E. W. MARBLE.

LOOM SHUTTLE.

No. 188,926. Patented March 27, 1877.

Fig. 1

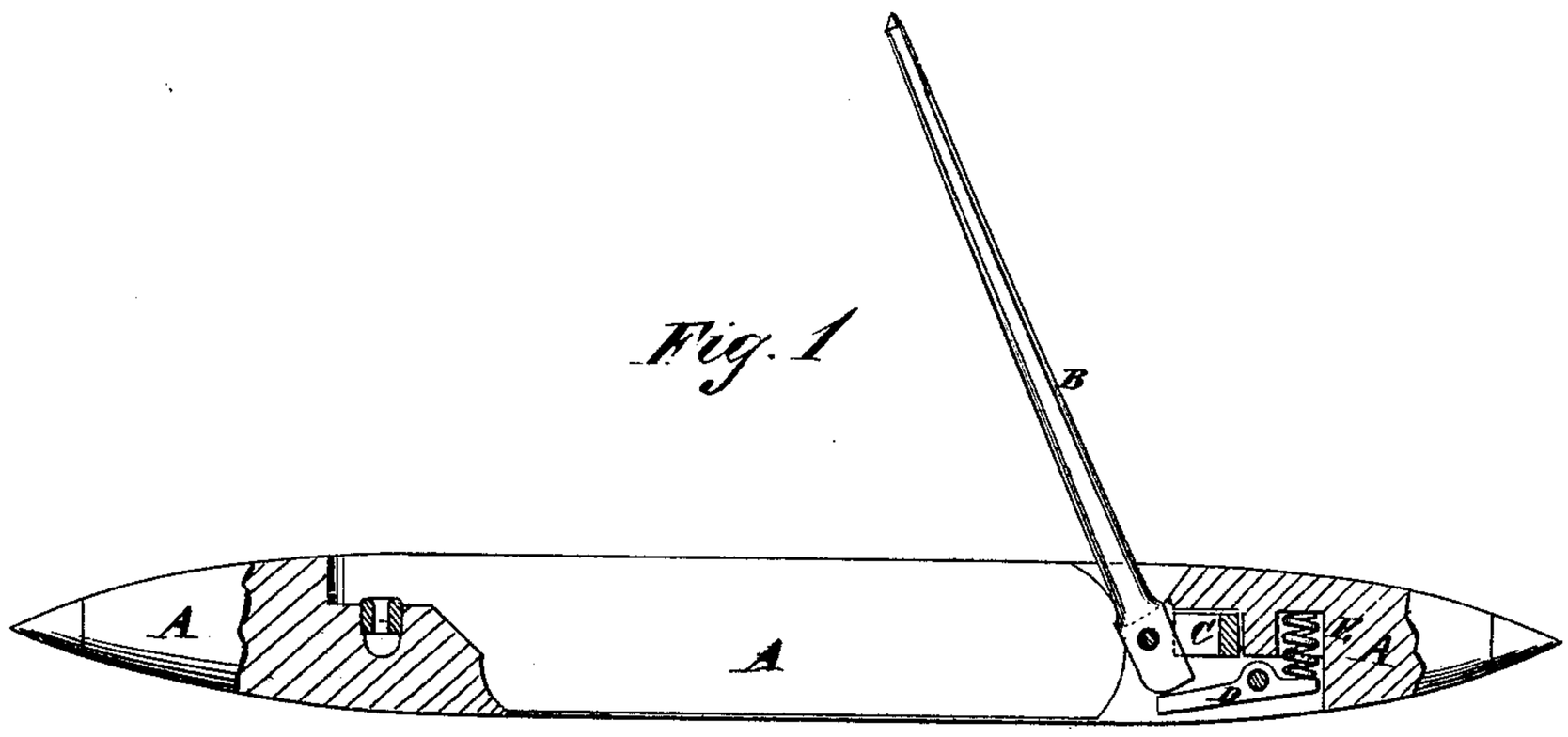


Fig. 2

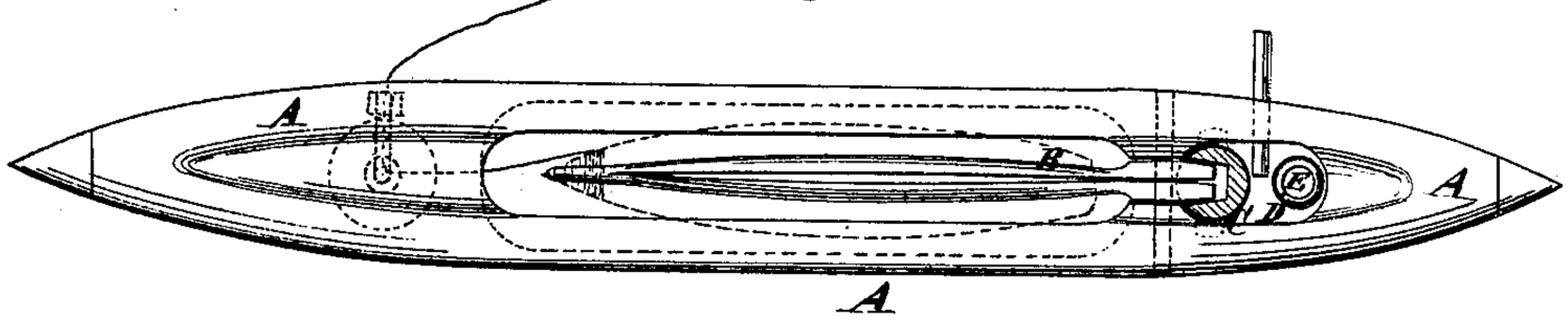


Fig. 3

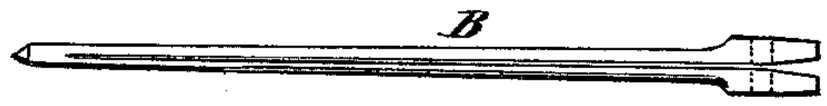
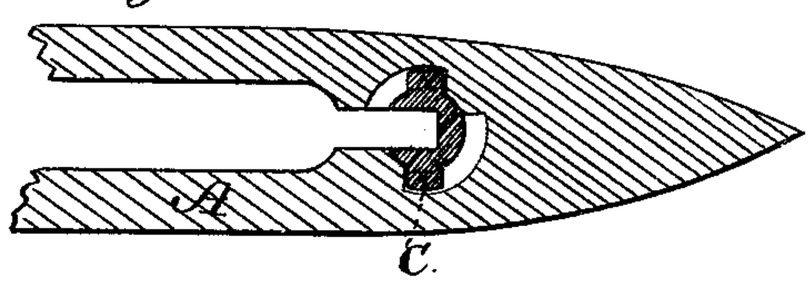


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EZRA W. MARBLE, OF WILKINSONVILLE, MASSACHUSETTS.

IMPROVEMENT IN LOOM-SHUTTLES.

Specification forming part of Letters Patent No. **188,926**, dated March 27, 1877; application filed September 2, 1876.

To all whom it may concern:

Be it known that I, EZRA W. MARBLE, of Wilkinsonville, county of Worcester, and State of Massachusetts, have invented a new and useful Improvement in a Weaver's Shuttle for Cotton-Looms, of which the following is a specification:

In the accompanying drawing, Figure 1 is a side view of my improved shuttle, partly in section to show the construction. Fig. 2 is a top view of the same, and Fig. 3 is a detail view of the spindle. Fig. 4 is a horizontal section of the shuttle.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved shuttle which shall be so constructed that the cop may be placed upon the spindle without having its interior snarled, as is the case when the ordinary spindle is used, and thus avoid the great waste of cotton from said snarling.

The invention will first be described in connection with the drawing, and then pointed out in the claim.

In the drawing, A represents the body of the shuttle. B is the spindle, which is made of two pieces of steel, welded together at the point. Upon the other end of the spindle B is formed the head, which is perforated transversely, to receive the pin by which the said spindle is pivoted to the shuttle A. The inner sides of the parts of the head are beveled off from the center of the pivot-hole to the end of said heads, as shown in Fig. 3, so that when said ends are left free, the two parts of the spindle may be close together, to enable the cop to be easily slipped upon the said spindle without having its interior snarled, and so that when the ends of the parts of the head are pressed together, the middle part of the parts of the spindle will be made to bulge, as shown in Fig. 2, so as to fasten the cop securely upon said spindle.

C is a grooved socket, which is secured in the end of the shuttle A, in such a position that when the spindle B is raised into position to receive the cop, as shown in Fig. 1, the head of the said spindle will pass out of the lower end of the groove of the socket C, so that the cop can be readily slipped upon it; and when the spindle B is lowered into position for use, the ends of the parts of the head will enter the groove of the said socket C and be pressed together, causing the middle part of the spindle to bulge and hold the cop securely.

The spindle B is held in place, when lowered into position for use, by a lever, D, which is pivoted to the shuttle A at its middle part, with one end resting against the end of a coiled spring, E, the elasticity of which holds its other end pressed against the head of the spindle B, as shown in Fig. 1.

I am aware that it is not new to use a lever in shuttles; but I hold the spindle in place by a lever that supports the heel of spindle with an oval end, while it is itself supported at the other end by a spiral spring. The oval end of lever is designed to help in closing up the spindle when raised at the point out of the shuttle-box to receive the cop. I am also aware that sockets for the end of spindle are not new; but my socket is made to fit a round hole with a side groove at the bottom, to accommodate each of its ears. It is inserted within the shuttle by placing the ears lengthwise of the slot that is intended to receive the spindle, and, after being pressed down to bottom of hole, turned around to let the ears into the side groove; hence

What I claim as new is—

The combination of a socket, C, having the described groove and ears, with a shuttle having a spindle-slot, round hole, and bottom side groove, as and for the purpose specified.

EZRA W. MARBLE.

Witnesses:

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M. J. T. MARBLE.