

MR. ARTHUR AMES,

The subject of the accompanying portrait is President of No. 4 Branch of the Canadian Association of Stationary Engineers at Brantford, Ont. He was born in the city of Toronto in 1857. A few years later he removed with his parents to Stratford, where he attended school until fourteen years of age. The next three years of his life were spent in a stationary and drug store.

Having a greater liking for mechanics than for commercial pursuits, and being particularly attracted towards steam engineering, he set to work to study along the lines of desired knowledge. The information thus gained served but to intensify the natural liking.

After having gained some experience, Mr. Ames in 1877 entered the C. T. R. shops at Stratford. After remaining there for a year and a half he was transferred to the company's car shops at Brantford and given charge of engine and boilers. In this capacity he spent two years, at the end of which period he severed his connection with the company to accept a position with Wm. Paterson, Esq., M. P., wholesale manufacturer of biscuits and confectionery, in whose employ he has now been for ten years.

BRANTFORD BRANCH NO. 4, C. A. S. E.

Brantford Branch No. 4 of the Canadian Association of Stationary Engineers was organized in June, 1888, with eight charter members. Mr. A. M. Wickens, then President of Toronto Branch No. 1, was largely instrumental in bringing about the result.

This branch has at present 15 members in good standing, embracing it is believed all the reliable engineers of the city. Its future growth is limited by the comparatively small number of manufacturing industries. Any lack in numbers is fully compensated for by the enthusiastic interest in the success of the institution manifested by the present membership. The meetings are well attended and profitably conducted, and the finances in a healthy condition. The society has a nicely furnished hall, on the walls of which are hung handsome photographs of the productions of leading steam engine and pump manufacturers of Canada and the United States.

The Society holds its regular meetings on the second and fourth Friday in each month. The names of the officers for the present term are: A. Ames, President; Thos. Pilgrim, Vice-President; Joseph Ogle, Secretary; Lewis A. Fordham, Treasurer.

A WORD TO ENGINEERS.

EDITOR CANADIAN ELECTRICAL NEWS.

SIR, - I am in receipt of the first copy of the ELECTRICAL NEWS, and, in my humble opinion, it will supply a long-felt want among electrical and steam engineers in Canada.

At the present time there is, and will be, a still greater demand for engineers who are competent to successfully operate dynamo machinery in connection with their steam plants. This being the case, every intelligent engineer should make it his business, not only to get the necessary information to enable him to run a dynamo, but he should also become a subscriber for the above paper, and others treating on the same subjects, so that he may be enabled to keep up to the times in all matters appertaining to his calling, so that when he has the opportunity of securing a better position, he may be ready for it, and not be left behind by the other fellow who had sense enough to see the necessity of fitting himself with the necessary knowledge and "know how to get there."

There will be many openings for engineers during the next few years to take charge of electric light and power plants, and it will be their own fault if they are not prepared for the occasion.

Our Canadian Association of Stationary Engineers offers advantages to every engineer in Toronto in the educational line, which is its chief feature. We meet every second and fourth Friday, in Room D, Shaftesbury Hall. After the general

routine of business, there is always some subject brought up for discussion, each one giving his views thereon, and I can assure you that it is productive of much good.

I know men who, when they joined the Association couldn't figure out the area of a 12" circle, who can now get up to the black-board and figure out almost anything.

The trouble is that many of the steam users and engineers do not sufficiently appreciate the objects of the Association.

I must apologize, Mr. Editor, for taking up so much of your valuable space, but this is my first offence. I wish the NEWS every success, and trust that its circulation may surpass your most sanguine expectations.

Yours truly,

ALBERT E. EDKINS,

Pres. Toronto, No. 1.

22 Agnes Street.

HEAT THE FEED WATER.

It cannot be too often stated that the steam engine is a heat engine. Many young engineers, and even some who are no longer young, seem to think that somehow or other it is the pressure that is the main thing to be considered, forgetting that the heat is the source of the pressure. The engine that converts the most heat into power is the one that is most economical to use. Engine owners will admit this, and yet will use an engine that throws away exhaust steam into the air—proving a nuisance to all the neighbors and will at the same time pump cold water into the boiler, or put it in by means of pressure from the city mains, because that saves the expense of a pump.

In the winter time the temperature of water in the city mains in Toronto is as low as 37° Fah., and may at times be even below that. In an ordinary boiler with steam at 80 lbs. pressure on the gauge, the water in the boiler will be about 324° Fah., and the exhaust steam thrown out by a common high pressure engine may be as low as 213°, or as high as 220° or more. Suppose the steam to enter the engine cylinder at 324°, and the exhaust to leave it at 213°, there is a fall in temperature of 111°. If the feed to the boiler be from the city mains at 37°, the difference between that and the temperature of the exhaust is 176° more than 50% of a greater difference than between entering and leaving the cylinder. That is, more heat is thrown away than is expended in the cylinder. If

even a portion of the heat of the exhaust were used to heat the feed water there would be a gain, and the question to be considered is, how much is that gain?

With steam at 80 lbs. pressure in the boiler, and the water in the boiler at 324°, the feed water of 37° has to be raised 287°, but to get it into steam over 1,176 heat units have to be added. The total temperature from zero is 1,213°.23, and 37° the temperature of the feed water subtracted, leaves 1176°.23 to be added. If by the exhaust steam the feed water be raised to 190°, then 1213°.23 less 190° = 1023°.23 to be added, or a difference of 153°. A saving of 153° on 1176°.23 amounts to 13%, or 260 lbs. on each ton of coal used.

In a mill using about 160 h. p. the exhaust steam leaves the engine at about 3 lbs. pressure, the feed water is heated to a temperature of 208°, the mill itself is heated in the winter time, and after that there is still enough left to heat the water used in a large dye house to 160° temperature. Wherever there is exhaust steam from an engine some use should be found for it, as the owner might just as well dump some of the coals into the lake every day as blow the steam off into the air.

The city electric committee of Vancouver B. C., have in preparation their report to the Board of Aldermen recommending the addition of new engines of 200 horse power or more to the city's electric light plant. The committee will also advise the purchase by the corporation of the plant and business of the gas works, and Electric Illuminating Co., and Tramway Co., and that when this shall have been accomplished all the wires be placed underground.



MR. ARTHUR AMES.