

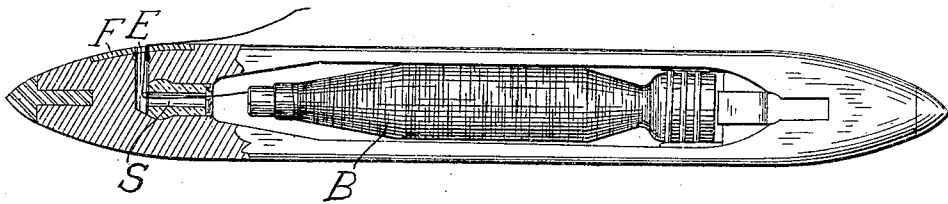
No. 814,033.

PATENTED MAR. 6, 1906.

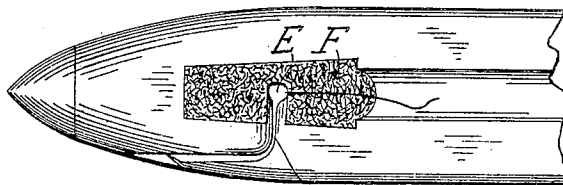
R. D. FRASER.  
LOOM SHUTTLE.

APPLICATION FILED FEB. 11, 1905.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

Alice Robinson.  
Ella Robinson

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by  
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Atty.

# UNITED STATES PATENT OFFICE.

ROBERT D. FRASER, OF LEWISTON, MAINE.

## LOOM-SHUTTLE.

No. 814,033.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed February 11, 1905. Serial No. 245,184.

*To all whom it may concern:*

Be it known that I, ROBERT D. FRASER, a citizen of the United States, residing at Lewiston, in the county of Androscoggin and State of Maine, have invented certain new and useful Improvements in Loom-Shuttles, of which the following is a specification.

My invention relates more especially to shuttles which are filled and threaded automatically, but is applicable to others.

In such automatic shuttles as heretofore made it is found impossible to provide for the even pull on the yarn which is necessary in making a firm smooth selvage, since the drag of any frictional surface which can be placed in the space available in the interior of the shuttle will greatly vary with the amount of yarn on the bobbin and becomes practically nothing when several loops of yarn slip off the bobbin at once.

The object of my invention is to provide for an even pull on the filling yarn at all times; and it consists, primarily, in a construction which insures a frictional drag on the filling-yarn in the immediate neighborhood of the delivery eye or slot through which it passes out through the side of the shuttle.

In the accompanying drawings, Figure 1 is a plan of the shuttle in partial section, and Fig. 2 is a full size elevation of the part of the shuttle with which my invention is concerned.

In the drawings, B is the bobbin, S, a guiding-slot which may have a frictional bushing; E, the outlet-eye through which the yarn leaves the shuttle; F, a frictional surface which I prefer to make by inlaying and cementing in a piece of felt which extends for a short distance on either side of the outlet-eye E. I do not limit myself to the precise shape shown, since good results may be obtained when it is made so narrow that it may be con-

sidered merely a bushing for the outlet-eye E; but I prefer the shape shown in the drawings, as it gives more friction and wearing surface and does not extend backward far enough to strike the shuttle-binder nor side-wise far enough to rub against the warp.

My invention is not concerned with the internal construction of the shuttle; but I prefer to give the yarn a free channel, as shown, since the doubling of it around the corners will give it drag enough to bed it in the soft felt F and insure the shuttles pulling up a firm selvage.

My improvements call for no change in the manner of using the shuttle.

Having now fully described my invention and the manner of using it, what I claim, and desire to secure by Letters Patent, is—

1. In a loom-shuttle having a delivery-eye, the combination with the shuttle-body of a frictional piece inlaid in its outer surface adjacent to the delivery-eye, substantially as set forth.

2. In a loom-shuttle having a delivery-eye, the combination with the shuttle-body of an inlaid frictional piece which forms the outer edge of the delivery-eye, as and for the purpose set forth.

3. In a loom-shuttle, the combination with means of producing a drag on the yarn while it is in the shuttle, of a friction-surface on the outside of the shuttle over which the yarn passes after leaving the delivery-eye; substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT D. FRASER.

Witnesses:

WILFRED J. LEGER,  
ALMON ROBINSON.