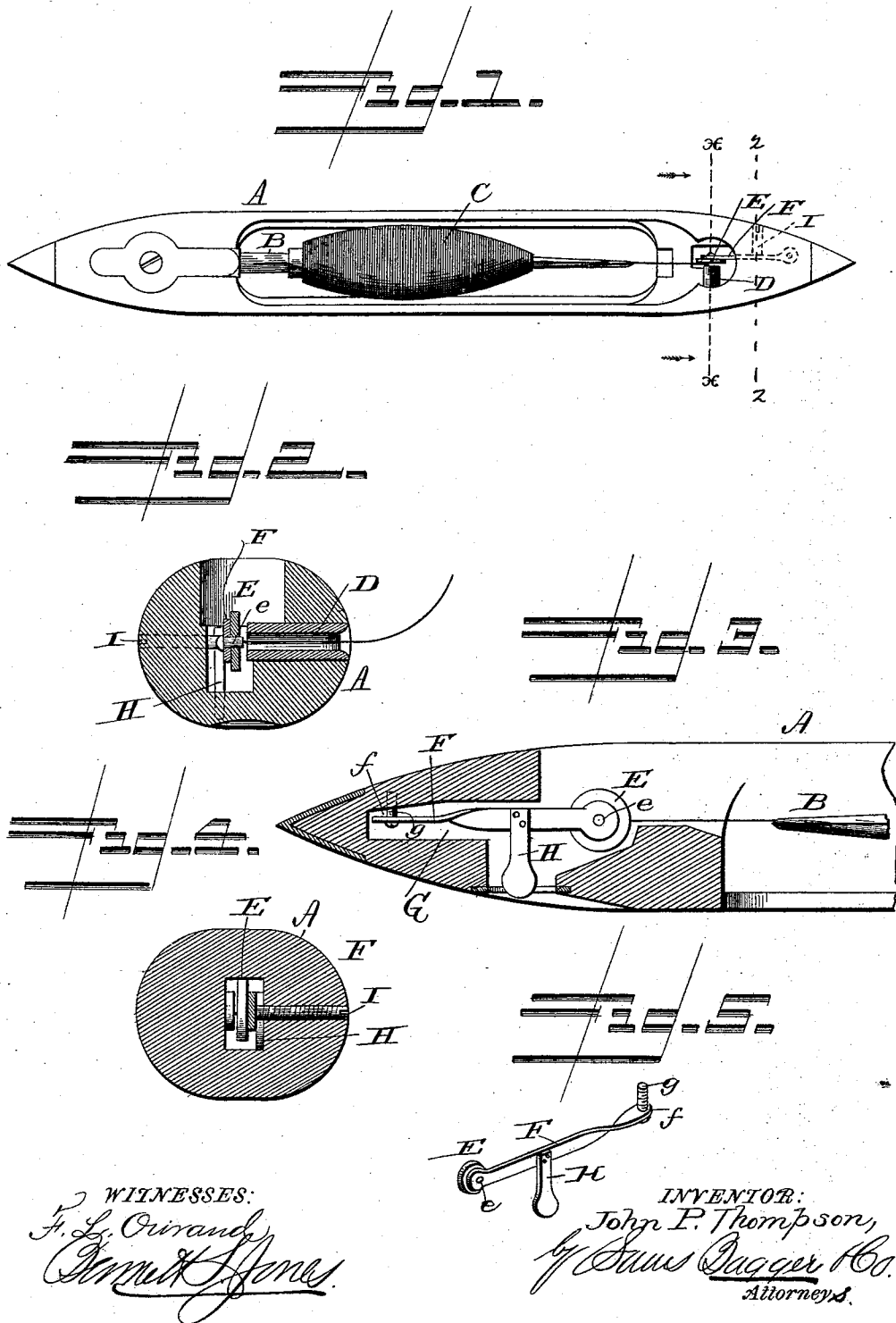


(No Model.)

J. P. THOMPSON.
TENSION DEVICE FOR LOOM SHUTTLES.

No. 478,895.

Patented July 12, 1892.



UNITED STATES PATENT OFFICE.

JOHN POLK THOMPSON, OF OLNEYVILLE, RHODE ISLAND.

TENSION DEVICE FOR LOOM-SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 478,895, dated July 12, 1892.

Application filed January 15, 1892. Serial No. 418,147. (No model.)

To all whom it may concern:

Be it known that I, JOHN POLK THOMPSON, a citizen of the United States, and a resident of Olneyville, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Tension Devices for Loom-Shuttles; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a top view of my improved shuttle. Fig. 2 is a cross-section of the same on line $x x$, Fig. 1. Fig. 3 is a central longitudinal section of one end of the shuttle. Fig. 4 is a cross-section on line $z z$ in Fig. 1, showing the tension-regulating screw. Fig. 5 is a detail perspective view of the tension device removed from the shuttle.

Like letters of reference denote corresponding parts in all the figures.

My invention relates to devices for regulating the tension of the filling as it runs from the spool or bobbin through the eye of the shuttle; and it consists in the improved tension device, which will be hereinafter more fully described and claimed, and which is more particularly designed for (though by no means limited to) shuttles operating with a filling of woolen yarn.

Referring to the drawings, the letter A designates the body of the shuttle, B the spindle, and C the spool or bobbin. The inner end of the shuttle-eye D is closed by a flat disk E, fastened pivotally upon the free end of a spring F, the other end of which is fastened within a recess G, cut in the body of the shuttle, said recess forming a chamber opposite to the inner end of the shuttle-eye of sufficient size to permit the free end of the spring with its disk some play forward and back. For the sake of convenience the spring F may be made with an eye f at one end, so that it may be fastened to the body of the shuttle within the recess G by means of a small screw g .

Upon the free end of spring F is a small stud e , forming a pivot and fastening for the revoluble tension-disk E, which is a small flat

disk of circular shape, of glazed or enameled metal or some other suitable substance, pressing (by the tension of spring F) against and closing the inner end of the eye D. The spring F at some suitable point between its fastening and disk E is provided with a projecting finger-piece H, the free end of which projects down into the recess within which the spring is located opposite to an opening in said recess, so that by inserting the finger through this opening into the recess and pressing against this finger-piece the operator can push the tension-disk away from the eye, and thus open the same when it is desired to thread the eye.

To provide means for regulating the tension or pressure of spring F and disk E against the inner end of the eye, I insert a screw I through the body of the shuttle, with its inner end projecting into the recess G and bearing against the adjacent side of spring F. Thus it will be seen that by turning this screw to one side or the other the pressure of its inner end against spring F may be adjusted at will, thereby regulating the pressure of the pivoted tension-disk E against the inner end of the eye. In this single and expeditious manner I am enabled to regulate the drag on the filling as it passes out through the eye.

From the foregoing description, taken in connection with the drawings, the operation of my improved tension device will readily be understood. After the bobbin has been placed upon the spindle the eye is threaded by the operator pushing away the tension-disk from the inside aperture by pressing against the projecting finger-piece, as already described, bunching some loose filling pulled off the bobbin against the inner opening of the eye, and then pulling it through with a small hook inserted through the eye from the outside in the usual manner. By now letting go of the finger-piece the tension-disk will spring back into its normal position, closing the inner aperture of the eye and pressing against the inserted thread of filling with a degree of pressure that may be regulated by adjusting the tension-screw I, as described. As the tension-disk E is made very smooth on the side which presses against the yarn, and is, besides, pivoted upon its fastening-stud e so as to revolve

loosely thereon, it cannot catch or kink up the yarn; but this will run smoothly through the eye with a drag or degree of tension which may be regulated at will and with the greatest
5 degree of accuracy.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a shuttle, the combination of the eye,
10 a spring located within a recess in the shuttle in proximity to the eye and having a presser-disk at its free end bearing against the inner end of the eye, and a screw bearing with its inner end against the spring, substantially as
15 set forth.

2. The combination of the shuttle-body provided with the eye D and recess G, spring F, provided with the revoluble disk E, and finger-piece H, and adjusting-screw I, all constructed and combined to operate substantially in the
20 manner and for the purpose herein shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN POLK THOMPSON.

Witnesses:

JOHN J. CONLEY,

WILLIAM A. PHILLIPS.