

J. E. EMERSON.
TENSION DEVICE FOR LOOM SHUTTLES.
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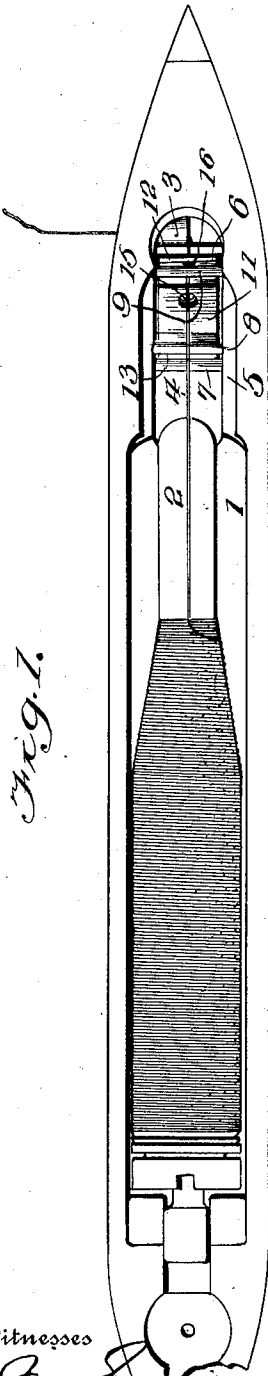


Fig. 1.

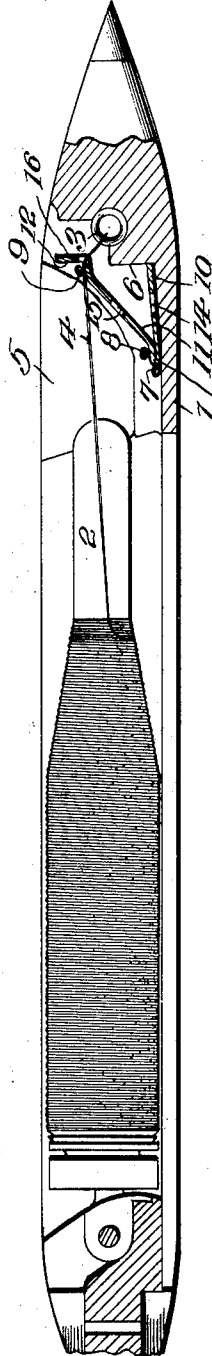


Fig. 2.

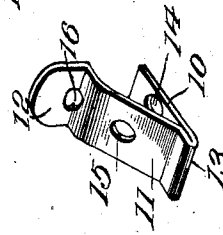


Fig. 3.

Witnesses

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TENSION DEVICE FOR LOOM-SHUTTLES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JEROME EVERETT EMERSON, a citizen of the United States, residing at Lockport, in the county of Niagara and State of New York, have invented certain new and useful Improvements in Tension Devices for Loom-Shuttles, of which the following is a specification.

This invention relates to devices for placing and regulating the tension upon the thread passing from a loom shuttle and has for its object the provision of a simple and efficient device which may be easily applied to any shuttle and which will effectually engage the thread so as to control its passage from the shuttle.

A further object of the invention is to provide a tension device by the use of which the shuttle may be quickly and easily threaded and by which any desired tension may be applied to the thread.

The invention seeks further to improve the construction of tension devices whereby they may be produced in an inexpensive manner and easily applied to or removed from a shuttle and when in use will prove highly efficient.

In the accompanying drawings which fully illustrate my invention and are to be taken as a part hereof: Figure 1 is a plan view of a loom shuttle having my improved tension device applied thereto; Fig. 2 is a longitudinal section thereof; Fig. 3 is a detail perspective view of the tension device removed from the shuttle.

The shuttle 1 may be of the usual or any preferred construction and the bobbin 2 is mounted therein in the ordinary manner. The shuttle is provided with a transverse porcelain eye 3 in its side at one end through which the thread 4 leaves the shuttle and between the said eye and the bobbin chamber the shuttle is constructed with a tension chamber 5 having a vertical shoulder 6 adjacent the said eye. Through the sides of the shuttle I insert pins 7, 8 and 9 as shown. The tension device comprises a plate of spring metal having a base portion 10 adapted to rest upon the bottom of the tension chamber 5, a supporting arm 11 rising obliquely from the said base 10 and a lip or finger 12 at the upper terminal of the said supporting arm. The device is preferably constructed of one integral plate, being folded as indicated at 13 to form the up- standing arm 11, and the extremity of the

said arm 11 being bent upon itself to provide the finger or lip 12. An opening 14 is provided in the base 10, a similar opening 15 is provided at about the center of the arm 11, and an opening 16 is provided in the lip or finger 12.

The tension device is inserted in the shuttle so that the base 10 will rest upon the bottom of the tension chamber, as clearly shown in Fig. 2, while the arm 11 will rise from the base in proximity to the pins 7, 8 and 9, the lip or finger 12 extending above the uppermost pin 9. The thread 4 is carried from the bobbin under the pin 9 and inserted through the opening or eye 16 and thence passed through the eye 3 which is preferably a short porcelain sleeve fixed in the wall of the shuttle. It will be readily appreciated that the resiliency of the arm 11 holds the lip or finger 12 toward the pin 9 so that the thread will be held in frictional engagement with the said pin and the edge of the opening 16 over which it passes to the discharge eye 3. This frictional engagement will serve to impart an even, steady pull to the thread as the shuttle passes across the loom in the act of weaving, and the supporting arm is preferably formed into a convex shelf immediately adjacent the lip to hold the thread to the pin 9 without liability to break the thread.

The lip or finger 12 may be engaged by the finger of the operator and a slight pressure thereon will move it away from the pin 9 so that the thread may be easily inserted through the eye 16 as will be readily understood. The lowermost pin 7 is disposed immediately adjacent the end of the base and the supporting arm, the opposite end of the base bearing against the shoulder 6 so that shifting of the device longitudinally of the shuttle will be prevented. The intermediate pin 8 is arranged just over the end of the base at the foot of the supporting arm to hold the device against upward movement. Should it be desired to increase the tension on the thread, the lip 12 is held against the uppermost pin 9 and pressure exerted on the supporting arm so as to dish or bend the same downwardly and thereby increase the force with which it will bear against the pin 9. If a small hooked instrument be engaged in the opening 15 and drawn upward, the tension will be reduced, and if a small pointed instrument be inserted through the opening 15 and engaged in the opening 14,

the base 10 of the device may be pried from the bottom of the tension chamber to lift its end above the shoulder 6 whereupon the device may be easily withdrawn. Should the
5 tension device be broken and it be necessary to insert a new one, the work may be done in a few minutes and the operation of the loom proceed practically uninterruptedly.

My device is exceedingly simple in its
10 construction and will be found efficient in use, and its many advantages are thought to be apparent.

In actual practice, the tension device will have a width a trifle less than the width of
15 the tension chamber so that the insertion and removal of the device may be easily accomplished, and the opening 16 will be of sufficient size to permit knots to pass easily without an increase of tension and at the
20 same time maintain the desired tension upon the thread. The lip or finger 12 which projects above the pin 9 prevents the thread rising over the said pin and the opening 16,

it will be readily understood, holds the thread against all lateral movement. 25

Having thus described my invention, what is claimed as new is:

A tension device for shuttles comprising a member formed of resilient metal, said member including an upstanding portion the
30 terminal of which is disposed between the tension roller of the shuttle and the shuttle eye, said terminal being bent in a direction to partially embrace the tension roller, the member being apertured at the line on
35 which it is bent, the thread passing beneath the roller and through the aperture of the member to the eye of the shuttle.

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

JEROME EVERETT EMERSON. [L. S.]

Witnesses:

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