

sultation and an expression of views regarding the introduction by the Ontario Government of a system of industrial education by the establishing in the School of Practical Science, full courses of instruction in applied chemistry, applied mechanics and architecture. It was stated that the attention of the meeting would be mainly directed: (1) To a consideration of the various kinds of skilled labor now required to carry on the industries of the country, and the best means of rendering it more productive and therefore more valuable; (2) to a consideration of what courses of instruction would be necessary to provide such skilled labor at home as is now supplied from abroad, and (3) to enquire what industries, if any, not yet established in Ontario, could be made productive provided the Government could supply them with skilled labor.

Growing out of this invitation an important conference of those interested in marine engineering was held in the assembly room of the Canadian Manufacturers' Association in this city, adjoining the offices of the CANADIAN MANUFACTURER, on December 13th, for the purpose of formulating some plan or suggestions to be made to the Minister. Among those present were Messrs. S. S. Malcolmson, chairman Marine Engineering Society; W. Polson, W. J. Allan, J. Galt, John Ingalls, John Abell, A. Wickens, W. J. Meneilly, and by invitation, Professors Galbraith and Ellis. Mr. W. Polson was elected chairman, and Mr. W. J. Allan, Secretary. The whole question of practical science teaching, especially as it effected marine engineering, was very carefully and thoroughly discussed. Credit was given to the present School of Civil Engineering, which already had about 60 scholars, although the school was not equipped to go beyond theoretical teaching. Professor Galbraith gave a short account of his visit of inspection to the technical schools of the United States. He also had a plan to complete such an institution as was contemplated at a cost from \$12,000 to \$15,000. It was pointed out by some of those present that taxes had to be paid to train men for divinity, medicine and law; and it was equally important men should be trained so that the highest class of workmanship should prevail in every industry. It was also shown that night schools would be necessary to meet the case of men who could not attend through the day. It was suggested that the City Council be approached through the Mayor and asked to aid in that department, which was within the province of the municipality to deal with. It was shown that at present it was necessary for Canadians desiring sound, practical scientific training to go to the United States schools. Many who had done so were holding situations in the States, and it was argued that Canada should be put in a position to teach her own sons in this particular way. Eventually the following resolution was passed, proposed by Mr. John Galt, seconded by Mr. John Abell:—"That this meeting is unanimously of opinion that it is highly important and desirable to establish a school of practical science on a complete, thorough, and technical basis, to include the teaching of science as applied to industrial pursuits."

FACTORY FIRE ESCAPES.

THE loss of forty-four human lives in Rochester, N. Y. in November, in the destruction by fire of the Steam Gauge and Lantern Works, has been investigated by a factory inspector of that

State, the development showing that there were two fire escapes on the building, and that while they possibly complied with the letter of the law requiring them, they were not in accordance with the recommendations made by the factory inspector, who had frequently urged that they be made more easily accessible. They were deficient in that they were perpendicular; without balconies at the different floors, and that the shutters opened against them so that they were invisible and practically useless to the people within the building. Regarding these "escapes" the inspector expressed the opinion that even with balconies, perpendicular ladders are not proper or efficient fire escapes. Outside iron stairways should be placed in all factories of three or more stories. If balconies and inclined ladders are used, the ladders should incline at least twenty degrees and be provided with handrails, and ought not to pass in front of a window; and balconies should be accessible from not less than two windows each.

The New York inspector says that sixty per cent. of the manufacturing done in that State is in rented buildings, the tenants of which will not go to the expense of erecting suitable fire escapes if they can avoid it, seeing it would be making improvements on the property of others; while landlords will not spend money for such a purpose unless forced to do so by something stronger than the requests of tenants or public opinion. It does not seem that either landlords or tenants attach sufficient importance to the value of the lives of the swarms of human beings who work in these death traps.

A USEFUL ORGANIZATION.

DURING the ten months preceding the presidential election in the United States, in November last, the American Iron and Steel Association, of which Mr. James M. Swank is general manager, distributed 1,387,864 tariff tracts in that country in different localities where it was believed they would do the most good. These tracts were not scattered about promiscuously, but were placed in the hands of persons who made it their business to see that they were not wasted or destroyed; and only such tracts were sent to the distributors as were specially adapted to the enlightenment on the different phases of the tariff question of those into whose hands they were to be placed.

The first general meeting of the iron trade of the United States was held in Philadelphia, December 20th, 1849, its object being "to consider the existing depression in the iron industry, and to appeal to Congress for relief through a revision of the tariff." A general committee was appointed to further the purposes of the convention, and its adjournment was *sine die*.

There was no other important movement on the part of American iron manufacturers, looking to organization, until the formation of the American Iron Association in Philadelphia, on March 6th, 1855. The first article of the constitution of the Association was as follows:

"The general objects of this Association shall be to procure, regularly, the statistics of the trade both at home and abroad; to provide for the mutual interchange of information and experience, both scientific and practical; to collect and preserve all works relating to iron and steel, and to form a complete cabinet of ores, limestones and coals; to encourage the forma-