

Notes on the Manufacture of Woollen Serges.

(By our special Bradford correspondent.)

PERHAPS no style of fabric has had such a long "innings," and occupied the public favour so much as serges. These cloths have not been popular simply with an English public, but throughout the world, the members of both sexes have alike shewn a strong practical favour to be adorned with the everlasting serge. This has brought about in the large manufacturing district of Bradford a state of affairs that nearly every manufacturer has turned his hand to the production of this class of goods, but some have specialized the fabric and turned out nothing else. First of all we had made the pure, unadulterated, all-wool serge, then we had produced the angola, or a mixture of cotton and wool serge, then the Leeds and Morley makers went a step further in the process of degeneration, and began to bring out cheaper serges still, doing so by using cotton-warps and a low woollen weft for filling; then the Bradford makers tried their hand at the job and by using worsted yarns spun from crossbred wools, and the public was so captivated with the beauty, combined with the general utility of the fabric, that the worsted serges soon "caught on," giving to crossbred wools a real fillip, the splendid prices being paid for the raw article bringing about the conversion of a few millions of merino sheep in New Zealand from the merino into crossbreds, by their being mated with English long wool or crossbred sheep. A few notes on the manufacture of serges will therefore be of interest to Indian manufacturers.

All woollen serges are mostly, if not all of them, solid piece dyed colours, blue predominating. We may have alizarine blue or a prussiate blue which will withstand spotting by rain or water, or a more expensive colour—indigo blue, which, of course, is a shade less liable to fade under a hot sun like that of India. There are ladies' dress fabrics in serges and light summer suitings for men, also the army serge suitings; in fact, the variety is great, and weights can easily be made to vary very much. We will start with a 12-oz. woollen serge for light summer suitings, well adapted for the Indian climate, and can be dyed to any shade required.

Weave.



12-oz. Woollen Serge.

Four end twill to right.

Straight draft.

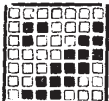
Spin your woollen yarn to about 29½ skeins, 11 reed, four ends in split, 67 inches wide in loom with listings, weft 31 skeins, 44 picks per inch; weight from loom 14 ozs., finished weight, 12 ozs.

This fabric when finished has great structural strength on account of the stock used and the twist put into the yarn. It will prove to be a good wearing fabric, one that will stand the wearer in good stead for comfort and durability. Now, perhaps, the most has been made of this four shaft or end weave by the makers of cotton warp serges of any other, and singular enough, they have turned out by far away the greatest quantity of this fabric. In Leeds, you can buy some decent fabrics from 9d. per yard, 54 inches, about 14 to 16 ozs., and their mode of procedure, to make them is something like this. The cotton warps used are all spun in Lancashire. About 2-24's to 2-36's cotton is used for the warp yarn. For filling I here give a leaf from one of their manufacturers' mill books, this being a blend for serge wefts: Take 79 stones (1,106 pounds) serge, somewhat coarse—mungo, at 2½d. per pound. Blend with it nothing else, neither cotton nor wool; do not oil it, but scribble it straight away from the rag grinder. When scribbled, spin into 5 skeins weft yarn. This yarn went into a serge fabric that sold for 14½d., 54 inches, 22 ozs. I need not tell readers of this *Journal* that thousands of fabrics thus made have been shipped on to the Indian markets, and, being a fabric easily made, and always selling, they should command the attention of Indian manufacturers.

Here is a lay out for a heavier woollen serge.

18-oz. Woollen Serge Suiting.

Weave.



Six end twill to right.

Straight draft.

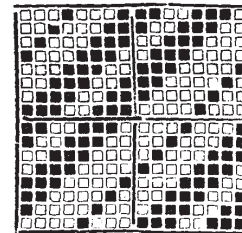
Spin your warp to 25 skeins, 13 reed, four threads in split, 75 inches wide in loom, about 52 picks per inch, weft same thickness as warp.

In dressing these goods, particular care must be taken in building up each section of the cloth, as section stripes are very liable if built unevenly. It is a good thing to dress the warp about four inches wider than the width laid out in the reed. They will weave much better. If the goods come out too heavy, the fault will be in the spinning room, the yarn not being spun down to the counts given. Weave the goods as near perfection as you can get them, keeping out "broken picks," floats and smashes; keep the warp and listing threads in, but this will suggest itself to every competent weaver and prove itself invaluable when the cloth comes to be finished. Now, if these goods should prove to be burry, or burly, and specky, I should advise them to be burl dyed in effect a slight carbonizing before being dyed; it makes a cleaner job, and a much better one, producing a better colour. Also, if the goods are scoured clean, and are free from soap, they will not be cloudy after being dyed, otherwise they will. Serges are always supposed to be good wearing fabrics, and dressy in appearance. This depends on the make up; it also largely depends on the finishing, on an evenly raised face which gives the fabric a smart and attractive look. The gigning needs to be done by an experienced hand. What little nap there is when the goods are in the finished state wants to be in the pink of condition. The shear has got to do its part, the goods must be even, neither shaggy nor streaky. Brushing, steaming, and pressing must be done thoroughly and well.

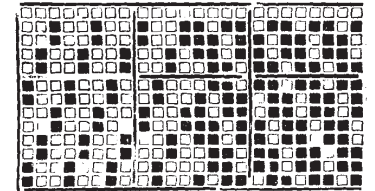
Briefly let us look at worsted serges, fabrics worn by the middle and upper classes. The plain twills, such as are given above, are mostly used. In these plain twills the following are good for weights, given woven on the above six end twill:—Warp, 3,880 ends of 2-26's worsted. Weft 15's, 72 picks. This will give about 15 ozs. per yard. These particulars will give an heavier weight:—Warp 2,800 ends of 2-16's, weft 2-14's, 38 picks. This gives an idea of what we can use for this grade of goods; of course, they can be varied to other weights, care being taken not to crowd them in, making the fabric hard and papery, losing by doing so a nice handle and firm fabric.

These styles of fabric give considerable latitude for ornamentation, both by twist arrangement, drafting, and alteration of threads by the introduction of different colours. Here are two very good weaves which should not be lost sight of:—

Weave No. 1.



Weave No. 2.



Weave No. 1 is a diagonal, made up in twills of different sizes. The effect can readily be seen with the weave. It is on 16 ends, and could be cross drawn for striped effects, cross drawn and cross drafted for check effects. Weave No. 2 gives a beautiful effect, the warp being flushed the width of 12 threads, and the filling flushed also for 12 threads. A very fine serge can be made up on this weave by using 72 ends per inch 2-38's, and 80 picks 2-30's, producing a fabric about 16 ounces.

An interesting trade mark dispute between the Comptroller-General of Patents and Messrs. Ripley, a firm of dyers and cloth-finishers, has come before Mr. Justice Kekewich. The firm sought to compel the Comptroller-General to register the word "Pirle" as a trade mark for woollen fabrics in class 34 under the Patents, Designs, and Trade Marks Acts. This he had refused to do, on the ground that "Pirle" was merely a misspelling of the word "Pearl," which he had previously held to be not registrable. It was contended that "Pirle" was a fancy word, being formed by a transposition of the letters in "Ripley" with the omission of the letter "y." Mr. Justice Kekewich, however, characterised this transposition of the letters as a poor attempt at humour. He agreed with the Comptroller-General that "Pirle" was mere misspelling of "Pearl," and held that it could not be registered. He based his decision, however, entirely on the similarity in tone between "Pirle" and "Pearl"—not the eye only, he said, but the ear also must be consulted—and on the assumption that the Comptroller-General was right in refusing to register the latter word. The question whether "Pearl" was registrable was not before him, and he expressly guarded himself against saying anything on the point, in order, as he said, not to prejudice any application Messrs. Ripley might make to have the word "Pearl" registered.