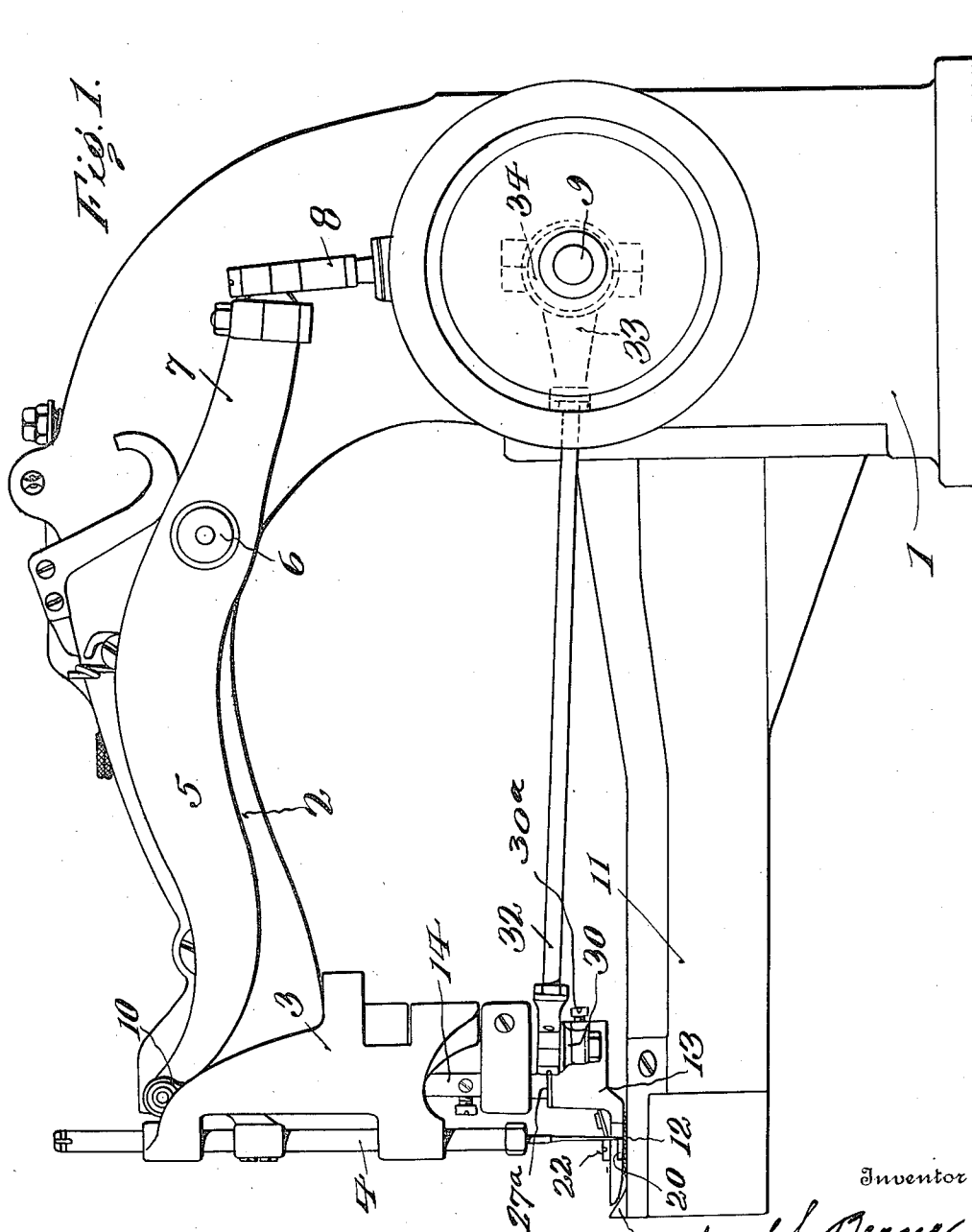


J. BERGER.
 TRIMMING MECHANISM FOR SEWING MACHINES.
 APPLICATION FILED JAN. 29, 1914.

1,296,455.

Patented Mar. 4, 1919.
 3 SHEETS—SHEET 1.



Witnesses

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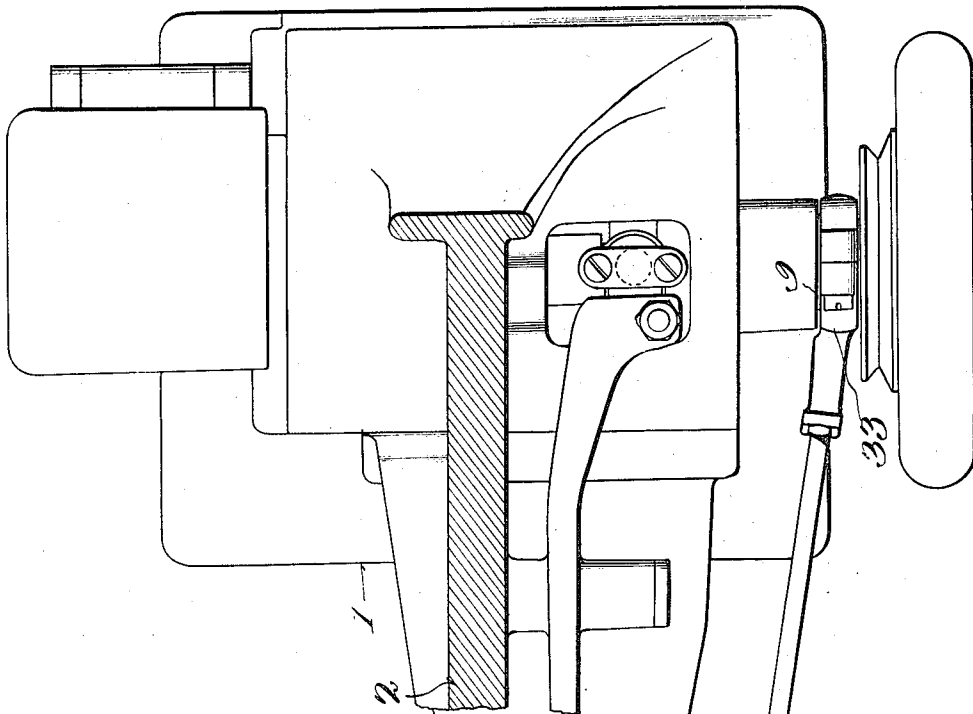
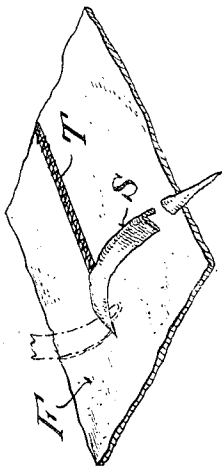


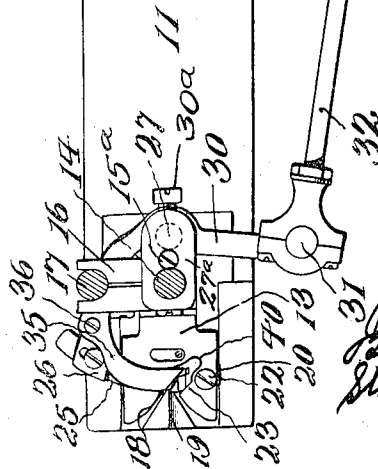
Fig. 2.

Fig. 6.



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Fig. 3.

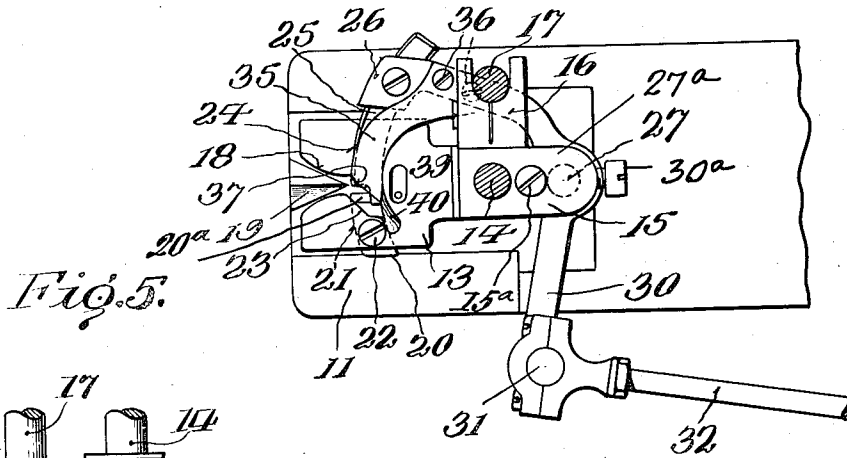


Fig. 5.

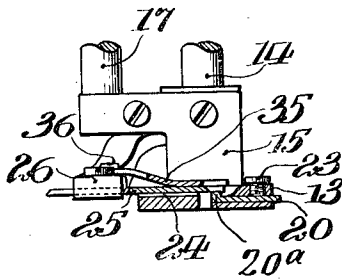
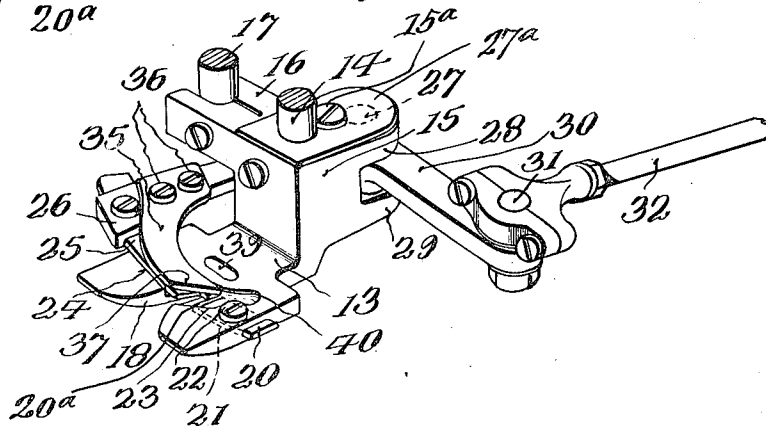


Fig. 4.



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UNITED STATES PATENT OFFICE.

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TRIMMING MECHANISM FOR SEWING-MACHINES.

1,296,455.

Specification of Letters Patent.

Patented Mar. 4, 1919.

Application filed January 29, 1914. Serial No. 815,266.

To all whom it may concern:

Be it known that I, JOSEPH BERGER, a citizen of the United States, residing at Utica, in the county of Oneida, State of New York, have invented certain new and useful Improvements in Trimming Mechanism 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.

10 The invention relates to new and useful improvements in trimming mechanism for sewing machines and particularly to a trimming mechanism wherein the trimming
15 members operate in a horizontal plane in advance of the cross stitching mechanism, such as shown, for example, in the patent granted to Stockton Borton May 30th, 1893, No. 498,617.

An object of the invention is to provide means for actuating the movable trimming member, which means has a positive connection with the movable trimming member and is so constructed that the movable trimming member may move up and down with the presser foot.

A further object of the invention is to provide a deflector which is movable with the trimming member for deflecting the trimmed off stitch away from the cross stitching mechanism.

35 A further object of the invention is to provide a trimming mechanism of the above character, which includes a movable trimming blade guided by the presser foot and a stationary blade fixed to the presser foot.

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

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

Figure 1 is a side view of a sewing machine, embodying my improvements.

Fig. 2 is a horizontal sectional view, showing the trimming mechanism and work support in plan view.

50 Fig. 3 is an enlarged detail view, partly in section, showing the trimming mechanism in plan view.

Fig. 4 is a detail in perspective, showing the trimming mechanism and presser foot.

55 Fig. 5 is a transverse sectional view through the presser foot, showing the fabric, the trimming mechanism and the deflector.

Fig. 6 is a detail in perspective, showing more or less diagrammatically, the fabric being trimmed, the trimming blade and the stitching uniting the abutted edges of the fabric.

60 The invention consists generally in providing a trimming mechanism wherein the trimming blades are located in front of the stitch forming mechanism and are so disposed that the movable trimming blade
65 moves in substantially a horizontal plane. The purpose of this trimming mechanism is to trim the edges of the fabric which are subsequently abutted and stitched together by a cross stitching mechanism. The trim-
70 ming mechanism is operated positively by a link connection with an eccentric on the main shaft. This link connection is so disposed that the trimming members may move
75 up and down with the presser foot without disturbing the actuating connection therefor. A deflector is attached to the arm supporting the movable trimming blade and extends to a point adjacent the end of the blade
80 and above the same, so that the trimmed off strip is moved by said deflector away from the path of the cross stitching mechanism.

Referring more in detail to the drawings, I have shown the invention as applied to a side wheel feed-up-the-arm sewing machine, which consists of a supporting base
85 1, carrying an overhanging arm 2, on which is mounted a needle gate 3, in which reciprocates the needle bar 4. This is reciprocated by a needle lever 5 which is pivoted at 6 to
90 the overhanging arm 2. The needle lever extension 7 carries a ball stud to which is attached an eccentric strap 8, which coöperates with an eccentric on the main shaft 9. The needle lever 5 is connected by a link
95 10 to the needle bar. The needle gate 3 is oscillated in a well known manner, so as to position the needle bar first on one side of the center line of the seam and then the
100 other, so that the needle thread is laid across the center line of the seam.

A cylindrical work support 11 is carried by the standard of the machine and a feed dog 12 is carried and moved by the feeding mechanism located within said cylindrical
105 bed plate, which mechanism is so constructed that the material to be stitched is fed up the arm or cylindrical bed plate. A looper located within the work support coöperates with the needle in both of its positions, so
110

that a looper thread loop joins the needle loops beneath the material. By this mechanism a cross stitching is made which may be used for joining abutted edges of fabric.

5 The above mechanism is well known in the sewing machine art and forms no part of the present invention and further detailed description thereof will not be necessary.

A presser foot 13 is mounted on a presser 10 bar 14, which in turn is mounted in suitable bearings on the overhanging arm 2. This presser foot rests on the material and presses the same against the work support and the feed dog 12. The presser foot 13 has a 15 shank 15, which is provided with lateral projecting arms 16 adapted to engage a rod 17, which is also mounted in suitable bearings in the overhanging arm and prevents the presser bar 14 from turning in its supporting 20 bearings. The presser foot is slotted at the forward end, as at 18. The walls forming the slot 18 are tapered away from the center line of the seam, as clearly illustrated in Figs. 3 and 4.

25 At the forward end of the work support 11 is a V-shaped rib 19 which is adapted to turn up the edges when two edges of the fabric are to be abutted and stitched, or is adapted to form a fold in the fabric when 30 a section is to be cut away from the fabric, as illustrated in Fig. 6. In this figure the fabric is indicated at F, the trimmed off strip at S and the cross threads for uniting the abutted edges at T. The folded up portion 35 to be trimmed off extends into the slot 18 and above the upper face of the presser foot.

A stationary trimmer blade 20 extends through a slot 21 in the presser foot 13 and is held therein by a screw 22. This trimmer 40 blade extends through to the slot 18. The upper part of the presser foot adjacent the inner end of the stationary blade 20 is cut away as at 23. The other side of the presser foot has a recess at 24 on its upper face in 45 which reciprocates the movable trimming blade 25. This movable trimming blade 25 cooperates with the stationary blade 20. The movable blade is carried by an arm 26, which is fixed on a stud 27, mounted in laterally projecting ears 28 and 29 formed in 50 the shank of the presser foot 15. The arm 30 projects substantially at right angles to the arm 26 and forms with the arm 26 a rock lever. The pivotal support for the rock 55 lever is in the center line of the seam and, therefore, the trimming blade 25 is moving substantially at right angles to the line of seam during its trimming action. The arm 26 is secured to the stud 27 by a set screw 60 30^a. The distance between the ears 28 and 29 is slightly greater than the thickness of the arm 26. A plate 27^a engages the upper end of the stud 27 and this plate is held in place and pressed against the end of the stud 27 by a screw 15^a. This plate 27^a

forces the blade 25 into contact with the stationary blade 20. The stationary blade 20 has an upturned end 20^a, as clearly shown in the drawings, and this end may be ground off on its upper face to keep the blade sharp 70 and the pressure of the blades against each other is varied by turning the screw 15^a. The outer end of the arm 30 carries a ball stud 31 to which is attached a link 32. This link 32 is formed integral with an eccentric 75 strap 33, shown in dotted lines in Fig. 1, which cooperates with an eccentric 34 on the main shaft 9. This link 32 is relatively a long link and, therefore, the trimming mechanism may move up and down with the 80 presser bar 14 as the thickness of the material varies without in any way disturbing the actuating mechanism for the trimming blade, and at the same time said trimming blade is positively oscillated in both direc- 85 tions.

A deflector 35 is fixed by screws 36 to the arm 26. This deflector extends over the trimming blade 25 and has an inclined forward end 37. When the trimming blade 90 moves forward the deflector moves forward therewith and will engage the strip which is trimmed off and deflect the same to one side of the needle carried by the needle bar 4. The relative position of the stitch forming 95 mechanism is indicated in Figs. 3 and 4 by the needle opening 39 of the presser foot 13. In Fig. 3 the trimming blade is shown at the rear end of its stroke and it will be noted that the inclined face of the deflector 35 extends substantially across the line of seam 100 from one side of the needle to the other, see Fig. 3. This inclined face deflects the trimmed off strip and the movements of the deflector assist in the bending or deflecting of 105 the strip. The presser foot is cut away, as at 40, to facilitate the lateral deflection of the trimmed off strip.

In the operation of the device when two 110 edges of fabric are to be abutted the edges are placed together and are bent upwardly by the V-shaped part 19, so that said edges will pass into the slot 18 in substantially a vertical position. The movable trimming 115 blade which reciprocates across the slot will trim off said upwardly projecting edges and the trimmed off strip will be deflected laterally by the deflector 35, while the trimmed edges pass underneath the presser foot and are placed in an abutted position prior to 120 the edges reaching the stitching point and the needle will pass first into one edge and then the other, thus joining the edges by cross threads which are formed into loops extending beneath the material and which are united on the under face of the material by looper thread loops.

When it is desired to shape a tubular garment the tube may be slipped over the cylindrical arm and a portion of the fabric will

be bent into a fold and may be carried into the slot 18, so that the trimming members will operate to trim off a portion of the tube and the edge will pass from the trimming mechanism to the stitch forming mechanism where they will be abutted and joined. By varying the amount of the fold formed in the fabric the garment may be shaped.

It is obvious that minor changes in the details may be made without departing from the spirit of the invention, as set forth in the appended claims.

Having thus described my invention, what I claim as new is—

1. A trimming mechanism for sewing machines including in combination, a work support, stitch-forming mechanism, a presser foot, a trimming blade, means for supporting and moving the trimming blade in substantially a horizontal plane, a stationary trimming blade cooperating with said movable trimming blade, said stationary blade having its forward edge upturned to provide a cutting edge to cooperate with said movable blade.

2. A trimming mechanism for sewing machines including in combination, a work support, stitch-forming mechanism, a presser foot, a trimming blade, means for supporting and moving the trimming blade in substantially a horizontal plane, a stationary trimming blade cooperating with said movable trimming blade, said stationary blade having its forward edge upturned to provide

a cutting edge to cooperate with said movable blade, and means for depressing said movable blade into contact with said stationary blade.

3. A sewing machine including in combination, a work support, a presser foot having a slot in its forward end into which the fabric to be trimmed may be guided in substantially a vertical position, said presser foot having a recess in its upper face, a stationary trimmer blade carried by the presser foot and having the forward end thereof upturned to form a cutting edge, a movable trimming blade, reciprocating in said recess across said slot and cooperating with the cutting edge of said stationary blade, and means for actuating said movable trimming blade.

4. A sewing machine including in combination a movable trimming member, a presser bar, a presser foot carried by said bar, a horizontally disposed stationary trimming blade mounted on the presser foot, a rod parallel with the presser bar, said presser foot having a projecting arm engaging the rod whereby the tendency of the presser foot to turn under the strain of the trimming action will be prevented.

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

JOSEPH BERGER.

Witnesses:

A. D. ELDRED,
JOHN MILLER.