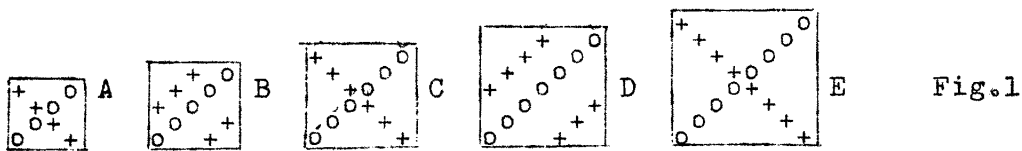


D R A W • L O O M 14

Now we come back to where we started (MW 73/6): Damasks and Dornicks on a Draw-Loom. We must finish somewhere. One could probably fill a whole library with all possible applications of our loom. There are double and multiple weaves, there are tissue weaves, and so on. Just a glance on Murphy's or Luther Hooper's books will tell the whole story, but not a book in the world will give all the answers.

With 4 shafts in the ground harness we can weave 1:3 dornicks (turned biased twills), or 1:3 damasks (turned broken twills). But we cannot weave real damask based on satin with only 4 shafts. For that matter we cannot weave a properly "cut" damask even if we had 5 shafts in the ground harness. This is because we cannot make a proper tie-up for damask with an odd number of shafts. Thus the lowest number of ground shafts for real damask is 8 (no satin on 6 shafts). In fig.1 we have different tie-ups for 4, 5, 6, 7, and 8 shafts.



In "A" we have our tie-up for 1:3 twill which we are going to use; it will produce damask based on satinet (not satin) or dornick. Tie-up "B" will give real damask but the blocks of pattern will have their outlines slightly blurred; the dornick will be still worse, because of the diagonals in 1:4 and 4:1 twills going in the same direction. Tie-up "C" will give perfect dornick, but no real damask. Tie-up "D" is in the same category as "B". Finally tie-up "E" gives both: real damask based on 1:7 satin, and perfect dornick.

Should one of our readers be tempted to build a draw-loom with more than 4 shafts in the ground harness, he should not stop at 5 or 6, but go all the way to 8. If he is not convinced, please make draw-downs with all the above tie-ups and see what happens. Should anybody solve the problem of designing a perfect tie-up for five ground shafts, we offer him a perpetual subscription to the "Master Weaver" plus all back issues.

There are no problems in weaving either damask or dornick on four ground shafts. The draw-downs in fig.2 show both.

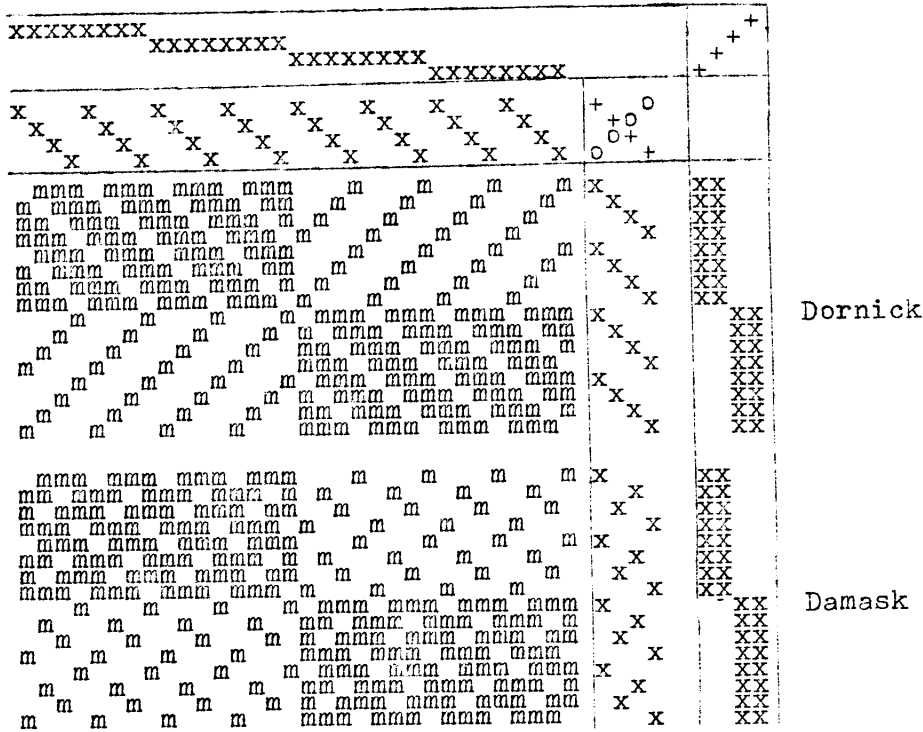


Fig.2

As long as we keep the above treadlings, we can change the pattern at will, provided that the change comes always at the end of one repeat of treadling, that is 4321 for dornick, or 4231 for damask.

Any serious weaver who went with us so far realizes that a standard loom converted into a draw-loom is not the final answer to his problems. It may do for study, experiments, demonstrations, or teaching, but not for real production. The real draw-loom must be much deeper, and therefore stronger; in other words it must be built. With our present knowledge there is nothing difficult about designing a draw-loom, but one must have space, plenty of it, and compromises simply won't do. The distance between the ground and the pattern harness should be increased to 24" in case one works with linen. This incidentally means longer pattern heddles, and a higher loom-frame. There are no blue-prints for building such a loom. We must rely on our own common sense.
