

(No Model.)

W. A. POLMATEER.
SHUTTLE FOR SEWING MACHINES.

No. 418,057.

Patented Dec. 24, 1889.

Fig. 1.

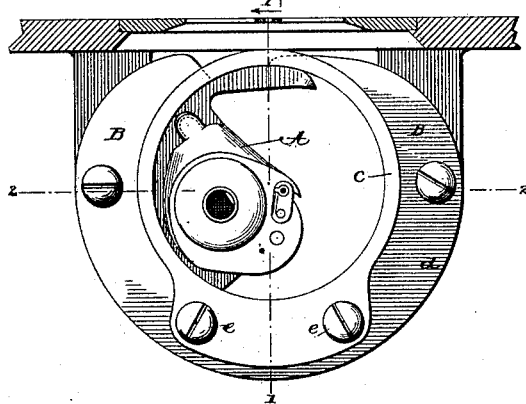


Fig. 2.
on line 1-1

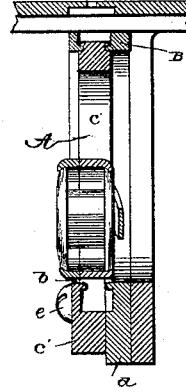


Fig. 3.
on line 2-2

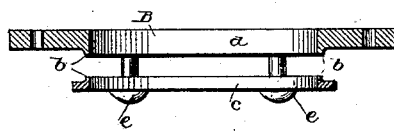


Fig. 4.

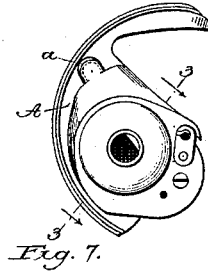


Fig. 5.
on line 3-3



Fig. 6.

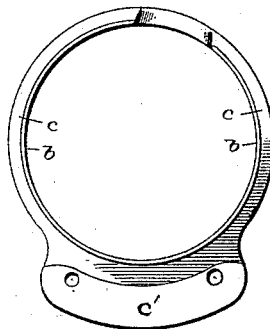


Fig. 7.

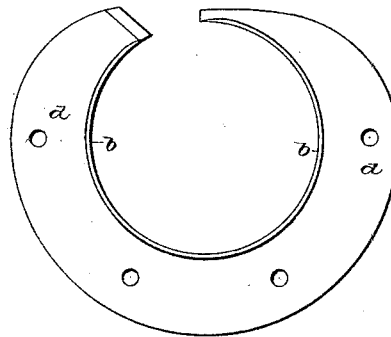


Fig. 8.

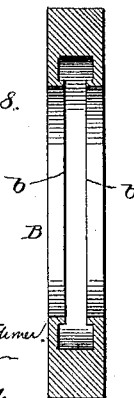


Fig. 9.

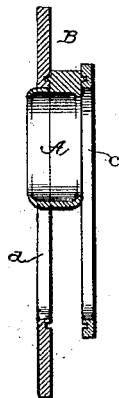
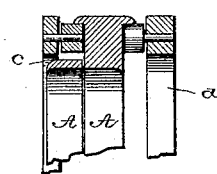


Fig. 10.



Witnesses
M. M. Morison
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Inventor,
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By his Attorney
Phil. T. Dodge

UNITED STATES PATENT OFFICE.

WILLIAM A. POLMATEER, OF JOHNSTOWN, NEW YORK.

SHUTTLE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 418,057, dated December 24, 1889.

Application filed September 20, 1887. Serial No. 250,225. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. POLMATEER, of Johnstown, in the county of Fulton and State of New York, have invented certain Improvements in Sewing-Machines, of which the following is a specification.

My invention has reference to the manner of sustaining and guiding the shuttle, and is applicable alike to oscillating, rotating, and reciprocating shuttles.

The aim of the invention is to lessen the noise and friction of the working parts, and to enable the needle-thread to pass more readily around the shuttle.

In sewing-machines as most commonly constructed the shuttle slides at its under side on the surface of a supporting race or guide in such manner that the needle-thread in passing beneath the shuttle is subjected to its entire weight. In many cases the shuttle is supported by a horizontal rod on one side traveling in a slot in the vertical face of a guide.

My improvement consists, essentially, in suspending the shuttle from its upper edge by a guide or guides at the side in the manner hereinafter explained, so that the shuttle is relieved from friction on the under side and prevented from bearing either vertically or laterally against the thread with objectionable pressure.

As my improvement is applicable to machines which are in all other respects of ordinary construction, I have deemed it sufficient to illustrate in the drawings the shuttle and its support.

In the accompanying drawings, Figure 1 is a side view of an oscillating shuttle and its support having my improvement applied thereto. Fig. 2 is a vertical cross-section of the same on the line 1 1. Fig. 3 is a horizontal section on the line 2 2. Fig. 4 is a side view of the shuttle. Fig. 5 is a cross-section of the same on the line 3 3. Figs. 6 and 7 are face views of the inner walls of the race or guide. Figs. 8 and 9 are cross-sections through one edge of the race in modified forms. Fig. 10 is a cross-section illustrating the mode of suspending the shuttle by rollers instead of stationary rods.

Referring to Figs. 1 to 9, A represents an

oscillating shuttle of a form at present in common use and familiar to every person skilled in the art, and B a circular race or guide having a central opening to receive the shuttle and engage its peripheral edge. My improved shuttle differs from those now in use simply in having its side faces provided with grooves or channels *a*, located near and following the line of the outer edge or periphery. The race, instead of being constructed to bear against the under edge of the shuttle to give the same support, is provided, as shown in the several figures, with ribs *b*, extending into the grooves in the opposite sides of the shuttle. These ribs are curved to conform to the required path of movement of the shuttle, and are adapted, as shown, to serve as the sole support of the shuttle. As the shuttle shown in the drawings oscillates in a circular path, the ribs and grooves have a circular curvature.

The race, in the form represented in the drawings, consists of the two vertical parallel plates *c* and *d*, suitably separated at the bottom by a projection *c'* on the former, and fastened firmly together by means of screws *e*. At the upper edge, at the point through which the needle-thread will enter, the flanges *b* are removed, as shown in Figs. 6 and 7, in order that there may be no interference with the thread. I prefer to construct the plates *c* and *d*, as shown in the drawings, in such manner as to leave an entirely open space behind or outside the shuttle in order to permit the free escape of dust, lint, and other obstructive matters, and prevent them from being held in contact with the periphery of the shuttle; but when preferred the race may be closed around the periphery of the shuttle, as shown in Fig. 8.

The supporting-ribs may be continued entirely around the race, or they may be formed only at the upper portion of the same, the only requirement being that they shall be of such length and size as to suspend the shuttle at all times when in an operative position.

It will be observed that under my construction the outer edge of the shuttle is entirely relieved from wear and friction, and that during the upper portion of its movement, and while the needle-thread is passing

thereunder, the shuttle will hang in a pendent position from the supporting-ribs at the top.

5 In Fig. 9 I have represented the ribs as formed on the sides of the shuttle to enter grooves formed in the side walls of the race.

10 In Fig. 10 I have represented the shuttle as suspended at its upper edge by anti-friction rollers, which for this purpose are the equivalents of the supporting-ribs.

Having thus described my invention, what I claim is—

15 1. In a sewing-machine, a stationary shuttle-guide, in combination with a movable shuttle mounted at its upper edge on the guide and suspended therefrom, whereby the

body of the shuttle is relieved from wear and friction on the side faces and bottom.

2. A shuttle having its upper edge provided at opposite sides with guides, in combination 20 with the stationary shuttle-race provided with corresponding guides at the top, said parts constructed and combined, substantially as described, to suspend the shuttle from its upper edge.

25 In testimony whereof I hereunto set my hand, this 7th day of September, 1887, in the presence of two attesting witnesses.

WILLIAM A. POLMATEER.

Witnesses:

F. E. MOYER,

ANDREW J. NELLIS.