

SUMMARY OF PROCEEDINGS OF THE FIFTH CONVENTION.

FIRST SESSION.—TUESDAY, JANUARY 12, 1909, 10.00 A. M.

The convention was called to order by the President, Mr. Richard L. Humphrey.

An address of welcome on behalf of the City of Cleveland was delivered by Dr. Harris Reed Cooley, Director of Charities and Correction, on behalf of Mayor Tom L. Johnson, as follows:

Gentlemen: I regret very much that Mayor Johnson is not able to be present in person this morning to welcome you to our city, but on his behalf and on behalf of the municipality I bid you a hearty welcome to Cleveland. I trust this is no formal matter. Cities have their spirit, their life, their social feeling, and I believe that hospitality is one of the characteristics of Cleveland. We welcome you for what you are doing for the world and for civilization.

As I visited the Exposition yesterday, and as I have studied somewhat of cement and concrete work, I have marveled at its rapid advancement, and yet I have a feeling that we are only at the beginning of a new era in construction; that we are but pioneers; it is extending in so many directions. Why, our cows are kept in concrete barns and eat out of concrete troughs and the milk is cooled in concrete cellars and our houses are concrete, we will walk upon concrete floors, sit by concrete fireplaces, perhaps eat off of cement tables. All through life we touch it, and then when we are dead we are buried in a concrete burial case, and the future generations know how good we were because it is carved upon a concrete tombstone. And there may be some agents enterprising enough to try to persuade St. Peter to put a concrete foundation under the golden pavement of the golden streets of the New Jerusalem. And some of these agents, when they go hence, may carry their samples with them and introduce reinforced concrete construction because of its wonderful properties in withstanding fire.

So you see, gentlemen, there seems to be no limit as to the possibility of the extension of this industry. We have purchased a great tract of two thousand acres for our institutions of charity and correction ten miles out from the city. The problem has been to build. It has been of the hollow-brick and reinforced concrete construction, using a great deal of cement. The result of the building is this: we have a central

building covering an acre of ground. Within this is a large court surrounded by a beautiful cloister with cement floor. In the center of the court is a magnificent fountain, and we could not have had that fountain were it not for concrete. This is our poorhouse, or, as we call it, the Farm Colony. A delegation of experts from Washington came to look upon it and they said to me, "It is marvelous how cheaply this building has been constructed. We know of no building of equal floor space that has been constructed for so small an amount." And yet some of my friends fear that we have too elegant a building out there, and they just recently expressed the belief that the building is too fine. It is by the power of building with concrete that we are able to make even our poorhouse a thing of beauty and permanence, fireproof, we trust also vermin-proof; floors of concrete and baseboards of concrete. We are building our workhouse at the present time, a mile and a half from this, with the same kind of construction. We are to have miles of sidewalk and I was intensely interested in your sidewalk discussion. I suppose we will have, when it is constructed, seven or eight miles of fence, and I have thought out the possibility of making the fence posts of concrete, and I find it is a very practical thing. And when we get out at the workhouse some expert in concrete making, cement working, we will put him not to drawing brushes—he may not be accustomed to that work—but we will set him to work making ornamental fence posts, that we may beautify our farm and make our surroundings more comfortable. I have in mind the construction of a concrete prison, with concrete cells, with walls that will be strong, that will be sanitary, that will be as joyful as possible, where we can hold our men and yet keep them in sanitary condition.

And so this question is really to me a very practical question, and it is a part of a very much larger one—the fact that the coming of cement and its products is bringing a new era to the building trade—possibilities of home construction. I suppose we will never have anything more graceful and beautiful than the Parthenon upon the Acropolis or than the temples where men worshipped in the palmiest days of the past. These buildings were for the gods and for the kings. We will say, "Cheaper these materials and we will soon develop the school of building that all these beautiful things and all these elegancies of the life shall come to the common people as well as to the king." I see the day coming when there will be greater abundance in this land of ours; not upon the one hand a million men seeking for a chance to work in this land of three million square miles of territory almost untouched, and on the other hand men receiving a hundred thousand dollars, yes, even five hundred thousand dollars a week as an income, which no man can possibly earn. When we shall stop giving privileges and great unearned incomes, and we shall demand that every man, for his own good as well as for society's good, shall give some useful service to the world, then there will be abundance; and then, with our inventions, then, with the use of these materials which

lie so common all about us, with human skill and human art, we will build every man a home where he can abide; and it will be said then, as it was formerly said only of the temples of the gods and the palaces of the kings, "Strength and beauty are in His sanctuary." It will apply to all.

We welcome you because you are bearing a part of this tremendous progress of civilization. We welcome you, not simply because of what you are doing, but because of what you are; for the architect is always greater than his building. The man who has constructed the great blocks of a city or built a palace is more than the things which his hands have made. We welcome you for the strength of manhood; we welcome you for the inventive genius; we welcome you for the knowledge and skill which your brain and hands have acquired, for the part which you will take in the great onward march of our civilization to the better days which are to come. We hope you will be well compensated for all that you shall do and that fortune may smile upon your labor; but more than your compensation in money, there ought to come to you the satisfaction that you are helping to a better time, when the people of this land and all lands shall live in better homes and better institutions; that those who are dependent and poor and unfortunate shall have better places in which to spend their declining years, and all life shall be better and happier because you are serving, because you are helping in this development of civilization and of progress.

We are glad you have come to Cleveland. Emerson has said in his essay on friendship that "Happy is the house that shelters a friend," and that when you have gone away from the city I am sure our municipality will be richer in thought and practical ability because of your presence in our midst. We trust that your deliberations may be filled with much of fellowship and profit to yourself and that you may bear with you when you go away kind and pleasant remembrances of our fair city by the lake. Again, on behalf of the Mayor and on behalf of the municipality of Cleveland, I extend to you the key and bid you a hearty welcome to our midst.

President Humphrey then responded:

I think this Association has been particularly fortunate in having so cordial a welcome extended by one thoroughly attuned to our work. It is certainly a good thing to have pointed out the higher purposes and duties of this Association. We should, I think, carry from each convention some aim higher than that we had when we arrived. So in accepting the welcome to the city of Cleveland which you, Dr. Cooley, have so warmly extended, I feel that we in turn should express our thanks and appreciation for your inspiring words which will serve as a standard for our next year's growth. On behalf of the Association I desire to express our appreciation of the welcome you have extended.

This Association stands primarily for progress, for progress in the development of the scientific art, if you will, in the proper use of cement. We have a very potent educational feature in the exploitation of its manifold uses, the power and functions of which have already been touched upon. We are fortunate in having with us and are honored by the presence of the president of one of the important educational institutions of this city, who has kindly consented to say a few words to us on behalf of the scientific institutions of the city of Cleveland. I take great pleasure in introducing to you Dr. Charles S. Howe, President of the Case School of Applied Science.

Address by Dr. Charles S. Howe:

Mr. President, on behalf of the scientific and technical institutions of Cleveland, it gives me great pleasure to extend to you a hearty welcome to our midst. We are interested in this question from a scientific and technical standpoint, because the product which you represent has been developed and improved by scientific men and is used by the engineer to a very great extent. There is a wider interest, however, than this, which we as citizens of Cleveland feel, because this subject is important historically; it is important in the life of to-day; it is one of the problems which we must study for the future. It is interesting historically because cement has been known for so many thousands of years. Every reader of the classic authors is impressed by the great monuments of which they treat, the great buildings which were constructed and which, in some cases at least, have lasted for so many years. A few of the writers of antiquity have shown us something about the building materials which were used in those ancient structures, and we find that cement of some kind entered into many of them. We could hardly expect, of course, that those ancient inventors, those ancient engineers and architects, would know the scientific aspects of the question as we know them to-day, but we are astonished to find that their work, without the aid of chemistry, and without the aid of the other sciences which we have to-day, has lasted as long as it has. That they did not have the benefits of scientific study and of scientific observation is shown by the fact that while some of their work remains and is still as hard and solid as ever, some of it has crumbled in the lapse of time.

If we trace the history of this subject down through the Middle Ages we find there, too, that in the great buildings, in the bridges, in the cathedrals and in many castles, cement was used and has lasted until the present time in a splendid state of preservation. But it was not until recent years, until, especially after a great deal of work had been done in the modern way by the science of chemistry, that the material which you are here to consider, and which you are using day by day, became one of the great building materials of the world. In the latter part of the eighteenth and during the early part of the nine-

teenth centuries cement, of course, was developed in a practical way in England and in a scientific way, especially in France. Our own country seems to have been very backward in doing any work along those lines until within recent years, for I believe Portland cement was not known in this country until after the close of the Civil War, and it was not manufactured here until some years later. As its value became more and better known large amounts were imported from abroad, because we could not supply it in sufficient quantities here. But the energy and enterprise of the American manufacturer and the American engineer have been applied to this subject, and the growth since that time in manufacture and, of course, in use has been enormous. If I remember the figures rightly—you gentlemen know them much better than I do—over \$56,000,000 worth of cement was manufactured in the United States in the year 1907.

Now it becomes an important question when a product is turned out in amounts like this; it becomes an important question for all classes of people. It is important to the manufacturer, it is important to the citizen, it is important from an economic standpoint. It would be worth the while of any man to take a great deal of time to develop the importance of this subject along any of these lines. It is, of course, impossible for me to do so this morning. I shall refer to only one or two things, and in doing so I feel that you know far more about this subject than I do.

Building material, of course, is of different kinds. The material which persons can get at in the easiest way is the material which is first used for structures. It is evident, then, that crude rocks, that stones which could be picked up without any quarrying, were the first kind of building materials. As civilization advanced, as more became known about the use of tools, it was evident that the two materials, natural building materials, wood and stone, would be more and more used, because they could be cut into the requisite forms, and because they were found so widely scattered throughout the world.

Other forms of building material also came to be known as soon as people had learned to use the elements of science; bricks, tile, etc.; and perhaps last of all, cement. For it is only when the scientific aspects of this subject were studied that cement could become a great building material. While it was simply a material which somebody had found out could possibly be put together and a certain result obtained, it would have some use; but when the chemical processes came to be known and it could be reasoned out in advance that a certain course of manufacture would produce a certain result, then, of course, it could be made a most valuable material. We may guess at something for many years and obtain fair results; but we never obtain the best results in any kind of work by simply guessing. It is after the material itself, after the processes have been subjected to scientific treatment, and when we can determine in advance what we are going to get, that the greatest results will come. And it has been so

in the case of cement. That this is now and is going to be a great building material is absolutely certain. The properties which it possesses are enough to make it so. The fact that it can take the place of wood and is fireproof is one of the great reasons why it is to be the building material of the future. If our schoolhouses had been built of cement there would not have been some of the great disasters which have occurred to our schoolchildren. So far as I know, no great steps—I don't mean to say that not any steps, but no great steps—have been taken toward making schoolhouses of cement; and I for a number of years have been looking forward to the time when educational buildings would be constructed almost entirely of this material. And I believe that time will come, and especially with regard to school buildings where small children attend. The immense losses which come from fire every year are brought home to you as citizens as well as manufacturers.

The enormous amount of money that is put into building material is evident to any one who has given any attention to this subject. Over a billion dollars are put into building material every year—I understand that is somewhere near the present figure—and the losses by fire, direct and indirect, are five hundred millions. It is evident that here is a great economic loss—not a loss to one class of people or to another, but a loss to the whole country; because we cannot destroy any material without affecting more than the man who directly owns that which is destroyed. Destruction is loss of wealth. Wealth comes largely through labor, and if this is destroyed the whole country, of course, suffers to that extent.

But there is another reason why the material which you manufacture and which you use is important to the country at large, and that is because it is beginning to take the place of material which is reaching its end, a material the supply of which is being exhausted. The great Conservation Congress which was held in the White House last May, and the Conservation meetings which have been held since that time, have brought home to the people of the United States the fact that one of our great building materials, lumber, is rapidly being exhausted. It is true that no scientific census of the amount of standing timber in the United States has been made. It has not yet been possible to make such a census, but it is in process of being made. All we can do now is to estimate how much standing timber there is, and we can estimate very closely how much is being used. And it seems evident, from the statistics at hand, that the lumber supply of the United States will be exhausted in somewhere between twenty and thirty-five years. If one of our great building materials is going to be removed entirely from the field by that time, it is evident that something will take its place; and those who have given the most study to the subject are convinced that cement and concrete are the substances which are going to take, in a large degree, the

place of lumber. So that from this standpoint the use of cement and concrete is one of the greatest questions of the future.

Of course, I understand that you gentlemen are here in a business convention, that this subject to you is one of business. I think, for the reasons which I have stated, it is more than a question of business. I take it that you have here a great educational convention; that you are showing to the people of Cleveland and vicinity what can be done with this material; and I feel certain that the results will be advantageous to our community.

I said that this subject was interesting to the engineer. It is also interesting to the student of engineering; and as representing a technical college I feel personally a great interest in what you are doing. I want my students to attend your convention; I want them to learn all that they can of what you have done and what you propose to do, because it is a part of their education. A few years ago the courses in cement construction in technical schools were very short. A little work was done, but not very much. To-day the course in cement and concrete is one of the most important courses that we give to an engineer. And for all of these reasons, gentlemen, it gives me great pleasure to welcome you to the city of Cleveland. I hope your convention will be a satisfactory one to you, and I know it will be of great interest to this community.

President Humphrey responded as follows:

The encouraging words of Dr. Howe certainly lead us to hope that this convention, with its educational features, may be helpful to the city of Cleveland. We should feel grateful to Dr. Howe for directing our attention to the necessity for high standards which we should maintain. We are to a certain extent a business organization, but since the use of the material is in its infancy we are unquestionably a strong educational institution.

We wish to extend to Dr. Howe, his faculty and students a most cordial invitation to come and make themselves at home either at our convention or our exhibition. They can feel that they are honorary members of this Association. While we are in the city we shall be glad to have them at our deliberations and our exhibition. I certainly voice the unanimous thanks of the Association to Dr. Howe for his words of welcome on behalf of the scientific interests of the city.

This convention is composed of men who are builders, creators of structures. Cleveland has the record of having one of the largest Builders' Exchanges in the country, and we are fortunate to have with us the president of this Exchange to welcome us on behalf of the building interests of the city; I have the pleasure of presenting to you Mr. George B. McMillan, President of the Cleveland Builders' Exchange.

Address by Mr. George B. McMillan:

It gives me great pleasure, indeed, to be with you this morning. It happens to be the first convention of this kind that I have ever had the privilege of attending. I enjoyed your discussion on the different methods of building sidewalks and of doing cement work in general. I feel sure that this meeting together of a body of skilled mechanics and builders, engineers and architects, cannot help but be of great benefit.

I extend to you on behalf of the Cleveland Builders' Exchange, which comprises a large percentage of the building industry of Cleveland, a hearty welcome. I might say on its behalf that it is a pleasure to have this body meet in Cleveland at this time and give us an opportunity to see your exhibition for the instruction of the builder and others interested in the use of cement.

I have had some experience with cement myself, and have aided in a small way in the construction of the great building for the poor of Cleveland made possible by the low cost of cement construction.

We all know that cement construction is in its infancy. It is only a short time, a few weeks ago, that we revised our building code permitting cement structures higher than six stories. I am glad to be able to report to this convention that while it was only about eight weeks ago that the revision was made, we have to-day a structure of eight stories of reinforced concrete; this was started October 8, 1908, and the eight stories were up and the outside walls practically completed on January 8. That is a pretty good record for cement. The building was partly erected before the building code was changed, so there is some discrepancy between the eight and the twelve weeks. The building was under construction—one or two stories up—at the time the code was changed, making it possible to build the eight stories.

So in that case you see what can be done with cement. A few years ago it would not have been thought possible to build such a structure of other than structural steel. Now we have an example of it right here, and if we can build an eight-story building and make it safe in every particular, there is no reason in the world that I can see why we cannot build one twenty stories. It is simply an engineering problem.

Dr. Howe has extended to you on behalf of the scientific institutions of Cleveland a hearty welcome, and Dr. Cooley, on behalf of the city, has extended the welcome of the municipality, and he has also given you the keys to the city. I want you to be a little careful, for the doctor said, you know, that they had no skilled cement workers at their institution, and I think possibly that is one reason why he wanted to extend the keys of the city to you. I know that he had the institution in mind of which he is director, and I only want to warn you gentlemen. Again, on behalf of the building industry of Cleveland, I extend to you all a hearty welcome.

President Humphrey responded:

I am quite sure, Mr. McMillan, that the Association feels grateful to you for your welcome on behalf of the building interests of this city, and expresses the hope to you that this convention will be helpful to that interest in furthering the use of this important material. We hope that the members of your Exchange will be with us during the time that we are here, that we may get better acquainted. On behalf of the Association I thank you for your welcome.

The President announced the appointment of the following committees:

Committee on Nomination of Officers:

Edward D. Boyer, Chairman, Catasauqua, Pa.
John E. Conzelman, St. Louis, Mo.
O. U. Miracle, Minneapolis, Minn.
B. H. Rader, Pittsburgh, Pa.
George Taylor, Boston, Mass.

Committee on Resolutions:

W. C. Boynton, Chairman, Detroit, Mich.
Emile G. Perrot, Philadelphia, Pa.
J. P. H. Perry, New York, N. Y.
F. D. Leslie, Cleveland, Ohio.
J. B. Foote, Chicago, Ill.

Mr. C. W. Boynton then opened a discussion on the Standard Specifications for Portland Cement Sidewalks.

The meeting then adjourned until 8 P. M.

SECOND SESSION.—TUESDAY, JANUARY 12, 1909, 8 P. M.

President Richard L. Humphrey in the chair.

The President announced on behalf of the Executive Board the following sections for the current year:

Art and Architecture.
Building Laws and Insurance.
Concrete and Reinforced Concrete.
Exterior Treatment of Concrete Surfaces.
Machinery and Appliances.
Roadways, Sidewalks and Floors.
Specifications for Cement Products.
Specifications for Fireproofing.

Vice-President Merrill Watson then took the chair.

The President delivered his annual address.

The following papers were read and discussed:

“Cost of Reinforced Concrete Construction as Applied to Buildings,” Leonard C. Wason.

“The Availability of Concrete for Bridges—Its Cost and Durability,” H. H. Quimby. In the absence of the author this paper was read by the President.

The meeting then adjourned until Wednesday at 10.00 A. M.

WEDNESDAY, JANUARY 13, 1909, 9.00 A. M.

Meeting of Section on Testing Cement and Cement Products, and Section on Insurance, Laws and Ordinances.

President Richard L. Humphrey in the chair.

The session was devoted to topical discussion on the manufacture of concrete blocks and the fire resistive properties of concrete buildings as effecting insurance rates. The question of proper building laws and ordinances was thoroughly discussed.

THIRD SESSION.—WEDNESDAY, JANUARY 13, 1909, 10.00 A. M.

President Richard L. Humphrey in the chair.

Reports were presented and discussed, as follows:

Report of Committee on Testing Cement and Cement Products, E. S. Larned, Chairman, was presented by W. A. Aiken, a member of the Committee. The following revision of paragraph 17 of the Standard Specifications for Cement Hollow Building Blocks was suggested by the Committee:

17. *Hollow Space*.—The hollow space in building blocks used in bearing walls shall not exceed the percentage given in the following table for different height walls, except where blocks containing a greater percentage shall be proven by actual test to meet all the requirements herein specified to the satisfaction of the bureau of building inspection, and in no case shall the walls or webs of the block be less in thickness than one-fourth their height.

The amendment offered by Mr. J. A. Smith “that the web of blocks 8 inches high and not over 16 inches long be not less

than 1¾ inches, provided that the required strength under this specification be secured," was referred to the Committee with instructions to report later.

Report of Committee on Cement Products and Machinery, A. T. Bradley, Chairman, was approved as read.

The President announced the following Committee on Awards for the most effective, attractive and artistic exhibit:

Dr. Charles S. Howe, President, Case School of Applied Science.

F. N. Hopkinson, Chairman, Cleveland Chapter, American Institution of Architects.

Charles B. McMillan, President, Cleveland Builders' Exchange.

Report of the Executive Board and the minutes of the meetings of the Board were approved as read. The following amendments to the By-Laws proposed by the Executive Board were approved and ordered to letter ballot:

Amend Article I by inserting after Section 2 a new Section 3, and renumbering the remaining sections.

SECTION 3. Any person contributing annually twenty or more dollars in addition to the regular dues shall be designated and listed as a Contributing Member.

Amend Article I (old Section 3), by striking out all after the first sentence and inserting the following:

The Secretary shall submit monthly to each member of the Executive Board for letter ballot a list of all applications for membership on hand at that time with a statement of the qualifications, and a two-thirds majority of the members of the Executive Board shall be necessary to an election.

The following proposed amendment to the By-Laws was referred back to the Executive Board for revision and presentation at a later session:

Insert after Article IV a new Article V, as follows:

SECTION I.—Proposed Standard Specifications shall be submitted at the Annual Convention by a Sectional Committee, and as amended and

approved, passed to letter ballot which shall be canvassed within sixty days thereafter. Such specifications shall be considered adopted unless a majority of the total membership shall vote in the negative.

Renumber Article V.

The Committee on Publicity, P. Austin Tomes, Chairman, made a report as to its work, which was approved.

The question of the place for the next Convention was considered. An invitation was extended on behalf of Atlantic City by Mr. George S. Lenhart, and communications were read from Toledo, Ohio; Columbus, Ohio, and Atlanta, Ga. The final selection of the place for the next Convention, under the By-Laws, will be made by the Executive Board.

The Committee on Nomination of Officers, Edward D. Boyer, Chairman, made the following report:

President, Richard L. Humphrey, Philadelphia, Pa.

Vice-President, Merrill Watson, New York, N. Y.

Second Vice-President, M. S. Daniels, Suffern, N. Y.

Third Vice-President, E. S. Larned, Boston, Mass.

Fourth Vice-President, George C. Walters, Atlanta, Ga.

Sectional Vice-Presidents:

Art and Architecture—Leonard C. Wason, Boston, Mass.

Machinery and Appliances—L. V. Thayer, Minneapolis, Minn.

Exterior Treatment of Concrete Surfaces—Sanford E. Thompson,
Newton Highlands, Mass.

Roadways, Sidewalks and Floors—C. W. Boynton, Chicago, Ill.

Specifications for Cement Products—W. P. Anderson, Cincinnati,
Ohio.

Specifications for Fireproofing—Rudolph P. Miller, New York,
N. Y.

Concrete and Reinforced Concrete—A. E. Lindau, St. Louis, Mo.

The officers thus nominated were unanimously elected, the Secretary casting the ballot.

The meeting then adjourned until 2 P. M.

FOURTH SESSION.—WEDNESDAY, JANUARY 13, 1909, 2.00 P. M.

President Richard L. Humphrey in the chair.

Mr. J. H. Chubb read a paper on "Cost and Value of Concrete Roads," which was followed by a discussion.

The report of the Committee on Streets, Sidewalks and Floors was then read by the Chairman, Mr. W. W. Schouler, presenting,

(a) Revision of Standard Specifications for Portland Cement Sidewalks.

This was discussed, revised and approved for letter ballot.

(b) Proposed Specifications for Concrete Roads.

These specifications were referred back to the Committee, with instructions to report at the next Convention.

The meeting then adjourned until 8 P. M.

FIFTH SESSION, WEDNESDAY, JANUARY 13, 1909, 8.00 P. M.

President Richard L. Humphrey in the chair.

The report of the Committee on Art and Architecture was presented by Mr. Albert Moyer, Secretary, in the absence of the Chairman, Mr. Charles D. Watson. This report was approved.

The Committee on Awards for the most effective, artistic and attractive exhibit reported as follows:

FIRST PRIZE.

Ideal Concrete Machinery Company, South Bend, Ind.

SECOND PRIZE.

The George H. Rackle and Sons Company, Cleveland, Ohio.

THIRD PRIZE.

American Hydraulic Stone Company, Denver, Colo.

FOURTH PRIZE.

Hayden Automatic Block Machine Company, Columbus, Ohio.

HONORABLE MENTION.

Atlas Portland Cement Company, New York, N. Y.

American Cement Company, Philadelphia, Pa.

Sandusky Portland Cement Company, Sandusky, Ohio.

Ransome Concrete Machinery Company, Dunellen, N. J.

Miracle Pressed Stone Company, Minneapolis, Minn.

The following papers were then read and discussed:

"Decorative Concrete Stone," Frederick A. Norris.

"Unburnable Homes and their Architectural Possibilities," Benjamin A. Howes, Jr.

"Small Concrete Houses—Manufacture and Cost," R. C. Knapp.

"Monolithic Concrete Wall Buildings—Methods, Construction and Cost," Robert H. Aiken. In the absence of the author, this paper was presented by Mr. W. S. Abbott.

The meeting then adjourned until Thursday at 10 A. M.

THURSDAY, JANUARY 14, 1909, 9.00 A. M.

Meeting of the Section on Reinforced Concrete.

President Richard L. Humphrey in the chair.

This meeting was devoted to a topical discussion on the various applications of concrete construction.

SIXTH SESSION, THURSDAY, JANUARY 14, 1909, 10.00 A. M.

President Richard L. Humphrey in the chair.

President Humphrey presented on behalf of the Executive Board the revised By-Laws covering the adoption of Standard Specifications as instructed by the Convention, as follows:

Insert after Article IV a new Article V as follows:

SECTION I.—Proposed Standard Specifications to be submitted to the Association must be mailed to the members at least thirty days prior to the Annual Convention, and as amended and approved, passed to letter ballot which shall be canvassed within sixty days thereafter, such specifications shall be considered adopted unless at least ten per cent. of the total membership shall vote in the negative.

This amendment was discussed and approved for letter ballot.

The following papers were then read and discussed:

"Advantage of Reinforced Concrete for Railroad Construction," B. H. Davis.

"The Applicability and Comparative Cost of Concrete and Reinforced Concrete for Subway Construction," Charles M. Mills.

"Value and Cost of Reinforced Concrete for Retaining Walls," A. E. Lindau.

The meeting then adjourned until 8 P. M.

SEVENTH SESSION—THURSDAY, JANUARY 14, 1909, 8.00 P. M.

President Richard L. Humphrey in the chair.

The Committee on Streets, Sidewalks and Floors reported on the revised form of Standard Specifications for Portland Cement Sidewalks, as instructed, which was after discussion approved for letter ballot.

The Committee on Testing Cement and Cement Products reported as instructed, and its report was approved.

Paper by Mr. Emile G. Perrot on "Comparative Cost of Reinforced Concrete Buildings" was then presented and discussed.

A paper on "Evolution of Concrete Reinforcement" was read by Mr. H. F. Porter.

The meeting then adjourned until Friday at 10 A.M.

FRIDAY, JANUARY 15, 1909, 9.00 A. M.

Meeting of Section on Cement Products and Machinery, Mr. A. T. Bradley in the chair.

The session was devoted to a general discussion on the manufacture and applicability of concrete blocks.

EIGHTH SESSION.—FRIDAY, JANUARY 15, 1909, 10.00 A. M.

President Richard L. Humphrey in the chair.

Mr. William M. Bailey read a paper on "Methods of Attaching Shafting and Machinery in Reinforced Concrete Buildings."

Mr. Sanford E. Thompson, Chairman, presented the report of the Committee on Reinforced Concrete, which was approved as printed, and it was ordered that the report be printed and sent out to the members for discussion, to be incorporated in the Proceedings.

The report of the Committee on Insurance, Laws and Ordinances was presented in two parts. In the absence of Mr. William H. Ham, Chairman, Mr. Edward D. Boyer read Part I, the report on Insurance, which was approved as presented and ordered printed for distribution. Part II, the report on Laws and Ordinances, was presented by Mr. Emile G. Perrot. After a lengthy discussion extending until 6 P. M., with a recess from 2 to 3 P. M., the report was considerably revised and at the evening session was approved for letter ballot.

The meeting adjourned until 7.30 P. M.

NINTH SESSION.—FRIDAY, JANUARY 15, 1909, 7.30 P. M.

President Richard L. Humphrey in the chair.

The proposed Standard Building Regulations for Reinforced Concrete, reported by the Committee on Insurance, Laws and Ordinances, as finally revised was approved for letter ballot.

The following papers were read and discussed:

“Fireproofing with Concrete—Its Suitability and Comparative Cost,” Ross F. Tucker. In the absence of the author, this paper was read by Mr. J. A. Smith.

“Progress in the Use of Metal Forms, with Comparative Cost,” W. L. Caldwell.

“Cold Storage Warehouses of Reinforced Concrete Construction,” J. P. H. Perry.

“Concrete Piles—Forms, Advantages and Cost as Compared with Wooden Piles,” C. W. Gaylord.

“Value and Cost of Steam Curing of Concrete Blocks,” F. S. Phipps.

“The Present and Future of the Cement Block—Its Cost, Manufacture and Availability,” J. Augustine Smith.

“Waterproofing—Various Applications and Comparative Cost,” T. Hugh Boorman.

Mr. Walter C. Boynton, Chairman, then presented the Report of the Committee on Resolutions, as follows:

Resolved, That the thanks of this Association be and are hereby tendered to the officials and other citizens of the City of Cleveland for their hearty welcome and courteous hospitality to the officers and members of the National Association of Cement Users, upon the occasion of the Fifth Annual Convention.

Resolved, That the thanks of this Association be and are hereby tendered to the Builders' Exchange and the chairman and members of the local committee of the City of Cleveland for their hearty co-operation in assuring the success of this Association's fifth annual convention and exhibition.

Resolved, That the thanks of this Association be and are hereby tendered to the exhibitors, the local press of the City of Cleveland and the technical press of the United States for the liberal support given both in advance and during the fifth annual convention and exhibition.

WHEREAS, This Association recognizes the great need of continuing the work of the Structural Materials Testing Laboratories of the United States Geological Survey, and highly appreciates the value of the country at large of the results obtained through the investigations at the laboratories, therefore be it

Resolved, That this Association as a body and through its members as individuals shall petition the Congress of the United States to provide an adequate appropriation for the purpose of continuing the work of the laboratories during the next fiscal year.

Resolved, That the thanks of this Association be and are hereby extended to the officers of the organization, whose faithful work and co-operation have made possible our decided progress in the past twelve months. This Association especially desires to record its appreciation of the work done in its behalf by its President, Richard L. Humphrey, to whose individual efforts a large share of our continued success is due. Be it further,

Resolved, That it is the sense of this Association that the President shall be fully reimbursed for his actual traveling, incidental and other expenses incurred in behalf of this Association, and that a sum of money sufficient to cover these expenses be appropriated from the funds of this Association, provided that said funds shall be sufficient to permit this to be done.

Resolved, That the thanks of this Association be and are hereby extended to the men whose contributions to our program have made the fifth annual convention of the highest interest to everyone in attendance.

The resolutions were unanimously approved as presented.

The President thereupon declared the Convention adjourned
sine die.