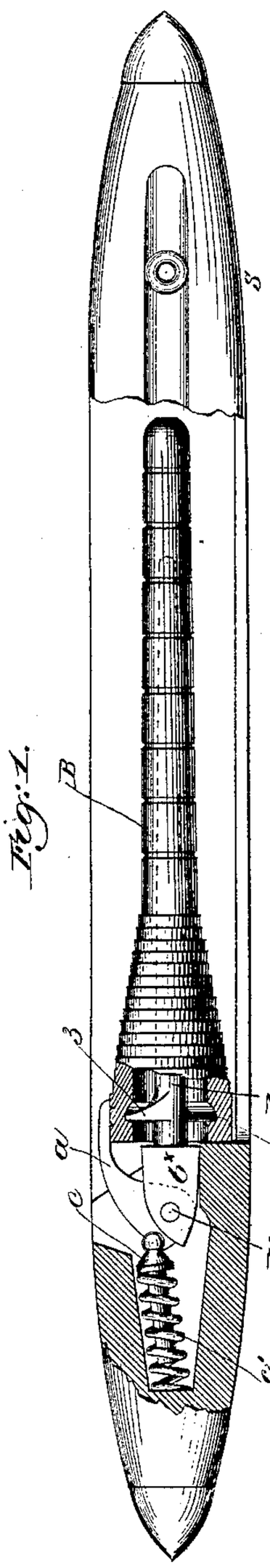
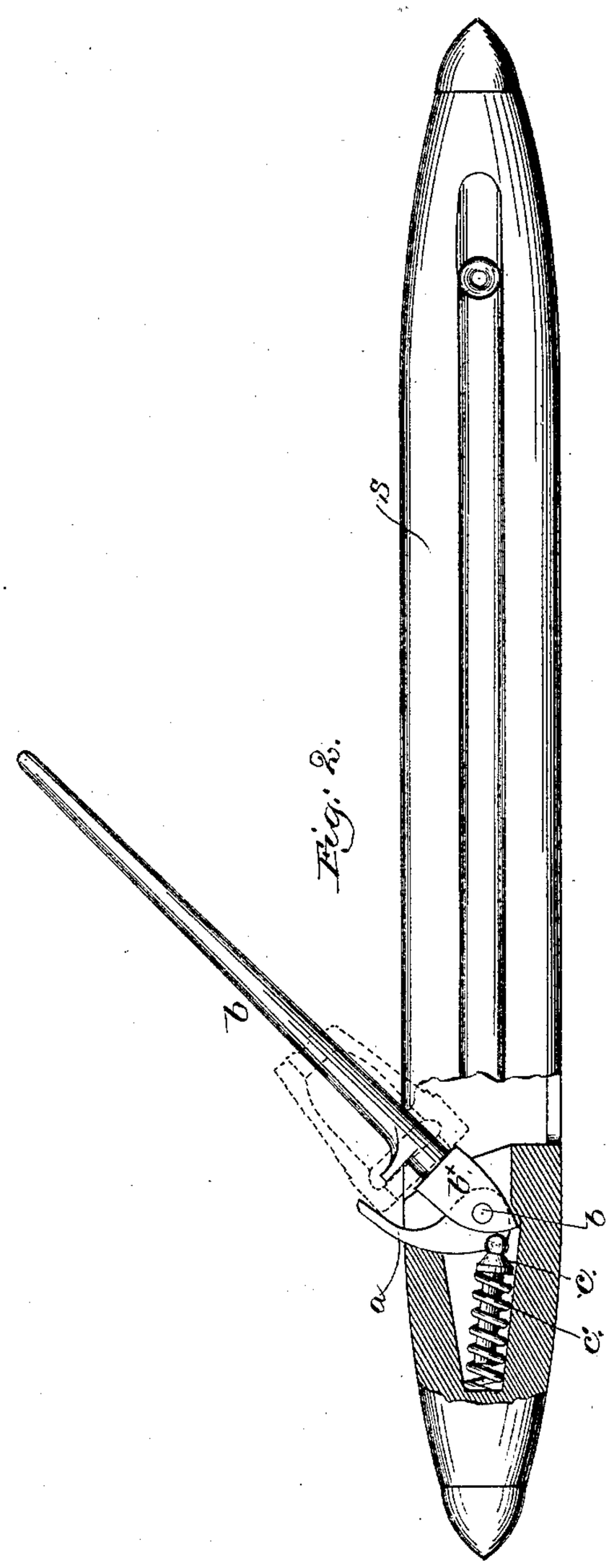
(No Model.)

M. F. FIELD.

LOOM SHUTTLE.

No. 360,573. Patented Apr. 5, 1887.





Witnesses
B. J. Noyes.
John F. C. Printzlau

Inventor
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by Crosby & Gregory Attys

UNITED STATES PATENT OFFICE.

MILLARD F. FIELD, OF CHELSEA, MASSACHUSETTS, ASSIGNOR TO THE AMERICAN SPINDLE COMPANY, OF SACO, MAINE.

LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 360,573, dated April 5, 1887.

Application filed August 12, 1886. Serial No. 210,697. (No model.)

To all whom it may concern:

Be it known that I, MILLARD F. FIELD, of Chelsea, county of Suffolk, and State of Massachusetts, have invented an Improvement in Loom-Shuttles, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention consists, essentially, in a shuttle-spindle provided with a shoulder to enter a groove at the interior of a chambered bobbin and a pressing lever or finger having as its pivot or center of motion the pin which serves as the pivot or fulcrum for the shuttle-spindle, combined with a spring and rod or head to act upon the said lever or finger and cause it to press against the head of the bobbin when the spindle is turned into the shuttle, and to be carried back away from the bobbin when the spindle is turned outwardly from the shuttle-body.

Prior to my invention the heel of the shuttle-spindle has been provided with a backwardly-extended arm, to which is riveted one end of a spring, which, extended toward the pivotal point of the spindle, has been made to act upon the head of the bobbin and cause a groove therein to be engaged with a projection upon the spindle; but such construction is, in my judgment, objectionable, because of the frequent breaking of the spring extended from the head of the spindle, and because the body of the shuttle is weakened by the removal of wood for the reception of the said arm, and to permit the movement of the spindle.

Figure 1, in side elevation partially broken out, shows a shuttle embodying my invention, the bobbin being also partially broken out to show the rigid shoulder engaging the inner groove of the bobbin, and Fig. 2 is a similar view with the spindle turned out, only a portion of the bobbin being shown by dotted lines.

The shuttle-body S is and may be of any usual shape and material. The bobbin B, also of usual shape, has in its chambered base a groove or shoulder, 2, to be engaged by a shoulder, 3, forming part of the spindle *b*. The head $b^{\times}$ of the spindle *b* turns upon the pin or fulcrum *b'*, held in the body of the shuttle, the said pin also serving as the center of motion or pivot for a presser lever or finger, *a*.

When the spindle and bobbin are turned into the shuttle, the lever or finger *a* is so acted upon by a rod, *c*, surrounded by the spring *c'*, as to cause the said lever or finger to force the bobbin aside in such direction as to effect the engagement of its grooved part 2 with the shoulder 3 of the spindle to retain the bobbin upon the spindle; but when the spindle is turned outwardly, as in Fig. 2, the spring pressed or actuated rod or head *c* acts upon the said lever or finger at a point below or at the other side of the pin or fulcrum *b'*, and causes the end of the lever or finger to be carried away from the bobbin, permitting it to be freely removed from the spindle without interference from the said shoulder.

In another application, A, Serial No. 210,696, filed by me, I have shown and claimed a catch shaped very much like the lever or finger *a*, and pivoted in like manner by the same pin which serves as the fulcrum or pivot for the spindle, the said application also showing the spring-actuated rod; but in said application the catch acts to engage a groove made in the outside of the bobbin.

I claim—

1. A shuttle-spindle provided with a shoulder, 3, combined with a presser lever or finger, and a rod and spring to bear against and turn the said finger on its pivot to press it against a bobbin having an internal groove or shoulder and effect the engagement of the bobbin with the said shoulder 3, to hold it firmly in place upon the spindle, substantially as described.

2. A shuttle-spindle provided with a shoulder, 3, and a presser lever or finger, *a*, having its pivot or center of motion common to that of the said spindle, combined with a spring pressed or actuated rod to act upon the said lever or finger, substantially as described.

3. The shuttle-body, the spindle provided with the shoulder 3, and the presser lever or finger *a*, having its pivot or center of motion common to that of the said spindle, combined with a spring and rod to act upon the said lever or finger, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MILLARD F. FIELD.

Witnesses:
G. W. GREGORY,
C. M. CONE.