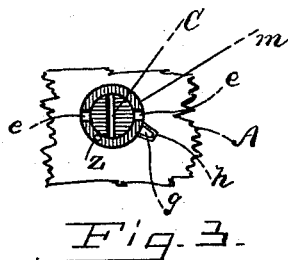
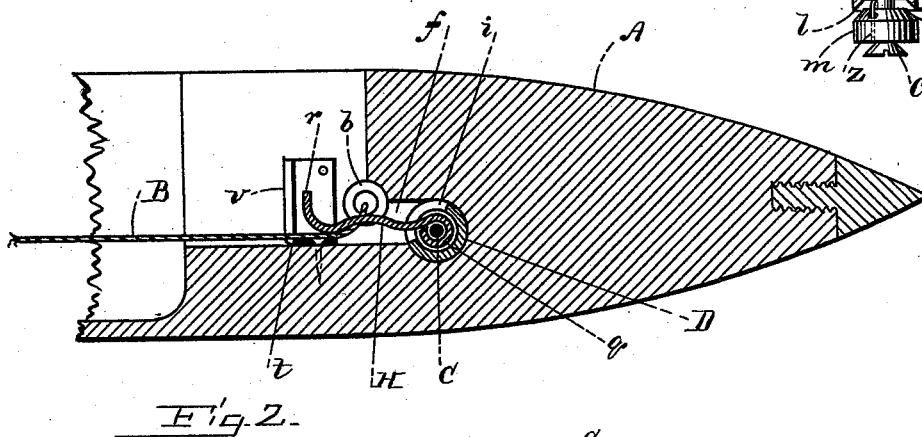
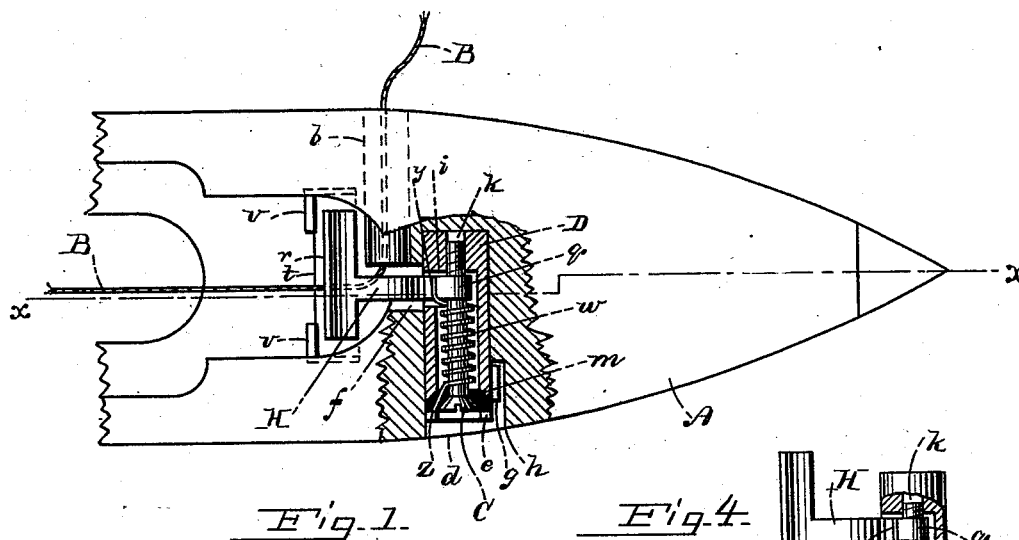


(No Model.)

A. BALDWIN.
LOOM SHUTTLE.

No. 418,670.

Patented Jan. 7, 1890.



WITNESSES:
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UNITED STATES PATENT OFFICE.

ALFRED BALDWIN, OF KENYON, RHODE ISLAND.

LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 418,670, dated January 7, 1890.

Application filed September 18, 1889. Serial No. 324,311. (No model.)

To all whom it may concern:

Be it known that I, ALFRED BALDWIN, of Kenyon, in the county of Washington, State of Rhode Island, have invented a certain new and useful Improvement in Loom-Shuttles, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional plan view of a portion of a shuttle provided with my improved tension device; Fig. 2, a vertical section taken on line *x x* in Fig. 1, and Figs. 3 and 4 are sectional views illustrating details of construction.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

My invention relates to an adjustable tension for the filling-thread in loom-shuttles; and it consists in certain novel features hereinafter fully set forth and claimed, the object being to produce a simpler, cheaper, and more effective device of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

In the drawings, A represents the body of the shuttle, and B the thread. The shuttle is provided with an eye *b*, opening into the bobbin-chamber in the usual manner. The body of the shuttle is provided with a chamber *d*, parallel with the eye *b*, and opening outward at the opposite side of the shuttle. A passage *f* connects the inner end of the chamber *d* with the bobbin-chamber near the eye *b*.

A sleeve or tube D is fitted to enter the chamber *d*, and is provided with a spline *g*, which enters a slot *h* in the wall of said chamber and prevents said tube from rotating. A lateral opening *i* is formed in the tube, which registers with the passage *f* when said tube is in position. The inner end of the tube is thickened and interiorly screw-threaded at *k* to receive a screw C. The outer end of the tube is countersunk at *l* to receive the beveled edge *p* of a nut *m*, which is loosely dis-

posed on said screw. A lever H is disposed in the opening *i* and passage *f*, its inner end being looped at *q* to receive the screw C. The outer end of the lever is provided with an upwardly-curved laterally-elongated head *r*, which engages a horizontal plate *t*, secured to the bottom of the bobbin-chamber near the eye *b*. A vertically-arranged inwardly-projecting guide-flange *v* is secured to the side wall of said chamber at each end of the plate *t* and overlaps the ends of said lever-head.

A coiled spring *w* is disposed around the screw C between the lever and the screw-head, one end *y* of said spring bearing against the upper face of the lever and the opposite end being inserted in an eye *z* in the nut *m*. The nut has slots *e* in its outer face to receive the points of a tool for turning and holding it in position while the screw C is being set up. The spring *w* acts torsionally to force the lever lip or head *r* into engagement with the wear-plate *t*. By rotating the nut *m*, to which one end of said spring is attached, as described, with a properly-constructed tool, this tension may be regulated as desired. As soon as the tension is adjusted by the nut the screw C is turned into the tube, its head jamming said nut against the countersunk end of said tube and securing it in position.

The filling B is passed between the lever-head and wear-plate and threaded through the eye *b* in the usual manner. The lever exerts a constant and even tension upon the thread, and its upwardly-curved head permits knots or bunches to pass without breaking the filling.

It is customary to form a series of eyes in a shuttle-body through which the filling is threaded, a bush or waste being inserted in each of said eyes to obtain the required tension on the thread. These devices require frequent adjusting, as the tension rapidly varies and the filling often breaks when a knot or bunch therein comes into contact with a bush. Moreover, it is frequently necessary to steam the filling to prevent it from kinking and making imperfect cloth. This process is expensive, rapidly destroying the bobbins, and rendering the filling very tender. My invention overcomes these objections and furnishes an even and readily-adjustable tension which may be easily applied to the shuttle.

The guard-flanges *v* prevent the filling from becoming entangled or caught on the ends of the lever-head *r*. These guards may be formed integral with the shuttle-body or attached thereto, as described.

Having thus explained my invention, what I claim is—

1. The combination of a shuttle-body provided with a chamber opening into the bobbin-chamber, a tube or sleeve in said chamber, a screw working in said tube, with a lever pivoted on said screw and projecting into the bobbin-chamber, a loose nut on said screw, and a coiled spring having one end secured to said nut and its opposite end in engagement with said lever, substantially as and for the purpose set forth.

2. A shuttle-body, a screw therein, a nut on the screw, and a lever pivoted on said screw in position to engage the thread before it passes into the shuttle-eye, in combination with a coiled spring on said screw acting torsionally to depress said lever, substantially as set forth.

3. The combination of a shuttle-body, a screw therein, a wear-plate disposed in the bobbin-chamber and provided with guard-flanges, a lever pivoted on said screw and having a curved head in engagement with said plate, a loose nut on said screw, and a coiled spring having one end in engagement with the lever and its opposite end secured to the nut, whereby its tension on said lever may be adjusted, substantially as described.

4. The tube *D*, adapted to be disposed in a chamber in the shuttle-body, in combination with the screw *C*, disposed in said tube, the lever *H*, pivoted thereon and having the curved head *r*, adapted to engage the filling-thread as it leaves the bobbin, the loose nut *z* on said screw, and the coiled spring *w*, secured to said nut and engaging said lever, substantially as and for the purpose set forth.

ALFRED BALDWIN.

Witnesses:

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