J. R. MOFFATT.

PRESSER FOOT FOR SEWING MACHINES.

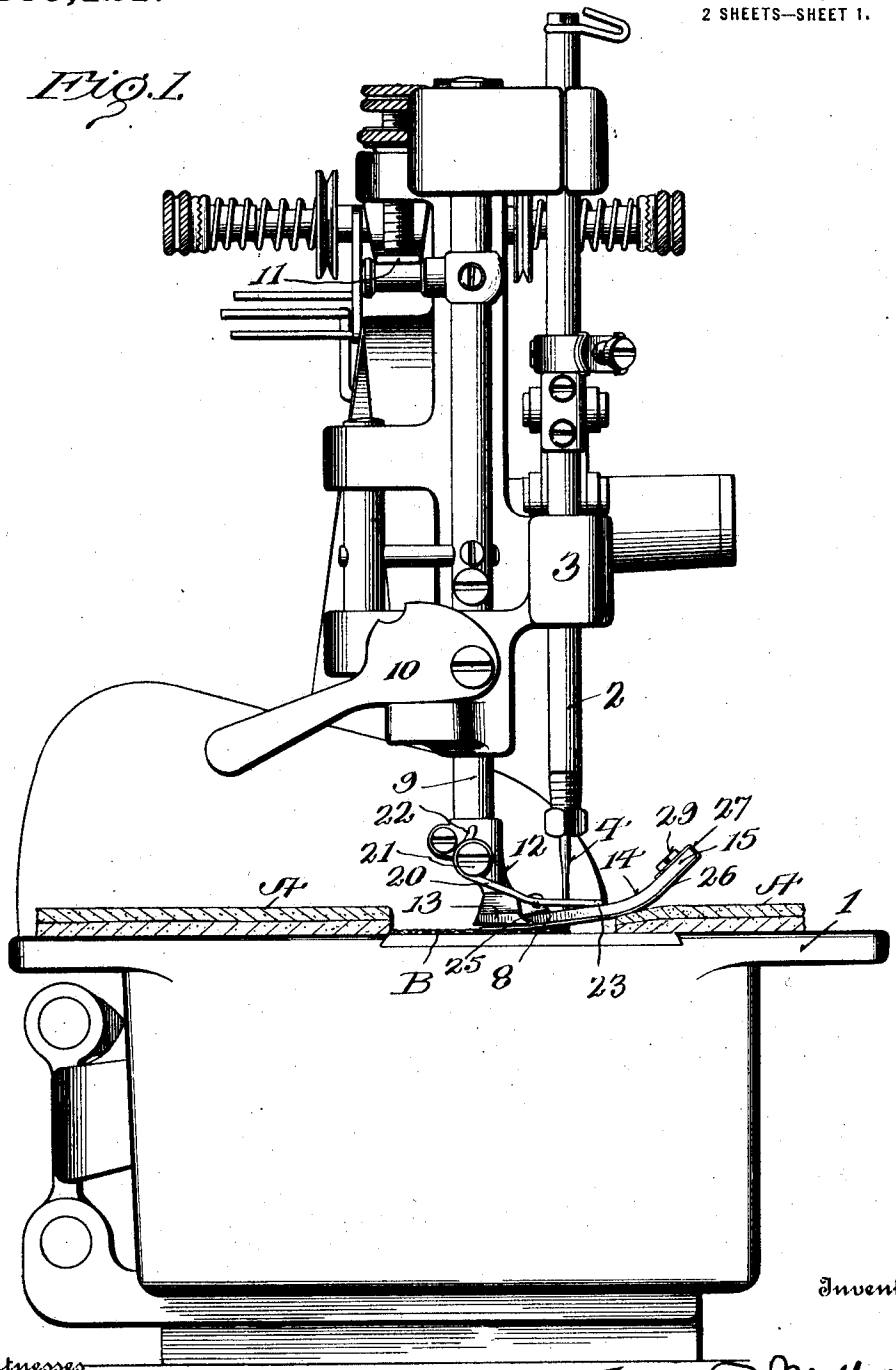
APPLICATION FILED JUNE 16, 1915.

1,339,121.

Patented May 4, 1920.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

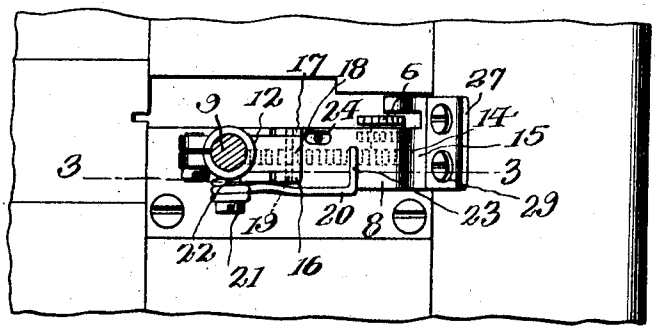


Fig. 3.

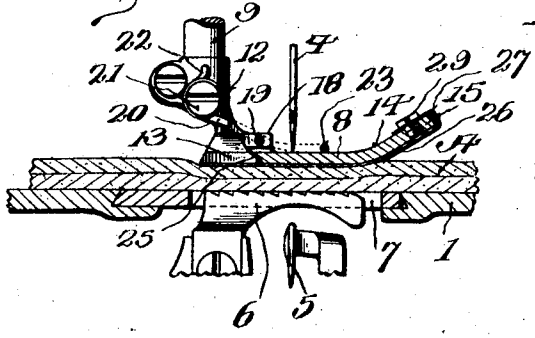


Fig. 4.

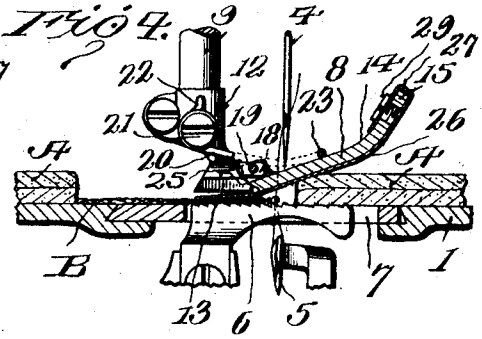
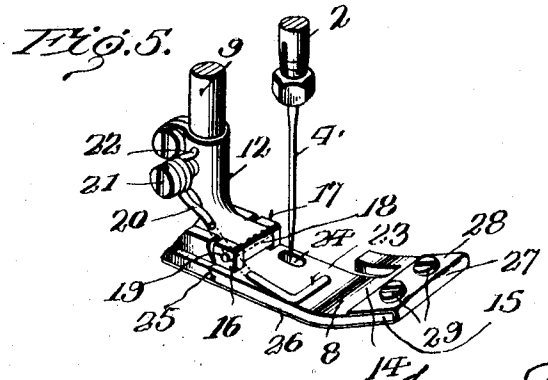


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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PRESSER-FOOT FOR SEWING-MACHINES.

1,339,121. Specification of Letters Patent. Patented May 4, 1920.

Application filed June 16, 1915. Serial No. 34,427.

To all whom it may concern:

Be it known that I, JAMES R. MOFFATT, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Presser-Feet for Sewing-Machines, of which the following is a description, reference being had to the accompanying drawing and to the figures of reference marked thereon.

The invention relates to new and useful improvements in a presser foot for sewing machines, and more particularly to a presser foot adapted to be used in connection with a sewing machine for stitching extremely thick materials.

An object of the invention is to provide a presser foot which has a pivoted forward section, to facilitate the insertion of extremely thick materials underneath the same, with means for engaging the chain of stitches formed between stitched articles for feeding the chain.

A further object of the invention is to provide a presser foot of the above character which has a rigid section and a yieldingly depressed forward section, with a yielding member which forms the entire fabric engaging surface of the presser foot, said yielding member operating to direct the material underneath the rear section of the foot and also to yieldingly engage the chain of stitches being formed to assist in feeding the chain of stitches.

These and other objects will in part be obvious and will in part be more fully disclosed.

In the drawings which show by way of illustration one embodiment of the invention,—

Figure 1 is an end view of a sewing machine having my improved presser foot applied thereto;

Fig. 2 is a plan view of the presser foot and the work support;

Fig. 3 is a vertical sectional view on the line 3—3 of Fig. 2, showing the foot with the material to be stitched extending entirely underneath the foot;

Fig. 4 is a similar view showing one stitched article leaving the machine and another being fed under the foot and the manner of feeding the connecting chain; and

Fig. 5 is a perspective view of the foot, also showing the position of the needle.

In order to more clearly disclose the invention, I have shown the presser foot as applied to a sewing machine which, as herein illustrated, consists of a work support 1, and a needle bar 2 which reciprocates in a supporting head 3, and carries a needle 4. Cooperating with the needle beneath the work support is a looper 5. A feed dog 6 operates through feed slots 7 in the work support 1 to feed the material. The presser foot 8 is carried by a presser bar 9 which may be raised by the ordinary hand lever 10. The presser bar is normally pressed downwardly to hold the presser foot on the material by a leaf spring 11. The presser foot consists of a shank 12 to which is rigidly attached the rear section 13 of the presser foot. This rear section extends from side to side of the presser foot. Pivotally secured to the supporting shank is a forward section 14, which also extends from side to side of the presser foot and is provided with an upturned toe 15. This forward section 14 has two upwardly projecting lugs 16 and 17 which extend on opposite sides of a forwardly projecting part 18 on the shank 12, and a pivot pin 19 passes through said lugs and the forwardly projecting part of the shank. A spring 20 is wound about a screw 21 which supports the same and has the end 22 thereof engaged in a socket in the shank 12. The other end of the spring 20 is bent laterally, as at 23, and bears on the upper face of the section 14 of the presser foot. Said section 14 of the presser foot has a needle opening 24 for the needle 4. The section 14 of the presser foot extends to the rear of the pivot pin 19, as at 25, and this rear end of the section 14 engages the front end of the rear section 13 of the foot and limits the downward movement of the forward section through the action of the spring 23. When the presser foot is raised and the spring is pressing said forward section 14 to its lowest extreme position, the lower surface of this section 14 is substantially horizontal and in line with the lower surface of the section 13.

A spring plate or flexible member 26 is so constructed as to normally conform with the lower face of the presser foot when the section 14 is in its lowest position, as shown in Fig. 3. This spring plate or flexible member 26 extends from the rear end of the foot to the forward end thereof and en-

tirely across the foot. At the forward end said spring extends upwardly, as at 27, and thence rearwardly, as at 28. The screws 29 passing through the portion 28 rigidly hold the spring plate 26 on the foot.

The purpose of my improved presser foot is to guide an extremely thick layer of material to be stitched, as indicated at A, Figs. 1, 3 and 4, and also to hold the connecting chain of stitches B, so that the same will be properly fed by the feed dog of the machine for chaining off when a thickness of material is passing underneath the forward end of the foot.

In Figs. 1 and 4 of the drawings, I have shown a stitched article passing from the machine and another article to be stitched as being fed under the presser foot. This article being relatively thick raises the front pivoted section of the presser foot to the extreme limit of its upward movement and, owing to the extreme thickness of the article, the fixed section 13 of the foot is also raised from proper coöperative action with the feed dog 6. When the front section of the foot is tilted the spring plate which is carried thereby is also tilted or inclined and the rear end of this plate will bear on the feed dog although the section 13 is raised from coöperative action with said feed dog. This spring plate serves, therefore, to feed the chain of stitches which is being formed by the needle and looper while the new article is passing underneath the foot. As soon as the article is entirely under the foot, as shown in Fig. 3, the presser foot takes its normal position with the lower face of the forward section 14 and the lower face of the rear section 13 in line. When the section 14 is tilted to its extreme upward position, the upper face thereof strikes against the forwardly projecting part 18 and this limits the upward movement of the pivoted section. When this pivoted section is turned to its extreme position, if the spring plate 26 were not used, there would be a shoulder at the forward edge of the rear section 13 which would be exposed and which might engage the edge of the fabric and prevent the feeding of the same underneath the foot. Therefore, this spring plate accomplishes two functions; first, it forms the entire fabric engaging surface of the foot and covers the meeting edges between the sections, so that regardless of the position of the forward section, there is always a smooth underface of the foot to guide the material; and, second, said spring plate, when a thick section of the material is being fed under the foot and the forward section is tilted to its extreme position and the rear section is also lifted from coöperative action with the feed, coöperates with the feed in feeding the chain of stitches—that is, in chaining off.

It is obvious that my presser foot may be changed as to positioning of the parts or the shaping of the parts and may be used in connection with a feeding mechanism of a different type from that herein shown

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

1. A presser foot for sewing machines comprising a foot portion having a rigid rear section and a rigid forward section pivoted to the rear section at a point intermediate said sections, a stop for limiting the upward swinging movement of the forward section, whereby both sections will be bodily raised upon continued upward pressure exerted against the forward section, means for automatically engaging the chain of loops in rear of the needle when the foot portion is bodily raised, and a spring for normally depressing the forward section.

2. A presser foot for sewing machines comprising a foot portion having a rigid rear section and a rigid forward section pivoted to the rear section at a point intermediate said sections, a stop for limiting the upward swinging movement of the forward section, whereby both sections will be bodily raised upon continued upward pressure exerted against the forward section, and a flexible member secured to the forward section and extending underneath both the forward section and rear section and engaging the loops in rear of the needle when the foot portion is bodily raised.

3. A presser foot for sewing machines comprising a foot portion having a rigid rear section and a forward pivoted section, a flexible member carried by one of said sections and extending underneath the other section and forming the fabric engaging surface of said foot portion.

4. A presser foot for sewing machines comprising a foot portion having a pivoted forward section, a yielding plate attached to said forward section and extending rearwardly therefrom and operating to engage the enchained loops when the presser foot is raised from coöperative action with the feed by the entrance of the material underneath the presser foot.

5. A presser foot for sewing machines comprising a foot portion having a pivoted forward section, a spring for normally depressing said section, a stop for limiting the downward movement of said section, a flexible plate rigidly secured to the forward end of said forward section and extending underneath the entire foot portion, said plate operating to engage the enchained loops whereby said loops may be fed when the presser foot is raised from coöperative action with the feed by the entrance of the material underneath the presser foot.

6. A presser foot for sewing machines

comprising a foot portion having a rigid rear section and a forward section pivoted at a point intermediate said sections, a spring for normally depressing said forward section and holding the same with its lower surface in line with the lower surface of the rear section, a flexible plate attached to said forward section at the forward end thereof and extending rearwardly underneath both sections and forming the fabric engaging surface of the foot portion.

7. A presser foot for sewing machines comprising a foot portion having a pivoted forward section, a flexible plate rigidly secured to the forward end of said forward section and extending underneath the entire foot portion, said plate operating to engage the enchained loops whereby said loops may be fed when the presser foot is raised from coöperative action with the feed by the entrance of the material underneath the presser foot.

8. A presser foot for sewing machines comprising a foot portion having a rigid rear section and a forward section pivoted at a point intermediate said sections, a flexible plate attached to said forward section at the forward end thereof and extending rearwardly underneath both sections and forming the fabric-engaging surface of the foot portion.

In testimony whereof I affix my signature in the presence of two witnesses.

JAMES R. MOFFATT.

Witnesses:
S. GEORGE TATE,
JOS. H. MASLAND.