July 18, 1933. V. HECK 1,918,643

QUILTER FOR SEWING MACHINES

Filed Dec. 4, 1931

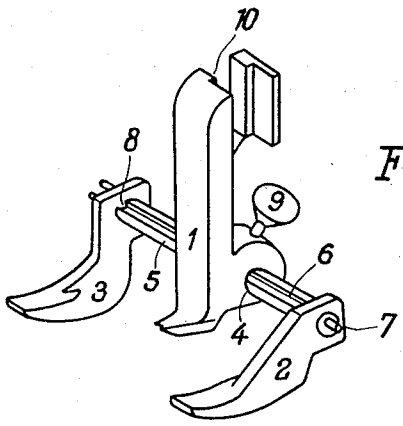


Fig. 1

Fig. 2

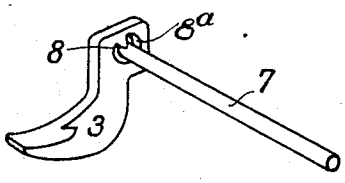
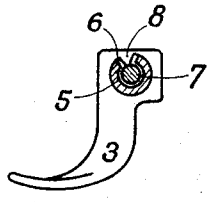


Fig. 3



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Patented July 18, 1933 1,918,643

UNITED STATES PATENT OFFICE

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QUILTER FOR SEWING MACHINES

Application filed December 4, 1931, Serial No. 579,048, and in Germany October 17, 1930.

The usual quilting or stitching feet for sewing machines serve mainly for producing ordinary seams. If seams are also to be drawn on the machine at a definite accurate distance from the edge of the material, supplementary devices must be fitted to the quilting foot, for instance a so-called guide or rule. It is already known to secure to the quilting foot, in place of such a guide, two or more supplementary guiding limbs besides the ordinary pressing limbs. These limbs can be shifted laterally and in a vertical direction, so that they permit of guidance on the edge of the material. Quilters are also known in which the limbs themselves are arranged separately and rockably.

It is a disadvantage of all the known constructions that it is not possible, with one and the same device, to make quite narrow edge seams (1 millimetre) and so-called blind stitches, and also seams at a considerable distance from the edge. On the one hand the additional limbs, which guide along the edge of the material, cannot be shifted close up to the needle, because the side limb of the quilter itself is located in between, and on the other hand the lateral movability of the rockable limbs is not sufficient for a greater distance. Furthermore it is inconvenient that for the adjusting of the quilting foot to a definite breadth of the seams a number of screws have to be loosened and tightened again.

This invention relates to a universal quilting foot, which enables quite narrow and also broad edge seams to be produced. This is rendered possible by the fact that both limbs are separated from the foot and are so fitted as to be laterally displaceable. In order to enable guidance along the edge of the material to be effected alternately on the right and on the left, the limbs can furthermore be rotated relatively to one another and relatively to the centre piece of the quilter. In this case the centre piece is so constructed that it only holds the material down immediately behind the needle.

One example of construction of the quilter according to this invention is illustrated in the accompanying drawing, in which

Figure 1 shows the quilter in an extended condition in perspective,

Figure 2 illustrates the special construction of one movable limb, also in perspective, and

Figure 3 shows the means for connecting the two limbs of the quilting foot in section.

The centre piece 1, shown in Figure 1, is so constructed at its upper end 10 that it can be secured to the presser bar of a sewing machine like an ordinary quilting foot. The center piece 1 is adapted to act as a presser foot behind the sewing machine needle only. It further comprises at the lower end, on the rear side, transversely to the direction of sewing, a bore 4. Into this bore there fits a cylindrical tubular member 5, having a longitudinal slot 6. This tube 5 is rigidly connected with the limb 2. As shown in Figures 2 and 3 the limb 3 is provided with a bore 8*a* and with a narrow spoke-like bridgepiece 8 projecting into the bore. A bar 7, rigidly secured to the bridgepiece 8, is located within the tube 5. This special type of fastening enables the piece of tubing 5 to be inserted over the rod 7 into the bore in the limb 3. The bridgepiece 8 then takes up a position in the longitudinal slot 6 in the tube 5. It is, therefore, possible to displace both limbs longitudinally with respect to the centre piece 1. The limbs can also be rotated relatively to the centre piece.

In order to enable the two limbs also to be rotated relatively to one another, the slot 6 in the tube 5 (Fig. 3) is made so wide that the narrow bridgepiece 8 of the limb 3 can be moved to and fro to some extent in the slot. Relative rotation of the limbs 2 and 3 is thereby rendered possible to a limited extent. For the clamping of the two limbs after rotation and displacement, there serves a thumb screw 9. When this screw is tightened, the slotted tube 5, in which the rod 7 accurately fits, is somewhat compressed. Both the tube and the rod are thereby held fast in the bore 4 of the centre piece 1. Similarly it is also possible to shift the slot 6 of the tube 5 somewhat rearwards. The screw 9 then engages directly in the slot. Upon tightening the screw the rod 7 would thereby be pressed downwards

against the internal surface of the tube 5, so that the two parts would again be firmly clamped as in the previous case.

The two limbs 2 and 3 form, when close together, the pressure plate of the quilting foot. After the screw 9 is loosened, they can immediately be pulled apart and rotated relatively to one another, so that the right hand or the left hand limb can be guided along the edge of the material as required. As compared with the known constructions, it is a special advantage that lap seams, shoulder seams for example, can be executed in the same direction of sewing. The oblique pulling of the material is thereby obviated.

The invention furthermore enables edge distances of 1 millimetre for example to be accurately maintained. Owing to the great lateral displaceability of the limbs, the accessibility of the needle to inspection can be widened at will, which ensures particularly great reliability of sewing.

What I claim is:—

1. A divided quilting foot for sewing machines, comprising a centre piece adapted to act as a presser foot behind the sewing machine needle only, two limbs, means supporting said limbs on the center piece and permitting said limbs to be relatively rotatable about a horizontal axis and slidable along the horizontal axis relatively to the centre piece and to one another, and a single member cooperating with the supporting means to secure the limbs against both longitudinal and angular adjustment relative to one another and to the center piece.

2. A divided quilting foot for sewing machines, comprising a centre piece constructed as a presser foot, a slotted tube and a rod so mounted on the centre piece as to be rotatable about a horizontal axis and slidable along the horizontal axis relatively to the centre piece and to one another, two limbs, one secured to the slotted tube and the other to the rod, and a screw fitted into the centre piece and adapted to clamp the slotted tube and the rod in position after rotation and horizontal displacement.

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