A. RONTKE.

SEWING MACHINE.

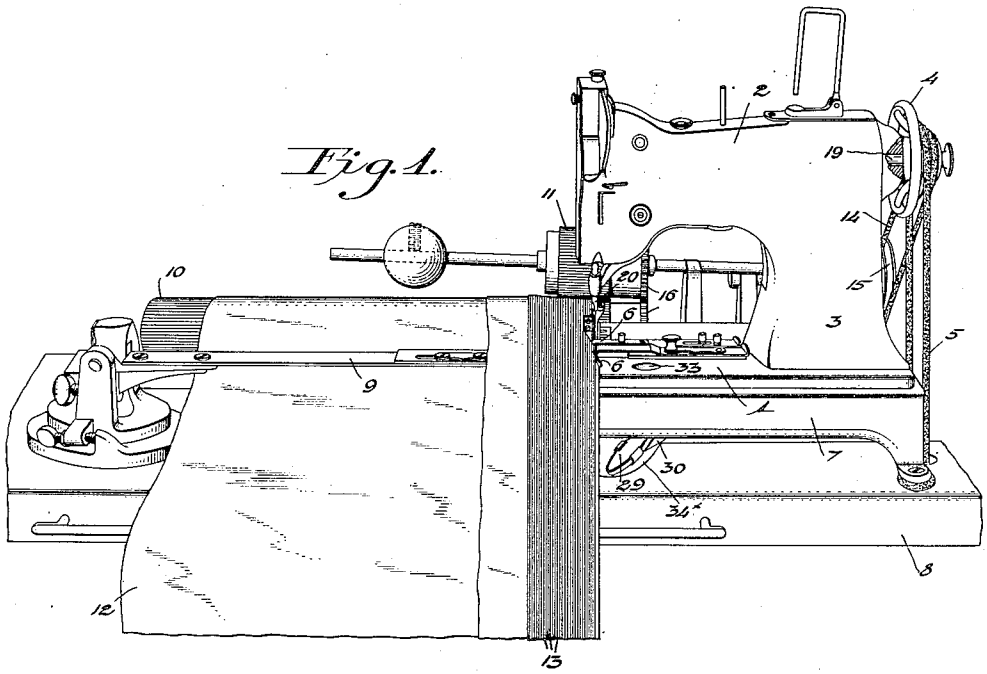
APPLICATION FILED OCT. 8, 1914.

1,236,765.

Patented Aug. 14, 1917.

3 SHEETS—SHEET 1.

Fig. 1.



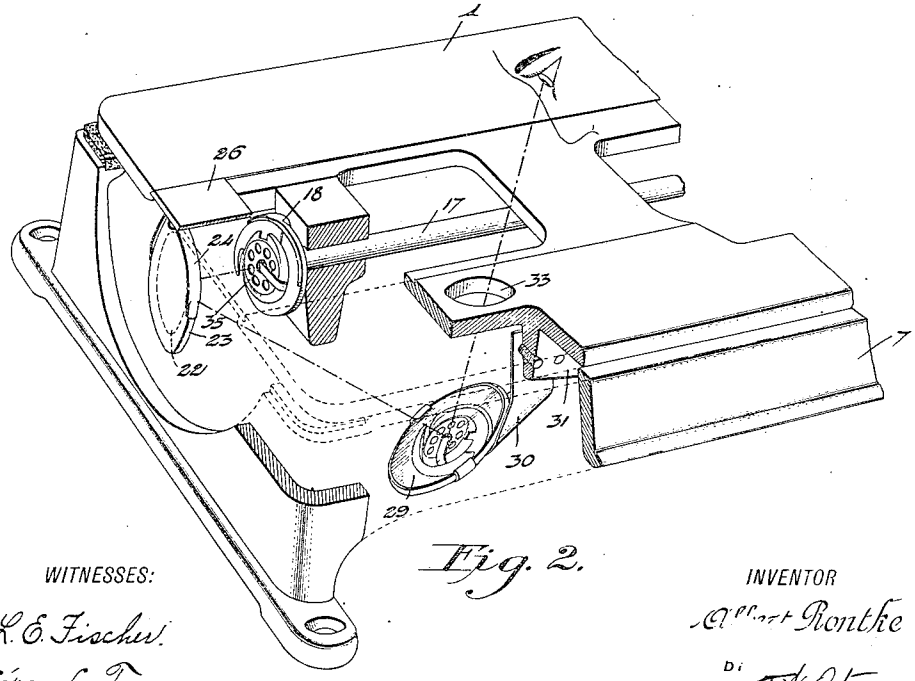


Fig. 2.

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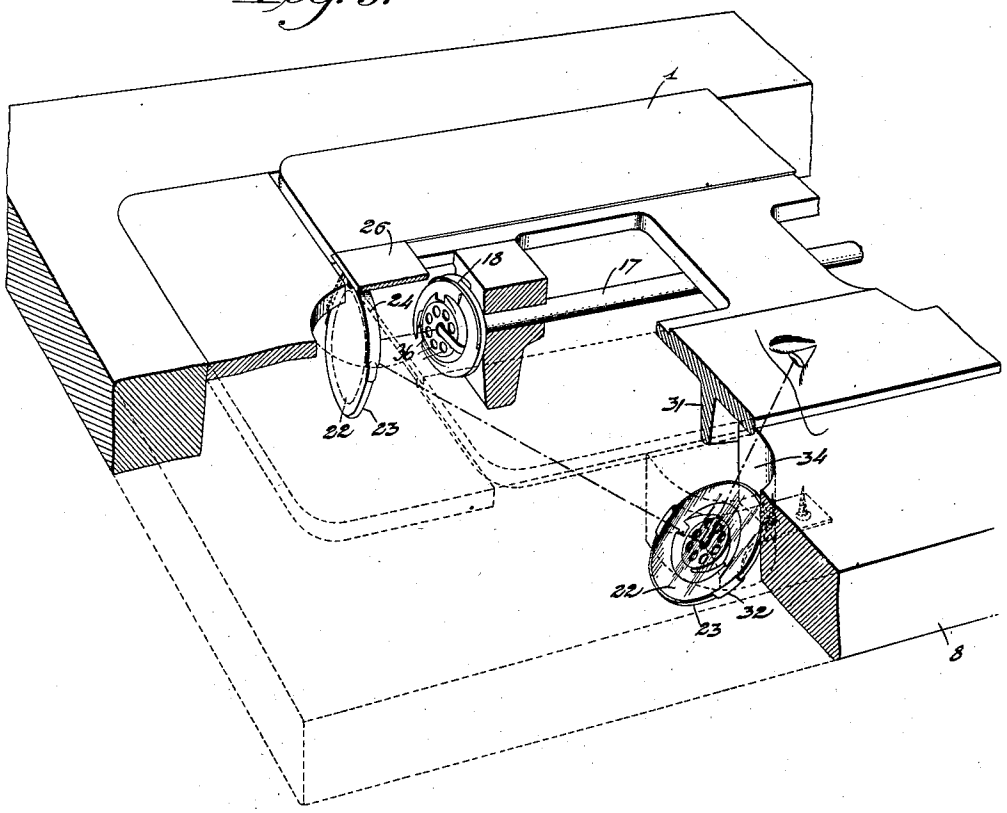
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3 SHEETS—SHEET 2.

Fig. 3.



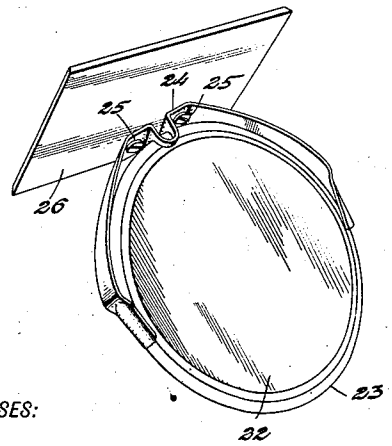


Fig. 5.

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3 SHEETS—SHEET 3.

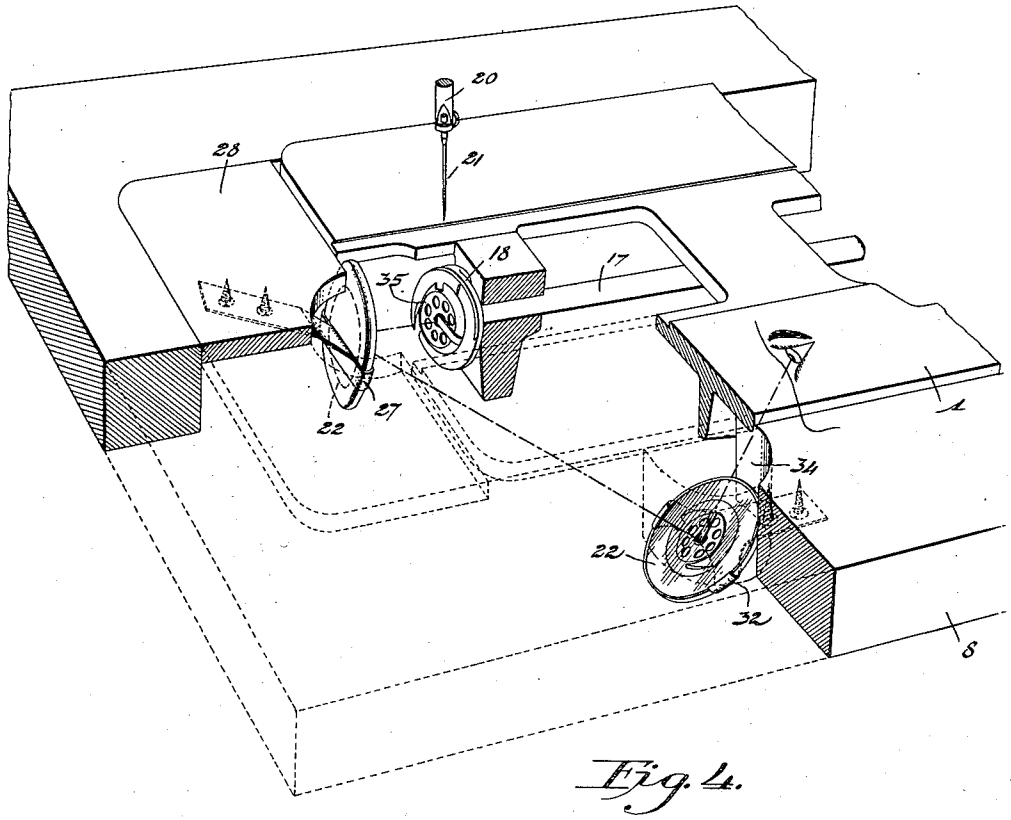


Fig. 4.

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UNITED STATES PATENT OFFICE.

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SEWING-MACHINE.

1,236,765. Specification of Letters Patent. Patented Aug. 14, 1917.

Application filed October 8, 1914. Serial No. 865,651.

To all whom it may concern:

Be it known that I, ALBERT RONTKE, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to the providing of sewing machines with improved means for inspecting the mass of under or bobbin thread without interfering with the fabric being acted on, and to this end there is provided reflecting elements for presenting convenient to the operator's vision an image of the mass of under thread during the stitching operation, the present improved means being directed more particularly to the lessening of the difficulties heretofore existing in the stitching of spirally directed tucks in an endless body fabric.

A desirable form of tucked web of the character above referred to comprises a body portion of from 6 to 10 feet in length and preferably 27 inches wide whose opposite ends are secured together to form a belt or endless strip, which may be made up of a single pattern or consist of separate sections of unlike design dependent upon the character of the product desired which, before being submitted to the action of the stitch-forming and feeding mechanism, is marked to direct the first tuck in a line slightly spiraled to its free edges so that the tucks arranged across the strip will be effected from beginning to end without any abrupt offset, as when tucking a strip having free ends.

Tucked web as above described is largely employed in the ornamenting of women's wearing apparel and for fronts or bosoms in men's shirts, and to meet the requirements it is the general practice to form an average of 3½ tucks to the inch for 24 inches of the width of the strip, leaving a margin or untucked portion at each free edge of 1½ inches, so it results that in the tucking of a strip 8 feet long of 84 tucks there is effected a continuous tuck of 672 feet, and to guard against the possibility of the under thread giving out unobserved by the operator and the material advanced under the needle so as to require readjustment before continuing the stitching operation, is the purpose of the present improved means.

In the accompanying drawings, which form a part of the specification Figure 1 is a view in front side elevation, slightly in perspective, of a sewing machine equipped with the present invention and illustrating the stitching of one form of product important to its employment. Fig. 2 is a perspective view of the front end portion of the sewing machine bed-plate, loop-taker and stand, together with the reflecting elements one of which is carried by the sewing machine slide-plate and the other secured to a depending rib forming a part of said bed-plate. Fig. 3 is a view similar to Fig. 2, except that the bed-plate is shown seated in one form of commonly employed power-table top to which is secured the reflector visible to the operator during the stitching operation. Fig. 4 is a view similar to Fig. 3 with the exception that the reflector located below the fabric being acted on is secured to the cover-plate of the table attachment till. Fig. 5 is a perspective view of the sewing machine front slide-plate, together with reflector and means for removably securing the same.

The present invention is shown in connection with one variety of commonly employed Singer sewing machine equipped with a needle feed and operated in connection with an independently mounted roller feed, but as the means employed for advancing the fabric is unimportant to an understanding of the present invention, only limited reference will be made to the feeding elements.

Referring to the drawings, 1 represents the bed-plate of a sewing machine upon which is mounted the bracket-arm comprising the arm-bracket 2 and standard 3, 4 the hand or band-wheel connected by belt 5 with a source of power, said bed-plate being provided with suitable edge-guides, as 6, and seated on a frame or stand 7 suitably secured to the table-top 8 which latter is provided with a fold-guide 9. 10 and 11 represent upper and lower feeding rollers respectively, between which the endless fabric 12 passes in the folding and stitching of

the spiral tucks represented by the comparatively fine lines, as 13, said lower feed-roller being operatively connected with the band-wheel 4 by pulley 15 and commonly employed gear members (not shown), as in earlier constructions, the feeding roller 11 being operatively connected with said lower roller through the gear members as 16. 17 denotes a portion of the loop-taker shaft provided at its forward end with the loop-taker 18, its opposite end (not shown) being operatively connected through commonly employed means (not shown), with the main or needle-bar driving shaft 19, and 20 the lower end portion of the needle-bar provided with the needle 21.

The mirror or reflecting element 22 in Figs. 2, 3 and 5, is mounted in a frame 23 removably held in a bracket 24 secured by screws as 25 to the under side of the front slide-plate 26, and in Fig. 4 in a bracket 27 suitably secured to the under side of the till cover 28 of the table-top 8. The reflecting element 29, in Figs. 1 and 2 is mounted in a like frame removably held in a bracket 30 suitably secured to a depending web or flange 31 forming a part of the bed-plate 1, and in Figs. 3 and 4 held in a bracket 32 suitably secured to the under side of said table-top, said reflectors being arranged in a plane oblique to the plane of rotation of the loop-taker. 33 and 34 denote openings in the bed-plate and table-top respectively, for presenting the reflecting element 29 to the vision of the operator and 36 perforations in the bobbin 35 to present to the operator's vision the bobbin thread and to indicate when it is nearly or quite exhausted.

From the foregoing it will be understood that the reflecting elements may be carried by the machine, the table and machine or secured to the table independently of the machine, as illustrated in Figs. 2, 3 and 4, respectively, each having its advantage under certain conditions of operation, and as the reflecting elements are of necessity, more liable to accidental damage and disarrangement than is common to sewing machine accessories generally, the mounting of these elements to best meet the requirements is essential to their better utility.

If the machine is subject to being transferred to different positions of operation it is preferable to make the reflectors a part of the sewing machine, but if operating continuously in a given position it is desirable that they be attached to the table, which lessens the liability of their being accidentally damaged, but if a given opening in the table is to be employed for operating machines of different classes or for effecting different products, thus making the employment of the reflectors conditional, it is preferable to mount the reflectors as in Fig. 3, making the reflector 29 a removable part of the table and substituting the commonly employed slide-plate 26 for the present slide-plate provided with the reflector.

In the stitching of products of the class illustrated in Fig. 1 the thread-bobbin 35 is manually manipulated to replenish the mass of under thread by the operator passing her hand below the table-top and up through the opening in the latter common to the construction of sewing machine power-tables and treadle operative stands.

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

1. A sewing machine comprising a cloth-feeding and stitch-forming mechanism including a loop-taker and a perforated bobbin for a mass of under thread, in combination with reflecting elements arranged in a plane oblique to the plane of rotation of the loop-taker to reflect an image of said bobbin convenient of vision by the operator, during the stitching operation.

2. A sewing machine comprising a cloth-feeding and stitch-forming mechanism including a loop-taker and a perforated bobbin for a mass of under thread, in combination with reflecting elements arranged in a plane oblique to the plane of rotation of the loop-taker to reflect an image of said bobbin to a point outside the field occupied by the fabric being acted on to a point convenient of vision by the operator, during the stitching operation.

3. A sewing machine comprising a cloth-feeding and stitch-forming mechanism including a loop-taker and a perforated bobbin for a mass of under thread, in combination with reflecting elements arranged in a plane oblique to the plane of rotation of the loop-taker to reflect an image of said bobbin to a point below the plane of and outside the field occupied by the fabric being acted on to a point convenient of vision by the operator, during the stitching operation.

4. A sewing machine comprising an arm-bracket and a bed-plate provided with a cloth-feeding and stitch-forming mechanism, the latter including a loop-taker and a bobbin for a mass of under thread, in combination with reflecting elements located below said bed-plate and arranged in a plane oblique to the plane of rotation of the loop-taker for reflecting an image of said bobbin to a point below the plane of and outside the field occupied by the fabric being acted on to a point convenient of vision by the operator.

5. A sewing machine comprising an arm-bracket and a bed-plate provided with a cloth-feeding and stitch-forming mechanism, the latter including a loop-taker and a bobbin for a mass of under thread, in combination with reflecting elements located below

said bed-plate and arranged one at one side and the other at the opposite side of the plane of rotation of the loop-taker and oblique to said plane for reflecting an image of said bobbin to a point below the plane of and outside the field occupied by the fabric being acted on.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

ALBERT RONTKE.

Witnesses:

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EDWARD H. WOODS.