

is adapted to the body of the lamp a locking bolt, which will prevent the lower part from being unscrewed or detached from the upper part until such bolt is drawn back. This locking bolt is constantly kept pressed forward by means of a particular spring, and is provided with an arm which bears against a shoulder or block on a screwed pin which works the wick carrier up and down; this screwed pin is provided outside the lamp with a milled head, whereby it can be turned. When the lamp has been trimmed and lighted, the oil reservoir must be screwed into its place in the upper part; the locking bolt will then bear against some ratchet teeth; the upper end of this bolt will run over these special teeth as the lamp is screwed in, but the bolt will effectually prevent the lamp from being unscrewed and taken apart until the bolt has been withdrawn in the manner previously described, but the light will have been meanwhile extinguished before the upper and lower portions of the lamp can be separated, and therefore all danger from any exposure of a naked flame is absolutely impossible.

In our illustration, A is the upper portion of lamp, comprising wire gauze column, lens, C, reflector, D; B, lower portion, comprising the oil reservoir and extinguishing apparatus, and the screw for unlocking the lamp, E; C, the lens; D, the reflector; E, unlocking screw.

In conclusion we may assume that it is perhaps impossible to entirely prevent accidents in coal mines. Explosions and other sources of catastrophe will happen here as similar accidents in any other branch of industry. The only true manner to reduce these calamities to the minimum, is to establish and maintain a system of careful inspection by competent and unbiased officers who should be possessed of authority to enforce the adoption of well-founded rules and precautions.

REVIEWS.

BULLETIN OF THE NATIONAL ASSOCIATION OF WOOL MANUFACTURERS; January-March 1873. Edited by John L. Hayes, Boston:

This is a very neatly got up journal of 116 pages devoted to the interest of Wool Manufacturers. A preliminary note the purpose is stated of giving a wider range to the journal and thereby rendering it, not merely the organ of the National Association of Wool Manufacturers primarily devoted to the interests implied in the name of that institution, but also a journal of Science, economical and technical, applied to the textile industry of the country,—embracing in its scope the discussion of those principles and topics which Dr. Ure includes in the term "Philosophy of Manufactures" but specially applied to the scientific, moral, and commercial economy of the textile industry of the United States. The nature of the subjects considered in this Bulletin and the manner in which they are treated fully bear out the above promises and give some idea of the vast proportions already attained by these industries in the neighbouring republic.

FOURTH ANNUAL REPORT OF TURBINE TESTS: By James Emerson, Holyoke, Mass.

This report contains the tabulated results of trials of various turbine wheels at the testing flumes of the author, with remarks on the results and on the peculiarities of the wheels. Among the wheels tested are the "Thomson and Holcomb," "Leffel," "Tuttle," "Risdon" and other well-known wheels.

There is no doubt but that the practice, which is now gaining ground of selling such wheels by reliable test is a step in advance and satisfactory both to purchasers and to good builders.

CORRESPONDENCE.

[We do not hold ourselves accountable for the opinions of our Correspondents.]

PATENT LAW.

To the Editor of the MECHANICS' MAGAZINE,

SIR,—My correspondence on this subject, in your last issue, concluded with the 18th section: the intervening clauses between that and the 28th section are sufficiently reasonable to pass unnoticed in the present article, as it is only my intention, on this occasion, to bring before the notice of your readers the most serious objections and injustices and endeavour to interest them to exert themselves to have them removed, after which minor faults in the law can be easily dealt with.

The 28th Section is as follows:

"28. Every patent granted under this Act shall be subject and expressed to be subject to the condition that such Patent and all the rights and privileges thereby granted shall cease and determine and the patent shall be null and void, at the end of two years from the date thereof, unless the patentee, or his assignee or assignees, shall, within that period have commenced, and shall, after such commencement, continuously carry on in Canada the construction or manufacture of the invention or discovery patented, in such manner that any person desiring to use it may obtain it, or cause it to be made for him at a reasonable price, at some manufactory or establishment for making or constructing it in Canada, and that such patent shall be void if, after the expiration of twelve months from the granting thereof, the patentee, or his assignee or assignees, for the whole or a part of his interest in the patent, imports or causes to be imported into Canada, the invention for which the patent is granted; and provide always, that in case disputes should arise as to whether a patent has or has not become null and void under the provisions of this section, such disputes shall be settled by the Minister of Agriculture, or his deputy, whose decision shall be final."

Before proceeding to examine this section, which must be a very interesting one to inventors and manufacturers, it may be well to see how it came to be made.

There can be no doubt that the first clause of this section is a modification of the 28th section of the "Patent Act" of 1869, but in that act the time to begin manufacturing was *three years*, and eighteen months was allowed during which the invention might be imported.

The country at large is indebted for this clause in a great measure to the influence and short-sightedness of manufacturers both in and out of the Houses of Parliament, many of whom exerted their utmost endeavours to get the period in which the inventor would be compelled to commence manufacturing abridged to one year. Some of them explained their views and ideas on the subject, giving as their plea that foreign inventors might obtain patents in Canada for the purpose of preventing Canadian manufacture. They knew that such a reason would be at once snapped at by the public and Parliament, but they at the same time, exhibited in private their true reason for wishing to have a restrictive clause to that effect.

They said "If we can get this clause, no doubt many foreign inventors will, for the many reasons that impede an inventor, after getting his patent, be unable to commence manufacturing within the prescribed time, and thus we shall have a chance of purchasing many very valuable inventions at a