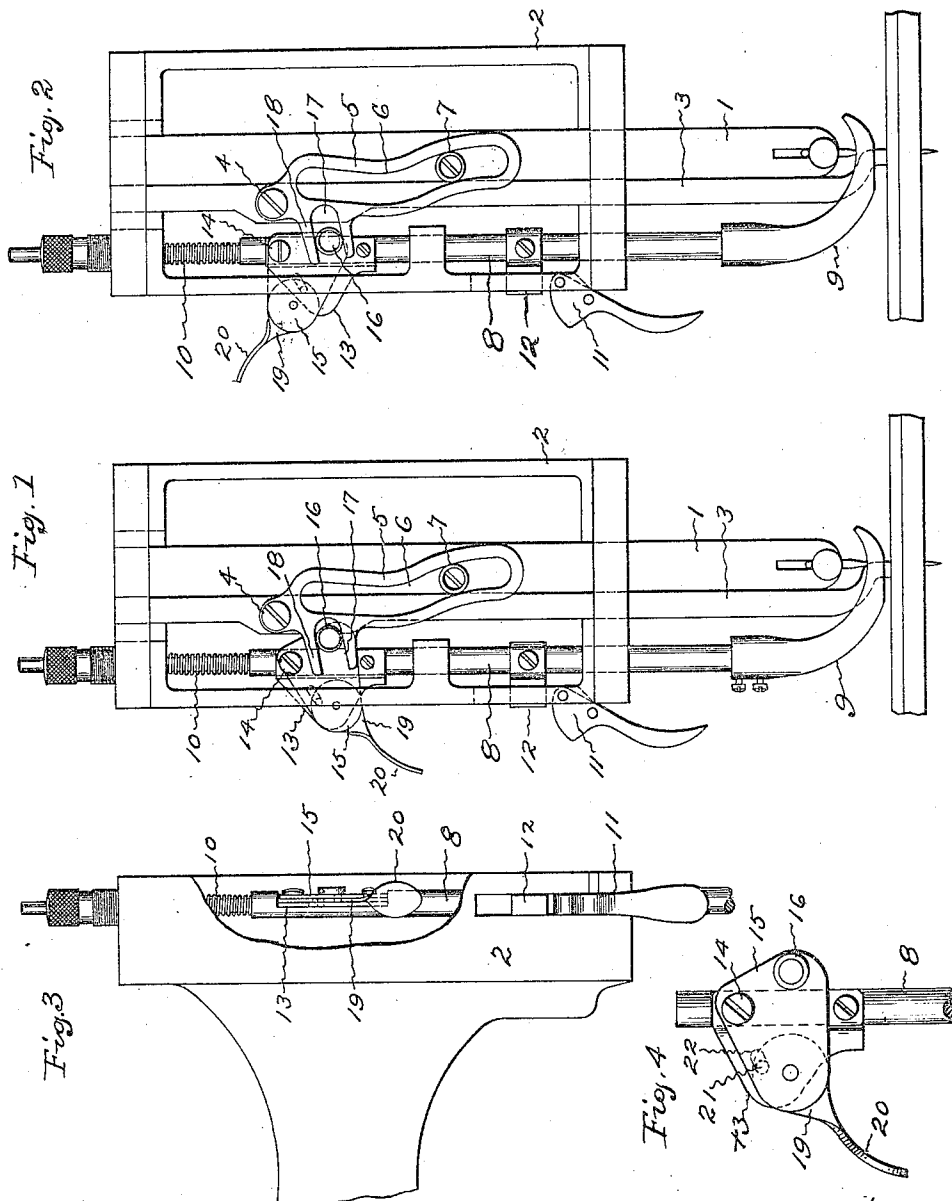


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 ADJUSTABLE PRESSER FOOT FOR SEWING MACHINES.  
 APPLICATION FILED MAY 4, 1911.

1,042,429.

Patented Oct. 29, 1912.



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# UNITED STATES PATENT OFFICE.

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## ADJUSTABLE PRESSER-FOOT FOR SEWING-MACHINES.

1,042,429.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed May 4, 1911. Serial No. 625,109.

*To all whom it may concern:*

Be it known that I, LYMAN D. GREEN, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented a new and useful Improvement in Adjustable Presser-Foot for Sewing-Machines, of which the following is a specification.

This invention relates to the means provided for giving the presser-foot of a sewing machine its up and down movements.

A sewing machine is ordinarily used much more for sewing thin than it is for sewing thick material. It is usual to have the vertical lift of the presser-foot high enough to allow for the proper holding, feeding and stitching of the thickest goods that may be stitched, consequently during the larger percentage of use of the machine the vertical movements of the presser-foot are unnecessarily high. Long, quick movements of the presser-foot make the machine noisy and tend to blur the eyes of the operator, which are necessarily constantly fixed on this gleaming and rapidly vibrating piece. With short movements of the presser-foot these objectionable effects are reduced.

The object of this invention is to so arrange the mechanism for imparting the motion to the presser-foot that the amount of vertical movement can be conveniently and quickly adjusted at will, either longer or shorter, according to the thickness of the goods to be stitched.

In the accompanying drawings the invention is illustrated as adapted to a vertical feed machine in which the needle and needle bar are carried forward and backward to make the stitch.

Figure 1 shows a side elevation of the needle-bar, feed-bar, and presser-foot bar with the adjustable connection between the feed-bar and presser-foot bar in such position that the presser-foot has a short upward movement. Fig. 2 shows a similar view of the same parts with the adjustable connection between the feed-bar and presser-foot bar in such position that the presser-foot has a long upward movement. Fig. 3 shows an edge view of the parts in the relations illustrated in Fig. 1. Fig. 4 shows on larger scale a side view of the upper end of the presser-foot bar with the wing plate, swivel plate, and lever-plate, which are carried thereby and form the adjustable

connection between the feed-bar and presser-foot bar.

The needle bar 1 is shown as supported by the frame 2 in such manner that it may be reciprocated up and down and swung sideways by the usual mechanism of this type of machine. The feed-bar 3 is supported in the common manner at the side of the needle-bar so that it will reciprocate vertically and swing sideways with the needle-bar. Pivoted to the feed-bar by the screw 4 is the link or tumbler 5 having the usual cam slot 6 in which runs the roll 7 that is mounted on the needle-bar. The movement of this needle-bar roll in the cam slot oscillates the tumbler.

The presser-bar 8 is supported by the frame in the ordinary manner and is provided at its lower end with a presser-foot 9. The usual tension spring 10 is provided for forcing down the presser-bar and presser-foot, and there is the usual hand lifter 11 pivoted to the frame and adapted to engage the lug 12 on the presser-bar for holding the presser-foot raised when it is desired to insert the goods into stitching position. Fastened to the presser-bar near the upper end is a wing-plate 13. Pivoted to the presser-bar adjacent to the wing plate by the screw 14 is the swivel-plate 15. This plate carries a roll 16 which lies in the opening 17 of the fork 18 projecting from the tumbler that is pivoted to the feed-bar. Between the wing-plate, that is fixed to the presser-bar, and the swivel-plate, that is pivoted to the presser-bar, and pivoted to the latter plate is a lever-plate 19. This lever-plate is provided with a thumb piece or handle 20 by which it may be moved, and a stud 21 that projects through a slot 22 in the wing-plate for limiting its movement.

The oscillations imparted by the vertical movements of the needle-bar to the tumbler that is pivoted to the feed-bar, through the fork, and the roll carried by the swivel-plate, cause the presser-bar to move up and down. The amount of this movement, of course, depends upon the distance between the pivotal axis of the tumbler and the axis of the swivel-plate roll that lies in the tumbler fork opening. When the handle of the lever-plate is turned down, as shown in Fig. 1, the swivel-plate is so swung that its roll is carried nearer to the axis of the tumbler and consequently the up and down movement

imparted to the presser-bar by the feed-bar, through the tumbler and roll, is shortened. When the handle is turned up, as shown in Fig. 2, the lever-plate swings the swivel-plate so as to carry the roll farther from the axis of the tumbler. Under these conditions, the upward movement of the presser-bar is lengthened. By simply turning the handle to the proper position, the amount of up and down movement of the presser-bar can be instantly adjusted. If the goods are thin, as the larger percentage of goods stitched on the machine are liable to be, the handle is turned down, and then the vertical movement of the presser-bar is no greater than is necessary. If the goods are thick, as occasionally happens, the handle is turned up so that the length of vertical movement of the presser-bar will be such as will permit proper action with the thick goods. By this simple and cheap means the amount of movement of the presser-bar-foot can be instantly determined according to the conditions under which the machine is to be used.

25 The invention claimed is:

1. The combination in a top feed sewing machine, of a swinging needle-bar, a swinging feed-bar, a presser-bar, means coöperatively connecting these bars with each other, and means carried by the presser-bar for altering this connecting means in such manner that the amount of movement imparted to the presser-bar by the movement of the feed-bar can be varied without stopping the operation of the machine.

2. The combination in a sewing machine, of a needle-bar and feed-bar operatively connected together, a presser-bar, and means adjustable without stopping the machine, connecting the presser-bar with the means which operatively connects the needle-bar and feed-bar.

3. The combination in a sewing machine, of an oscillating and reciprocating needle-bar, a feed-bar, a tumbler pivotally carried by the feed-bar and oscillated by the movements of the needle-bar, a presser-bar, and

an adjustable connection carried by the presser-bar and engaging said tumbler whereby the amount of movement of the presser-bar given by the tumbler may be varied without stopping the machine.

4. The combination in a sewing machine, of a needle-bar, a feed-bar, a tumbler carried by the feed-bar and oscillated by the movement of the needle-bar, a presser-bar, means connecting the presser-bar with the tumbler, and means for adjusting said connecting means whereby the movements of the presser-bar can be altered without stopping the machine.

5. The combination in a top feed sewing machine, of a needle-bar, a feed-bar, and a presser-bar, connecting means whereby said feed-bar and presser-bar are reciprocated by the movements of the needle-bar, and means for changing said connecting means, whereby the amount of reciprocation of the presser-bar and feed-bar may be altered without stopping the machine.

6. The combination in a sewing machine, of a needle-bar, a feed bar, an oscillating tumbler carried by the said feed-bar and oscillated by the needle-bar, said tumbler having a fork, a presser-bar, a swivel plate attached to the presser-bar, a roll carried by the swivel plate, and means for swinging the swivel plate and adjusting the position of the roll in the tumbler fork.

7. The combination in a sewing machine, of a needle-bar, a feed-bar, an oscillating tumbler carried by the feed-bar, and oscillated by the needle-bar, said tumbler having a fork, a presser-bar having a wing plate fixed thereto, a swivel plate pivoted to the presser-bar adjacent to said wing plate, a lever for swinging the swivel plate, and a roll carried by the swivel plate and embraced by the tumbler fork.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."