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D. LAWBER

2,756,704

TENSIONING DEVICES FOR OVERSEAM SEWING MACHINES

Filed Aug. 1, 1952

2 Sheets-Sheet 1

Fig. 1

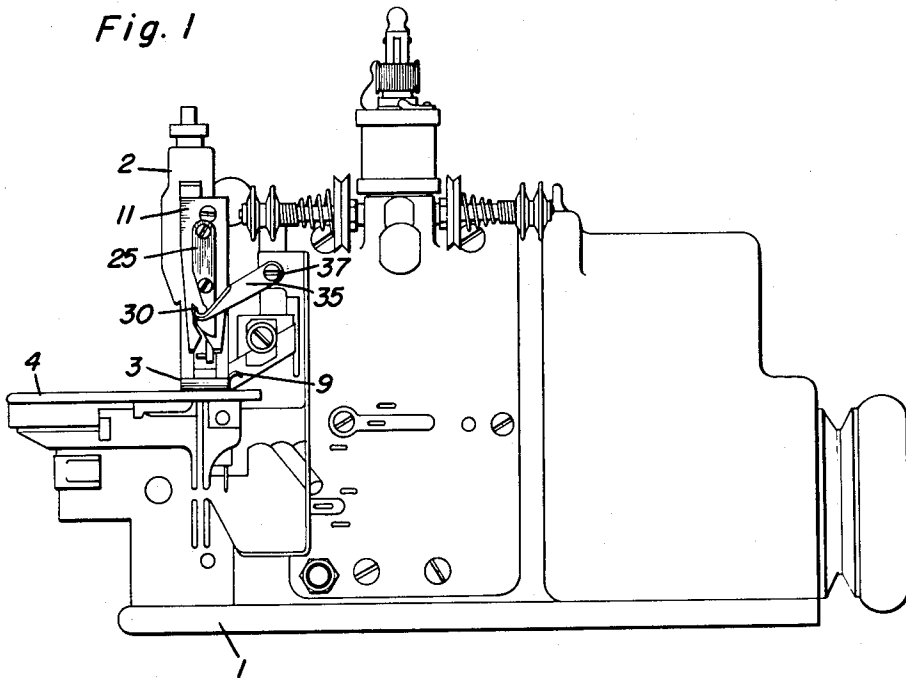


Fig. 4

Fig. 2

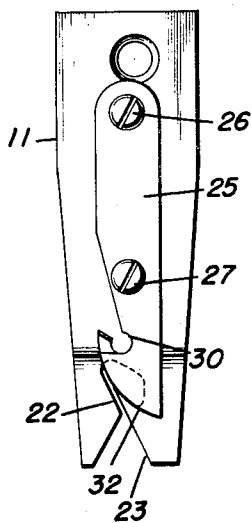
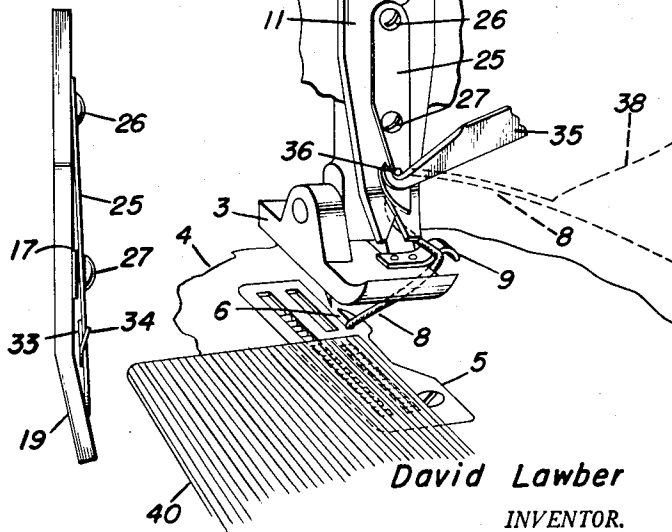


Fig. 3



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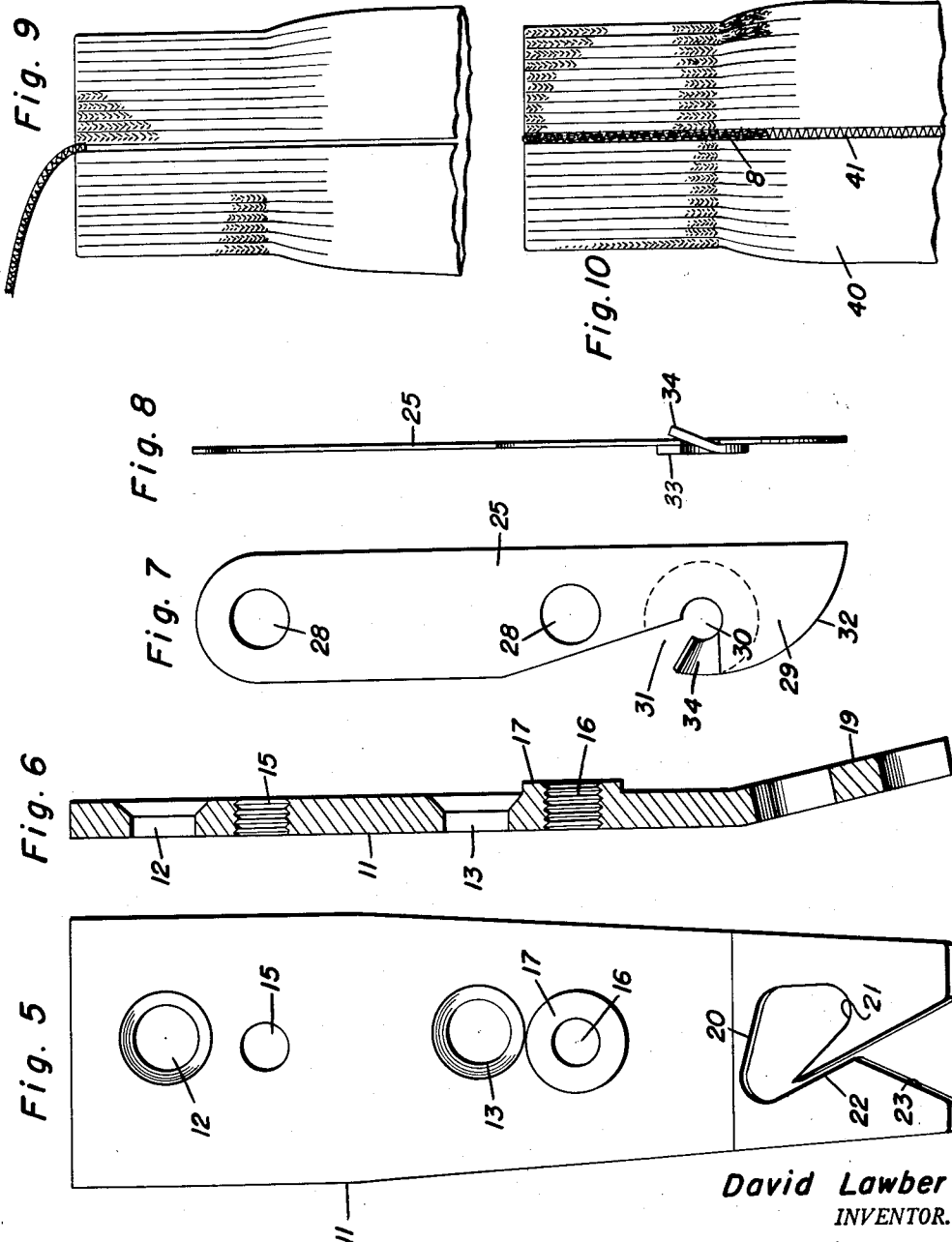
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TENSIONING DEVICES FOR OVERSEAM SEWING MACHINES

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5 Claims. (Cl. 112—254)

My invention relates to improvements in tensioning devices for attachment to overseam sewing machines to pull in the chain of stitching for sewing in the overseams of knit wear and similar goods.

By way of premise, in stitching an overseam in such machine (for instance, in closing a sleeve of knit wear), a chain of stitching extends from the needle guiding slot of the machine to the finished end of the seam. This chain is cut off at the finished end of the seam. In closing another sleeve by seaming which is started at the cuff, the chain is attached by the initial stitching operation to the cuff at the starting point of the seam at the cuff and, if cut off close to the cuff, would cause the seam to open or become frayed.

Accordingly, it is the practice to reinforce the cuff, or the beginning of the seam, by manually pulling in the chain of stitching in the stitching of the overseam with a latch needle, which is a laborious and time consuming operation.

The primary object of my invention is to provide a tensioning device for attachment to the presser foot head of such machines to yieldingly hold the chain of stitching so that it may be positioned under the presser foot for sewing into the stitching of the overseam, while the seam is being sewed, whereby to save time and labor required in pulling in the chain manually.

Another object is to provide a tensioning attachment for the above purpose which is attachable to the presser foot head without necessitating change in the head, and which is of simple, inexpensive construction and will not break or ravel the stitching chain.

Other and subordinate objects, within the purview of my invention, together with the precise nature of my improvements, will be readily understood when the succeeding description and claims are read with reference to the drawings accompanying and forming part of this specification.

In the drawings:

Figure 1 is a view in front elevation of an overseaming sewing machine having my improved tensioning device attached thereto;

Figure 2 is an enlarged view in front elevation of the tensioning device detached;

Figure 3 is a view in edge elevation of the same;

Figure 4 is a view in perspective illustrating the manner in which the chain of stitching is positioned under the presser foot and in the tensioning device for sewing into the stitching of the overseam;

Figure 5 is a further enlarged view in front elevation of the rear plate of the tensioning device;

Figure 6 is a view in vertical longitudinal section of the same;

Figure 7 is a view in front elevation of the front plate of the tensioning device drawn to the same scale as Figure 5;

Figure 8 is a view in edge elevation of the same;

Figure 9 is a fragmentary view in plan illustrating the manner in which the chain of stitching is attached to the

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cuff of a sleeve at the start of a sleeve closing operation prior to my invention, and

Figure 10 is a similar view illustrating the chain of stitching sewed back into the stitching of the overseam in closing the sleeve in accordance with my present invention.

Referring, now, to the drawings by numerals, my improved device has been shown therein, for illustrative purposes, as attached to an overseaming sewing machine of the general type disclosed by U. S. Patent No. 1,568,986 and U. S. Patent No. 1,649,360, both granted to J. M. Merrow, and which, being well-known, need merely be described sufficiently to identify the parts thereof with which my invention is especially concerned.

Such machines embody a frame 1, a presser foot head 2, a vertically reciprocating presser foot 3, a work supporting plate 4, and a needle guide plate 5 (see Figure 4) arranged relative to the supporting plate 4 as disclosed in detail in the aforesaid Patent No. 1,649,360 with a needle guide slot 6 therein from which the chain of stitching 8 extends. The presser foot 3 is provided with a downwardly opening, hooked, side guide 9 on the innermost side thereof utilized in the practice of my invention in a manner presently to be described.

The tensioning device of my invention comprises an elongated rear plate 11 having longitudinally spaced upper and lower openings 12, 13 therein for securing the plate to said presser foot head 2 by machine screws, as at 14, so that said plate is fastened in upright position to the front of the presser foot head 2 above the lower end of said presser foot 3. Upper and lower threaded openings 15, 16 are also provided in the rear plate 11, and an annular front boss 17 on said plate surrounds the lower opening 16 for a purpose presently seen. The rear plate 11 is further formed with a lower end portion 19 inclining downwardly and forwardly from the presser foot 3 for a particular purpose presently seen. The portion 19 is formed with a central eye 20 having a concave bottom 21 and a narrow entrance slot 22 thereto inclining upwardly and laterally to one side of the eye, and said portion 19 is also formed with a guide slot 23 at its lower end, the guide slot 23 converging upwardly to said entrance slot 22 and opening downwardly at the lower edge of said plate 11.

An elongated front plate 25, shorter and narrower than the rear plate 11, is secured in upright position to said plate 11 in front thereof by screws 26, 27 extending through openings 28 in the plate 25 and turned into the openings 15, 16 in plate 11. The lower end of plate 25 rests on the portion 19 so that the plate 25 inclines forwardly and downwardly over the rear plate 11 and is spaced between its ends from said plate 11 for a purpose presently clear. The front plate 25 adjacent its lower end 29 is formed with a circular eye 30 spaced above the eye 20 a short distance in substantially vertical alignment with said eye 20. A downwardly converging entrance slot 31 to said eye 20 is formed in one side edge of the front plate 25. The lower end 29 of the front plate 25 overlies the eye 20, being spaced therefrom by the boss 17 and the end portion 19 of the plate 11 and being formed with a curved side edge 32 subtending the inner side of the entrance slot 22 so as to clear said slot. The eye 30 is thickened on the rear side of the front plate 25 by a boss 33 and said end 29 is provided with an upwardly and forwardly inclined lip 34 forming one side of the eye 30 and the slot 31. The front plate 25 is engaged by the lower screw 27 to prevent the same from chattering by vibration because of its spaced relation to the rear plate 11, and for another purpose presently explained.

A cutter bar 35 with an upturned, hooked cutting end 36 is attached at its other end by a screw 37 to the ma-

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chine to incline downwardly in front of and across the front plate 25 with its cutting end 36 opposite the eye 30.

Referring, now, to the operation of the described invention and as shown in Figure 4, with the presser foot 3 lifted, the chain 8 is pulled from the needle guiding slot 6 forwardly toward the operator under the left side of presser foot 3 and the chain is swung under the presser foot 3 to the right side thereof and upwardly under the guide 9. From the guide 9, it is brought into eye 20 into which it is inserted by way of guide slot 23 and entrance slot 22, and from the eye 20, it is passed forwardly into eye 30 so that the front and rear plates 25, 11 frictionally engage the chain. At this point, the chain 8 is pulled downwardly against the cutting end 36 of cutter bar 35 and cut off at the front plate 25. This positioning of the chain 8 is accomplished by manipulating a sleeve 38 to which the chain 8 is still attached as shown in dotted lines in Figure 4. As will be seen, when the chain 8 is thus positioned in the tensioning device, it is then arranged for sewing into a new sleeve 40 to be closed and will fall into the stitching 41 as the sleeve 40 is fed forwardly between the lowered presser foot 3 to the left of the needle guiding slot 6, the chain pulling out of the tensioning device as the work is fed and the stitching progresses. The boss 33 prevents the edge of the eye 30 from accumulating fuzz as the chain 8 pulls out of said eye. The screw 27 may be used to variably tension the front plate 25. The side edge 32 is curved away from the entrance and guide slots 22, 23, to prevent said edge from cutting the chain 8 when passed through said slots.

The foregoing will, it is believed, suffice to impart a clear understanding of my invention without further explanation.

Manifestly, the invention, as described, is susceptible of modification without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of the appended claims.

Having described my invention, what is claimed as new is:

1. A device for attachment to the presser foot head of a sewing machine to tension a chain of stitching extending out of the needle guiding slot of the machine for

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sewing back into another seam comprising a pair of elongated rear and front plates attachable to the presser foot head in front thereof and above the presser foot in vertical position, the front plate having an eye therein in front of the rear plate and a downwardly extending, upwardly opening entrance slot to said eye for inserting the chain downwardly into the eye, the rear plate having an eye therein below the first named eye and behind the front plate and having an upwardly extending, downwardly opening entrance slot to the second named eye through which the chain may be passed into the second named eye and thence into said first named eye through said first named entrance slot, said plates being adapted to frictionally engage the chain between said eyes.

2. A device according to claim 1, said rear plate having a downwardly and forwardly inclined bottom end portion in which one end of the front plate rests to space the front plate from the second plate for accommodating the chain between said plates.

3. A device according to claim 1, said second named entrance slot being restricted relative to the second named eye and leading to one side of the second named eye, and said second named eye having a concave bottom at one side of the entrance slot thereto for retaining the chain in said second named eye.

4. A device according to claim 1, said front plate having an upwardly and forwardly inclined lip forming one side of the first named eye and entrance slot thereto to facilitate entering the chain in the first named eye.

5. A device according to claim 3, said rear plate having an upwardly converging guide slot therein leading to said second named entrance slot to facilitate entering the chain into said second named entrance slot.

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