

rock Lacrosse grounds, where they had an opportunity of hearing the band of the 5th Royal Scots and of witnessing the "trooping of the colors."

## WEDNESDAY.

Wm. Brophy, of Boston, Mass., read a paper entitled "Some Points in the Transmission of Electric Energy." Mr. Brophy spoke chiefly of the danger of the presence of free electricity in the ground as brought about by the electric street railway companies. It was rapidly destroying the water and gas pipes put in for the service of the public. In the case of gas pipes there was danger to human life added, because a spark might be produced and cause an explosion. There was no reason why an electric company should have, in addition to the privilege of carrying passengers, the privilege of destroying the public's property.

Ex-Chief Damrell, of Boston, moved that a special committee be appointed to collect information on the matter and prepare a report to be distributed among all the municipalities where trolley wires were in use. The National Board of Underwriters were also invited to take part in the investigation.

John Riddell wrote, giving the results of some personal observations on the effect of the electric current on pipes. The electricity jumped to the best conductors, down through the damp ground until it reached the water-pipes, in which its action could be seen by the number of little holes where it met with any obstruction, whereupon it rushed again to the rails. The electrolyzed particles knocked off were curiously light. Upon examination the writer had found that the iron had largely disappeared, thus resulting in a reduction of specific gravity to about one-fourth. The ground around the electrolyzed pipe, however, gained what the pipe had lost. What was the remedy? To reverse the trolley current. That, however, was neither expedient nor altogether practicable. Perhaps the best plan was to make the rails thoroughly good conductors by welding them well. Frequent voltage measurement also should be adopted, and such changes made as were found necessary.

Mr. Brophy said that the system of letting the currents return either along the rails or the earth ought not to be permitted. That cities should allow wires to run from one end of them to the other, with such terrible consequences often to life and property, was disgraceful. In one or two cities there was a system of electric cars without overhead trolley wires, but with two wires placed underneath the ground.

Chief Barrett said it was absolutely unnecessary to place trolley wires overhead, and he believed as improvements went on that underground wires would not be found more costly.

Capt. Damrell wanted to know what would be the effect of electrolysis on gas pipes.

Mr. Brophy stated that explosions had several times resulted from that cause. Sometimes the gas had escaped from the defective pipes and had accumulated in large quantities under the pavement, the consequence being a serious explosion.

Chief John Lindsay related the results of some experiments as to the power of incandescent light wires in causing fires. It seemed that old lamps became the cause of fires more easily than new ones. Wood in contact with electric lamps became charred in 40 minutes, muslin was ignited in 14 minutes, paper in 4 minutes.

Chief Barrett remarked that in old days the great cause of fires was spontaneous combustion. Whenever a fire broke out which could not be accounted for, it was put down to spontaneous combustion. Now, however, things had changed and electric wires had to bear the blame.

The next paper read was one by Chas. A. Rolph, of Chicago, on "The Progress of Electricity in Municipalities," in which were stated its various developments in several American towns and cities. Progress in electricity, he contended, was tantamount to increased fire hazard, unless builders made great improvements in their methods of construction.

Wm. McDevitt, Inspector of Fire Patrol, Philadelphia, then read a paper on "Slow-burning Mill Construction."

He regarded the "Isolated Floor" system a delusion. The trouble was that the architects who generally attempted to build slow-burning buildings did not properly understand what they had to fight against. Any building would burn, no matter what the material, if the flames were only given a slight chance to make headway. The object to be aimed at was to cut off all draft, so as to prevent the flames from spreading before the firemen were on the scene.

Captain Damrell remarked that people as far back as 300 B.C. used to convene in order to discuss measures for the prevention of fires, just as their convention was now doing. Slow-com-

bustion building was very important, and he believed this convention would go a long way towards finding out a true method of building with that object.

Chief Lindsay said the great thing to be aimed for was to reduce the area of combustible material.

Mr. Brophy said there was a misunderstanding as to the line to be drawn between incombustible and slow-combustion buildings. The sort of construction to be condemned was that in which the walls, etc., were made of iron, fireproof, but where there were open spaces in these walls so that often a fire arising in the cellar had reached the roof before anyone was aware of it.

Mr. Brown Flanders, superintendent of the Fire Alarm Telegraph, Boston, Mass., then submitted a paper entitled, "Dynamo Currents as Applied to Fire Alarms," which he stated to be a highly successful method.

F. O. Affeld, representing the fire underwriters of New York, read an exhaustive paper, entitled "Reliable and Uniform Statistics the Basis of Economic Fire Protection and Good Government."

Capt. Damrell spoke eloquently on the other side of the subject, though he indignantly disclaimed any wish to cast any slur on the National Board of Underwriters. He wanted to know whether, if the underwriters decisively said they would insure no buildings where inflammable material was stored, business men would continue to store such material? And seeing that the underwriters did not do this, were they not largely responsible for the number of fires that existed?

Mr. Affeld said, in reply, that it was not the province of the insurance companies to prevent people from insuring; it was their province so to increase rates as to force the public in self-defence to carry out the recommendations advised by the underwriters so long.

Chief Kenfield related a case in point, in which the firemen's attention had been called to a large amount of inflammable material stored in a certain warehouse. The chief represented the danger to the owner of the premises in question, but had been unable to induce him to take the necessary measures for its removal. He therefore then went to the insurance people, who threatened the business man with a withdrawal of their protection unless the inflammable material was removed within half an hour. Needless to say, the danger was soon removed.

Supt. Abbott trusted that the underwriters and the fire chiefs would do their utmost to bring about water facilities in the various towns and municipalities.

Chief Marginell thought the insurance companies were much to blame for the abnormal number of fires on this continent. He thought Capt. Damrell's words ought to be printed in red letters and sent to all the insurance companies.

Mr. Brophy moved that the statistics of fires (including those not covered by insurance) asked for by Mr. Affeld, of the Board of Underwriters, should be prepared so far as was possible.

The meeting then adjourned in time for the delegates and their ladies to take the drive round the city and up to the mountain top, where refreshments were served. In the evening many of the visitors paid a visit to Sohmer Park, where a grand musical entertainment had been provided in their honor.

## THURSDAY.

Part of the morning was devoted to hearing the claims of those who had exhibits at the Victoria Rink, which had been temporarily converted into an exhibition ground for various fire appliances, etc. Mr. Wertheim addressed the meeting on the subject of an invention in which he was interested, viz., asbestos clothing for firemen, which could be used for working in spots of particular danger. Among the exhibits was a very fine one by the Bell Telephone Co., in which all kinds of telephones, fire alarms, etc., made at their Montreal factory, were shown and duly admired. Amongst other exhibitors we noticed the names of R. H. Buchanan & Co., Montreal (pumps, hydraulic apparatus, etc.), and John Martin, Sons & Co. (fire helmets and appliances). Another fine exhibit was that of W. A. Fleming, Montreal agent for Reddaway's belting.

Perhaps the finest exhibit in metal appliances was that of Garth & Co., proprietors of the Dominion Metal Works, Montreal. This widely-known firm, whose business was established so long ago as 1828, showed a great variety of appliances used by firemen, such as hose pipes, cut-offs with relief valves, plain cut-offs, controlling nozzles, shut-off nozzles, hose keys, hose couplings, hose reels, leak stops, hose patches, etc. The exhibit was arranged in the form of a pyramid, and drew forth many admiring comments from the visitors. It will be interesting to our readers to know that the first fire engine ever made in Canada was built by this firm. We hope to be able in an early number to give an account of a new stop cock which is about to be placed on the market by