T. BLAKE.

Loom Shuttle Binder.

No. 166,494. Patented Aug. 10, 1875.

Fig. 1.

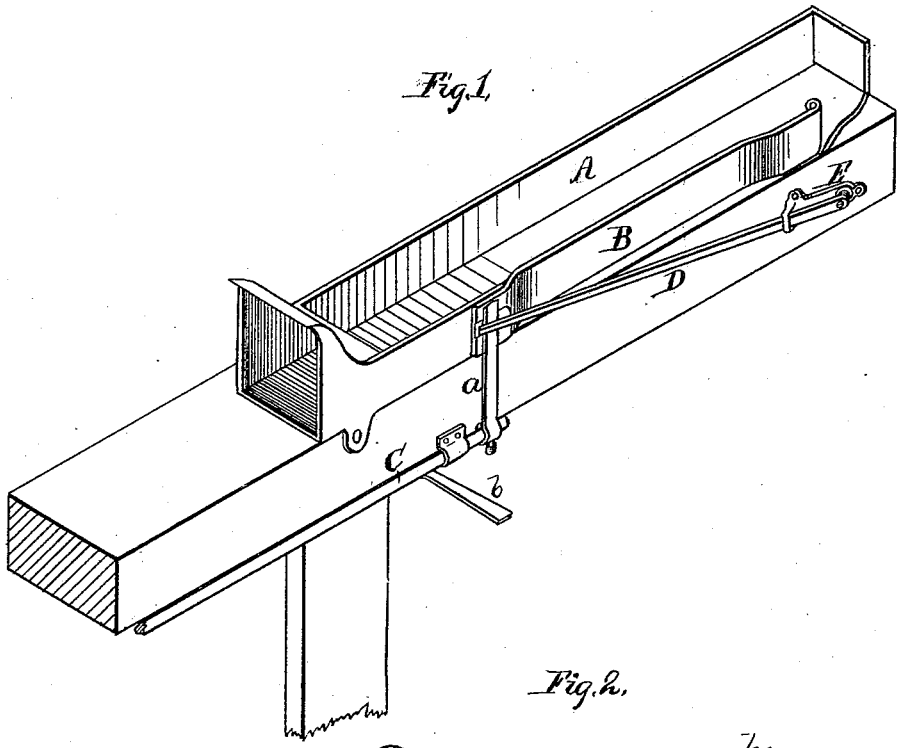


Fig. 2.

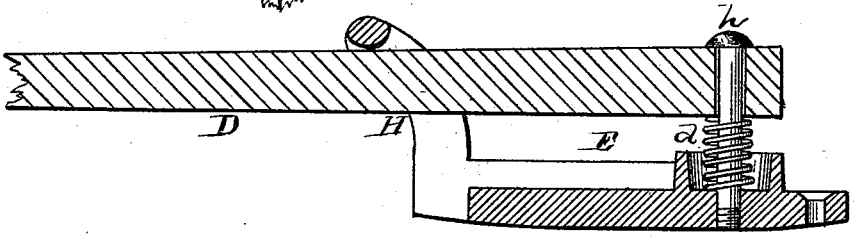
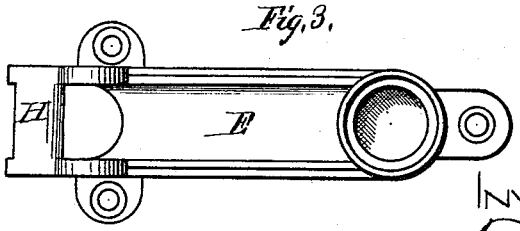


Fig. 3.



WITNESSES;

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THEOPHILUS BLAKE, OF FISHERVILLE, NEW HAMPSHIRE.

IMPROVEMENT IN LOOM-SHUTTLE BINDERS.

Specification forming part of Letters Patent No. **166,494**, dated August 10, 1875; application filed July 19, 1875.

To all whom it may concern:

Be it known that I, THEOPHILUS BLAKE, of Fisherville, county of Merrimack and State of New Hampshire, have invented certain new and useful Improvements in Spring Attachment for Shuttle-Binders, of which the following is a specification:

The nature of my invention consists in the construction and arrangement of a spring attachment for shuttle-binders, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, which forms a part of this specification, and in which—

Figure 1 is a perspective view of one end of a loom-lathe with my spring attachment in position thereon. Figs. 2 and 3 are detailed views of the spring attachment.

A represents the shuttle-box with the swell B, which latter is pressed out by the shuttle when it enters the box properly. In being thus pressed out the swell turns a finger, *a*, attached to the protecting-rod C, so as to rock said rod in its bearing and cause another finger, *b*, thereon to clear the shipping-lever of the loom in the usual manner. The instant the shuttle leaves the shuttle-box the swell must come back to its place, so as to be ready to act at the return of the shuttle. For this purpose a flat spring is usually employed, which has been fastened to the lathe, and its other end bearing on the finger *a*, but such spring wears rapidly and is a source of great annoyance and expense. In lieu of such flat spring I employ a wooden arm, D, with a metal piece, E, and spiral spring *d*. The metal piece E is fastened to the lathe and formed at its inner end with a projecting loop, H. Near the rear end of the metal piece is formed a small socket in which the spiral spring *d* is placed. The arm D is passed through the loop H, and a screw, *h*, is passed through the end of the arm and through the spring *d*, and screwed into the metal piece. The other end of the bar D bears against the finger *a* of the protecting-rod.

When the loom is in motion the outer cross-bar of the loop H forms the fulcrum on which the bar turns, the spring *d* acting on said bar to instantaneously throw the swell inward as soon as the shuttle leaves the box.

The metal piece E on the bottom is made rocker-shaped, so that the bearing of the arm or lever on the bearing of the box may be tightened or loosened, as required.

This device is considerably cheaper than the flat spring heretofore used, which is an important item in mills having a large number of looms.

When the wooden arm or lever D wears out that, and that only, can easily be taken out and a new one put in at a very trifling expense.

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

In combination with a protecting-rod and shuttle-binder, the metal piece E, with loops H, the arm or lever D, spring *d*, and screw *h*, constructed and arranged to operate substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my invention I hereunto affix my signature this 15th day of July, 1875.

THEOPHILUS BLAKE.

Witnesses:

EDWIN COLMAN,

JOHN C. BLAKE.