

G. C. MILLS.
SHUTTLES FOR LOOMS.

No. 174,376.

Patented March 7, 1876.

Fig. 1.

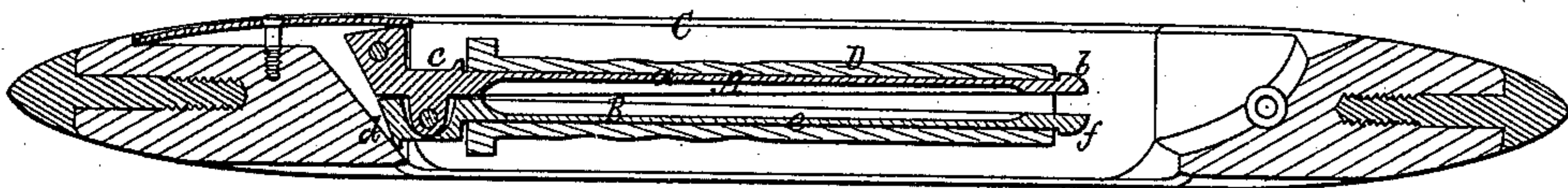


Fig. 2.

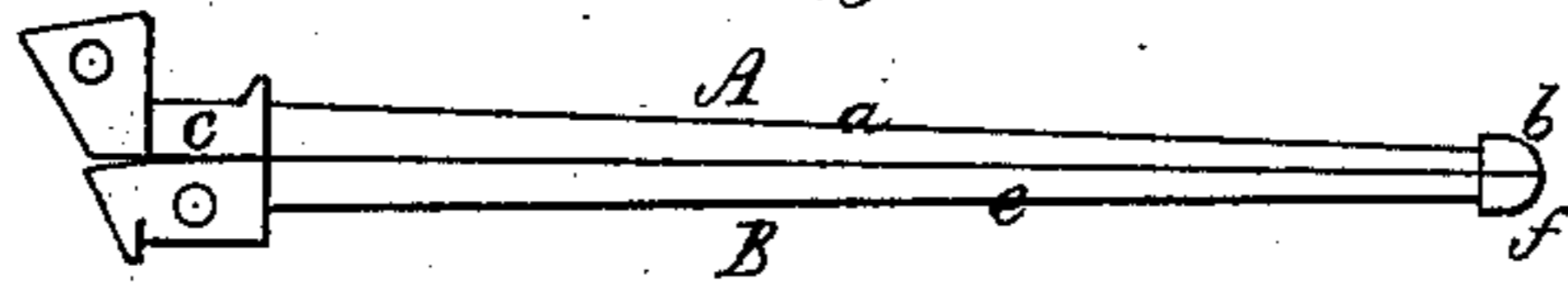
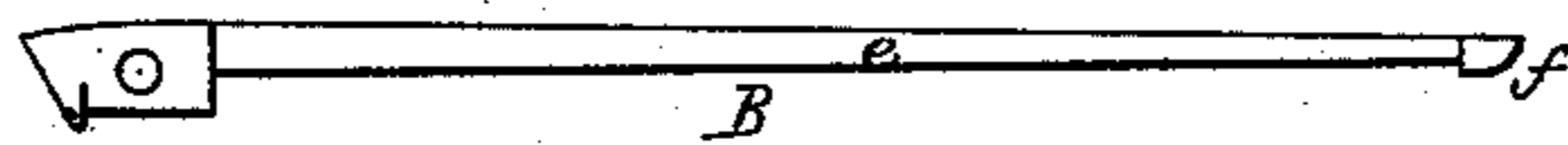


Fig. 3.



Witnesses
S. W. Piper
L. M. Miller

Guy C. Mills.
by his attorney.
R. H. Eddy

UNITED STATES PATENT OFFICE.

GUY C. MILLS, OF NASHUA, NEW HAMPSHIRE, ASSIGNOR TO ISAAC EATON
AND F. B. AYER, OF SAME PLACE.

IMPROVEMENT IN SHUTTLES FOR LOOMS.

Specification forming part of Letters Patent No. **174,376**, dated March 7, 1876; application filed
December 1, 1875.

To all whom it may concern:

Be it known that I, GUY C. MILLS, of Nashua, of the county of Hillsborough and State of New Hampshire, have invented a new and useful Improvement in Shuttles for Looms; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 denotes a longitudinal section of a shuttle provided with my invention, it also showing a bobbin as applied to the spindle of the shuttle. Fig. 2 is a side view of the spindle. Fig. 3 is a side view of the latch-lever of said spindle.

My invention is to hold the bobbin firmly on the spindle, while the latter is down within the body of the shuttle, the bobbin being easily removed from or applied to such spindle when the latter is in a raised position.

The spindle is shown at A as having its blade *a* semicircular in transverse section, tapering longitudinally, and provided at its outer end with a head, *b*. There is pivoted to the blade, at its heel *c*, a locking-lever, B, whose longer arm *e* is tapering, and shaped like the blade *a*, and also provided with a head, *f*, like the head *b*. The shorter arm of the locking-lever has its top beveled, or making an acute angle with the heel of the spindle, while its rear end also makes an acute angle to its top, all being as shown.

When the spindle is moved down into the bobbin-chamber of the shuttle-body C, the rear arm of the locking-lever will be forced against the stop or part *d* of the shuttle-body,

whereby such locking-lever will have its longer arm moved away from that of the spindle and within the bobbin D, so as to cause it to be securely held to the spindle, or from flying off the spindle, while the shuttle may be in movement in a loom.

When the spindle with the bobbin on it is raised up out of the shuttle, the bobbin can easily be removed from the spindle and another be applied thereto.

I do not claim a shuttle-spindle and a locking-lever crossing one another, and pivoted together like the blades of scissors, and having their heads or butts arranged on the pivot-pin of the spindle, and to bear against the spring over them, so as to be operated thereby. Although I have pivoted to the spindle a locking-lever, the two do not cross one another, they being arranged side by side, and hinged together at their heads, one head only being pressed on by the spring, and the other being beneath its fellow, and borne against the back-stop *d*, whereby the longer arm of the locking-lever is forced away from that of the spindle, and the two caused to hold the bobbin thereon.

What, therefore, I claim as my invention or improvement in the loom-shuttle is—

The locking-lever B, arranged beneath and hinged at its head to the lever D, in manner and to operate therewith, and with the back stop *d*, all substantially as set forth.

GUY C. MILLS.

Witnesses:

FRANK H. AYER,
ISAAC EATON.