

should be occupied with water. As applied to tubular boilers of modern construction, this rule is not of much value, as it leaves out of the reckoning the factors which have most to do with the question, viz, the amount of heating surface, and the total weight of water which the boiler will hold at the different "water levels."

"Priming" may be caused by the boilers being new, by the feed water being dirty or greasy, by the undue forcing of the boilers, or by some peculiarity in their construction. It is a serious evil, often a dangerous one, always a troublesome one, and frequently baffles the skill of the boiler attendant.

The remedy must of course depend upon the cause, and as different boilers are found to vary much in their behaviour under similar conditions, every boiler attendant should carefully study and accurately observe the boilers under his charge.

### WOOL-GROWING IN CANADA.

Although this journal is designed expressly for a constituency of business men, it would be well for every farmer in Canada to read and "take in" thoroughly the meaning of last week's article on "Fashion and its Influence on Trade," by our Manchester correspondent. The writer, living at not only England's but also the world's metropolis of textile manufactures, has every opportunity of knowing whereof he speaks; and he gives it as his opinion that the demand of fashion for soft, fine-woolled fabrics, instead of long-woolled lustre goods, for ladies' wear, is no mere accident of a day, but a permanent decree of the goddess, to stand like the laws of the Medes and Persians. He is able to add, in support of this opinion, that it is now being recognized in Bradford and other places, where the manufacture of long-woolled lustre fabrics has long been the leading industry. Taking the nation all together, the English are slow to change: and when we see hard-headed, practical Yorkshiremen, all their lives engaged in one particular manufacture, actually convinced that times have changed so that they must turn to another, we may well believe that there is something in it. In the Bradford district extensive changes, the writer says, are being made in the machinery, in order to produce the soft and pliable fabrics that fashion now demands. Once the benefit from having the machinery changed is generally seen, the process is likely to go ahead very rapidly; for in no country in the world can changes in textile machinery be effected so speedily and so cheaply as in England.

There may be those who will say—what interest has a Canadian farmer—in the county of York or Westworth, for instance—in changes in ladies' fashions in London or Paris? The question seems a very natural one, but a little examination will show that whoever seriously asks it knows very little of the facts of the matter. Until a few years ago, fashion ran upon long-woolled fabrics, the proper raw material for which Canada produced in large supply. But fashion has changed, and now calls for fabrics made of fine, soft wool, of which particular kind we produce comparatively little. It is clear that we must produce the kind of wool the market calls for; if we do not, we shall have to sell what we do produce at a low

figure. In other words, Canadian farmers will have to change their breeds of sheep, and the sooner the better. The price of mutton is now so high, and the demand for it so large and steady, that farmers will never think of breeding sheep with regard to wool only, the carcase being so valuable. But the practical question will be—how to combine a good carcase of mutton with the production of the particular kind of wool that suits the market. On this point we have no advice to offer; we say merely that it should engage the earnest attention of those who are competent to advise on the subject. And we may be permitted to suggest that our agricultural authorities, for the counties and for the provinces, might do the country valuable service by taking measures for having the matter thoroughly discussed at the approaching fall exhibitions.

### THE REVIVAL OF BRITISH MANUFACTURES.

One of the facts of the day, pointed out by our Manchester correspondent in our last issue, is—a great advance in British competition with foreign countries. It now appears that the refusal of France to adopt such a commercial treaty as Great Britain could accept is making a deep impression on the public mind. John Bull feels hurt at the obstinacy and selfishness of foreigners, sets his lips hard and clenches his fist, and says to himself that he will just "go in on his nerve," and show these unreasonable fellows what he can do when he makes up his mind to it. To a considerable extent he is throwing off some of his old-fashioned conservative habits, and is no longer ashamed to make changes in methods of manufacture that a few years ago he would have stamped his foot at with scorn. The change in Bradford from one kind of machinery to another, already well begun, and elsewhere alluded to, is one remarkable instance. And other instances are not wanting. The story is told that once upon a time (this was a good many years ago, of course), a wooden pattern of an American axe was sent over to Sheffield, with orders to make so many just like it, all "bitted" with the best steel. The wooden pattern had no hole in it for the handle, and the axes, when received, were found to be far too faithful copies of the original in this respect. Whether true or not, this story will do for a joke on English slowness to understand and to meet foreign requirements in some lines. It is safe to say that nothing like it could happen now. American forests, equal to the area of several States, had to be cut down and cleared, and many decades of years had to pass, ere the Sheffield people could be induced to make an axe that the American chopper would condescend to use. In South America, South Africa, and Australia, American axes were taken in preference to English some years ago; but recent news is to the effect that in all these markets English axes are now taking the lead. The American pattern, with English steel and English workmanship, is what has done it. In many other tools besides, in farm implements, and various articles of machinery, the adoption of American patterns and American methods—generally the most suitable for new countries, and sometimes for old countries too—is working a revolution in competition abroad. Years ago French printed calicoes used to be con-