A. B. ROBERTS & L. LYONS.

Loom-Shuttle.

No. 220,659. Patented Oct. 14, 1879.

Fig. 1.

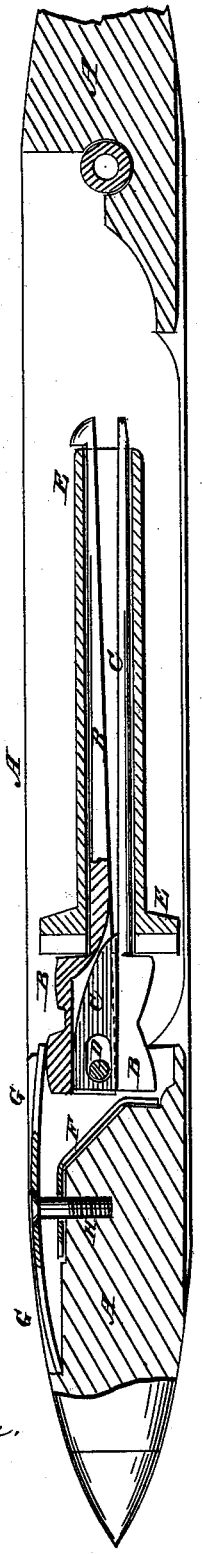
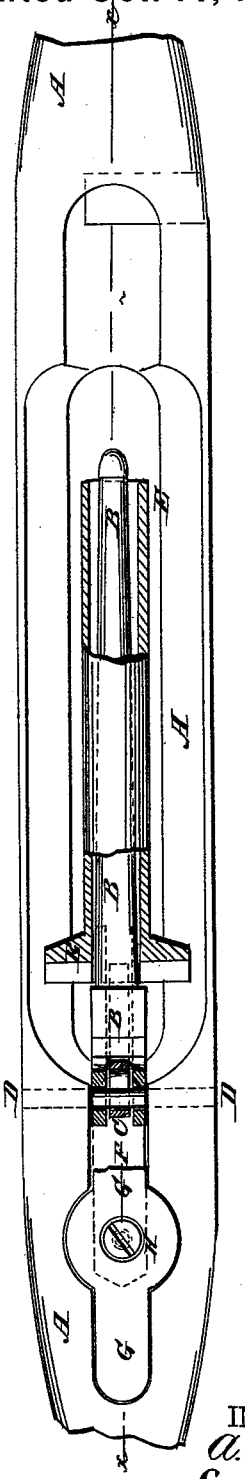


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ADNA B. ROBERTS AND LE ROY LYONS, OF MANCHESTER, N. H.

IMPROVEMENT IN LOOM-SHUTTLES.

Specification forming part of Letters Patent No. **220,659**, dated October 14, 1879; application filed July 15, 1879.

To all whom it may concern:

Be it known that we, ADNA B. ROBERTS and LE ROY LYONS, of Manchester, in the county of Hillsborough and State of New Hampshire, have invented new and Improved Loom-Shuttles, of which the following is a specification.

Figure 1 is a longitudinal section of a shuttle to which my improvement has been applied, taken through the line *x x*, Fig. 2. Fig. 2 is a top view of the same, parts being broken away to show the construction.

The object of this invention is to furnish shuttle-spindles which shall be so constructed as to hold the bobbin upon them when lowered into the shuttle, and allow the bobbin to be readily put on and taken off when raised out of the shuttle, and which shall be simple in construction and not liable to wear or get out of order.

The invention consists in a shuttle-spindle made in two parts, in which the base of the lower part is provided with a slotted lug or projection, curved as shown in the drawings, and adapted to enter the groove in the lower side of the base of the upper part, and to receive the pivotal pin, as hereinafter fully described.

A represents the shuttle, in which the spindle B C is pivoted by a pin, D. The spindle is made in two parts, B C, and has knobs or shoulders formed upon the outer ends of one or both parts to keep the bobbin E in place upon it. The base of the upper part, B, has a longitudinal groove formed in it from its lower side, to receive the slotted lug or projection on the base of the lower part, C, has a hole formed through it to receive the pivoting-pin D, and the base of the lower part, C, has a short longitudinal slot formed in it to receive the said pivoting-pin D. The upper edge of the base of the lower part, C, is provided with a slotted and curved lug or projection, as shown in Fig. 1, which, in connection with the short slot in the said lug or projection, gives the said lower part, C, a short longitudinal movement when the spindle is turned up out of the shuttle, and causes the two parts to come close together, so that the bobbin can be readily slipped on and off.

The inner surface of the cavity of the shuttle A, in which the bases of the spindle are pivoted, and against which the base of the lower part, C, of the said spindle strikes when the spindle is turned up out of the shuttle, is made with a square or flat surface, and is faced with a metal plate, F, to prevent it from being worn by the friction of the said base.

The spindle B C is held down in the cavity of the shuttle A by a spring, G, placed in a groove in the said shuttle A, with its forward end resting upon the upper side of the base of the upper part, B, of the said spindle, where it is secured in place by a screw, H. The screw H also passes through the metal plate F and holds it in place.

The upper side of the base of the upper part, B, of the spindle is notched to form a recess for the forward end of the spring G to pass into when the said spindle is raised out of the shuttle.

With this construction all the spring G has to do is to hold the spindle in place when turned down into the shuttle, and thus is not required to have any great strength. With this construction, also, both parts of the spindle are pivoted upon the same pin, thus simplifying the construction. Another great advantage of the curved shape of the upper edge of the base of the lower part, C, of the spindle and of the short slot in the said base is, that the spindle will fit into any bobbin, and will hold it from turning.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination, with the shuttle A, provided with the pivot-pin D, of the shuttle-spindle constructed of the two parts B C, the latter provided with a slotted lug or projection, curved substantially as shown, and the former with a correspondingly-shaped groove to receive the said lug or projection, substantially as and for the purpose set forth.

ADNA B. ROBERTS.
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Witnesses:
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