

or, in other words, the wrinkles caused by them will be more pronounced in the middle and less on the sides. This is owing to the fact that the middle of the cloth is the most likely to suffer if the soap is either insufficient in quantity or strength, which is usually the cause if attributable to the fulling. The edges of the cloth receive the soap the most readily, and, in case of irregular fulling, the sides of the cloth suffer the least. If the cause of cockles be in the variation of the stock, the twist or size of the filling, the variation in picks or irregular friction or let-off at the loom, the result will show in regular cockles, showing alike all across the cloth, or, in other words, the change in the cloth from wide to narrow will be abrupt and straight across, corresponding with the variation in the filling or friction, as above referred to. If caused by irregular let-off the changes will not be so abrupt, but will be uniform, and usually correspond with each turn of the beam in weaving. If caused by the condition of the stock or yarn, it can usually be traced to one or more bobbins in a place, but always changing abruptly, while, if caused in fulling, there will be no suggestion of regularity to them.—*American Wool and Cotton Reporter.*

MR. ELLIS REPLIES TO THE GLOBE.

Jonathan Ellis, the well known woolen manufacturer of Port Dover, has been taking the *Toronto Globe* to task for its editorial on the woolen industry, which was reproduced in the last issue of the *Journal*. Mr Ellis replies in this fashion:

"The solicitude of *The Globe* on behalf of our suffering woolen mills, as evinced in its sympathetic editorial of the 8th ult., under the above caption, is very touching indeed. It is somewhat remarkable, however, that the able editorial writer was unable, in a half column article, to evolve something of a more practical and encouraging character than the one or two insignificant remedies which he propounds for the very serious ills now affecting our woolen industry. The matter of a duty of 25 per cent. on their machinery is not regarded seriously by our woolen mills; in fact, they do not object to this duty, and could not do so consistently, while asking for a sufficient protection on their own output. Moreover, if granted their request, viz., a net protection of 30 per cent. on their product, I feel safe in saying our woolen mills would cheerfully submit to even an equal tariff on their machinery. They are not asking duty off their machinery, which would certainly be comparatively no saving for years to come, seeing that they are already well equipped and have paid full duty, and a remission of duty would only decrease the value of their plants to that extent. Of course a reasonable adjustment of freight rates would be acceptable, but I am not aware that our woolen mills are at any more disadvantage in this respect than other industries. A net duty of 30 per cent. on their product would, I am sure, entirely relieve our woolen mills, and this would only offset the difference in the cost of manufacture between England and Canada, as I am assured by a woolen mill superintendent who recently left the management of a mill in England to accept a similar position in Ontario, that he could produce the same class of goods in England fully 30 per cent. cheaper than in Canada, for reasons which I will not now occupy space to give. This trifling addition would add not more than a very few cents to the cost of a suit of clothes, and I feel that it is not to the credit of a Liberal Government that they have so long lent a deaf ear to such a reasonable request. I might add that it is remarkable that only a very insignificant quantity

of woolen machinery is now being made in Canada in comparison with thirty years and more ago.

TURKEY RED.

If fabrics mordanted with alumina be dyed in a boiling bath containing alizarine and a corresponding amount of lime, bright red shades are obtained, and if then rinsed with cold water and dried, the shade changes to a dull yellowish brown. It is this dull brown substance which combines with fatty acids to give brilliant fast-red shades, such as Turkey red. The original bright-red fibre, as taken directly from the bath, does not combine with fatty acids, and the color is at this stage not fast to soap. If the dull brown fibre be steamed or boiled with distilled water, the shade changes to a bright red, which will not react with fatty acids, and is also not so fast. This phenomenon is explained by the assumption that the brown substance, which is unsaturated, and can therefore combine with fatty acids, undergoes an internal condensation to form the saturated bright red compound which has lost the property.

Turkey red oil is not very stable, and loses the property of dissolving in water. Schlieper and Baum employ acid sodium ricinoleate instead, which they make by saponifying castor oil with caustic soda lye, and neutralizing half the combined soda with hydrochloric acid. The required substance rises to the top as an oily layer, congealing to a semi-crystalline mass, readily soluble in water. They employ, says *Textile Mercury*, an alumina-mordant, sodium aluminate, made by dissolving hydrated alumina in excess of soda lye, and neutralizing the excess of caustic soda with hydrochloric acid. The white goods are padded with this, dried, treated with hot, moist hair, allowed to stand, washed, and twice treated in a warm lime bath to convert the sodium aluminate completely into calcium aluminate. The fabric is then rinsed and dyed at 87 deg. C. in very large vats, which are replenished continuously with water, containing one and one-half pounds of ten per cent. alizarine and six pounds of lime water per 100 gallons. The same vat is used for an indefinitely long time, the amount of lime and alizarine being carefully controlled and corrected as required. After dyeing, the goods are cooled, pressed, impregnated with the fatty mordant (in aqueous solution), dried, steamed and soaped. Finally, they are resoaped with the addition of a small amount of tin salt. If the dyebath were heated to a higher temperature than 90 deg. C., the "saturated" red substance would be formed, and would not combine with the ricinoleic acid.

A COMPLICATED CASE.

One of the most complicated cases which has ever arisen in the dry goods trade in this country has just been disposed of before Chief Justice Sir W. R. Meredith, at Toronto. Gault Bros., of Montreal, wholesale dry goods merchants, sued Albert L. Pentecost, retail dry goods dealer, of Hamilton, his brother, Robert W. Pentecost, managing director of the W. R. Brock Company, of Toronto; Edward Wilson, insurance agent, of Paris, Ont.; Hamilton Cassels, barrister, of Toronto, and also solicitor for the Brock Company, and the W. R. Brock Company. It was alleged that Albert Pentecost owed \$3,341.22 to the Gault firm, who obtained a judgment for that amount. While owing the above sum to Gault Bros., Pentecost assigned some of his stock in trade to the W. R. Brock Company. Several consignments of stock, valued at \$6,000, were sold to Alf. Wood for 85 cents on the dollar, and resold at 95 cents, all, it is al-