

F. O. TUCKER.

Improvement in Loom Shuttles.

No. 119,201.

Patented Sep. 19, 1871.

Fig. 1.

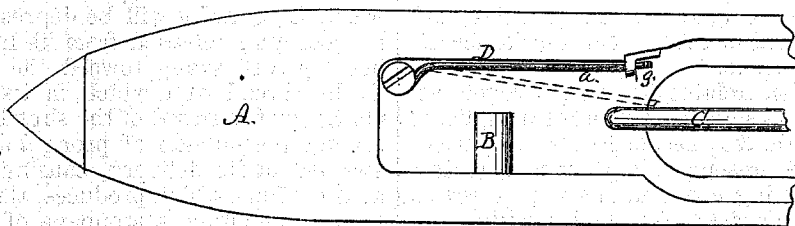
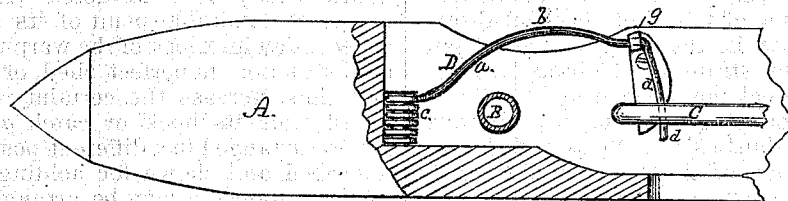


Fig. 2.



Witnesses.

Charles J. Burns
John P. McElroy.

Inventor.

F. O. Tucker.
Per. Brown Bros.
Attorneys.

UNITED STATES PATENT OFFICE.

FREDERICK O. TUCKER, OF STONINGTON, CONNECTICUT.

IMPROVEMENT IN LOOM-SHUTTLES.

Specification forming part of Letters Patent No. 119,201, dated September 19, 1871.

To all whom it may concern:

Be it known that I, FREDERICK O. TUCKER, of Stonington, in the county of New London and State of Connecticut, have invented certain new and useful Improvements in Loom-Shuttles; and that the following is a full, clear, and exact description of the same.

This invention relates to an improved attachment to loom-shuttles for preventing floats in weaving cloth, &c., because of an imperfect warp-shed, the presence of extraneous matter or other obstructing cause in the warp-threads. The invention consists of a device within the body of the shuttle, and at one side thereof, arranged to be set free by an imperfect warp-shed, the presence of extraneous matter or other obstructing cause in the warp-shed, and which is constructed and adapted, when set free from such causes, to swing toward the bobbin-spindle, and in the line of travel of the weft-thread therefrom, so that in the further feed of said thread a sufficient strain will be brought thereon to cause its breakage or severing.

In the accompanying drawing my improvements in loom-shuttles are illustrated, Figure 1 being a plan view of the end of a shuttle at which the eduction-tube and my improved attachment are located; Fig. 2, a sectional view, longitudinally, of the portion of shuttle shown in Fig. 1.

A in the drawing represents a portion of the shuttle-body; B, the eduction-tube; and C, the bobbin-spindle—these several parts being constructed and arranged as ordinarily; D, my improved attachment, constructed and arranged as follows: *a*, the guard or weft-obstructing device. This device is arranged within the open body of the shuttle and along one side thereof at the end having the eduction-tube B. In the present instance it is constructed of a wire bent along its length into a convex form, *b*, which projects above the cut-out portion of the shuttle-body A, and at one end terminates in a coiled spring, *c*, by which, with a screw, it is secured within the shuttle-body and at the other end in a prong, *d*. The device *a* within the shuttle-body is free at its prong *d* to swing toward the bobbin-spindle C, and the line of movement is slightly within the length of spindle C from its outer end *d*, the guard or device *a* being held against the side of shuttle by interlocking it with the first hook *g* of the shuttle.

With an attachment, D, constructed and arranged as above described, in the use of the shuttle, should there be an imperfect warp-shed, or extraneous matter present obstruction in the warp, the guard *a* will be depressed, and thereby becoming released from its holding-catch or hook, *g*, will swing toward the bobbin-spindle C, the thread from which, in its continual discharge by the travel of the shuttle, finally works around the outside of prong *d* and is thus restrained in its delivery, causing its breakage, as is obvious, which produces, through the ordinary stop-motion, a stoppage of the loom, and thus prevents the formation of floats. Replacing the guard *a* under the hook *g*, the shuttle is ready for use again. The weft-thread, getting over the prong *d*, draws it against the bobbin-spindle, as shown by dotted lines in Fig. 1. The guard *a* may be constructed with a prong or nipple at a suitable point of its convex length to secure an interlock of the warp-thread in cases of obstruction, imperfect shed, or other causes, and thus increase the certainty of freeing the guard from its hook or catch *g*. The hook *g* may be arranged in a different position than that described and shown for holding the guard *a*; as, for instance, it may be arranged to hold the guard *a* by its prong *d*. The coiled portion *c* of guard *a* causes, through torsion, a throw of the guard *a* further toward the bobbin-spindle, and the further its throw the quicker the weft-thread is caught by the prong *d*, and, consequently, its breakage insured the sooner; but the slightest release of the guard *a* from its catch *g* is sufficient for the weft-thread to get about its prong *d*. It is not absolutely necessary to have the coiled portion *c* to the guard.

Having thus described my improvement in shuttles for looms, I shall state my claim as follows:

The guard *a*, having a prong or arm, *d*, in combination with the catch *g*, both constructed and arranged within a shuttle and at one side of same for operation of the guard, substantially as and for the purpose described.

The above specification of my invention signed by me this 15th day of August, A. D. 1871.

F. O. TUCKER.

Witnesses:

EDWIN W. BROWN,
ALBERT W. BROWN.

(60.)