

hear of a man being punished for blowing up his boiler—and his neighbor.

After all, prevention is better than cure. We organize fire companies mainly for the protection of property, and by systematic and persistent efforts their members are trained to the greatest proficiency. They are trained not only in manual dexterity and athletic feats, but are chosen with reference to their knowledge of such things as shall render them efficient, as well as for their ability to make instant and judicious use of their faculties in possible emergencies. This is to our credit; but at the same time we expose the lives of men, women and children to the tender mercies of men in charge of steam boilers, of whom it may be said, four-fifths have no adequate conception of their business; and in cases of emergency have not the slightest idea of what to do or how to do it. The state cannot say how much money the individual shall pay his engineer; but it can and ought to say what qualifications the individual's engineer shall possess before being allowed to take care (?) of a thousand lives. It can and ought to insist that boilers so situated as to expose human life shall not be left to take care of themselves, while the man who is supposed to have them in charge is attending to other work for their owners. And it can and ought to insist that boilers thus situated shall be known to be in proper order so far as regular and careful inspection can determine the fact.

The simple fact is, that with the world's knowledge of these things the explosion of a boiler is entirely inexcusable. Boilers ought to be as safe as a kitchen stove, and when they are otherwise there is a reason that can be determined. Almost universally some one is to blame. When we get accustomed to being told in plain language who is to blame, boiler explosions will be rare events. —Wool and Cotton Reporter.

Frauds in Soap.

If at the end of the saponification process the alkaline solution is sufficiently strong, the soap will, on standing, separate as a fluid layer on the surface of the spent lye, which contains the glycerine set free during the saponification; but in any case separation can be rapidly brought about by adding salt to the liquid, when the soap, being insoluble in salt water or brine, separates out and is removed and placed in molds to harden. The block of soap so cast is then cut first into slabs and then again into bars. A soap made in this way with tallow or lard as the fatty matter would be "white curd," while if yellow bar is required, rosin is added to the mixture of lye and soap after most of the fat has saponified.

When rosin is boiled with alkaline solutions, a compound is formed by the direct union of the resinous acids with the alkali, which strong-

ly resembles ordinary soap, so that the yellow soap is really a mixture of fatty and rosin soap, and when the ingredients are of great purity the product goes by the name of "primrose" soap. Bar soaps so made on a large scale are, as a rule, the stock from which the various forms of toilet soap are made by processes intended to render them more attractive for personal use, but generally the consumer gets far better value for his money, and far less injury to his skin, by using a good "white curd" or "primrose" soap than by employing a high-priced toilet soap, while cheap toilet soaps, especially cheap transparent soaps, should be studiously avoided. The demand made by consumers for cheap soaps, which in many cases are sold retail at prices considerably below the wholesale market price for a true soap, has given rise to the introduction of highly watered soaps, caused to set hard by the addition during manufacture of sodic sulphate, which enables the manufacturer to make a so-called soap often containing less than twenty per cent. of true soap. —Vivian Lewes, in The Popular Science Monthly.

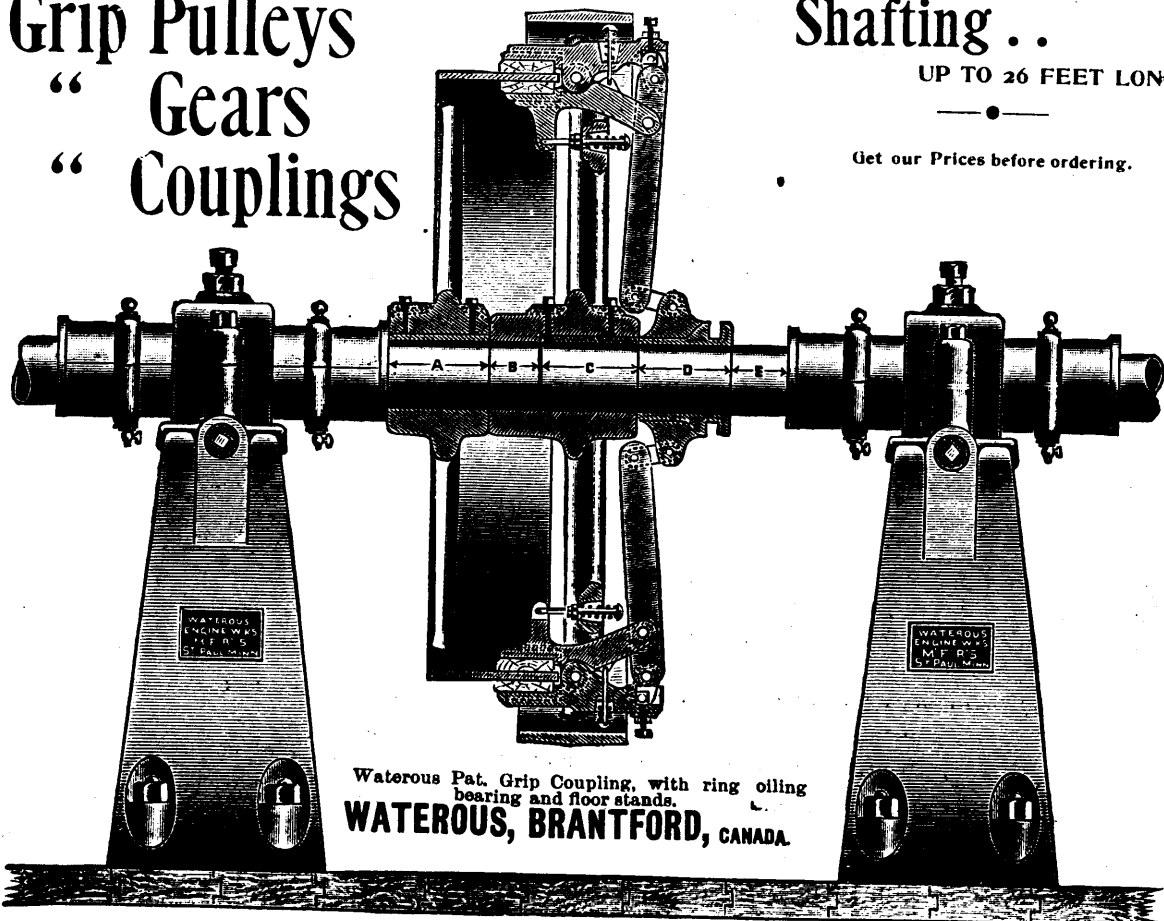
It is a little singular that no device has been invented that is every way and generally as satisfactory to weavers for threading the shuttle as sucking the thread through its eye. Instruments of some kind or other are in more or less use, but nothing is so expeditious and convenient as drawing the thread through by suction of the mouth. In its sanitary aspects, this custom is decidedly objectionable. The respiratory organs oftentimes suffer permanent injury from this habit, of the loose fibres and lint being drawn into them. More or less irritation to the delicate membranes of the organs occur, not infrequently resulting in permanent injury to health. Poison is also often introduced into the system from the dyes that may be used on the yarn, and infectious disease could readily be conveyed by practices of this kind. There is nothing to commend this practice of threading the shuttle except its expeditiousness. It is certainly detrimental to health and should be abandoned. Many weavers, it is true, recognize this, and it would be well if all did so, or were forced to do so. There have been several devices placed before manufacturers for accomplishing by suction, on the piston principles operated by a lever, what the mouth is called upon to perform. But, so far as we know, none of them have met with anything like general favor. There is an American device very recently brought out, and being experimentally tried by a number of cotton mills in this neighborhood, for threading the shuttle by a peculiar construction of the eye itself. The threading can be effected with the rapidity of the motion of the hand. Something of this kind should be done, and suction by the mouth prohibited. —Manufacturers' Gazette.

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