

No. 855,511.

PATENTED JUNE 4, 1907.

C. C. HOWLAND.
WEAVING SHUTTLE.
APPLICATION FILED OCT. 22, 1906.

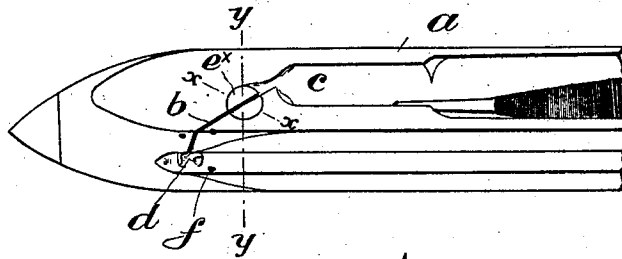


FIG. 1.

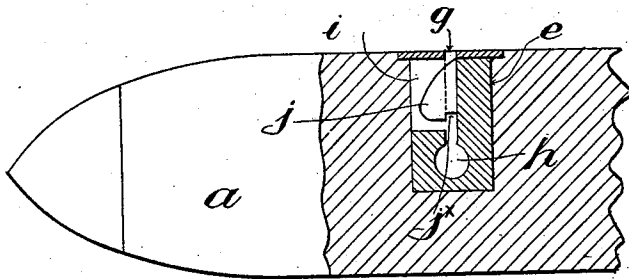


FIG. 2.

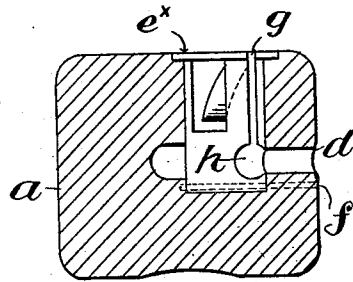


FIG. 3.

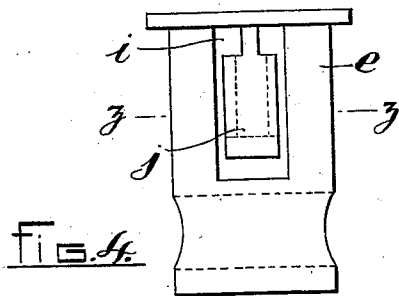


FIG. 4.

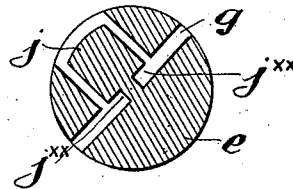


FIG. 5.

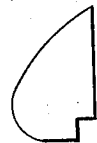


FIG. 7.

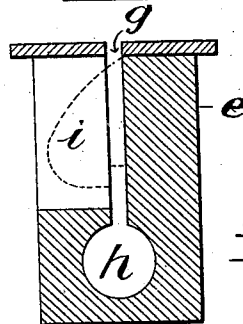


FIG. 6.

WITNESSES:-

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UNITED STATES PATENT OFFICE.

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WEAVING-SHUTTLE.

No. 855,511.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed October 22, 1906. Serial No. 340,016.

To all whom it may concern:

Be it known that I, CHARLES CHRISTIAN HOWLAND, a subject of the King of Great Britain and Ireland, and a resident of Hyde, near Manchester, England, have invented certain new and useful Improvements in Weaving-Shuttles, of which the following is a specification.

This invention refers to weaving shuttles and consists of improved means for enabling the shuttles to be threaded by hand, the said means being such that when threaded the shuttle cannot become unthreaded. That is to say, use is made of a slitted bush let into the shuttle across the usual eye or thread passage and in such bush is a special form of projection by which the thread on being laid in the thread passage is first deflected out of its course and then allowed to pass into the thread passage, the projection being such that it enables the thread to readily pass over and under it and when under it prevents it unduly rising in the slit.

Upon the accompanying drawing, Figure 1 illustrates a general perspective view of one end of an ordinary loom shuttle fitted with the invention. Fig. 2 illustrates a part longitudinal section on line $x-x$, and Fig. 3 illustrates a transverse section on line $y-y$. Fig. 4 illustrates an enlarged elevation of the bush separately, and Fig. 5 illustrates a horizontal section and Fig. 6 a vertical section of the bush, this latter showing the bush (in full lines) as it appears before being fitted with the inclined projection. Fig. 7 illustrates the inclined projection separately.

As shown a is the shuttle in which is formed the slot b extending from the opening c to the outside edge of the shuttle and in the same line as the eye d of the shuttle. e is the bush forming the chief feature of this invention, which is either round, square or other suitable shape, and which is let into the shuttle along the slot b , being held in position by a cross-pin f , see Figs. 1 and 3. In such bush is the vertical slit g , see Fig. 6 and horizontal boring h , the former opening into the latter as shown. In, by preference, the side of the bush nearest the shuttle end is formed the recess i , and projecting across the slit g and into the recess i is the inclined projection j , its upper and narrower end lying immediately below the entrance of the slit and its lower and wider end lying immediately above the bottom of the recess i , see Fig. 2.

The bush is preferably first made as shown in full lines in Fig. 6, and the projection j afterward added by being soldered to the inner face of the bush. The top of the bush is covered in by thin segmental plates e^x , each soldered in position, and overlying the outer edge of the bush as shown in order to prevent the weft catching the raw edges of the wood. The entrance of the slot b is sloped on one side to allow the weaver to readily find the slot. To further guard against the thread being drawn back the projection j may be formed with a recess j^x and lateral recess j^{xx} see Fig. 5. To allow of the same bush being used for a right or left handed shuttle the projection j may have a recess j^{xx} on both sides.

The weft is threaded from the tongue or the inside of the shuttle by laying the end through the slot b from the top, the projection j first deflecting it out of its course and then allowing it to pass under it and into the opening h and eye d . That is to say, the edge of the projection within the recess i is inclined for about two-thirds of its length, and made vertical and rounded off for the other portion of its length and at its lower end and corner, see Fig. 2, thereby enabling the thread to readily find its way into the guide eye d , after passing over the inclined part.

What I claim is:—

1. A weaving shuttle having a diagonal slot from the cop opening to the outside edge and also having a thread guide eye into which the said slot opens, in combination with a bush, with narrow vertical slit and lateral boring, let into the shuttle along the said slot, and the slit and boring forming part of the slot and guide eye, and the said bush also having a lateral recess on one side opening into the slit and a projection secured to the other side of the bush and extending across the slit and well into the said recess and designed to deflect the weft when laid through the slot out of its course and then allow it to pass into the said horizontal boring and guide eye, the projection being inclined on the edge lying within the recess for about two thirds of its depth and vertical and rounded off for the other portion of its length and lower end and corner, and the projection being solid and non-flexible so that repeated insertions of the weft thread will not bend the projection, and the thread, after

being threaded, cannot rise up above the lower part of the projection, substantially as herein set forth.

5 2. A weaving shuttle having a diagonal slot from the cop opening to the outside edge and also having a thread guide eye into which the said slot opens, in combination with a bush with vertical slit and lateral boring let into the shuttle along the said slot and
10 the slit and boring forming part of the slot and guide eye, and the said bush also having a lateral recess on one side opening into the

slit, an inclined projection secured to the other side of the bush and extending across the slit and into the said recess, and such
15 projection having grooves on its under and two sides where it joins the bush, substantially as herein set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

CHARLES CHRISTIAN HOWLAND.

Witnesses:

F. C. PENNINGTON,
JOHN CAMP.