Jan. 18, 1927. 1,615,042

H. R. RUSH

PRESSER FOOT

Filed June 21, 1922

Fig. 1.

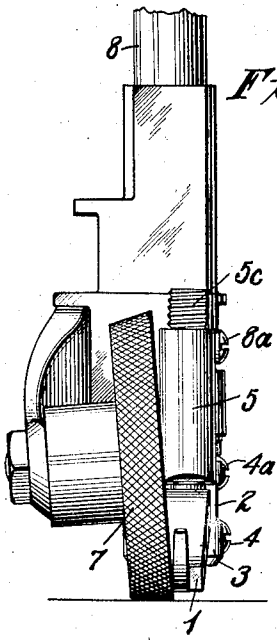


Fig. 2.

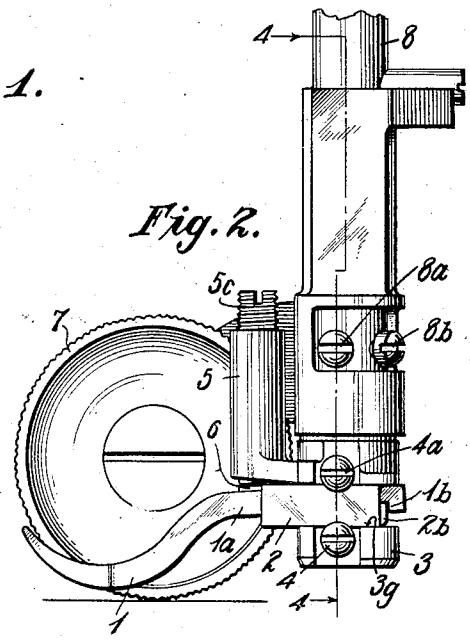


Fig. 3.

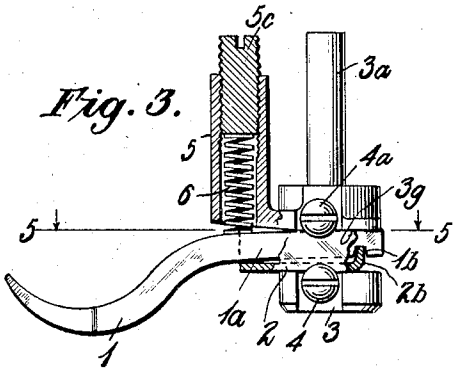


Fig. 4.

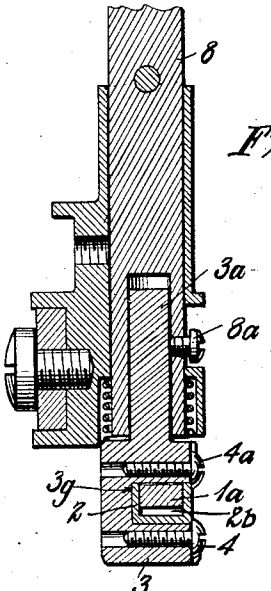
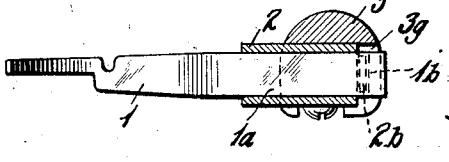


Fig. 5.



Inventor:
Henry R. Rush

By
Alexander & Dowell Attorneys

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UNITED STATES PATENT OFFICE.

HENRY R. RUSH, OF ENDICOTT, NEW YORK,

PRESSER FOOT.

Application filed June 21, 1922. Serial No. 569,900.

This invention relates to presser feet of sewing machines, and is particularly designed for use in machines for sewing leather or other thick heavy material.

The object of the invention is to provide a presser foot so connected to the presser bar that it will be normally held to its work with sufficient pressure but is capable of rocking or pivoting on the presser bar in such manner that it can ride over a seam or other unusual thickness of material or obstruction therein without stopping the advance of the material being operated upon. Such presser foot can ride over irregularities or thicknesses in the material being operated upon which an ordinary presser foot would not do, and which irregularities or thicknesses frequently cause stopping of the feeding movement of the material with the result that the needle operates repeatedly in the same hole, resulting in disfiguring the stitching and material, and sometimes entirely spoiling the work being operated upon.

I will explain the invention with reference to the accompanying drawings which illustrate a practical embodiment of the invention, and summarize in the claims the novel features of construction, and novel combinations of parts for which protection is desired.

In said drawings:

Fig. 1 is an enlarged front view of my novel presser foot attachment connected to the presser bar of a standard sewing machine.

Fig. 2 is a side view of Fig. 1.

Fig. 3 is an enlarged side view of the presser foot attachment detached.

Fig. 4 is a vertical section on the line 4—4 Fig. 2.

Fig. 5 is a transverse section on the line 5—5 Fig. 3.

The presser foot 1 may be of any desired form, and as shown is of the type commonly used in leather sewing machines. It has a shank 1^a which is ordinarily fastened to the bottom of the presser bar. In the present invention this shank is mounted in a holder 2 which is preferably U-shaped in cross section and is adjustably supported in a horizontal groove 3^g in the side of a metal block or head 3 having a shank 3^a adapted to enter the usual socket in the lower end of the presser bar 8; and said shank may be secured to the presser bar by means of screws 8^a, 8^b set about 45° removed from each other, as indicated in Figs. 1 and 2.

The holder 2 is adjustable longitudinally of the slot 3^g, forward or backward, in relation to the presser bar, and may be confined in adjusted position by any suitable means. As shown the holder is fastened in the slot by screws 4 and 4^a whose shanks are tapped into the head 3 above and below the holder 2, so that their heads engage the outer wall of the holder.

The shank 1^a is pivotally connected to the holder so that it can tilt or rock therein, but can not move longitudinally thereof when in position therein. Preferably the shank is pivoted in the holder by means of a notch 1^b in the under side and near the rear end of shank 1^a, engaging a rib 2^b on the bottom and preferably rear end of the holder 2, as shown in Figs. 3, 4 and 5. The rib 2^b can be readily formed by upsetting the rear end of the bottom of the holder, as shown in the drawings.

A vertically disposed sleeve 5 is mounted upon the head 3, above the holder 2, and in front thereof. In this sleeve 5 is confined an expansion spring 6 which bears upon the upper side of the shank of the presser foot in front of the pivot point 1^b thereof. The presser of spring 6 is regulable by a screw 5^c tapped into the threaded upper end of the sleeve as shown.

When properly attached to a machine the holder 2 can be adjusted back and forth relative to the presser bar 8 until the eye of the presser foot is in line with the needle. When properly adjusted the presser foot is locked in that position by tightening the screws 4 and 4^a. The upper screw 4^a can be adjusted so as to press or flex the outer side of the holder 2 and press it close to the shank of the presser foot, thereby taking up any slight play therebetween which might be due to wear or inaccurate fitting in the first place between the width of the presser foot shank and the width of the groove in the holder 2. A roller guide 7 may be used beside the presser foot; and is shown as of the usual construction and can be moved away from the presser foot when it is desired to thread or adjust the needle. This presser foot is capable of rocking or tilting to adapt itself to uneven places in the leather or material (such as two thicknesses of leather one upon the other, or thicker

places in the leather, such as back stays, tongues, seams, etc.) without having to lift the entire presser bar.

This presser foot has been found entirely practical, and saves much loss in operation as compared with an ordinary presser foot, in that frequently an ordinary presser foot will not mount the edge of an additional thickness of leather, or material, or a thicker portion of the material, but will hit against such edge and stop the feeding movement of the material, and the needle operating up and down in the same or nearly the same place, cuts and disfigures the leather and stitching. In my construction the upturned point of the presser foot will ride or rise over any obstruction much more readily and with less resistance than where the entire presser bar must be raised, and after the point of the foot has mounted the obstruction, then, as the work is advanced farther under the foot, there is a gradually increasing lifting pressure exerted upon the presser bar and it is raised without shock and without stopping the advance of the work.

What I claim is:

1. In combination a supporting member having a slot; a holder adjustable longitudinally of the slot; a presser foot having a shank pivotally connected to the said holder within the slot; and means for yieldingly depressing the presser foot.

2. In combination, a supporting member having a slot; a holder adjustable longitudinally of the slot and having a rib; a presser foot having a shank provided with a notch for engagement with the rib of the holder to pivot the foot on the holder; and means for yieldingly depressing the foot.

3. In combination, a supporting member having a slot, a holder adjustably longitudinally of the slot, a presser foot having a shank entered in said holder within the slot and pivotally retained therein, means for fastening the holder in the slot, and spring means for normally depressing the forward end of the presser foot.

4. In devices as set forth in claim 3, the presser foot having a notch engaging a rib in the holder to pivot the foot therein, substantially as described.

5. In combination a presser bar, a head on the bar having a slot, a holder adjustable longitudinally of the slot, a presser foot having a shank pivotally mounted in said holder within the slot, means for fastening the holder in the slot, and spring means for normally holding the forward end of the presser foot depressed.

6. In devices as set forth in claim 5, the presser foot having a notch engaging a rib in the holder to pivot the foot therein, substantially as described.

7. In combination a head having a horizontal slot, a holder in said slot, means to retain said holder in adjusted position in the slot, a presser foot having a shank pivotally connected with said holder, a sleeve connected with the holder, and a spring in said sleeve engaging the presser foot to hold the same depressed.

8. In devices as set forth in claim 7, the presser foot having a notch engaging a rib in the holder to pivot the foot therein, substantially as described.

9. In combination, a presser bar, a head on the presser bar having a slot, a holder in said slot, a screw engaging said holder to bind same in adjusted position in the slot, a presser foot having a shank entering said holder and detachably pivoted thereto, a sleeve connected with the head and a spring in said sleeve engaging the presser foot to hold the same depressed.

10. In devices as set forth in claim 9, the presser foot having a notch engaging a rib in the holder to pivot the foot therein, substantially as described.

11. In combination a head having a slot, a U-shaped holder in said slot, a presser foot having a shank adjustably entered in said holder, screws engaging said holder to bind same in adjusted position in the slot and to compensate for wear of the shank, and a spring engaging the presser foot to hold the same normally depressed.

12. In devices as set forth in claim 11, the presser foot having a notch engaging a rib in the holder to pivot the foot therein, substantially as described.

13. In combination with a presser bar, a head on the lower end of said bar having a slot, a U-shaped holder fitted in said slot, a screw tapped into the head and engaging said holder to retain the same in adjusted positions in the groove; a sleeve attached to the forward end of the head above the slot, a presser foot having a shank pivoted in the holder, and a spring in said sleeve engaging the upper side of the shank to normally hold the presser foot depressed.

14. In combination with a presser bar, a head on the lower end of said bar having a slot, a U-shaped holder fitted in said slot, screws tapped into the head and engaging said holder, a sleeve attached to the forward end of the head above the slot, a presser foot having a shank entering the holder and provided with a notch engaging a rib in the holder to pivot the shank therein, a spring in said sleeve engaging the upper side of the shank to normally hold the presser foot depressed, and a screw for adjusting the pressure of said spring.

In testimony that I claim the foregoing as my own, I affix my signature.

HENRY R. RUSH.