H. A. BOYINGTON.

Shuttle-Spindle.

No. 218,919. Patented Aug. 26, 1879.

Fig. 1.

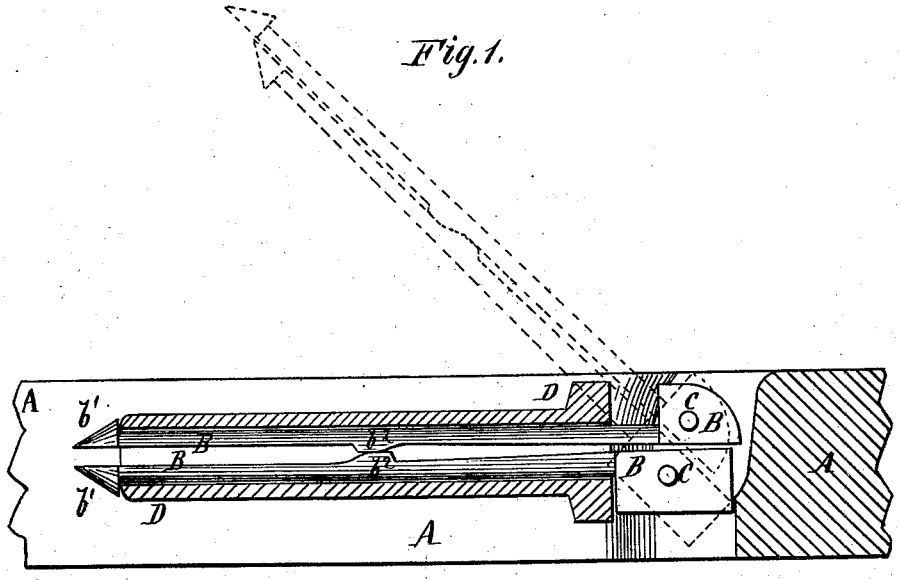
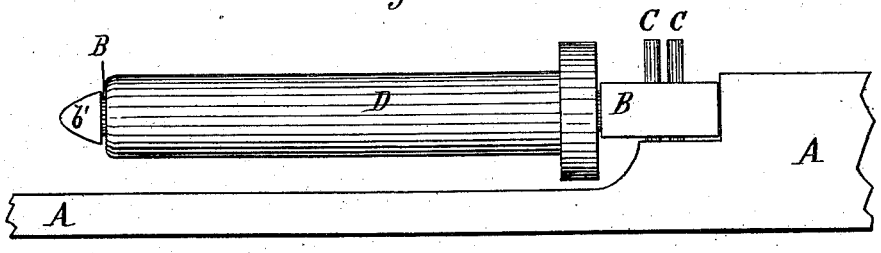


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY A. BOYINGTON, OF MANCHESTER, NEW HAMPSHIRE.

IMPROVEMENT IN SHUTTLE-SPINDLES.

Specification forming part of Letters Patent No. **218,919**, dated August 26, 1879; application filed April 23, 1879.

To all whom it may concern:

Be it known that I, HENRY A. BOYINGTON, of Manchester, in the county of Hillsborough and State of New Hampshire, have invented a new and useful Improvement in Shuttle-Spindles, of which the following is a specification.

Figure 1 is a side view of my improved shuttle-spindle, the bobbin being shown in longitudinal section. Fig. 2 is a view of the lower side of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish improved shuttle-spindles, which shall be so constructed that the bobbins can be easily and quickly placed upon and removed from them, and which, when lowered into the shuttles, will hold the bobbins securely.

The invention consists in shuttle-spindles made in two semi-cylindrical parts, placed one above the other, with their flat sides toward each other, having semi-conical heads formed upon their forward ends, having inclined projections or cams formed upon the middle parts of their adjacent sides, and pivoted at their rear ends to the shuttle by two pins, so arranged that the upper pin may be in the rear of the lower one, as hereinafter fully described.

A represents a portion of a shuttle-body. B is the spindle, which is made in two semi-cylindrical parts or halves, placed one above the other, with their flat sides toward each other.

The rear ends of the half-spindles B are pivoted to the shuttles by two pins, C, passing through them laterally. The upper pin C is placed in the rear of the other, so that the spindle may be swung upward, as shown in dotted lines in Fig. 1.

Upon the forward ends of the parts of the spindle B are formed semi-conical heads b^1, the bases of which are made of a greater diameter than the said parts, so that the shoulders thus formed may rest against the forward end of the bobbin D, and keep it in place.

Upon the inner sides of the middle parts of the half-spindles B are formed inclined projections or cams b^2, which, when the spindle B is lowered into the shuttle, rest upon each other, and thus hold the parts of the spindle apart, as shown in full lines in Fig. 1, so that the bobbin D cannot come off.

When the spindle B is raised the cams b^2 slide off each other and allow the parts of the said spindle to approach each other, as shown in dotted lines in Fig. 1, so that the bobbin can be easily slipped on and off.

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

In combination with the shuttle-body A, the shuttle-spindles B, consisting of two semi-cylindrical parts, placed one above the other, with their flat sides toward each other, having semi-conical heads b^1 formed upon their forward ends and inclined projections or cams b^2 formed upon the middle parts of their adjacent sides, and pivoted at their rear ends to the shuttle A by two pins, C, arranged as described, so that the upper pin may be in the rear of the lower one, substantially as herein shown and described.

HENRY A. BOYINGTON.

Witnesses:
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