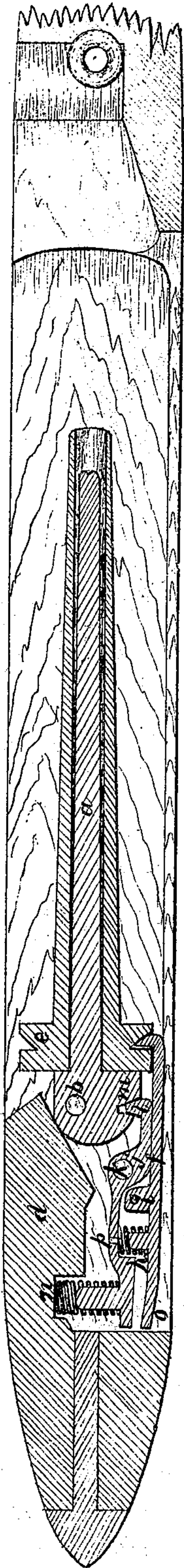


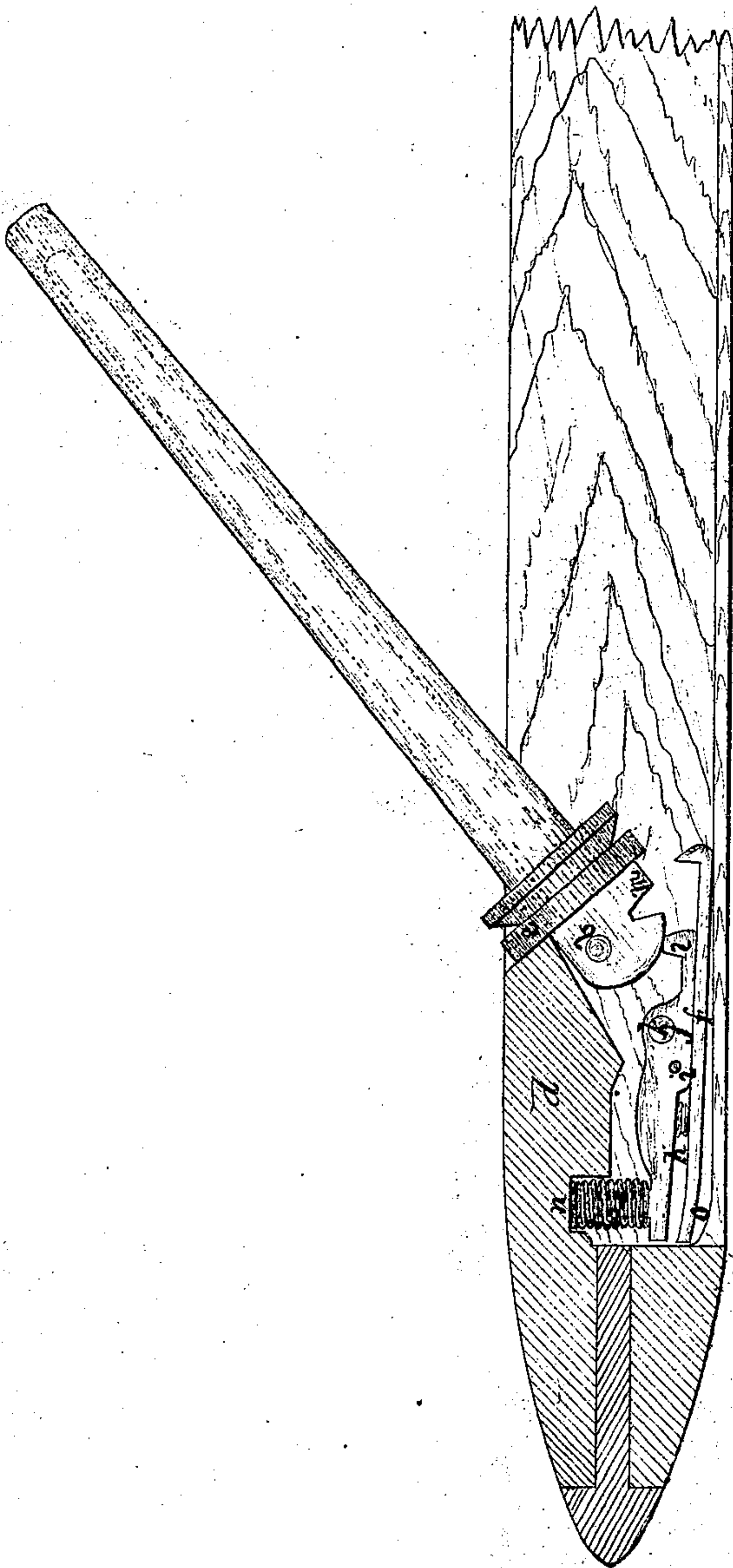
G. Crompton,
Loom Shuttle.

No. 96,677.

Patented Nov. 9. 1869



(FIG. 1.)



(FIG. 2.)

WITNESSES.

J. Ware

Frank A. Howard

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UNITED STATES PATENT OFFICE.

GEORGE CROMPTON, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN SHUTTLES FOR LOOMS.

Specification forming part of Letters Patent No. 96,677, dated November 9, 1869.

To all whom it may concern:

Be it known that I, GEORGE CROMPTON, of the city and county of Worcester, and State of Massachusetts, have invented certain new and useful Improvements in Shuttles; and I do hereby declare that the following is a full, clear, and exact description of the same, taken in connection with the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal section taken through the center of the spindle and bobbin and the mechanism which holds them. Fig. 2 is view of the same parts in a different position.

The parts in both figures are referred to by the same letters.

Referring to Fig. 1, it will be seen that the spindle *a* is in its horizontal position and is mounted upon a pin, *b*, passing through the wood part of the shuttle *d*. The bobbin *e* is held against the shoulder of the spindle and prevented from sliding forward by the catch *f*, a curved lip on which fits into the annular groove in the bobbin-head. This lip is held firmly in the groove by the pressure of the spiral spring *h*, which, pressing down, tilts the other end of the catch on its fulcrum *i*. This fulcrum *i* is upon a lever, *j*, which has its fulcrum at *k*. One end of this lever terminates in a lip or bar, *l*, which fits into a notch, *m*, in the head of the spindle. The other extremity of the lever is retained by a spiral spring, *n*. The position of the parts in Fig. 1 shows the bobbin ready for service (when filled with material) and held securely upon the spindle, and the spindle securely retained in its position by the engagement of the bar or lip *l* in the notch *m*. The spindle cannot be raised until the catch is pressed by the finger at *o*. (The curved lip of finger-piece *f* is lifted out of the bobbin-head groove.) The spring *h* becomes compressed, and coming in contact with a pin, *p*, projecting from the lever *j*, and surrounded by the spring *h*, presses also the lever *j*, and raising the bar *l* out of the notch *m*, the spindle is at liberty to be raised, as shown at Fig. 2. When the spindle and bobbin are required to be again lowered, and the notch is brought opposite the bar, the

pressure of the spring *n* re-engages them, and the spindle is again locked. The office of spring *h* is to compensate for different-sized bobbin-heads which may be introduced into the shuttle.

In practice it is often the case in the same mill to have different diameters of bobbin-heads. Were it not for this, the catch *f* might form one piece with the lever *j*, which holds the spindle, and it is my intention to make some shuttles in this manner, and thus hold the bobbin and the spindle in their position by a single spring.

In shuttles using cops instead of bobbins, I dispense with the catch *f* and its spring which retains the bobbin, and bring the lever *j* into substantially the same position as catch *f*, and lock and unlock the spindle as above described.

Shuttle-spindles are usually held in horizontal position by the tensional force of springs. As the springs become weakened by service the concussion of the shuttle causes the spindle to partially rise and not only break the filling-threads, but frequently causing the spindle (if a cop is used) or bobbin-point to catch and damage the warp-threads.

The strain on the spindle by concussion in my shuttle is sustained by the lock.

There may be other changes made in the mode of locking the spindle; but if the spindle cannot be raised until the catch or bar is disengaged from it, the principle which I believe I have discovered is involved; and hence

What I claim as my invention, and seek to secure by Letters Patent, is—

1. The combination of the notched spindle, the bar-lever and its spring, constructed substantially as described, and so that the spindle cannot be raised without manipulating the bar-lever.

2. The combination of the bar-lever, its pressure-spring, the notched spindle, bobbin-head, catch, and spring, all constructed and operating as described.

GEO. CROMPTON.

Witnesses:

J. A. WARE,
FRANK A. HOWARD.