In plain weaving but two heddles are required, which raise and depress alternate threads; but in twills the heddles are equal in number to the number of threads contained in the interval between two intersections of the warp and weft. In blanket twill every third thread is crossed. In finer fabrics the threads intersect each other at intervals of 4, 5, 6, 7, or 8 threads. In full satin twill there is an interval of 15 threads. With the Jacquard the devices rise to the highest order of merit. See Jacquard.

In the illustration, the twilling-cam $K$ depresses such one of the set of levers $J$ as is beneath it for the time being. The cam $K$ is attached to a circumferentially grooved hub $L$, which slides on the shaft $y$ and is controlled in its motions by a switch, so that the motions of the heddles $g g$ follow in proper sequence. The heddles are suspended by cords which pass over a roller $D$ and down to the levers.

**Heddle.** (Weaving.) One of the sets of parallel knotted cords forming loops for the warp-threads; and by whose vertical reciprocation the warp-threads are shifted so as to make the shed for the passage of the shuttle. The heddles, with their appliances for moving, constitute the harness. See Harness.

Heddles are a necessary integral feature of all looms, having sets of strings for separating the warp-threads into two or three groups, between which the weft is passed. This is called mounting the loom, and consists in dividing the warp among the leaves of heddles or heddles.