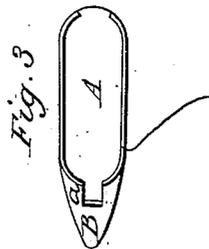
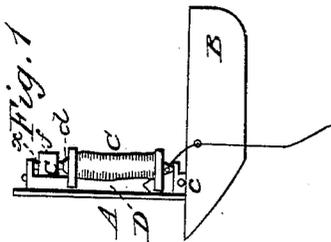
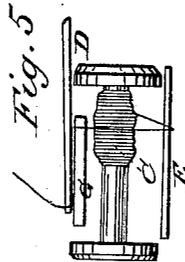
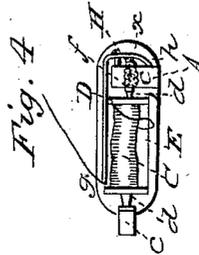
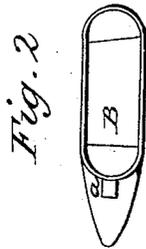


S. MOULTON.
Sewing-Machine Shuttle.

No. 61,232.

Patented Jan. 15, 1867.



Witnesses:

Edmund H. Hyde
John Jones

Inventor:

Stephen Moulton
by his attorney
J. P. Gardner

United States Patent Office.

STEPHEN MOULTON, OF HARTFORD, CONNECTICUT.

Letters Patent No. 61,232, dated January 15, 1867.

IMPROVEMENT IN SEWING-MACHINE SHUTTLE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, STEPHEN MOULTON, of Hartford, county of Hartford, State of Connecticut, have invented a new and improved Shuttle for Sewing Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon. In these drawings—

Figure 1 is a side view of my improved shuttle, with the bobbin lifted out from the case.

Figure 2 is plan view of the case.

Figure 3 is a plan of the case closed.

Figure 4 is a bottom view of the interior parts, and the top piece A, to which they are attached.

Figure 5 is an enlarged detail view, showing the bobbin tension spring, &c.

My improvements consist in the manner of constructing sewing-machine shuttles, and also in an improved tension arranged in the same. I will now describe the construction of this invention, mentioning also the construction of the common shuttle now in use, to show the difference between the two.

I arrange the case B with a slot, *a*, in its front end, in which I hinge the piece A to which the bobbin C and tension spring D are attached. In the ordinary shuttles it has been customary to form the case B of steel, filling in the two ends with solid blocks, and hanging the bobbin therein; but in this invention I form the case of a single piece of steel, drawn up the required form, without filling the ends any more than to form a place for the hanging of the part A at the front end, as the bobbin is not attached to the case B, but to the part A, as I will now more fully describe. The part A consists of a plate hinged as described and shown opened in fig. 1, and accomplishes the purposes of forming a perfectly smooth top when closed, protecting the bobbin and other parts from injury, and forming a ready means of exposing the parts for removing the bobbin or adjusting the tension. The bobbin C is hung between the pieces *c c'* attached to the plate A, the pivot *d* entering one piece, *c*, and the pivot *d'* entering a piece, *f*, forming a spring centre, so that the bobbin may be easily inserted, a coiled spring, *x*, behind this piece, *f*, passing through the block *c'* and resting against the end of the tension spring D, which is brought around partially for this purpose and partially to adjust the tension on the thread, as I will now show. The thread passes from the bobbin over the piece E, as in the ordinary shuttle, and then passes across around the piece G, and over the end of the tension-spring D, out through a hole in the side of the shuttle case, and the pressure of this spring D upon the part G at the end, governs the tension upon the thread. This is increased or diminished by turning the screw H in one direction or the other, for this spring D bears only at two points, at *g* and *h*, and consequently the pressure must be increased at *h*, by tightening the screw H, and decreasing the pressure when loosened, forming a ready adjustment, having a great advantage over the old method, which consisted in passing the thread through a series of holes in the side of the case, alternately in and out, and in order to adjust the tension it was necessary to break the thread and pass it through more or less holes and again unite it. I gain an important advantage in the arrangement of the tension spring in relation to the bobbin, for as the thread is pulled over the end of the spring, if the bobbin catches so that the thread does not unwind readily, the force applied to the thread lifts the spring and relieves the thread, so that it (the force applied) acts directly upon the bobbin, causing it to unwind.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. I claim a shuttle for sewing machines in which the removable bobbin C and adjustable tension spring D are arranged, in the manner shown, upon a plate, A, which is pivoted to a case, B, in such a manner as to cover and protect the parts named, and the thread, when in use, and also so that the parts named may be readily exposed for renewal of the thread or adjustment of the tension spring by means of the screw H, substantially as shown.

2. I claim the manner of arranging the tension spring D so as to form a bearing for the spring *x*, which holds the bobbin in place, said spring being inserted in a hole drilled directly through one end of the bobbin support A.

STEPHEN MOULTON.

Witnesses:

J. B. GARDINER,

C. H. HALL.