

Familiarity with steam machinery, most especially with the boilers, is apt to beget a confidence in the ignorant, which is not born of a knowledge of the dangers and exigencies which are continually occurring during their working, and which is the offspring of conceit and the grossest folly; but contact with stealth, or thorough elementary knowledge of its constituents, theory of production and of action, only inclines the philosopher and the seeker after knowledge to be more patient and lowly in spirit when developing the mysteries of its sublime power, and applying the same to the arduous and monotonous task of doing the work of the world. A moment's reflection will show this to be the true light in which to view this matter; for in what other branch of the arts and sciences can we find one other person on whose sole charge is given so much responsibility and power? The magazine he guards may spread havoc and ruin about, if he impede the action of the feed, or neglect the valve which controls the surplus pressure. If he be upon the railroad or in the crowded city, the weal or woe of multitudes is committed to his keeping. If he be upon the sea, in the shock of battle, where iron-clad answers to iron-clad, and the sea frets itself hoarse in the vain effort to overwhelm them, the fate of nations even is in his power; the cause of truth, of justice, and human rights, or the reverse of all these, lies hidden in the lifting of a valve, the lubricating of a rod or shaft, or the loosening of a gland or screw at the proper time. If, therefore, each and every one in any way connected with the care of steam machinery resolves to raise the standard of their profession, the results will be apparent in a few years, in increased pecuniary benefit to themselves, and also to the arts and world of science generally.

In conclusion we would remark, that, we are an order, and it behoves every member of it to guard with a jealous care the privileges of his order; and this can be done only by the possession of superior qualifications for its duties, the result of a special education and training for the work; so that he may, in the moment of peril, display that presence of mind, the distinguishing characteristic of the educated * engineer, with the same coolness of judgment as when in conscious safety."

Now, since we are to have Confederation of the Provinces, it is probable that by our forming a closer and stronger connection with the mother country, some of those good rules and customs in regard to trade may be introduced among us; and of those that are the most necessary, the apprenticeship system by indenture should rank first in the list. The learned professions are everywhere protected, and why not they who spend seven of the best years of their lives in acquiring a knowledge of their business. In the States as well as in Canada, during periods of commercial prosperity, swarms of engineers spring up almost in a night, aided by the "under instructions" system. Half-taught runaways from other trades—

such as locksmiths, pocket filers, and gas-pipe "engineers"—get smuggled in "under instructions;" so that the many accidents in connection with steam machinery need not cause much surprise. Accidents will occur with the most experienced—all are fallible; but the proportion would be much less, were a proper and more stringent system in force, for the better regulation of this especial branch of engineering. It is quite necessary to have a higher class of men for the work—responsible men, for responsible duty.

TWENTY-FIRST EXHIBITION OF THE PROVINCIAL AGRICULTURAL ASSOCIATION FOR UPPER CANADA.

The twenty-first annual Exhibition will be held in the City of Toronto, during the week commencing Monday, September, 24th, and closing on Friday, the 28th of same month.

As but few changes have been made in the RULES AND REGULATIONS as in force at last Exhibition, we deem it only necessary to publish an abstract thereof—the Rules and Prize List entire will shortly be extensively circulated in pamphlet form. Important changes have been made in some of the classes in the Arts and Manufactures department, we therefore publish that portion of the Prize List in full.

ABSTRACT OF RULES.

Membership.

- 1.—Members of local Societies constituted members of the Association, provided said Societies pay to Association funds not less than \$1 for each of such members.
- 2.—Members of Board of Agriculture, Board of Arts and Manufactures, and Presidents and Vice-Presidents of Agricultural and Horticultural Societies are *ex officio* members. Payment of \$1 constitutes an ordinary member, and \$10 a life-member.
- 3.—Members can enter articles for competition in any or every department of the Exhibition.

Entries.

- 4.—None but members can compete, except in Ladies Work and Indian Work.
- 5.—Entries to be made on printed forms, and returned to the Secretary of the Board of Agriculture, with \$1 for membership (except as otherwise provided) by the undermentioned dates:
- 6.—Horses, cattle, sheep, swine and poultry, by Saturday, August, 18th.
- 7.—For Blood-horses and pure-bred cattle to furnish pedigrees.

* What is meant here by "educated," is not the having taken degrees at any of the universities, but simply having learned under an indenture.