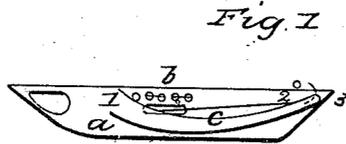
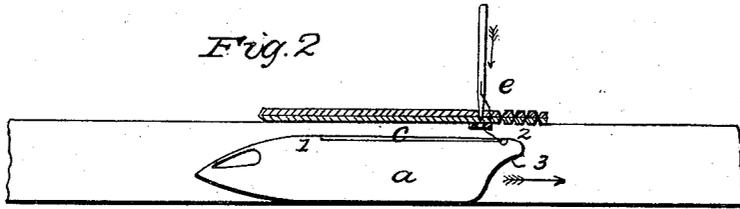


S. M. TYLER.
Sewing Machine Shuttle.

No. 58,182.

Patented Sept. 18, 1866.



Witnesses
Geo. L. Warner
Chas. H. Smith

Inventor
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UNITED STATES PATENT OFFICE.

SIDNEY M. TYLER, OF BROOKLYN, ASSIGNOR TO THE EMPIRE SEWING MACHINE COMPANY, OF NEW YORK, N. Y.

IMPROVEMENT IN SEWING-MACHINE SHUTTLES.

Specification forming part of Letters Patent No. 58,182, dated September 18, 1866.

To all whom it may concern:

Be it known that I, SIDNEY M. TYLER, of Brooklyn, in the county of Kings and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Shuttles for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a plan of the shuttle, and Fig. 2 is an elevation of the shuttle, showing its position relatively to the needle.

Similar letters denote the same parts.

In sewing-machines it is desirable that the shuttle-thread draw off from the shuttle at or near the center of its length, so that there may be but little slack thread. In order that each stitch may be properly drawn up and completed, it is important that the tightening of the stitch take place as the needle reaches its extreme motion in rising and the shuttle simultaneously reaches its extreme movement horizontally; but difficulty is often experienced from the fact that the needle in its next descent is liable to come in contact with and pass through the shuttle-thread, splitting the same, or else to pass between the shuttle and its thread.

To obviate this difficulty is the object of the present invention, which consists in a rearward-projecting point upon the upper portion of the heel of the shuttle, inclined on its under side and tapering toward the needle side of the shuttle, so that the loop of needle-thread is not detained or enlarged as it is drawn up and passes off the shuttle; but such tapering projecting point forms a rest for the end of a spring-detainer (beneath which the shuttle-thread passes) at a point to the rear of the heel or usual back end of the shuttle, so that the backward movement of the shuttle shall draw the shuttle-thread out of the path of the descending needle before the point of the needle perforates the cloth, and the shape of the said spring and its friction cause the backward movement of the shuttle to keep the slack shuttle-thread entirely out of the way of the needle.

In the drawings, *a* represents the shuttle-case; *b b*, the holes for the thread to pass through to produce tension. *C* is the spring thread-detainer, attached to the shuttle-case

at the end 1, and the loose end 2 passes into a hole in the projecting rear or point, 3, of the shuttle, and the edge of the spring is convex, bowing away from the flat side of the shuttle. *e* is the needle. The needle-thread is shown by red lines and the shuttle-thread by blue lines.

The shuttle and needle are to be driven by competent means, and which, forming no part of this invention, are not further described.

It will now be seen that the form of the projecting rear 3 of the shuttle is such as will not prevent the loop of needle-thread drawing off freely from the shuttle, and that the shuttle-thread, passing beneath the detainer at the rear end of the shuttle, is carried back in the direction of the feed of the fabric and takes the shuttle-thread out of the way of the descending needle-point before that point perforates the fabric, and the friction and curved edge of the spring *e* continue to draw on the shuttle-thread and constantly keep the same away from the path of the needle.

By this construction of shuttle there is no actual increase in the length between the point and heel of the shuttle, and the drawing off of the loop of needle-thread from the rear of the shuttle is not obstructed, or the said loop of needle-thread in any manner enlarged, because the tapering rearward-projecting end is always smaller than the loop of needle-thread at the particular point as it is drawn up; but the spring-friction to the shuttle-thread is at a point to the rear of the heel of the shuttle, thereby carrying the shuttle-thread on the return movement farther back out of the way of the descending needle than would be the case if the spring-friction were applied, as it has heretofore been, between the heel and point of the shuttle.

What I claim, and desire to secure by Letters Patent, is—

The tapering rearward-projecting point 3 of the shuttle, in combination with the spring thread-detainer *e*, extending to the rear of the heel of the shuttle, as and for the purposes set forth.

In witness whereof I have hereunto set my signature this 9th day of June, A. D. 1866.

S. M. TYLER.

Witnesses:

GEO. D. WALKER,
CHAS. H. SMITH.