

UNITED STATES PATENT OFFICE.

JAMES TRIPP AND JOHN H. OSBORN, OF CLEVELAND, OHIO.

SEWING-MACHINE SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 259,439, dated June 13, 1882.

Application filed April 7, 1882. (Model.)

To all whom it may concern:

Be it known that we, JAMES TRIPP and JOHN H. OSBORN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Sewing-Machine Shuttle; and we do hereby declare that the following is a full, clear, and complete description thereof.

Our invention relates to an improved shuttle for sewing-machines, the nature of which consists in the means employed for holding the bobbin, and to the mode of threading the shuttle and securing the desired tension of the thread.

That the construction and operation of the said shuttle may be more fully understood, reference will be had to the following specification, and to the annexed drawings, making part of the same, in which—

Figure 1 is a side view of the shuttle; Fig. 2, a view of the opposite side of Fig. 1; Fig. 3, a detached view of the tension-spring; Fig. 4, a view of the opposite side of Fig. 3; Fig. 5, a detached view of the bobbin-holder; Fig. 6, a view of the bobbin and holder together; Fig. 7, an edge view of the spring, Fig. 3; Fig. 8, a transverse section of Figs. 3 and 4 in the direction of the line $x x$. Fig. 9 shows enlarged detached sections of the spring and guard-plate in the direction of the line $y y$ in Fig. 3.

Like letters of reference refer to like parts in the several views.

The drawings of the shuttle are enlarged for the purpose of more clearly showing the several parts. The general form of the shuttle is seen in Figs. 1 and 2, and is hollow or tubular for the reception of the bobbin and its holder. To the exterior of the shuttle case or shell A, on one side, is secured the spring B, Figs. 1, 3, and 4, the end C of which enters the hole D and laps on the interior surface of the shell, the other end, E, being bent or curved down to fit into a recess, F, near the point, and held therein by a set-screw, as seen in Fig. 1.

The protection-plate G is connected to the outside of the spring B by riveting at H, or otherwise secured. The set-screw I passes through this plate and the end of the spring, by which they are both together fastened to the shell of the shuttle. Springing down the

end E into place and fastening it by means of the set-screw I, after the curved end C has entered the hole D, causes the end to lap and clamp upon the inside of the shell, thus connecting and securing both ends of the spring to the shell. The said spring can be readily connected to and detached from the shell by the set-screw I.

The bobbin-holder consists of a bar, J, with a head, K and K', at the ends, as seen in Fig. 5. In the head K is a slot, a , and in the head K' a hole, b , in which is inserted the pivot of one end of the bobbin L, the pivot at the other end of the bobbin being passed into the slot a . The bobbin and holder will then be connected together, as seen in Fig. 6, which admits of an easy rotation of the bobbin upon its pivots, and also allows of its being readily connected to and detached from the holder by inserting one pivot of the bobbin in the hole b and the other into the slot a .

When the filled bobbin and holder are connected they are inserted into the chamber of the shell by entering the end K first, the bar J being at the same time passed into the longitudinal slot M, Fig. 2, of the shell until the head K' is flush with the heel. By this means the bobbin is held in the holder and rotates thereon within said chamber. The thread from the bobbin is passed out through the spiral or curved slot N, Fig. 2, which has a curved or spiral course in the shell from N to N', Figs. 1 and 2. The thread c takes this course from the bobbin, and then passes between protection-plate G and spring B and out through the opening d , Fig. 4, and then runs along between the spring B and the shell of the shuttle, as indicated at c' , Figs. 1 and 3. The tension of the thread is caused by the pressure of the-spring B upon the thread, which thread passes between the said spring and shell of the shuttle to the loop of the needle-thread in the usual way. The tension may be made more or less, as required, by means of the set-screw I. This arrangement of the several parts of the shuttle admits of its being readily threaded by passing the thread c from the bobbin between the protection-plate G and the spring B, as indicated at c , Fig. 8, and over and around the point e to the opening d , as seen at c , Fig. 4, then passing along between

the shell and the spring B, as indicated at *e'*, Fig. 1, to the loop of the needle-thread, as mentioned.

The point *e* is bent up from the line-face of the shuttle-shell into a small indentation or depression in the under side of the protection-plate G, as indicated at *f*, Figs. 4, 8, and 9.

In Fig. 9 the guard-plate is represented as being separated from the spring B for the purpose of showing the relative position of the point *e* in relation to the indentation *e'* in the said plate G. By this means the thread is prevented from slipping back between the spring and shell over the point *e*, and the protection-plate G prevents any entanglement of the threads and spring in forming the stitch, and at the same time admits of the thread passing freely from the bobbin between the spring and protection-plate to the needle-thread loop. The protecting-plate also prevents the loop of the needle-thread from catching in the point *e* of the spring B, Figs. 4 and 8, when sewing.

The shuttle is designed to be operated in connection with a sewing-machine in the ordinary way. No specially-constructed machine is required for the said shuttle. The holder J and bobbin are held in place within the shell A, when in practical use, by means of the heel of the shuttle-carrier abutting against the head of the bobbin-holder.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In shuttles for sewing-machines, a detachable bobbin-holder consisting of two heads connected together by a bar arranged to slide in a longitudinal slot in the shuttle-shell, and provided with pivotal bearings for said bobbin

in the heads of the holder, substantially as and for the purpose set forth.

2. In combination with a sewing-machine shuttle-case and bobbin, a holder having a slotted and a pivotal head for carrying the said bobbin, and connected together by a bar, J, adjusted to the longitudinal slot in the case, arranged substantially as and for the purpose set forth.

3. The shell or case A, provided with a longitudinal slot, M, and spiral slot N, in combination with the bobbin and holder J, substantially as and for the purpose set forth.

4. In sewing-machine shuttles, the spring B, provided with a point, *e*, and opening *d*, in combination with the protector-plate G, having an indentation, *f*, for the said point, substantially as and for the purpose set forth.

5. A sewing-machine shuttle having a spiral slot, N, for the bobbin-thread, in combination with the spring B and protector-plate G, connected with the shell, substantially as and for the purpose set forth.

6. A sewing-machine shuttle consisting of the shell A, with a longitudinal and spiral slot therein, the bobbin and holder arranged within said shell, in combination with the spring B and protection-plate, substantially as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES TRIPP.
JOHN H. OSBORN.

Witnesses:

J. H. BURRIDGE,
W. H. BURRIDGE.