C. E. BILLINGS.

Shuttle for Sewing-Machine.

No. 165,405. Patented July 13, 1875.

Fig. 1.

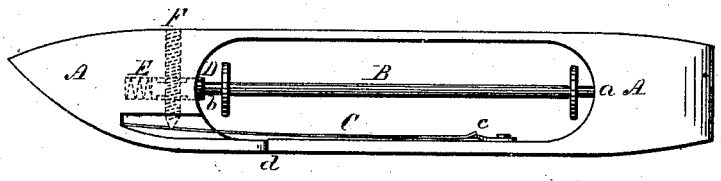
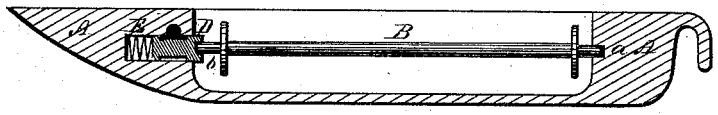


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES E. BILLINGS, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN SHUTTLES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **165,405**, dated July 13, 1875; application filed May 17, 1875.

To all whom it may concern:

Be it known that I, CHARLES E. BILLINGS, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Shuttles for Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My invention consists in a novel method of constructing the sliding socket of the shuttle-bobbin, and securing it in its seat, and also in regulating the tension by means of the same screw which acts as a key to limit the motion of the sliding socket.

The object of my invention is to obtain a greater simplicity and cheapness of construction in the working parts of the shuttle.

In the accompanying drawing, Figure 1 is a view of the flat or open side of the shuttle. Fig. 2 is a longitudinal section through the middle.

A is the shell of the shuttle, constructed in the usual manner. B is the bobbin for holding the thread. C is the tension-spring, between which and the shell A the thread passes. From the bobbin it runs through a small hole, *c*, in the spring, thence between the spring and shell, and then out through a small hole at *d*. D is a sliding socket, in which the end *b* of the bobbin-axis rests. The other end *a* rests in a fixed socket in the frame or shell of the shuttle. The socket D is made movable, so that the bobbin B can be easily taken out and replaced in the customary manner. This socket D is made of a spool form, and slides in a cylindrical recess in the solid end of the shuttle case or shell. Under it, in the same recess, is placed the spiral spring E, to press it outward against the end of the bobbin B. F is a screw, which passes through the solid end of the shuttle-case, and rests against the end of the tension-spring C. It also passes through the middle or open portion of the spool-shaped socket D, in such a manner as to stop its motion endwise by the flanges of D coming against the screw. This screw is inserted after the spring E and the socket D are placed in their proper positions, and it serves to retain them, and also as an adjustment for the tension, by pressing the spring C more or less against the side of the shell A, and thereby clasping the thread with greater or less force.

What I claim as my invention is—

The combination of the screw F, the socket D, and the tension-spring C, the several parts being constructed and relatively arranged as shown and described, whereby the screw which adjusts the tension of the tension-spring holds the yielding socket in place, as set forth.

CHARLES E. BILLINGS.

Witnesses:

THEO. G. ELLIS,

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