D. WRIGHT.

LOOM-SHUTTLE.

No. 169,504. Patented Nov. 2, 1875.

Fig. 3.

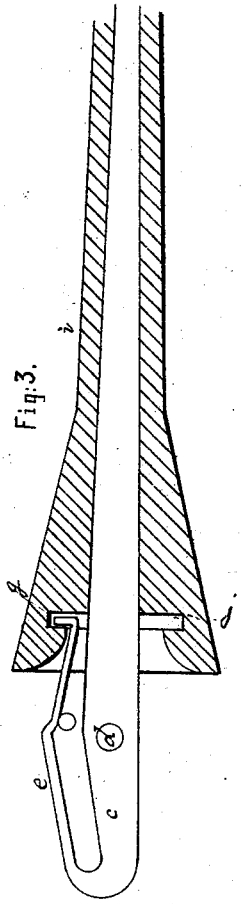


Fig. 1.

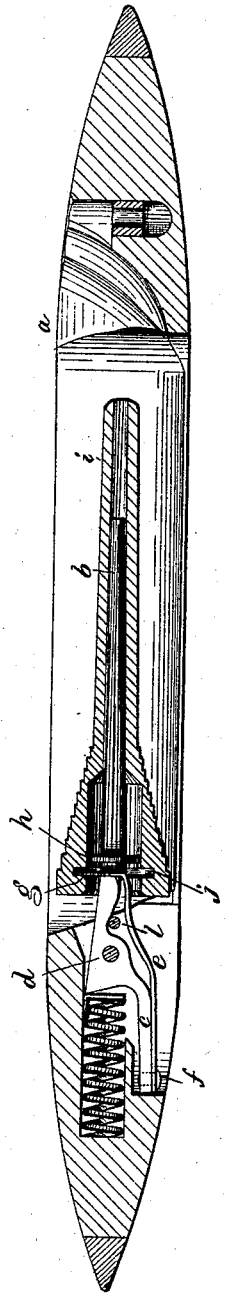
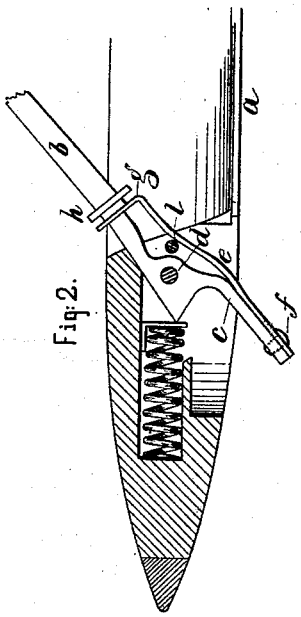


Fig. 2.



WITNESSES,

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UNITED STATES PATENT OFFICE.

DANIEL WRIGHT, OF LOWELL, ASSIGNOR TO SAWYER SPINDLE COMPANY, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN LOOM-SHUTTLES.

Specification forming part of Letters Patent No. **169,504**, dated November 2, 1875; application filed May 18, 1875.

To all whom it may concern:

Be it known that I, DANIEL WRIGHT, of Lowell, in the county of Middlesex and State of Massachusetts, have invented an Improved Loom-Shuttle, of which the following is a specification:

This invention relates to loom-shuttles; and consists in the combination of a bobbin, on which the weft or filling is spun or wound with a catch extended from the head of the spindle into the base of the bobbin, and adapted to engage the interior of the bobbin when the spindle is turned within the shuttle, substantially as hereinafter described.

Figure 1 represents a longitudinal section of a shuttle provided with my improvements, the spindle and bobbin being in position. Fig. 2 is a partial view, in section, showing the spindle turned from the shuttle, as is customary, to remove the bobbin. Fig. 3 is a modification.

In the drawing, *a* is the shuttle, of ordinary shape and material; *b*, the spindle; *c*, its head, pivoted at *d* to the shuttle-body, and provided with a spring, *e*, attached to the head at *f*. The hook of this bobbin holder or spring *e* terminates just below the collar *h* on the spindle, the collar serving to steady the bobbin *i*, by fitting its sides, as shown in Fig. 1. The bobbin is provided at its base with a groove, *j*, into which the hook *g* enters when the shuttle-spindle is in the position shown in Fig. 1, and this prevents the removal of the bobbin *i* from the spindle, or longitudinally thereon while the spindle is within the shuttle; but when the spindle is turned from its position in Fig. 1 to that in Fig. 2, then the spring *e* meets the pin or stop *l*, and draws the end of the hook *g* from the groove in the inner side of the head of the bobbin, and permits the removal of the bobbin. The filling-bobbin *i* is shown as provided with a truncated or enlarged base, and shouldered to receive the yarn, as usual. These bobbins have the yarn spun or wound on them, and are then placed in the shuttle, and, as usually constructed, are grooved externally at the base to receive the hooked end of the usual bobbin-detaining spring.

When the yarn is wound near the large end of a bobbin grooved externally to receive the hook of the detaining-spring, the yarn is liable to get into the groove and be caught by the detaining-spring, which breaks the thread, causing a stoppage of the loom and a loss of yarn and time, which is a serious evil. To prevent this liability of the detaining-spring catching into the yarn, a considerable portion of the bobbin, at its lower end near the detaining-spring, is left uncovered by the yarn; or the bobbin is not completely filled.

The great object of this invention is to so construct and combine the detaining catch and bobbin that the bobbin may be safely wound farther down on its base, thus enabling the spinner to put much more yarn on the bobbin, and at the same time enable the weaver to produce more cloth, because of less frequent stoppages.

The bearing of the bobbin, or its inner bore where it touches the spindle, is tapering, to fit the tapering spindle, and at the large end or head of the bobbin the opening outside the groove *j* is larger in diameter than that portion of the base of the bobbin which forms an adhesive bearing on the spindle. This enlarged opening at the base of the bobbin is greater than the diameter of the spindle and outside the groove *j*, but smaller in diameter than the diameter of the groove, permits the passage of the bobbin-catch within the base of the bobbin, and the strength and size of the spindle are as usual.

In Fig. 3, which represents a modified form of bobbin, the shoulder *h* on the spindle is omitted, the bobbin is made solid down to the groove *j*, and the spring is made part of the head.

Having described my invention, I claim—

1. The combination, with the spindle and its head, of the detaining-catch, connected with the head of the spindle and bent, substantially as described, with relation to the spindle to enter an internal groove in the base of the bobbin, substantially as set forth.

2. The combination of the truncated bobbin, provided with an internal groove, *h*, with the spindle, its head, and the hooked detaining-

catch, connected with the head, and stop *l*, all constructed and combined to operate substantially as described.

3. A bobbin having an enlarged opening in the base, and an internal groove to receive the bobbin-catch, combined with the spindle, the shuttle and a bobbin-catch, adapted to project from the outside into and engage a groove in the interior of the bobbin, substantially as described.

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

DANIEL WRIGHT.

Witnesses:
G. W. GREGORY,
L. H. LATIMER.