

SUMMARY OF THE PROCEEDINGS OF THE NINTH ANNUAL CONVENTION.

FIRST SESSION, TUESDAY, DECEMBER 10, 1912, 8 P. M.

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

The President introduced Charles J. O'Brien, City Solicitor, who delivered an address of welcome to the City of Pittsburgh on behalf of the Mayor, the Honorable William A. Magee, in part as follows:

I am here this evening to represent His Honor the Mayor, to present his apologies for his inability to attend, and to extend to your Association the greetings of the City.

We are glad to welcome so important a body as this to Pittsburgh; we trust you will find it a place of interest and entertainment.

This great industrial center has commenced a series of public improvements of great magnitude; the largest ever undertaken by it; and in its work it is being greatly aided by its various civic bodies. We trust that you will find time to go about Pittsburgh and see what it is; especially compare it as it is now with what it was a few years ago and be convinced of the fact that it is improving in all directions. Not only has it extended as an industrial and commercial center, but its municipal improvements have kept it abreast with the great cities of this country; its people are progressive in the truest and best sense of the word—I think you will find evidence of this on all sides.

Now, gentlemen, in conclusion let me say that you are indeed welcome within our gates. We trust you will enjoy yourselves, visit our art galleries and other places of public interest, and make yourselves truly at home. We believe that when you have spent a few days in our midst you will be entirely satisfied with the selection you have made of a place of meeting for your Association, and we trust also that your deliberations will be entirely harmonious and successful.

The President introduced Julius Carstanjen, Jr., of Duisburg, Germany, who presented greetings on behalf of the Deutscher Beton-Verein as follows:

It is a great pleasure indeed to have the honor, as the son of the senior member of the Executive Board of the German Concrete Association, of being

directed by the President, Mr. Alfred Huser, to present to you most hearty greetings from the German Concrete Association and best wishes for a most successful convention.

An address of welcome on behalf of the Architects was made by Edward Stotz, President of the Pennsylvania State Association, American Institute of Architects, who spoke as follows:

It is indeed an honor and a very pleasant duty to welcome you to the State of Pennsylvania and the City of Pittsburgh on behalf of the architects, and I regret very much that many of the members of our profession who would otherwise have been here, are unavoidably absent on account of the convention of the American Institute of Architects being held in Washington on the same days that your convention is being held, and which cause prevents the President of the Pittsburgh Chapter from greeting you.

You are assembled here in convention to increase the sum of knowledge by exchange and conference, and while you will be benefited by that, there is a larger compensation for you in that the result of your deliberations will undoubtedly influence both the public in general, and the officials having in charge the physical improvements in our district, and will also be of great value to the country at large.

Nature is the real cement user, and as in all other things stands as the past master in any process which has been undertaken. The cunning of man, by research in her laboratories, has accomplished much in the manufacture of cement; but the use of cement in its various forms and application has opened up a field so wide that I think very few of us who deal more or less with cement day by day have the slightest conception of what we are accomplishing by its use. The thought has come to me, that, as wheat is to the food of men, in the same relation is cement to the constructive arts today, and I believe if you will consider this simile you will see that the application is very thorough, and you will also notice this; that in the conversion of wheat into flour and the making of bread, we have turned out some very excellent bakers and some very poor bakers; in the concrete line we have turned out a splendid lot of cement users and an equally wonderful lot of cement abusers, and we look hopefully to such an organization as yours to minimize the abuse and standardize the use.

The paradoxical condition of architectural expression has always given me some pleasure and also some pain, and when we look back to the Greeks we find that in the erection of the marble temple they were influenced by the forms of wooden construction; having finished that, their sense of the artistic was not thoroughly satisfied until they had overlaid the marble with pigment and concealed the real material of the structure with an artificial or paint skin. In view of this, perhaps, we should be forgiven in our day for making houses out of wood and hollow tile and common brick, and then palming them off as cement houses by putting a half-inch of cement mortar on the

exterior surface. There are also a great many buildings being erected that are apparently brick buildings when in reality they are reinforced concrete buildings with a brick skin. Whether the day will come when we will be able to live up to architectural traditions and still frankly give to this plastic material the proper application and design I do not know, but possibly it will.

The fact remains that there seems to be a very strong distaste on the part of architects for a real cement structure that will appear with a cement exterior.

Now along the line of the architects' relation to cement we are impressed with the fact that architects are often inclined to use great quantities of cement; and taking an architects specification and reading the clauses relative to the proportion of cement to be used to the coarse aggregate, you immediately (if you have any imagination) will picture that sort of thick, creaming, mass that is about the consistency of molasses, and all that sort of thing. But somehow the contractors often do not seem to see it that way; they seem to be imbued with the idea that we should keep a lot of this costly cement for the use of future ages. They are going on the conservation principle and do not wish to deprive our grandchildren of something that they should have, and that we should not deplete Nature's stock of cement, consequently the 1 : 2 : 4 mixture is more easily secured in theory than practice.

However, aside from the joke, I have no quarrel with the contractors, nor they with me, I hope. It is just as wrong to use too much cement as it is to use too little. It is a precious material regardless of its market price, and it should be spread over just as much surface as possible, and we are looking for much of the solution to your organization.

You are as an organization not operating on the "fenced in" idea of the professional man, but have his theory thrown against that of the facts and experience of the practical and commercial man in a common meeting place, so that the best of the theoretical knowledge and the best of the practical experience may be welded together into one successful, sound, good thing that can be used. We certainly hope that the results of these deliberations will be couched in such language, and with that degree of unanimity, that they will be convincing and useful to the various societies, officials, and commissions who are endeavoring to place definite values on cement and concrete in the building codes.

I thank you very much.

The following address of welcome on behalf of the Engineering Interests was delivered by James O. Handy, President of the Engineers' Society of Western Pennsylvania:

The greetings of a society of engineers to the members of a visiting society of engineers must of necessity be fraternal and are in this instance most cordial on our part. Your program shows many papers which give evidence of much painstaking and time consuming investigation and research, and, the

results will be of the greatest value and interest to the profession. The Engineers' Society of Western Pennsylvania, an organization one thousand strong, offers to you the use of its rooms in the Oliver Building and the personal service of its members who can be of use to you in anything that you may wish to do in Pittsburgh, especially if you wish to visit any of the industrial works.

Pittsburgh is interesting to cement users from at least two standpoints: the first is that it is the center of cement production, being a very large producer of cement. The second point is that its use of cement is likely to increase greatly.

There are four cement factories in the neighborhood of Pittsburgh, three of them operating on limestone and shale and one on blast-furnace slag and limestone. The largest of these produces three and a half million barrels of cement a year, and is entirely operated by electrical power generated from blast-furnace gas at a point some twelve miles distant from the works. One of the works operating on limestone and shale is interesting historically, because it is the lineal descendent of one of the very first cement factories in America. In 1874 experiments began at this plant in an endeavor to make Portland cement from the limestone and blue clay there available. The efforts were necessarily very crude and the results were very uncertain. The management presently found an experienced man and in 1876 they were making such a good quality of Portland cement that they were awarded a special medal by the United States Centennial Commission.

On an occasion of this kind when there are a number of addresses of welcome, I personally, without any reflection on the very eloquent gentlemen who have preceded me or the gentlemen who will follow me, aspire to popularity in the way that a certain man Jones did. He was a candidate for public office and he had sat throughout a long evening and had listened to other speakers and finally the chairman said, "Now Mr. Jones will give his address." Mr. Jones arose smilingly and said to the audience, "My address is No. 12 Montgomery Place. Good night."

The President introduced James L. Stuart, who extended the following welcome on behalf of the Contracting Interests:

I wish to extend to you tonight a most hearty welcome to our city on behalf of the contracting interests of Pittsburgh. We are extremely glad to have you hold this convention here and we are going to take advantage of it, and gain a great deal of additional knowledge regarding the use of Portland cement and learn from those outside of our own community just what has been done along these lines. We appreciate what good these gatherings do and how much knowledge is brought together from all parts of our country by men who think and do things.

Steel and Portland cement are the two great engineering materials of the age, and the combination of these two materials has become more and more important and will continue to be of more importance. In choosing

Pittsburgh for your convention you have chosen the greatest steel center in the world, and in choosing Pennsylvania you have chosen the state which has produced the largest amount of Portland cement and the state in which the Portland cement industry of America was started. We are proud of our city and state and exceedingly glad and happy to welcome you all here to accept of our hospitality and I hope that this visit will be to your gain, as I know it will be to ours.

The President then responded:

On behalf of the members of the Association I thank Mr. O'Brien, Mr. Carstanjen, Mr. Stotz, Mr. Handy and Mr. Stuart and others who have extended a welcome to Pittsburgh. I am sure I voice the feelings of the members when I say that we will endeavor to profit by your kind invitation to see what you have here, and to avail ourselves of the opportunity for becoming better acquainted. Perhaps it may be our good fortune to leave with you some knowledge of the use of concrete, some new thoughts that may make you richer for our visit.

We thank you for your cordial welcome and we hope that you may have occasion to look back with pleasure on the Ninth Convention of the National Association of Cement Users.

The following committees of the Convention, appointed by the Executive Board, were announced by the President:

Committee on Nomination of Officers:

James O. Handy, *Chairman*, Pittsburgh, Pa.
 John L. Conzelman, St. Louis, Mo.
 Walter N. Dennan, Springfield, Mass.
 E. S. Hanson, Chicago, Ill.
 W. W. Schouler, Newark, N. J.

Committee on Resolutions:

Fred K. Irvine, *Chairman*, Chicago, Ill.
 Cloyd M. Chapman, New York, N. Y.
 Arthur J. Maynard, State Farm, Mass.
 Henry H. Quimby, Philadelphia, Pa.
 R. J. Wig, Washington, D. C.

A paper on "The Use of Cement in National Irrigation Work" was read by Arthur P. Davis.

The meeting adjourned until Wednesday at 10 A. M.

WEDNESDAY, DECEMBER 11, 1912, 9 A. M.

Meeting of the Sections on Roadways, Sidewalks and Floors, and Reinforced Concrete Highway Bridges and Culverts.

President Richard L. Humphrey in the chair.

The meeting was devoted to a discussion of the aggregates and proportions for concrete to be used in the construction of roadways, sidewalks and floors, and the methods of finishing.

SECOND SESSION—WEDNESDAY, DECEMBER 11, 1912, 10 A. M.

President Richard L. Humphrey in the chair.

The report of the Committee on Reinforced Concrete Highway Bridges and Culverts was presented by the Chairman, Willis Whited, and discussed.

Mr. W. M. Denman presented a paper on "Patents Applying to Reinforced Concrete Design and Construction" which was followed by a discussion of the subject.

A paper on "The Concrete Roads of Wayne County, Michigan," was presented by Edward N. Hines, and followed by a discussion.

A paper on "Vibrolithic Concrete Pavements," by R. C. Stubbs, was in the absence of the author read by title.

The meeting then adjourned until 3 P. M.

THIRD SESSION—WEDNESDAY, DECEMBER 11, 1912, 3 P. M.

President Richard L. Humphrey in the chair.

The report of the Committee on Roadways, Sidewalks and Floors was in the absence of the Chairman, C. W. Boynton, presented by K. H. Talbot.

Revisions of the following Standard Specifications were considered and ordered to letter ballot:

Standard Specifications for Plain Concrete Floors.

Standard Specifications for Reinforced Concrete Floors.

Standard Specifications for Concrete Curb and Concrete Curb and Gutter.

Standard Specifications for Portland Cement Sidewalks.
Standard Specifications for Concrete Roads and Street Pavements.

A paper on "Effects of Electric Currents on Concrete" by E. B. Rosa, Burton McCollum and O. S. Peters was read by Burton McCollum, and was discussed.

Mr. Cloyd M. Chapman presented a paper on "Tests of Waterproofing for Concrete."

A paper was read on "Fire Test of Plastered Partitions" by J. H. Miller, followed by a discussion on "Metal Lath Construction," by H. B. McMaster.

The report of the Committee on Treatment of Concrete Surfaces was presented by the Chairman, L. C. Wason, and the proposed Standard Specifications for Portland Cement Stucco were discussed and referred back to the Committee for further report at the Convention.

The meeting adjourned until 8 p. m.

FOURTH SESSION—WEDNESDAY, DECEMBER 11, 1912, 8 P. M.

President Richard L. Humphrey in the chair.

The annual address of the President, entitled "The Use of Concrete in Mines," was delivered by Richard L. Humphrey.

The paper on "The Use of Concrete by the Bureau of Yards and Docks, U. S. Navy," by H. R. Stanford, was in the absence of the author read by C. A. Carlson.

The following papers were then read and discussed:

"Concrete in Railroad Work," by M. A. Long.

"Application of Concrete in the Abolition of Grade Crossings," by James W. Phillips.

"Some Recent Applications of Concrete in Railroad Work," by Frederick Auryansen.

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

FIFTH SESSION—THURSDAY, DECEMBER 12, 1912, 10 A. M.

President Richard L. Humphrey in the chair.

A paper on "Recent Applications of Concrete and Reinforced Concrete in the City of Pittsburgh," was presented by Norman S. Sprague, and discussed.

The Annual Report of the Executive Board was read by the Secretary and on motion approved.

The following motion was duly seconded and carried:

It is the sense of this meeting that it is extremely desirable that as many of the papers of the present Convention be published and distributed to the members as rapidly as conditions will permit.

Mr. E. S. Hanson for the Committee on Nomination of Officers presented the following nominations, which were accepted and the Secretary as per the unanimous instructions of the Convention cast the ballot for their election:

President, Richard L. Humphrey, Philadelphia, Pa.

Vice-President, Arthur N. Talbot, Urbana, Ill.

(To serve two years.)

Vice-President, Leonard C. Wason, Boston, Mass.

Treasurer, Henry C. Turner, New York, N. Y.

Directors (to serve two years):

First District, W. L. Church, Boston, Mass.

Second District, Edward D. Boyer, New York, N. Y.

Third District, Ernest L. Ransome, Duellen, N. J.

Fourth District, W. P. Anderson, Cincinnati, O.

Fifth District, B. F. Ailleck, Chicago, Ill.

Sixth District, Charles Derleth, Jr., Berkeley, Cal.

The time and place of the Tenth Annual Convention was left with the Board of Direction with power to act.

The meeting then adjourned to visit the plant of the H. J. Heinz Company and to meet at 3 p. m.

SIXTH SESSION—THURSDAY, DECEMBER 12, 1912, 3 P. M.

President Richard L. Humphrey in the chair.

Mr. Alfred E. Lindau presented the report of the Committee on Reinforced Concrete and Building Laws.

The report of the Committee on Measuring Concrete was presented by the Chairman, Robert A. Cummings, and the Proposed Standard Methods for the Measurement of Concrete Work submitted, was discussed and ordered to letter ballot.

The paper on "The Present Status of Unit Methods of Reinforced Concrete Construction," by John E. Conzelman, was in the absence of the author presented by Charles D. Watson.

The following papers were presented and discussed:

"Principles of Design and Results of Tests on Girderless Floor Construction of Reinforced Concrete," by T. L. Condon.

"Measurement of Actual Stresses in a Cantilever Flat Slab Reinforced Concrete Floor having Rectangular Panels," by Arthur R. Lord.

"Design of Rigid Frames in Steel and Reinforced Concrete," by Sanford E. Thompson and Edward Smulski.

"Tests to Determine Lateral Distribution of Stresses in Wide Reinforced Concrete Beams," by W. A. Slater.

The meeting adjourned to meet Friday at 10 A. M.

SEVENTH SESSION—FRIDAY, DECEMBER 13, 1912, 10 A. M.

President Richard L. Humphrey in the chair.

The proposed Standard Specifications for Portland Cement Stucco in revised form were presented by C. M. Chapman, and were ordered to letter ballot.

The following motion was adopted:

Resolved, That the Committee on Treatment of Concrete Surfaces be instructed to make an investigation of the durability of the various types of metal lath and wood lath used for Stucco and to report at the next Convention.

The report of the Committee on Standard Specifications and Methods of Tests for Concrete Materials was presented by Sanford E. Thompson, Chairman. On motion, this report was approved.

Mr. William M. Kinney, Chairman, presented the report of the Committee on Aggregates.

The following papers were then read and discussed:

"The Constitution of Portland Cement. Some Results Obtained at the Experimental Cement Plant of the Bureau of Standards," by P. H. Bates.

"Sand and Gravel Washing Plants," by Raymond W. Dull.

The meeting adjourned until 3 p. m.

EIGHTH SESSION—FRIDAY, DECEMBER 13, 1912, 3 p. m.

President Richard L. Humphrey in the chair.

The following papers were read and discussed:

"The Manufacture of Concrete Products in Germany," by Julius Carstanjen, Jr.

"The Coloring and Texture of Concrete Products," by Adolph Schilling.

"The Progress of the Work of the Bureau of Standards in Cement and Concrete," by Rudolph J. Wig.

The paper on "Reinforced Concrete Silos and Small Grain Bins," by E. S. Fowler, was read by title.

The Committee on Resolutions, Fred K. Irvine, Chairman, then presented the following resolutions, which were unanimously adopted:

Resolved, That this Association in convention assembled acknowledge the receipt of, and express its thorough appreciation for, the most hearty greetings and best wishes for a successful convention extended to it by the Deutscher Beton-Verein, and be it

Further Resolved, That the Secretary transmit the above resolution with the best wishes of this Association for the success of the Deutscher Beton-Verein.

WHEREAS, The work of this Association and the field of its activity has been greatly enlarged during the past year by dues from contributing members, and by donations from individuals and corporations interested in the work, therefore, be it

Resolved, That the Association hereby express its thanks to those who have thus generously aided in the work, and that the Secretary be directed to send a copy of this resolution with a personal letter to each contributing member, and to each individual firm or corporation from whom donations have been received.

Resolved, That the thanks of this Association are hereby tendered the officials of Pittsburgh and the representatives of the local engineering and concrete interests for their hearty welcome, to the press and citizens of Pittsburgh for their co-operation in making this, the Ninth Annual Convention, a notable success, and to the guests of the Association for their assistance in this success by the contribution of their interesting and valuable papers.

Resolved, That the thanks of this Association are hereby tendered to the members who have aided by the presentation of papers, to the several committees whose efforts have added this meeting to the long series of successful conventions, to the technical press whose recognition and assistance in the work of this organization is gratefully acknowledged, and to its various officers but particularly to its retiring Treasurer, Mr. H. C. Turner, and to its President, Mr. Richard L. Humphrey, for their untiring devotion to the interest and welfare of this Association.

Resolved, That the proceedings of this Convention of the National Association of Cement Users shall be published in a monthly journal to be known as the Journal of the National Association of Cement Users, provided arrangement can be made with a publishing company whereby the cost shall not exceed \$2.00 per member per year for the entire proceedings.

Believing that such an arrangement is possible it is the sense of this meeting that the Board of Direction of this Association accept a proposition similar to that suggested by a member of this Association, and the Board of Direction is hereby instructed to take immediate action to make this resolution effective.

The President thereupon declared the meeting adjourned, *sine die*.