

wires in the streets is in a proper condition to ensure public safety, and that all disused or "dead" telegraph, telephone and electric light wires are removed so that the operations of the firemen would not be hampered. No objection seems to have been raised to these requests by the managers of the electric light companies present. On the contrary, Mr. Wright, of the Toronto company, expressed his willingness to see an inspector appointed. This we regard as the proper attitude in the interests of all concerned.

MR. Ira Cornwall, Secretary of the Committee of Management of the recent Electrical Exhibition at St. John, N. B., was presented the other day with a handsome clock and bronzes, accompanied by an address expressing appreciation of the earnest efforts put forth by him for the success of the exhibition.

THE Toronto *Empire* professes in its special anniversary number to give a review of the manufacturing and commercial interests of the Dominion, but we are surprised that not a word is said about the grain and flour interest. From this are we to understand that this interest is not of sufficient consequence to call for special mention in connection with other lines of industry, or is our contemporary afraid to depart from its past policy of silence regarding the condition of the great milling industry of this country, while posing as a champion of the National Policy and the doctrine of "Canada for the Canadians."

IT is not surprising to learn, says the London *Miller*, that the wheat growers of the Dominion have generally made the cause of the miller their own, since it must be remembered that every barrel of American flour that finds its way into Canada reduces the demand for home-grown wheat by four to five bushels. It is true that the farmer has a market beyond the Atlantic, but he complains that the great competition prevailing in European and especially in British markets, prevents his wheat from fetching a fair price. This may account for the comparative scarcity in this country of that desirable commodity, the hard wheat of the Canadian Northwest. It is quite possible that a rearrangement of the Dominion cereal tariff may cause it to become yet more infrequent. In time, no doubt, as the flow of emigration westwards increases the production of Manitoba's fields, there will arise a surplus of wheat, for which a market will have to be found in Europe. But that time may not be yet, and in the meantime the Dominion agriculturist will naturally devote his energies to selling his grain at a profit within his own country.

THE Committee recently sent from Toronto to visit the technical schools of the United States for the purpose of acquiring information which should prove valuable in the establishing of such schools in the City of Toronto, have presented their report. The Committee, from what they have observed of the methods of conducting such schools in the United States, are convinced that it would be unwise to vest the management in the Toronto Free Library Board, as has been proposed. The language of the report on this point is as follows: "We think that the Board of Management of these schools should be a distinct and separate body from the Free Library Board, and so constituted as to be a representative board of citizens, who from their education, tastes, or other special qualifications would be more likely to make the enterprise a success." Notwithstanding that fault has been found with the Committee for the above recommendation, we believe it to be a wise one. The Free Library Board has quite enough to occupy its attention in properly discharging the duties for which it was appointed. Technical schools, to be successful, should be directed by persons familiar with, and specially interested in, the branches of special knowledge proposed to be imparted. To place the management in the hands of any other class of men would in all probability result in the adoption of a blundering policy, and the exhaustion of the funds provided by the city without anything useful being accomplished.

THE proper operation of electric lighting installation requires, as a rule, the maintenance of fixed conditions of some sort, whether of current or electromotive force, and incandescent lighting especially, demands the highest degree of permanence in the latter condition for economy of operation. For while a variation of only five per cent. in the strength of an arc light current would have scarcely any effect on the system, a similar variation on an incandescent circuit would, in one direction, result in considerable diminution in the brilliancy of the lamps; and in the other, would entail

their rapid destruction. Hence it becomes necessary to provide instruments which will show the conditions existent, so that any variation in the standard may be at once corrected. The instruments designed to insure fixed conditions of working are based upon two principles, and in nearly all cases both involve a variable factor. In the case of direct reading instruments, their operation, with few exceptions, depends upon the action of a force, which may be that of a magnet, spring, or solenoid influencing a core. Where the zero method of indication is employed, the constancy of a resistance, or of a standard cell is depended on for constancy of indication. Thus, while both methods involve uncertainties, the choice seems to rest with that method which will afford the readiest means of re-establishing the correct reading of an instrument in case of its becoming inaccurate. It is upon consideration of this point among others that prominent companies have adopted systems of indicating instruments which can be compared directly with a standard of resistance, the ohm, and a standard of electromotive force, such as the Latimer Clark cell. The zero method of indication has been objected to by some, on the score that it does not furnish at a glance the true value of the force measured, but this is met by the argument that in most cases some fixed condition is required to be maintained, and that an *indicator* as distinguished from a *measurer* is quite sufficient in the hands of the attendant. Another point urged by the adherents of the zero method is the fact, that a small variation from the fixed condition in the case of direct reading instruments causes only a small deflection of the pointer of the instrument, while on the other hand, a small variation with the zero method may be arranged to give a large deflection on a suitable galvanometer. The eye of the attendant is thus more easily attracted by a variation in the latter case. Both methods undoubtedly have their own peculiar merits, but the best results would seem to be obtainable where both are applied to the circuit, so that one may be an ever ready check on the other.

THE threshold of a new year is the standpoint from which it is customary to review the past, and anticipate the future. It is yet too soon to learn exactly what amount of progress has been achieved by our manufacturers during the year 1889. The balancing of the books, which is now engaging attention, will we doubt not, show, that material advancement has been made during the year in the development of existing industries as well as in the establishing of new ones. The harvest, upon which the prosperity of the Dominion so much depends, was a disappointing one both in Ontario and the Northwest. The result is seen in the tightness of the money market and increased number of failures during the last three months. To Canadian millers the year has undoubtedly been anything but satisfactory. They have continued to fight for an existence in the face of the heavy disadvantages imposed by an anomalous tariff. Few, if any, we imagine, have reaped anything like a fair profit; many have lost money, while not a few have been forced to the wall. As yet the Government has turned a deaf ear to the demands for readjustment of the flour duties, but it is hoped that during the forthcoming session of Parliament, steps will be taken to place the millers on equal footing with other manufacturers under the National Policy. It is gratifying to notice the interest which has of late been shown in the question of the development of our iron mines and the establishing of blast furnaces for the manufacture of iron in Canada from native ore. Electricity seems destined to play an important part in the accomplishment of this object, the inventions of Mr. Edison having rendered possible the extraction of the ore at much less cost than heretofore. Speaking of electricity, we are reminded that the past year has witnessed remarkable growth on the part of this new and important industry. Several new companies have entered the Canadian field, and there are many more to follow. The applications of electricity are few indeed to what they will be a few years hence, when it will take front rank among the agencies working to promote the higher civilization and prosperity of this great country.

Of the new year we care to say little, for the reason that there is little to base our premises upon. In some quarters, we have heard the opinion expressed that the new year will be characterized by depression. This opinion seems to be based upon the experience of the past two or three months, during which the business situation has certainly not been satisfactory. However, as the making of "good times" or "bad times" rests to a considerable extent with the business community itself, we would suggest that it is the duty of every man in entering upon this new year, instead of crying "wolf,"

to determine that individually he will do his very best to inspire his fellows with confidence in the future greatness of their country, and a desire to do their full share in its development.

THE milling situation, so far as the prospects of readjustment of the flour duties are concerned, appears to have improved very much during the last two or three weeks. The agitation for a readjustment of duties has been taken up with true western energy by the Winnipeg Grain Exchange and Board of Trade. The former has addressed circulars to every municipal council in the Northwest, asking that petitions be forwarded to the Government in favor of equalizing duties on flour and wheat. This circular says: "The Government positively refuses to reduce the import duty on wheat, and we are compelled as free traders and protectionists, to insist that the duty on flour should at least equal to that imposed on the raw material. The present absurd and illogical state of the tariff on wheat and flour is fast closing up Canadian mills. As the Manitoba farmer gets his best prices for wheat to grow in Canadian mills, it is directly to his interest to have as many of them in operation as possible." The circular intimates that it is the intention to send a deputation representing Northwest grain and flour interests to Ottawa on this subject.

What are the millers and farmers of Ontario doing this matter? Not all we fear that they might do, we are they fully alive to their own interests. While several of the Farmers' Institutes have been brought to see the advantage of supporting the millers in their demands for justice, others have shown themselves to be either remarkably obtuse, or willing to sacrifice personal interest rather than appear to support a trade policy which they have always been in opposition to. The resolution passed by the Winnipeg Board of Trade clearly shows that the question of free trade vs. protection, *per se*, is not involved in the present demand for an increase of the flour duties. Among those millers and farmers who are supporting this demand may be found Liberal Conservatives, Protectionists, Free Traders, and advocates of Reciprocity. The common ground upon which they stand is, that so long as the policy of protection to home industries shall be declared to be the trade policy of this country, protection should be accorded the various industries of the country in equal degree. The important industry of milling alone should not be left unprotected, and in no instance should raw material entering into the manufacture of an article be charged a higher duty than the manufactured article itself. Here is a platform upon which all may stand. So broad and logical are the premises laid down, that on the many occasions when it has been presented to the Government, there was absolutely no defence to be made against it. We trust that every effort will be made to show the farmers the identity of their interest with that of the millers in this agitation. The meeting of the Central Farmers' Institute to be held in Toronto in February should be taken advantage of by the millers to have this question thoroughly discussed, and a strong expression of opinion thereon obtained. We believe it would also tend to arouse enthusiasm and add strength to the movement if a general meeting of the Dominion Millers' Association were called at an early date for the final consideration of the subject before a deputation goes to Ottawa to present petitions to Parliament.

The sale of the mill property at Port Hope, Ont., lately owned by Peplow & McCabe, was put up at auction last week, but was withdrawn, a satisfactory bid not being made.

Messrs. Howson Bros., of Teeswater, Ont., whose mill was burned down recently, have been in Walkerton, looking at R. Clement's mill, with a view of buying or renting.

Mr. Wm. Philip, who has been employed at the Galt oatmeal mill for the past 15 years, has secured a position as head miller with the Ireland National Food Co., of Toronto.

At a mixed meeting of farmers and millers at London, Ont., Dec. 2, the differential duties on wheat and flour were discussed, the concurrent opinion being they were very unfair to the Canadian miller and against the interests of the Ontario farmer.

A despatch from Montreal says the Canada Pacific people at the harbor commissioners are discussing a scheme for constructing an inland basin with elevators and storehouses to cost \$5,000,000. The Canadian Pacific managers say that during the last year they were compelled to refuse 10,000 carloads of European freight to western states owing to lack of accommodation.

The western board of grain inspectors has forwarded samples of this year's standards to the Department of Inland Revenue at Ottawa. The plan adopted for the first time this year of having two inspectorate boards is said to have worked well. The grain this year is of a much better quality than last. Considerably more than half of the grain that has left Manitoba this fall has been No. 2 Manitoba hard and higher.