not paternalism."

Vancouver business men have already organized a corporation through which they are to underwrite the cost of building all the dwellings for which there is a demand up to one thousand. These houses will be sold at exact cost with a charge of but 6 per cent on deferred payments. The plan is that, as a preliminary, blanks are sent to all working men in the form of a questionnaire. These will form a record of those who want to buy such homes, how much they can pay down in cash and how much they can pay a month. There will be no building done until such contracts are made and, as can be seen, these will form a basis for credit.

This same organization controls a long list of lots. Those who wish can buy the sites for their houses from this list at an exact price and with no charge for commission above the cost of sale, which is office expense, or they can buy from local dealers. This plan, which calls for a comparatively small initial fund and which would finance itself through banking credit or bonds issued as the money was needed, should appeal to many other cities in this country where a housing crisis is imminent.

According to the plan, actual building would begin only after enough contracts were made to warrant wholesale buying of materials and the letting of building contracts on a large scale in blocks of fifty or more. It would assure the lowest possible costs in this way discounting the future and establishing a sound credit basis independent of the association's personal or separate credit.

The putting into operation of a plan similar to that of Vancouver in many of our cities would go a long way not only toward supplying the millions of badly needed homes, but also would provide employment to all grades of labor and expedite the return to normal conditions.

Urges Liberal Credits to Our Foreign Purchasers

Attention is called to the vital necessity for granting more liberal credits to foreign purchasers of American products, in a statement issued by Charles H. Sabin, president of the Guaranty Trust Company of New York. Mr. Sabin advocates the meeting of international competition by the extension of longer credits than we have given heretofore. Mr. Sabin said:

"The war literally forced us into world markets on a scale never before even dreamed possible. And we are beginning to realize that our national prosperity is very materially dependent upon the continuation of our vastly increased production, which exceeds the requirements of our own market and must continue to find an adequate outlet elsewhere.

"But, owing to the war, other peoples cannot pay us on practically a cash basis for the goods which they want to purchase from us, and which they sorely need. Consequently, we must allow them more time in which to meet their obligations.

"We must revise our point of view about foreign credits. Our banks can no longer restrict such credits to sixty, ninety, or a hundred and twenty days, and render to manufacturers and exporters the service which the present readjustment period makes imperative.

"England and Germany built up their great foreign trade prior to 1914 largely by making six months' time the selling basis for their goods. If we are to hold our own in foreign trade, we must profit by the experience of other countries and adapt ourselves to the needs of the present situation. The war has taught us many lessons; peace will teach us more. We have learned, for instance, that our existing banking system, predicated upon elasticity, is to-day probably the strongest in the world. But we now need to develop greater elasticity in our banking methods, particularly in our point of view regarding credits for the fostering of our foreign trade. This is especially demanded in the selling of our manufactured articles overseas, although it holds true to some extent in the selling of raw materials also.

"The unpegging of sterling and franc exchange, recently, has surely made clear to us the condition which is bound to prevail if we continue to insist upon the short term credits which we have held to in the past. When the British and French governments withdrew their support to sterling and franc exchange, respectively, the tendency, naturally, was to put the American dollar at a premium in England and France, which means that it takes more francs and shillings to equal a dollar and, consequently, less imported goods can be purchased for an American dollar in those countries than was possible prior to the unpegging of the exchanges. This will tend to discourage the buying of American goods, and eventually will result in serious curtailment of our foreign trade—unless we counteract that tendency by extending credits for a sufficient period to enable purchasers of our products abroad to pay us at a more convenient time."

Department of Architectural Engineering

Modern Buildings for Printing Trades

MODERN civilization could not exist without the press. In its current events are described and illustrated, ideas exchanged, knowledge imparted and public opinion reflected. By the press we do not refer to the daily newspaper exclusively, but also to those many classes of publications, some treating of general subjects and others dealing with special features and topics, whose arrival we so eagerly await, whose contents we endeavor to absorb, and deprived of which, life would lose much of its charm. Knowledge is increasing and with it the publications setting forth human achievements and ideas. Publications require printing presses, and the modern printing press bears as much resemblance to

that of Franklin's time as the oxcart does to the locomotive. Presses and the accessory uses customarily incidental thereto must be housed—hence the development of the "printing house" building.

Here the architect is called upon to design a building attractive in appearance, with interior arranged for the development of maximum utility, providing efficient light, air and ventilation in order

that employees may render maximum service, safe in its structural features, and also one which shall accommodate a large number of special machines, with movable parts constantly traveling back and forth in a horizontal plane and seldom arranged to neutralize each other's impetus, the structure to possess sufficient rigidity to prevent swaying or induction of excessive vibration. The difficulty in properly solving this problem is evidenced by the unfortunate fact that in almost every community there are



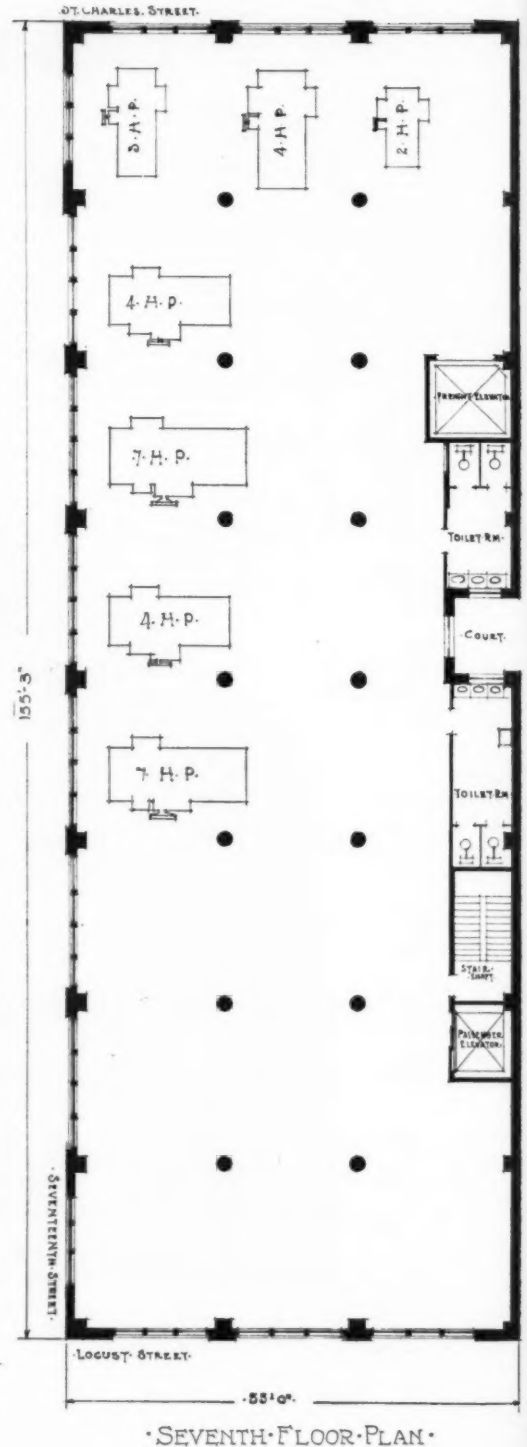
ADVERTISING BUILDING, ST. LOUIS, MO.
ALBERT B. GROVES, ARCHITECT—A. A. AEGERTER, ENGINEER

numerous examples of excessive vibration in such buildings, some built many years ago, and others of more recent construction. The vibrating building is a nuisance and sometimes a menace not

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only to itself but often to its neighbors, so that the courts have had to decide many law suits and claims for damages as a result of such conditions. There is in St. Louis a building housing thirty-five presses, which causes vibration in the adjoining buildings and throughout the entire block. It is six stories in height, of slow-burning construction, with comparatively light masonry walls. Such construction is not sufficiently rigid to entirely resist the momentum of the presses, so the adjoining properties must absorb their excess energy. Another such building was erected nearly twenty years ago, constructed with an early type of reinforced cinder concrete floor, with concrete joists spaced in a manner similar to wood-joisted construction, reinforced with rods hooked over the top flanges of steel beams into which they are framed. The frame is of steel beams with cast-iron columns, and inclosed with masonry walls. Presses operating in this building rock it at the rate of some ninety vibrations per minute the year round, causing open doors to swing, window weights to knock, and producing a disagreeable sensation to persons working therein. In another instance a two-horse power printing press located in the seventh story of an eight-story reinforced concrete building caused so much vibration that a sample room on the eighth story, with hardware samples consisting of hanging chains, sleigh bells, saws, pans, etc., was unable to conduct business, due to the racket constantly made by these samples. The press was removed out of the building and into a two-story brick building 20 ft. wide. In this new location the press was used for the purpose of conducting experiments and was mounted on a steel truss, laid flat with ends firmly embedded in the side walls. The press was located so as to operate with the length of the building. This resulted in a total lack of vibration in the building proper, the energy of the press being taken up by deformation in the truss members. The truss diagonals consisted of steel rods with threaded and welded loop ends and were provided with turn-buckles. For the purpose of ascertaining the lateral thrust of the press the diagonals were loosened up, and while the press was running the horizontal deflections of both chords of the truss were measured, an analysis of which gave the horizontal press thrust.

This "press thrust" is made up of three factors, namely: The power of the operating motor; the collision impact of the horizontal moving type-frame or "belt travel", and the time consumed to stop collision. The press under study had a two-horse power motor (66,000 ft. lb. per minute) and a belt speed of 2000 ft. per minute, or 33 ft. per second. In other words, 66,000 ft. lb. of work was being carried to the press by the belt every



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minute, which resolves itself into a 33-lb. load carried by the belt. Computations from the measured deflections of the truss chords showed that the press developed an energy or thrust of 33,000 lb., which indicated a "kick" due to collision impact of 1000 times more than the load carried by the belt from motor to press. Now, if the 33-lb. force had been stopped in one second, the horizontal kick of the press would have been 33 lb. Since the measurements gave this as 33,000 lb., the indications are that it took only 1/1000 part of a second to deliver or stop the blow. This stop or reversal is the important factor, acting in a manner similar to a falling body. No jar is felt until the falling body strikes the ground, so also in the press the thrust occurs at the instant the direction of the traveling type frame is reversed.

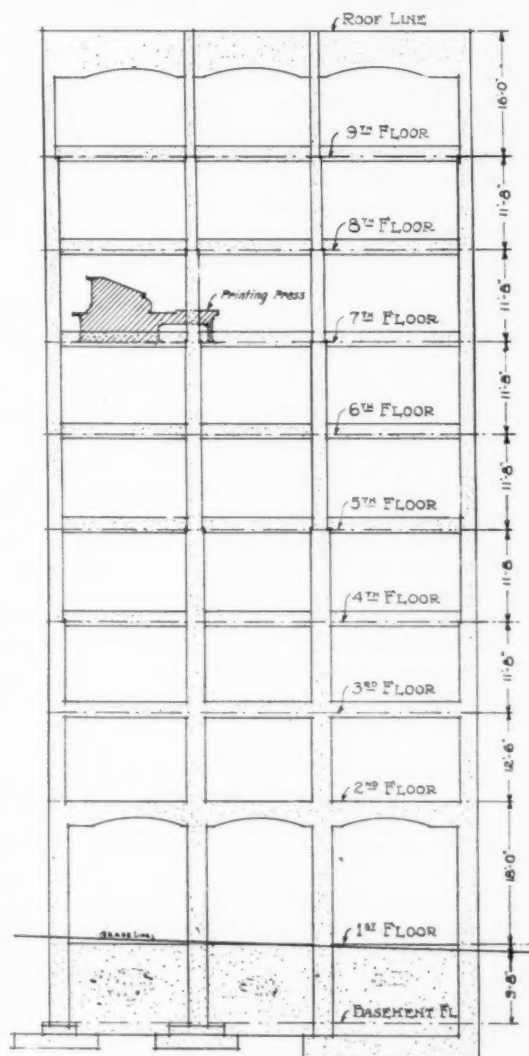
The results obtained from this experimental data have been used with satisfactory results in the design of many buildings, one such example being here set forth.

In February, 1917, just before this country entered the world war, a building operation was promoted, the promoters having made arrangements for leasing all floors with perhaps one exception (the ground floor). The proposed building was to be nine stories and basement high, of reinforced concrete construction, 55 ft. wide by 155 ft. deep. The height from curb to roof to be 130 ft., from which it will be seen that fairly liberal story heights had been allowed. This proposition was only possible provided the seventh, eighth and ninth stories could be leased to a printing establishment, so designed that presses could be located on the seventh floor, composition room on the eighth floor and photographic work conducted on the ninth floor. The contemplated operation involved an investment of \$250,000, with the promotor seeking a capable architect able to guarantee a safe and rigid building. From this it can be seen how important foreknowledge was, as leases so framed that they would not be binding should the completed structure develop excessive vibration would entail serious financial loss. However, as competent architects are in nowise like the proverbial needle in the haystack, the building was designed, erected and occupied.

The ground floor is a mercantile store room, the second to sixth are office floors and the seventh, eighth and ninth stories occupied as already described. With the exception of the seventh or press floor, all floors were designed for a live load of 150 lbs., the seventh being designed for a live load of 400 lbs., to provide for the heavy paper stock used in connection with the presses. At the time of designing the building the exact placing of presses and direction of operation could not be determined,

hence the thrust was taken care of in both cross and longitudinal directions.

Stress in a concrete frame travels about 15,000 feet per second, hence a line of presses as proposed, all headed the same way, hitting one after the other, could not pile up a stress in the frame, as the



LOGOIST STREET ELEVATION
SCALE 1" = 10'

velocity of stress is 15 times faster than the delivery of shock, and since 1/1000 part of a second is required to deliver the collision impact of a machine, the possibility of two out of seven hittings at the same instant is very remote, hence the collision of one press, the largest, was provided for only.

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A moving load in collision with another body causes a force entirely dependent upon the time it requires to stop the moving load, for a 3000-lb. blow can be struck with a 2½-lb. hammer head with a velocity of 40 ft. per second if the stop is made in 1/1000 part of a second.

There are several moving parts to a printing press any one of which could be analyzed to find the horizontal kick, and this horizontal kick also produces a vertical floor load as a rocking motion from front to back occurs. From the previous experiments it was found that a one-horse-power motor connected to a printing press develops a 16,000-lb. horizontal force.

In this nine-story building the largest press was taken as having a six-horse-power motor located at either end of the floor and operating in either a cross or longitudinal direction. The floor was assumed to act as a truss or plate girder, it being constructed of reinforced concrete nine inches thick.

As for the vertical live load, a press of this size weighs 26,000 lb. Such a press located in a 19 ft. x 20 ft. floor bay would produce a static load of 70 lb. per sq. ft. and an additional rocking load of 190 lb. per sq. ft., provided the horizontal moving shuttle was 36 in. above the floor line, resulting in a total live load equivalent to 250 lb. per sq. ft. This seventh floor was, however, designed for 400 lb. live load to accommodate paper piles as previously mentioned.

The frame of the building had a flat slab in each floor used to transfer any horizontal thrust to the end or side girders of the structure. At each floor,

from the seventh floor to grade line, the beams and wall columns were designed to take up this 96,000-lb. lateral thrust.

The beams were reinforced at both top and bottom; the columns were spliced at their mid-length and the footings were designed for the bending moment from lateral force in addition to the dead load.

The plans shown herewith give an idea of the layout and the diagram of skeleton frame shows the disposition of girders and columns. The photograph illustrates the architecture of the completed building.

This building has now been in use nine months and the measured vibration does not exceed 1/16 of an inch crosswise of building at the eighth floor sill line, with 80 vibrations occurring per minute. The largest press finally used had a 7-horse-power motor.

The ninth floor of this building is used for photography and five-minute exposures are taken with no ill results.

In conclusion it would appear entirely safe to work on the basis that a one-horse-power press kicks laterally with an equivalent static load of 16,000 lb. and rocks from front to back with an intensity depending upon the size of foundation frame or panel in floor and moment of moving shuttle.

The building described was designed by Albert B. Groves, architect, with A. A. Aegerter as engineer, built by Murch Bros. Construction Co., and occupied by the Garrison Wagner Printing Co., St. Louis, Mo.

Present Status of Industrial Lighting Codes*

By G. H. STICKNEY

ABSTRACT OF PAPER

In order to protect workers from accident and eye-strain, industrial lighting codes have been adopted in four states and in Federal establishments. Similar action is under consideration in several other states and there is prospect of extension throughout the country.

Investigation and experience indicate the need of government regulation of factory lighting. When adopted by industrial commissions under authority granted by Legislatures, the codes become in effect state law. Variations in the codes as adopted are less than might appear, some features being experimental. The existing codes correspond in essentials to the Illuminating Engineering Society code, on which they are based.

Mandatory regulations are necessarily limited in function to the assuring of safety. Higher standards are essential for efficient production. Popular education in which

electrical and illuminating engineers can co-operate is an important feature of future development.

INTRODUCTION

THE industrial lighting codes are an expression of the "Safety First" movement in terms of legal regulations directed to the lighting of factories. The prime function of these codes is the safeguarding of life, limb and vision of industrial workers. No argument should be necessary to enlist the support of all good citizens to such a humanitarian effort. In addition, the codes seem likely to teach practise which will enhance the earning power, not only of the workers themselves but also of the industrial plants. This incidental result seems likely to be of great economic importance in the coming period of international competition. Sufficient prog-

*Presented at the 349th Meeting of the American Institute of Electrical Engineers, in Joint Session with the Illuminating Engineering Society, New York, April 11, 1919.

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ress has been made to indicate that such regulations will ultimately be in force throughout the country. Through their relation to lighting practise, these codes seem destined to have a broad influence on electrical engineering, and it is the purpose of this paper to inform electrical engineers regarding the scope and tendencies of these codes, as interpreted from a close association with the work and with those responsible for it.

Industrial lighting codes, based on the Illuminating Engineering Society's code, are now in force in the States of Pennsylvania, New Jersey, New York and Wisconsin. In several other States similar codes have been drawn up and are under consideration for adoption. In others, bills looking to the adoption of the code have been introduced before the legislatures. As a war measure, the Advisory Commission of the Council of National Defense, through its Committee on Labor, appointed a sub-committee known as the Divisional Lighting Committee, to encourage the movement. The sub-committee, working through State representatives, has approached the authorities in each of the States to encourage the adoption of such codes. As the result of this activity, progress has been made toward the introduction of an industrial lighting code or a safety code, by the Department of Labor, Industrial Accident Commission, or other agencies charged with the enactment and enforcement of regulations in regard to factory lighting.

Through co-operation of the Bureau of Standards and the Federal Inspectors of Safety, a lighting safety code was adopted during the war, in all Federal establishments, including arsenals, munition plants and navy yards.

NECESSITY

The necessity for such regulation is well explained in the introduction to the new edition of the Wisconsin code, which reads as follows:

Insufficient and improperly applied illumination is a prolific cause of industrial accidents. In the past few years numerous investigators, studying the cause of accidents, have found that the accident rate in plants with poor lighting is higher than similar plants which are well illuminated. Factories which have installed approved lighting have experienced reductions in their accidents which are very gratifying.

Of even greater importance, poor lighting impairs vision. Because diminution of eyesight from this cause is gradual, it may take the individual years to become aware of it. This makes it all the more important to guard against the insidious effects of dim illumination, of glaring light sources shining in the eyes, of flickering light, of sharp shadows, of glare reflected from polished parts of the work. To conserve the eyesight of the working class is a distinct economic gain to the State, but regardless of that, humanitarian considerations demand it.

Finally, inadequate illumination decreases the production of the industries of the State, and to that extent, the wealth of its people. Factory managers, who have installed improved illumination, are unanimous in the conviction that better lighting increases production and decreases spoilage.

Illuminating engineers have recognized for a long time that inadequate lighting was responsible, in a greater or less degree, for industrial accidents, and that good lighting was a potent means of accident prevention. Extensive data, accumulated by John Calder¹, R. E. Simpson², and others provide convincing proof of this condition.

The loss of visual power, through improper lighting cannot be so readily recorded, and hence is not so directly substantiated by actual data. It is, however, recognized as a serious menace by oculists³ and others. Because it incapacitates the skilled worker just when he should be most valuable, and further, because the danger is not readily recognized by those immediately responsible for industrial lighting, the necessity for Governmental supervision is even greater for this purpose than for the prevention of mechanical accidents.

In spite of the recent general improvement in industrial lighting practise, the increasing need of ample assurance in this matter is evident from the present tendencies of manufacturing, among which may be mentioned the following: the grouping of larger number of employees; the extension of all night processes; increasing use of dangerous machinery; intricacy of processes and specialization of workers requiring sustained visual application.

HISTORICAL

Practically all the codes in force or under preparation are based on the "Code of Lighting Factories, Mills and other Work Places" of the Illuminating Engineering Society⁴, and conform closely to it in all essentials.

This code was prepared by the co-operative action of the Committee on Lighting Legislation, under the chairmanship of Mr. L. B. Marks, and the former Committee on Factory Lighting, under the chairmanship of Professor C. E. Clewell.

The Illuminating Engineering Society was called upon in 1913 to assist in formulating the lighting section of the labor law of New York State. It was found impracticable then to incorporate definite lighting specifications in the law, and so provision was made in the law for the later adoption of such regulations, by the Labor Commission. In preparation for the commission's requirement, work of drafting a code was undertaken. The problem proved a very difficult one and many modifications were found necessary, even after its first publication. Various societies, many engineers and State commissioners pointed out desirable changes, which were incorporated from time to time. Even at the present time, although the code is a very valuable working instrument, it is considered, by those who have had most to do with it, to be under develop-

1. For references, see Bibliography.

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ment and liable to slight changes and amplifications, with the development of the art and with increased experience in application of the various provisions.

In 1916 at a meeting in Philadelphia⁵, Dr. J. P. Jackson and Colonel L. T. Bryant, industrial commissioners of Pennsylvania and New Jersey, respectively, became interested, and after introducing some practical improvements, their respective commissions took action which resulted in the adoption of the code in the summer of 1916. The New York Commission adopted the code with some modifications and put it in force July 1, 1918, some of the features being tentative for a year.

The Wisconsin Commission began issuing lighting orders in 1913, but these orders did not contain any specification as to intensity of illumination on the work. After thorough investigation the orders were superseded by the present code, which was issued in May, 1918.

The author has just received word, as this paper goes to press, that the legislature of the State of Oregon has passed a bill establishing an industrial lighting code.

SCOPE

In the States which have adopted codes, the action has been by industrial or labor commissions, under the authority granted them by legislature, to promulgate rules in the interest of safety of industrial workers. The codes are, therefore, backed by the State police power.

Since the function of the commissions is limited to insuring safety, the codes require only such lighting as is necessary for that end. Under these circumstances the codes cannot demand the higher standards of illumination desirable for economical production⁶. That the intensities specified are minimum limits, consistent with safety rather than good practise, is recognized, and in connection with all the codes, higher values representing more desirable practise are recommended.

It has seemed to be the experience of labor commissions that at least 90 per cent of the manufacturers cordially desire to comply with their regulations. The principal difficulty so far encountered in applying the codes has been to make clear to the layman just what is required and how it can be secured. It has, therefore, been found expedient to publish educational sections supplementary to the codes proper. Such sections explain the principles involved and make suggestions for securing and maintaining good installations. The recent revision of the Wisconsin code treats rather comprehensively of the selection and location of lighting equipment, illustrated by charts.

By joint action of the Pennsylvania and New Jersey Commissions a course of lectures⁷ on the interpretation of the codes was given to their in-

spectors at the University of Pennsylvania in the spring of 1918. A similar lecture⁸ was given to factory inspectors of the Board of Labor and Industries of Massachusetts in October, 1918. Doubtless this will be repeated and the method applied elsewhere. The New Jersey Commission has held meetings of contractors and manufacturers to assist in the educational work.

In all the codes the employment of expert engineering or architectural advice is recommended.

SPECIFICATIONS

The principal lighting specifications common to all States which have adopted the code are intensity, glare limits and distribution. It is also usual to require provision of emergency lighting, watchman's circuits and certain switching provisions. In some cases these features are omitted from the codes, being provided for in the law or elsewhere.

A comparison of the codes adopted or under preparation shows a remarkable uniformity in the specification of these factors. There is some variation, especially as regards experimental features, but this is of a nature likely to help rather than retard the development of codes toward excellence and uniformity.

In drawing the specifications it has been constantly recognized that they must be kept simple and practicable so that conformance could be determined without recourse to lighting experts or bulky and expensive instruments. On the other hand, it is desirable to make the specification as definite as possible, minimizing the part left to individual judgment and thus avoiding controversy and prejudice.

DAYLIGHT

While it has been considered desirable to require that new buildings and extensions be so constructed as to provide adequate daylight, it has been found very difficult, if not impracticable, to lay down a definite rule, and in most of the codes it has been assumed that the purpose was accomplished if suitable artificial light were required where and when daylight is unavailable.

Daylight is subject to a wide variation throughout the hours of the day, seasons of the year, with changes in weather and for different directions of window exposure, etc. In any building the natural lighting may be affected by surrounding construction on property not under the control of the owner. A workroom having ample daylight when erected may be darkened by later construction. In a dense manufacturing center, *e. g.*, downtown Manhattan, it would be impracticable to realize so good a condition, especially on lower floors, as might be reasonably required of a suburban factory. Some reasonable provision can undoubtedly be reached, which

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will at least require the minimization of glare and provide for wide distribution of light, by the use of suitable awnings, shades, refractive windows, etc.

The Wisconsin Commission has adopted the following rule in this connection:

Order 2111. Natural Light. Windows, skylights, sawtooth or other roof lighting construction of buildings shall be arranged with reasonably uniform bays and the glass area so apportioned that at the darkest part of any working space, when normal exterior daylight conditions obtain, (sky brightness of 1.5 candle-power per sq. inch) there will be available a minimum intensity equal to twice that of Order 2112 for artificial light.

Awnings, window shades, diffusive or refractive window glass shall be used for the purpose of improving daylight conditions or for the avoidance of eye strain wherever the location of the work is such that the worker must face large window areas, through which excessively bright light may at times enter the building.

Note. The intensity requirements for adequate daylighting are much higher than those for adequate night lighting, because in general, under daylight conditions, the light coming to the eye from all the surroundings in the field of vision is much brighter than at night, and hence a correspondingly more intense light must fall on the object viewed.

It is the almost universal experience of illuminating engineers and others that it is possible to operate satisfactorily with a lower intensity of artificial than natural illumination. The reason for this has not been satisfactorily explained; but with daylight the relatively high illumination of walls and other surrounding objects, compared to the illumination on the work, is undoubtedly a contributory cause.

In the earliest draft of the Illuminating Engineering Society's code, a ratio of 3 to 1 between natural and artificial lighting requirements was specified. Later this was changed to 2 to 1, and still later, in the absence of definite data in confirmation of the necessity of higher daylight intensities, artificial lighting was required when daylight intensities fell below the values specified for artificial lighting. The Wisconsin code and one or more of those under preparation have adhered to the ratio of 2 to 1, which figure has also been used in the Illuminating Engineering Society's School Lighting Code. Further experience is apparently necessary before any final relation can be determined.

It is probable that in different conditions of daylight and of artificial light the relative value varies. It is not likely, at least in the near future, that actual foot candle measurements will become the criterion for turning on the lighting, so that an accurate determination of this ratio does not seem to be of immediate importance.

The Illuminating Engineering Society, Pennsylvania, New Jersey and New York codes are essentially artificial lighting codes and do not attempt to specify daylighting. On the other hand, serious conditions of glare are not infrequent in the natural lighting of workrooms, and the extension of the

code to mitigate such conditions seems to have considerable merit.

From a hygienic standpoint, sunlight has desirable features distinct from its relation to vision, so that it is desirable to have daylight available wherever possible.

There are some processes which inherently require the exclusion of daylight. Moreover, in the large cities workrooms, such as engine rooms, pipe shops, etc., have been established in basements, apparently without serious harm to the workers. On a larger scale workrooms have been established above ground, which require artificial lighting throughout the day.

Unquestionably, all visual requirements can be provided with proper artificial lighting. It is, therefore, doubtful if a mandatory requirement of daylight for all places is justifiable. One of the codes under preparation, but not yet adopted, meets these conditions by simply specifying the lighting features necessary without distinction as to whether the light is natural or artificial.

INTENSITY SPECIFICATION

In all the codes which have come to the author's attention intensity is specified in foot candles. While at first some difficulty was anticipated in explaining these values and providing for their measurement, the development of an inexpensive and simple "foot-candle meter" has facilitated the application of these specifications.

For yards, passageways, aisles and stairways, the intensity on a horizontal plane, at or near the floor level, is assumed for measurement.

For various operations the intensity is required at the work and would naturally be measured in the plane of any surface requiring vision of the character indicated. In all cases the limits are given as minima, not averages.

It has been generally recognized in selecting the intensity levels that there are no definite critical points, where a variation of a small percentage, one way or another, would cross a definite line between safety and danger. In determining the various intensity levels, lighting experts have drawn on their experience, supplemented by special investigation. It inspires confidence to note that the American values correspond rather closely to those determined independently in England after a very exhaustive investigation under governmental auspices.

The intensity specifications naturally fall into two groups: those required over general spaces and those required for work operations. The former are primarily for the prevention of accident, while the latter have the added element of conservation of vision, especially in the higher intensity classes.

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A lower standard is allowed out of doors than indoors, on account of the difference in the usual character of surroundings and the nature of travel. The large out-of-door areas must, for economic reasons, have a low intensity requirement, and it would not be reasonable to demand much more than ordinary street lighting or moonlight intensities. The value of 0.02 foot candle, therefore, appears in all the codes. For interior lighting a minimum of 0.25 foot-candle has been required for all traversed spaces.

New York and Wisconsin have included a classification to cover elevators, washrooms, dressing rooms, etc., at 0.5 foot-candle. This has not appeared in the earlier codes, but seems to be a useful addition.

The lowest intensity for manufacturing under the Illuminating Engineering Society, Pennsylvania, New Jersey and Wisconsin codes is 1.25 foot-candles. New York has adopted 1 foot-candle for the corresponding class, *i. e.*, rough manufacturing. While this value is, in the opinion of some engineers, lower than desirable, there is doubt if there is evidence to warrant the standardization of the fractional value.

The New York Committee has also adopted a new level of 0.5 foot-candle for the handling of materials and other very rough operations, and this step is being included in some of the codes in preparation in other States.

The higher steps are the same in all codes being located at 2.3 and 5 foot-candles, according to the fineness of vision required by the operations.

While it is true that there are operations requiring more than 5 foot-candles, they are exceptional and usually performed by highly skilled specialists. As such individuals are likely to be able to protect themselves, it has not seemed necessary for Governmental authorities to take action.

Exceptions arising from the nature of a few processes are necessary to the illumination intensity requirements, as they appear in most of the codes. The omission has been due to the belief on the part of certain commissions that the exceptions were so infrequent and obvious that they can be taken care of readily and thus avoid misunderstanding on the part of others not entitled to exception.

One of the codes under preparation includes a class of zero intensity, while another lists the exceptions in a note following the intensity rule. This reads:

Note: Some exceptions to the Intensity Rule:

a. There are some operations that are performed in comparative darkness, as for example, photographic processes in the dark room.

b. There are some operations that are best observed by their own light, as in the parts of the process of working glass.

c. Some operations are best observed by the "silhouette"

method of lighting in which the work is seen against a lighted background in a comparatively dark room, as in some processes of working with dark threads and lamp filaments. In all such cases in which work is of necessity carried on in comparative darkness, special precautions should be taken to properly safeguard the workmen.

A limiting feature of the intensity specification is the rather indefinite descriptive classification of the operations assigned to the various levels. The need of more definite descriptions is well known to all who have undertaken the work of drawing up specifications. It is sometimes important that an inspector or a manufacturer be able to tell without question within what class any particular operation falls. This, however, is not so serious as a superficial consideration might indicate, being somewhat ameliorated by the fact that manufacturing economy should dictate a much higher intensity than required by the codes.

Many efforts have been made to render the specifications more definite, but the problem is much more difficult than appears at first. There are many degrees of fineness in the same type of process as carried on in different shops or even in the same shop. Lathe work in machine shops, for example varies in fineness all the way from very rough work down to watchmakers' fineness. An article is made by one manufacturer, say to 0.01 inch of accuracy, while another making nominally the same article works to 0.001 of an inch or finer.

Several proposals have been made, among which may be mentioned.

a. To make the intensity table simply an index of intensity levels, each indicated by an arbitrary designation (a, b, c, etc.) without any description of the process covered. Supplement this with a complete list of all manufacturing processes, using the symbol to designate the particular class to which each process is assigned.

b. To supplement the present classification with a detailed list of standardized processes.

The latter scheme (b) seems to have some advantages provided it is not extended too fast so as to lead to confusion through repeated changes. The New York Commission has adopted tentatively for a year a list of this sort, but has found it necessary so far to use in many cases the qualifying terms "rough work," "medium work," "fine work," which make the specification in such cases but little more definite than the general classification.

The first plan (a) has some ardent advocates, but has been objected to on the ground that such a list implies an accuracy of description that does not really exist.

In general, it seems desirable for the ultimate good of all that most States adhere to the broad descriptive specification, while a few experiment with the extensions and determine their practicability. They will then be more readily able to adopt any method which shall have been found especially meritorious.

(To be continued)