J. JOHNSTON.
Loom-Shuttle.

No. 214,155. Patented April 8, 1879.

Fig. 1.

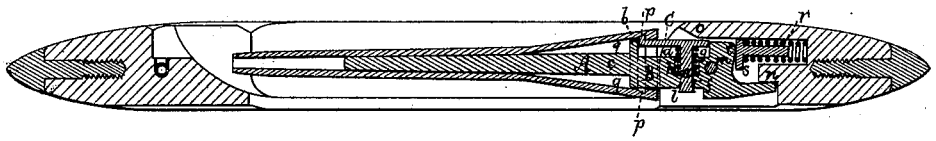

Fig. 2.

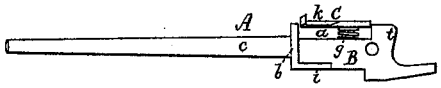

Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN JOHNSTON, OF WOONSOCKET, RHODE ISLAND.

IMPROVEMENT IN LOOM-SHUTTLES.

Specification forming part of Letters Patent No. **214,155**, dated April 8, 1879; application filed February 1, 1879.

To all whom it may concern:

Be it known that I, JOHN JOHNSTON, of Woonsocket, of the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Loom-Shuttles; and do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a longitudinal section of a shuttle provided with my improvement. Fig. 2 is a side view of its spindle.

The said shuttle-spindle is intended for use with a bobbin chambered at its rear end, and provided with a groove in and around the chamber, such groove being to receive and cooperate with the catch of the spindle-head in holding the bobbin in place on the spindle, my invention being an improvement in the kind of shuttle-spindle as shown in the United States Patent No. 169,504.

In carrying out my improvement, the spindle A has in the upper part of its pivotal head B a recess, *a*, which is arranged directly in rear of the cylindrical bearing *b* at the junction of the spindle-shank *c* and the head; and within such recess there is arranged a catch, C, formed as shown, and provided with a shank, *e*, extending down from it at right angles, and into and through a hole, *f*, made vertically through the head. This hole is chambered or enlarged at its upper part to receive a helical spring, *g*, which encompasses the shank *e*, rests on the bottom of the chamber *h*, and bears at top against the under side of the catch.

Fig. 3 is a transverse section of the spindle-head and catch, it being taken through what I term the "bottom bearing," *i*, of the head, such bearing, as well as the part *k* of the catch, being rounded transversely to fit to the part of the bobbin that immediately encompasses them when such bobbin is in place on the spindle.

The lower end of the shank of the catch has a head or enlargement, *l*, to limit the rise of the catch in its recess, and to keep the catch in place in the spindle-head.

The pivot of the spindle-head is shown at *m*, and the "back-stop" at *n*, the "up-stop" being in the shuttle-body at *o*.

On raising the spindle in the shuttle, the catch will be forced against the said up-stop, and thereby be depressed in the recess *a* to an extent sufficient to force the catch out of the groove *p* of the chamber *q*, made in the bobbin, as shown.

On placing a bobbin on the spindle and turning both down within the chamber of the shuttle, the catch will be thrown up by its spring into engagement with the bobbin, which will thereby be caused to firmly rest against the bearings *b*, *i*, and *k*.

The main actuating-spring of the spindle is shown at *r* as provided with a presser, *s*, to operate against the part *t* of the spindle-head.

With my improvement I am enabled to use a spring-catch connected with or attached to the spindle-head, and to dispense with a stop-pin arranged in the shuttle-body between the spring-catch and the spindle-head, as shown in the said Patent No. 169,504. I also gain a stronger and better support for the bobbin.

I claim as my invention—

The shuttle-spindle provided with the cylindrical bearing *b*, and with the recess *a*, arranged in the rear of said bearing, and in the head B, as described, in combination with the catch C and spring *g*, arranged in the recess, and having the shank of said catch and the spring applied to the head, all being substantially as set forth.

JOHN JOHNSTON. [L. S.]

Witnesses:
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