Jan. 8, 1952 J. L. ROCKERATH 2,581,603

PRESSER-FOOT FOR SEWING MACHINES

Filed June 14, 1950 2 SHEETS—SHEET 1

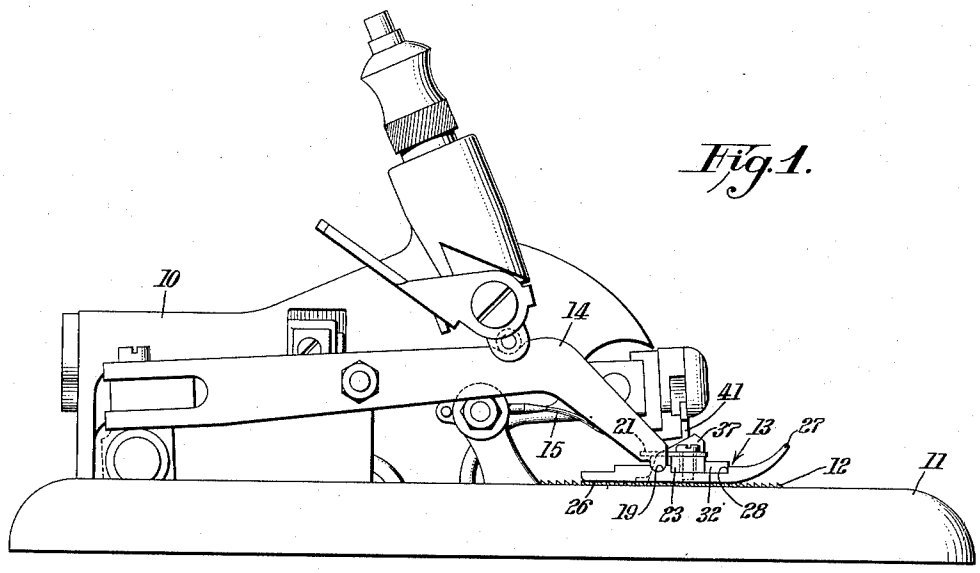


Fig. 1.

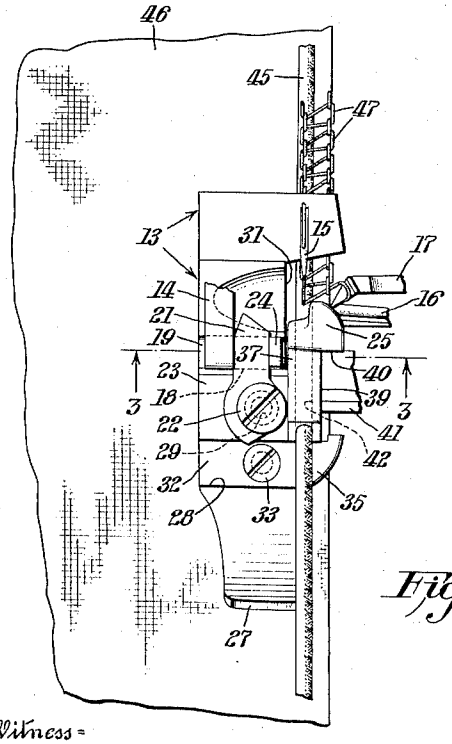


Fig. 2.

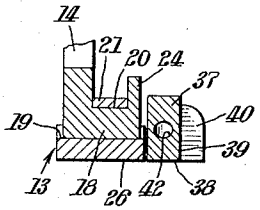


Fig. 3.

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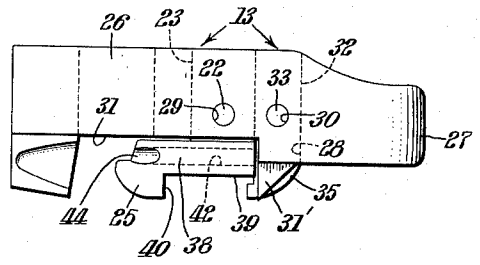
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Fig. 4.



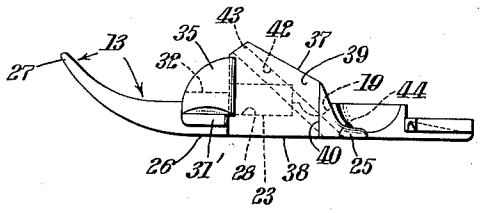
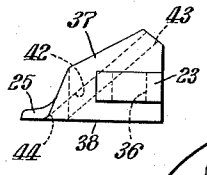


Fig. 5.

Fig. 7.



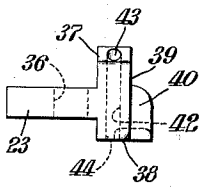
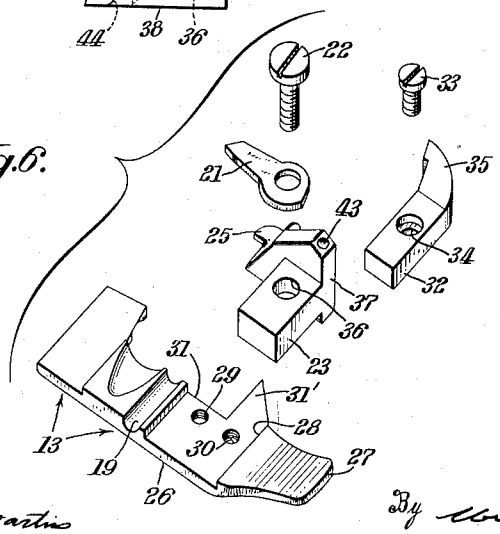


Fig. 8.

Fig. 6.



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UNITED STATES PATENT OFFICE

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PRESSER FOOT FOR SEWING MACHINES

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3 Claims. (Cl. 112—235)

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This invention relates to new and useful improvements in presser-feet for sewing machines of the type which are referred to as overedge or overseaming machines.

A more specific object of this invention is to provide a presser-foot with a cord- or tape-guiding means, which positions the cord or tape relative to the stitching point so that the same may be properly secured to the base fabric by overseaming stitches.

A further object of the present invention is to provide an improved sewing machine cord-guiding means which, although most efficient in operation, is at the same time most inexpensive of manufacture.

With the above and other objects in view, as will hereinafter appear, the invention comprises the devices, combinations and arrangements of parts hereinafter set forth and illustrated in the accompanying drawings of a preferred embodiment of the invention, from which the several features of the invention and the advantages attained thereby will be readily understood by those skilled in the art.

In the drawings,

Fig. 1 represents a fragmentary side elevation view of a sewing machine in which the present invention is incorporated.

Fig. 2 represents an enlarged plan view of the presser-foot shown in Fig. 1, together with portions of the sewing machine which cooperate therewith during the sewing operation, and a sewed article connected with the stitching-forming mechanism by the usual thread chain.

Fig. 3 represents a sectional view taken substantially along the line 3—3 of Fig. 2.

Fig. 4 represents a bottom plan view of the presser-foot disclosed in Fig. 2.

Fig. 5 represents a right side elevation view of the presser-foot.

Fig. 6 represents an exploded view of the presser-foot and its component parts.

Fig. 7 represents a left side elevation view of the cord-guiding element which forms a part of the present presser-foot.

Fig. 8 represents a front elevation view of the element disclosed in Fig. 7.

Referring more specifically to the drawings, the invention is disclosed as embodied in an overedge sewing machine having a frame 10, work-supporting plate 11, work-feeding mechanism including a feed-dog 12, a presser-foot 13 carried by a presser-bar 14 and overlying the feed-dog for maintaining the work in contact therewith, and stitch-forming mechanism including a reciprocatory curved eye-pointed needle 15 and an under or needle loop-taking thread-carrying looper 16 and an overedge looper or loop spreader 17 which cooperates with the needle and looper in the formation of overedge stitches. Inasmuch as all of the above mentioned elements are common to overedge sewing machines and form no part of the present invention, detailed illustration and description thereof is deemed unnecessary.

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At the forward portion of the presser-bar 14 there is provided a stud 18 which projects at right angles to the adjacent face of the bar or at right angles to the direction of feed of the machine when the shank is in its operative position. The stud 18 may be termed an axial stud, inasmuch as it provides a support upon which the presser-foot 13 is secured and about which it has a rocking or tilting motion. Approximately midway of its length, the presser-foot 13 is channeled at right angles to the length of the foot as at 19, to receive the lower edge of the shank stud 18 which is semicircular in cross section. The channel or bearing 19 is semicircular in cross section but is of somewhat less depth than the radius of the lower edge of the stud in order that the presser-foot may rock upon the stud. The edge 20 of the stud opposite the semicircular edge, is engaged by the free end of a cap 21 secured to the presser-foot in advance of the channel 19, by a screw 22, a block 23 being preferably interposed between the cap and the foot and held by the same screw. The cap 21 which may be in the form of a spring, bears upon this stud to retain the presser-foot in close contact with the stud, the latter being held snugly in its seat in the channel, but not so tightly clamped as to prevent the rocking or tilting of the foot upon the stud. The stud is formed at its outer end with a head 24, the space between which and the shank portion is so well filled by the free end of the cap 21 as to prevent side play of the foot relative to the shank 14.

The cap 21 may be secured directly to the upper face of the foot but the block 23 is preferably interposed and preferably carries or is made integral with a presser-foot chaining-off finger 25 around which the overseam stitches are formed and from off the end of which they slip, as the work is fed through the machine.

For a more detailed disclosure of the presser-foot carrying means, reference may be had to the United States Knaus Patent No. 2,419,494, April 22, 1947.

Referring particularly to Fig. 6, the present presser-foot 13 comprises an elongated sole plate 26, of which the forward end is turned up as at 27 in the usual manner. Between the turned up portion 27 and the channel 19 is provided a rectangular slot 28 which is formed with two threaded apertures 29 and 30. Projecting outwardly from one longitudinal side portion 31 of the sole plate 26 and rearwardly of the toe portion 27 thereof is an arm 31' which functions as an uncurling member to the end that the edge portion of the work is uncurled or smoothed before it reaches the trimming area. Cooperating with the projecting uncurling member 31' is an auxiliary member in the form of a block 32 which is adapted to be secured within the slot 28 by means of a screw 33 which projects through an aperture 34 formed in the block so as to be received within the forward threaded aperture 30 of the sole plate. It is to be particularly noted that one end portion of this block is provided with a curved member 35 which cooperates with the primary uncurling member 31' in the smoothing or uncurling of the work.

The above mentioned block 23 is adapted to be secured within the presser-foot notch 28 between the bearing channel 19 and the uncurling block 32 by means of the screw 22 which enters an aperture 36 formed in the block to the end that it may be threaded in the second sole-plate aperture 29. As hereinabove noted, the screw 22 which secures the block 23 upon the sole plate also functions to hold the cap 21 in place over the presser-bar stud 18.

Referring particularly to Figs. 4 to 8, inclusive, the block 23 may be termed a primary block for, upon its right hand end portion, there is formed integrally a secondary block or shoulder 37 which overhangs the longitudinal side portion 31 of the sole plate 26 so as to provide a sole portion 38 which is disposed in flush relation with the bottom portion of the sole plate proper. As may be best observed from Figs. 2 and 4, the rearward portion of the auxiliary block 37 is provided with the chaining-off finger 25 which is disposed in longitudinally spaced relation with the above noted longitudinal side portion 31 of the presser-foot, thereby to define therebetween a needle-receiving slot. As may be observed from Fig. 2 the thread-carrying needle 15 reciprocates within this slot in the formation of stitches. Still referring to Figs. 2 and 4, it will be observed that the chaining-off finger 25 extends outwardly beyond the exposed vertical wall portion 39 of the secondary block 37 so as to form a knife-receiving notch 40. Referring particularly to Figs. 1 and 2, it will be observed that a knife blade 41, which functions to trim the edge portion of the work piece, is adapted to reciprocate within this notch formed in the auxiliary block 37. For a complete disclosure of this type of trimming knife reference may be had to the United States Knaus Patent No. 2,247,127, June 24, 1941.

Referring to Fig. 2, the projecting portion of the chaining off finger 25 cooperates with the projecting portion of the auxiliary uncurling device 35 to form in conjunction with the exposed vertical wall 39 of the auxiliary block 37, a three-sided notch in which the upper cutting blade 41 reciprocates for the purpose of trimming the work.

The auxiliary block 37 is provided with a cord-guiding passageway 42 which is inclined relative to the presser-foot sole plate 26. This cord-guiding passageway has its entrance end 43 disposed

at the upper forward portion of the auxiliary block 37 while its lower or exit end 44 is provided at the lower portion of the block so that it will break through the sole portion 38 of the block. Referring particularly to Fig. 2 it will be observed that the thread-guiding passageway 42 is contained within a vertical plane which is disposed in parallelism with the longitudinal axis of the presser foot proper, or it might also be said that this plane is disposed in parallelism with the direction of work feed. However, if desired, the longitudinal axis of the passageway could be inclined with respect to this vertical plane. Still referring to Fig. 2, the exit end 44 of the cord-guiding passageway is in substantial alignment with the path of needle reciprocation so that the cord 45 which is guided therethrough will be penetrated by the needle 15 to the end that the cord 45 will be secured to the base material 46 by means of the overedge stitches 47. Actually the exit end 44 of the cord-guiding passageway 42 is positioned in direct alignment with the needle-receiving slot so that it is disposed between the longitudinal side portion 31 of the sole plate and the chaining-off finger 25.

From Fig. 2 it will be readily appreciated by those skilled in the art that the present auxiliary block 37 with its cord-guiding passageway 42 functions to direct a cord or tape 45 directly to the stitching area in a manner such that the cord or tape may be directly secured to the base material by means of stitches 47. Means, not herein shown, may be provided for maintaining a supply of cord or tape at a convenient position above the stitching area and, furthermore, conventional means may be associated therewith for directing this cord or tape to the presser-foot.

It will also be appreciated by those skilled in the art that the present invention provides a most simple but yet efficient means for guiding a cord to the stitching area of an overseaming type sewing machine. In other words, the present primary block 23 with its secondary block 37 incorporates therein not only the usual chaining-off finger 25 and the knife-blade receiving notch 40, but it is also provided with a cord-guiding passageway 42 which functions to direct a cord to the stitching area in a manner such that the cord will be guided in a predetermined manner relative to the chaining off finger 25. In the event that cords of various diameters or tapes of various widths are to be employed with the presser-foot, it is at once obvious that the cord-guiding passageway 42 may be varied in size or shape so as to accommodate such work material without altering the general concept of the present invention. It is also to be appreciated that the present presser-foot may be provided with any number of cord-guiding blocks which may contain work-guide passageways of various sizes. Thus, it is not necessary to provide a special presser-foot in order to accommodate various types of cords or tapes for it is merely necessary to provide a plurality of work-guiding blocks of which each is provided with a work-guiding passageway of a desired size, and these blocks may be selectively secured to the presser-foot. Thus, the present invention provides a most inexpensive means for guiding cords or tapes to a presser-foot, which means, however, are also most efficient in operation.

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

1. A sewing machine presser-foot comprising an elongated sole-plate, a block removably

mounted upon the upper surface of said sole-plate and having one end portion thereof overhanging one longitudinal side portion of said sole-plate and being formed with a depending sole surface which is disposed in flush relation with the bottom of said sole-plate, a chaining-off finger carried by and extending rearwardly of the overhanging end of said block so as to be disposed in transversely spaced relation with the said longitudinal side of said sole-plate, and a cord-guiding passageway formed in said block, said passageway being inclined with respect to said sole-plate and having its entrance and exit ends located respectively at the upper and lower surfaces of said sole-plate and with the exit end thereof disposed between said chaining-off finger and the said longitudinal side portion of said sole-plate.

2. A sewing machine presser-foot comprising an elongated sole-plate, a block removably mounted upon the upper surface of said sole-plate and having one end portion thereof overhanging one longitudinal side portion of said sole-plate and being formed with a depending sole surface which is disposed adjacent said longitudinal side portion and in flush relation with the bottom of said sole-plate, the exposed outer face of the overhanging end of said block being formed with a knife-receiving notch, a chaining-off finger carried by and extending rearwardly of the overhanging end of said block and being disposed in transversely spaced relation with the said longitudinal side of said sole-plate so as to form therewith a needle-receiving slot, and a cord-guiding passageway formed in said block with its entrance end disposed at the upper surface of such block and with its exit end disposed at the sole surface of the overhanging end of said block between said

chaining-off finger and the said longitudinal side of said sole-plate.

3. A sewing machine presser-foot comprising an elongated sole-plate with an upturned forward end, an auxiliary work-pressing finger extending transversely from one longitudinal side of said sole-plate, a block removably mounted upon the upper surface of said sole-plate rearwardly of said auxiliary work-pressing finger, said block having one end portion thereof overhanging the said longitudinal side of said sole-plate and having the exposed outer face of such overhanging end cooperating with said auxiliary work-pressing finger to form a three-sided knife-receiving notch, a chaining-off finger formed on the rearward edge of the overhanging end of said block and disposed with its trailing portion in transversely spaced relation with the said longitudinal side of said sole-plate thereby to form a needle-receiving slot therebetween, and a cord-guiding passageway formed in the overhanging end of said block, said passageway being inclined relative to said sole-plate, the entrance and exit ends of said passageway being located respectively at the upper and lower surfaces of said sole-plate and with the exit end thereof disposed between said chaining-off finger and the said longitudinal side of said sole-plate.

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