J. R. MOFFATT & R. S. KELSO.

NEEDLE GUARD FOR SEWING MACHINES.

APPLICATION FILED NOV. 9, 1911.

1,157,892. Patented Oct. 26, 1915.

Fig. 1.

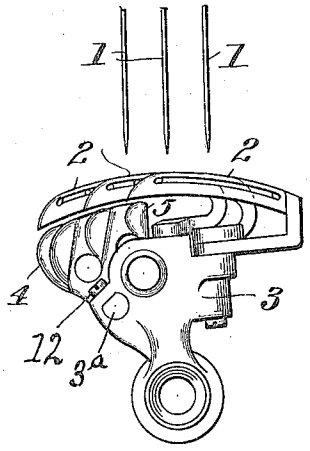


Fig. 2.

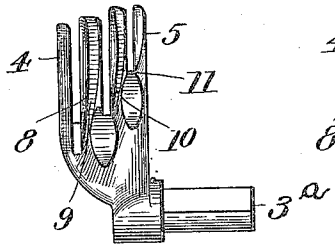


Fig. 3.

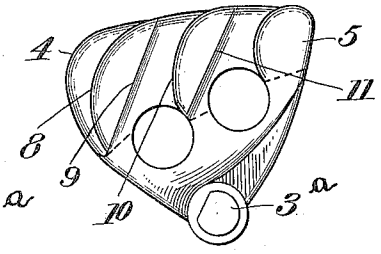


Fig. 5.

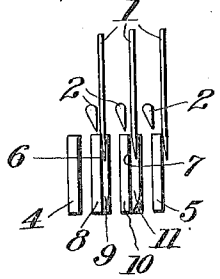


Fig. 6.

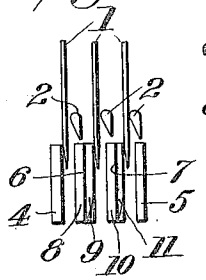
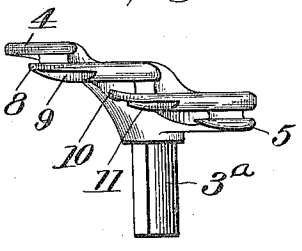


Fig. 4.



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NEEDLE-GUARD FOR SEWING-MACHINES.

1,157,892. Specification of Letters Patent. Patented Oct. 26, 1915.

Application filed November 9, 1911. Serial No. 659,371.

To all whom it may concern:

Be it known that we, JAMES R. MOFFATT and RALPH S. KELSO, citizens of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Needle-Guards for Sewing-Machines, of which the following is a description, reference being had to the accompanying drawing and to the letters and figures of reference marked thereon.

Our invention relates more particularly to a needle guard which is adapted for use on a multiple needle sewing machine.

The objects of the invention are to provide a needle guard which may be moved into engagement with the needle in the rear thereof, so as to prevent the needle from being deflected and struck by the looper, and which also is constructed so as to engage the needle on the rear side thereof to prevent the deflection of the needle when it is operating to draw up the previous needle loops shed from the looper.

The needle guard forming the subject of this application is fully described and illustrated in our application filed November 4th, 1911, Serial No. 658,564, in its relation to the loopers and needles, and the present invention consists in the needle guard *per se*, as it may be used in any character of machine.

The invention is illustrated in the accompanying drawings, in which,—

Figure 1 is a side elevation of the needle guard, illustrating the loopers and needles; Fig. 2 is an end view of the needle guard; Fig. 3 is a side view; Fig. 4 is a plan view; and Figs. 5 and 6 are respectively diagrammatic views, showing the position of the elements on the down and up strokes of the needle.

In these drawings, the needles are shown at 1, and the loopers at 2. The needle guard is mounted upon the looper-carrier 3, and partakes of the four motions of the looper.

The needle guard consists of a plurality of upwardly projecting parts forming spaced walls between which the needles may enter. More particularly, it consists of a projecting member 4 at the rear side of the guard, and a projecting member 5 at the front side of the guard. Between these projecting members 4 and 5 are two projecting members 6 and 7. The projecting member 6 is formed in two parts 8 and 9, and the projecting member 7 in two parts 10 and 11. The projecting member 8 is in advance of the projecting member 9, and the right hand wall of one of these members is operated as a needle guard when the looper is moving in one direction, and the other member is operated as a needle guard and upon another needle when the looper is moving in the other direction. When the loopers are moving forward into the needle loops, the right hand walls of the projecting members 8, 10 and 5 will engage the rear faces of the needles, and prevent any deflection of the needles to the left, so that the loopers may pass very closely to these needles without any danger of striking the same. When the loopers are moved laterally, that is, to the right, the needle guard will also be carried to the right, and as the loopers are retracted, the projecting members 4, 9 and 11 will now engage the rear faces of the needles and at a time when the loopers are withdrawing from the needle loops, so that any strain on the needles as they draw up these shed loops will be taken up by these guarding members, and all deflections of the needle from its normal path be avoided.

It will be apparent, therefore, from the above description, that spaced members 4 and 8 are provided, which coöperate with the extreme left hand needle, and one of these members engage the needle when the looper is moving in one direction, and the other engages the needle when the looper is moving in the opposite direction. For the middle needle, two spaced needle guarding members 7 and 9 are also provided, and for the right hand outside needle there are likewise two spaced projecting members 5 and 11. The members 8 and 9 and 10 and 11 are herein shown as formed integral, for the reason that the needles are brought comparatively close together, as viewed in a direction transverse to the line of feed. From certain aspects of the invention, however, it will be seen that these parts can be made separate, and that only one pair of projecting members may be used with a single needle.

It will be seen, therefore, that with each needle there is a pair of projecting members which are spaced and partake of all the movements of the looper, and first one and

then the other of the projecting members must serve as a needle guard, to properly hold the needle in its normal path. The space between the projecting members serves as a clearance space for the needle. These projecting members for each needle, therefore, form a needle guard, and said projecting members constitute means for engaging the needle on the rear side thereof on both forward and return strokes of the looper.

The needle guarding members constituting the needle guard, as clearly shown in the drawings, are all arranged on a common shank 3^a and this shank is held in a socket in the looper carrier 3 by a screw 12. By loosening the screw 12 the needle guard may be adjusted so as to properly position the guarding members relative to the respective needles.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent, is:—

1. A needle guard having a vertical opening for the passage of the needle, and laterally spaced guiding walls adapted to cooperate with the same face of the needle.

2. A needle guard having a pair of upwardly extending members forming a recess in which the needle is guided in its downward movement, the outer face of one of said members serving to guide the needle in its upward movement.

3. A needle guarding and guiding member for sewing machines including a plurality of vertical members arranged in pairs, each pair forming a recess in which the needle is guided in its downward movement, the outer face of one of the members of each pair serving to guide the needle in its upward movement.

4. A needle guarding and guiding member for sewing machines including a plurality of vertical members arranged in pairs, each pair forming a recess in which the needle is guided in its downward movement, the outer face of one of the members of each pair serving to guide the needle in its upward movement, said pairs being successively in advance of each other.

5. A needle guard having a vertical opening for the passage of the needle on its downward movement, the external face of the guard being adapted to guide the needle in its upward movement.

6. A needle guard adapted to move across the plane of the feed and provided with means for engaging the needle directly in rear thereof on both the downward and upward movements of the needle.

7. A needle guard adapted to move across the plane of the feed and provided with means for engaging the needle on the rear face thereof on both the downward and upward movements of the needle, said needle guard having a supporting shank, and means whereby the shank may be adjusted to properly position the needle guard relative to the needle.

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

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RALPH S. KELSO.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."