C. A. SCHUMACHER.
Sewing-Machine Shuttle.

No. 198,693. Patented Dec. 25, 1877.

Fig: 1.

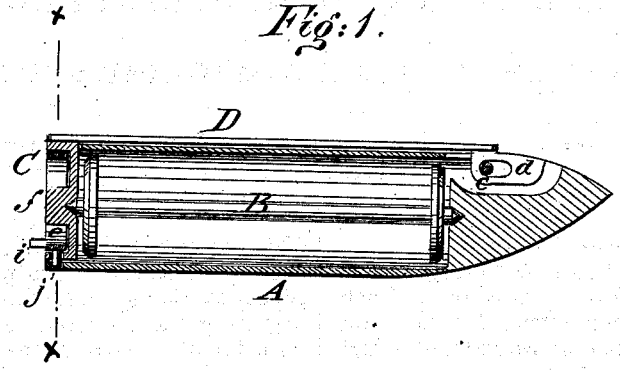


Fig: 2.

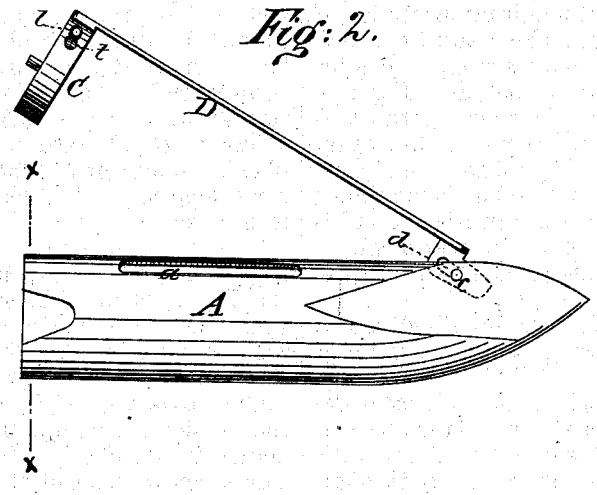


Fig: 3.

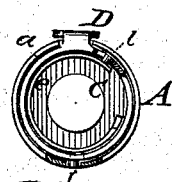


Fig: 4

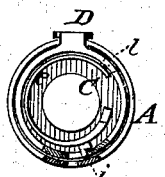
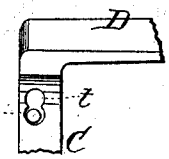


Fig: 5



WITNESSES:

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UNITED STATES PATENT OFFICE.

CARL A. SCHUMACHER, OF WALLA WALLA, WASHINGTON TERRITORY.

IMPROVEMENT IN SEWING-MACHINE SHUTTLES.

Specification forming part of Letters Patent No. **198,693**, dated December 25, 1877; application filed May 28, 1877.

To all whom it may concern:

Be it known that I, CARL A. SCHUMACHER, of Walla Walla, Walla Walla county, Washington Territory, have invented a new and Improved Sewing-Machine Shuttle, of which the following is a specification:

Figure 1 is a central longitudinal section of the improved sewing-machine shuttle, showing the tension-spring and its stopper or plug in position for holding the bobbin. Fig. 2 is a side view of the shuttle, showing the tension-spring and its stopper or plug thrown up to release the bobbin. Figs. 3 and 4 are transverse sections of the shuttle, taken in the planes indicated by dotted lines *x x* in Figs. 1 and 2. Fig. 5 is a detail view of the stopper or plug.

Similar letters of reference indicate corresponding parts.

The invention will first be described in connection with the drawing, and then pointed out in the claim.

In the annexed drawings, A designates the case or shell of the shuttle, which may be constructed of the usual well-known form, with its butt end open, and with a slot, *a*, through one side for the passage of the thread.

B designates the bobbin, which is made in the usual way, and supported, when in the case A, as shown in Fig. 1.

The outer end of the bobbin-spindle has its bearing in a cup-shaped plug or stopper, C, which is rigidly applied to a tension-spring, D, and designed for closing the butt end of the case A.

The spring D is connected to the case A by means of a pivot, C, which passes through an oblong slot, *d*, made through the hinged end of this spring, as shown in Figs. 1 and 2. This not only hinges the tension-spring to the case, but also allows endwise movement to be given to the spring, which is necessary for fastening and unfastening it.

Inside of the cup-shaped plug or stopper C is a spring, *e*, which is coiled about a stud, *f*. One end of this spring is provided with a thumb-projection, *i*, and also a bolt, *j*, which latter enters a hole through the case A, and securely holds the tension-spring in the position shown in Fig. 1. The other end of spring *e* has a stud, *l*, fixed to it, which is free to play in a short slot, *t*. (Shown in Fig. 5.) Spring *e* will hold the bolt *j* when it is shot or when it is retracted.

The operation of my invention is as follows: Press on the thumb-projection *i* and retract the bolt *j*; then slide backward the tension-spring D, and swing this spring on its hinge. The bobbin can then be removed from the case A.

One advantage of my improvement is that the tension-spring and its fastening are permanently attached to the shuttle-case, and consequently none of the parts will be misplaced or lost.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, with case A and stopper C, of the spring *e*, having projection *i*, the bolt *j*, and the hinged slide-spring D, as and for the purpose specified.

CARL AUGUST SCHUMACHER.

Witnesses:

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