

(No Model.)

D. W. STEVENSON.
SEWING MACHINE.

No. 570,969.

Patented Nov. 10, 1896.

Fig. 1.

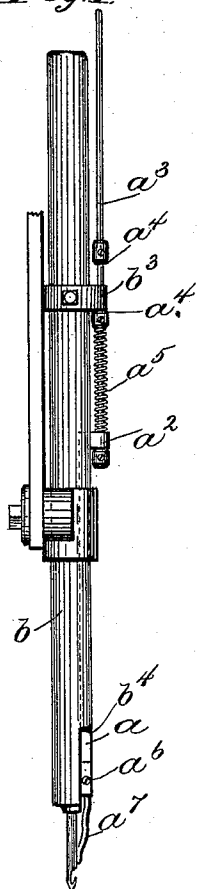


Fig. 2.

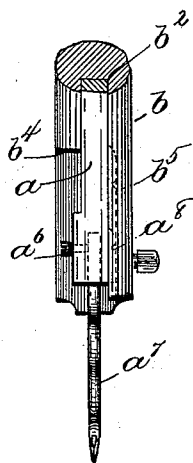


Fig. 4.

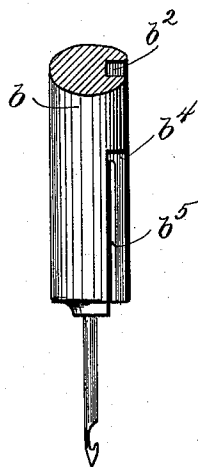


Fig. 3.

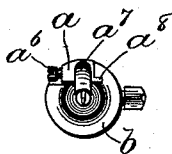
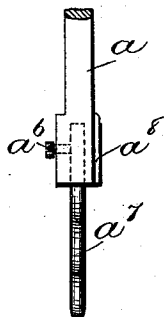


Fig. 5.



Witnesses,
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Att'y.

UNITED STATES PATENT OFFICE.

DANIEL W. STEVENSON, OF BROCKTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO EDWIN L. SPRAGUE, OF BOSTON, MASSACHUSETTS.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 570,969, dated November 10, 1896.

Application filed March 30, 1896. Serial No. 585,439. (No model.)

To all whom it may concern:

Be it known that I, DANIEL W. STEVENSON, of Brockton, county of Plymouth, and State of Massachusetts, have invented an Improvement in Sewing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The present invention relates to a sewing-machine, and is embodied in an improved needle-bar and cast-off for the McKay sewing-machine, the object being to provide a more efficient guide-support for the cast-off in order to maintain the same in the proper relation to the needle during the operation of the machine.

In the McKay sewing-machine the cast-off consists of a slide capable of longitudinal movement in a direction parallel to the direction of movement of the needle-bar, said slide being mounted in a guide-groove in the side of the said needle-bar and carrying a "point" or cast-off fitting closely against the side of the needle itself and adapted to cover the hook of the said needle as it rises from the surface of the work with a loop of thread caught therein in order to insure that the said needle may properly draw the loop in its hook through the loop of the preceding stitch. The said slide is moved to uncover the hook after a loop is drawn in order to allow the said loop to come out of the hook and lie over on the surface of the work, so that the next loop can be drawn through the same. It is obviously essential, therefore, for the proper operation of the device that the point should lie close to the side of the needle in order to effectually cover the hook. As heretofore constructed, however, no means have been provided for positively holding the lower end of the slide in its proper relation to the needle-bar, the said slide being secured in its guide-groove by a collar near the upper end thereof, and difficulty has been experienced owing to the fact that the said slide is liable to become slightly sprung at its lower end owing to such lack of support, so that the point or cast-off, instead of hugging closely to the side of the needle, becomes separated therefrom and fails in its function of pre-

venting the hook of the needle from picking up the previously-laid-over loop.

The present invention aims to obviate this difficulty; and it consists in providing an undercut recess in the side wall of said guide-groove adapted to cooperate with a tongue or projection from the side of the slide, thus holding the said slide parallel to the needle and preventing the same from becoming sprung or bent. The opposite wall of the main guide-groove is cut away near the end of the needle-bar to provide room for the set-screw which is employed to hold the point in the end of the slide, it having been the practice heretofore in constructing needle-bars for this machine to cut away both walls of the guide-groove near the end of the needle-bar.

Figure 1 is an elevation of the needle-bar and slide, showing the cooperating engaging portions thereof, the said parts being shown as detached from the machine, the construction of which is well known and does not require illustration or description for the proper understanding of the present invention. Fig. 2 is a side elevation of the lower portion of the needle-bar and slide; Fig. 3, an end view thereof; Fig. 4, a front elevation of the lower portion of the needle-bar with the slide removed, and Fig. 5 a side elevation of the slide removed from the needle-bar.

The slide a is supported in the usual longitudinal groove b^2 , which extends along the side of the needle-bar b , and is provided at its upper end with a projection a^2 for connection with the usual actuating-bar a^3 , having shoulders a^4 , between which extends the actuating projection b^3 of the needle-bar. The said projection a^2 is preferably yieldingly connected with the actuating-bar a^3 by means of a spring a^5 , the object of which is to allow the end of the point or cast-off to yield slightly if necessary, owing to inequalities in thickness of the work to be operated upon, the construction and arrangement as thus far described being well known and needing no further detailed description. As heretofore constructed, however, the needle-bar b has been cut away at its lower portion, so that both walls of the guide-groove b^2 terminate at a considerable distance above the

lower end of the needle-bar, namely, at the level of the shoulder b^4 , it being essential to provide space for the set-screw a^6 , by means of which the point or cast-off proper, a^7 , is secured to the end of the slide. As heretofore constructed, therefore, there has been nothing to prevent the lower end of the slide from springing away from the needle-bar during the operation of the device and becoming permanently bent, so that the point no longer lies snugly against the side of the needle, as is essential to the proper operation of the device. The result of this defect is that stitches are dropped, and to remedy it the custom has been to bend the point toward the needle, thus tending to spring the slide still farther out of alinement and causing trouble and annoyance, the remedy at best being but temporary. To obviate this difficulty, one of the side walls of the guide-slot b^2 , in accordance with the present invention, is extended, as shown, substantially to the end of the needle-bar and provided with an undercut groove b^5 , into which extends a slide projection or tongue a^8 from the side of the slide a . Thus the slide is retained perfectly parallel to the needle-bar, the main guide-groove as well as the slide itself being

of sufficient length to afford ample support for the sides of the slide, while the said slide is retained in the groove and prevented from being bent or sprung away from the needle-bar by the guide projection or tongue a^8 co-operating with the guide-groove b^5 . The point or cast-off is thus positively held close to the needle, so as to properly coöperate therewith to prevent the engagement by the hook of the loop which has been previously laid over on the surface of the work.

I claim—

The combination with the needle-bar provided with a longitudinal guide-groove, of the cast-off slide fitting in said groove and longitudinally movable therein; an undercut recess in the side wall of said groove, and a tongue or projection from the said slide extending into the said recess, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DANIEL W. STEVENSON.

Witnesses:

H. J. LIVERMORE,
N. P. FORD.