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OTTAWA ELECTRIC STREET RAILWAY.

We take pleasure in presenting to our readers an illustration accompanied by a few particulars of the electric street railway recently completed and put in operation in the capital city of the Dominion.

The total length of the road is about ten miles. The gauge is 4 ft. 8½ inches. The motive power is supplied by two 100 h. p. Westinghouse generators, driven by water power obtained from the Chaudiere.

The cars, sixteen in number, manufactured by Messrs. Patter-

TREATMENT OF STEAM BOILERS.

Our contemporary, the *Canadian Journal of Commerce*, deserves credit for its evident desire to enlighten its readers in regard to things pertaining to machinery and to steam appliances.

In a recent article on the "Treatment of Steam Boilers," it gave some sensible advice on the necessity of keeping the safety valves free, the water gauges clear, blow-off cocks, pumps, and everything about a steam boiler in proper order. All this is very good, but when one has to define what "proper order" would mean for these steam appliances, there is room for differ-



OTTAWA ELECTRIC STREET RAILWAY.

son & Corbin, of St. Catharines, are each equipped with two 20 h. p. Westinghouse single reduction motors, and are lighted by incandescent lamps. T rails are used, and the roadbed and tracks are of the most substantial character. In fact, the construction of the road in every particular is in accordance with the most modern practice. The work was done under the direction of Messrs. Ahearn and Soper, of Ottawa.

The road has worked very satisfactorily, no difficulty being experienced in mounting the steep grades on certain portions of the line.

We regret to see it stated that by a curious blunder on the part of the provincial registrar's office the route of the railway is discovered to have been incorrectly laid down, engendering doubt as to the right of the company to occupy certain streets. The officers of the company, Messrs. J. W. McRae, president, Geo. P. Brophy, vice-president, Wm. Scott, treasurer, D. C. Dewar, secretary, were obliged to fight the existing horse car company for the right of way, and the enterprise which they have displayed should entitle them to be exempt from suffering further annoyance and loss on account of mistakes on the part of other people.

ence of opinion. Not very many years ago, when steam boilers were comparatively new things, and the pressure used in them was not more than a few pounds above that of the atmosphere, the waggon shaped boiler was one style that was very extensively adopted. James Watt used them, and in the early books of steam engineering, elaborate rules were given for the proper proportions of these boilers. They were constructed to safely carry a few pounds pressure, but from their shape were liable to injury from the internal pressure of the air should the cooling off of the boiler produce a vacuum inside. To guard against this, a safety valve was made, and arranged to open inwards, and admit the air, whenever the steam pressure fell.

The writer for the *Journal* seems to have lived in those days, or to have got hold of the cautions and directions for using these low pressure boilers, and now, in the days when 100 lbs steam pressure is common, seriously warns the public against the danger of injury to a cylindrical boiler by a "vacuum" being produced inside, and give it as one of the common causes of boiler explosions.

He does not say that the "vacuum" explodes, but that "the ring becomes indented or swagged," and explosion results from