

Messrs. de B. Macdonald & Co., on the successful inauguration of so necessary an article of manufacture. We are glad to see such articles being made in Canada, thus saving to Canadian buyers the amount which would otherwise be spent in paying the cost of transportation from the United States or Europe, besides the customs dues and other necessary expenses. It is quite certain that articles of this class can be produced here for at least 20 per cent. cheaper than they can be imported; and we trust that the trade of the province will in this case encourage home manufactures to such an extent as to render unnecessary any importations from other countries. We understand that these gentlemen contemplate some extensive additions to their establishments, which will enable them to produce some two hundred dozen of these goods per day—representing a value of about two thousand dollars—and giving employment to two hundred or more persons, principally women and girls. These are said to earn on an average four dollars per week each, which is certainly a very remunerative figure. This is, we believe, the only establishment in British North America where the entire process of manufacture is conducted, from the rough, unpolished wire to the finished and fashionable skirt. The enterprise is evidently a valuable one to the country, if properly managed.—*Trade Review*.

#### UTILIZING SAWDUST—OXALIC ACID.

Sawdust is converted into oxalic acid on an extensive scale in England, by a very simple process. The sawdust is first saturated with a concentrated solution of soda and potash, in the proportion of two of the former to one of the latter; it is then placed in shallow iron pans, under which flues run for a furnace, whereby the iron pans are made hot, and the saturated sawdust runs into a semi-fluid state. It is stirred about actively with rakes, so as to bring it all in contact with the heated surface of the iron, and to granulate it for succeeding operations. It is next placed in similar pans, only slightly heated, by which it is dried. In this state it is an oxalate of soda mixed with potash. Is is then placed in the bed of a filter and a solution of soda is allowed to percolate through it, which carries with it all the potash, leaving it tolerably pure oxalate of soda. It is then transferred to a tank, in which it is mingled with a thin milk of lime, by which it is decomposed, the lime combining with the acid to form the oxalate of lime—the soda being set free. Lastly, the oxalate of lime is put into a leaden tank or cistern, and sulphuric acid is poured in; this takes up the lime, and sets free the oxalic acid which readily crystallizes on the sides of the leaden cistern, or on pieces of wood placed for that purpose. This is the cheapest process yet known for making oxalic acid. Another interesting use made of sawdust of hard woods, such as rosewood, ebony, etc., is that recently known in France under the name *bois durci*. The various kinds of sawdust used are reduced to fine powder, and mixed with blood into paste; other materials are doubtless added, for, when pressed into moulds it is a jet black, and receives the most beautiful impressions.—*Scientific American*.

#### BOILER INSPECTION.\*

The subject for the evening was "Boiler Inspection." Mr. Miller read a paper giving a sketch of the origin and progress of the Manchester Boiler Inspection Association, and advocating the adoption of the plan in New York. A discussion followed, in which it was generally agreed that such a system of inspection, in addition to the inspection by the public authorities, would be found advantageous, and paid for by the owners of boilers, as it has been in Manchester. The Manchester association was begun by a few proprietors of boilers, who thought they needed advice from men of more skill than they could afford to employ constantly to run their engines. They agreed to employ a competent engineer to inspect their boilers monthly, and give them such advice as he thought would be useful to them. They also agreed to invite others to join them; and to form an association, if enough were desirous to become members. Their numbers increased; and, in less time than was anticipated, they were able to pay for the whole time of an engineer and other employees. The result was, that many improvements were made, and dangerous faults pointed out and removed; and the boilers under the inspection of the engineer were nearly exempt from explosions, while others around them continued to explode as usual. Reports to the association were made, by its engineer, of outside explosions; and their causes were pointed out, and probably served as useful warnings. The forms of boilers were criticised; devices to keep them clean were observed and discussed; and all the furniture of boilers was studied and explained; and boiler economy generally was inquired into, and soon better understood than it would have been without the information gathered by the engineer, and imparted by him in his reports, and in his visits for the purpose of inspection.

Last year the Manchester association had sufficient funds to employ draughtsmen to make careful drawings of the boilers under the care of the inspectors; and to keep records of their economy. From these records of facts the members can learn much about the advantages of different kinds of boilers, fuel, treatment, and circumstances affecting the durability and economy of boilers. An insurance fund was also commenced; and boilers were insured up to a certain amount. It was held that this special boiler insurance, by an association that studied and inspected boilers, would reduce the extra premiums now charged on buildings that have boilers in or under them; and that in this item enough would be saved to pay for the voluntary inspection.

It was also held that the advice of a good engineer, given in his monthly visits, would save much that is wasted by common engine-men. Above all, it was urged that the safety of life ought to be more carefully guarded than it can be without the monthly supervision of the best engineers.—*American Artisan*.

MANNERS are more esteemed in society than virtues; though the one is artificial, like false brillants, and the other pure, like real jewels.

\* Society for the promotion of Science and Art, N.Y.