

PROCEEDINGS
OF THE
FIRST CONVENTION
OF THE
National Association of Cement Users
HELD AT
INDIANAPOLIS, INDIANA
January 17, 18 and 19, 1905.

TUESDAY AFTERNOON, JANUARY 17, 1905.

The convention was called to order in the auditorium of the Claypool Hotel, Indianapolis, by Charles Carroll Brown who said:

I think the number of men here today is a sufficient reason for the calling of this convention, but it may be of interest to you to give a short sketch of the way in which the convention was gathered together, and the reasons for doing so. You all know how rapidly the use of cement has spread in the last few years. The cement manufacture of this country has doubled every four years for some time, and last year the amount was something over twenty-three million barrels. The use of cement is not so simple as it might seem, and much bad work has resulted as a consequence of many people trying to manufacture cement products who know nothing about the materials with which they have to work. The engineering magazines have shown what has happened along these lines. The first illustrated description of cement blocks appeared in a magazine three years ago this month. There was only one machine in existence, so far as I know, at that time, and there were hardly a dozen in use at that time.

We have here twenty-one machines on exhibit, which is not half of the number on the market, and the number of users of cement block machines has increased even more rapidly. Our last count of the list of operators of machines is over sixteen hundred, and I have no doubt there are a great many more, because we are getting additions to the list every day.

Some of these men with myself called attention some time ago to the necessity of paying more attention to the requirements of buildings. There are two sides to this question, one, the necessity

of the block maker to pay some attention to the building into which it is to go, and second, the necessity of the architect paying some attention to the material of which the building is to be constructed. The architect and block maker must get together. Some time last summer Mr. A. S. J. Gammon, of Virginia, who is interested in the making and use of these blocks, wrote me and suggested a convention of the block makers, and I took the matter up and have been writing about it ever since. Every number of our magazine has had something about this convention. I have myself sent out a great many circular letters pertaining to this convention to different people trying to find out what was wanted in the way of a convention, and as to the time of meeting and so on. The result is this convention today. I consumed considerable time in the work especially after I went to St. Louis to the Exhibition and found the amount of cement work that was on hand there. I also found that Mr. John P. Given, of Circleville, Ohio, had been working on it to quite an extent. He had not yet gone into the subject very widely by publication but he had been in communication with quite a number of people who were very anxious to have a convention of this sort. We found out who were interested in this subject at St. Louis, and decided at that time as the result of our discussion and the answers to the letters which had come in, that we would hold this convention here, the majority being for Indianapolis as the place, and for January as the time.

At the start only the block makers were interested, but it was only a short time until I found that other cement users were just as interested in the convention as the block makers were, and there are a great many men here today who are interested in other lines of cement work. The block business is a business which has grown very largely, but it is far from being the most extensive use of cement in this country, or the most important, and this association will be very much larger than if restricted simply to the block trade. It will cover the entire field of the uses of cement.

In making plans for the convention and casting around for a man to nominate for temporary chairman of this convention,—until a permanent organization is completed,—I tried to find a man with the interests of cement at heart, as broad minded as possible, and who would be impartial. My acquaintance does not cover the entire field, but I was fortunate enough to find a man who, it seems to me, fills the requirements, and he also has a wide acquaintance among cement workers, and I therefore take great pleasure in nominating as temporary chairman of the convention a man who is as interested in this convention and is as desirous of its success as anyone could be, John P. Given, of Circleville, Ohio.

A. S. J. GAMMON :—I second that nomination.

The motion was carried. Mr. Given in taking the chair said:

Gentlemen of this Convention:—It is certainly a great pleasure to me to be selected to be the presiding officer of this meeting of

such a body of intelligent business men. This convention has been on my mind ever since October when Mr. Brown and I met in St. Louis. We have corresponded considerably and talked with each other planning to make this convention a success, and it delights me, and I likewise think that every individual on this floor is delighted in the success so far attained. There is no reason, gentlemen, why this Association should not become one of the largest associations of this character in the country. I feel that, as large as it is today, with concerted action our success is assured.

We have tried in making this call to take in the various parts and divisions that will be necessary to make this convention as wide reaching as possible. We want to cover every line; we want to cover the monolithic and reinforced concrete work, and when you take into consideration the wide scope which this convention covers, you must certainly know that it will take concerted action on the part of those who are interested. There is no reason why this should not be brought about, and brought about in a splendid manner. You know the Psalmist says: "Behold how good and how pleasant it is for brethren to dwell together in unity." Now this, gentlemen, should be one of our motives, that we should dwell together in unity. We must not forget to live in harmony; harmony should prevail.

MR. SWIFT :—If it is in order, and we have to have a temporary secretary for this meeting, I take pleasure in nominating Mr. Charles C. Brown, as secretary.

The motion was seconded, voted upon and carried.

CHAIRMAN GIVEN :—The first matter in order that occurs to me will be the selection of a committee on the Constitution and By-Laws. Has anyone any suggestions to offer?

MR. GAMMON :—I make a motion that the chairman appoint a committee of as many as he deems best to work on the Constitution and By-Laws.

The motion was voted upon and carried.

MR. SWIFT :—In order to expedite matters in this meeting, I move you that the chairman appoint a committee of five who shall be the nominating committee, who shall select a set of officers to be voted upon at this meeting for the purpose of selecting our officers for the coming year.

————— :—I think it will simplify matters considerably to have but one committee. The committee on Constitution and By-Laws can suggest the permanent officers for this organization. You must remember it is only a short time between now and the evening session.

CHAIRMAN GIVEN :—You will observe the necessity of something of this character from the fact that we, many of us here, are mostly strangers, and also in order to bring about the best results it would be well to make your selection of these officers early,

who I trust, will be men of ability who can carry the association through successfully.

MERRILL WATSON:—I would like to suggest that a committee be appointed whose title is "Plan and Scope" so that the purpose is that the duties be divided and I would therefore suggest that there be two committees of five each to report on the Constitution and By-Laws, and the other five on the list of officers. I think they should first determine the plan and scope of this Association. I feel that this scope is very wide, and its influence should be very wide,—in fact wide enough to make a half dozen associations. We have started together to make one large association, and the foundation laid should be very broad, and it will not matter then whether they reinforce it or not.

CHAIRMAN GIVEN:—We will now vote on the gentleman's motion.

The motion was voted on and carried.

MR. SWIFT:—The motion was that there should be two committees which consisted of five members each which would be the same as one committee consisting of ten members.

C. C. BROWN:—We have two committees already appointed; and it seems to me that they could easily be instructed by this meeting to act together and thus form the committee on the plan and scope which Mr. Watson suggests. It seems to me that this would be the easiest way out of it.

MERRILL WATSON:—I ask that these two committees be consolidated into a committee of ten and that their work be the Plan and Scope for this Association.

MR. SWIFT:—I will accept that amendment, Mr. President. The vote was taken and carried.

CHAIRMAN GIVEN:—I shall now appoint this committee of ten. I shall appoint:

- E. B. Swift, of Indianapolis, Ind.;
- W. H. Phillips, of Columbus, Ohio;
- Ernest McCullough, of Chicago, Ill.;
- George H. Carlin;
- W. E. Horn, of Memphis, Tenn.;
- A. S. J. Gammon, of Norfolk, Va.;
- J. P. Sherer, of Milwaukee, Wis.
- George L. Stanley, of Ashtabula, O.;
- C. B. Brime, Berney;
- A. M. Baumberger, St. Louis, Mo.

The committee was excused to begin its labors and the printed program of papers was taken up.

THE SECRETARY:—I find that Mr. Humphrey has a stereopticon on which he can show us some pictures which will be of

great assistance to us, and I have therefore thought it best to change his paper to this evening and put on the program here the paper on the Coloring of Cement, by Mr. J. P. Sherer, of Milwaukee, Wisconsin.

MR. J. P. SHERER:—I believe I was appointed on that committee, but if I can be excused a short time I will read you this paper.

Mr. Sherer read the paper which will be found on page 11. The discussion of the paper followed:

E. H. HOTCHKISS, Chicago, Illinois:—I would like to know if this gentleman who has just read the paper said that it would take seven pounds of oxide of iron to a cubic foot of concrete?

CHARIMAN GIVEN:—That is correct.

E. H. HOTCHKISS:—Then the only thing I have to say is that the other fellow will get the job.

—————:—I want to learn how much oxide you put with one hundred pounds of cement to make a good color. I have not learned that yet, and I should like to know if someone can tell n. a.

—————:—I too, would like to have some light on this subject. For about seven years we have been making mortar color, not for coloring cement blocks, so I do not have any axe to grind. We have been mixing mortar for setting brick and stone, and it has been our experience that the mortar requires about sixty pounds of coloring. Mr. Sherer made a statement that it required more color to get the shade desired in mortar on account of the lime. That is a subject that I do not pretend to know anything about at all, but if the other fact will help you I am glad to give it, that it requires about sixty pounds of coloring to every two barrels of mortar.

Further discussion of the subject was on motion postponed until Mr. Sherer could be present.

SECRETARY C. C. BROWN:—The next paper was prepared by Prof. Allen of the University of Michigan. He kindly consented to give us his experience in the testing of blocks and his ideas on the subject. He was unable to come himself and has sent his paper to be read.

The paper on "The Testing of Concrete Blocks" will be found on page 16.

The discussion followed:

MR. RICHARD L. HUMPHREY:—I would like to ask whether he gives the percentage of water in these tables?

SECRETARY:—He does not.

MR. HUMPHREY:—It is an important thing, in reporting the results of tests of concrete, to state the percentages of water used in the mixture, and also whether the aggregate, that is the

stone and gravel, was previously wetted before mixing. If the stone or gravel has high-absorbing qualities, and if very little water is used a dry mixture is obtained. As it is impossible to tamp a dry mixture properly, a less dense and more porous concrete is the result which materially lowers the compressive strength of the concrete and increases the permeability. Experience has shown that a hollow concrete block, made of a dry mixture, is materially lower in compressive strength and much more porous than one made of a wet mixture. The number of tests that have been made on blocks is not extensive, and I give this statement as the result of my own experience in tests of this kind. Another important feature is the use of gravel in concrete. All things considered a good gravel makes a far better concrete than crushed stone. The particles being round compact more readily and the graduation in size of particles is much better than in the case of crushed stone. The resulting concrete is much stronger, being denser and therefore less pervious. There have been a number of papers written on the subject of concrete, showing as high as 15 per cent of loam may be contained in a gravel or crushed stone and produce most excellent results. This term "loam" is a misnomer, as "loam," properly so-called, is a vegetable matter having a highly injurious effect on the strength, while the loam thus referred to is a finely divided material of an inorganic character, and is generally very fine subdivisions of the aggregate. The more appropriate term for material of this kind is "silt." Oftentimes this silt is in the nature of finely divided clay. If this clay is of a granular nature, up to ten per cent. can be contained in gravel without weakening the strength, indeed, it often adds materially to the strength of the concrete in which it is used. If, however, the clay is of a flaky character it generally has a weakening effect on the concrete. The reason that the finely divided material (silt) has a weakening effect on concrete is that it enters into the pores of the aggregate thereby preventing the cement from flowing in, and weakening the bond and the concrete to that extent, for it is generally accepted that the bond or adhesion in concrete is produced by the cement in its fluid state being forced into pores on the surface of the particles of sand, gravel or stone and, in setting or crystallizing, forming the anchorage which binds the material together, so that if an excess of very fine particles are present they fill these void spaces, preventing the cement from going in, and thereby destroying the bond to that extent. A reasonable amount of finely divided material increases the strength of the concrete in that it fills the voids of the smaller particles and reduces the percentage of the cement required to fill them. Another reason why dry mixtures should not be used is that the cement often is deprived of sufficient water to enable it to set, the term "setting" being the chemical reaction which takes place when water is added, and from which the crystalline compounds of cement are formed, and the reaction of setting ceases when the material is deprived of water.

----- :-- I would like to ask if the fineness of the material applies as well to limestone as well as the other things mentioned?

MR. HUMPHREY :—It does not matter materially what the material is, whether it be crushed limestone, granite or trap rock that is used. You can have too rich a mortar. The quantity of cement that is required to bind the concrete together is that which is necessary to cover each particle with cement, and the principle is similar to that of sticking together two pieces of wood with glue, —if you have too much glue you do not have as good a bond as you would get if you had just sufficient glue to cover contact of the pieces to be bound together. When we understand more clearly the function of cement in mortars and concretes we will get to use them more economically than we do today.

----- :--I should just like to ask what the effect of fire would be on concrete made of limestone?

MR. HUMPHREY :—I do not wish to monopolize the time of this convention, but the question of the effect of fire on a limestone concrete is an important one. The question of the damage which is done to a limestone concrete by fire depends largely upon the intensity and the duration of the fire. In laying concrete it is the practice of nearly every one to keep the stones away from the surface, and there is, or should be, over each particle of stone a coating of sand and cement, which to a certain extent protects the stone from the effect of fire. The carbonic acid gas cannot be driven off readily from stone which is thus encased. Where the stone is exposed, however, the fire comes in direct contact and the carbonic acid gas is driven off. If the fire is of slight duration the stone is affected only to a slight degree. If, however, the fire continues for a considerable length of time, the carbonic acid gas is driven off to an increasing depth in the stone until it is completely decarbonated and, upon application of water to the surface, the stone hydrates and the structure falls to pieces, but as the intensity of the fire is generally not sufficient to drive off the carbonic acid gas to any depth, the danger from the use of limestone concrete is nothing like as great as is generally supposed.

WILLIAM SEAFERT :—We had a good example of this the other day in Chicago. A block fell off of the Courthouse and knocked two or three men in the head. I do not think there is enough importance paid to the tensile strength or cross breaking strength of concrete block. This strength of concrete is often ignored and only the reinforcement is taken into account and the compressive strength is all that is figured. This was done in very important work in Cleveland recently. A large building entirely concrete had girders of considerable length and they did not test the tensile strength at all. I make these remarks, for I think they have been overlooking something that is very important, namely

the testing of the block for the tensile strength. We have already had girders sixty-one feet in length. A girder is subject to compression in the upper part and subject to tension in the lower part. They are often provided with steel in a great many places. While it might be well in the girders to figure the tensile strength of concrete it is so small that it does not add materially to the strength of the girder and it often fails by compression before the steel fails.

T. D. SHAWELL, Sebring, Ohio:—As I understand it, block makers want to get the tough blocks. I represent the Artificial Stone Company of Eastern Ohio, and last fall when none of the members of the Company were present, went to a factory and got what they call dregs. This has been all through the kiln and has had everything burned out of it that fire can burn. We got this and mixed it in four or five blocks, one-third of this and two-thirds of sand and gravel. We have no testing machine and we took an ordinary sledge and it took more pounding than any of the other blocks. It was four times the strength of any of the other blocks we made.

MR. HUMPHREY:—Did it have any effect on the color of the block?

T. D. SHAWELL:—This material was something the color of firebrick, and it showed little gray particles in it; it showed a lighter color, but that could be overcome by color. I am testing some block made of the sort sent me from Columbia University, of washed ashes two parts; sand two parts; and one part cement. The block stood 22850 in the paper that Mr. Brown has just read. In our block washed and screened it stood 63700, and the other 80800. These were two parts ashes and two parts sand and one of cement 8x8x20 inches long. We used about eighteen per cent. of water to the block.

-----:---Did you use fine or coarse ashes?

T. D. SHAWELL:—Fine ashes, washed out of course. Prof. Woolson of Columbia University tried a freezing test. He first washes them thoroughly, and then puts them in water until they will not absorb any more water and then freezes them and puts them in luke warm water. He reports that he likes this test.

MR. HUMPHREY:—The general use of cinders, or the ashes from bituminous coal, in concrete is a vicious one, which should be discouraged. For filling, in the floors of office buildings, where a light concrete is very desirable in order to reduce the floor loads, it is perhaps permissible to use a cinder concrete, provided the cinder be of first-class quality, that is it should be comparatively free from unburnt coal and by all means free from sulphur in the shape of sulphides and from any considerable amount of ash. This is almost impossible to obtain as the average cinder contains upwards of 5 per cent. of unburnt coal with varying percentage of sulphide.

Such a concrete requires considerable more cement than a stone concrete would require, which adds to its cost, and in addition to that its compressive strength is about half of a very poor stone concrete, and the modulus of elasticity of such a concrete is only about three hundred thousand, where a good stone concrete would have from a million and a half up to three millions. There seems to be a fallacious idea that it is immaterial what the aggregate of concrete may be; if the cement has strength, the resultant concrete will be strong. Cement cannot increase the strength of the material which it binds together. If this material be weak, the resulting concrete will be correspondingly weak. Another serious objection to cinders is the difficulty of getting them uniform. It requires constant inspection to prevent very inferior material entering in, and for this reason it does not seem wise to use a material which requires such excessively close inspection, and the use of cinders, excepting for the peculiar conditions just cited, should be generally discouraged.

JOHN DRISCOLL, Appleton, Wisconsin:—I would like to ask the effect of ground lime?

MR. HUMPHREY:—The use of ground lime in mortar or concrete is not nearly as satisfactory as slaked lime. The judicious use of slaked lime, in small quantities, produces a much denser and less pervious concrete than can be obtained otherwise. The concrete in which the slaked lime is used can be tamped much more readily, and in mortars there results a condition which is called by masons "buttery." It is, however, essential that the lime should be thoroughly slaked. If there is any unslaked lime, the slaking of this after the cement has set will have a tendency to disrupt the bond.

The convention then adjourned until 8 o'clock.

TUESDAY EVENING, JANUARY 17.

CHAIRMAN GIVEN:—The first thing on the program this evening is a paper by A. L. Goetzmann, of Chicago, on "The Mixture of Concrete."

This paper will be found on page 19.
The discussion proceeded as follows:

-----:---I should like to hear from the gentleman from Ohio who spoke this afternoon, on hydrated lime in blocks. I should like to say here that I think he is directly opposed to the ideas that I have. If my views are wrong I should like to have them stricken out, for I do not want anything to go out from this Convention that is wrong.

MR. ROESS:—I am not the gentleman from Ohio, but I did say that I added hydrated lime, and that in all of my experience

with it I have never had any trouble with it, but I should just like for someone to tell me what future trouble I am likely to get into. As far as my tests show personally, they show that I really have a stronger constitution by adding a little lime than I do without. I use gravel and coarse sand, and I have tried washing it. I have just used the natural gravel, but I have never had very good results from washing it. I have washed out ten per cent. of what seemed to be clay. I sometimes think it is only the finer sand, and so I have given up washing it when the sand looks clean. I have added about ten to fifteen per cent. of hydrated lime to the Portland Cement for a concrete mixture of 4 to 1. I have probably 50 tests.

-----:---I should like to say a word in regard to hydrated lime.

When we were about to enter into the manufacture of blocks we consulted a cement man as to what kind of cement to use. We were in the stone business, and we used our screenings of stone dust in the manufacture of blocks. In asking him about the cement blocks he volunteered the information that he said had come to him from an experience of several years in the block business. He said that they had trouble in getting blocks that were impervious to water. He put in about forty pounds of lime to the barrel, and found that gave a block which was impervious to water, and that it added to the strength and made a difference in the appearance of the block so that he succeeded in accomplishing what they were after. They told me that since that time they had been using lime and that they had no bad results. This is the experience of those who have handled the lime and they tell me that this has covered a number of years.

I should like to ask of the gentleman who read the paper what he means by fine stone, whether from one-fourth inch mesh up to one-half, or what, and also what he means by fine sand. In some sections fine stone is what in other sections might be called sand.

MR. GOETZMANN:—I believe when I spoke of fine stone I spoke of granite or marble or something for the facing of the block, and in this connection you have to take into consideration the kind of face. We would not use anything that would not pass through a half inch sieve.

-----:—What do these different people mean by fine sand, etc?

MR. GOETZMANN:—My opinion is that they mean by a fine sand what will pass through a 36 to 40 mesh screen, or something perhaps a little bit coarser than the lake sand that we find in the neighborhood of Chicago. Some of these lake sands are quite coarse, but most of them are quite fine, about 40 mesh.

MR. SEAFERT:—We have a sand procured from the lake by the process of suction that brings up a very fine sand washed

very clean, but it is considered almost too fine in a general way to be used by itself and it does not give much body to the block. I should presume that some of that sand would pass through a very fine sieve. It is used by the plasterers in a general way, especially in making a putty coat. Along the lake shore the action of the water throws up different grades of sand. I should not recommend the use of the fine sand. The sand that would pass through a twenty-five to thirty mesh sieve would be all right, if some other heavy material were used with it.

G. T. FULTON, Hartford City, Indiana:—The question that I would like to have discussed is whether or not it is proper to use sand that has vegetable mold in it, or loam, perhaps I should say. This loam has more or less organic matter in it, but is mainly made up of clay. For the last two or three years at the laboratory in the University of Ohio, we have experimented with loam and clay, and we have found what the results would be. Out of some thirteen or fourteen thousand briquettes that have been made, the results have been that cement and sand mixed in the proportion of one to three, with from one to fifteen per cent. of loam as percentage of sand, has been stronger and given better results. I do not want to publish this as an established fact. We might go out and shovel mud into the concrete, but this has been the result of fourteen or fifteen thousand briquette tests that have been made for between three and four seasons.

Some of these briquettes have been exposed to the weather, freezing, thawing, hot and cold, and they have stood the test under those conditions. The point to this is that if eight to ten or fifteen per cent. of loam or clay can be added to your sand or can be found in your sand and give good results it is all the better. The results show from ten to thirty per cent increased strength from these percentages. The question of weather is yet to be decided upon, and the results are not sufficient to base the statement that you should shovel mud into your concrete. I would not care to be quoted in this manner. I shall take two or three more seasons to prove the economy of the work. There are some things which seem to speak in favor of loam in sand. Some special freezing tests were made outside of the ordinary weather tests by simply taking the refrigerator and freezing them. Another thing was determined, that the addition of ten or fifteen per cent of loam required longer time setting before they can be submerged in water, 48 hours rather than 24 which is ordinarily used in laboratory practice, so that the conclusion of the series of tests was that for a certain condition it was advisable not to have any loam and have clay, sand and gravel, but for a great many cases and conditions that have been met in the concrete practice of bridge work, foundation work, and house building, and girder work, it is perfectly safe on the outside work to use sand and gravel that might have from ten to fifteen per cent of loam. If you will take an average bank of sand or gravel you will find that not over ten but usually seven per cent is found.

W. F. BARROWS:—I would like to ask this gentleman whether I understood him to say that he used this mixture for the whole block or just the bacing?

MR. G. T. FULTON:—For the entire block. We should not face blocks, but make them the same all the way through. I want to say in keeping track of the cost of the construction of the block as compared with the price we can get for them, when anyone tries to save cement in building or making a concrete block he is making a mistake. If they can not get money enough for their blocks in the community in which they live and are operating to allow them to use enough cement, they had better stay out of the block business.

W. F. BARROWS:—I only asked that question because I have been making tests. I find that by using a medium fine lime stone that will pass from a 3-8 to 1-2 inch mesh, and mixing in the proportion of 1 to 6 it will be all right. I take the cement and dissolve it in water so that the concrete is much wetter than the other although the stone that passed through the 3-4 inch mesh would absorb a considerable percentage of the water; however, I find that stone made in that way gives much better results than the stone made of the average screenings not nearly so wet. I have never yet made a stone from lime stone screenings that was to my mind anywhere near so good as concrete made of cement, sand and gravel. I make what is called a two piece block. After filling the mold with the coarser stuff the top being struck off, I do not cut out any of the coarse concrete but simply sprinkle on the top of the mold sufficient powdered lime stone and cement to thoroughly cover and fill the voids and then put pressure on it. When we leave this off we are troubled with the wet, sticky appearance of the material.

—:—May I ask the gentleman that read the paper what kind of lime stone he uses, the surface stone or the lower strata.

MR. GOETZMANN:—It is that obtained in Chicago at a depth of forty-five to one hundred and ten feet below the surface. We are compelled to put in the best of material to get a fine finished product. We have experimented with nearly forty different kinds of lime stone, and we have had different results, and I think the difference is caused by the difference in the lime stone. We first used a sandy lime stone which is not hard. The result was that when ground there was an immense amount of fine material. Take it to the mill and put it into concrete blocks in the same class of work we are using and we will not get the same result; in my opinion you will not get as good material as by using the sand. However, if you take that stone and screen it and use a certain proportion of sand with it and a large amount of lime stone with it, you get remarkably different results in the manufacture of the stone.

We have been speaking of clay in stone. I think that most of the clay is fine lime stone. Before we went into the business I was

an engineer myself and made special tests of concrete work, and I have found that some of this so called clay is lime stone; at least ten per cent of it looks like clay. If that material is worked too much it has the appearance of marble. Of course we know that marble is lime stone, and I do not think there is any question but what it is good material. When we started our factory we were up against a very bad proposition. We had no available supply of lime stone so we were compelled to put in a crushing plant of our own, and that gave us an excellent opportunity to study the different lime stones, and I have found in ten different kinds there are only three that we have access to that are suitable to make stone of.

Now a word in regard to hydrated lime in stone. That is a question that has been given considerable study, and I would not like to have it dropped here where it seems that it is going to be dropped. The German manufacturers hydrate their lime and make a test in their factory and leave it six months before they touch it.

CHAIRMAN GIVEN:—The next on program is a paper by Mr. Richard L. Humphrey.

MR. HUMPHREY:—Mr. President and Members of the convention: I want to offer an apology for not having prepared a formal paper. My original intention was to present a few facts in connection with cement and its uses and thus open up the subject for discussion. I feel that for developing a good discussion an informal talk of this character is far better than a set paper. I found afterwards that I was supposed to take considerable time, and I have therefore gotten together a number of slides and will take up the subject of cement in a general way, touching upon the facts connected with its early origin and tracing the development up to the present time showing the process of manufacture and the many usages to which it is applied today, and I wish to state that I shall not touch on the subject of hollow blocks, as that has been pretty well treated and will be cared for by others who will follow me, and my remarks will therefore be confined to other lines than that of the hollow block. The Portland cement industry has shown a remarkable development, particularly so within the last few years. The increasing uses of Portland cement are so great that it is almost impossible to treat the subject in any other than a casual way in a talk of this character limited as it necessarily must be as to time.

Mr. Humphrey's notes of this paper were unfortunately lost and it can not be reproduced in this volume.

CHAIRMAN GIVEN:—We will have the report of the committee of ten.

MR. SWIFT:—Mr. Chairman: Your committee begs leave to report the following: The constitution and by-laws as amended by the Association will be found on page 5.

After some discussion the convention adjourned and voted to take up the constitution at 9:30 Wednesday morning.

WEDNESDAY MORNING SESSION, JANUARY 18.

The convention took up the consideration of the committee's report on constitution and by laws by sections.

Section I was adopted after considerable discussion.

Section II was amended making but one class of members and then adopted.

Sections III, IV, V, VI and VII were adopted, the treasurer's bond being changed to a surety company's bond, and salary provided for the treasurer.

The By-Laws were then adopted as read and the constitution and by-laws were adopted in their entirety.

The report of the committee on the nomination of officers was then taken up.

MR. SWIFT:—Your committee to whom was referred the nominating of the officers for the ensuing year, beg leave to report the following names:

For President, Mr. John P. Given, of Ohio.

For First Vice President, A. L. Goetzmann, of Chicago.

For Second Vice President, John H. Fellows, of Pennsylvania.

For Third Vice President, H. C. Quinn, of Georgia.

For Fourth Vice President, B. L. Simpson, of Missouri.

Your committee also recommend for the office of Secretary Charles C. Brown, of Indianapolis, and for the office of treasurer, A. S. J. Gammon, of Norfolk, Virginia.

In accordance with several requests from the floor each of the candidates named, excepting Mr. Quinn, who was not present, explained his connection with the use of cement and Mr. Simpson said:

MR. B. L. SIMPSON, of Missouri:—The fact that I was elected as Fourth Vice President is a surprise to me. I am an infant in the cement block business, as I have only been in it for ten months. As I have only been in this business for so short a time I should be glad to withdraw and have someone appointed in my stead who is in the reinforced concrete business.

F. K. HOGUE, Toledo, Ohio:—The gentleman who was placed before this convention has had ten months of business, and was modest enough to offer to decline in favor of some man who had had longer experience in the business, and especially a reinforced concrete man, and Mr. A. Monsted, of Milwaukee, has been suggested. I think it would be quite proper to accept this brother who has had much experience since the gentleman withdrew on account of the lack of experience.

B. L. SIMPSON, of Kansas City, Missouri:—I second the motion.

(The motion was voted upon and carried.)

MR. WOLF:—I wish to move you that the rules be suspended and the secretary be instructed to cast the unanimous vote of this convention for the officers as reported by the committee to serve for the ensuing year, the changes being now a part of the committee's report as I take it.

J. W. WOOD, Parkersburg, West Virginia:—I second the motion.

After some discussion the motion was adopted and the convention adjourned.

WEDNESDAY AFTERNOON SESSION, JANUARY 18.

CHAIRMAN GIVEN:—It is now time for this convention to come to order.

SECRETARY BROWN:—Mr. Holmes of the United States Geological Survey has a matter to present to this association and I now have the pleasure of introducing to you Mr. Holmes.

MR. HOLMES:—Mr. President and Gentlemen of the Association: It strikes me as exceedingly fortunate that the gentlemen connected with the use of cement have come together for an organization of this kind. The trouble with this country has been on many occasions that a man did not know what his neighbor was doing or thinking about. It strikes me that people connected with an industry like this should be connected. As long as you are not there will be a constant friction,—a friction which grows out of prejudice and prejudice exists on account of ignorance, and you are doing the right thing today when you are thinking of getting together and forming an organization.

I am here today to tell you about the Geological Survey. We hope to be helpful and useful to the cement industry. Your industry was well represented in St. Louis. There have been a number of cement tests initiated from time to time during the past few years at different places and connected with different institutions over this country. Your work is not very different from ours; the methods of procedure are different, but the materials are the same. What I have to tell you I wish to tell you briefly. All the cement tests can be put together under one head with uniform methods and under uniform conditions so that the results can be summed up in a way in which they could not with different methods. There are many different cements manufactured by different cement concerns, for different purposes, and to be used under different conditions. I want to tell you that we want to co-operate not only with the cement manufacturers but with the cement users in making certain articles, and testing along certain methods and plans. When we adopt a certain method of testing of cement blocks we must find out by our method of investigation the basis which underlies the adoption of it with relation to the other im-

provements. We must work in harmony to bring about definite results which will be helpful to cement users as a rule.

CHAIRMAN GIVEN:—Mr. Humphrey has something to say along this line, and we will be pleased to hear from him at this time.

MR. HUMPHREY:—I think it is essential that these tests that the gentleman has just spoken of, should go on. We are ready it seems to me from the interest taken in this meeting and the discussion of the papers, for just such information as would be gathered from the operation of these testing laboratories.

I hardly think that in view of the enormous amount of business which this association must transact before it adjourns that it is wise to take more time at this time in placing before this meeting the advantages of this laboratory work, but I should like to have the association endorse this work before it adjourns. I should like to offer the following resolutions for your consideration:

In view of the rapid development of the American Cement industry during the past few years, including the increasing uses of cement in all architectural and other public works, the lack of reliable information as to the best methods of using cement in its relations to other structural materials, and the lack of accurate data as to the strength and durability of such products; and

In view of the enormous interests involved in the proper or improper uses of such materials in national, municipal and private works in all parts of the country, and the importance of having these investigations conducted under uniform methods, with the best possible equipment, independent of all local conditions, The National Association of Cement Users, in convention at Indianapolis, urgently petition congress to make adequate appropriations for the immediate continuation, on a larger scale, of such tests of structural materials, by the National Geological Survey.

The resolutions were adopted.

SECRETARY BROWN:—With the permission of the Association I will change the program. Mr. Albert Gridley will be obliged to leave this evening and we have decided to have his paper this afternoon. His subject is "The Practical Work of Constructing Sidewalks."

The paper will be found on page 26.

The following were among the points made in the discussion:

L. F. PERDUE, Terre Haute, Indiana:—I should like to ask what his purpose is in excavating eleven inches. Is that intended for all kinds of soil or some special kind of soil?

MR. GRIDLEY:—You will find that I have said in this paper that some grades can be made of natural soil, and sometimes

it requires gravel and sand; For instance, along White River there are many places where you will not need any thing under the concrete at all, and elsewhere there will be water seeping out most of the time and you must get it away and you must excavate deep enough to have something underneath that will do this and not leave it there to freeze and force up the work at the end and dip it down in the center.

L. F. PERDUE:—I would like to ask if that is on a spongy soil or clay soil. If you were on a soil that would hold water like a bucket and you put in eleven inches of space to hold water you will give it sufficient strength to force up the pavement when three inches would not do it.

MR. GRIDLEY:—If you cannot drain it in any other way you must use tile to do this. You must have drainage, no matter how you get it.

MR. PERDUE:—As a sidewalk maker I will give my experience. I live in a neighborhood where the land is composed of sand and gravel. When we are working under an engineer he makes us excavate twelve inches, and when we are not, we excavate only three or four inches. They require us to put in three or four inches of cinders but we find that our pavement lasts just as well. The last one we worked on we were compelled to excavate twelve inches and put in seven inches of cinders and five inches of concrete. As usual I protested. The soil is a mucky sort of a clay soil and will hold water like a bucket. If you should pour water into it it will remain until it evaporates before it disappears. As I say under protest I made the excavation and put in the cinders. For fifty feet the curb ran back seven feet wide. With this we had no trouble but in other places where the water froze under the sidewalk the people had to walk in the middle of the street.

The walks we put in our own way have been there six, seven and eight years and they are quite good yet.

As I have said to you, when I am not required to work under specifications I am sure my sidewalks will hold out, but when we have to put them in under an engineer they sometimes break.

I should like to know what causes expansion to break the sidewalks?

MR. GRIDLEY:—I do not know exactly what you mean. So far as concrete is concerned we know that we have expansion about the same as a good grade of steel, and there must be some allowance for it. You can make it in various ways. It has been made by putting in blocks of wood, and it has been made by allowing a space to remain open. The cause of this, so far as my experience goes is often due to the part of the work that is thought the least about, the concrete in the sidewalk. Some is caused by poor material, but perhaps one of the principal causes is water getting under the sidewalk. The water will force under and lift the edges up and of course it will go down in the middle. That is the

reason we want to get the water away from it as quickly as possible.

MR. PERDUE:—The question I asked was why the top of the pavement expanded and pushed up one joint over another. I say this is caused by your method of cutting the sidewalk. I would not cut the underpart clear through, but would only cut about one-fourth of an inch. The theory of a great many men is that we cannot leave it without being cut clear through, and then when it expands of course something will have to give way and it will pile up. When the men stop working at noon or night, or for an hour or so, the portion which they leave gets dry and hard and if the man who is doing this work takes his trowel and cuts that down he can unite the work so that there will be a beveled edge. Out of seven upheavals six are from this cause and not from the material at all.

MR. GRIDLEY:—How do you account for the cracking of the sidewalk for fifty or sixty feet?

MR. PERDUE:—I think that the inspector was not around when the walk was made. When the inspector is not around the men hustle up too much sometimes.

—————:—Have you ever noticed that these cracks run back to a telephone, telegraph or trolley pole almost every time? I suppose it is due to the shock received from the pole. This will happen every time if the cement is put clear up to the pole.

MR. PERDUE:—You will find the same at the corner of a brick building. I never run the cement clear up; I always leave a space.

JOHN J. GRANDVILLE, Saginaw, Michigan:—It seems to me that the principal cause of the upheaval of your sidewalks is on account of your drainage not being properly taken care of. We in Michigan take care of this part of the work by seeing that we have our soil well drained, and we are now almost free from these upheavals.

C. H. DANIELS, Anderson, Indiana:—I should like to ask if anyone has had any experience with sidewalks exploding after they have been down a number of years, and if so, what is the cause of it?

GEORGE L. STANLEY, Ashtabula, Ohio:—I have had sidewalks do the like and I think of course that it is due to expansion. Mr. Gridley told us to cut clear through with the trowel so that we would have a clear open cut, but that is the way we do all our work, and still these things happen.

GEORGE H. CARLIN, Oscaloosa, Iowa:—I have had sidewalks expand in the summer time and back up for four or five feet. I think this is caused by putting the blocks too close together and now we put in a three-fourths inch board about every

hundred feet and after the sidewalk dries take it out. When this board is taken out we fill the space with sand.

C. P. WIDDICOMBE, Columbus, Ohio:—I would like to ask about making the sidewalks so smooth that people cannot walk.

MR. GRIDLEY:—If sidewalks are made smooth people are very likely to slip on them. I have a man working under me who refuses to leave them in this condition, and after we have finished he takes a brush and goes over them and this relieves the situation. Our engineer is also very careful about the amount of cement he puts in the top coat so as to avoid getting that glassy surface. This surface is due to an extraordinary amount of cement next to the surface. There is no doubt about this.

Concerning expansion, newly made cement will expand much more than cement that has been made for months.

R. CROMER:—The paper said that almost all cements were good cements. Now in many years of experience in the manufacturing business I have found that there is a vast difference in the cements manufactured in this country and in Europe; I have found that there is a great difference in quality in the cements sold as Portland cements. I have used fifteen or twenty different kinds.

I have put down sidewalks in clay soil without digging out a trench, without putting down gravel or cinders, or anything else, because under certain conditions I can get drainage, and the sidewalks that I have put down in this way have not frozen or broken up. In some places you have natural drainage to keep the sidewalks right and proper.

Mr. G. B. Kirwan, St. Louis, read a paper on "Water proofing of Concrete Blocks," which will be found on page 30.

A paper on "Waterproofing Concrete Structures" by W. H. Finley, of Chicago, was read by the secretary in the absence of the author. It will be found on page 35.

The short discussion of these two papers brought out the fact of the use of alum and soap solutions in waterproofing walls under the observation of N. F. Palmer of Brooklyn and I. L. Shaw, of Gibson, Ill.

THURSDAY MORNING SESSION JAN. 19.

CHAIRMAN GIVEN:—I know that you will all be pleased when I say to you that the Executive Board has elected Mr. Chas. C. Brown, Municipal Engineer, Secretary of the Association.

We have further selected as Treasurer for this Association Mr. A. S. J. Gammon, of Norfolk, Virginia, a gentleman of excellent character, and I know you will all be pleased with his selection.

I would like to ask that the First Vice-President of this Association come forward and take the chair as I have a few remarks to make.

Mr. Goetzmann came forward and took the chair.

MR. GIVEN:—Mr. Chairman and Gentlemen of this Convention.

I know that I voice the sentiments of every man upon this floor when I say that we are all proud of this Association so far. We have made great strides and the proceedings have been eminently satisfactory I think to the majority of us.

You gentlemen have honored me with selecting me as your temporary chairman, a compliment which I assure you I appreciate, and you have also further honored me with the selection of me as your permanent President, an honor which I also highly appreciate; and, I want you all to feel that I appreciated it. It will be impossible for me to express to you my sincere thanks for all these good things you have showered upon me. I have been honored as much as any man could be honored, and more than I deserve.

In looking over the Constitution and By-Laws which have been adopted by this Association, I find that officers shall enter upon the duties of their respective positions as soon as the business at the annual meeting at which they are elected is finished.

The business of this assembly will be finished at the close of the last session. And I have a proposition to make and a suggestion, if you please, that at the close of this session you will elect some gentleman in our midst whom I should like to recommend as President for the ensuing year so it will not be required of me to hold during this session and the session of the coming meeting.

Honors are appreciated by all intelligent men and I believe that it is wise, gentlemen, to pass these honors around, and specially to those who are competent and who are worthy of the honors.

We have in our midst a gentleman whom I know you will be proud to honor; a man who is prominent in all work connected with the cement industry; a man who is not allied; a man who is independent absolutely; a man of ability; and a man who will add credit and honor to this institution. If you will permit me as retiring president of this association to name this gentleman I will consider it a farther kindness. The gentleman to whom I refer is Mr. Richard L. Humphrey to whom you have all listened with pleasure and every man who has sat under the sound of his voice has been benefited by his being here among us. I thank you gentlemen for all the kindness and the honor you have bestowed upon me and ask that you consider my proposition.

— — —:—-I second that motion, Mr. President. Mr. Humphrey is one of the most eminent men in the United States, and he has a reputation not only in this country but in Europe.

He has built up and systematized the work of the cement manufacturers association in the United States when he was in charge of the laboratory. He has since that been in charge of the laboratory of the Cement Manufacturers' Association at St. Louis, and I do not think we can be honored by any man more than Mr. Humphrey as president of this association.

— — —:—-Mr. Chairman: I understood that we had elected Mr. Given as the president for the ensuing year. I have no objections to Mr. Humphrey in the world and will gladly vote for him in the proper time. I want to say there is no vacancy yet. Mr. Given has not resigned and correctly to do this we must have a vacancy before we can elect Mr. Humphrey. If Mr. Given had resigned I would make a motion at once that it be accepted, and then a motion would be in order to elect Mr. Humphrey. But, we first want to vacate the office.

MR. WATSON:—Mr. Chairman: I move you that the motion of Mr. Given be accepted.

MR. GIVEN:—Mr. Chairman, I do not wish to be understood by this association as resigning. I wish it to be understood by this association that I would like to honor this gentleman and that I would like simply to retire as the first president of this association. Mr. Humphrey would then be the second president of this association.

Gentlemen, you certainly understand the situation. If I proceed to hold over then I must hold over the next year of this organization. There is no reason why this should be the case when we have so many intelligent men who are members of this association and who can by their skill and by their ability serve you better, infinitely better than I can myself, and I hope you will consider this matter; gentlemen, consider it seriously. It is my earnest desire that you do this for me.

MR. FORTUNE:—I beg leave to say a few words. Mr. Given has showed by this action here this morning a breadth of mind and magnanimity of spirit that I should think would challenge the admiration of all here who have the interests of this organization at heart.

He is the president of this organization, elected by an overwhelming vote in recognition of his abilities and the services he has rendered in bringing this organization together.

If it is his wish to retire, as he states, for the purpose of passing the honor to another man so that he will not serve through two sessions of this organization instead of through one, an honor that would not fall to any succeeding president, let us honor him in this way. When Mr. Given comes before us with this great proposition on his part I feel as one that it is a favor, a very large-minded and very generous thing on his part to do, and that we, if we are disposed to accede to his wishes and accept another man

as president, should do it in the same spirit that Mr. Given himself has placed before us. It is not a question of resignation. Mr. Given has not offered his resignation, as I understand it, but he would retire as president of this organization, honoring another man who has been mentioned in this connection with this position—the only man whose name has been brought forward on this floor.

It is, gentlemen, as I say, a most magnanimous thing to do and it shows that Mr. Given has the welfare of the organization at heart, which he has helped to start. If it is our wish to permit this change to be made let us do it with as much credit to ourselves as Mr. Given showed in making the offer.

I move you therefore Mr. President—and I have no doubt that it is merely a matter of method, or rather second the motion of Mr. Given, the one before the house, and the one which will be first acted upon now, that Mr. Humphrey be elected as his successor to serve during the ensuing year.

MR. WATSON:—I rise to a point of order, Mr. Chairman. The motion is out of order—the motion just made by this gentleman over here—that motion is out of order.

It seems that Mr. Given does not understand my motion. It was not that Mr. Given resign as president of this association until after the close of this meeting. My understanding is that we elected Mr. Given as president of this association for the ensuing year. After this meeting is closed, if the minutes are correct, they will show that we did elect him for the ensuing year and there is no vacancy for the ensuing year unless Mr. Given resigns, but he does not resign until after the termination of this year as president of, it, that's all. Therefore I say to you, we cannot elect a president for the ensuing year until this meeting is over unless Mr. Given resigns. Otherwise, we might elect Mr. Humphrey and have two presidents and the minutes will show that he was elected for the ensuing year.

Mr. Given, as Mr. Fortune has said, has made a most magnanimous offer and let us see if we cannot properly understand the situation. It is clearly this. Mr. Given, in that magnanimous Ohio style of his, proposes not to resign but to retire, not in advance of the hour and day of his election but at the close of this convention and to allow a permanent president to be elected for the ensuing year. I think that is the purpose of the plan and the one in Mr. Given's mind. I have not seen anywhere in my fifty odd years of life a greater offer than this. I desire, therefore, to make this motion, that the offer and proffer of retirement of Mr. Given as president at the close of this convention that another may be elected for the following year be accepted.

W. J. SCOUTT:—The Articles of Incorporation and the By-Laws of this organization certainly provide for the method of filling vacancies that may occur among the officers of the Board of Directors of this Association. If the president, Mr. Given, should

resign his position as president of this association, then as is usual in almost all, if not all organizations, that office must be filled by election by the Board of Directors and not by the association itself as such.

Today, and until the close of this meeting, Mr. Given is our honored president. At the close of this meeting should he retire from the presidency to which we have unanimously elected him, the office is vacant, and it must be filled by the Board of Directors. While this body is still in session, should our president tender his resignation he will by that act retire from the presidency of the association in due form. While the convention is still in session it can then by suspending the rules governing the election of an officer in case of vacancy proceed to elect another president to succeed our present president whose duty it will be during the entire ensuing year, as well as at the following sessions of this association to perform all the duties of president of the association.

I presume there will be a meeting of the Board of Directors during the ensuing year. If there be such a meeting, that meeting or those meetings, must be presided over first by the president, and in case of his absence or disability by a vice president. Should we accept the offer of our president to resign or rather elect a successor in his stead that man would be the proper person to preside over the meetings of the Board of Directors for the entire ensuing year. I am certain that I am right and any other procedure would simply ball up the records of the officers and the proceedings of the association.

CHAIRMAN GOETZMANN:—Can the chair say two or three words? It is my impression that you have a misunderstanding of the position which Mr. Given takes, that is, that he retire at the end of this session and that his successor should take the office at that time acting wholly as president. Mr. Given is out. The new president acts as president from the end of this session to the end of the next session when the second successor comes in.

MR. WOLF:—If I am properly informed, there is only one thing that this organization can do and do it right according to parliamentary laws. The gentleman who spoke just before me is right, and unless we proceed to do as he suggests there is only one thing that this convention can do.

We have adopted our constitution and by-laws and, without amending them, there is only one thing that we can do, and that is to unanimously today terminate the first term of the first president of this association at the close of this session and that can only be done by the unanimous consent of every member of this organization present at the time; otherwise, it would have to be done by amending the by-laws or constitution, either or both, in the proper way as provided therein.

Now I wish to say that I certainly would object and prevent unanimous action at this time and at this session. It

seems to me too much like forcing a man from office. It has been said that some men achieve greatness and that others have it thrust upon them, and that others are born in Ohio. Now I wish to say that it looks very much to me as though there may be an attempt to detract from the greatness that some men have achieved, and while the spirit of our president is great, and while we can say nothing in that respect, yet I think there are others whose spirit of magnanimity should show forth at this time.

We have an organization. We have elected our officers. Let us allow the proceedings of this convention to close and then if we have any officials who wish to retire from office let it be done in the regular way. There is no necessity of electing two presidents. We have here over five hundred who have registered. They have not become members of this association, as I understand it. They have not paid dues, and when this five or six hundred go home the secretary may receive dues from one or two hundred, but there may be many who forget to send along their five dollars. Should they proceed to run the association? Therefore, let us not try and find a method by which he may resign, and not try and find a method to upset that which we have accomplished. The work has been well done and let it stand until the end of the year.

I think we differ somewhat in means and meet in the end. We all recognize the great spirit of our president here and we all want to accede to his request. I would therefore make an amendment to Mr. Watson's motion that they accede to his request and at their first meeting elect Mr. Humphrey as president. Do I hear a second to this?

W. J. FEE:—I second the amendment.

CHAIRMAN GOETZMANN:—Now just a moment. You have heard the amendment and the second to the original motion. Would you kindly repeat your motion?

MR. WATSON:—I accept the motion so it may be put in one.

CHAIRMAN GOETZMANN:—Are you ready for the question, gentlemen. Now, Mr. Watson, for the benefit of the chair, would you kindly repeat your motion, adding the amendment which, by your approval, is made a part of the original motion so that it may all be put at one time.

MR. WATSON:—The motion is this; that the Executive Committee,—if that is a proper term,—be requested by this Association to accept the generous offer of Mr. Given and that we refer the same to the Executive Committee with the request that they formally accept it at their first meeting after the final adjournment of this session, and that they elect as his successor Mr. Humphrey.

The motion was voted upon and unanimously carried.

CHAIRMAN GOETZMANN:—It is the unanimous verdict of this Association that the motion be adopted.

MR. GIVEN:—I would like to say further that in accepting this proposition that I have made, you have still heaped upon me honor and I appreciate and thank you all, and only wish that I might be able to shake hands with you, and thank you personally.

R. CROMER, Logansport, Ind.:—I am going to offer some amendments to the constitution to be adopted. My theory is that each one of the different sections of this industry should be represented. We own this organization and the majority of us come here for practical information that will be of use to us in this business. Probably sixty or seventy per cent. of us are workers in the use of cement. The manufacturers of cement, however, are a part of us. They produce the cement for our work. Others are a part of us because they produce the machinery to sell to us for our use, also the reinforcement as well as the sidewalk makers. My idea is to bring all together and be in such a shape that we may receive information from each section for our benefit. Therefore, my idea is this: That the by-laws be so amended that each one of those different parts of the industry shall be represented by a vice president, with two members associated with him as a chairman and associate chairman of the committee of three, spoken of in our rules. There may be a vice-president and two of the same industry with him, not two men belonging to the same manufacturing concern, but from different places. They are to devote their time and attention to that particular branch and have it in such shape as to give us the information that appertains to their branch.

The different sections shall get together and recommend a vice president to act for them in that branch, and that then a Board of Directors composed of the officers and vice presidents shall appoint two on each committee who are in the same line of business.

The amendments are as follows:

Amend Section 1 of Article III to make four general vice-presidents and a vice president from each of the Sections hereinafter provided for.

Amend Article III Section 7 so that the chairman of each committee shall be elected by the Section under its charge and recommended to the General Association for election as vice-president representing the Section.

I believe that now embraces the whole thing. The vice president being elected of course shall retain his position and each vice-president then shall be a member of the Board of Managers.

I move you, Mr. President, the adoption of these amendments if I can get a second.

— — — — —:—I second that motion.

MR. FORTUNE:—I move we refer it to the Executive Committee for their careful consideration and let them report it to the Association at the next meeting.

MR. CROMER:—It has been suggested to me, and I believe

it is a good suggestion, that the committee be increased from two to four, making five including the vice-president of each one, and I am willing to do this, that this matter and resolution of amendment be taken under consideration and be voted upon at the meeting this afternoon.

— — — — —:---I second the revised motion.

The motion was voted on and carried.

A paper on "Cement Posts" by J. A. Mitchell was read. The paper is on page 39.

A paper on "Mortar Sand" by J. C. Hain, Engineer Masonry Construction of the Chicago, Milwaukee and St. Paul Railroad, was read by the secretary in absence of the author. The paper is on page 42.

CHAIRMAN GOETZMAN:—I wish to suggest, in order to expedite matters so that we will not be detained very long this afternoon, that the various sections of this Association get their people together and select from their number their choice for representation on the Executive Board.

The Association adjourned to meet at 2 p. m.

THURSDAY AFTERNOON SESSION, JAN. 19.

The convention was called to order at 2 p. m. President Given in the chair.

SECRETARY BROWN:—The executive board met this noon in accordance with the instructions of the convention this morning and have fixed the amendments to the constitution which were presented by motion this morning as follows which seem to be sufficient to make the constitution read correctly with the new ideas presented.

Article 2, Section III would be changed so that it would be necessary to have a majority of the members of the executive board to elect new members, which will make it:

"Nine affirmative votes shall elect an applicant to membership in the Society."

Article 3, Section I would be changed to read:

"The officers of the society shall consist of the president, four general vice-presidents, a vice-president for each of the sections into which the Association may be divided, as hereinafter provided in Section 7, an executive secretary and treasurer. These officers shall constitute the executive board, of which the president and executive secretary shall be ex-officio chairman and secretary respectively."

Article 3, Section VII, shall be changed so as to read:

"The Society shall be divided into the following sections, whose

membership shall be determined by the enrollment of members of the association in such sections as they may choose; concrete blocks and cement products, monolithic concrete, streets, sidewalks and floors, reinforced concrete, art and architecture, cement manufacture and testing of cement and cement products, machinery for cement users, fire proofing and insurance, laws and ordinances. The chairmen of these sections shall be elected by the sections at the first section meeting provided on the program of the annual convention and shall be reported to the Association for election as vice presidents of the Association as provided in Sections 1 and 2.

Standing committees of four additional members each shall be appointed by the respective chairmen and the president of the association to aid the chairmen in their work. The following standing committees of three members each shall be appointed by the president at or immediately following the annual meeting."

On motion the amendments were unanimously adopted as read.

MR. FAIRLEIGH:—In the meeting this morning under the section of Manufacturing of Cement and Testing of Cements, it was resolved to suggest to this meeting that the title be changed to read "Committee on Testing of Cements and Cement Products."

CHAIRMAN GIVENS:—Without any dissenting voice that change will be made.

JOHN H. FELLOWS:—I will give the name of B. L. Simpson for the section on Concrete Blocks and Cement Products.

MR. COMER:—We have elected a vice-president for the section of Streets, Sidewalks and Floors, and recommended W. W. Schouler of Newark, New Jersey.

— — — — —:--- C. S. Hall of the Southern Roofing and Paving Company, of Louisville, Ky., is recommended for the section on Reinforced Concrete.

— — — — —:---I take pleasure in nominating Charles E. Watson, Toronto, Can., for the section on Art and Architecture.

— — — — —:---E. W. Boyer, of the Atlas Portland Cement Company is recommended for the section on Testing Cement and Cement Products.

The section on Machinery for Cement Users, selected W. W. Benson, of Washington, D. C., as its vice president. All these were duly elected vice presidents of the association.

MERRILL WATSON:—I have a motion to offer which I am quite sure will meet with the approval of the convention. I move you that before this association adjourn we tender a vote of thanks to the secretary, and instruct him to write a letter of thanks and appreciation to the Commercial Club of Indianapolis for their hospitality, and at the same time extend to citizens of Indianapolis

our thanks for the generous hospitality of the city during this meeting.

(The motion was seconded, voted upon and carried unanimously.)

SECRETARY BROWN:—Several have already paid their fees for the year, and membership certificates will be prepared and forwarded to the members at the earliest possible date. The secretary will also send according to instructions from the Board a circular letter to all persons on the list stating that they are acceptable as members of the association and may become members upon the receipt of \$5.00 when a membership card will be sent to them.

CHAIRMAN GIVEN:—I hope every man who is a member of this Association will appoint himself a committee of one to see that we can widen and broaden the circle of this Association. If we will take it upon ourselves to tell of the great advantages of becoming members of this Association there is no reason why each one of us should not secure two or three members. I am satisfied if we will pay a little attention to this we can gain large results from it.

Now the next thing for us to do is to select the place of meeting. Along this line I wish to extend the invitation of the Board of Trade of the city of Columbus and to say to you that they will furnish their auditorium, which is an excellent place for meetings of this character, and they will furnish you every entertainment that is on the regular bill and will furnish you some things that are not always on the regular bill. Mr. Bassell, secretary of the Columbus Board of Trade, asked me to say that they honestly and sincerely insist upon this meeting coming to Columbus. Regarding Columbus I will say this: It is certainly a very excellent place, has fine hotel accommodations, and almost every kind of entertainment and can easily take care of a meeting of this character. It is similar in that respect to Indianapolis and will be honored if this Association decides to hold its next meeting there. As an excuse for the secretary of the Board of Trade not being here I will say that I have just received a message from him in which he tells me he was detained on account of illness, and was very sorry that he could not meet with this association, and asks me to extend a cordial and hearty welcome to you if you deem it wise to select Columbus as the next meeting place of this association.

MR. WATROUS:—Mr. President, I first want to congratulate you on this great assemblage. Your attendance at this meeting has been remarkable. It is my pleasure to come to you from Milwaukee and ask you to hold your next convention there.

We stand as one of the leading cities in the development of cement uses, and our city is able to take care of this convention in the best possible manner. We have a very fine convention hall with eighty-seven thousand feet of floor space, and we have a large space

for the exhibits. I carry with me an invitation from the Mayor of our city:

Milwaukee, Wisconsin, January 17th, 1905.
National Association of Cement Users,
In Convention, Indianapolis, Indiana.

Gentlemen:—I have the honor in the name of our beautiful city to herewith extend to your honorable Association a cordial invitation to hold your next convention in Milwaukee. Ours has become the most popular convention city in the country and our popularity in that respect is well deserved.

We shall take great pleasure in receiving you, and I am certain that you will be happily impressed with the superior facilities we can offer for your enjoyment and entertainment.

Respectfully yours,

(Signed) DAVID ROSE, Mayor.

WILLIAM SEAFERT:—I wish to name Chicago. We have a large city and we are interested in many lines of work. We have a tunnel forty feet under ground six feet wide and seven or eight feet high, and twenty-three miles long. The railway expended forty-eight millions of dollars and are going to expend fifty millions more. We have all sorts of concrete houses, and blocks, and many things of interest in regard to concrete construction, General Wheeler has said that the city will give one thousand dollars for the entertainment of this convention if it will come to Chicago, and if that is not enough we will give more. We will welcome you in every way possible. I therefore move you that the City of Chicago be the next meeting place of this Association.

E. S. HOTCHKISS:—I second the motion. We are about to have a new concrete hotel, and if this building does not even have a roof on it when you come you shall have it anyway. We will promise to have it ready for you when you get there.

MERRILL WATSON:—I promise you that this is positively my last appearance. I rise to second the motion in favor of Milwaukee.

MR. SHERER:—I wish to say that we have great facilities to accommodate conventions of this character. If you will come we will entertain you royally. There will be no doubt about that. We would like to have you come.

The vote was taken, and stood 20 for Columbus, 45 for Milwaukee, and 29 for Chicago.

CHAIRMAN GOETZMANN:—It is the sense of this convention expressed by a vote of 45 to 20 and 29 for Chicago and Columbus, that the next convention of this Society shall be in the City of Milwaukee.

E. S. HOTCHKISS:—I move you that we make it unanimous by a rising vote.

(A unanimous vote was taken.)

CHAIRMAN GOETZMANN :—It is rather unfortunate, gentlemen, that our retiring president as well as the incoming president were called out of the room and at the present time it devolves upon me, as first vice-president of your organization, to draw to a close this most interesting meeting. There is nothing further that can be said, and I believe that everybody has said all of which he is capable. I am sure I have, and that is a good deal for a machine man to say. I think before this convention adjourns we should extend a vote of thanks to our retiring president for the manner in which he has conducted the business of the Association, and if I may do so I should like to have it made unanimous.

(The vote was made unanimous.)

I declare the first annual meeting of the National Cement Users Association adjourned sine die.