

men who would be particularly alive to the necessities of the times; we want more young life—more action—more fire and genius—men who will devote their best energies for the object they have taken in hand, and not committees composed of lukewarm members who, both in age and thought, are men of the past generation—we want “live men” able to take the helm in all of our important measures. We regret to see so many of our young men set altogether in the back ground when their energy would give life to these institutions; not, however, that we would think for a moment of shutting out wisdom and talent because the grey shade of age had paled the brow—or that time had lessened energy—we would desire to see the fire of youth tempered by the calm reasoning of experience and age, and both working in unity together; but what we deprecate most is that system which, year after year, re-elects men too old, too apathetic or too incompetent to work, and who deem that, because they probably, at the founding of some institution, had made to it a donation of books, or, because a life subscriber, they felt they were entitled, henceforth, to remain as permanent members of a board of Directors. Such men, if even not active enough in mind to advance the institute by their example, very frequently, on the other hand, have many antiquated notions far behind the days in which we live, and only clog, by their influence and vote, all action that should be taken for the advancement of knowledge.

In order to give more vigour and impetus to the mechanical industries of Canada, it is desirable that there should be an association of Mechanics' Institutes, corresponding with, and tendering assistance to each other; and that classes should be formed, with competent instructors, to teach both theoretical and practical informations to its members—and if some small aid were afforded by the Government to every Mechanics' Institute in the Dominion, in proportion to the percentage of mechanics among its population in each town or village, to be laid out in the acquirement of philosophical, mathematical and other useful instruments necessary for their education, it would be money well expended, as these instruments are generally too expensive to be purchased out of a subscription fund, which would be all required for the purchase of books and for general instruction—the advantage to the country by this encouragement to the education of mechanics would soon be reaped ten, ay, twenty fold.

But the question will arise as to who will take the lead to establish an association of Mechanics' Institutes that should have a library and hold classes in every town in the Dominion? Who will take the initiative and burthen of forming them? and then, when the wheel is in motion, will mechanics respond to the call and keep it rolling? will they support them for their advantages to themselves and their children? We think that if the Government of this country would take the initiative by granting to every Mechanics' Institute, as an encouragement, a small annual allowance in proportion to its members, only to be disbursed for certain purposes, that a few active and prominent mechanics in each place would endeavour to enrol sufficient subscribers to carry out a scheme that would soon have a wide spreading influence over the country.

The rules that should bind together a general association for mutual benefit and support, it would be at present premature to discuss; we should like, however, to have the views of some of our readers upon this subject.

KING'S AUTOMATIC RAILWAY COUPLING.

(See page 36.)

The accompanying engraving illustrates an automatic railway coupling invented and patented by Mr. E. King, of Badwellroad, Southampton. The advantages claimed for it are—That on the vehicles being brought together, even on the sharpest curves, they couple themselves, passenger carriages being held closely and tightly together without the attendant going between to tighten up the bars, while goods wagons are left slackly coupled as at present. All the vehicles can be reversed, and admit of being of different heights. The coupling is double. It is very simple, and entails no alteration in the rolling stock.

It will be seen that a new drawbar, hook, bracket, and shackle are provided. A is the drawbar, B the hook fitted into a slot at the end of A, and backed by the short lever K, which works in a slot and slides up the whole back of the hook B and the thickness of the drawbar end. D is bracket secured with four screw bolts and nuts. The drawbar A is put through the flange of the bracket and into the old hole of the vehicle, and secured in the usual way, allowing for the spring that is required. A small shaft is provided with a lever at each end and one in centre for the purpose of uncoupling. This is secured under the carriage with three brackets H. A shackle is provided with a piece of chain which works through a thimble-shaped hole in the bracket. E is a weight hooked into the chain which balances the shackle, keeping it always in line with the drawbar hooks, and rising and falling as the shackles are pushed to either side. When the coupling takes place the shackles are pushed on one side, passing between the guide spring and edge of the hook until they pass the curve up the hook, into which they drop by the action of the weight E. The uncoupling is effected at either side by lifting the levers G, when the hook B leaves the shackle. On letting go the levers the hooks go back into their former position, and are again ready for coupling. A hook and chain can be used for keeping the levers up and the hook B out of gear, or to keep them down and in gear. The eye at the top end of the lever G can be used by the guard or engine-driver for uncoupling the train while in motion by putting a line through the eye, and passing the end up to the engine-driver or into the guard's van.

THE ASSIMILATION OF PATENT LAWS.

At the Hague Conference, last year, of the Association for the Reform and Codification of the Law of Nations, a paper on “Assimilation of the Patent Laws” of various nations, was read by M. W. Lloyd Wise, and referred to a committee, consisting of Mr. J. Hinde Palmer, Q.C. (member of the House of Commons' Select Committees of 1871-2, on Letters Patent for Inventions), Messrs. H. D. Jencken, R. E. Webster, and Joseph G. Alexander, Barristers-at-Law, and Mr. W. Lloyd Wise. At the Bremen Conference on the 26th ultimo, this committee presented the following report:

“We have had under our consideration the subject of assimilation of the Patent Laws of various nations, in connexion both with the paper of Mr. Lloyd Wise referred to us last year, and with the resolutions of the International Patent Congress, held at Vienna in 1873. A copy of the first three of these resolutions, excluding only some formal ones relating to a permanent committee which has practically ceased to exist, accompanies this report. We consider it to be abundantly established by experience, that it is for the commercial interest of every nation to grant protection in the shape of patents to inventors. But in these times of international intercourse, the patent granted in one country may become to some extent a restriction, unprofitable and obstructive, if the same invention, without limitation or increase in price, becomes in an adjoining country common property: although a country offering the protection of a Patent Law will usually obtain the earliest benefit of new inventions. Hence the wide-spread practice of patenting the same invention in several countries, and the necessity for assimilation of the Law of Patents in the different civilised States. Unless some common principle be agreed upon, it is evident that much of the benefit of patents will be lost, by their being granted in one country, whilst they are refused, or granted upon wholly different conditions, in another. For by such inequalities, the reward by which the inventor is stimulated to exercise his ingenuity for the benefit of the commercial world at large is rendered precarious, and the stimulus becomes less powerful.

Influenced by these considerations, the Congress at Vienna in its second resolution, laid down certain principles as the basis of a model Patent Law, to which future legislation on the subject