

R. W. PORTER.
SHUTTLES FOR LOOMS.

No. 169,837

Patented Nov. 9, 1875.

Fig. 1.

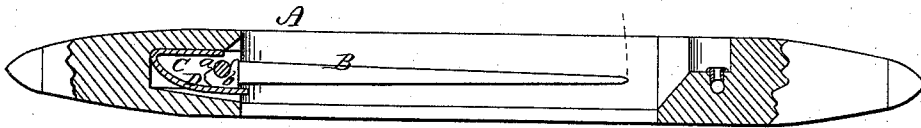
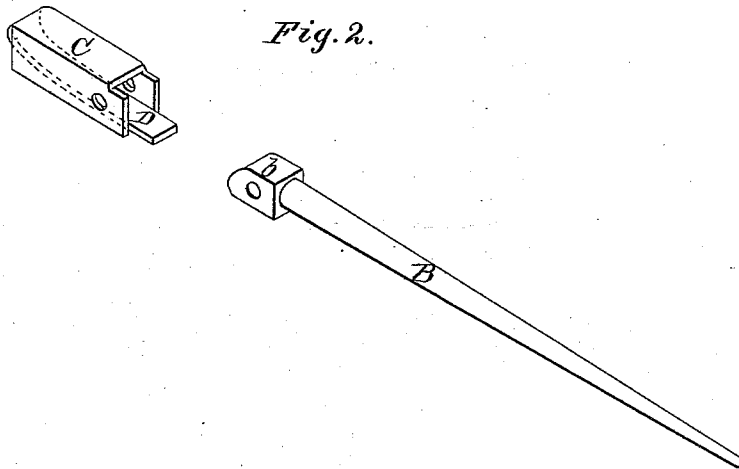


Fig. 2.



WITNESSES

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ROGER W. PORTER, OF NASHUA, NEW HAMPSHIRE.

IMPROVEMENT IN SHUTTLES FOR LOOMS.

Specification forming part of Letters Patent No. **169,837**, dated November 9, 1875; application filed May 19, 1875.

To all whom it may concern:

Be it known that I, ROGER W. PORTER, of Nashua, in the county of Hillsborough and in the State of New Hampshire, have invented certain new and useful Improvements in Shuttles for Looms; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a spindle-head and spring for loom-shuttles, 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 drawings, in which—

Figure 1 is a longitudinal section of a shuttle embodying my invention. Fig. 2 is a detached view of the spindle-head, shell, and spring.

A represents an ordinary shuttle for looms, and B is the spindle therein. In the end of the shuttle A is inserted a shell, C, which entirely covers a flat steel spring, D. This spring and shell are made all in one piece of metal in the form as shown in Fig. 2. The head *b* of the spindle B is inserted in the shell C, and the shell with its spring and the spindle-head held with the shuttle by the same pin *a* driven transversely through the shuttle. The spindle-head *b* may be constructed, as shown in Fig. 2, with an eye for the passage of the pin *a*, so as to remain permanently until removed by driving out the pin. Or there may be a depression in the head, as shown in Fig. 1, which will allow the head to be slipped under the pin *a* by raising the spring D a little.

After it is in position the spring will hold it there firmly.

The spring D may be arranged on the top side of the spindle-head, as well as on the bottom side, if desired.

The object of my invention is to get rid of putting a spring upon the top of the shuttle with a screw, the disadvantage of which is that the screw works loose and comes out when the shuttle is in motion, causing great damage in the loom, and said spring often breaks, causing expense and trouble.

The advantage of my spring is that the spring and spindle are held into the shuttle by one pin only, and this being driven into the solid wood cannot become loose unless it has to be frequently driven out to change the spindles, and this difficulty is obviated by using the spindle with the depression in the head, as shown in Fig. 1.

Using my spring also obviates the necessity of cutting away much of the wood in the end of the shuttle, which tends to weaken the same. I simply make a straight hole to receive the shell, and do not impair the strength of the shuttle in the least.

I am aware that spiral springs have been used for the purpose of doing away with the top spring and screw; but they have been put in in such a manner as to cut away and weaken the shuttle to a considerable extent.

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

In combination with the shuttle-body A, the metallic box or shell C and spring D formed from a single piece of metal, as shown in Fig. 2, and the spindle and spindle-head B *b* inserted within the shell and held by the pin *a*, which holds both the spindle and the shell to the shuttle-body, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 29th day of April, 1875.

ROGER W. PORTER.

Witnesses:

GEO. R. HOLT,
E. H. PARMENTER.