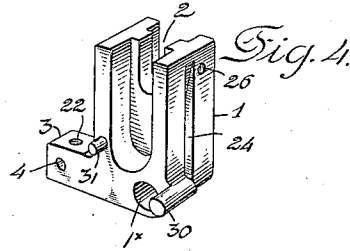
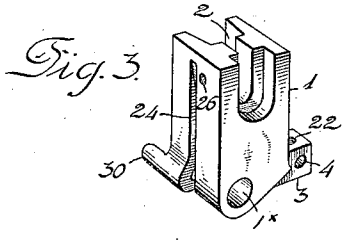
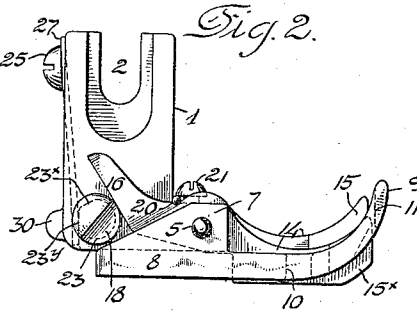
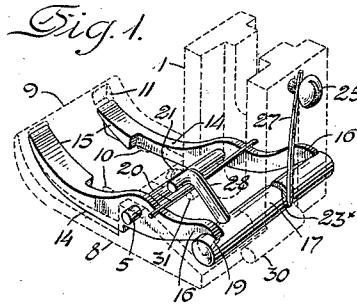


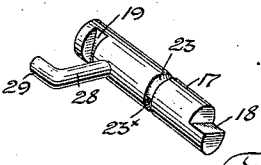
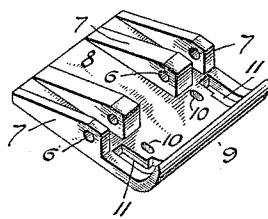
A. H. DE VOE.  
PRESSER FOOT.  
APPLICATION FILED NOV. 30, 1910.

1,041,251.

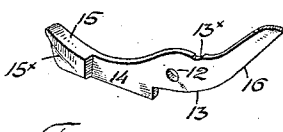
Patented Oct. 15, 1912.



*Fig. 5.*



*Fig. 7.*



*Fig. 6.*

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## PRESSER-FOOT.

1,041,251.

Specification of Letters Patent.

Patented Oct. 15, 1912.

Application filed November 30, 1910. Serial No. 594,823.

*To all whom it may concern:*

Be it known that I, ALBERT H. DE VOE, a citizen of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Presser-Feet, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention has for its primary object to provide a single presser-foot with edge-guiding means operative upon either side of the line of seam, so as to obviate the necessity of employing interchangeably separate presser-feet having respectively right-  
15 and left-hand edge-guiding fins.

In its preferred form, the presser-foot comprises a shank having hinged thereto a foot-plate formed in its forward portion with spaced parallel slots and intermediate needle-holes, with a pair of edge-guiding levers pivotally connected with the foot-plate by means of its pivotal pin with their forward or operative portions in the form of  
20 guide-fins disposed within said slots and with their rearward arms in operative relation with a cam-pin having notches in different portions of its periphery and each adapted to register with one of said levers  
30 whereby when one is in lower operative position depending below the lower face of the foot-plate the other may be retracted from such operative position at the opposite side of the needle apertures.

35 The present improvement is designed more particularly for use with a twin-needle machine and in conjunction interchangeably with right- and left-hand fellers, the laterally inclined inner or operative faces of the  
40 guide-fins engaging the folded edge of the fell and crowding the same laterally in its advance beneath the presser-foot so as to insure the penetration of the adjacent needle close to the edge of but within the fold.

45 In the accompanying drawings, Figure 1 is a perspective view showing in dotted lines the shank and foot-plate composing a presser-foot, with the present improvement shown in full lines. Fig. 2 is an elevation  
50 upon a larger scale of the opposite side of the presser-foot. Figs. 3 and 4 are perspective views, taken from different sides, of the presser-foot shank, and Fig. 5 a similar view of the foot-plate. Fig. 6 is a perspective

view of one of the guide-levers, and Fig. 55 7 a similar view of the cam-pin.

The presser-foot is constructed with the usual shank 1 having in its upper end the socket 2 to receive the lower end of the presser-bar and provided at its lower end  
60 with the forwardly projecting lug 3 formed with the transverse aperture 4 to receive the fulcrum-pin 5 passing through aligned holes 6 in the forked lugs 7 upon the top of the foot-plate 8 whose lower operative face  
65 is flat in the rearward portion but is upwardly curved at the toe portion 9. The foot-plate is provided, in the present instance, with two laterally spaced needle-holes 10 between each of which and the ad-  
70 jacent edge of the foot-plate is a longitudinal slot 11 extending substantially from the lug 7 forwardly to near the forward extremity of the toe portion 9.

The fulcrum-pin 5 passes through an aperture 12 in the central portion of each of  
75 two guide-levers 13 embraced by the forks of the lugs 7, each of these levers having a forwardly extending arm 14 widened near its forward extremity to form the guide-fin  
80 15 which is cut away upon its inner side, or that toward the adjacent needle-hole, to form a work-engaging portion 15\* inclined to the body of the lever and thus of the line of seam. Each of the guide-levers has an  
85 upright rearwardly extending arm 16 adapted, when the guide-fin 15 is in lower operative position, as represented in Fig. 2, to rest upon the periphery of the cylindrical cam-pin 17 fitted within a transverse aper-  
90 ture 1\* near the bottom and at the rearward side of the shank 1. The cam-pin 17 is shown provided at its opposite ends with eccentric portions formed by lateral notches  
95 18 and 19 each in alinement with one of the levers 13 but disposed substantially 90° apart in order that, when the extremity of one guide-lever rests upon the periphery of the cam-pin adjacent its respective notch,  
100 the other lever enters a notch at the opposite end of the cam-pin and is adapted to rock upon the common fulcrum-pin to enable its work-engaging portion 15\* to rise above the lower face of the foot-plate.

As the cam-pin engages the rearward arm  
105 or end portion of each guide-lever back of the fulcrum-pin 5, its action is positive to depress and maintain the guide-fin 15 in

lower operative position below the lower face of the foot-plate, but as the notched operative portions of its controlling pin act in one direction only, the cam-pin serving as what is known as an "open cam", means are provided for retaining the levers in contact with the same. To this end each of the guide-levers 13 is shown provided upon its upper edge rearward of the fulcrum-pin aperture 12 with a notch 13<sup>x</sup> in which rests one end portion of a substantially straight wire spring 20 clamped in position upon the top of the lug 3 by means of the screw 21 entering the threaded aperture 22 in said lug. The spring 20 thus serves to maintain the rearwardly extending arm 16 of the levers 13 in operative relation with the cam-pin 17.

The cam-pin is provided intermediate its ends with an annular groove 23 formed, as represented in dotted lines in Fig. 2, with angularly disposed flattened portions 23<sup>x</sup> and 23<sup>y</sup>. The back of the shank 1 is formed with a vertical groove 24 in the top of which is secured, by means of the clamp-screw 25 entering a lateral aperture 26 in the shank, one end of a wire spring 27 lying within said groove and having its lower end pressed within the groove 23 of the cam-pin; the engagement of the spring 27 with the side-walls of its housing groove 24 and the groove 23 of the cam-pin serving to lock the latter against endwise movement while permitting it to turn in rocking the guide-levers upon their common fulcrum-pin. The pressure of the spring 27 alternately upon the flattened portion 23<sup>x</sup> and 23<sup>y</sup> of the groove 23 also tends to hold the cam-pin against rotation in either of its operative positions, in addition to its function as a detent for locking the cam-pin from endwise displacement.

The cam-pin is shown provided with a laterally extending arm 28 having offset portion 29 serving as a finger-piece by which the pin 17 may be turned, the circular movement of the pin being limited by engagement of the arm 28 with a lateral stud 30 upon the shank 1 adjacent the bearing aperture 1<sup>x</sup> in one extreme position and its engagement with the stud 31 upon the shank adjacent the lug 3 in the other extreme position.

In the use of the device, when the arm 28 is thrown forwardly, or toward the toe portion of the foot-plate and into engagement with the stud 31, the notch 19 of the cam-pin is presented to the rearward arm 16 of the right-hand guide-lever which is forced downwardly by the spring 20 to lift the guide-fin 15 into upper or retracted position above the operative face of the foot-plate, while the corresponding part of the other guide-lever rests upon the periphery of the cam-pin adjacent and at right

angles to the bottom of the notch 18, so as to maintain the forward arm 14 of the lever in lower or operative position with the inclined guiding face of the portion 15<sup>x</sup> of the guide-fin 15 below the operative face of the presser-foot in position to engage the edge of the fabric passing beneath the latter, as represented in Figs. 1 and 2. By shifting the arm 28 backwardly into engagement with the stud 30, the cam-pin 17 is given a quarter-turn to reverse the positions of its notches relatively to the lever-arms 16, whereby the right-hand guide-fin is depressed into operative position and the left-hand guide-fin is elevated to inoperative position.

While the present improvement is designed more particularly for use in connection with two-needle machines and for employment interchangeably with right- and left-hand fellers, it is evidently capable of employment with various types of multiple needle machines or single needle machines and for other classes of work; and it is evident that the number of guide-levers and the form of the operative portions of the cam-pin as well as certain details of construction and arrangement of the parts, will determine the adaptability of the device for the various conditions under which it may be effectively used.

Having thus set forth the nature of the invention, what I claim herein is:—

1. A sewing machine presser-foot comprising a shank and a foot-plate formed with a needle-hole, edge-guiding members vertically movable into positions above and below the lower operative face of the foot-plate, and reciprocally acting means for shifting one of said guide-members into operative position and another into inoperative position.

2. A sewing machine presser-foot comprising a shank and a foot-plate formed with a needle-hole, edge-guiding members vertically movable upon opposite sides of the needle-hole into positions above and below the lower operative face of the foot-plate, and reciprocally acting means for shifting one of said guide-members into operative position and another into inoperative position.

3. A sewing machine presser-foot comprising a shank and a foot-plate formed with a needle-hole, edge-guiding members vertically movable into positions above and below the lower operative face of the foot-plate, means for normally pressing said guide-members into retracted inoperative position, and positively acting means adapted for operative engagement with either of said guide-members for shifting it into operative position and causing the other to assume inoperative position.

4. A sewing machine presser-foot com-

prising a shank and a foot-plate formed with a needle-hole, longitudinally extending edge-guiding members vertically movable into positions above and below the lower operative face of the foot-plate, and positively acting means comprising a transversely disposed cam-pin journaled upon said presser-foot in operative relation with said edge-guiding members and adapted to fix the advance operative positions and the retracted positions of the latter.

5. A sewing machine presser-foot comprising a shank and a foot-plate formed with a needle-hole, a pair of longitudinally extending levers fulcrumed intermediate their ends transversely of said foot-plate and each formed at its forward end with an edge-guiding member and positively acting means comprising a transversely disposed cam-pin journaled upon said presser-foot in operative relation with the rearward ends of said levers and acting through the same to determine the positions of their edge-guiding members.

6. A sewing machine presser-foot comprising a shank and a foot-plate formed with a needle-hole, longitudinally extending edge-guiding members vertically movable into positions above and below the lower operative face of the foot-plate, a transversely disposed cam-pin journaled upon said presser-foot and provided in its periphery with a groove transverse to its length, said cam-pin being disposed in operative relation with said edge-guiding members whose relative positions it is adapted to control, and a detent carried by said presser-foot and normally entering the groove of said cam-pin for holding the same against endwise movement.

7. A sewing machine presser-foot comprising a shank and a foot-plate formed with a needle-hole, a pair of longitudinally extending levers fulcrumed intermediate their ends transversely of said foot-plate and each formed at its forward end with an edge-guiding member, a transversely disposed cylindrical cam-pin journaled upon

said presser-foot and formed with lateral notches in angular relation and in register each with the rearward end of one of said levers, and means for maintaining said levers in contact relation with the cam-pin.

8. A presser-foot comprising a shank provided with a perforated lug, a foot-plate having upwardly extending forked ears embracing said lug, needle-holes, and parallel slots in advance of the forks of said ears, a fulcrum-pin passing through said forked ears and lug whereby the foot-plate is pivotally connected to the shank, guide-levers embraced by and fulcrumed within said forked ears of the foot-plate and having upon their forward portions guide-members passing through said slots, and a transverse cam-pin journaled in said shank and disposed in operative relation with the rearward portions of said guide-levers and adapted to tilt the same reciprocally to control the positions of said guide-members relatively to the lower operative face of the presser-foot.

9. A sewing machine presser-foot comprising a shank and a foot-plate formed with a needle-hole, a longitudinally extending lever fulcrumed intermediate its ends transversely of said foot-plate and carrying at its forward end an edge-guiding member having operative and inoperative positions respectively above and below the lower operative face of the foot-plate, and positively acting means comprising a transversely disposed cam-pin journaled upon said presser-foot and formed with an eccentric portion arranged in operative relation with the rearward end of said lever and acting through the same to determine the position of its edge-guiding member.

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

ALBERT H. DE VOE.

Witnesses:

W. P. STEWART,

HENRY A. KORNEMANN, Jr.