

GEORGE A. FAIRFIELD

Improvement in Shuttles for Sewing Machines.

No. 120,731.

Patented Nov. 7, 1871.

Fig. 1.

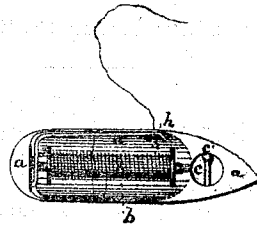


Fig. 2.

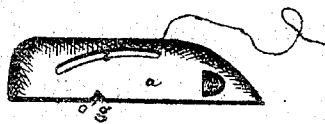


Fig. 3.

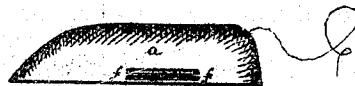


Fig. 4.

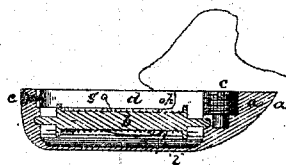
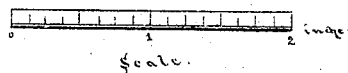


Fig. 5.



Witnesses.

Edw. W. Down
A. E. Mearns

Inventor

Geo. A. Fairfield
by Theo. C. Ellis
attorney

UNITED STATES PATENT OFFICE.

GEORGE A. FAIRFIELD, OF HARTFORD, CONNECTICUT, ASSIGNOR TO "THE WEED SEWING-MACHINE COMPANY," OF SAME PLACE.

IMPROVEMENT IN SHUTTLES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 120,731, dated November 7, 1871.

To all whom it may concern:

Be it known that I, GEORGE A. FAIRFIELD, 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 drawing and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My invention consists in a novel arrangement for retaining the bobbin within the shuttle-case and allowing it to be easily removed at pleasure. It also consists in a new arrangement of the tension-spring whereby I secure a longer spring and more equable tension than has heretofore been obtained. It also consists in a guide-pin for keeping the thread lengthwise under the spring as it is drawn off from the bobbin.

In the accompanying drawing, Figure 1 represents a top view of a shuttle with my improvements. Figs. 2 and 3 are side views of the same, and Fig. 4 is a vertical section through the middle of the shuttle.

a is the case of the shuttle. *b* is the bobbin. *c* is a screw inserted into the end of the shuttle-case. It has a nick, *c'*, on one side which, when it is turned toward the bobbin, allows the end of the bobbin-spindle to pass through it, thereby permitting the removal or replacing of the bobbin with great facility. Fig. 5 shows this screw detached. When the bobbin is in the shuttle-case the screw is turned by means of a screw-driver, so that the nick is around to one side, and the bobbin is securely held in place by the part of the screw which extends over the spindle. The central part of the screw extends downward so as to form a stop for the end of the bobbin-spindle. *d* is a bent or L-shaped leaf-spring lying close to one side of the shuttle-case and extending across the end, as shown in the drawing.

About the middle of the end of the shuttle-case is the screw *e*, passing through the spring and the thick portion of the shuttle-case for the purpose of regulating the tension. The extreme end of the spring bears against the end of the case, so that tightening the screw presses that part of the spring which lies lengthwise of the shuttle-case against the side. This part clasps the thread, so that the screw *e* regulates the tension. The thread passes from the bobbin, in the usual manner, through the slits *f* in the shell or case, and then through the hole *g* in the tension-spring. It then passes lengthwise of the spring and turns around the small pin *h*. It then passes through the curved slot *i* in the usual manner. For convenience in threading, a small nick is cut in the shuttle-case opposite the hole in the spring, as shown in Fig. 2. At the end of the shuttle-case the inside is cut away flat to the depth of the width of the spring *d*, so as to give it a fair bearing on the shoulder left below it and prevent its being displaced. The pin *h* also serves to keep the spring in position. By means of this latter part of my invention I use a very much longer, and consequently more evenly-acting, tension-spring than has heretofore been used.

What I claim as my invention is—

1. The screw *c*, at right angles to the axis of the bobbin, with its nick *c'* for allowing the end of the bobbin-spindle to pass through the head, and a shoulder or groove under the head for retaining the bobbin-spindle in place, substantially as described.

2. The tension-spring *d* lying along the side and end of the inside of the shuttle-case, having a fulcrum at the end and regulated by a screw passing through the thick portion of the end of the shuttle-case parallel to its axis, substantially as herein described.

GEORGE A. FAIRFIELD.

Witnesses:

GEO. W. BLAKE,
THEO. G. ELLIS.

(134)