

take it for granted. Should they, however, wish for more decisive proofs, these will be forthcoming, not, I believe, only from myself, but also from others in more important positions.—Yours, etc.,
ALFRED F. BARKER.

The Salt Schools, Shipley, March 18th.

WOOL IN THE LEVANT.—Wool, which is usually an article of export for the ports of the Levant, is imported to Bourgas to the amount of 600 to 1,000 bales per annum from Russia and Kustendje. Bulgaria possesses large pastures on which graze sheep of excellent quality whether the meat or the wool is considered; and manufactures also native tissues called chayaks and abbas, which are exported to the whole of Asia Minor. The quantity of abbas of different qualities and thickness which are annually exported from Bulgaria is estimated at 30,000 to 40,000 kilos. The town of Slivno, distant about 80 miles from Bourgas, in the interior, has already seven large factories with European machinery.

ANYBODY in need of a hobby should try spiders. In one way and another these interesting creatures, which are not insects, have been quite prominent lately in periodical literature, and the general reader probably has a better opinion of the tiny spinner than before. As there are over five hundred species known in Great Britain, it must not be imagined that it is possible to become proficient in this branch of science in a week or two; but, for all that is known already of the different kinds and their habits, there is still room for original research, and by way of recreation, the hobby-rider might verify or improve upon the recorded experiments in the manufacture of spider silk. This matter appears to have been carefully avoided since some enthusiastic Frenchmen quarrelled about it, and the only additional information afforded of late upon the subject appears to be an error. It is said that spiders' threads may be woven, which is true enough, that they are more glossy and brilliant than those of the silkworm, which is not supported by the conclusions of those who have compared the two side by side, and that enough of it was once secured for the weaving of a suit of clothes for Louis XIV. Now stockings have certainly been made from spider silk, and gloves too, for specimens of each were presented to the Royal Academy of Paris, and to the London Royal Society, in 1710, and there is an indefinite mention of waistcoats being produced from this remarkable fibre. But this is the first that has been heard of an entire suit of clothes furnished by spiders. As it has been calculated that it would be necessary to rear 55,296 of the larger spiders, or 663,552 of the ordinary sort, to yield a pound of the silk, we may regard that suit with some hesitation. It is most probable, however, that it is only a case of slipshod inaccuracy after all, for it is on record that M. Lebon, of Montpellier, sent a pair of gloves made from spiders' silk to that same Louis XIV., and faulty memory with careless haste has most likely made a suit of clothes out of them.—*Warehouseman and Draper.*

Designing.

NEW DESIGNS.

GALATEAS.

(1.) In 40 reed, 2 in a dent, or 80 ends per inch of 24's warp twist and 60 picks of 20's weft, worked on four shafts, 3 up, 1 down, four to the round, straight-over draft. Warp pattern: 12 dark brown, 6 white, 2 red, 2 brown, 2 white; weft: dark brown.

(2.) Warp pattern: 3 white, 9 dark blue, 3 light blue, 9 dark blue, 3 white, 9 dark blue; weft: dark blue.

(3.) 24 dark blue, 3 white, 3 drab, 3 white, 3 drab, 3 white, 3 drab; weft: dark blue.

(4.) 18 dark brown, 6 very bright red, 6 light blue, 6 white; weft, dark brown.

(5.) 18 dark blue, 2 white, 2 dark blue, 2 white, 6 dark blue, 6 white, 6 dark blue, 2 white, 2 dark blue, 2 white, and the weft all dark blue.

SPRING SHIRTINGS.

On four shafts, straight overdraft, cassimere twill, 60 ends per inch of 20's twist, 16's weft, 40 picks per inch. No. 1 pattern: 30 white, 2 red orange, 2 white, 16 dark blue, 4 purple, 4 white, 16 green drab, 4 purple, 12 light blue; weft grey cop, soft spun.

No. 2 pattern: 24 cream, 2 red, 24 cream, 60 dark brown, 6 red, 2 white, 6 red, 60 dark brown cop weft.

No. 3 pattern: 20 white, 2 dark blue, 2 white, 2 dark blue, 2 red: weft pattern the same.

No. 4 pattern: 4 white, 2 light fawn, 2 white, 2 light fawn, 4 white, 6 dark brown, 2 white, 2 light fawn, 2 white, 2 Napoleon blue, 2 white, 2 Napoleon blue, 2 white, 2 light fawn, 2 white, 4 dark brown; weft pattern the same. This arrangement will make a very handsome checked shirting cloth.

THE FINISHING OF WOOLLENS.

(Continued from page 152.)

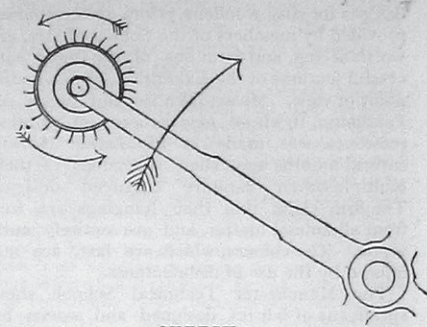
It will be remembered that in our last article on this subject we had occasion to refer to the introduction of a raising machine, presumably with the idea of superseding the teazles. The principle of this machine is shewn in *Sketch 1*, and note should be made of the fact to which we previously called attention, viz., the two-fold motion of the teeth, which is introduced to prevent any possibility of damaged pieces, and also most probably with the idea of varying the severity of the operation according to requirements.

There is one matter involved in "raising" of which notice has not yet been taken, and that is the direction in which cloths should be raised. As would be expected this must depend almost entirely on the class of cloth under treatment, though there are certain broad principles, which it will be well to consider. There are, of course, four ways in which a cloth can be raised: 1st, right to left lengthways; 2nd, left to right lengthways; 3rd, right to left across; 4th, left to right across. Having, however, once raised a cloth in one direction there are practically only two other ways, viz., directly opposite and across, since this latter process is practically the same whether effected from right to left or left to right. Now on first thought it would be expected that such goods as doeskins, etc., i.e., dress face goods, would be simply raised in one direction; but again the fact must not be lost sight of that *first* a fibrous surface must be obtained and then the fibres be laid in the direction required; thus in the case of doeskins it is usual to raise them almost all ways to obtain the fibrous surface previous to finally laying the fibres so raised parallel to one another. The same principles are equally applicable to meltons, tweeds, etc., but in the first-named cloths note should be made of the fact that it is not raising which obliterates the make and procures the required effect, but the preliminary operations, which we considered at length in past issues.

Following raising comes "cutting." This practically consists in either cropping off all the fibres projecting from the body of the cloth as short as possible, leaving a bare cloth, as in the case of the melton, or else in reducing all such fibres to the required length, thus obtaining evenness of surface, which is most necessary under any circumstances.

Having dismissed "cutting," attention must now be directed to "boiling and crabbing." Boiling is practically introduced to obtain a permanent lustre. Thus it is usual to wind the piece tightly upon a roller and to boil for some hours, but, in order to ensure evenness, it is taken off and wound on the reverse way during the operation. Doeskins and like cloths may be taken as presenting the typical appearance resulting from this treatment, for in their treatment boiling is sometimes repeated again and again. Remembering these facts, little difficulty should be experienced in realising the principles of boiling and crabbing. Washing, tentering, and drying follow, being in turn succeeded by "pressing."

Pressing may be said to have for its objects: firstly, the solidifying of cloths; and secondly, to impart lustre or otherwise. Though, of course, the real weight of the cloth cannot be affected in the press, still it is possible to give to the cloth a firmer handle, though there is the fear of "cakiness" if this be carried too far; though, again, cakiness may be got rid of in the subsequent process of steaming. The amount of lustre and solidity imparted must of necessity vary according to the condition in which the cloth is put into the press; but, as



SKETCH

already stated, these attributes are always more or less fugitive. The question of hot or cold plating is one worth consideration, since it requires little thought to realise that a very different effect will be produced in each case. Thus we shall find that the lustre goods, which we have already had occasion to refer to, are cold-plated, thus preserving the characteristic parallelism of the fibres, while in the case of rough Scotch finish, etc., warm plates are used, which undoubtedly tends to render the wool fibres curly and rough, thus obtaining the desired rough effect.

Having thus briefly run through the processes involved in finishing, it remains only for us to state again that throughout we have simply endeavoured to demonstrate the principles involved, since we are inclined to believe that there yet exists too much rule-of-thumb procedure in this department of the mill. The certainty of attaining an effective and required finish must, of necessity, depend on the principles which we have been considering. It is therefore our hope that some of our remarks will directly benefit and prove of service to those interested.

FANCY DRESS STRIPES.

In materials, stripes will be worn more than anything else this season, and green takes the lead for the moment, although not to the absolute exclusion of all other colours. It is seen in bright as well as unobtrusive hues, which are difficult to describe; the most popular are fir-green, cress-green, and very light tints approaching yellow. Checks are coming into favour in white and brown on a dark green ground, white and yellow on a brown ground. Soft and agreeable to the eye, but not very effective, are the contrasts of navy-blue and very dark and dull greens, forming indefinite outlines with a plaid appearance. Cotton costumes offer materials that at a short distance might be taken for wool or satin, so much skill has been expended in the designs and colourings. They drape quite as gracefully as wool goods, and are washable; the finest specimens of cotton goods will shortly be in fashion, if we are allowed a little sunshine. Buyers are on the alert for ottomans, sateens, zephyrs, cambrics, batistes, and particularly gingham of good make. The colour blendings most fancied in these fabrics are green, almost black, deep grenat blue in navy gendarme and Gordon, brown in all shades, and black in the lighter hues, rose tints, pale lemon, light violet, sky blue, white, and cream; and all the delicate tints of the earlier blossoms will be fancied, pale tints of primrose and cowslip leading.

We give a few patterns in stripes and plaids, which may be successfully carried out and will at the same time convey useful ideas for weave and colour combination. The width of the bands or stripes may be of any size, or one larger in width than the other: generally they will be found two and three inches broad. The design shews the twills reversed in each band. The pegging plan on 6 shafts, 6 to the round, is numbered for draft reference, and is extremely simple, requiring no elaborate weaving machinery. A good fabric can be produced from the following particulars: 60 reed, 3 in a dent, or 90 ends on one inch of 24's twist for warp, and 90 picks per inch of 24's weft. A light cloth may be made with 60 ends per inch, three in a dent, 30's twist for warp, 60

