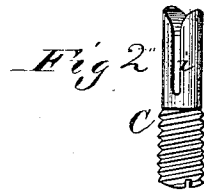
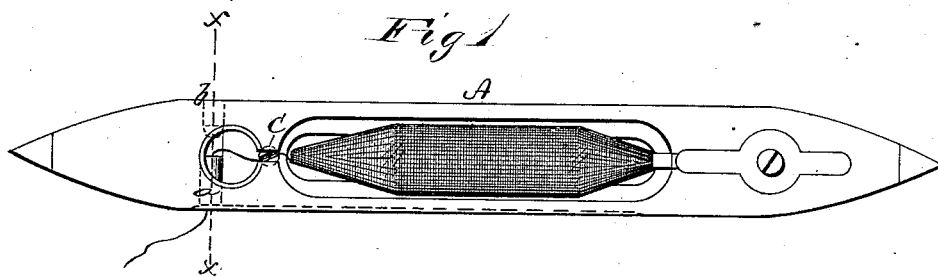


R. W. PORTER.

Loom-Shuttle.

No. 161,545.

Patented March 30, 1875.



WITNESSES
F. L. Ostrand
C. L. Ewert

INVENTOR
Roger W. Porter.
per
Alexander Mason
ATTORNEYS

UNITED STATES PATENT OFFICE.

ROGER W. PORTER, OF NASHUA, NEW HAMPSHIRE.

IMPROVEMENT IN LOOM-SHUTTLES.

Specification forming part of Letters Patent No. **161,545**, dated March 30, 1875; application filed January 9, 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.

My invention consists in a device for regulating the friction or tension upon the thread weaving out of the shuttle, all as 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, in which—

Figure 1 is a plan view of a shuttle embodying my invention. Fig. 2 is an enlarged view of the tension-regulating device.

A represents a shuttle, constructed in any of the known and usual ways. *a* is the ordinary eye of the shuttle.

The usual way to regulate the friction or tension upon the thread weaving out of the shuttle has been to tack a piece of woolen cloth into the throat of the shuttle for the thread to draw over, which has to be renewed as often as it gets worn, and is quite a trouble. When it begins to wear the tension of the thread loosens, and the cloth is made "sleazy," with the selvage uneven.

My object has been to get an even friction that will make an even tension—hence of great importance—and thereby secure an even selvage to the cloth.

It is well known that some numbers of yarn require more tension than others; therefore it is necessary to have the tension device adjustable.

In place of such cloth I use a rod or post, C, provided with screw-threads around its lower end, which is screwed into the throat of the shuttle from the under side, and can be turned from underneath by a screw-driver. The upper portion of the rod or post is provided with a vertical slot, *i*, through which the thread passes to the eye. By turning the screw-post C the friction is increased or diminished, as desired.

It will readily be seen that the friction is obtained by the thread drawing across the corners of the slot *i*, which is increased or lessened by the angle at which it is turned.

With my slotted post the thread passes through straight until it is found necessary to have more tension on the thread. The post is then turned enough to give the tension required.

It will be seen and understood that the bottom of the screw has a nick, and that said screw is embedded in the shuttle-body from the under side. It is adjusted from that side of the shuttle entirely simply by inserting a screw-driver in the nick, and turning it as far as required.

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

In combination with a loom-shuttle having a contracted throat, the tension-regulating screw-post C, having an open-end slot, *i*, and nick in its bottom to effect the adjustment of the post from the under side of the shuttle, as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of December, 1874.

ROGER W. PORTER.

Witnesses:

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