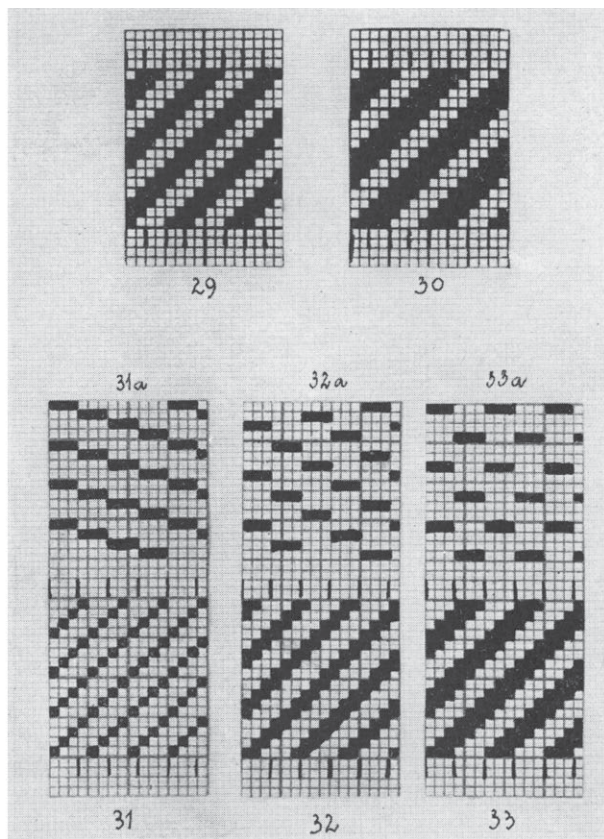
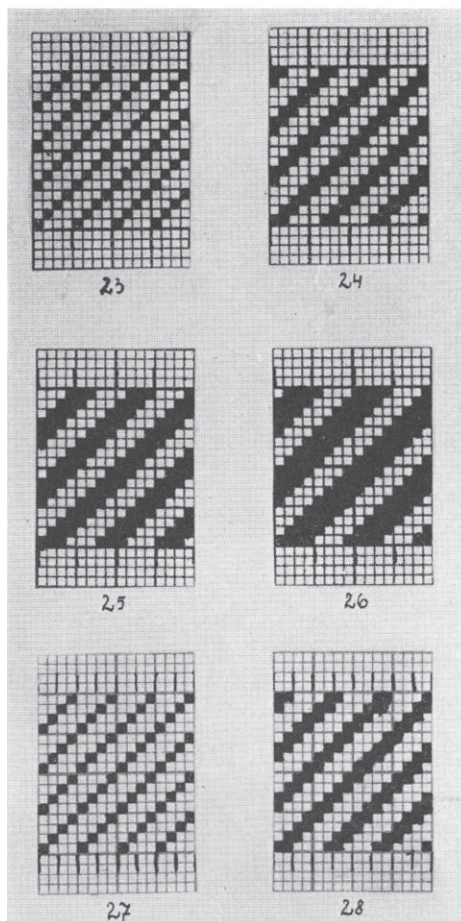


Correct Reeding of Weaves

By JOSEPH FUNKE

(Continued from October issue, page 564)

In weaves where the filling floats extend over 3 warp ends on the face of the fabric, it was found previously that the four per dent reeding is the most suitable. (Good effect, if one end more is in a dent, than the number of ends a filling float covers.) As the weaves in Figures 23 to 26 show, with such an arrangement every filling float comes in contact with only one reed wire, hence they will be of practically the same length and none will stand out more or less conspicuously. Even with a two per dent reeding of these weaves practical results are obtained, as Figures 27-30 will prove. In this case every filling float comes in contact with 2 reed wires which affect all floats equally. Similar results can be obtained with all reedings, wherever one more end than the number of ends floated over by the filling are in a dent, i.e. two, wherever 4, 6, 8 and 10 ends per dent are suitable, or three, wherever



6, 9, 12 ends per dent are desirable etc. Yet, to such fine denting there is still one objection. With a 2 per dent arrangement on a four harness filling twill, for instance, the 2 ends in the same dent will always of necessity be pressed together and thereby lose much of the effect the warp yarns should make in the cloth. In a twill it also breaks the continuity of the twill line to some extent, disarranging it more than the goods can stand. The appearance of the goods, therefore, is influenced considerably by its reeding.

Should one draw a four harness filling twill three per dent through the reed (Figure 31), longer filling floats would appear wherever a reed wire bound the filling float at each end. All of these long floats would form a twill which runs opposite to the filling twill and crosses the same as seen in Figure 31a, where these are indicated in black to show their sequence. In a 5 leaf twill, like in Figure 32, the long floats are separated from each other more than in the above case (see

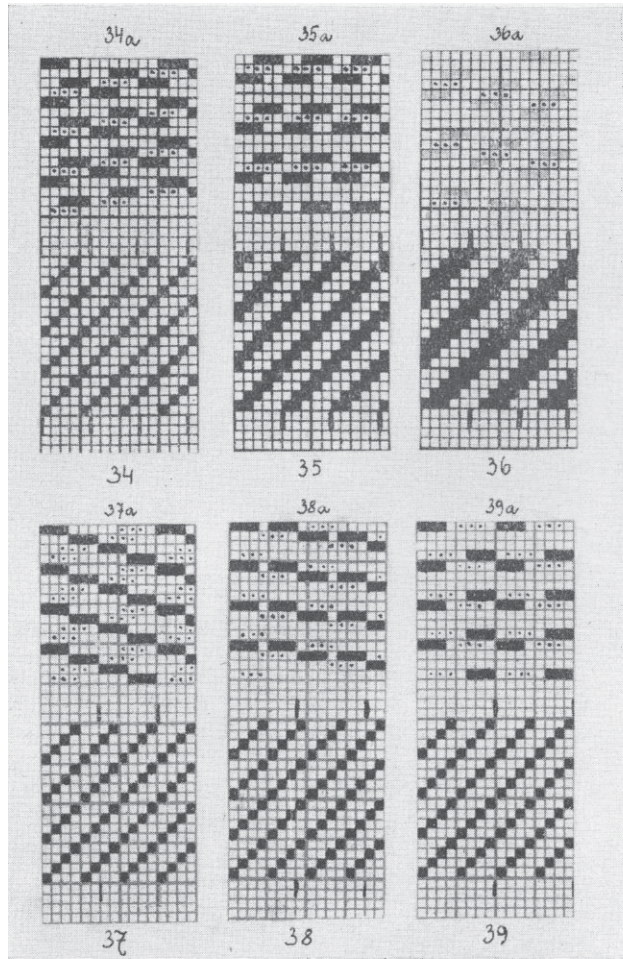


Figure 32a). In a six harness balanced twill, as in Figure 33, the long floats (bound by a reed wire at each end) arrange themselves like in Figure 33a etc. Using a five ends per dent arrangement with a 4 harness filling twill (Figure 34), shortened floats will be formed, which shape themselves into a declined twill line opposite in direction to the filling twill as in Figure 34a. With a five harness, 2 up and 3 down filling twill (Figure 35) the same type of floats appear, only they arrange themselves parallel and produce goods that seem to be infested with harness skips (Figure 35a). With a six harness balanced twill (Figure 36) the attenuating floats form a declining twill in the opposite direction, etc. (Figure 36a.)

Wherever a reeding plan with a simple filling twill, like that shown in Figure 34, includes 2 more ends per dent than the number the filling float covers, each reed wire actually governs two twill lines. Wherever it reduces the filling float in one twill line, it lengthens the one in the adjacent twill line. The lengthened floats in some cases cover the preceding and following shorter floats, which brings about small irregularities in the

twill line. If two adjacent warp ends act in the above manner, when they are in the same dent, they do not affect two twill lines in the same way. On the contrary, the two twill lines at certain places are held apart, especially where a reed wire gets between the two raised warp ends. This causes short, respectively long floats to appear alongside of each other, which affects the appearance of a piece of goods very unfavorably.

Wherever more than two adjacent warp ends appear on the surface of the cloth together, the reeding affects the twill differently and a new effect is produced in the goods.

If reeding is done with more than two warp ends in one dent than the number of ends covered by the filling float the two adjacent filling floats, i.e. twill lines fall into one dent and a double twill line is formed. Here the rule, that one end more in the dent than those covered by the filling floats plus the warp ends, which cause warp effect, is the most practical to use. Yet, it must be remarked, that even the most effective reeding of the above sort is not as practical as if one reed wire for each twill line is used. The differences in the floats, on the other hand, with a high number of ends per dent, are not as pronounced as with an opener reeding, i.e. which form so-called reed marks on warp alleys.

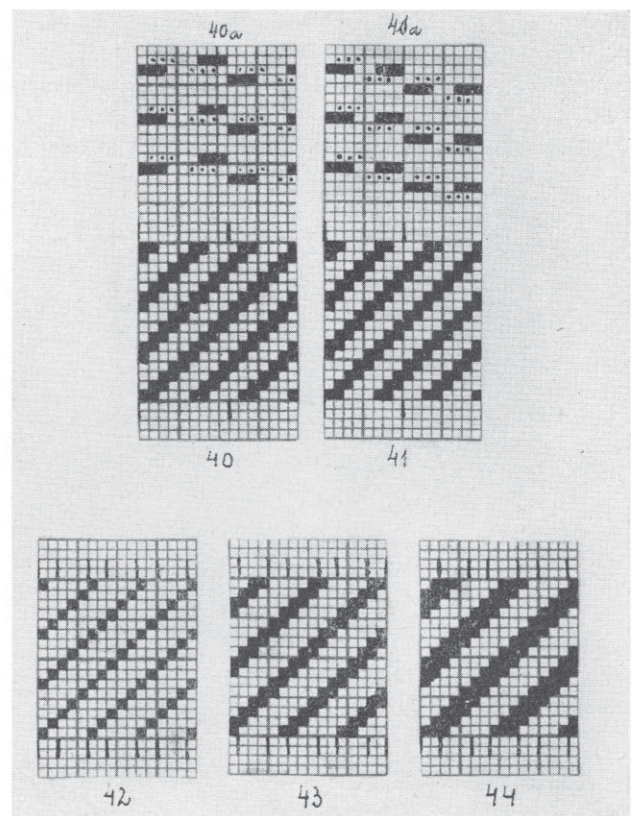


Figure 37 shows a four harness filling twill on which a six per dent reeding is applied. Here the two adjacent twill lines must be considered together. This reeding develops, as can be noted from Figure 37a, shortened as well as lengthened filling floats, which disturb the appearance of this weave considerably. In Figure 38 the effect of a 7 per dent reeding on the same weave is demonstrated. The result is similar to that of the same number of ends per dent as covered by the filling floats. Two adjacent filling floats are lengthened and can easily make a bad appearing piece of goods, because a short float follows and precedes every lengthened float (Figure 38a). The eight per dent reeding of all others produces probably the best piece of goods (Figure 39).

Figures 40 and 40a, a five harness, 2 up and 3 down twill is shown with its most suitable reeding, i.e. nine per dent. The eight per dent reeding is the most unsuitable of all the reedings as can be seen from Figures 41 and 41a.

For the 5 harness filling twill the best and most suitable reeding is undoubtedly five per dent. The same applies to all uniform weaves, which have filling floats extending over 4 warp ends. This does not require further explanations or drawings. The most unsuitable reeding would be the four per dent as well as the two per dent. With coarse yarns the five per dent arrangement is already too many per dent. It is often necessary to take less ends per dent.

If the reeding for a weave is best done with an even number of ends per dent, in its place can be taken any number of ends, which are divisible into the first mentioned, that is: with 4 ends per dent 2 per dent can be used, also with 6 ends per dent 3 per dent can be used in a downward revision, with 8 per dent either 4 or 2 per dent are satisfactory etc. But with uneven ends per dent no suitable lower revision in ends per dent can be made, one can only select a more or less unsuitable reeding plan, or draw an irregular number of ends per dent, such as with 5 per dent namely 2 per dent and 3 per dent, with 7 per dent either 2-2-3 or 4 and 3 etc. Such reedings are also very effective and satisfactory. This is proven by Figures 42 to 44 for weaves with filling floats over 4 warp ends. Every filling float is contacted by 2 reed wires, hence all are

alike in that respect and no shorter and longer floats result. But it is of no particular advantage to a piece of goods to be drawn in the reed that way. The thin places form weak spots, so that tearing will take place there first. The weaving alone will cause a certain equalization however: The yarns which are crowded will have a greater tendency to spread than those reeded more openly. If this has to be done on staple goods running year in and year out, it would be well to have special reeds made, where the dents correspond in space to the irregular reeding.

Summary

The most practical reeding for goods of straight twills or satin weaves is the one that uses one more end per dent than the filling float covers.

The most unsuitable reedings are those which use the same number of ends per dent as the filling float covers warp ends and also those where 2 ends more are used than the filling float of the weave covers. In the former case greatly elongated filling floats are formed and in the latter greatly shortened filling floats result. The latter reeding method works out very badly with weaves, where two adjacent warp ends are raised together, because the shortened floats on the same pick are adjacent to each other and produce prominent cross lines.

If it is not possible for other reasons to use the best possible reeding, as explained above, then the next best reeding is the one whose number of ends per dent is evenly divisible in the best possible ends per dent.

Of secondary preference are those reeding plans which use the number of ends per dent of the most suitable method, but distribute them unequally in the dents.

Further, if the most practical reeding plan as stated cannot be used because it has too small a number of ends per dent, the next best plan is to use a multiple number of ends per dent.

Equally unsuitable as those already stated are those reeding methods which have an even fraction of the most suitable number of ends per dent or a multiple of the same plus that number of ends, which are raised side by side on the face of the cloth in the particular weave.