

even to day it is being worked to its fullest capacity, and provision will soon have to be made for more facilities.

What, then, may be asked, shall we determine upon as the unit time limit of growth for which provision should be made? Shall we build our stations sufficiently large to take care of the demands of five, or ten, or twenty years hence? This is a most serious question, and one to my mind as important as the selection of the proper station apparatus itself. I note the erection of several stations abroad, and some here, designed to supply the demands some 15 or 20 years hence. Without wishing in any way to detract from the laudable enterprise and faith exhibited by the promoters of these stations, a calm survey of the past, present and probably future condition of the art leads me to believe that the setting of so long a time limit as 15 or 20 years is inadvisable. I need not remind you in detail of the changes in methods and apparatus which have been effected during the last five years, by which the efficiency and output of our stations have been increased. And if to this we add the fact that already new methods, such as those pointed out by Mr. Tesla may at any time increase the present lamp capacity of our stations five and tenfold, I think we may be justified in placing five years as the limit of time, to make provision beyond which may involve expenditures, the benefit of which may not be realized.

These are matters we are endeavoring to settle for ourselves. It is to our interest to settle them. So too, with the underground question, but there we have gratuitous advice, assistance and abuse to such an extent that less progress is made than in any other part of the work. We all want to put our wires underground where the number is so great as to make them unsightly or unwieldy and not a few of us have been parties to experiments now written off to profit and loss. As soon as the time arrives when every house has its wiring as a matter of course, just as now it has piping for water and gas, it will be a comparatively easy matter to lay down comprehensive underground systems. But at the present time the customers for current are scattered and not continuous. The man with enterprise enough to take electric light and power soon moves into a larger store. His successor does not want the service, but gropes along with kerosene or spoils his goods with gas. Cutting out disused underground services is an added risk and expense and ten lights could be installed on overhead circuits for ten dollars, where with underground the cost would be fifty. It follows that in any city Buffalo, for example, we shall not make one underground connection, where with overhead wires we shall have made twenty. Now, are the public or are we the greater losers? The public, I think. It is as unreasonable in most instances to demand underground wires as it is to expect every railroad to make every crossing above or below grade. But for our overhead wires, America would not be to-day the great land that it is of electrical triumphs, and, while I had with delight every advance in the solution of the underground problem, I hope long to gladden my eyes with the sight of a pole well set and a wire well strung.

Another striking question of the hour is that of municipal ownership. Now, it has been taken for granted that electric light men are against this plan, tooth and nail. How absurd that notion is! Because we represent the latest development of invention and industry, we certainly do not forfeit our pride as citizens, nor lose our interest in the advance of social science. It would, in fact, be difficult to find a more progressive, well known body of men in America to day than they who have put their money and energies into electric lighting. They are neither crusty nor cranky. But when any movement has been started for the betterment of the communities in which they live, some of them have been at its head. Now, is it strange that such men should object to the confiscation of the properties they have built up and that are beginning to pay? Is it strange that they should ask for these new theories in social economy to be tried on something else first? Many of them have grave doubts as to the accuracy of the figures that are supposed to prove that municipal plants pay. Others of us have great objection to any taxation, the proceeds of which are to set the municipality up in a commercial business, others again believe that the best results are reached in an industry when it is freest from political influences and is left to the uplifting and perfecting impulses of individual enterprise.

I believe that the most conclusive answer we can make to the sophisticated arguments of an ill disguised socialism, presenting itself in this municipal ownership scheme, is to give the very best service possible at the lowest rates compatible with fair profit. Some of the prices we now obtain are so low as to exclude any profit at all, especially when repairs and reconstruction are considered. But here again we may help ourselves out by native wit. Every company in the ranks of this association ought to ascertain for itself at regular intervals just how it stands as an industry. A good deal of apparatus in use is decidedly inefficient. Overhaul it. If necessary, throw it out and put in better. Above all, adopt a good system of book-keeping. Electric light securities are to-day far from enjoying the esteem in financial circles that they deserve. This is due in a measure to speculative investment and to over capitalization in the past. But it is also attributable very often to the poor system of accounts employed, and I am glad to see the subject thus receiving attention. If we know what our current costs, we know what we can sell it for, and unless that information is obtainable from our office books, engineering will go for naught and capital required for new work will stand aloof.

In conclusion I would urge that the association determine upon meeting only once a year. Even if it were not impossible to recover in six months from such overwhelming hospitality as we are now the recipients of, I believe that the time has gone by when half yearly meetings were necessary. Once in twelve months is often enough for us to come together for the comparison of our experiences and the report of further refinements in the detail of the industry. The mere fact that frequent reunions are no longer necessary is in itself a hopeful sign for it tells of stable and settled conditions and of activities that now require our presence at home pretty much the year around.

Gentlemen, I thank you for your attention, and I trust that your deliberations in the coming week will be characterized by the same earnestness which has marked them in the past.

Invitations were received and accepted to visit the museum of McGill University, the Montreal Art Gallery, the works of the Quebec & Levis Electric Light Co., and take a trip down the Lachine Rapids. The Convention reassembled at 10 a.m. on Tuesday, and received a report from a Committee on the revision of the constitution, recommending that no changes be made in it.

A discussion followed on a motion by Mr. Weeks that the Committee on relations between parent and sub-companies be instructed to formulate a definite plan of procedure for the protection of central station companies, and to prepare the necessary articles of agreement, and report the same to the Association in executive session at its next Convention.

The Committee on data presented a partial report and asked permission to continue its labours, which was granted. The concluding paragraph of the partial report referred to, states: "One electric company has found it advantageous to make a

thorough test of all the leading steam engines and boilers offered for this purpose. Our organization offers great advantages over individual or corporate enterprises in this direction. We have almost every type of equipment in use, and it only remains to record the performances to make the advantage of membership in this organization as apparent from a purely financial basis as it now is on the basis of education and social enjoyment."

Mr. Hornsby, representing the World's Columbian Exposition, as Secretary of the Department of Electricity, reported what had been done and is proposed to be done to render that Department interesting and instructive.

Mr. Francisco read a report on underground conduits.

The business sessions on Wednesday and Thursday were devoted to the reading and discussion of papers.

The Secretary's report, presented on Friday, showed an increase in membership from 172 to 220. The report suggested that the Committee on data be increased in its membership and that the collection and distribution among members of important facts, figures and details relating to the furnishing of light, heat and power be carried out systematically and persistently throughout the year.

Dr. Mason offered the following resolutions, which were unanimously adopted by a rising vote:

The National Electric Light Association, assembled in Montreal, at the close of its session desires to put upon record its appreciation of the distinguished honor shown it by the Dominion of Canada in the presence of His Excellency, Lord Stanley of Preston, Governor-General of the Dominion.

Of the large-hearted hospitality of the city of Montreal, evidenced by many graceful acts, official and individual;

Of the tireless industry of the Citizens Executive Committee, whose efforts have carried to completion the most successful meeting in the history of this body;

Of the grand work done by the Committee on Exhibits, issuing in an exhibition of great educational value calculated to develop a larger appreciation of the flexibility of electricity, and its wide adaption to human needs;

Of the gracious liberality of McGill College, which has lent the prestige of its name and the personal influence and labor of its officials to the success of our meetings;

To the press of the city, whose extensive and fair reports of our meetings have extended our influence;

To the railway companies for their liberal reduction in fares, and to the Windsor Hotel management, where as guests we have found a home.

Resolved, That the above minutes be placed on the records of the Association, and a certified copy thereof be sent to the various bodies mentioned.

The following resolution was also adopted:

Resolved, That a vote of thanks be tendered J. I. Gulick for the efficient and successful management of the exhibition now being held under the auspices of this Association, the largest ever held on this continent.

And that the Secretary be directed to have this resolution engrossed and presented to Mr. Gulick.

On motion of Mr. Seely, seconded by Dr. Mason, a vote of thanks was extended to Luther Stieringer and Allan R. Foote. Frederic Nicholls, M. D. Law and A. M. Young were elected members of the executive committee of the third class.

Dr. Mason gave notice of the following amendment to the constitution—that in the first article the word "International" be substituted for the word National, so that the title of the Association would be the International Electric Light Association.

Buffalo was selected as the place for holding the February meeting of the Association.

The Convention then adjourned.

NOTES.

Messrs. Robt. Mitchell & Co., of Montreal, made an interesting display of artistic fixtures.

The Royal Electric Co. supplied power for a number of the exhibitors, but did not make a display of their goods.

The menu of the closing banquet was very much below the standard, and the same can be said of some of the waiters.

Messrs. Robin & Sadler's exhibit of leather belts manufactured for the Royal Electric Co., attracted considerable attention.

A miniature model of Dansereau's electric wire subway, recently illustrated in the ELECTRICAL NEWS, was exhibited by the inventor.

Mr. J. Fitzgerald, of Montreal, displayed combination gas and electric fixtures to which were attached the universal bracket joint, of which he is the inventor.

Prof. Bovey's little daughter pressed the magic button by which the electric current was switched on and the machinery and lamps in the exhibition set in operation.

The Toronto Construction and Electrical Supply Co. had a large and interesting exhibit, in charge of Mr. Nicholls, the manager, and his assistants Messrs. G. C. Stanuand and A. J. Christie.

T. W. Ness, of Montreal, displayed in attractive form a variety of electrical novelties and supplies, including telephones for attaching to office desks, and a sewing machine operated by an electric motor.

The most prominent subject of remark was the royal hospitality of the citizens of Montreal. Never in the history of the Association have the delegates to a convention been so elegantly entertained.—*Electrical Review*.

To General C. H. Barney, Manager of the exhibition, and