

UNITED STATES PATENT OFFICE.

ZEPHIRIN THUOT, OF FALL RIVER, MASSACHUSETTS.

SHUTTLE FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 645,695, dated March 20, 1900.

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To all whom it may concern:

Be it known that I, ZEPHIRIN THUOT, a citizen of the United States, residing in Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Shuttles for Looms, of which the following is a specification.

This is an improved shuttle which is constructed with a threading device making a part thereof. In order to thread a shuttle, as after the thread has become broken, for instance, the ordinary method is to draw the thread through the thread-hole with the mouth by suction. This is commonly called "sucking it through." In some cases, however, an implement termed a "shuttle-threader" is employed for grasping the thread and drawing it through the hole. In my improvement the shuttle is provided with a means whereby the thread may be guided to and drawn through the hole, such means being a part of the shuttle.

The nature of this improvement is fully described in detail below and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a shuttle embodying my invention. Fig. 2 is a side elevation of the front portion or head of the same. Fig. 3 is a view, partly in longitudinal vertical section and partly in side elevation, of the front portion or head of the shuttle. Fig. 4 is a cross-section of the shuttle, taken through the slot P and showing the threading mechanism in elevation. Fig. 5 is a perspective view of the threading mechanism removed.

Similar letters of reference indicate corresponding parts.

A represents the body of the shuttle, A' being the head, and B is the bobbin sustained by a suitable spindle. The head of the shuttle is provided with a suitable recess or well C, into which is dropped a drum or barrel D. This drum is provided at its upper end with a flange E, and a screw F extends through a suitable vertical hole *e* into the bottom of the shuttle, thus securing the drum in the position shown. The flange is circular in shape, but has two segments thereof removed, thus leaving the straight edges E' and E'', the former resting against a corresponding edge A'' in the shuttle and in connection with the

downward projection E''', which extends into the notch A''' in the shuttle, preventing the drum from turning therein. From the lower portion of the rear side of the drum D a curved guiding-horn H extends upward, the upper end curving diagonally rearward or toward the bobbin, as shown in Figs. 1, 3, and 5. From the lower portion of the front side of the drum a short guiding horn or loop K extends upward, rearward, and toward that wall of the shuttle in which the thread-hole L is situated.

After the thread has broken, to rethread the shuttle draw the end of the thread W from the front rearward under the upper end of the guiding-horn H, thence swing it under the corner E''' of the flange E, and draw it around the curved edge of said flange until it reaches the slot P, Fig. 2, which extends through the wall of the shuttle and leads from the upper edge thereof under the flange to the thread-hole L. A further pull on the thread will draw it down through the slot P into the thread-hole. As the thread is thus drawn down it passes down through a vertical slot R, formed in the wall A''', which separates the chamber in which the bobbin lies from the recess C. The curved edge of the plate E is not in contact with the shuttle; but a curved space S is formed, through which the thread passes as it is drawn around the plate to the drum itself. As the thread moves down the slot P it, as above mentioned, moves also down the drum and is then caught under the guiding horn or loop K, and thus prevented from contact with the shuttle and catching therein, and guided to the thread-hole L. Thus by simply catching the thread under the upper end of the horn H, drawing it under the corner E''' of the flange E and around the curved edge thereof to the upper end of the slot P, and pulling on it the thread is safely guided into the thread-hole and the shuttle is quickly threaded.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a shuttle of the character described, the head of the shuttle provided with the vertical well or recess C; the wall A''' separating said well or recess from the bobbin-chamber and provided with the vertical slot R; the ver-

tical drum D secured to the shuttle within said well or recess and provided at its upper end with the horizontal flange E of a partially-circular form but having the straight edge E' at one side thereof, said flange and shuttle being so formed as to allow of a space between the latter and the circular edge of the former; the guiding horn or loop K extending upward from the lower portion of the forward side of the drum and of substantially the shape shown; and the guiding-horn H of the shape shown and described extending up from the lower portion of the rear side of the drum and into said slot R, the front wall of the shuttle being provided with the slot P extending from the upper edge thereof under said flange to the thread-hole, substantially as set forth.

2. In a shuttle of the character described, the head of the shuttle provided with the vertical well or recess C; the wall A''' separating said well or recess and the bobbin-chamber

and provided with the vertical slot R; the vertical drum C secured to the shuttle within said well or recess and formed with the flange E substantially circular in shape but provided with the straight edges E' and E'', the latter corresponding in shape with and fitting against the edge A'' making a part of the shuttle; the downward projection or rib E''' formed on the under side of said flange and extending into the notch A''' in the shuttle; and the horns R and K extending respectively from the rearward and forward sides of the drum, said shuttle being provided with the slot P extending from the upper edge thereof to the thread-hole and being formed with the curved space S next the curved edge of said flange, substantially as described.

ZEPHIRIN THUOT.

Witnesses:

JOSEPH MENARD,
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