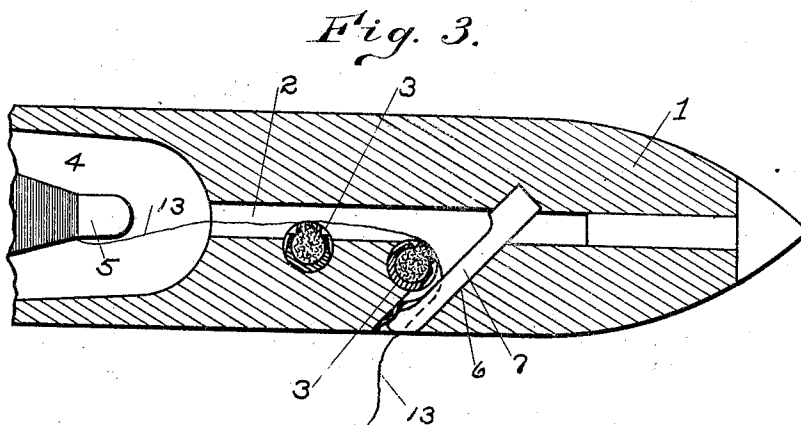
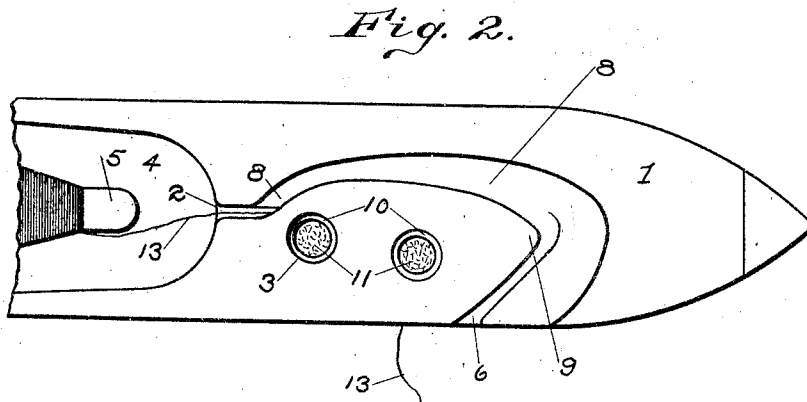
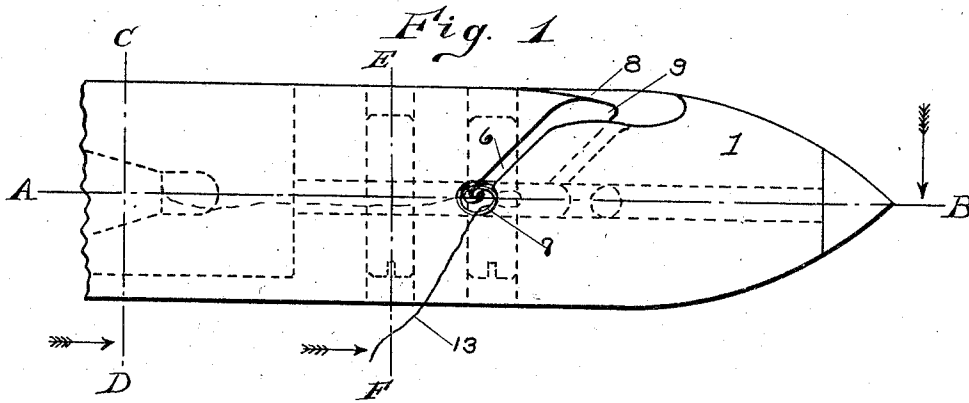


J. N. LE VASSEUR-BELISLE.
 LOOM SHUTTLE THREADER.
 APPLICATION FILED AUG. 30, 1911.

1,043,780.

Patented Nov. 5, 1912.
 2 SHEETS—SHEET 1.



Witnesses:

Chas. E. Chase.

H. A. Mosseman

Inventor:

J. N. LeVasseur-Belisle

C. H. Craft

Atty.

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Fig. 4.

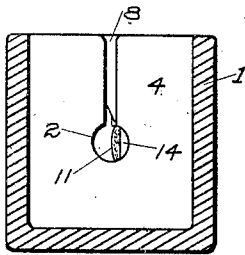


Fig. 5.

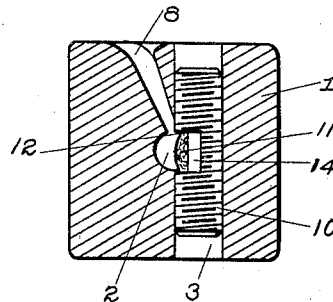


Fig. 6.

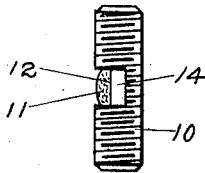


Fig. 7.

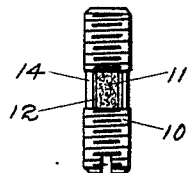


Fig. 8.

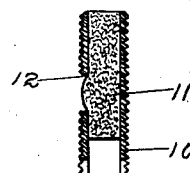


Fig. 9.

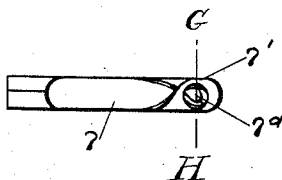
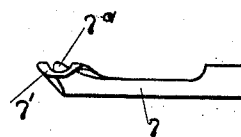


Fig. 10.



Fig. 11.



Witnesses:

Chas. C. Chas

H. A. Mossman.

Inventor:

J. N. LeVasseur-Belisle

O. A. J. Att'y.

UNITED STATES PATENT OFFICE.

JOSEPH NAIPOLDER LE VASSEUR-BELISLE, OF WORCESTER, MASSACHUSETTS.

LOOM SHUTTLE-THREADER.

1,043,780.

Specification of Letters Patent.

Patented Nov. 5, 1912.

Application filed August 30, 1911. Serial No. 646,800.

To all whom it may concern:

Be it known that I, JOSEPH NAIPOLDER LE VASSEUR-BELISLE, a citizen of the United States of America, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Loom Shuttle-Threaders, of which the following is a specification.

My invention relates to improvements in weaving shuttles and especially to thread tensioning devices therefor.

An object of the invention is to provide a more simple, economical, efficient and practical tensioning device than has heretofore been known.

A further object is to provide means for quickly and easily regulating the tension, and a still further object is to provide quick and easy means of removing, replacing and renewing the essential member of the tensioning device or friction bar.

I attain the foregoing objects by the mechanism hereinafter described and claimed, and as illustrated in the accompanying drawings in which similar reference characters designate similar members throughout the several views and in which:

Figure 1 is a side elevation of a portion of a shuttle embodying my invention, Fig. 2 is a plan view of Fig. 1, Fig. 3 is a longitudinal, sectional view taken on the line A—B of Fig. 1, Fig. 4 is a transverse sectional view of the shuttle, taken on the line C—D of Fig. 1, Fig. 5 is a sectional view taken on the line E—F of Fig. 1, Figs. 6 and 7 illustrate the tensioning device or friction bar in different views respectively, Fig. 8 is a longitudinal sectional view through the friction bar shown in Figs. 6 and 7, Fig. 9 is a detail view of the preferred form of thread guide eye used in connection with the illustrated tensioning device, Fig. 10 is a sectional view on line G—H of Fig. 9, and Fig. 11 is an elevation view of the guide eye.

In carrying my invention into effect, I preferably employ a shuttle 1 containing a central longitudinal bore 2, transverse apertures 3, a bobbin 5 and chamber 4 in which the spool or bobbin 5 is supported in any proper manner. The shuttle also contains a diagonally disposed aperture 6 which contains the thread guide 7. The shuttle also contains a slot 8, preferably of curved

formation, whereby a nose 9 is formed. This slot 8 merges with the central bore 2, so that thread, when passed around the nose 9, enters the bore 2 and may be caused to enter the guide 7 by passing it under the lip 7' and over the nose 7^a so that it enters the aperture formed by the curvature of the guide 7 and by this means the thread is retained within the guide. The aperture 3 communicates with the bore 2 as shown in Fig. 3, and threaded within these apertures are tension members, each of which comprises a hollow threaded member 10 containing friction material 11 which may be composed of felt or other suitable fabric, rubber or the like. The member 10 contains a notch 12 through which the friction material is exposed. The screw threads are preferably removed adjacent to the edges of the notch, for a purpose hereinafter explained. The relation of the tension member to the shuttle is such that the friction material is exposed within the bore 2, and the thread in passing through the bore 2, comes into contact with the friction material which retards the movement of the thread in a manner that is quite obvious. (See Fig. 3.)

In operation, the thread 13, in being drawn from the spool 5, is subjected to a slight frictional resistance because of its contact with the end of the spool; and, in passing over the friction material, the tension is increased. It is obvious that when the thread passes over two or more frictional surfaces 11, that the tension is proportionately increased. It is quite obvious that the tension is increased or diminished in proportion to the length of thread in contact with the friction material, and therefore, provision is made for regulating the amount of frictional contact of the thread, by turning the screw-threaded member 10, until the thread partially or wholly contacts the hard smooth surface 14, of one or both of the tension devices.

By inspection of Fig. 8, it will be seen that the frictional material may be shifted longitudinally of the member 10, in order to present a new contact surface through the opening 12, and this may be accomplished either by providing the friction material with a wire loop, or the like, or by engaging the friction material with a small hook and pulling it outwardly. New friction

tion surfaces may also be presented by shifting the member 10, laterally in the aperture 3.

I claim;

- 5 1. In combination, a thread-carrying shuttle having an aperture through which the thread passes, and having a second aperture communicating with the first said aperture, a cylindrical hollow member having
10 friction material adapted to contact the thread while passing through the first said aperture, and means for increasing or decreasing the contact surface between the friction material and the thread.
- 15 2. In a shuttle, a body having a longitudinal bore through which thread passes and

having an aperture containing a friction bar adapted to contact the thread and having an aperture containing a guide eye through which the thread passes out, said guide eye 20 being formed of sheet material formed into a scroll and having an apertured lip and a nose extending into the aperture in such relation that the thread may be easily inserted into the guide past the nose but prevented there from dislodgment. 25

In testimony whereof, I affix my signature in the presence of two witnesses.

J. N. LE VASSEUR-BELISLE.

Witnesses:

THOMAS A. McAVOY,
O. A. TAFT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."