No. 667,101. Patented Jan. 29, 1901.

E. PARKINSON.

BOBBIN CATCH FOR LOOM SHUTTLES.

(Application filed June 8, 1900.)

(No Model.)

Fig. 1.

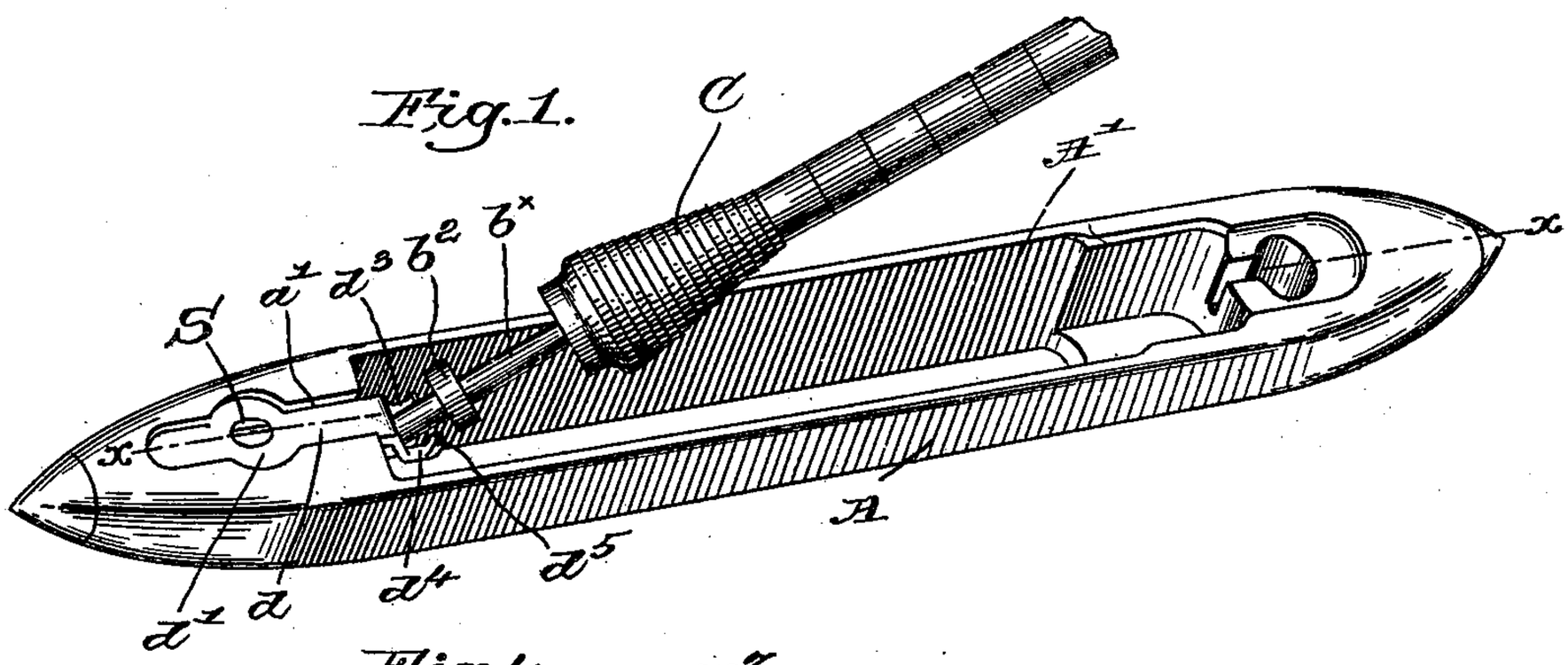


Fig. 4.

Fig. 2.

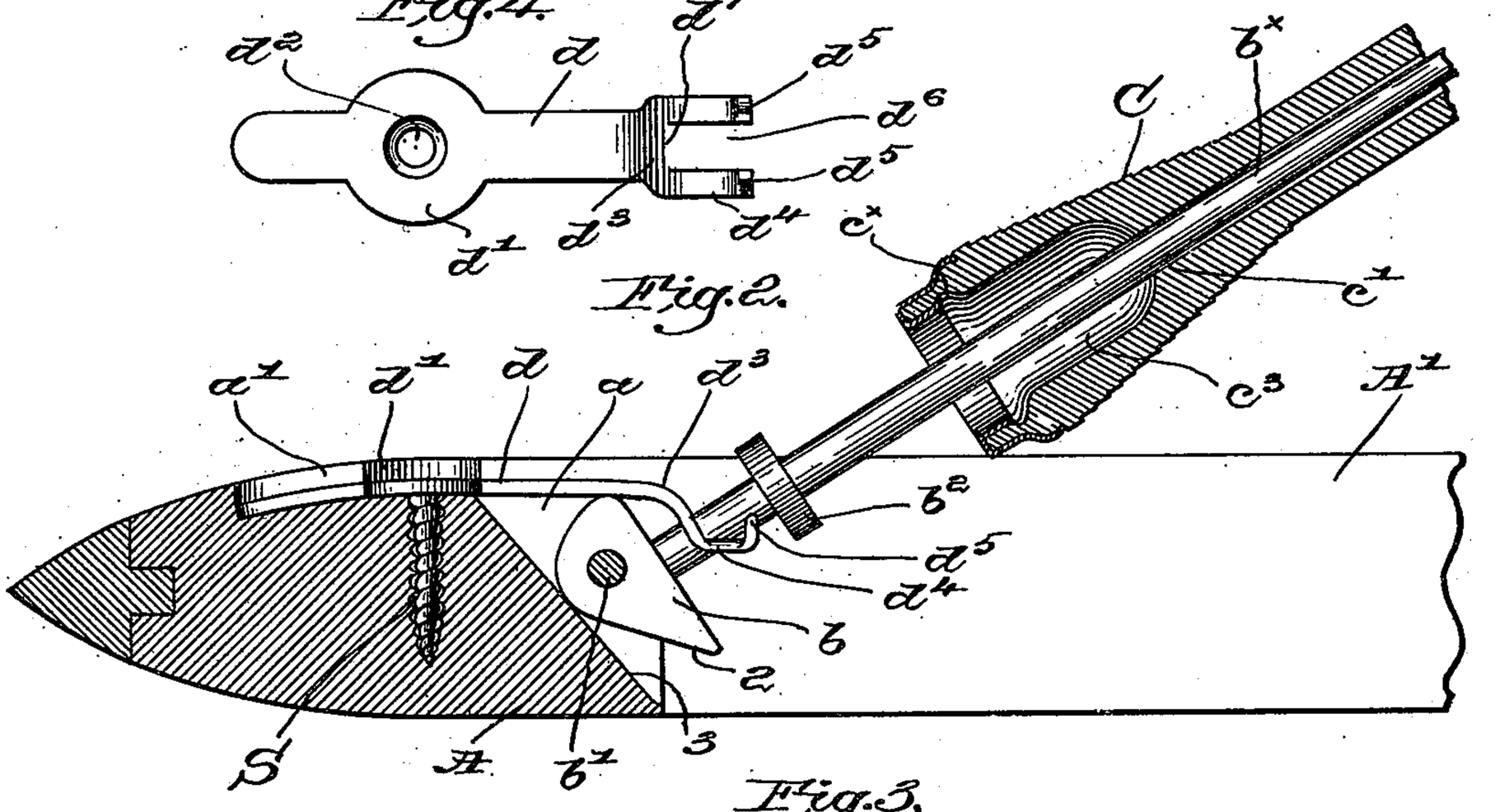
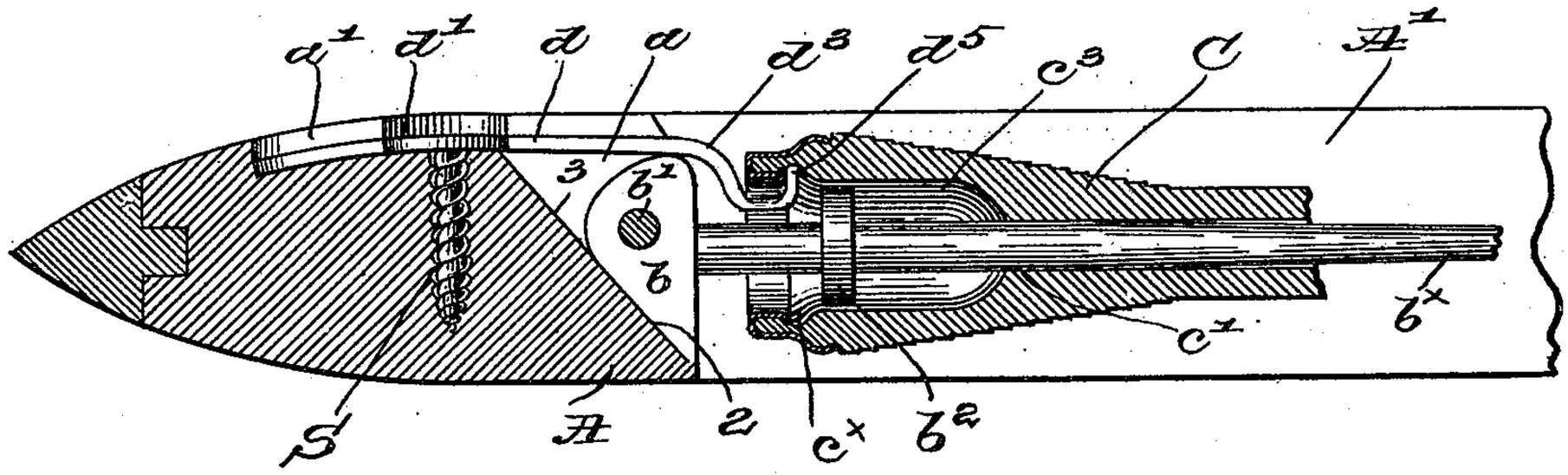


Fig. 3.



Witnesses.
Thomas J. Drummond.
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UNITED STATES PATENT OFFICE.

ELIJAH PARKINSON, OF ATTLEBOROUGH, MASSACHUSETTS.

BOBBIN-CATCH FOR LOOM-SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 667,101, dated January 29, 1901.

Application filed June 8, 1900. Serial No. 19,566. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH PARKINSON, a citizen of the United States, residing at Attleborough, county of Bristol, State of Massachusetts, have invented an Improvement in Bobbin-Catches for Loom-Shuttles, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to loom-shuttles of that type wherein the bobbin is detachably carried by a spindle pivotally mounted in the shuttle-body, the latter being longitudinally recessed to receive the bobbin when the spindle is in closed position.

My invention has for its object the improvement of such type of shuttles, and more particularly relative to the bobbin-catch for retaining the bobbin in place on the spindle when the latter is closed, whereby the cost of manufacture is reduced, the construction simplified, and the durability of the shuttle-body increased.

Figure 1 is a perspective view of a loom-shuttle embodying my invention, the spindle being shown in open position and the bobbin, partly illustrated, disconnected from the catch. Fig. 2 is an enlarged longitudinal sectional detail taken on the line $x x$, Fig. 1. Fig. 3 is a similar view, also enlarged, but with the spindle in closed position and the catch in engagement with the bobbin; and Fig. 4 is a top or plan view of my novel bobbin-catch detached.

The shuttle-body A, of wood or other suitable material and longitudinally recessed, as at A′, to receive the bobbin, is of substantially well-known shape and construction, the shuttle-body being cut away at a to receive the cam-head b of the spindle $b^{\times}$, pivoted in the shuttle-body by a pin b', the cam-head having its lower face 2 flattened and at such an angle relative to the spindle that when the latter is in closed position, Fig. 3, it will butt against the bottom 3 of the cut-away portion a. The spindle is shown as provided with an annular guide b^2, which fits into the recessed end of the bobbin C when the latter is in operative position on the spindle, and said guard has another function, to be hereinafter referred to.

The bobbin C, for the most part of usual construction, is provided with an annular internal recess $c^{\times}$ and bearings, one of which is shown at c', to embrace the spindle.

I have herein shown my novel bobbin-catch as composed of an elongated body d, having an annular enlargement d', with a central aperture d^2, adapted to set into a correspondingly-shaped recess a' in the shuttle-body and retained in place by a suitable screw S, the bobbin-catch being made of spring metal, preferably steel, the body at its inner end being bent downward, as at d^3, and then forward at d^4 and provided at its extremity with upturned lips d^5, the lip portion and part d^4 being bifurcated or slotted longitudinally, as at d^6.

The bobbin-catch is located in alinement with the longitudinal axis of the shuttle-body and, as shown clearly in Figs. 2 and 3, projects over and engages the cam-head b of the spindle, and when the latter is in closed position the spring action of the catch operating upon the spindle-head beyond its fulcrum maintains the latter in closed position. When the spindle is turned into open position, Figs. 1 and 2, to receive or permit the removal of a bobbin, the spindle passes into the slot d^6 of the catch and rests against its inner end d^7, the latter forming a stop, the resiliency of the catch at the same time acting to hold the spindle open. When in open position, it will be noted by reference to Figs. 1 and 2 that the lips d^5 of the catch are guarded by the bobbin-guide b^2, so that the bobbin can be either slid into place or removed from the spindle without any chance of engagement by the lips of the catch. When the bobbin is pushed down onto the spindle, its lower end engages the convex part d^3 of the body of the catch and stops the bobbin, after which the bobbin and spindle are pushed down into the recess A′, and as the spindle moves into closed position, Fig. 3, the end of the bobbin will slide over the convex part d^3, so that the bobbin is pushed forward somewhat, and at the same time the lips d^5 are exposed by the movement of the guide b^2, so that said lips enter the annular recess or groove $c^{\times}$ in the interior of the bobbin-head to retain the bobbin in place on the spindle. The guide b^2 enters freely the enlarged recess c^3 in the bob-

bin-head and serves to center it, if necessary.

Supposing that it is desired to remove the bobbin from the spindle, the latter is swung up into open position, such movement bringing the guide b^2 into position to guard the lips d^5, which are withdrawn from engagement with the recess $c^\times$ in the bobbin-head, as will be obvious, and the bobbin is freed and can be at once drawn from the spindle.

It will be noted that the bobbin-catch not only performs the function of holding the bobbin in place on the spindle, but it also performs the function of a spring to retain the spindle in opened or closed position, said bobbin-catch being mounted on the shuttle-body independently of the spindle.

By the construction herein shown the mechanism is very much simplified and the cost of construction reduced not only by the small number of parts necessary, but also because of the moderate cutting away of the shuttle-body to provide seats for the spindle-head and bobbin-catch.

By reducing the cut-away portions of the shuttle-body the strength of the latter is also materially increased.

My invention is not restricted to the precise construction and arrangement herein shown and described, as the same may be slightly modified or rearranged without departing from the spirit and scope of my invention.

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

1. The combination with a shuttle-body and a spindle pivotally mounted therein, of a bobbin-catch fixedly secured to the shuttle-body independently of the spindle and having a lip adapted to engage an internal recess in the bobbin-head.

2. The combination with a shuttle-body, and a spindle pivotally mounted therein, of a bobbin-catch attached to the shuttle-body and having a lip to internally engage the bobbin-head, the free end of the catch being bifurcated to receive the spindle when turned up to open position.

3. The combination with a shuttle-body, and a spindle pivotally mounted therein, having a cam-head, of a spring bobbin-catch secured to the shuttle-body and acting against the spindle-head, the free end of the catch having a lip to engage the interior of the bobbin-head when the spindle is closed.

4. A shuttle-body, a spindle pivoted therein, and a combined bobbin-catch and spring secured to the shuttle-body, said catch having a recessed free end to receive the spindle when in open position and form a limiting-stop therefor.

5. A shuttle-body, a spindle pivotally mounted therein and having a bobbin-guide thereon, and a bobbin-catch attached to the shuttle-body and adapted to engage the bobbin-head, the bobbin-guide acting as a guard for the catch when the spindle is in open position.

6. A bobbin-catch for loom-shuttles, made of spring metal and adapted to be secured to the shuttle-body, the free end of the catch being notched and having an outturned engaging lip to coöperate with the bobbin-head.

7. A shuttle-body, a spindle pivotally mounted thereon, and a bobbin-catch attached to the shuttle-body and adapted to engage the interior of the bobbin-head to retain the latter in place on the spindle, said bobbin-catch having a convex portion to act as a stop for the bobbin, and to move the latter into position to be engaged by the catch when the spindle is closed.

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

ELIJAH PARKINSON.

Witnesses:

ELIJAH R. READ,

JOSEPH O. MOWRY.