H. J. DAHL.

MACHINE FOR PRODUCING SEAMS.

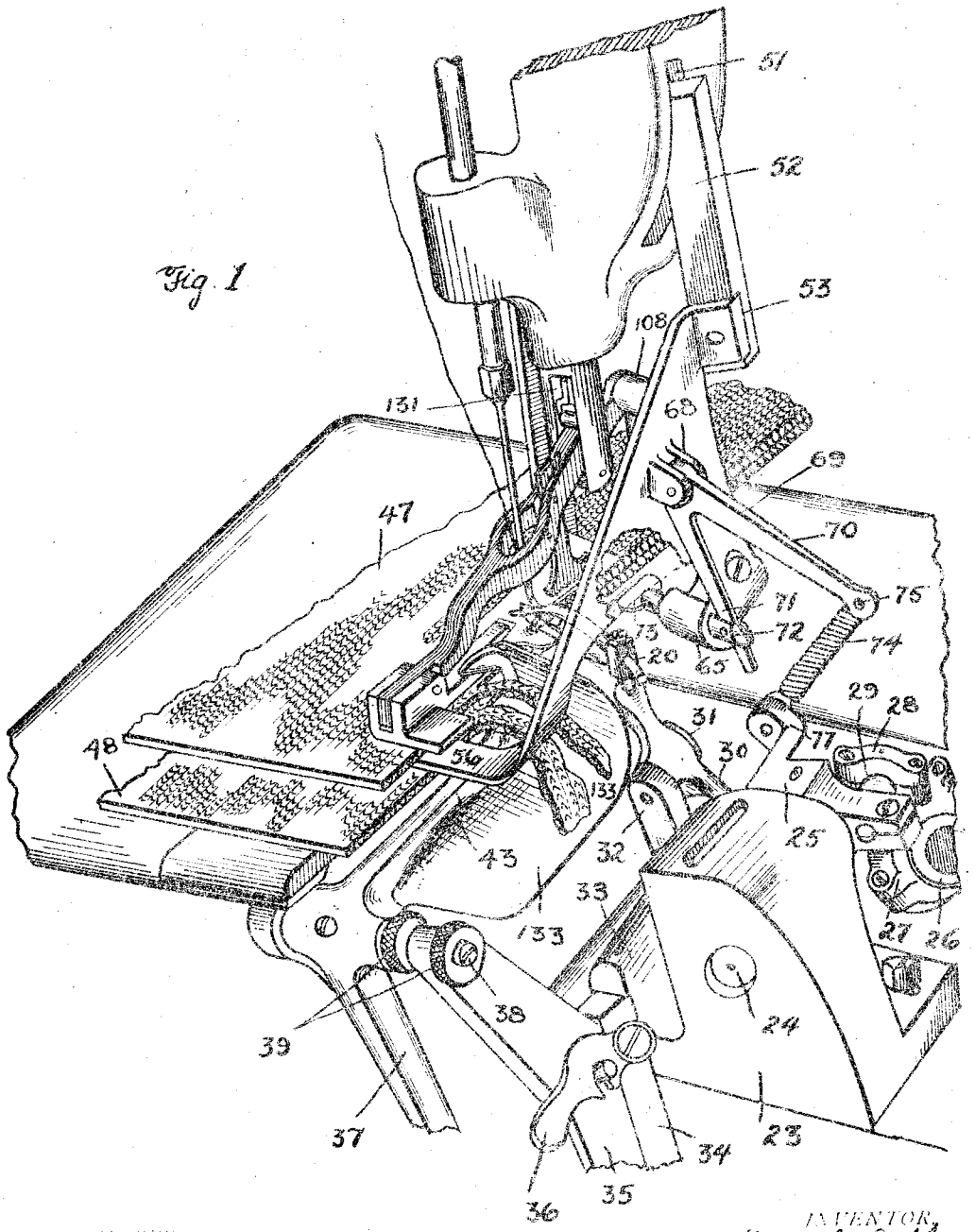
APPLICATION FILED MAY 20, 1914.

1,129,854

Patented Mar. 2, 1915.

4 SHEETS—SHEET 1.

Fig. 1



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4 SHEETS—SHEET 2.

Fig. 14

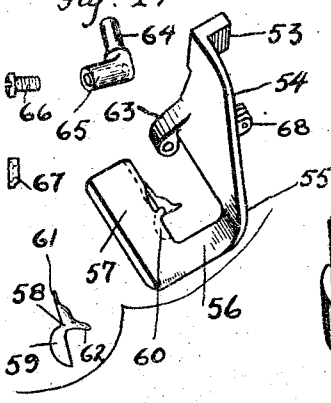


Fig. 15

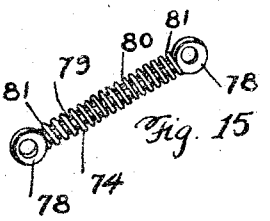


Fig. 2

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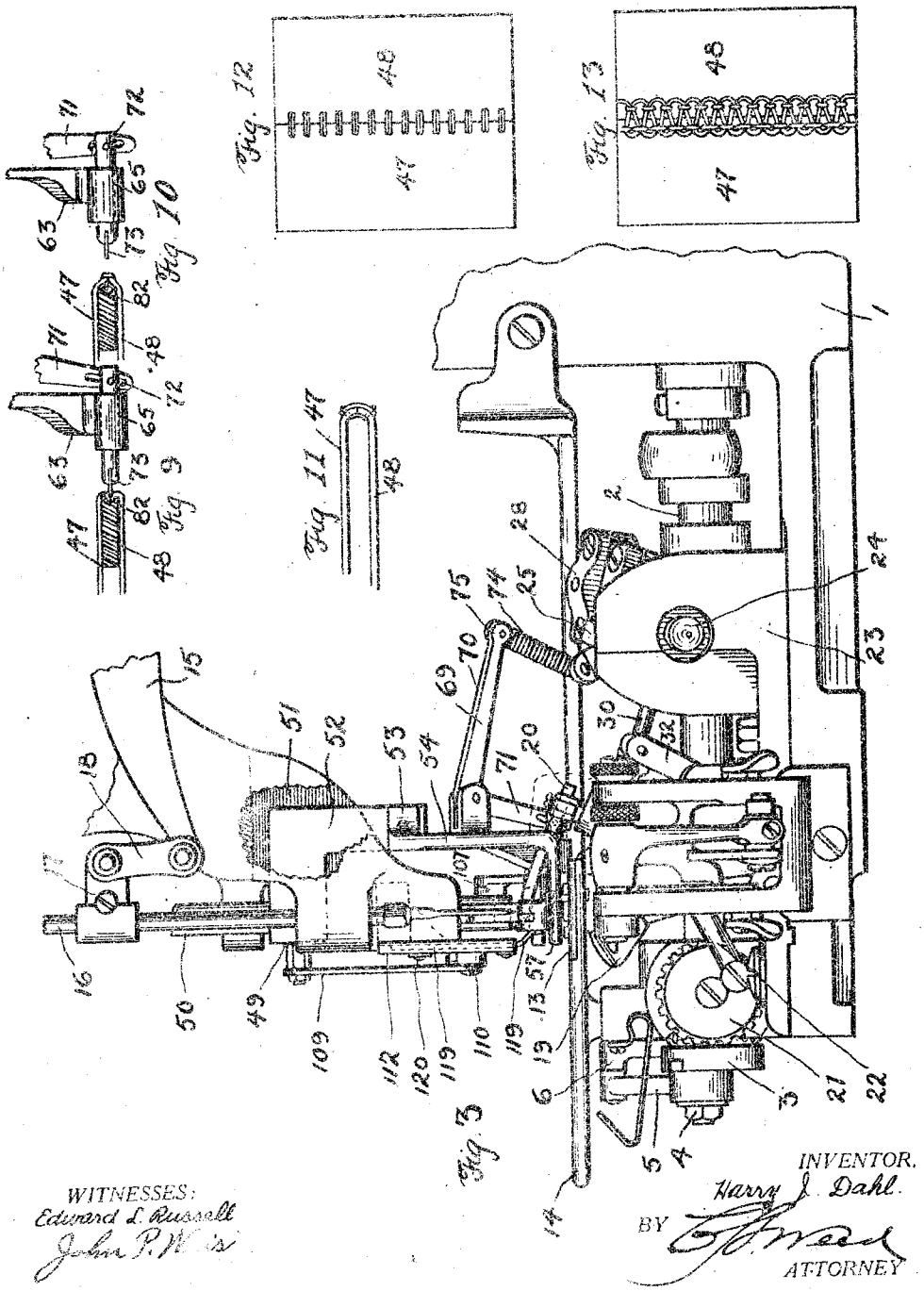
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4 SHEETS—SHEET 3.



H. J. DAHL.

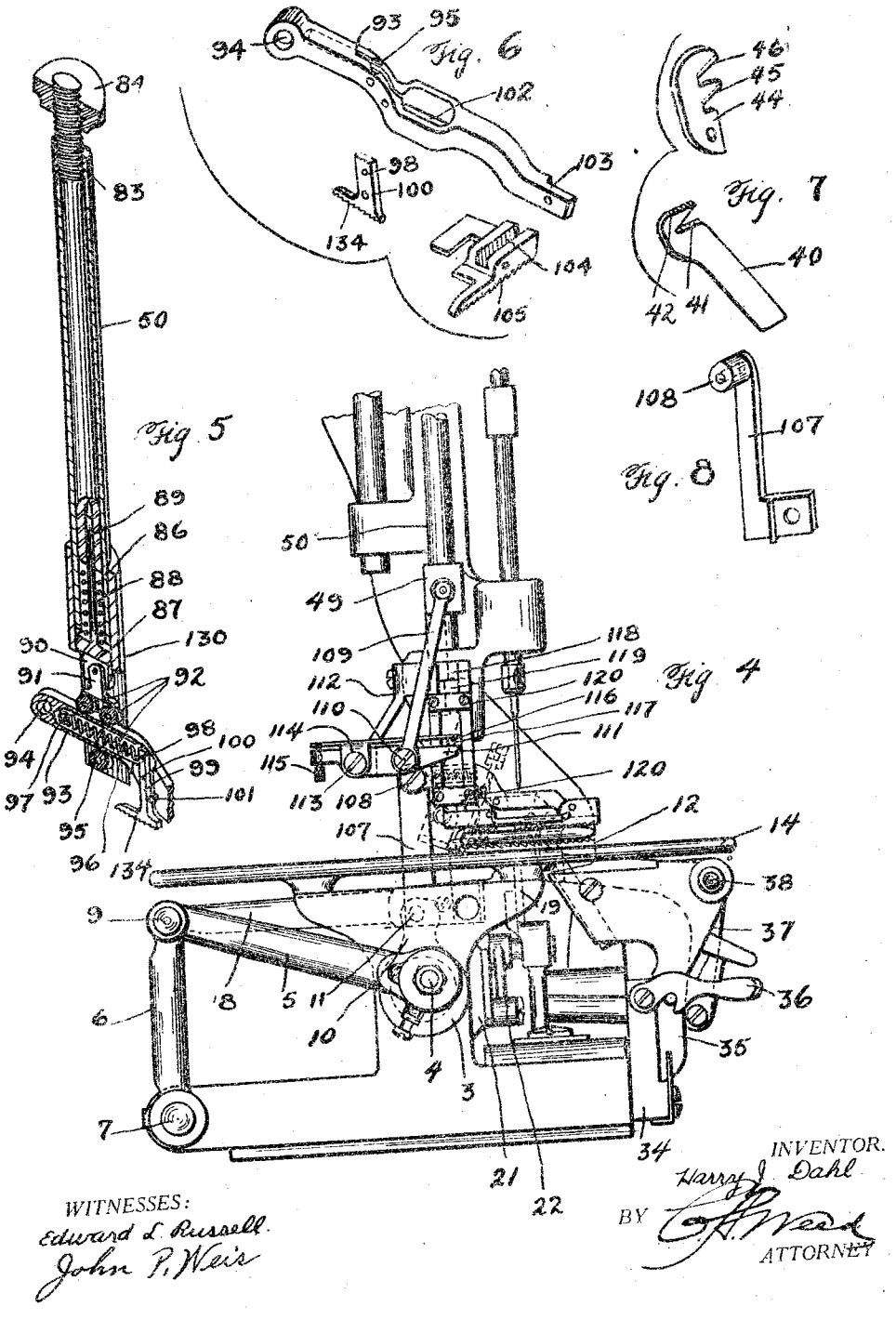
MACHINE FOR PRODUCING BEAMS.

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1,129,854.

4 SHEETS—SHEET 4.



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MACHINE FOR PRODUCING SEAMS.

1,129,854. Specification of Letters Patent. Patented Mar. 2, 1915.

Application filed May 20, 1914. Serial No. 839,694.

To all whom it may concern:

Be it known that I, HARRY J. DAHL, a citizen of the United States, residing at Nyack, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Machines for Producing Seams, of which the following is a specification.

This invention relates to sewing machines, the object of the invention being to provide an improved machine for producing a flat covered seam similar to that shown and described in my contemporaneously pending application, Serial No. 831,403, filed April 13th, 1914, and which machine will trim and join the edges of fabrics in such a manner as to produce a flat open covered seam in one operation, whereby the necessity of utilizing different machines and operations is avoided, and in which the edges of the work will abut.

In the drawings accompanying and forming part of this specification, Figure 1 is a perspective view of so much of a sewing machine as is deemed necessary to illustrate this invention; Fig. 2 is also a perspective view of the mechanism shown in Fig. 1, but taken from the opposite side; Fig. 3 is a front view; Fig. 4 is a left-hand end view of the machine shown in Fig. 3; Fig. 5 is a detail, partly sectional, view showing the presser bar and top feed parts; Fig. 6 shows details of the top feed mechanism; Fig. 7 shows details of the top and bottom trimmer knives; Fig. 8 shows the top feed actuating connection; Figs. 9 and 10 are detail views illustrating the means for flattening the seams; Fig. 11 illustrates the goods stitched together as it leaves the presser foot after the seam has been opened; Fig. 12 illustrates the goods opened up and shows the needle thread; Fig. 13 shows the opposite face of the stitch shown in Fig. 12; Fig. 14 is a perspective view of the supplemental throat plate and its parts; and Fig. 15 is the compensating connection for operating the seam opening plunger.

Similar characters of reference indicate corresponding parts throughout the several figures of the drawings.

The bed of the machine 1 carries the driving shaft 2 provided with the usual disk 3, which has connected thereto by means of a bolt 4 the feed actuating connection 5 which gives movement to the feed rocker frame 6. This frame is pivotally secured to the machine base at 7 and imparts the feed motion to the feed bar 8. The feed lift eccentric strap 10 connects to the feed bar at 11 and gives the rise and fall motion to the feed dog 12, and this feed dog operates through the lower throat plate 13 which is secured in the cloth plate 14. The needle operating lever 15 is actuated by the common means of eccentric and connection and connects to the needle bar 16 by means of the clamp 17 which is actuated from the needle lever by the link connection 18 to reciprocate the thread carrying needle and bar in the usual bearings. The rest of the stitch forming mechanism is of the well known Metropolitan Sewing Machine Company construction and comprises briefly a thread carrying looper 19 and a thread manipulating spreader 20. The looper is actuated by the bevel gears 21 and the link connection 22 so as to pass a loop of its thread through the needle loop.

The spreader mechanism comprises a bracket 23 provided with a stud 24 which carries a crank 25 actuated by an eccentric 26, see Figs. 1 and 2, secured to the main shaft 2 by a connection 27, the top socket 28 of which is connected for movement to the crank 25 by the usual ball stud 29. The depending end of the crank not shown, connects to the spreader carrier 30 for actuating the same. A screw 31 connects the spreader carrier to the bracket 32, the other end of which is journaled in the bearing 33 of the spreader bracket 23 so as to freely move therein. The time and movement of the spreader is such that it enters the loop of thread carried by the looper and is carried up over the edge of the work where it is presented to the needle so as to form the well known two-thread overstitch. The specific stitch mechanisms comprising the needle, looper and spreader mechanisms are not essential in carrying out my invention as the seam flattening device may be applied to any of the machines now in use, by a slight modification thereof without departing from the scope of this invention. A trimmer is used and this comprises a bracket 34 secured to the machine base. The trimmer frame 35 is secured to the bracket by the usual clamp levers 36. The trimmer

lever 37 is actuated through an eccentric and telescopic connection. Said lever rocks on a shaft 38. The tension on the knives is controlled by the threaded bushings 39. The trimmer frame carries the stationary knife 40, see Fig. 7, having a cutting edge 41 for the bottom ply of work and another cutting edge 42 for the top ply of work, while the arm 43 of the trimmer lever 37 carries the knife 44 which has a cutting edge 45 to trim the bottom ply of work and another cutting edge 46 to trim the top ply of work.

In order to properly feed the top ply of work 47 at a uniform speed with the bottom ply of work 48, I have provided an improved top feeding mechanism more fully hereinafter described. A member 49 is secured to the presser bar 50 so as to move vertically in the usual bearings with the same. This member extends laterally out through a slot 51 in an overhanging portion of the frame and is guided thereby, see Fig. 1. The downwardly extending portion 52 of this member is slotted to receive the shank 53 of a supplemental throat plate, see Fig. 14, the web 54 of which extends forward and is bent at 55 so as to form the neck 56 of this supplemental throat plate 57, the under face of which coöperates with the lower feed dog 12 upon the bottom ply of work 48 to feed the same through the machine. A stitching finger 58, see Fig. 14, is secured in the throat plate 57 by the shank 59 thereof entering a slot 60, the stitches being formed over the end 61 thereof. The projection 62 thereof extends back of the trimmer knives and prevents the threads when forming the stitches from casting back of the same.

The web 54 of the throat plate has a depending lug 63 bored to receive the stem 64 of a plunger bearing 65 of the seam flattening means and this bearing is clamped therein by a screw 66 and washer 67. The ear 68, see also Fig. 14, is provided to receive a two-arm lever 69 which is pivotally secured therein, see Figs. 1 and 3. The arm 71 of this lever 69 is connected to a plunger 72, see Fig. 1, so as to reciprocate the same in its bearing 65 so that the blade 73 attached to this plunger will strike the seam as desired. This construction enables the tilting of the plunger bearing 65 so as to direct the blow of the blade 73 on the center line or on either side of the center line of the seam to properly flatten the same. A spring connection 74 connects with the other arm 70 of the two-arm lever 69 at 75, and the other end of this spring connection is attached to a projection 77 of the crank 25. This spring connection 74 comprises two end bearings 78, see Fig. 15, provided with stems 79, having a coil spring 80 fitting over the same, and the end coils 81 thereof are secured to the stems so that this connection is flexible and thus compensates for different thicknesses of work passing between the plunger blade 73 and a groove 82 formed in the auxiliary throat plate, see Fig. 9. The presser bar 50, see Fig. 5, is tubular and tapped to receive the threaded rod 83 which is provided with a nut 84 secured thereon so as to turn this rod 83 to increase or decrease the tension on the coil spring 86, located in the presser bar, and which has one end in contact with the rod 83 and the other end with a plug 87 which is provided with a stem 88 extending up into the rod 83 as at 89 to guide this plug. The plug is slotted at 90 and has pivoted therein a hanger 91 provided with rollers 92 which form a bearing for the shank of the feed bar 93. This feed bar is bored to receive a screw at 94 and longitudinally bored at 95 to receive a spring 96, having one end secured to a pin 97. The other end of this spring is secured at 98 to a feed dog 99 which is pivotally secured in the bar 93 at 100. The stop pin 101 limits the backward movement of this feed dog. The feed bar 93 has an opening 102 therethrough so that the needle and needle nut will pass through the same. The forward end 103 of this bar 93 is shaped to pivotally fit in the slot 104 at the forward end of the top feed 105, see Figs. 2 and 6, so as to have a slight rocking motion.

The feed movements are transmitted from the feed bar 8 by means of the connection 107, see Figs. 4 and 8, and which has its end 108 pivotally secured to the feed bar 93 at 94 so that the feed will have the usual four motions. The backward and forward feeding motions being in exact time and relation with the bottom feed motions, while the rise and falling motion are just opposite to the rise and fall movements of the bottom feed so as to come together and clamp the work to feed the same and move away from one another to release the work for the next feeding stroke. In order to hold the top ply of work, I have provided a presser foot mechanism comprising a link 109 pivotally secured to the member 49, see Figs. 2 and 4, and pivotally secured at 110 to a lifting lever 111 which is pivotally attached at 113 to a bracket 112 secured to the machine frame. A leaf spring 114 is also secured in this bracket and a screw 115 affords a means of regulating the tension of this spring 114 to regulate the downward pressure of the presser foot. This spring rests on a pin 117 while the lever 111 acts under the pin to automatically lift the foot while the feeding takes place. The bracket 112 is slotted at 118 to receive the presser foot shank 119, straps 120 serving to keep this shank in the slot. The pin 117 just referred to is carried by the shank

which extends downward and is pivotally secured at 121 to the presser foot 122 which is slotted at 123 to receive the end 124 of the top feed 105. The extending end 126 of the presser foot carries a short tongue which assists in holding down the edge of the work. The toe of the presser foot is upturned to facilitate the starting of the top ply while the top feed 105 projects beyond the supplemental throat plate 57, see Fig. 2, as at 128 to facilitate starting the work and in turn the under feed 12 projects beyond the supplemental throat plate 57 for the same purpose. The lower bearing 129 for the presser foot bar 50 is provided with a bushing 130 which is slotted at 131, see Figs. 1 and 2, to receive the roller hanger 91 hereinbefore described, see Fig. 5, and guide the same in its vertical movements.

The operation of the machine is as follows:—The top and bottom plies of work 47 and 48 are shoved up to the feeding mechanism where they are separated by the beveled end 132 of the supplemental throat plate. The lower ply 48 passes beneath it and is carried along by the under feed 12 while the top ply 47 is carried along above it by the top feed 105. When the work reaches the trimmer knives, the cutting edges 41 and 45, see Fig. 7, open to receive the bottom ply 48 to trim the edge thereof while the edges 42 and 46 are open to receive the top ply 47 to trim the edge as clearly shown in Fig. 1. As the edges are trimmed the trimmed edges are diverted by the guard 133 which is secured to the trimmer lever 43 and is in constant motion with the trimmer knife 44 so that the trimmed edges are continually kept moving and deflected away from the stitching mechanism. The edges of the trimmed work are then fed one over and the other under, the supplemental throat plate 57, so that the needle will penetrate the same in the formation of the stitch, whereby the looper thread is carried up over the edges of the work where it is caught by the needle and connected on the bottom side of the work with the needle thread. While the seam is being produced at the point of stitch formation, the bead or joining of the two threads are on a center line with respect to the edge of the work, the needle thread covering the bottom ply, and the looper thread covering the top ply, and as the work progresses through the machine the edges of the work are acted upon to make the ends butt. The action of the plunger has the effect of flattening the seam and at the same time draws the bead of the stitching away from the center line and at one side thereof as the work comes from the machine. As the feeds act upon the work, the presser foot 122 is lifted so that the top ply may freely pass under the same and as the feeds are returning for the next feed motion, the foot 122 clamps the top ply of the work on top of the supplemental throat plate and clamps the bottom ply of the work against the under throat plate 13. The feed 99, see Fig. 5, having teeth 134, also acts on the top ply of work to feed the same back of the needle, and this feed is rockable on its pin 100 so that it will yield when passing over seams, etc. As the stitches are produced, the seam formed over the grooved edge of the supplemental throat plate has substantially the form shown in Fig. 10. As the plunger 73 strikes the same it forces it into the groove 82 of this throat plate and into the position shown in Fig. 9, bringing the edges of the plies 47 and 48 so they abut as in Fig. 11, so that when the work leaves the machine it is open as shown in said Fig. 11. When the work is laid flat with the edges abutting, one side presents the appearance shown in Fig. 12, while the other side presents the appearance shown in Fig. 13.

While I have shown a reciprocating member or plunger to strike and flatten the seam, it is obvious that other devices could be adapted to produce similar results, and while I have shown this flat seam as produced on knit goods or elastic materials I do not wish to confine myself thereto, as it may be equally efficient on other classes of work, and therefore the various details may be more or less modified without departing from the spirit or scope of this improvement.

It will be understood, of course, that the presser bar 50 operates in the usual bearings provided for this purpose, and downward pressure is given thereto by means of the usual spring, not shown, so that pressure of the supplemental throat plate on the bottom ply of work is obtained by reason of its connection with this presser bar, and that as this supplemental throat plate is connected with the presser bar, as is also the presser foot, it follows that as the presser bar 50 is lifted the supplemental throat plate with its entire mechanism and the presser foot are also lifted and separated one from another so that the work may be removed or replaced under the needle when desired.

I claim as my invention:

1. In a sewing machine, the combination with stitching mechanism and feeding mechanism for feeding a plurality of plies of work, of means for turning the stitched edges of the work between the plies into abutting relation with each other.

2. In a sewing machine, the combination with stitching mechanism and feeding mechanism for feeding a plurality of plies of work, of means for turning the stitched edges of the work between the plies into abutting relation with each other, said means comprising a reciprocating device.

3. In a sewing machine, the combination

with stitching mechanism and feeding mechanism for feeding a plurality of plies of work, of means for turning the stitched edges of the work between the plies into abutting relation with each other, said means comprising a plunger.

4. In a sewing machine, the combination with stitching mechanism and feeding mechanism for feeding a plurality of plies of work, of means for turning the stitched edges of the work between the plies into abutting relation with each other, said means comprising a tiltable and shiftable device.

5. In a sewing machine, the combination with stitching mechanism and feeding mechanism for feeding a plurality of plies of work, of means for turning the stitched edges of the work between the plies into abutting relation with each other, said means including means for separating the plies of work, and a shiftable device cooperating with said last means.

6. In a sewing machine, the combination with stitching mechanism and feeding mechanism for feeding a plurality of plies of work, of means for turning the stitched edges of the work between the plies into abutting relation with each other, said means including means for separating the plies of work, a shiftable device coöperating with said last means, and means whereby said shiftable device may be tilted.

7. In a sewing machine, the combination with stitching mechanism and feeding mechanism for feeding a plurality of plies of work, of means for turning the stitched edges of the work between the plies into abutting relation with each other, said means including means for separating the plies of work, and a shiftable device cooperating with the edge of said last means.

8. In a sewing machine, the combination with stitching mechanism and feeding mechanism for feeding a plurality of plies of work, of means for turning the stitched edges of the work between the plies into abutting relation with each other, said means including means for separating the plies of work and having a grooved portion, and a shiftable device coöperating with such grooved part.

9. In a sewing machine, the combination with stitching mechanism and feeding mechanism for feeding a plurality of plies of work, of means for turning the stitched edges of the work between the plies into abutting relation with each other, said means including means for separating the plies of work and having a grooved edge and a shiftable device coöperating with such grooved edge.

10. In a sewing machine, the combination with stitching mechanism and feeding mechanism for feeding a plurality of plies of work, of means for turning the stitched edges of the work between the plies into abutting relation with each other, said means including means for separating the plies of work and having a grooved edge and a shiftable device coöperating with such grooved edge, and means whereby said shiftable device may be tilted.

11. In a sewing machine, the combination with stitching mechanism and feeding mechanism for feeding a plurality of plies of work, of means for turning the stitched edges of the work between the plies into abutting relation with each other, said means including means for separating the plies of work, and a shiftable device movable transversely to the movement of the work and coöperating with said means.

12. In a sewing machine, the combination with an under feed, a top feed and stitching mechanism, of means located between said feeds for separating a pair of plies of work, and means for turning the stitched edges of the work between the plies into abutting relation with each other.

13. In a sewing machine, the combination with an under feed, a top feed and stitching mechanism, of means located between said feeds for separating a pair of plies of work, and means for turning the stitched edges of the work between the plies into abutting relation with each other, said means comprising a reciprocating plunger.

14. In a sewing machine, the combination with an under feed, a top feed and stitching mechanism, of means located between said feeds for separating a pair of plies of work, and means for turning the stitched edges of the work between the plies into abutting relation with each other, said means comprising a reciprocating plunger and means whereby said plunger may be tilted.

15. In a sewing machine, the combination with an under feed, a top feed and stitching mechanism, of means located between said feeds for separating a pair of plies of work, and means for turning the stitched edges of the work between the plies into abutting relation with each other, said means comprising a reciprocating plunger and said separating means comprising a supplemental throat plate having a groove in its edge with which said plunger coöperates.

16. In a sewing machine, the combination of a throat plate, a bottom feed and a top feed including a feed dog operating at the rear of the needle, and a supplemental throat plate located between said under and top feeds.

17. In a sewing machine, the combination of a throat plate, a bottom feed and a top feed including a feed dog operating at the rear of the needle, and a supplemental

throat plate located between said under and top feeds and having a groove in its side edge.

18. In a sewing machine, the combination of a bottom feed and a top feed including a feed dog operating at the rear of the needle, a supplemental throat plate located between said under and top feeds and having a groove in its side edge, and means cooperating therewith for turning the stitched edges of the work between the plies into abutting relation with each other.

19. In a sewing machine, the combination of stitching mechanism, a bottom feed and top feed, means located therebetween for separating a plurality of plies of work, trimming mechanism, and means for turning the stitched edges of the work between the plies into abutting relation with each other.

20. In a sewing machine, the combination of stitching mechanism, a bottom feed and top feed, means located therebetween for separating a plurality of plies of work, trimming mechanism, and means for turning the stitched edges of the work between the plies into abutting relation with each other, and a presser foot coöperating with said means.

21. In a sewing machine, the combination with stitching mechanism and feeding mechanism, of means located between said feeding mechanisms for separating a pair of plies of work, and means for trimming the edges of the plies of work simultaneously.

22. In a sewing machine, the combination with stitching mechanism and feeding mechanism, of means located between said feeding mechanism for separating a pair of plies of work, and means for trimming the edges of the plies of work simultaneously and comprising a pair of trimmers each having a pair of cutting edges.

23. In a sewing machine, the combination with stitching mechanism and feeding mechanism, of means located between said feeding mechanisms for separating a pair of plies of work, means for trimming the edges of the plies of work simultaneously, and means for turning the stitched edges of the work between the plies into abutting relation with each other.

24. In a sewing machine, the combination with stitching mechanism and feeding mechanism, of means located between said feeding mechanisms for separating a pair of plies of work, means for trimming the edges of the plies of work simultaneously and comprising a pair of trimmers each having a pair of cutting edges, and a shiftable and tiltable device for turning the stitched edges of the work between the plies so that the edges will abut.

25. In a sewing machine, the combination of stitching mechanism, a presser bar and feeding mechanism including feeding means carried by said presser bar, and means for turning the stitched edges of the work between the plies into abutting relation with each other.

26. In a sewing machine, the combination of stitching mechanism, feeding mechanism, means for separating a plurality of plies of work during the feeding thereof, trimming mechanism for simultaneously trimming the edges of the several plies, and means for turning the stitched edges of the work between the plies into abutting relation with each other.

27. In a sewing machine, the combination of stitching mechanism, feeding mechanism, means for separating a plurality of plies of work during the feeding thereof, trimming mechanism for simultaneously trimming the edges of the several plies, means for turning the stitched edges of the work between the plies into abutting relation with each other, and a presser foot coöperating with said separating means.

28. In a sewing machine, the combination of stitching mechanism, a bottom feed and a top feed, a supplemental throat plate located therebetween for separating a plurality of plies of work, trimming mechanism for simultaneously trimming the juxtaposed edges of the several plies of work, means for turning the stitched edges of the work between the plies into abutting relation with each other, and a presser foot coöperating with said supplemental throat plate.

29. In a sewing machine, the combination of stitching mechanism, a bottom feed and a top feed, a supplemental throat plate located therebetween for separating a plurality of plies of work, trimming mechanism for simultaneously trimming the juxtaposed edges of the several plies of work, means for turning the stitched edges of the work between the plies into abutting relation with each other, and a presser foot coöperating with said supplemental throat plate, said edge turning means comprising a shiftable device movable in a plane transversely to the movement of the work.

30. In a sewing machine, the combination with stitching mechanism and a bottom and top feed, of a supplemental throat plate located between said feeds for separating a plurality of plies of work, a presser foot located above said supplemental throat plate, and means for simultaneously lifting said supplemental throat plate and presser foot and separating them.

31. In a sewing machine, the combination with stitching mechanism and a bottom and top feed, of a supplemental throat plate located between said feeds for separating a plurality of plies of work, a presser foot located above said supplemental throat plate,

and means for simultaneously lifting said supplemental throat plate and presser foot and separating them, said means including a presser bar.

32. In a sewing machine, the combination with stitching mechanism and a bottom and top feed, of a supplemental throat plate located between said feeds for separating a plurality of plies of work, a presser foot located above said supplemental throat plate, and means for simultaneously lifting said supplemental throat plate and presser foot and separating them, said means including a presser bar to which both said supplemental throat plate and presser foot are connected.

33. In a sewing machine, the combination with stitching mechanism and a bottom and top feed, of a supplemental throat plate located between said feeds for separating a plurality of plies of work, a presser foot located above said supplemental throat plate, means for simultaneously lifting said supplemental throat plate and presser foot and separating them, and means for turning the stitched edges of the work between the plies so that the edges will abut.

34. In a sewing machine, the combination with stitching mechanism and a bottom and top feed, of a supplemental throat plate located between said feeds for separating a plurality of plies of work, a presser foot located above said supplemental throat plate, means for simultaneously lifting said supplemental throat plate and presser foot and separating them, said means including a presser bar, and means for turning the stitched edges of the work between the plies so that the edges will abut.

35. In a sewing machine, the combination with stitching mechanism and a bottom and top feed, of a supplemental throat plate located between said feeds for separating a plurality of plies of work, a presser foot located above said supplemental throat plate, means for simultaneously lifting said supplemental throat plate and presser foot and separating them, said means including a presser bar to which both said supplemental throat plate and presser foot are connected, and means for turning the stitched edges of the work between the plies so that the edges will abut.

36. In a sewing machine, the combination with stitching mechanism and a bottom and top feed, of a supplemental throat plate located between said feeds for separating a plurality of plies of work, a presser foot located above said supplemental throat plate, means for simultaneously lifting said supplemental throat plate and presser foot and separating them, means for turning the stitched edges of the work between the plies so that the edges will abut, and trimming mechanism for simultaneously trimming the juxtaposed edges of the several plies of work prior to the stitching and inturning thereof.

37. In a sewing machine, the combination with stitching mechanism and a bottom and top feed, of a supplemental throat plate located between said feeds for separating a plurality of plies of work, a presser foot located above said supplemental throat plate, means for simultaneously lifting said supplemental throat plate and presser foot and separating them, said means including a presser bar, means for turning the stitched edges of the work between the plies so that the edges will abut, and trimming mechanism for simultaneously trimming the juxtaposed edges of the several plies of work prior to the stitching and inturning thereof.

38. In a sewing machine, the combination with stitching mechanism and a bottom and top feed, of a supplemental throat plate located between said feeds for separating a plurality of plies of work, a presser foot located above said supplemental throat plate, means for simultaneously lifting said supplemental throat plate and presser foot and separating them, said means including a presser bar to which both said supplemental throat plate and presser foot are connected, means for turning the stitched edges of the work between the plies so that the edges will abut, and trimming mechanism for simultaneously trimming the juxtaposed edges of the several plies of work prior to the stitching and inturning thereof.

39. In a sewing machine, the combination of stitching mechanism and feeding mechanism, a pair of throat plates located one above the other, a bottom feed and a top feed, a presser foot located above the top throat plate, and means for simultaneously lifting said top throat plate, top feed and presser foot, and including a presser foot bar to which the several liftable parts are operatively connected.

40. In a sewing machine, the combination of stitching mechanism and feeding mechanism, a pair of throat plates located one above the other, a bottom feed and a top feed, a presser foot located above the top throat plate, and means for simultaneously lifting said top throat plate, top feed and presser foot and for separating said presser foot and top throat plate, and including a presser foot bar to which the several liftable parts are operatively connected.

41. In a sewing machine, the combination of stitching mechanism and feeding mechanism, a pair of throat plates located one above the other, a bottom feed and a top feed, the latter including a feed dog operative entirely at the rear of the needle, a presser foot located above the top throat plate, and means for simultaneously lifting said top throat plate, top feed and presser foot, and including a presser foot bar to

which the several liftable parts are operatively connected.

42. In a sewing machine, the combination with stitching mechanism and feeding mechanism, of a pair of throat plates located one above the other, a presser foot located above the top throat plate, and means for simultaneously lifting said top throat plate and presser foot and for separating said presser foot and top throat plate.

43. In a sewing machine, the combination with stitching mechanism and feeding mechanism, of a pair of throat plates located one above the other, a presser foot located above the top throat plate, and means for simultaneously lifting said top throat plate and presser foot and for separating said presser foot and top throat plate, said means including a presser bar having connection with said top throat plate and presser foot.

44. In a sewing machine, the combination with stitching mechanism and feeding mechanism, of a pair of throat plates located one above the other, a presser foot located above the top throat plate, means for simultaneously lifting said top throat plate and presser foot and for separating said presser foot and top throat plate, and means for turning the stitched edges of the work between the plies so that the edges will abut.

45. In a sewing machine, the combination with stitching mechanism and feeding mechanism, of a pair of throat plates located one above the other, a presser foot located above the top throat plate, means for simultaneously lifting said top throat plate and presser foot and for separating said presser foot and top throat plate, means for turning the stitched edges of the work between the plies so that the edges will abut, and trimming mechanism for simultaneously trimming the juxtaposed edges of the several plies of work.

HARRY J. DAHL.

Witnesses:
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JOHN W. KANE.