

M. G. ROSENTHAL,
SEWING MACHINE.
APPLICATION FILED JULY 26, 1919.

1,387,619.

Patented Aug. 16, 1921.

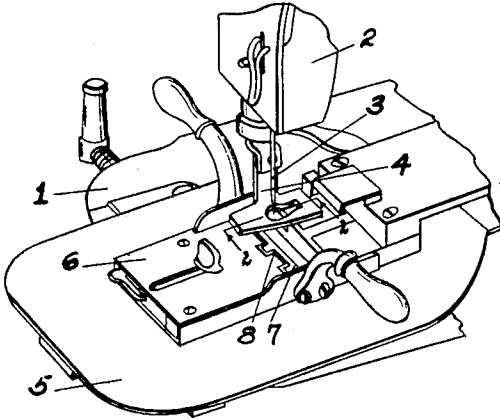


Fig. I.

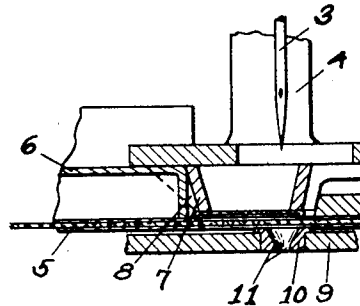


Fig. II.

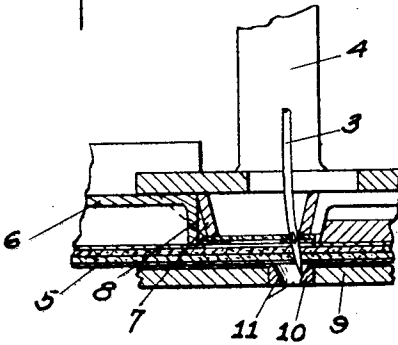


Fig. III.

Witnesses
Fred Ulbrich
Lenn Gilman

Inventor
Morris G. Rosenthal

By *C. H. Appell & Earl*
Attorneys

UNITED STATES PATENT OFFICE.

MORRIS G. ROSENTHAL, OF CINCINNATI, OHIO.

SEWING-MACHINE.

1,387,619.

Specification of Letters Patent. Patented Aug. 16, 1921.

Application filed July 26, 1919. Serial No. 313,546.

To all whom it may concern:

Be it known that I, MORRIS G. ROSENTHAL, a citizen of the United States, residing at Cincinnati, county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification.

This invention relates to improvements in sewing machines.

My improvements are particularly designed by me for use in label stitching machines such as are shown in the patent to Arthur Rosenthal and myself issued April 12, 1921, No. 1,374,326, and I have illustrated my improvements herein adapted to such a machine.

The main objects of this invention are:

First, to provide in a sewing machine an improved needle guide which prevents to a large degree the breakage of the needle due to deflections thereof by irregularities or variations in the work or defective or irregular feeding.

Second, to provide in a sewing machine an improved needle guide which facilitates the drawing of the loops or stitches to the work and minimizes thread breakage.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing forming a part of this specification, in which:

Figure I is a detail perspective view of the structure embodying the features of my invention.

Fig. II is an enlarged detail vertical section on a line corresponding to line 2—2 of Fig. I with the needle in its raised or retracted position.

Fig. III is a similar detail vertical section showing the needle on its downward stroke and in a deflected position to illustrate the coacting relation of parts.

In the drawing similar reference characters refer to similar parts throughout the several views.

Referring to the drawing 1 represents the bed of a sewing machine, 2 the head carrying the mechanism for actuating the needle 3 and the presser foot 4. The needle bar and

the means for actuating the needle are not illustrated and described as they form no part of this invention and such mechanisms are well known in the art.

In the structure illustrated a supporting plate or slide 5 is mounted for adjustment on the bed, the machine being a special machine for attachment of labels, as stated. The details of the mounting of this slide form no part of this invention and as they are shown in the said application for Letters Patent they are not illustrated or described herein. The mounting of the work shoe 6 is also illustrated and described in detail in the said application as is the label holder 7 mounted on the work shoe.

The work shoe has an opening 8 therein to receive the label and the frame-like label holder, the slide being provided with an opening alined with this opening of the shoe as shown.

The bed of the machine is provided with a needle plate 9 having a needle hole therein alined with the needle. This needle hole is provided with a bushing 10 downwardly tapered to a relatively narrow throat at its lower end. The bushing is preferably beveled at 11 below this throat. In the embodiment shown herein, the upper end of the bushing projects slightly above the face of the needle plate supporting the work in a slightly raised position at this point which I find facilitates the stitching, particularly where there are several thicknesses of fabric to be stitched together. In this embodiment of my improvements the needle reciprocates within the frame-like label holder as illustrated and the shoe is manually manipulated on said bed to stitch about the edges of the label.

When the needle is deflected as is indicated in Fig. III its point strikes the inclined sides of the needle hole and is guided thereby through the throat into proper coacting relation to the coacting stitch forming means below the needle plate. In order that this may be insured, it is necessary to provide a comparatively small needle hole. By providing the taper as I have shown, the needle is guided to proper position even when it has been deflected.

The lower end of the hole is beveled slightly at 11 to facilitate the drawing up of the loop and also to prevent cutting of the thread. The enlarged guide hole above the throat is desirable in that it facilitates the

drawing up of the loop against the fabric, thus insuring the forming of perfect stitches and further, the danger of breaking the thread is very greatly reduced.

5 It is not uncommon in sewing machines both of the household and factory types for the needles to become broken owing to their being deflected by the work or by feeding or from other causes so that the needle strikes
10 the needle plate on its downward thrust. In addition to the cost of the needle is the greater expense on account of loss of time of the operator. In special machines such as the label attaching machine of the applica-
15 tion hereinbefore referred to, this difficulty is experienced to perhaps an even greater extent than in the regular sewing machine on account of the nature of the work on which the special machines are used, labels
20 being commonly attached to a greater variety of fabrics and garments as, for instance, when used for marking laundry where there is a constant variation. The applicant's improvements have reduced this breakage to a
25 minimum and in addition, the enlargement above the throat facilitates the drawing up of the loops to the fabric and reduces breakage of the thread.

30 Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. The combination in a sewing machine, of a reciprocating needle, a manually manipulated work shoe having label opening
35 therein, and a frame-like label holder coacting with said work shoe to clamp a label, a needle plate having a needle hole therein, and a bushing for said needle hole tapered downwardly to a relatively small throat
40 toward its lower end, said bushing being disposed with its upper end projecting above

the face of the needle plate, within the label opening of said work shoe to support the work at the stitching point, said needle and label holder being arranged so that the
45 needle reciprocates within the said label holder.

2. The combination in a sewing machine of a reciprocating needle, a manually manipulated work shoe having label opening
50 therein, and a frame-like label holder coacting with said work shoe to clamp a label, a needle plate having a needle hole therein, and a bushing for said needle hole tapered downwardly to a relatively small throat
55 toward its lower end and upwardly beveled to said throat, said bushing being disposed with its upper end projecting above the face of the needle plate, within the label opening of said work shoe to support the work at the
60 stitching point, said needle and label holder being arranged so that the needle reciprocates within the said label holder.

3. The combination in a sewing machine of a reciprocating needle, and a needle plate
65 having a needle hole therein provided with a bushing for said needle hole tapered downwardly to a relatively small throat and upwardly beveled to said throat.

4. The combination in a sewing machine of
70 a reciprocating needle, and a needle plate having a needle hole tapered downwardly to a relatively small throat toward the bottom and upwardly beveled from the bottom to said throat, for the purpose specified. 75

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

MORRIS G. ROSENTHAL. [L. S.]

Witnesses:

E. G. BICKLER,
A. W. KROHME.