

A. ROLLASON & J. BROWN.

Shuttle for Looms.

No. 161,061.

Patented March 23, 1875.

Fig. 2.

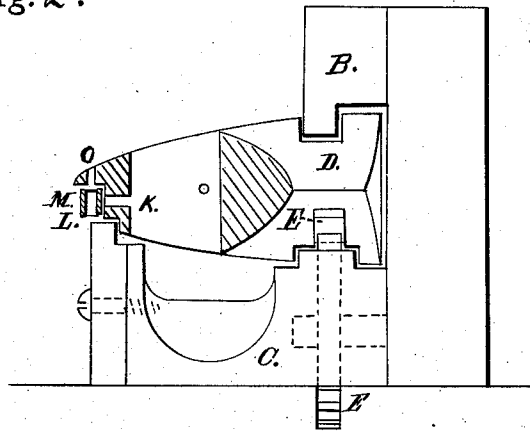
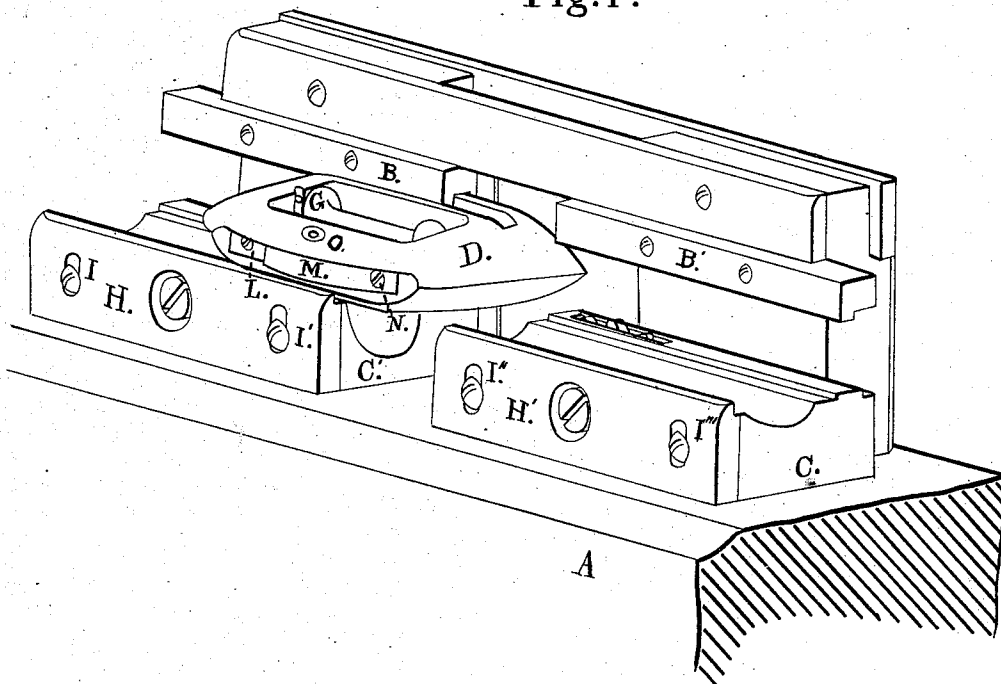


Fig. 1.



Witnesses.

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ALFRED ROLLASON AND JAMES BROWN, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN SHUTTLES FOR LOOMS.

Specification forming part of Letters Patent No. **161,061**, dated March 23, 1875; application filed January 20, 1875.

To all whom it may concern:

Be it known that we, ALFRED ROLLASON and JAMES BROWN, both of Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain Improvements in Shuttles for Narrow-Ware Looms, of which the following is a specification:

Our invention consists in supporting the front of the shuttle and preventing the same from sagging by means of a supplementary race-plank, upon which rests the rabbeted edge of the front of said shuttle; also, in making said supplementary race-plank adjustable vertically, so that said plank may be raised as it and the shuttle become worn; also, in a novel tension device; and also in placing said tension device in front of the delivery-eyelet, in order that the quill may occupy the whole interior of the shuttle, all of which is hereinafter more fully described.

In the accompanying drawings, Figure 1 represents the shuttle upon the race-planks, and Fig. 2 gives a section through the front of the shuttle.

A is the bed of the lay, which supports the upper race-planks B B' and the lower race-planks C C'. The shuttle D is driven by a pinion, E, which works into a rack cut on the under side of said shuttle at F, in the usual manner. The spool or quill G is about one-half longer and one-sixth greater in diameter than the ordinary quill, as it occupies the whole of the interior of the shuttle, giving three times the capacity of the ordinary quill. The shuttle D is of the ordinary length, but the front of the shuttle is nearly straight and parallel to the back of the same, having merely the front corners rounded. The lower front edge of said shuttle is rabbeted out to fit the square top of the supplementary race-planks H H'. The supplementary race-planks are thin flat pieces set on edge, and secured by set-screws I I' I'', which pass through vertical slots at each end of each of said supplementary race-planks into the rear race-planks C C'. By loosening said set-screws I I' the plank H may be adjusted vertically and raised as said plank H wears on the top or as the shuttle D wears on the bottom. The delivery-eyelet K of the shuttle projects very slightly

from the front of the shuttle, and a metallic plate, L, loosely screwed at its left end to the front of the shuttle, is placed over the outer end of said eyelet K. The plate L is pressed against the eyelet K by a slightly-curved plate-spring, M, the pressure of which is regulated by the set-screw N, which supports said spring—that is, by turning up said screw N the pressure of the plate L upon the eyelet K is increased. The tension is thus applied to a single thread, and not to the mass upon the quill G. After leaving the tension device the thread passes up through a supplementary eyelet, O, placed in the projecting edge or shield over the tension-plate L. The eyelets K and O are made of the materials commonly used for shuttle-eyelets, such as glass, metal, or porcelain, and prevent the thread from wearing up the fibers of the wooden shuttle, and thus being broken. The eyelet K causes the thread to enter the tension device at a uniform angle from whatever part of the quill the thread is being unwound, and the supplementary eyelet O causes the thread to leave said tension device at a uniform angle whatever the position of the shuttle with reference to the warps.

The difficulty hitherto experienced with plate or bar tensions is, that the thread enters the bars or plates sometimes at one angle and sometimes at another, thus varying the tension; and in our shuttle a similar trouble would arise as the thread leaves the tension device were it not for the supplementary eyelet O. The shuttle in all other respects is like those now in general use.

A shuttle constructed as above described will not sag down in front, and consequently the rear race-planks and the shuttles will wear longer, and will not break the warp. Our quill, as already stated, will hold about three times as much filling as the ordinary quills, so that it does not require to be changed as often. It is well known that a great deal of time is consumed in changing the quills, there being an average of twenty shuttles to a loom, all of which must be stopped to change a single quill as the filling runs out. We are enabled to make our quill thus large because we place the tension device outside of the shuttle.

We claim as our invention—

1. The combination, with the shuttle D, of a supplementary race-plank, as and for the purpose described.

2. In combination with said shuttle D, the supplementary race-plank H, adjustable vertically, as and for the purpose described.

3. In a shuttle for narrow-ware looms, the combination of the plate L, spring M, and projecting eyelet K, all arranged and operating together, as and for the purpose described.

4. In a shuttle for narrow-ware looms, the combination of the plate L, spring M, projecting eyelet K, and set-screw N, all arranged and operating together, as and for the purpose described.

5. In a shuttle for narrow-ware looms, the combination of the plate L, spring M, set-screw N, eyelet K, and supplementary eyelet O, as and for the purpose described.

6. In a shuttle for narrow-ware looms, the tension device herein described, arranged in front of the delivery-eyelet K, as and for the purpose described.

ALFRED ROLLASON.
JAMES BROWN.

Witnesses:

ALBERT M. MOORE,
DANIEL E. KEATING.