

thirty-five per cent., stocks on hand therefore becoming more valuable instead of depreciating, as had been the case for some years past.

Cotton Market.

Cotton is dearer now than at the corresponding dates in the past two years, but the conditions of the market are most unsatisfactory, from the seller's point of view. Trade conditions in the United States are in a chaotic state, and Congress only restrained from tariff tinkering and the silver insanity by the cumbersome nature of the Government, which renders it almost impossible for it to advance in a straight line; the President pulling one way, the Senate another, and the House of Representatives a third. The result is that cotton is not doing well, and almost the sole hope of better things for the planter next year lies in the fact that the present depression may lower the 1896 acreage. The outlook in Canada is not so bright as some time ago it was expected to be at this season, but there is no reason to conclude that we are in for a serious depression; it is only a matter of holding on as we are for a short time.

Woolen Market.

The improved tone of the London wool market at the recent sales will not be without its effect on our market, but that effect will not be great nor immediate. At present the market seems well supplied, and the mills do not find orders coming in very freely, though, of course, the season is not yet fully on. Worsteds are in good demand, and are likely to remain well to the front for some time. While this is the case there is no reason for discouragement on the part of mill-owners who turn out woollens exclusively, because there is a steady demand for rough finished woollen goods. There seems to be a falling off in the demand for smooth finished woollens, however. In the former class checks are prominent among the designs that are selling, and they are either pin or large all-over checks. Six-quarter goods are being turned out by a larger number of mills than formerly, and they are meeting with good treatment. While the course of tariff legislation in the United States is not yet an absorbing topic among Canadian manufacturers, it is reassuring to notice that there seems no possibility of the present Congress being able to disturb existing conditions.

WORSTED, FROM THE FLEECE TO THE CLOTH.

BY B. F. FELLIS.

The processes of manufacturing cotton, woolen and silk fibres into cloth, are each pretty generally understood by those engaged in the others, but worsted manufacture, owing to the many operations special to it, is not quite so much so. The worsted industry is distinct from the woolen, although the two are often confused, for the reason that similar processes and machinery are employed in each.

Worsted is the best part of a sheep fleece, and in order that the fine, smooth, lustrous and long fibres which are needed to make worsted cloth may be separ-

ated from the shorter, coarser and less brilliant kinds that will do for ordinary woolen goods, machinery is required that cannot be found in a woolen mill. The first operation in worsted manufacture consists in washing the wool, cleansing it from all grease, sand and foreign matters, after which it is dried.

The latest and most improved method of drying wool is by the automatic continuous machine. This dryer consists of a series of chambers, each being about five feet wide, six feet high, and fifteen feet in length. An endless apron is made to travel through these chambers from the feed to the delivery end. The wool is carried along on this apron, and at the same time subjected to an intense heat. In this way, it is possible for one man to dry 3,000 pounds of wool per day.

The next process is picking. The object of this operation is to break open the tufts of wool and prepare the fibres for the subsequent processes. Machines fitted with large steel-toothed cylinders are used for this purpose. The cylinders revolve with great rapidity, and the point of the steel teeth come in contact with the wool just as the latter protrudes from between a pair of feed-rolls. The action of the teeth on the wool is such that all the hard and felted bunches of wool are well opened. The wool is fed into the machine on the moving apron.

The wool is next prepared. By preparing is meant (1) carding, (2) back washing, (3) gilling. The method of carding wool for use in the manufacture of worsted goods is different from that used in carding wool for woolen goods. When carding for woolen goods the material is taken direct from the card to the spinning mule, where it is spun into yarn. When carding for worsted goods the material is put through several processes before it is in readiness to be spun into yarn. The carding operation consists in opening and disentangling the matted locks of wool and then arranging them in a common line. The law of uniformity is maintained so far as a common level is concerned, but as to procuring perfect parallelism of every fibre, that is beyond the end sought in the carding of either woolen or worsted fibres, because such a degree of perfection is uncalled for. Woolen yarns do not require a parallel arrangement of the fibres at any time, while the fibres intended for use in worsted yarns are straightened during the later operations of gilling, combing, etc. Hence the object of carding is to arrange the fibres in a common line, but not parallel with each other. Other cylinders and rolls are, of course, necessary in order to complete the operation, but the real work of carding begins and ends with the main cylinder, which is about 4½ feet in diameter and revolves on a strong shaft extending through its centre, and resting on stationary bearings attached to a solid framework. This frame also supports the other rollers, of which there are several distributed at uniform intervals over the surface of the main cylinder. All these rolls and cylinders are covered with a clothing of fine wire teeth, the points of which are reduced to the required degree of sharpness. These teeth or card wires are securely