

means of reopening consideration of the question. It is rumored that a Toronto electric light company is also making an offer for the plant and franchise. The experience of Toronto Junction should serve as a warning to other municipalities who are thinking of attempting to do their own lighting,

CORROSION of metal is sure to take place if small leaks in steam boilers are allowed to go on. A large leak disturbs the supply of steam and alarms the man in charge, but little ones are often allowed to exist till the strength of the metal is diminished and explosion follows. Look out for the little leaks and have them stopped. The brickwork was removed from around a boiler in this city a few weeks ago, and on clearing away the dirt, about a dozen places were seen where the plates were eaten into small holes nearly through the entire thickness. The brick setting was not renewed around the boiler.

IN a recent issue, mention was made of the fact that the electric street railway in process of construction in the city of Montreal, would have to encounter severe difficulties in winter, owing to the large amount of snow and severity of frost which are the accompaniments of winter in that locality. This difficulty has evidently received careful consideration on the part of the management of the road, and the plan and means of overcoming it have just been decided upon. Mr. Everett, the managing director, states that it is the company's intention to begin at once the construction of one hundred sleds, which are to be used for the removal of the snow. There have also been purchased three powerful sweepers and a scraper. As soon as the snow begins to fall the company will at once put to work one thousand men to shovel it into the sleighs. Mr. Everett is of opinion that the company will succeed in keeping the streets sufficiently clear of snow and ice to enable them to continue traffic uninterruptedly throughout the winter. The attempt to accomplish this will be watched with no little interest by the citizens of Montreal, as well as those of other cities similarly circumstanced.

SEVERAL boiler explosions, attended with disastrous results to property and human life, have recently taken place in various parts of Canada. The most recent accident of this nature occurred a few days ago in the basement of one of the large business buildings in Hamilton. One of the large boilers used for heating the building exploded, wrecking a second boiler and setting fire to the premises. The fire department fortunately succeeded in putting the fire out. The boiler must have exploded under a very low pressure of steam, otherwise the results would certainly have been more serious. Occurrences of this kind emphasize the need for a higher standard of proficiency on the part of persons entrusted with the care of steam plants. Steam boilers in the hands of incompetent persons are almost as dangerous in the basements of buildings as a package of dynamite. The law should require persons who aspire to take charge of steam boilers to show by examination that they possess the knowledge which would qualify them for the position, and a penalty should be imposed on persons assuming the duties of such a position without having undergone examination. Unless some provision is made which will insure competency, we may expect to hear of disasters even greater than those which have already occurred.

ON the 4th of October, the United States Court of Appeals gave final decision in the case brought to establish Mr. Edison's claim to be considered the original inventor of the incandescent lamp. The case has been before the courts since 1885. The decision is favorable to the Edison claim, and will prevent the manufacture of incandescent lamps, except by arrangement with the General Electric Co., who are now the owners of the Edison patents. This decision will have an important bearing on the interests of those who have entered the business of manufacturing incandescent lamps, but viewed from their standpoint, will be much less serious than it would have been if the decision had been rendered shortly after the case was commenced, owing to the fact that the Edison patents have now only about three or four years to run. The General Electric Co., recognizing no doubt that it would neither be possible nor profitable for them to attempt to do all the manu-

facturing of incandescent lamps, have expressed their intention of allowing manufacturers to continue business on payment of a fair royalty. There is no doubt that another effect of the decision will be to stimulate inventors to produce lamps which cannot be held to be infringement, of the Edison patents; indeed one of the leading competitors of the General Electric Co., the Westinghouse Co., of Pittsburgh, has already announced that it has succeeded in perfecting an incandescent lamp, which differs entirely in construction from those heretofore manufactured. Thus it would appear that the ultimate result of the decision just given by the courts, is likely to be advantageous to the manufacturers and users of incandescent lamps. In the meantime, the General Electric Co. will profit considerably by the monopoly granted them.

THE last annual meeting of the Canadian Association of Stationary Engineers, was the most interesting that has yet been held, and seems to have resulted in infusing new life into the organization. For the first time papers were read on engineering topics, followed by considerable discussion. This is a step in the right direction, and is following out the professed object of the Association, which seeks to be regarded as an educational factor. We observe that the relation of engineers in future to the electrical industries, came up for consideration. We have more than once pointed out that the care and operation of electric apparatus, in perhaps the majority of instances, will in future devolve upon engineers, that this is the time when engineers should be fitting themselves for the new duties which ere long they will be called upon to discharge, and that those who neglect to do so, will be relegated to inferior positions. The Association is no doubt working on proper lines in keeping aloof from trades unionism, and instead of demanding that its members, irrespective of qualification, should be paid a certain standard of wages, leaving the matter of salary to be settled between employee and employer, and devoting its attention to raising the standard of qualification of its members, so as thereby to enable them to command higher wages. The fruits of this policy are already beginning to appear. In numerous instances, those who have availed themselves of the means of improvement supplied by the meetings of the local associations, have been enabled to improve their positions. The fact of an engineer belonging to an association which is thus seeking to educate its members, is not likely to remain unknown to the owners of steam plants in the locality, and when a vacancy requires to be filled, they will naturally seek to fill it from the ranks of such men. We think it would increase the interest in the Association if the meetings could be held semi-annually instead of annually.

WE note with a sense of gratification that there are several electric lighting companies who are making use of $\frac{3}{8}$ carbon and a single lamp for all night lighting. As this is decidedly a step in the right direction we would be pleased to see the system more universally used. True the carbon must be of at least fourteen hours duration to last through the longest night; but as this is a matter that the manufacturers of carbons have accomplished, there need exist no fear of being unable to procure such a carbon. It is of great importance to those who may contemplate putting in an all night lighting plant to use the single lamp and $\frac{3}{8}$ carbon, for by its use the cost of operation can be considerably lessened as compared with double lamps burning with 7/16 carbons. In the latter, three carbons are required for a 14 hours run, while in the former, but one and a half are necessary. Again, it is imperative that the double lamps be patrolled all night (if it is desired to give first class service) to keep them lighted, whereas with single lamps and the large carbons this is hardly required, at least not to such an extent. It is a well known fact that fully three quarters of the "outs" in 7/16 carbons are caused by "passed carbons," or in other words by carbons burning to a point and a heavy feed causing them to pass by one another and frequently lock, requiring the patrolman to set them back in their place before a light is again produced. This is not the case with $\frac{3}{8}$ carbons. One reason is that they do not burn to a long point, and a flash on the dynamo or a heavy feed can only bring them down until they touch—they cannot pass by and consequently cannot lock, and the light cannot go out from these causes. We know of cases in which "carbon passes" on the $\frac{3}{8}$ lamp were