J. SIGWALT, Jr.

SHUTTLE FOR SEWING MACHINES.

No. 254,509. Patented Mar. 7, 1882.

Fig. 1

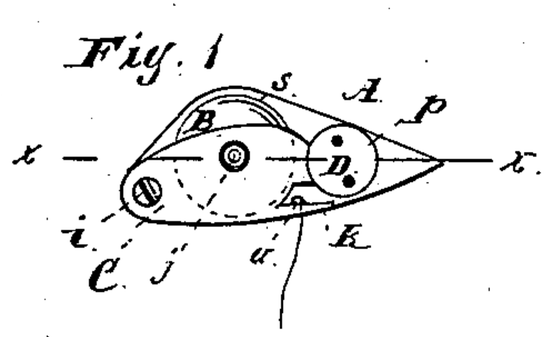


Fig. 2

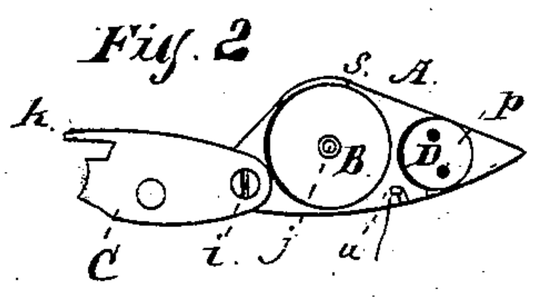


Fig. 3.

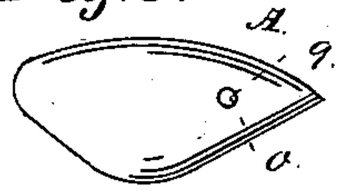


Fig. 7

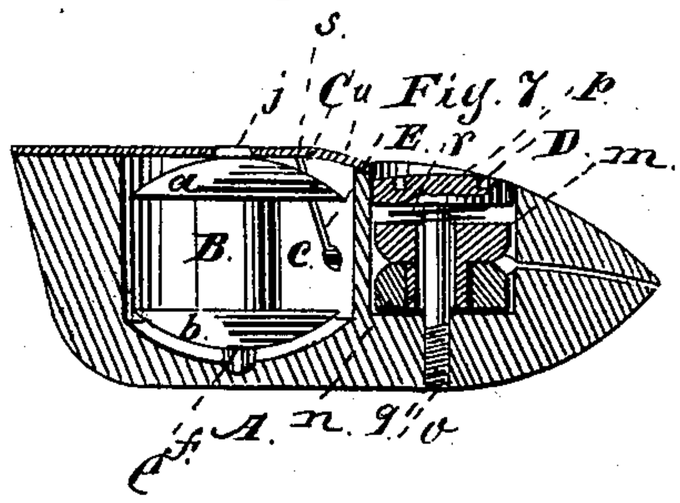


Fig. 8

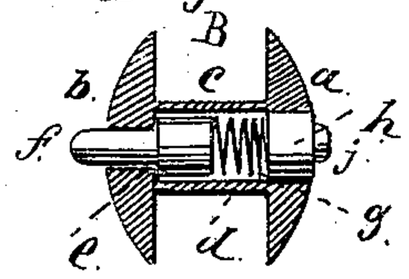


Fig. 5

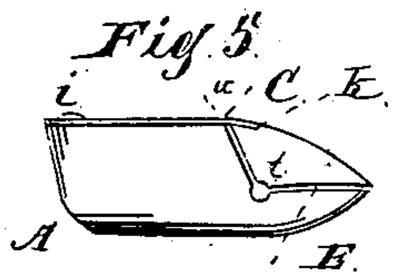


Fig. 4

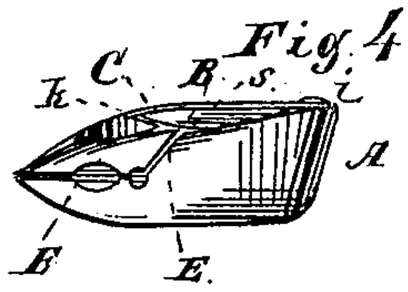
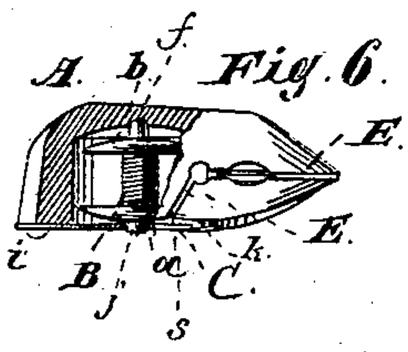


Fig. 6.



Witnesses:

Henry L. Bruce.

O. W. Bond.

Inventor:

John Sigwalt Jr

By Hart & Bond

Attys

UNITED STATES PATENT OFFICE.

JOHN SIGWALT, JR., OF ARLINGTON HEIGHTS, ILLINOIS.

SHUTTLE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 254,509, dated March 7, 1882.

Application filed July 2, 1879.

To all whom it may concern:

Be it known that I, JOHN SIGWALT, Jr., of Arlington Heights, Cook county, State of Illinois, have invented a new and useful Improvement in Shuttles for Sewing-Machines, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan showing the face of the shuttle with the cover closed. Fig. 2 is the same with the cover open. Fig. 3 shows the side opposite to that shown in Fig. 1. Fig. 4 shows that edge of the shuttle which is toward the top of the sheet in Fig. 1. Fig. 5 shows the edge which is opposite to that shown in Fig. 4. Fig. 6 is the same as Fig. 4, the shuttle being turned over and a portion cut away. Fig. 7 is a section at *x x* of Fig. 1. Fig. 8 is a detail. Figs. 7 and 8 are enlarged.

This invention relates to certain improvements in shuttles for sewing-machines; and it consists in a novel construction and combination of parts, which will be first fully described in detail, and then specifically pointed out in the claims.

In the drawings, A represents the shuttle-case.

B is a bobbin, located in a chamber in the case. The bobbin proper consists of two heads, *a b*, and a central piece, *c*, which is hollow, forming a chamber, *d*. One end of this chamber *d* is partly covered by the head *b*, which has a central hole in it; but the other end of the chamber is not so covered.

e is a pin, which is inserted in the chamber *d* at the large end thereof. It has a shoulder which prevents it from passing out at the opposite end of the chamber. One end of pin *e* is smaller than the main part, and projects through the hole in the head *b*, forming a journal, *f*, for the bobbin. This journal *f* runs in a suitable depression on the inside of the case.

g is a coil-spring between pin *e* and block *h*, and in the chamber *d*, to produce a slight tension. When *e* and the spring *g* have been inserted in the chamber *d* it is closed by a round block, *h*, which projects a little beyond the head *a* and forms the other journal, *j*, for the bobbin.

C is a swinging cover, pivoted to the case at *i*. It covers the bobbin-chamber or a part of it, and has a hole in it, which receives the journal *j* when the cover is closed. This cover must fit closely over the walls, with which it comes in contact when closed. There is a lip, *k*, and a notch at the inner end of the cover.

D is a disk-tension, located in a chamber in the shuttle near the point. It is constructed as shown in Fig. 7.

m is a disk having a hub on one side. *n* is another disk upon this hub.

o is a pin having a head, *p*, at one end and a screw-thread at the other end, which enters a screw-threaded hole, *q*, in the bottom or lower side of the case.

r is a coil-spring between the disk *m* and the head *p* and around pin *o*. As shown, there are two small holes in the head *p*, to receive a wrench for the purpose of adjusting these tension devices. The head *p* fits rather closely the chamber which receives and holds the tension devices.

E is a slit cut in the case A. It commences at *s* in the edge of the case, which point is also in the wall of the bobbin-chamber, and first passes through such wall and through the case in a slanting direction to the center of the edge of the shuttle-case, thence in a straight line to the point of the shuttle, and thence to the point *t* in the under edge of the shuttle. This part of the slit is cut through the wall of the tension-chamber, so that the thread can be passed through the slit from the point of the shuttle and between the disks *m n*. From the point *t* the slit is carried up in a slanting direction to the point *u* in the edge of the case, which point *u* is nearly opposite to the point *s*. Near the point *u* the slit is not cut through the wall of the bobbin-chamber, but is deep enough to allow the thread to pass freely behind the lip *k* when the cover C is closed.

The cover C can be swung around to permit the bobbin to be removed and replaced. It is held in its chamber by the cover C, the journal *f* being in the recess or depression in the case and the journal *j* being in the hole in the cover. The action of the spring *g* will hold the central portion of the head *a* against the inside of the cover C and press the end of the journal *j* against its bearing, producing a little friction and preventing the bobbin from moving too far, as each stitch is taken, when

the motion is rapid. The bobbin having been placed in its chamber, the shuttle can be easily threaded by passing the thread into the slit E at the point *s*, then in the slit at the point of the shuttle, drawing it in between the disks *m n*, then from the point *t* along the groove or slit to *u*. During this operation the cover is to be open; but after the thread has been brought to the point *u* the cover is to be closed, when the lip *k* will cover the slit at *u* and prevent the thread from escaping. To close the cover and bring the hole in it into the right position to receive the journal, the bobbin can be pressed down into the chamber, compressing the spring *g* and permitting said cover to pass over the end of the journal *j*. To open the cover the bobbin should first be pressed down in the same manner. To enable the operator to do this conveniently a portion of the bobbin is left exposed, as shown at Fig. 1.

The tension on the thread can be adjusted by means of the tension devices described, the thread passing between the disks *m n*, the pressure of the spring *r* being adjusted by turning the head *p*. This can be done without removing the shuttle from the machine, if desired.

I do not limit myself to the exact location of the slit E shown. It may commence at a point nearer the heel instead of at *s*.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. The shuttle-case A, provided with chambers for the bobbin and the tension device, and having its end constructed with a slit, E, which extends inwardly a short distance in a straight line, and thence passes in a slanting direction through the shuttle-case into the chamber containing the tension device, substantially as and for the purpose described.

2. The combination, with the case A, provided with a slit, E, and cover C, of the tension device and bobbin B, as and for the purposes set forth.

3. The combination, with the case A, provided with a slit, E, and cover C, of the bobbin B, having a yielding bearing, *f*, and a tension mechanism, as and for the purposes set forth.

JOHN SIGWALT, JR.

Witnesses:
JAMES S. MCKENNEY,
L. W. WHITING.