No. 814,349. PATENTED MAR. 6, 1906.

J. BIM.

LOOM SHUTTLE.

APPLICATION FILED DEC. 30, 1904.

Fig. 1.

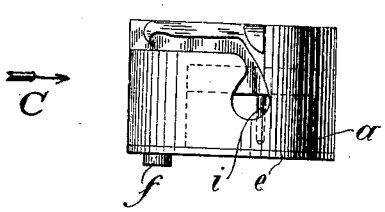


Fig. 2.

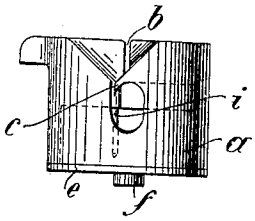


Fig. 3.

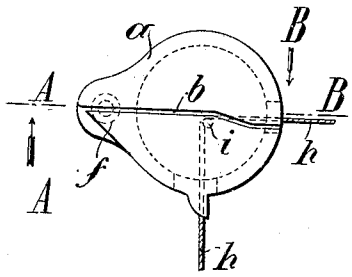


Fig. 4.

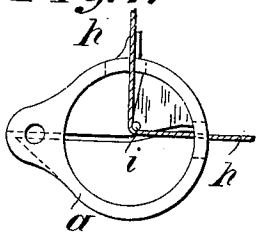


Fig. 5.

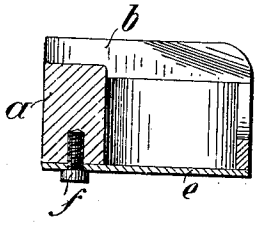


Fig. 6.

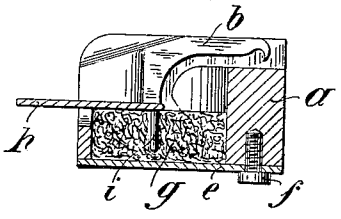
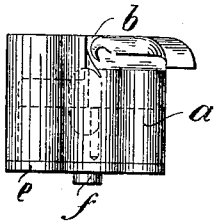


Fig. 7.



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Attorney

UNITED STATES PATENT OFFICE.

JOSEF BIM, OF VIENNA, AUSTRIA-HUNGARY.

LOOM-SHUTTLE.

No. 814,349. Specification of Letters Patent. Patented March 6, 1906.

Application filed December 30, 1904. Serial No. 238,953.

To all whom it may concern.

Be it known that I, JOSEF BIM, a subject of the Emperor of Austria-Hungary, residing at Vienna, Austria-Hungary, (having a post-office address at Kolingasse 19, Vienna, Austria-Hungary,) have invented certain new and useful Improvements in Loom-Shuttles, of which the following is a specification.

The present improvements relate to means for giving the thread the necessary tension or to hold it taut while it is being used.

The threading and drag arrangements are securely fixed in the shuttle at the end opposite the clasp hereinbefore referred to for holding the bobbin or cop.

Referring to the accompanying drawings, Figure 1 is a side elevation of the thread arrangement. Fig. 2 is a front elevation thereof. Fig. 3 is a top view. Fig. 4 is a bottom view, the plate *e* and felt layer *g* having been removed. Fig. 5 is a sectional view on the line A B, Fig. 3, looking in the direction indicated by arrow A, and Fig. 6 is a sectional view on the same line, but looking in the direction indicated by the arrow B; and Fig. 7 is a rear elevation of Fig. 1 looking in the direction indicated by the arrow C.

The automatic threading and tensioning arrangement devised by me comprises a cylindrical part *a*, which is shaped in such a way that it can readily be inserted in the shuttle. The cylindrical part *a* has a top, and a diametrical slot *b* passes across the said top, and the thread *h* from the bobbin or cop is led into this slot. This is done in the usual way, one end of the thread being attached to a fixed pin or catch.

The thread enters and leaves the box *a* through two openings in its walls communicating with the slot *b* and spaced preferably about ninety degrees apart, as shown. At one end, as shown in Fig. 2, the slot *b* communicates almost directly with an oval opening, and the thread is guided into said opening by a small hook or projection *c*, which also prevents the thread from leaving the box. At the opposite end, as shown in Figs. 6 and 7, the slot *b* directs the thread under the point of a hook, and said hook then directs the thread around the box to a circular opening through the box, (shown in Fig. 1,) causing the thread to pass around a pin *i*, extending downwardly into the box. As the shuttle travels to and fro, the thread assumes the position shown in Figs. 3 and 4, passing at an angle around pin *i*, and it will be seen that the thread enters and leaves at openings which are approximately ninety degrees apart. The box is also provided with a layer *g*, of felt or other suitable material, over which the thread runs while passing through the box. The layer *g* is of circular shape and fills the bottom part of the cavity of the box *a*. It surrounds the pin *i* and can be readily reversed or removed and another substituted upon moving to one side the bottom plate *e*, which is held in place by and pivoted upon a screw *f*. (See Figs. 5 and 6.)

Upon examination of Figs. 3 and 4 it will be seen that the thread *h* traverses two radii of the internal central cylindrical space in the frame *a* and, as shown in Fig. 6, drags upon the felt layer *g*, passing over a relatively large length of this felt, and is thus given a due degree of friction.

What I claim is—

1. A thread-guide, comprising a hollow box having openings in its walls at substantially right angles to each other, a layer of felt inclosed within the box, and a pin for directing the thread through the openings aforesaid and causing it to drag over the layer of felt.

2. A thread-guide, comprising a hollow box having openings in its walls at substantially right angles to each other, a thread-receiving slot across the box and communicating with both openings, and a tension device inclosed within the box.

3. A thread-guide, comprising a hollow box having openings in its walls, a thread-receiving slot across the box and communicating with both openings, a layer of felt inclosed with said box, and a pin passing through the layer of felt within the box for directing thread through the openings aforesaid and causing it to drag over the layer of felt.

4. A thread-guide, comprising a substantially cylindrical box having a diametrical thread-receiving slot in its top and with openings in its walls spaced about ninety degrees apart and communicating with said slot, a central pin and a circular layer of fibrous material concentric with said pin.

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

JOSEF BIM.

Witnesses:
ERNST ROHNERT,
OTTO LOHL.