

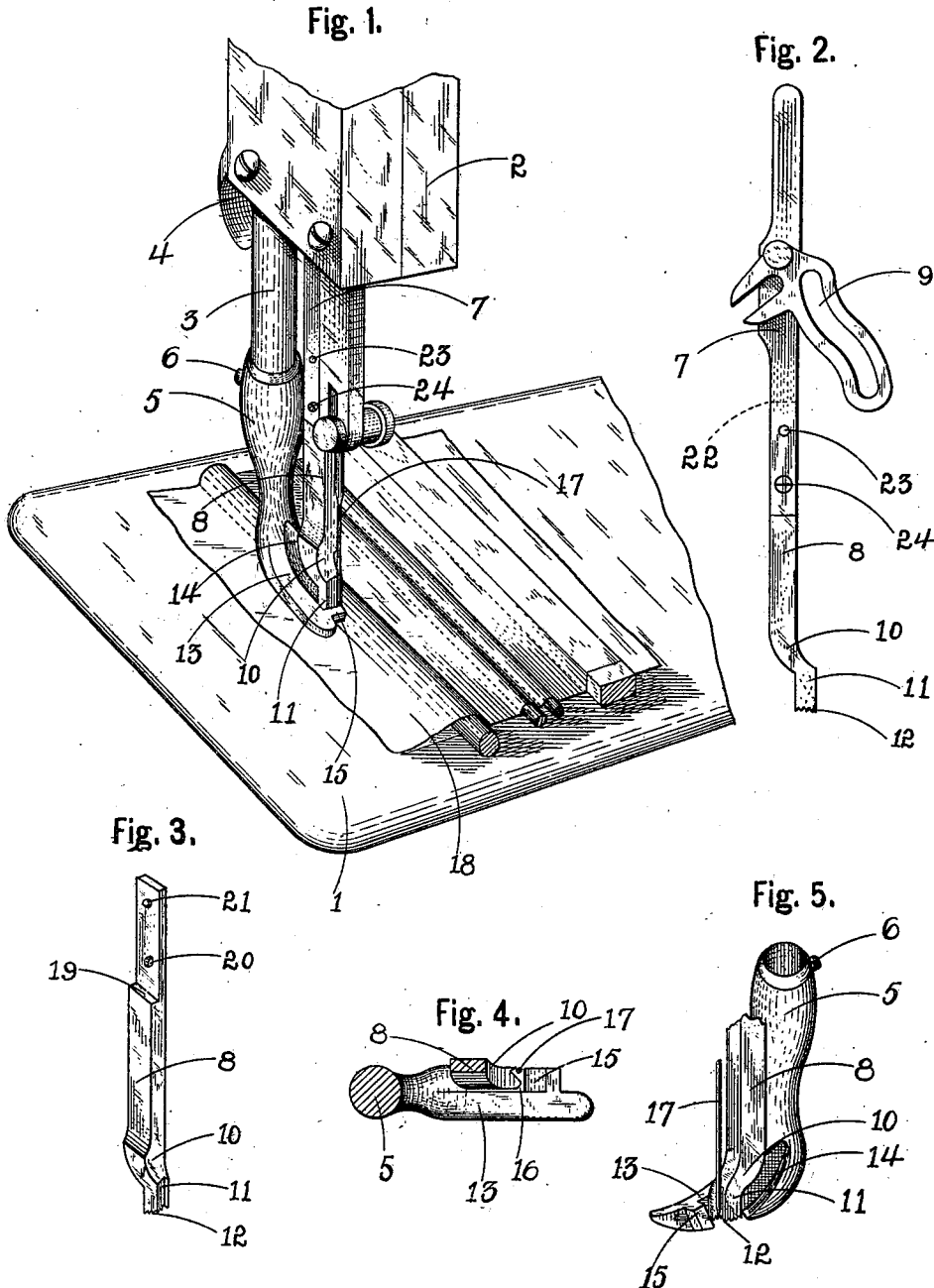
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C. H. VAN STONE.  
FEEDING MECHANISM FOR SEWING MACHINES.

(Application filed July 20, 1899.)

(No Model.)



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## FEEDING MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 666,944, dated January 29, 1901.

Application filed July 20, 1899. Serial No. 724,503. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. VAN STONE, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in the Top Feed and Presser-Foot for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in the presser-foot and top feed for sewing-machines; and the object of my invention is to so construct the presser-foot and top feed and arrange the needle thereto that the needle will be flush with the inner side of the presser-foot, so as to adapt the device particularly for use in stitching steels, stays, or cords firmly into the fabric of garments, such as corsets, or for dash-boards for carriages or other articles and in such a manner as to bring the line of stitching in close proximity to the steels, stays, or cords and also leave the opposite surface of the fabric perfectly smooth, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of a sewing-machine provided with my improvements and having a portion of fabric in position for operation. Fig. 2 is a detached view of the sectional top-feed bar. Fig. 3 is a detached perspective view of the lower section of the feed-bar. Fig. 4 is a horizontal section through the presser-foot, feed-dog, and needle on or about line *xx*, Fig. 1. Fig. 5 is a detached perspective view of the presser-foot, feed-bar, and needle looking in a direction nearly opposite to that of Fig. 1.

In referring to the drawings in detail, like numerals represent like parts.

1 is the table, and 2 the casing which incloses a portion of the working parts of the sewing-machine.

3 is the presser-foot bar, which projects up into the casing 2 and is raised or lowered by the lever 4.

5 is the shank of the presser-foot, which is removably attached to the bar 3 by the screw 6.

7 is the feed-bar, which carries the detachable feed-dog 8. The upper portion of the bar 7 is inclosed in the casing 2 and is there operated, by means of the cam-slot 9 and other parts, (not shown,) to give the feed 8 first a downward movement until it meets the fabric and then a backward feeding movement to the fabric. The feed-dog 8 has its lower end curved forwardly, as at 10, and then downwardly, as at 11, and its bottom surface is serrated or notched to form gripping-teeth 12 for contact with the fabric and is detachably fastened to the bar 7, as will be more specifically described farther on.

My improved form of presser-foot (shown in Figs. 1, 4, and 5) has but one side wall 13, a rear sloping wall 14, and a front wall 15, which serves as a guide. The space or opening 16 accommodates the feed-dog 8, which, as clearly shown in Fig. 5, is of the same width as the space or opening 16 in the presser-foot.

The needle 17 is exactly in line with the inner edges of the feed-dog 8 and wall or guide 15 of the presser-foot, (see Fig. 5,) thus arranging the needle flush with the inner surface of the presser-foot and feed-dog and affording means for stitching in close proximity to a reinforcement or strengthening part inclosed within a fabric, thereby particularly adapting the machine for firmly and closely stitching steels, stays, or cords into the fabric of corsets or for other analogous uses, such as the dashes of vehicles.

In operation the cord, steel, or other stiffening-reinforcement rests on the inside of the presser-foot, feed, and needle and the doubled or looped-up fabric inclosing the cord passes underneath to the outside. The cord and surrounding fabrics being guided along against the presser-foot and feed enable the line of stitching to be run in close proximity to the cord, substantially as shown in Fig. 1, thereby tightly incasing it in the fabric without drawing the same out of shape and in the case of a corset which is made up largely of stiffening-pieces presenting a perfectly smooth opposite or inner surface.

In Fig. 1 a portion of fabric (designated by

the numeral 18) is shown having cords and other stiffening and strengthening parts inclosed within loops in order to clearly point out the manner in which the line of stitching 5 is formed in close proximity to the inclosed parts.

It will be noticed that the upper portion of the fabric rises from the lower portion near the reinforcement and that the needle passes 10 through the slightly-separated and lower portions, and as the stitching is drawn into place the two portions are brought together, thereby tightly incasing the reinforcement within the fabric. This is something which it is im- 15 possible to accomplish with the ordinary machines now in use.

The manner of joining the feed-dog 8 to its bar 7 is shown in Figs. 2 and 3. The feed-dog 8 is recessed at 19 to form a reduced upper end and provided with a screw-threaded 20 hole 20 and pin 21 within the recess. The feed-bar 7 is similarly recessed at 22 and provided with a hole 23 for the reception of the pin 21 on the feed-dog 8 and a screw-threaded 25 hole through which and the hole 20 the fastening-screw 24 is passed, thus removably securing the parts together. With this construction different forms of feeding-foot can be interchangeably used without the neces- 30 sity of removing the bar 7 from the casing 2 or dismounting any portion of the interior mechanism, as is required at the present time, and at the time the parts are so united that their contiguous surfaces are flush and 35 there are no projecting portions to interfere with any attachments which may be employed.

I am aware that under-feed sewing-machines have been provided with hollowed-out 40 presser-feet which are adapted to ride upon the reinforcement, so that the sewing can be passed through both the reinforcement and the incasing fabric, such as shown in Drinkwater's patent, No. 416,215, and therefore I 45 do not claim such; but

What I do claim is—

1. In a sewing-machine adapted for sewing stiffening-strips or other reinforcement into fabric, the combination with the frame and 50 operating parts of the machine, of a presser-foot having a side depression, a feed-dog operating in said depression with its inner sur-

face flush with the inner surface of the presser-foot, and a needle arranged to operate on a line flush with the inner surface of the 55 presser-foot and feed-dog and thereby sew a line of stitching in close proximity to the reinforcement, as set forth.

2. In a top-feed sewing-machine for sewing stiffening-strips or other reinforcement into 60 fabric, the combination with the frame and operating parts of the machine, of a presser-foot having a side wall 13, a rear sloping wall 14, and a front wall 15, and provided with a side depression formed by said wall, a feed- 65 dog operating in said depression and of the same width as said depression with its inner surface flush with the inner surface of the presser-foot and a needle arranged to operate on a line flush with the inner surface of the 70 presser-foot and feed-dog and thereby sew a line of stitching in close proximity to the reinforcement when the presser-foot and feed-dog are arranged closely against one side of the reinforcement, as set forth. 75

3. In a sewing-machine, having a top feed only, for sewing stiffening-strips or other reinforcement into fabric, the combination with the table, the operating parts of the machine and the casing, of a presser-foot having a top 80 bar projecting into a side wall of said casing, a rear sloping wall 14, and a front wall 15, and provided with a side depression formed by said wall, a feed-dog operating in said depression and of the same width as said de- 85 pression, with its inner surface flush with the inner surface of the presser-foot, and provided with a side recess, and a needle arranged to operate in the side recess of the feed-dog and on a line flush with the inner 90 surface of the presser-foot and feed-dog, and thereby sew a line of stitching in close proximity to the reinforcement when the presser-foot and the feed-dog are arranged closely against one side of the reinforcement, as set 95 forth.

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

CHARLES H. VAN STONE.

Witnesses:

A. VAN STONE,  
L. C. VOGEL.