

see the disadvantages of disunion and division, they were disposed to retrace their steps. There was a certain loss of confidence in the leaders of the new organization among its French-Canadian members, and now that it is proposed to institute an insurance scheme for the C A S E (the lack of which was the pretext of the former rupture) there was every reason to look forward to a return of the old members of Montreal No. 2, and to a restoration of that good feeling and unity which should exist between the various branches and among all who are working for the intellectual improvement of the engineer (hear hear). He pleaded for the sympathy of the convention with the members who had separated themselves and were likely to return.

Bro. Walker said that, according to the constitution, if five members remained in any branch, they were entitled to maintain the charter.

After further discussion, in which the majority agreed with the views of Bro. Valiquet, it was decided, on his motion, to leave the charter in the hands of the members of Montreal No. 2 for another twelve months.

The auditors having reported that they had examined the accounts and found them correct, the treasurer's report was then presented as below:—

TREASURER'S REPORT

Your treasurer begs leave to submit the following report for the year ending June 30th, 1895

Receipts.

Sept. 4th, 1894—Balance	\$282 14
June 28th, 1895—Cash per secretary	236 40
Sept. 24th, 1895— " "	145 60

\$664 14

Expenditure.

Sept. 7th, 1894.—Mileage to delegates	\$175 25
" " Expenses to Niagara	38 70
" " Brother W. G. Blackgrove— postage	0 75
" " Rent of hall	20 00
" " Bro. A. E. Edkins—postage	3 75
" " Past president's jewel	25 00
June 28th, 1895.—Secretary's expenses	57 46
Sept. 24th, 1895.— " "	8 11

Balance in hand 335 12

\$664 14

Respectfully submitted,

DUNCAN ROBERTSON, Treasurer.

The report was adopted and the treasurer congratulated on the clearness of his report and the completeness with which the outstanding accounts had been got in, only \$4 or \$5 of dues being now in arrears.

The secretary here announced that \$13 had just been received from the Winnipeg branch for per capita tax. He commented on the unsatisfactory state of the correspondence with this branch. It seemed almost impossible to get an answer to a letter, no matter what its urgency. He hoped there would be an improvement during the coming year.

The convention then adjourned till afternoon.

After adjournment and lunch the members met the mayor, and Aldermen Campbell and Stewart, and others, at the city hall, and the party drove to the Exhibition, where they were shown over the grounds and greatly admired the numerous exhibits.

At the evening session Bro. Thos. Wensley read a paper on "Combustion," which will appear in a future number of THE CANADIAN ENGINEER.

In congratulating the author of the paper on his work, Bro. Wickens said it was a great pity such papers were not printed beforehand, so that the members could intelligently discuss them. It was impossible to grasp the points in a paper of such length as it was being read, but if it were printed and placed before each member, all could follow the reader and join in the discussion. There were some points in the paper, however, which were obvious to all. One of these points was this: if, as the author says, 12 lbs. of air should furnish oxygen for one pound of coal, but that in actual practice it takes about 24 lbs. of air to perform this service, why should this wide divergence between theory and practice exist? It should be the object of engineers to see how this defect can be overcome. Why should we go on with appliances that make it necessary to provide 24 lbs. of air to one pound of coal, when 12 lbs. can do the work? It must be remembered, in facing this problem, that this extra 12 lbs. of air is not merely a waste of air, which may in this case be counted valueless, but it is cooling off the air in the furnace

to that extent and so diminishing the effect of the other 12 lbs. Let us endeavor to learn why this is and what methods we can adopt to get the full heating value of every pound of coal. Bro. Wensley tells us there is no such thing as a horse-power when applied to a boiler. This is true, but it is necessary to have something to go by when indicating the capacity of a boiler for supplying power to the engine, though, as he says, that something is very indefinite. Bro. Wensley shows that while it is possible theoretically to obtain the evaporation of 15.1 lbs. of water with 1 lb. coal per hour, the highest value obtained in practice is 11.5 lbs. of water per lb. of coal, and the actual results generally obtained are 7 or 8 lbs. There is thus a wide difference between the actual and the possible, and engineers should do all in their power to get the best results from their furnaces. That was why we were all here. He agreed that thick fires were not necessarily the best means of getting good economy in furnaces, but everything depended upon the circumstances. Just here was where the value of an intelligent fireman came in for the operation of a large plant. A good fireman could save his wages and much more. As to the Hawley down-draft furnace alluded to in this paper, it had its enemies and its friends. One engineer he had met claimed that it saved 30 per cent. in fuel; but he saw one test made in which the results claimed were not obtained. It was wise, however, to investigate every new improvement thoroughly and without prejudice.

Bro. Edkins said he had enjoyed Bro. Wensley's valuable paper immensely, and moved that a hearty vote of thanks be tendered its writer. This was seconded by Bro. Hugget and carried amidst applause.

Capt. James Wright was then introduced to the convention by President York, who said that Capt. Wright was not only a consulting engineer of great ability and wide experience, but had invented a reducing motion for indicator use, which was considered the best yet put on the market.

Capt. Wright, who was received with cheers, said the subject of his paper was "The Safety Valve." In presenting it, he explained that it had been written for THE CANADIAN ENGINEER. Not having ready another paper he had in mind, and not being posted on editorial ethics, he called at the office of THE ENGINEER to ascertain if there would be any objection to using this paper at the convention first. The publishers at once, and freely, gave their consent, and he was now able to present some of the principles of the safety valve, which it would pay all engineers to master, but which were not generally known, and were obscurely treated in engineering works.

Capt. Wright then read his paper, which will shortly appear in full in this journal, and which was received with great favor by the convention.

Bro. Edkins said Capt. Wright's paper was one calculated to do engineers a great deal of good. It gave them easily understood principles to work upon, and this was what the majority of engineers lacked. It often occurred in his own experience, that while an engineer could give the pressure for a safety valve when he had his own familiar figures to deal with, the moment you give him a new case and varied the proportions, he was at sea. If we had more of such papers as Capt. Wright's, we should be better grounded in our work.

On motion of Bro. Huggett, seconded by Bro. Valiquet, a hearty vote of thanks was tendered to Capt. Wright for his paper. The convention adjourned at 10.45 p.m.

THURSDAY, 26TH SEPT.

The first business of the day was the reception of reports of standing committees.

The report of the committee on "Good of the Order" made several recommendations, which, on motion of Bro. Pettigrew, seconded by Bro. Walker, it was decided to take up clause by clause.

The first clause recommended that the mileage allowance in future be 5 cents per mile one way, with a maintenance allowance of \$2 per day while in convention.

Bro. Mackie moved in amendment, seconded by Bro. Philip, that the allowance be 6 cents per mile one way, and \$3 per day while in convention.

After some discussion the amendment was defeated and the clause adopted.

The second recommendation of the committee was that the title of the association be changed by dropping the word "stationary."

Bro. Wickens moved, seconded by Bro. Robertson, that the recommendation be approved, but that the word "steam" be substituted for the word "stationary."

Bro. Edkins said that many locomotive and marine engineers