

1.3.6 Keighley Dobby

The description and working of the Keighley dobbie is similar to that of a climax dobbie except in the construction of the jacks as shown in Figure 1.4.

In the Keighley dobbie a single jack is provided instead of the double-jack arrangement found in a climax dobbie. The use of a single jack to lift a heald shaft is a disadvantage, as a slight lateral movement will also occur during vertical movement of the heald and this is not desirable. Also, as a single jack describes an arc of a circle while oscillating about its fulcrum, it cannot exert a perfectly vertical pull on the heald frame. Further, a single jack cannot control a long heald with V-cords and is therefore suitable only for narrow looms.

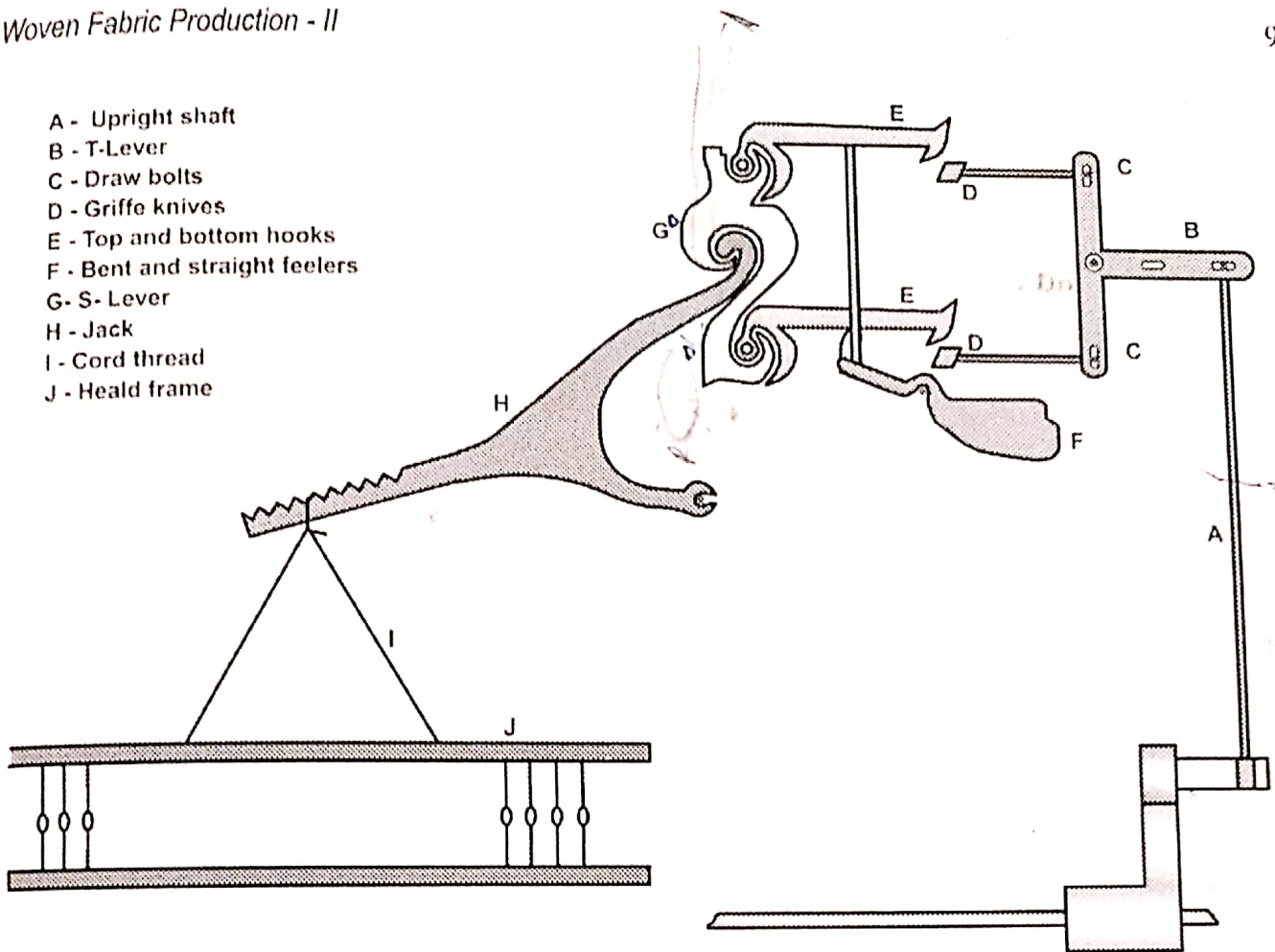


Figure 1.4 Keighley dobby

1.4 Right-hand and Left-hand Dobbies

Dobbies are described as “right-handed or left-handed”. The description depends upon the position of the starting handle of the loom. If the starting handle is to the right of a weaver facing the fabric, the dobby is said to be “right-handed”. However, the dobby system itself is installed at the left-hand end of the loom. Similarly, if the starting handle is to the left of the weaver, the dobby is said to be “left-handed” and is located at the right-hand end of the loom framework.

The actual position of the dobby is important in pegging a design or pattern. Of course, care must be taken to see that the pegs are arranged to be opposite to the proper levers. When only a few of the jacks are used, e.g. eight, it is often preferable to have the healds arranged in the middle of the machine.

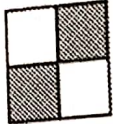
In a right-handed dobby the pattern cylinder revolves in the clockwise direction, whereas in a left-handed dobby the cylinder revolves in the anti-clockwise direction.

Irrespective of whether a left-hand dobby or a right-hand dobby is installed in a loom, as a general consideration, it is important to first note the positions of the feelers, the first heald frame and the last heald frame and the direction of rotation of the pattern cylinder, for preparing the lattice.

1.4.1 Heald Shafts Required for Different Designs

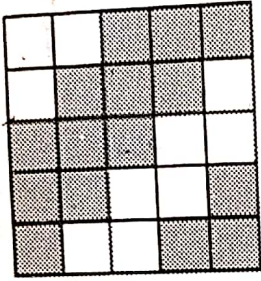
For producing any woven design, the number of heald frames required is equal to the number of different orders of working warp threads in each repeat. Therefore, for the following basic designs, it is enough to employ two heald shafts for plain, five and eight for twill and five for satin weaves.

1. Plain weave repeat

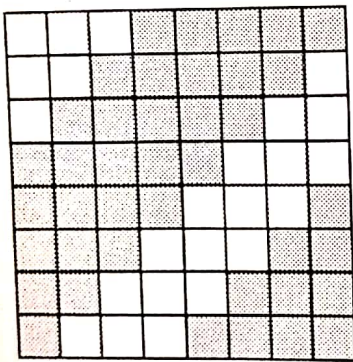


Different working order warp threads - 2.

2. Twill weave repeat

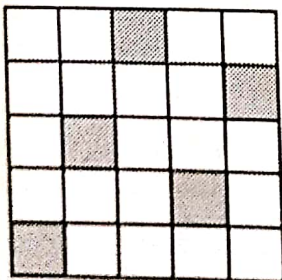


Different order working warp threads - 5.
(Three up two down twill)



Different order working warp threads - 8.
(Three up five down twill)

3. Satin



Different order working warp threads - 5.

Figure 1.5 Woven designs

Designs which are of irregular shapes and have a good number of warp threads of different working order in a repeat require a large number of heald shafts to weave them. A few examples of large designs and their drafts are given below.

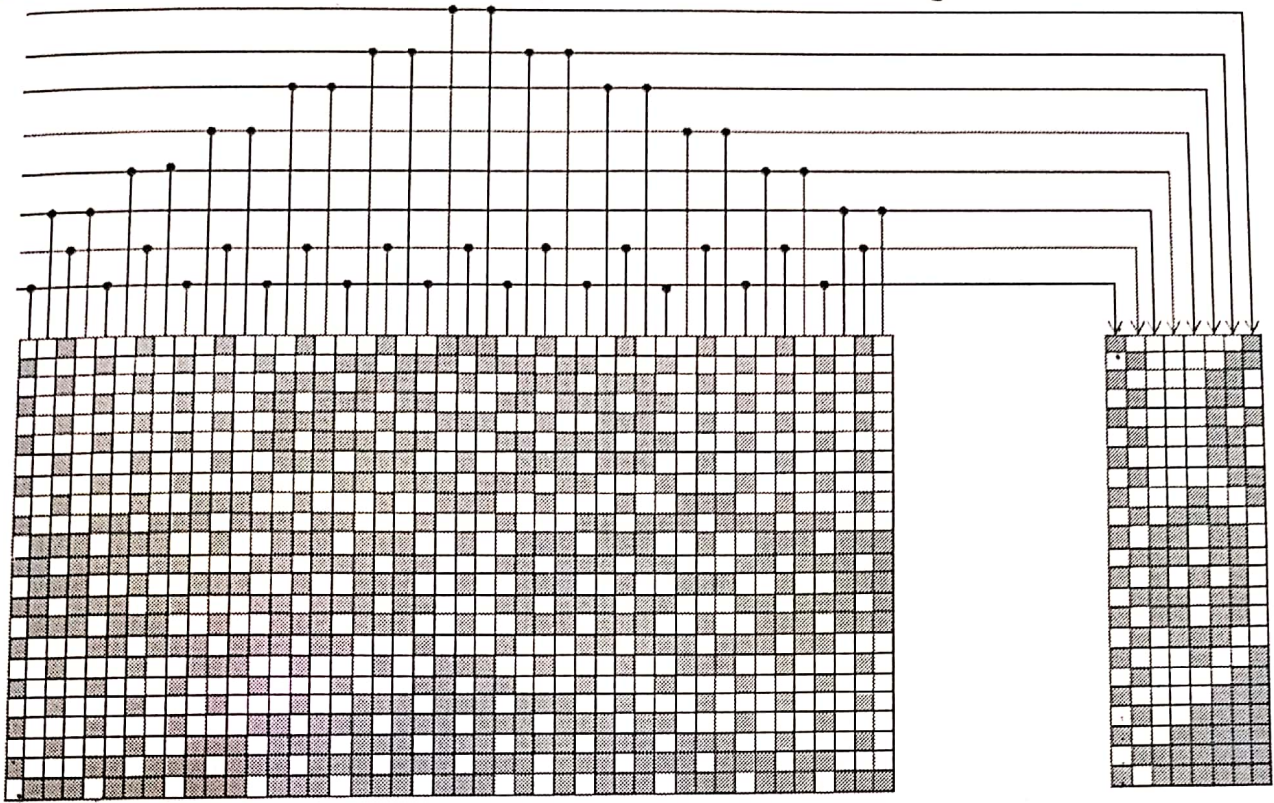


Figure 1.6(a) Woven design

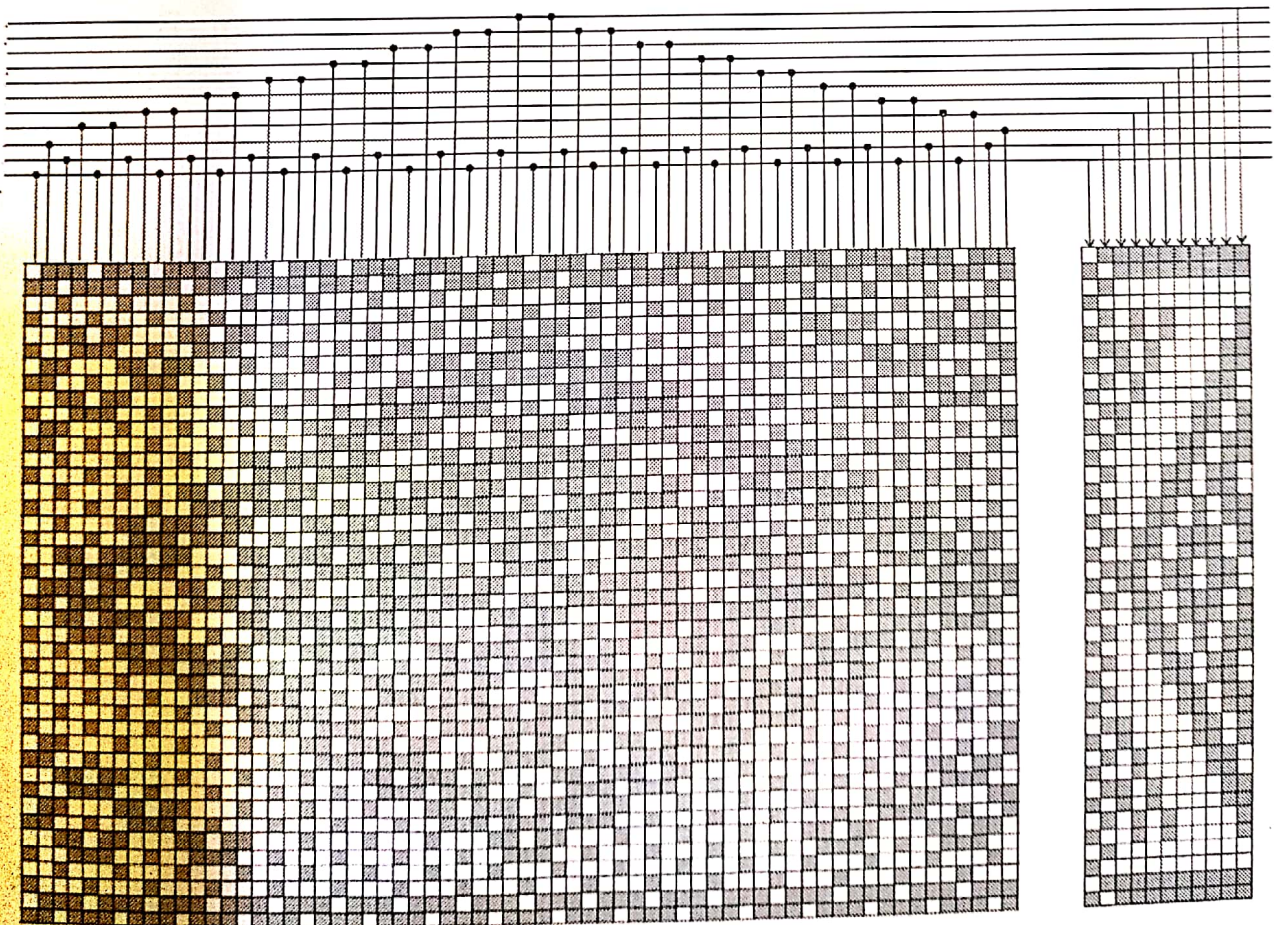


Figure 1.6(b) Woven design