

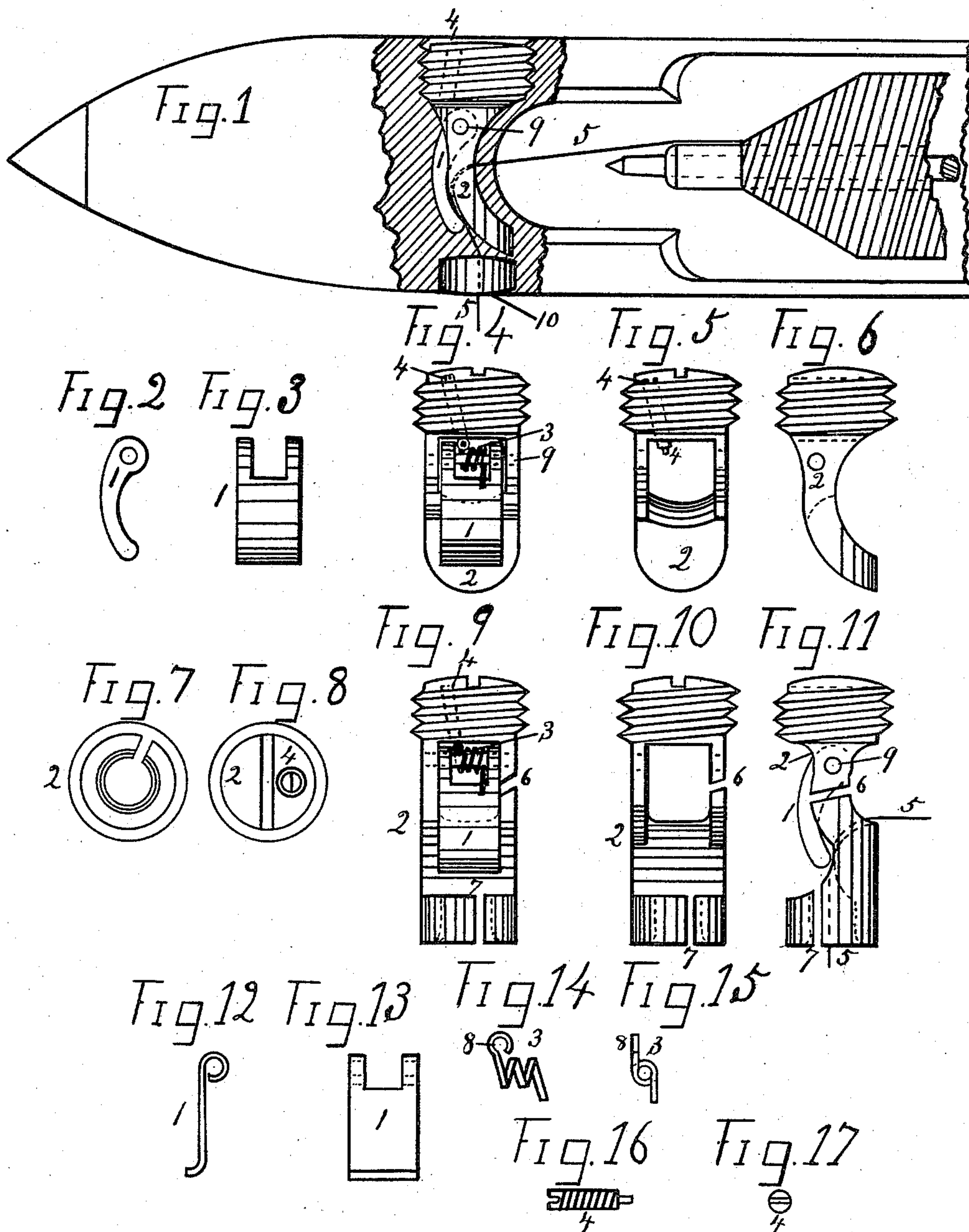
(No Model.)

H. BARDSLEY.

THREAD TENSION REGULATING DEVICE FOR LOOM SHUTTLES.

No. 533,204.

Patented Jan. 29, 1895.



WITNESSES:

Wm. Shinn
M. A. Wellman.

INVENTOR

Henry Bardsley
BY
John Shinn.
ATTORNEY.

UNITED STATES PATENT OFFICE.

HENRY BARDSLEY, OF PHILADELPHIA, PENNSYLVANIA.

THREAD-TENSION-REGULATING DEVICE FOR LOOM-SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 533,204, dated January 29, 1895.

Application filed June 25, 1894. Serial No. 515,574. (No model.)

To all whom it may concern:

Be it known that I, HENRY BARDSLEY, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Thread-Tension-Regulating Devices for Loom-Shuttles and other Purposes where a Thread Tension is Required, of which the following is a specification.

My invention relates to means for regulating the drag or tension of the thread in a loom shuttle, when weaving. It is also applicable to spooling, warping, twisting and knitting machines, and in fact, it may be used on any machine, for winding or unwinding yarn where a drag or tension is desired on the thread.

The invention is designed as an improvement upon the invention described, claimed and patented by me July 19, 1892, No. 479,084.

My present improvement consists in a tension plate, spiral spring, and regulating screw, mounted in a metal frame having a screw threaded head, by which it may be fixed in the body of a loom shuttle, or held in position, when attached to other machines, as is illustrated in the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a section of a loom shuttle, showing my improvement connected thereto. Figs. 2 and 3, are views of one form of the drag plate. Fig 4 is a side view of the frame and drag plate such as I use in shuttles. Figs. 5 and 6, are views of the frame, such as I use in shuttles. Figs. 7 and 8, are end views of the frame, such as I use outside of shuttles. Fig. 9 is a side view of the frame and drag. Figs. 10 and 11 are views of the frame, such as I use outside of shuttles. Figs. 12 and 13, are views of the drag, when made of sheet steel. Figs. 14 and 15 are views of the spiral wire spring. Figs. 16 and 17 are views of the regulating screw.

Similar numerals represent similar parts in all the views.

1 represents the drag, which I make as shown in Figs. 2 and 3, of hard rubber, or as shown in Figs. 12 and 13 of sheet steel.

2 represents the frame, Figs. 4, 5 and 6, such as I use in loom shuttles; Figs. 9, 10 and 11, for other machines. These frames I

prefer to make of cast metal, in some cases of steel, and harden them after fitting. The frames have a head, upon which is cut a coarse screw thread as shown in the drawings. In this head is drilled and tapped a hole for the regulating screw 4. The head has a screw-driver notch, cut in it, as shown in the drawings, also a hole for the pin 9, upon which hangs the drag 1, and spring 3. The frame Figs. 9, 10 and 11, has openings 6 and 7.

In applying my improvement to a loom shuttle, as shown in Fig. 1, I bore or cut a hole in direct line with the eye 10, and in the opposite side from the eye, cut with a tap, into the wood a screw thread to correspond with the screw on the head of the frame, to make a tight fit. The frame is screwed in as shown in Fig. 1. The thread 5 is drawn through the eye 10, and under the drag, by the usual "weft-hook," used by weavers. The screw 4, working through the head into the eye 8 of the spring 3, is adjusted so as to make the spring press hard or light on the drag, and by the screw 4 and spring 3, more or less pressure is put on the thread 5, as it passes under the drag 1.

When the tension is used for other purposes than in a shuttle, the frames Figs. 9, 10 and 11, are fastened to a wooden bar, in such numbers and distances apart as may be desired. They may be hung vertically, or placed horizontally (as in the shuttle). When used out of a shuttle, the thread 5 is not put in by a hook, but is passed through the cuts, or openings 6 and 7, shown in Figs. 9, 10 and 11.

The advantages of my improved drag, is obvious, and it can be used on all kinds of yarn, vegetable and animal, coarse and fine, and the drag made to give a tension suitable for all kinds of weaving and winding.

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

A thread tension, comprising a holding frame 2, having a threaded head and supporting a yielding drag-plate 1, a coiled spring 3 and an adjusting screw threaded in the head of the frame and engaging the coiled spring, as shown and described.

HENRY BARDSLEY.

Witnesses:

JOHN SHINN,

WILLIAM C. STOEVEER.