

C. G. PETZOLD.
HAND THREADING SHUTTLE.
APPLICATION FILED FEB. 19, 1913.

1,062,251

Patented May 20, 1913.

Fig. 1.

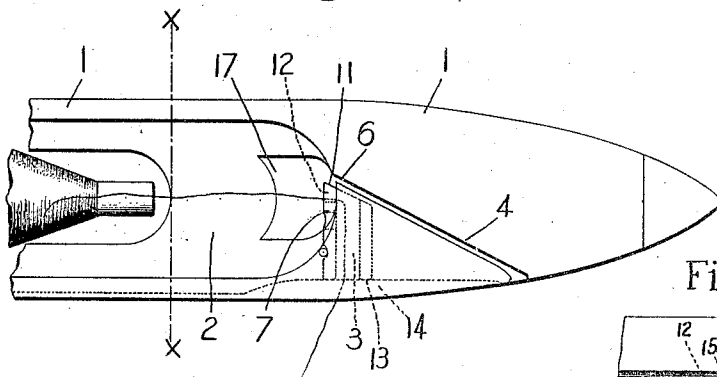


Fig. 2.

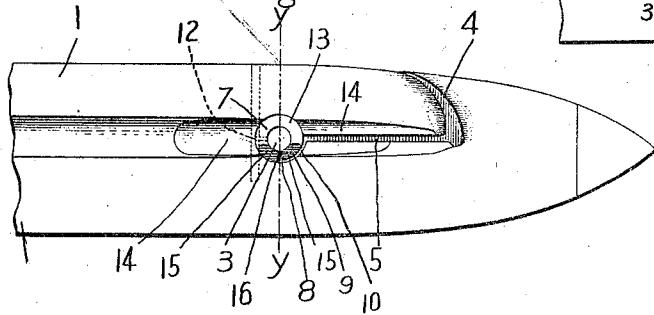


Fig. 7.

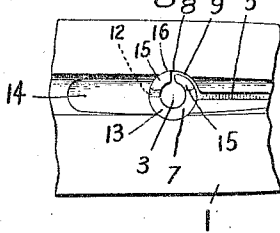


Fig. 3.

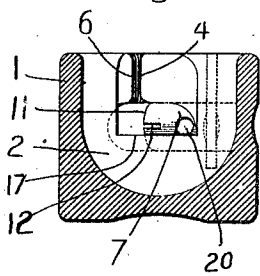


Fig. 4.

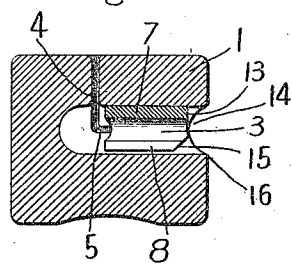


Fig. 5.

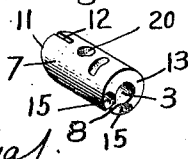
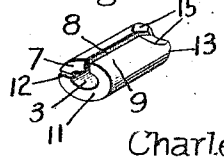


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES G. PETZOLD, OF PROVIDENCE, RHODE ISLAND.

HAND-THREADING SHUTTLE.

1,062,251.

Specification of Letters Patent.

Patented May 20, 1913.

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To all whom it may concern:

Be it known that I, CHARLES G. PETZOLD, a citizen of the United States, residing at Providence, county of Providence, State of Rhode Island, have invented an Improvement in Hand-Threading Shuttles, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to hand-threading shuttles and has for its object to provide a simple threading device which can be inexpensively manufactured; which will not collect or gather lint; which will also be efficacious in removing slubs or knots from the thread as it is drawn from the shuttle, and which has other features of improvement, all as will be more fully hereinafter described and then pointed out in the appended claims.

Referring to the drawings wherein I have illustrated one embodiment of my invention, Figure 1 is a plan view of one end of a shuttle embodying my invention; Fig. 2 is a side view of Fig. 1; Fig. 3 is a section on the line $x-x$, Fig. 1; Fig. 4 is a section on the line $y-y$, Fig. 2; Figs. 5 and 6 are perspective views of the thread-delivery bushing which occupies the delivery eye of the shuttle; Fig. 7 is a fragmentary view showing a different embodiment of the invention.

1 designates the body of the shuttle which is provided with the usual bobbin-receiving recess 2 and with a delivery eye 3 through which the yarn or thread is delivered. The thread is led into the delivery eye through a thread guiding passage formed in the wall of the shuttle, this passage comprising the vertical portion 4 which extends from the top of the shuttle down part way through the body thereof, and the horizontal portion 5 which forms a communicating passage between the vertical portion 4 and the shuttle eye 3. The inner end 6 of the vertical portion 4 of the thread-guiding passage is preferably located on the opposite side of the axial line of the shuttle or bobbin-receiving recess from the outer end of said portion 4, so that this vertical portion crosses said axial line.

The thread-delivery eye 3 is formed in a thread-delivery bushing 7 which is inserted into an opening formed in the side of the shuttle. This thread-delivery bushing is of special shape and construction. It is tubu-

lar and the bore thereof constitutes the delivery eye 3. The bushing 7 is provided with a longitudinal threading slot 8 and the outer wall of the bushing on one side of the slot is cut away, as at 9, thereby to form a curved passageway 10 which leads from the horizontal portion 5 of the threading passage to the threading slot 8. The bushing 7 is of such a length that the inner end thereof is situated beyond the axial line of the shuttle or hobbin receiving recess, and the inner end 11 of the bushing is inclined to the axis thereof, the inclination being substantially parallel with the portion 4 of the threading passage and coming approximately in alignment therewith. The bushing is also provided with the knot-catching slot 12 in the side thereof which faces the bobbin-receiving chamber 2, this slot 12 extending from the inner end of the bushing to approximately the axial line of the shuttle.

The wall of the shuttle is provided with the groove or recess 14 and the outer end 13 of the bushing comes substantially flush with the bottom of the groove or recess 14. The bushing is also cut away on its outer end 13, as shown at 15, at the point where the threading slot 8 is situated, and the size of the aperture in which the bushing is received, or what is the same thing, the exterior diameter of the bushing, is substantially the same as the width of the recess 14. As a result, when the bushing is in place the outer end of the threading slot 8 will stand at a considerable distance from the portion 16 of the shuttle, and the latter will form a guard which tends to prevent the shuttle eye from de-threading.

At the end of the bobbin-receiving recess 2 the shuttle is cut away to form a flat surface 17 which is situated just below the knot-catching slot 12. In threading the shuttle the thread is laid into the vertical portion 4 of the threading passage, and then drawn around through the passage 10 into the delivery eye. As the thread is laid in the vertical portion 4 of the threading passage it passes beyond the inner end 11 of the bushing 7 in line with the end of the knot-catching slot 12, and as the thread is drawn into the delivery eye 3 it is carried into said slot 12. Since the inner end of the bushing 7 extends beyond the axial line of the bobbin situated in the bobbin-receiving chamber, it follows that the thread will be held in the

slot 12 as it is drawn off from the bobbin. If the thread should have a knot or slub therein which would be likely to make an imperfection in the cloth, such knot or slub will catch in the slot 12 thereby breaking the thread and causing the loom to be stopped through the usual stopping mechanism.

It will be noted that my device is extremely simple and can be readily put into the shuttle. Moreover, I have demonstrated from experiments that my threading device will not gather lint as many threading devices do.

I propose to provide the delivery bushing with an aperture 20 which opens into the bobbin-receiving chamber. The purpose of this aperture is to make the shuttle a non-sucking one. The practice of threading a shuttle by sucking the thread through the shuttle eye is deleterious to the health and by providing the thread-delivery bushing with the aperture 20 it is impossible for an operator to thread the shuttle by sucking therethrough.

The threading slot 8 may be formed either in the upper or the under side of the thread-delivery bushing 3. In Fig. 2 I have shown it as formed in the under side of the bushing, and in Fig. 7 as formed in the upper side of the bushing. In either case the curved passageway 10 leads from the thread passage 5 to the slot 8.

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

1. A hand-threading shuttle having a bobbin-receiving chamber, a delivery eye, a

threading passage leading to said eye, said passage comprising a vertical portion extending from the bobbin-receiving chamber outwardly, and a horizontal portion connecting the vertical portion with said eye, a thread-delivery bushing in said eye having a threaded slot in its under side which communicates with the threading passage, the inner end of said bushing extending beyond the axial line of the bobbin-receiving chamber and being formed with an inclined face extending substantially parallel to the vertical inclined portion of the threading passage, said bushing having in its side facing the bobbin-receiving chamber a knot-catching slot which extends from the inner end of the bushing approximately to said axial line.

2. A hand-threading shuttle having a bobbin-receiving chamber, a delivery eye, a thread-delivery bushing in said eye, the inner end of said bushing extending beyond the axial line of the shuttle, said bushing having a knot-catching slot extending from its inner end outwardly and situated on the side thereof facing the bobbin-receiving chamber, and also having an aperture between the knot-catching slot and its delivery end, which aperture prevents the thread from being drawn into the eye by suction.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

CHARLES G. PETZOLD.

Witnesses:

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THOMAS J. DRUMMOND.