

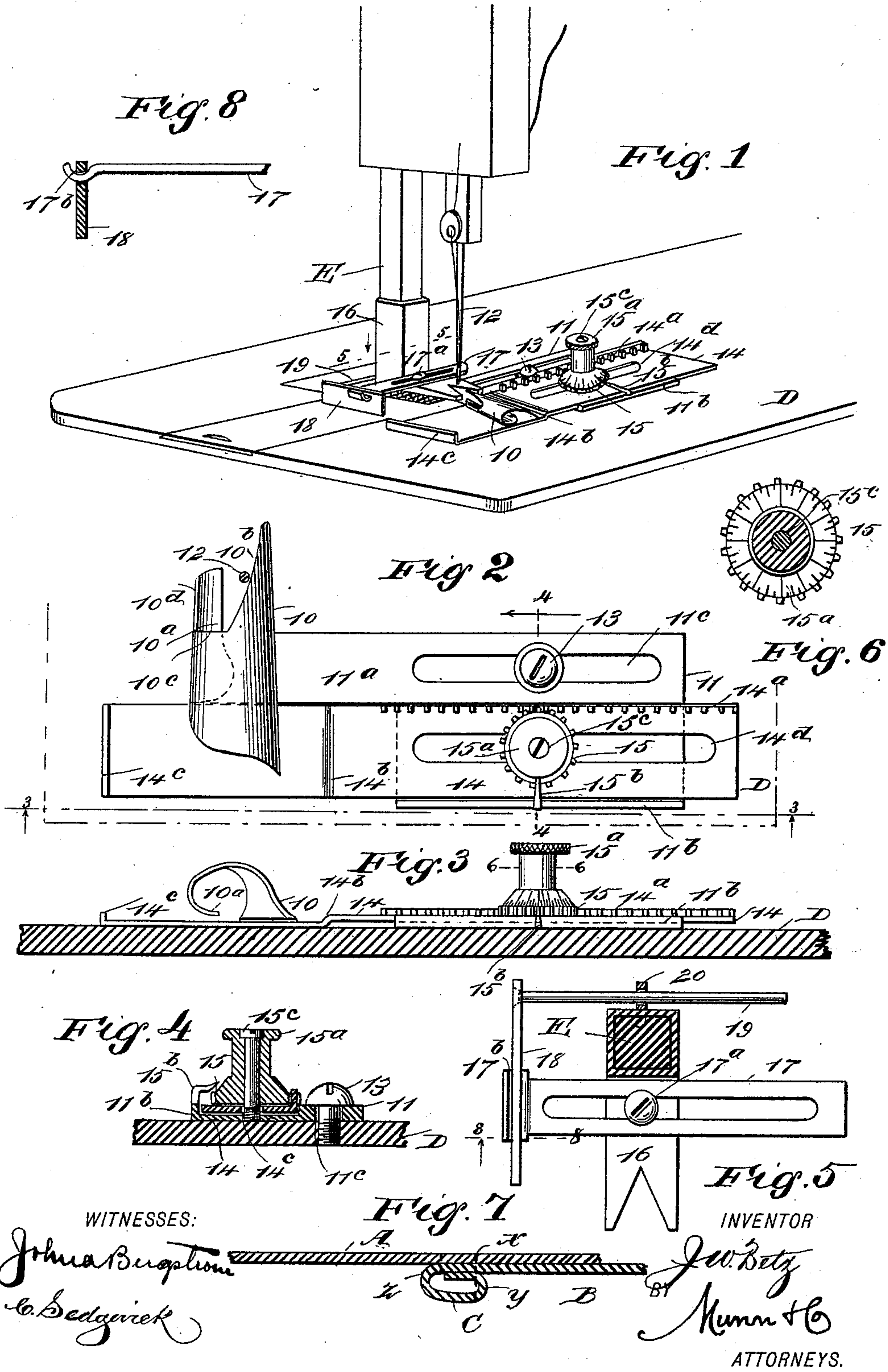
(No Model.)

J. W. BETZ.

FELLING ATTACHMENT FOR SEWING MACHINES.

No. 539,336.

Patented May 14, 1895.



UNITED STATES PATENT OFFICE.

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FELLING ATTACHMENT FOR SEWING-MACHINES.

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To all whom it may concern:

Be it known that I, JOSEPH W. BETZ, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Felling Attachment for Sewing-Machines, of which the following is a full, clear, and exact description.

My invention relates to improvements in a device for felling the seams of a garment to produce a welt finish on the same, and has for its object to provide a novel device of the type indicated, which will afford means for convenient adjustment to gage the width of the welt, and to insure an even width for such felled seams, that may be readily felled with the improved attachment on an ordinary sewing machine at any point on a garment, and particularly on the back and sleeve seams of tailor-made coats.

To this end my invention consists in the construction and combination of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views shown.

Figure 1 is a perspective view of the complete improvement in place on a sewing-machine, shown in part. Fig. 2 is an enlarged detached plan view of the main portion of the novel felling device. Fig. 3 is a front elevation of the device on a portion of a sewing-machine bed-plate, the latter being in section on the line 3 3 in Fig. 2. Fig. 4 is a transverse sectional view on the line 4 4 in Fig. 2. Fig. 5 is an enlarged plan view of parts of the improvement in position on a sewing-machine needle-bar, the latter being in section on the line 5 5 in Fig. 1. Fig. 6 is an enlarged sectional plan view of a novel detail of construction on the line 6 6 in Fig. 3. Fig. 7 is a transverse sectional view of two pieces of cloth joined together by a felled seam, the latter being shown enlarged to indicate the nature of the work produced by the improvement; and Fig. 8 is a partly-sectional view of details on the line 8 8 in Fig. 5.

The felling device proper consists of a sheet metal scrolled piece 10, that is formed on or is secured upon an extended end portion 11^a of the base plate 11, the latter being of a sub-

stantially rectangular shape. The part 10, is produced by curve-bending the thin material from the arm 11^a upwardly and around into a coniform scroll, so as to return its free edge 10^a toward the arm, leaving a suitable space between this edge and the inner face of the upwardly and outwardly bent portion. The edge 10^a, is preferably shaped as represented by full and dotted lines in Fig. 2, having its front corner curved and merged into the ogee curved front edge of the scroll, thereby adapting the part 10 to readily receive a seam flap that is to be felled and is forwardly entered within the scroll.

The smaller end of the scrolled portion 10, is notched in such a form as to produce a sloped edge 10^b, that extends from the wall of the scroll which projects upwardly from the arm 11^a toward, and at its front end joins, a transverse edge portion 10^c, that is formed at a suitable distance from the converged end of the scroll, and laterally extends to intersect a longitudinally produced straight edge 10^d of the notch.

In service the lower edge 10^a, will turn a seam flap such as C on two joined pieces of cloth A, B as represented in Fig. 7, the notch in the smaller end of the scroll affording room for the free movement of the sewing machine needle 12, that is shown in Figs. 1 and 2.

The base plate 11 of the device, is afforded sufficient width between its rear and front edges, to permit a shallow, flat-bottomed recess to be longitudinally formed in its upper surface at the front of the arm 11^a, a proper thickness being afforded to the base plate to allow such a depression to be produced, as shown in Fig. 4.

A narrow, upwardly-extending flange 11^b, is formed at the front edge of the base plate 11, by the recessed depression of its upper surface; and at the rear of the recess a longitudinal slot 11^c is made in the base plate 11 to receive a binding screw 13, that may be furnished with a washer, and serves to clamp the entire device on the bed plate D of a sewing machine at a proper point for efficient service. A seam gage plate 14, is provided, consisting of an elongated strip of sheet metal, having parallel side edges. On the rear edge of the part 14 a flange is upwardly turned at a slight angle to the flat top of the plate, and

along the front of this flange a gear rack 14^a, is formed, which flange and rack extend a proper length from one end of the gage plate, nearly to the other end.

5 The breadth of the gage plate 14, is so proportioned that it will loosely fit in the shallow longitudinal recess of the base plate 11, its length permitting one end portion to extend toward and a proper distance beyond the
10 feller scroll 10, when the parts are assembled. To facilitate the connection of the parts mentioned in a manner that will allow the gage plate to receive longitudinal adjustment on the base plate, said gage plate is bent downwardly and forwardly, as at 14^b, thus depressing a portion of the plate that is to reciprocate below the front part of the feller scroll. The end of the gage plate 14 which is nearest
15 to the scroll 10, is turned upwardly, providing a low transverse flange 14^c, that is smooth and true on the upper surface, and affords a gage for the width of felled seams as will be further explained. The plate 14, is longitudinally slotted at 14^d between its ends between the toothed rack 14^a and flange 14^b,
20 having its edges in parallel with said rack and with the flange mentioned.

A pinion 15, is produced by the formation of circumferential teeth on the lower end of
30 a spool-shaped head piece 15^a, that is axially perforated for the loose engagement therewith of a headed stud bolt 15^c, that has a fine thread cut on its lower end, which is in screwed engagement with a tapped hole made to receive
35 it in the base plate 11 near its longitudinal center, and at such a distance from the flange 11^b, as will permit the screw bolt to pass loosely through the slot 14^d into the base plate, as shown in Fig. 4. The preferably sloped
40 top face of the piece which has the teeth on its circumference, is graduated to afford an exact measure for the longitudinal adjustment of the gage plate 14, a reduced neck portion of the said head permitting these graduations
45 to be readily observed. The enlarged and milled thumb piece at the top of the neck on the piece 15^a affords convenient means for the manually effected rotary movement of the teeth, and desired adjustment of the gage
50 plate in either direction, the index finger 15^b that projects from the flange 11^b, serving to indicate the degree of longitudinal movement given to the gage plate in either direction.

On the lower end of the presser foot bar E
55 of the sewing machine, the peculiarly formed presser foot 16, is secured by any suitable means so as to project its foot piece forwardly, the usual notch in the front edge of said part being produced for the free reciprocation of
60 the needle 12.

The upper surface of the presser foot 16, is flattened for the reception of a thin elastic and longitudinally slotted carrier plate 17, that is adjustably secured upon the part 16
65 by a screw 17^a, as represented in Fig. 5. The plate 17 is bent or cut to produce a transverse channel 17^b at its end, which projects in the

same direction as the depressed portion of the gage plate 14, the parts 17, 14, occupying parallel planes with the plate 11, in a higher
70 position than the gage plate. A supplementary gage bar 18, is loosely secured to the spring carrier plate 17, preferably as shown, the hook formed on the end of the latter by cross channeling it being interlocked with a
75 longitudinal slot formed in the gage bar near its upper edge.

From the rear end of the gage bar 18, a guide rod 19 is projected in parallel with the side edges of the carrier plate 17, said rod
80 having a loose engagement with a perforated lug 20 on the rear side of the presser foot 16, as indicated in Fig. 5.

The relative location of parts is such as will permit the convenient adjustment of the
85 supplementary gage bar 18, in alignment with the upwardly-projecting gage flange 14^c, the front end of the bar and rear end of the flange having a loose contact in service.

When the device is to be used, the gage
90 plate 14 is adjusted by the means that have been described, so as to project the gage flange 14^c a proper distance beyond the scroll 10, this flange being designed to have contact with the doubled seam flap C at *z* when the
95 joined pieces A, B, of a garment are placed over the felling device on the bed plate D of the sewing machine, and beneath the presser foot, to be fed in the usual way from the front to the rear of the machine. When the goods
100 have been placed as stated, the end of the flap that is to produce the felled or welt seam C, is introduced within the front end of the scroll 10, which will, when the machine is operated, turn the flap edge around into the
105 form shown in Fig. 7, but closer laid than is there represented.

The scroll piece 10 having been properly set to locate the seam *x* at a correct distance from the seam fold *y*, the regular width of the fell
110 or welt C, may be readily gaged by an expert operator placing a finger of the left hand on top of the goods over the gage flange 14^c, and slightly pressing upon the material, while the latter is controlled in its passage over the
115 scroll so as to maintain a close contact between the side *z* of the seam and adjacent edge of the gage flange 14^c.

The gage bar 18, that is in effect a continuation of the flange 14^c, will by reason of its
120 elastic support at the front, slightly yield and conform to the vertical reciprocating movement of the presser foot, while it aids to maintain the goods in proper position for the superior execution of the special work that the
125 improvement is designed to effect.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a felling device, the combination with
130 a longitudinally-slotted base plate, a felling device projected at one side therefrom, and a securing screw engaging the base plate slot, of a gage plate longitudinally movable on the

base plate and having an upturned gage flange at one end that will engage a seam, a rack on a side edge of the gage plate, a clamping head piece having circumferential teeth that mesh 5 with the rack, and an index finger that lies opposite circumferential graduations on the base portion of the head piece, substantially as described.

2. In a felling device for sewing machines, 10 the combination with a base plate, and a felling device on one end of the base plate, of a gage plate securable on the base plate along its front edge and having an upturned transverse gage flange at one end, and a vertically 15 yielding gage bar held on the sewing machine presser foot at the rear of the gage plate by a slotted elastic carrier plate, a set screw therefor, and a guide rod on the gage bar at the rear of the presser foot, whereby 20 the gage bar is adapted for lateral adjustment to align it with the gage flange, substantially as described.

3. In a felling device for sewing machines, the combination with a base plate recessed on top, and slotted in parallel with the recess, 25 and a felling device on an arm extending from one end of the base plate, of a longitudinally slotted gage plate seated in the recess of the base plate and having an upturned flange at one end, a gage bar secured on the presser 30 foot of the sewing machine and vertically reciprocating therewith, said bar being adapted for lateral adjustment to align it with the gage flange, a rotatable pinion graduated on its exposed face, a rack on the edge of the gage 35 plate with which said pinion meshes, a securing bolt for the pinion and gage plate, and an index finger on the base plate pointing to the graduations on the pinion, substantially as described.

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Witnesses:

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JNO. M. RITTER.