## Notes on the Manufacture of Low Worsteds.

(From our special Bradford Correspondent).

Ant all the numberless manufactured textiles which an Indian public has been treated to, cheap, low worsted coatings find a most prominent place. They are a fabric always looking "dressy and smart," and one which always will sell in more or less quantities. In fact, to every quarter of the globe no style of fabric has been shipped so extensively as has the worsted coating, and as its manufacture is so easy, I will give a few particulars in the interests of Indian manufacturers.

The "heavy woollen district" of Yorkshire with Dewsbury and Batley as a centre, is noted for more than its cheap beavers, naps, presidents, meltons, etc., which it produces in great quantities. Low worsteds play a very important part in keeping many mills busy. These worsteds, which are always dyed in the piece, have a very fine appearance when new, and have had a very large sale during the past few years for both home and foreign consumption, and are largly used in this country by wholesale clothiers. These goods vary in price from 18.9d. to 3s. 6d. per yard, 54 inches, according to weight and quality. Of course, any one not familiar with the construction of this cloth would be apt to think it very cheap indeed, because, at a glance, it has the appearance of a very fine, solid worsted. It is made in three different classes or designs. First, worsted warp and a low thick spun shoddy weft for filling; second, worsted warp and cotton and shoddy weft; third, worsted and cotton warp, and cotton and shoddy weft for filling.

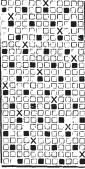
The worsted classed No. 1 is not very desirable for rough usage, say, for clothing rough, scampering, healthy boys, although it is largely used for such, on account of its cheapness, simply because the worsted yarn is so thinly "veneered" on the surface of the cloth, that were a boy to lean against a wall, or rub against a rough piece of timber with one of these suits on he would in all probability, leave some of the worsted behind, and show a big patch of shoddy, where a few minutes before was a nice "fine" suit of black worsted. I am sure I am hardly stretching the truth when I state that the face of these low goods is as easily rubbed off as chalk on a blackboard, and yet they are largely made to please a fastidious public the wide world over.

The following are the particulars of the layout for this cheap style of worsted coating:—2,900 ends white worsted 2-60's, 17's reed, 3 ends in dent, woven 57 inches wide, or 10 shafts straight draft, about 30 picks per inch, weft, 5 or 6 skeins shoddy woollen dyed in piece, and finished 54 inches wide. The weft can be made out of all mungo or shoddy, costing here in England 1½d. a lb. Here is the design, the black dots representing warp down:—



It will be easily seen from this 10 shaft weave that all the warp will be thrown on to the face of the cloth, while all the west goes to the back.

Class No. 2 is far superior to the last named one, and sells at from 2s. to 3s. 6d. per yard, 54 inches according to quality. The following are the weaving particulars:—Warp 4,400 ends, 2-60's white worsted, 18's reeds, 4 ends in dent, 59 inches wide, straight draft on 12 shalts or heads, 45 picks per inch, welt, one pick 2-40's black cotton, one pick 10 skeins shoddy woollen, dyed in piece, and finished 54 inches wide, the shoddy stock being the same as used in No. 1. Here is the weave:—



The stars represent warp down as well as the dots.

No 3 is a still better cloth, and will stand a good bit of wear and tear; it is well balanced in construction, and is woven on two beams. The following are the weaving particulars:—Pace warp 4,400 ends of 2-60's white worsted, backing warp 2,200 threads of 2-40's black cotton, drawn one thread worsted, one thread cotton, one thread worsted, total three threads; 18's reed, six threads in dent. 30 inches wide, woven on 12 shafts, straight draft; weft, one pick of 2-40's black cotton, one pick 15 skeins woollen, one pick 2-40's black cotton, total three picks, 70 to 75 picks per inch, dved in piece, and finished 54 inches wide. Here is the weave



Black dots indicate warp down.

The "heavy woollen district" of Yorkshire is the home of shoddy stock, as it was here in Batley that it first saw the light of day. The man who first thought of the idea of grinding up old rags, stockings, etc. repeatedly failed to work out his ideas successfully, but he was determined to make it succeed and said "It mun-goa"—hence the term mungo, and with all its faults it plays a most important part in the woollen manufacturing industry of the world.

By last week's Indian Mail I had in a letter from one of your domestic manufacturers, expressing a desire to go in for making ladies' dress goods, and wanting particulars of yarns, etc., enclosing also a dozen small patterns of dress goods made here in England, and wanting me to dissect such and giving very detailed particular. To have done this simply meant for me a month's work, but as I am anxious to help Indian manufacturers all I can allow me first of all to recommend to them to do as even German manufacturers do to-day, and more or less French and American makers do, that is, to secure from Bradford worsted spinners some worsted yarns, and then in these columns from time to time I will give full weaving particulars of most up-to-date fabrics for their guidance. I shall be pleased to recommend good export yarn merchants if application is made through the office of this paper.

I give below a few designs suitable for dress goods, and which are not only typical examples of the weavers' art, but are capable of development in several ways. It is noticeable that in looking over a range of dress fabrics, which are the best sellers, the largest quantities are those made from simple weaves such as plain, twill, and hopsack. These cloths appear in all colours from the ordinary blacks, whites, and greys, to all fancy shades and tones. The first plan given below is a common weave, the 12 shaft honey-comb. The order of warping and weaving is as follows:—

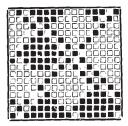
Warp—6 threads of 2-20's mulberry worsted, 6 threads of 2-20's like worsted, 52 threads per inch.

Weft-6 picks of 2-20's dark green worsted, 6 picks of 2-20's medium green worsted, 48 picks per inch. Weave as follows:—



The above design gives a real short effect in 14 colours, of course any colour blend, or combination of yarns can be used.

The next pattern is a very neat one, and although not exactly a honey-comb, yet it is of that nature. In this design the object in view has been to develop the centre of the cells in tancy colours, while the outside edges appear in dark yarns. Commence at the left hand for this



Warp—1 thread 2-30's red worsted, 1 thread 2-30's yellow worsted, 6 threads 2-16's black worsted, 40 threads per inch.

Weft - I pick 2-30's green worsted, I pick 2-30's blue worsted, 6 picks 2-30 dark blue worsted, 40 picks per inch.