

tain the best method of producing a slightly selvage; but in these days of constant changes many a one finds to his cost that this question is not to be lightly considered, and that he has to use no little ingenuity in order that his pieces may all possess this most necessary quality. The ventilation of this subject, says the Boston Journal of Commerce, will do readers no harm; even those who at present experience no difficulty, may, by having their attention drawn to this question, glean something which at some future period may be found of service. It is absolutely necessary that the formation of selvages for cloth to be used in the grey should be considered separately. While in cloth, which is used in the grey state, the appearance of the selvage only has to be considered, other points have to be regarded when the material has to undergo some finishing process before being sold to the consumer. In the former, it is only necessary that the selvage shall be neat and regular, not too thick and coarse, and without loops of weft disfiguring the outside edge. The selvage has, of course, to be strong enough to withstand the pull of the weft and the blow of the reed. The usual plan is to draw two ends of the warp into each dent of the reed.

In many makes of plain cloth, warp ends similar to the body of the cloth may be used; but in some cases, where those ends are made of fine twist, it is both cheaper and better to use coarser ends, and at the same time to employ a smaller number. In other makes of heavily picked cloths it is necessary to use selvage ends of doubled yarn. When these threads are drawn in, one in each heald, and three or four in a dent, a very much neater selvage is made. In some cases it is found necessary to give the weft, when leaving the shuttle, extra drag in order to prevent it from forming loops on the outside edge; but if the looms are kept in good order, this should only be required under extreme circumstances and for certain makes of cloth. As this drag is, of necessity, trying to the weft, it is obvious that it should not be used unless absolutely essential. It is, however, in cloths which have to undergo some finishing process that this question assumes its most difficult aspect, especially upon cloths which are made by treading the healds is some other way than that employed in making plain clothes.

When cloths have to be finished, it must be considered whether the selvages will stand the different processes which have to be employed. If made too tight (and a tight selvage for a grey piece will probably give the neatest selvage), the cloth in some cases will be found to cockle in the centre, while in others the selvages will curl. They have also been known to split, making a rent in the cloth. All these faults cause annoyance to the merchant, and no considerable loss to the manufacturer. It is necessary to consider each cloth upon its own merits; but with the exception of a few light fabrics, which undergo a finishing process, when considerable side strain is used on the selvages it would seem to be quite necessary that they should not be as tightly woven as the body of the piece. Starting from this standpoint, it is evident that the method employed, say, for making the selvage for a weft sateen would not be at all suitable when used for one for a drillette. In nearly all kinds of cloth manufactured by a fancy weave, it is usual to make what is called a plain selvage, or, at any rate, one which has the appearance, when finished, of being plain.

When sateens were first made, considerable difficulty was experienced by some manufacturers in making plain selvages sufficiently slack. Considerable claims for damages resulting from cracked selvages, had to be faced by them,

and yet there is probably no cloth in which a good slack selvage can be so easily made, especially in those kinds where a great number of picks of weft are employed. In fabrics, where the size of the warp largely exceeds the size of the weft, it is found that the warp does not, in weaving, contract as much as when the counts of the warp and twist are more equal. Hence by having the selvage ends much coarser than the warp ends in the body of the cloth, and also much coarser than the weft, a slack selvage of the corded class may be obtained. In fine reeds it would be necessary to draw these ends two in a dent, and even in some cases to miss a dent. By employing very coarse threads in this manner, the weaver is assisted by a decrease in the breakages of the selvage ends, and the appearance of the ribbed selvage is very good. Difficulty has also been experienced in working the warping mill and slashing frame owing to the counts being so widely different; but this difficulty need not exist. It is obvious that an end of 20's twist will occupy more room upon a warper's beam than one of 60's twist, and in warping much has to be left to the discretion of the warper, who even with the greatest care finds it difficult at times to avoid making beams, the selvages of which may in the slashing frame come off either too slack or too tight. Some manufacturers to avoid this put in their selvage ends at the slashing frame; but this system entails considerable labor and some little loss of time at the slasher.

As this means loss of time to a highly-paid servant employed upon a very expensive machine, it becomes of importance. When small expanding combs are used solely for the purpose of guiding the selvage ends to be affixed to the warping mills, much better results can be obtained. These combs are made to expand and contract quite independently of the main comb. When the selvage ends are introduced at the slashing frame, a creel is arranged for a given number of bobbins. In this creel warpers' bobbins are put, and the yarn is drawn off them in the same manner as off the back beams. Trouble is often experienced by some of these ends twisting together, and care should be taken that each end is kept separate until it has passed under the squeezing roller in the tin box. The bobbins used should be large enough to hold sufficient length for one set of back beams, so that the slasher will not have to renew them during the slashing of the set. When this is not done, it is no unusual thing to find that a bobbin has become empty before the slasher has become aware of the fact. The most convenient position for these creels seems to be about half-way between the immersion roller and the first back beam. We have seldom seen creels that would hold more than fourteen bobbins at each side; larger creels would be almost too cumbersome. Where more have been required, the additional ends have been run on to the warper's beam at the warping mill.—Textile Manufacturer.

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### THE DYER IS A CHEMIST.

No journal purporting to represent the interests of textile manufacturers can consider its mission properly fulfilled unless it devotes reasonable space and careful consideration to that department of manufacture where the fibre is subject to its greatest changes—changes in color that are to determine style and desirability of the finished fabric, as well as to mask its composition, or to develop patterns woven from fibres acting differently toward the dyer's processes.

The dyehouse stands alone in textile manufacturing. All other departments are concerned with mechanics, varying