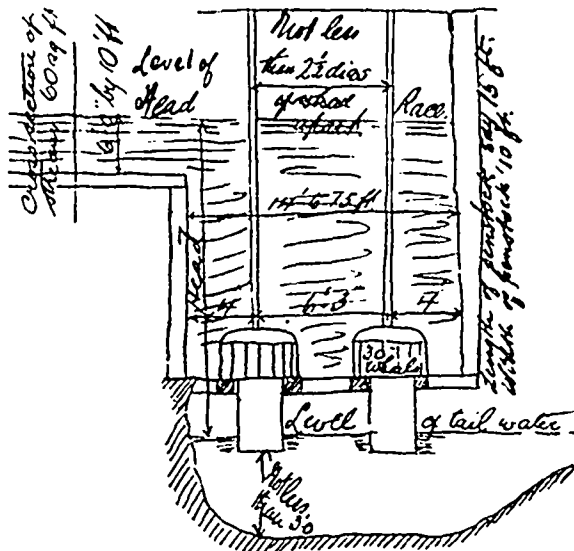


understand it from the problem, something must certainly be wrong. We must look, then, to the construction of the penstock and flume for the trouble. In looking at the sketch, I would judge that the head of No. 2 wheel is less than No. 1, which at once shows that the supply is not sufficient for those two wheels, or else the head on No. 2 wheel would be the same as No. 1. Two wheels of the diameter mentioned would require a flume whose cross sectional area should not be less than 60 sq. ft. if Mr. Bell's flume is less than this, it will certainly cause trouble.



The arrangement of the penstocks is one that would not commend itself to me. I think that better results could be gotten if the two penstocks were in one. The conduct of the wheels would suggest to me that they are choked at the bottom, the wheel pit being too shallow, as the information is so meagre, I can only suggest those ideas. I submit sketch of penstock that would be suitable.

Yours truly,

A. C. McCALLUM

Peterboro, Ont

CANADIAN ASSOCIATION OF STATIONARY ENGINEERS.

ANNUAL DINNER OF TORONTO NO. 1

The seventh annual dinner of Toronto Branch No. 1 was held at the Avondale hotel, Toronto, on the evening of the 23rd November. The attendance was large, and in fact was too large for the building in which the banquet was held. Had the committee known the affair was going to be so largely attended, they doubtless would have arranged to spend the evening in much larger premises, but they will profit by their experience, and in the future it is not likely there will be any inconvenience.

A few we noticed present were Toronto—Prof Galbraith, Principal School of Practical Science, Jno Galt, C.E., M.E.; J. Inglis, A. E. Edkins, Prov. Dep. for Ontario, A. M. Wickens, Dist. Dep., Wm Sutton, Vice-Pres. Executive, W. G. Blackgrove, Treas. Executive, W. Philip, Pres. Toronto No. 1, W. Butler, Vice-Pres. Toronto No. 1; Ed Philip; Geo. Galtchrist, John Fox; H. E. Terry, Samuel Thompson, Geo. Fowler, Geo. Mooring, Fin. Sec. Toronto No. 1, C. Mosley; W. L. Oathwaite, J. Barber; Wm P. Sutton, Huggett; Ed. Appleton, Alex. Fraser, Sec. Treas. Boiler Inspection and Insurance Co., John Perkins, Geo. Grant; A. S. Wilson, J. Sanrioll; James Wadge, F. Tushingham; Mr. Crosby, Chief Engineer T. Street Ry. Plant; S. Mathews, Asst. Eng. T. St. Ry. Plant, F. Forster, David McCulloch, Ed. Ash; R. Waterson, F. Smith, Sec. Marine Engineers' Association; Geo. Gore, Geo. Haworth; Walter Lewis, J. Johnson, John Day; Fred. Day; George Thompson, and others, and from outside points we noticed Robert Mackie, Dist. Deputy; Duncan Robertson, J. Langdon; R. Chillman from Hamilton No. 1; Jas. Devlin, President, Kingston No. 10; W. T. Brown, of Galt, and Arthur Ames, of Brantford, No. 4.

Because of the smallness of the dining-room it was found necessary to have a first and second table. But, of course, this does not mean that those who ate first got the best of it, but that those who had to wait for the first table to get through had ample time to think over their speeches or gossip about fresh possibilities in the engineering line.

The chair was occupied by Wilson Phillips, president of Toronto No. 1, and in him the association has a good man. He ex-

pressed his appreciation of the members in helping to make the meeting a success and his pleasure at seeing so many in attendance.

The first toast of the "Queen" was duly honored, after which the toast of "Canada, Our Home," was drunk. J. J. Cassidy, of *The Canadian Manufacturer*, responded, and in the course of his remarks said that Canada was the fairest and finest land he knew. He remarked that one of the great necessities Canada stands in need of was in regard to the appointing of competent inspectors by the Government for the inspection of all the steam boilers used. The Government, he said, had appointed inspectors for marine boilers, but not for the stationary ones, and he thought it was just as necessary in one case as in the other.

Ald. Bell rose to his feet to respond to the toast "Toronto, the Queen City of the West," and said that the City Council was a much-abused body, but after all they were doing their best to encourage manufacturers and others who would do the city good. He intimated his intention of becoming a member of the C.A.S.E., which announcement was received with cheers. Further, he said the City Council were doing all in their power to help the working classes. He, too, thought as did Mr. Cassidy about the appointing of competent inspectors and the licensing of engineers.

"Our Educational Interest," a toast which aroused a good deal of interest because of its application to this body, had the names of Prof. Galbraith, of the School of Practical Science, and Mr. John Galt, C.E., coupled with it.

Prof. Galbraith said the progress of the association had been beyond his greatest expectations, and that apparently the hard times did not affect the Engineers. Said he, "A well organized business is better than a small one. This society had not been organized to encourage strikes, but rather to raise the standard of the work done by its members, and thus make them more valuable to their employers. The time had come when the wages of a man were not determined by the time he worked, but by the value of his work to his employer. The man who does not measure his services by his pay is the best man. He endorsed the way in which the association was educating its members, and closed with an invitation to the members to visit a test which would be made at the school on the 1st December.

John Galt commenced his remarks by telling why and when the association had been organized. The start was made, he said, because of the educational benefits its members would derive from meeting together, and by reading all the different text-books on engineering, as furnished by the association. Its progress was rapid and had spread all over the Dominion. He did not think the members should be at all dismayed because they were not countenanced by the Government in the matter of a license law. But he thought the time would come when this association would be recognized as the only body of mechanical engineers. He also, in an interesting way, told how there was a time when nothing but the slow speed engine existed; then they were made to go faster, and for a time everything was "high-speed" engines, but gradually they were being done away with, and now we were almost back to the slow-speed engines. This fact had to do with the multipolar dynamos being constructed.

W. T. Brown was asked to respond to the toast "Our Manufacturing Interests." In his careful and well chosen words he said, among other things, that the members of the association received the best wages going, and this fact was due to the efforts made by the association to educate and make better workmen of its members. It was also noticeable that these men took more interest in their work than did those who do not take advantage of the educational and other privileges as offered by the association. He hoped to see the association spread to the smaller towns, where there were always some engineers who would avail themselves of its advantages.

O. P. St. John, in his brief reply, told of the advancement engineers had made during his time. He could remember when all that was expected of an engineer was to be able to turn the valve and start the engine, as well as keep a sufficient head of steam on. To-day, however, things are different. The engineer must know his engine thoroughly and be able to keep it in the best possible condition. He also referred to the general good qualities of the slow speed engine, and thought that greater economy existed where the long stroke engine was used.

In the absence of his father, whose name had been coupled with this toast, Mr. Perkins, jr., made a few happy remarks.

The toast "Executive Council C. A. S. E." was heartily received, and in reply E. A. Edkins gave a brief outline of the work. He thought the outlook for the coming year was exceedingly bright. Since the convention held in Montreal a branch had been organized in Kingston with a membership of 30, and although