

The beams from the warping machine are placed in the creel in two levels, the number of ends on each being such, that the total from all the beams make up the required number of ends in the warp. The ends are gathered together in a sheet, those from the first beams passing under and over those which follow alternately and thence through the sowe box, passing under a skeleton immersion roller, which may be raised or lowered at pleasure, and through a pair of presser rollers, to squeeze out the superfluous size, at the same time pressing the size into the yarn.

The warp then passes forward and is wound round the larger cylinder, thence over carrier rollers, and round the small cylinder ; after which it passes to and fro over other carrier rollers below the machine, and with the assistance of one or two fans is thus thoroughly cooled and dried before being wound on the yarn beam for the loom.

Ball Sizing is the system of sizing adopted after the process of ball warping. The warps are uncoiled and run into a large vat of size, passing over a number of immersed rollers, and left until thoroughly soaked, after which the superfluous size is expelled by passing between presser rollers, and the warp taken to a drying machine consisting of about 12 cylinders heated by steam, where it is dried, and afterwards again balled and beamed.

Owing, however, to the extra processes involved, and to several other drawbacks inherent to the system, this method is becoming obsolete, and is being superseded by slasher sizing. For the export of sized warps it is, however, still in vogue.

**Drawing-in.**—Before the yarn beam is ready for the loom, each end must be drawn through the eyes or mails of the healds and through a dent in the reed ; this process is termed drawing-in.

The healds are used in making the shed for the passage of the shuttle, and consist of two staves or rods connected by heald cord, in the centre of which is an eye or mail. A set of healds comprises two or more sets of staves. To separate the warp to form a shed, one or more healds are raised and one or more lowered in the loom, and thus form the desired effect or pattern of cloth.