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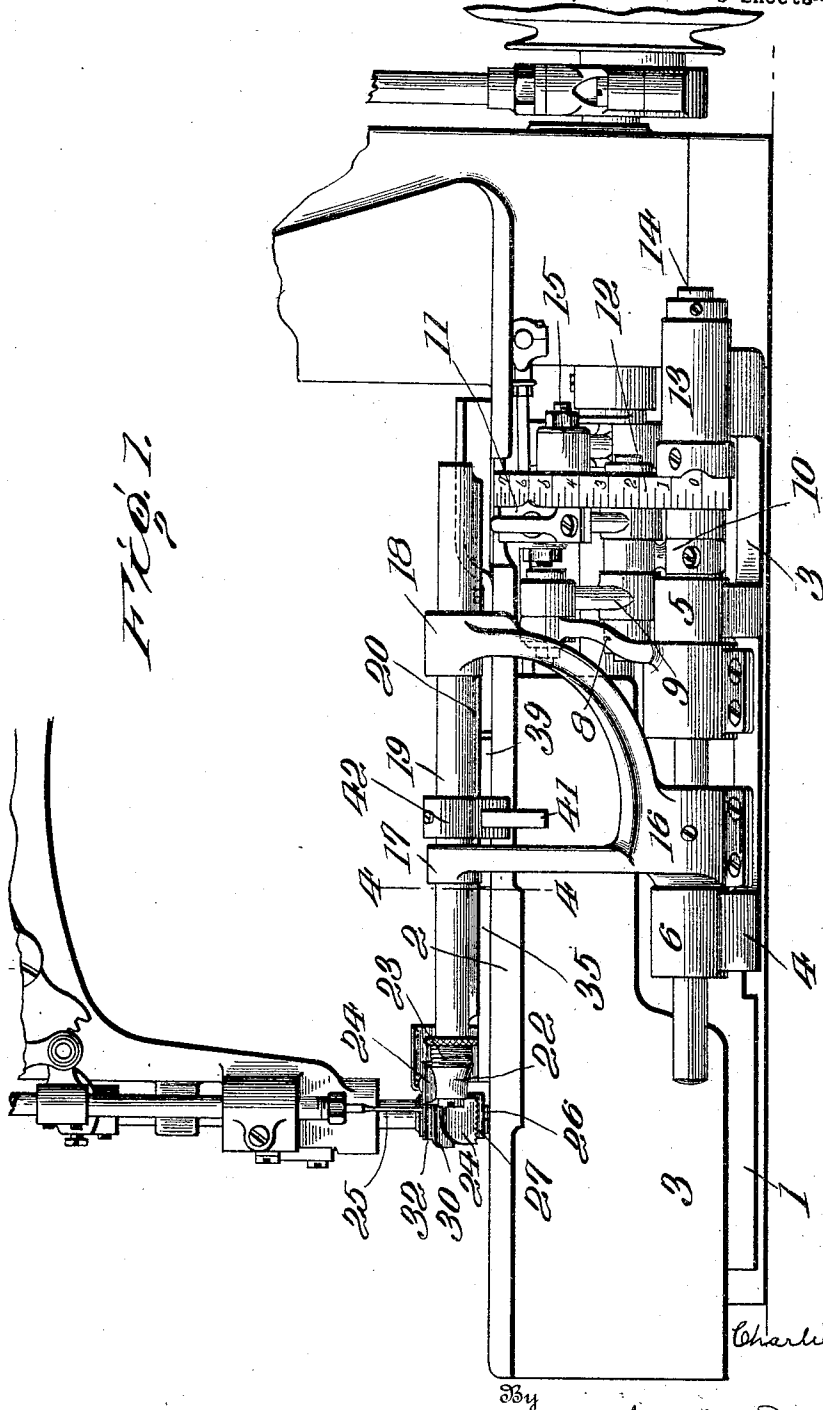
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C. THERO

RUFFLING AND SEWING MACHINE

Filed April 8, 1922

3 Sheets-Sheet 1



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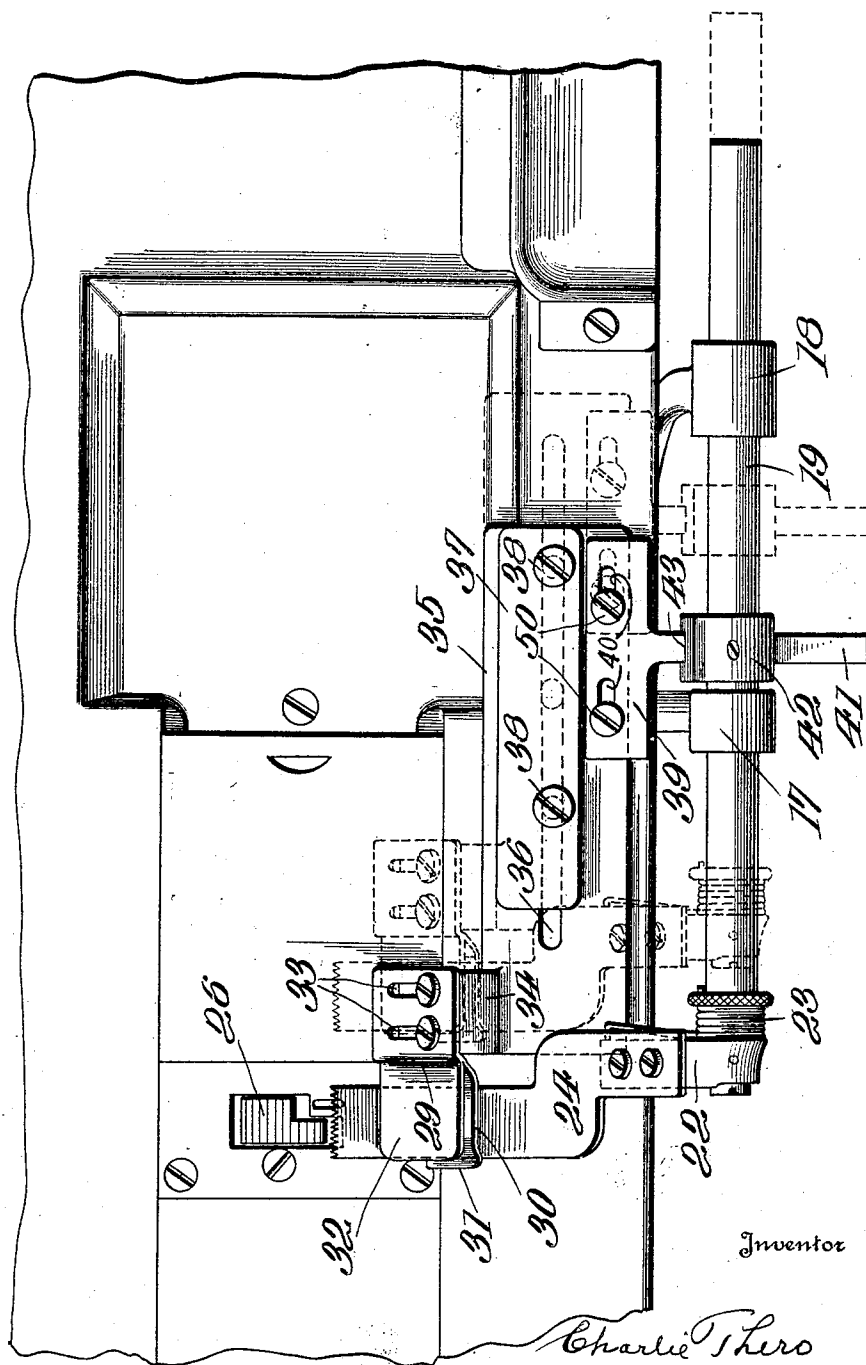
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Fig. 2.



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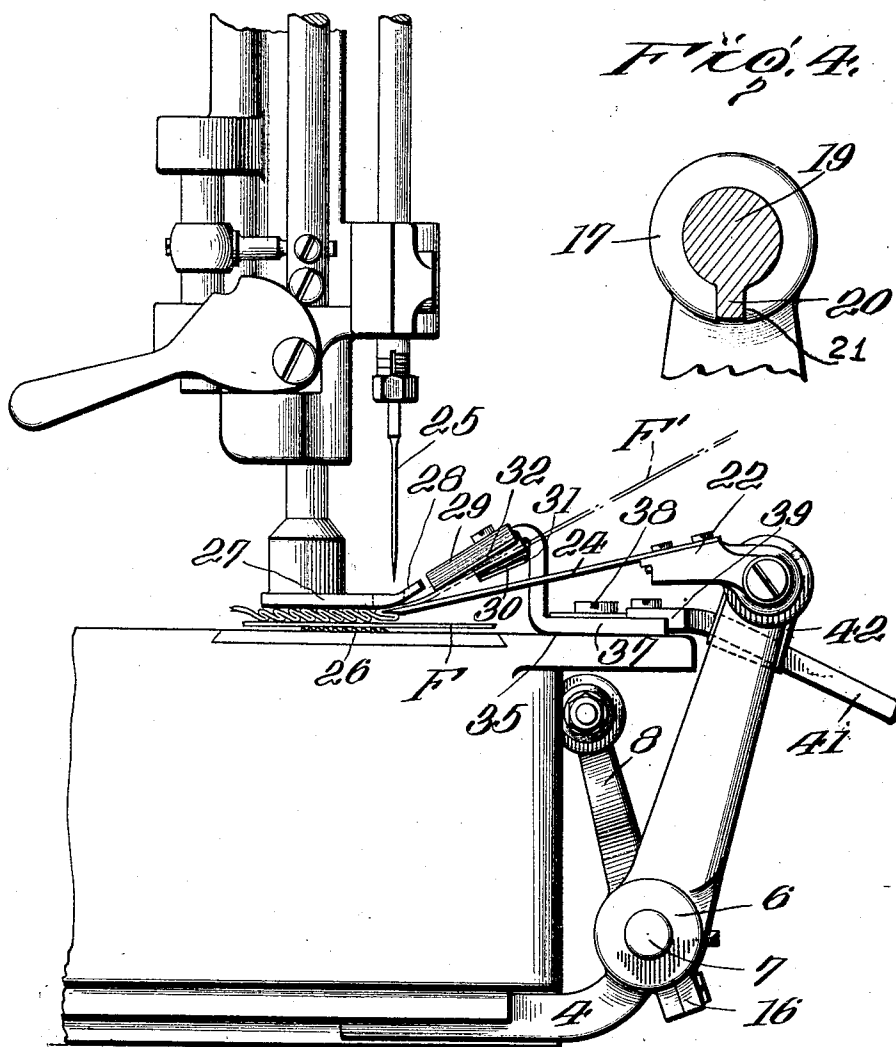
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FIG. 3.



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UNITED STATES PATENT OFFICE.

CHARLIE THERO, OF CHICAGO, ILLINOIS, ASSIGNOR TO UNION SPECIAL MACHINE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

RUFFLING AND SEWING MACHINE.

Application filed April 8, 1922. Serial No. 550,849.

To all whom it may concern:

Be it known that I, CHARLIE THERO, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Ruffling and Sewing Machines, of which the following is a description, reference being had to the accompanying drawing and to the figures of reference marked thereon.

The invention relates to new and useful improvements in a ruffling and sewing machine of the type shown in the patent granted to Russell T. Woodward, August 5, 1902, and numbered 706,484. Said machine discloses a ruffling mechanism mounted beneath the work support and actuated from the main shaft beneath the said work support, and wherein the ruffling blade engages the underface of the upper fabric section for laying the same in gathers or ruffles subsequent to the same being stitched to an under section of fabric. It is often desirable in such a type of machine to ruffle a portion of a fabric section and to stitch the remainder of said fabric section plain—that is, without any ruffles therein.

An object of the invention is to provide means whereby a ruffling blade of the above type of machine may be moved at will laterally of the line of feed to inoperative position, so that the fabric sections may be stitched plain and without ruffling although the ruffling blade continues to operate.

A still further object of the invention is to provide a machine of the above type with a guide for the upper strip of fabric which is also moved laterally with the ruffling blade and thereby withdrawn from its engagement with the fabric section.

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

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

Figure 1 is a front view of a portion of a machine embodying my invention;

Fig. 2 is a plan view of the same showing the ruffling blade in position for operation in full lines and in inoperative position in dotted lines;

Fig. 3 is an end view of a portion of the machine;

Fig. 4 is a section on the line 4—4 of Fig. 1.

The ruffling mechanism is similar to that contained in the quoted patent and only brief reference to the details of construction will be necessary.

The machine consists of a bed plate 1, carrying a work support 2, having a depending apron 3. A suitable bracket 4 is attached to the bed plate and said bracket 4 carries two spaced bearing sleeves 5 and 6. Mounted in these bearing sleeves 5 and 6 is a rock shaft 7. Said rock shaft 7 is provided with an upper projecting arm 8, which arm 8 is connected to a link 9, also mounted in suitable bearings in a bracket carried by the work support. An arm 11 is connected to this rock frame 10. This arm 11 has an adjustable connection with a segment lever 12 pivotally supported by a bracket member 13. Said segment lever 12 is carried by a stub shaft 14 journaled in said bracket 13. The segment lever 12 is oscillated in its supporting bearing by the eccentric strap 15 which co-operates with the eccentric on the main shaft, as fully set forth in the Woodward patent. As the main shaft rotates it will oscillate the segment lever 12 and the segment lever 12 will in turn impart an oscillation to the rock frame 10 and the rock frame 10 will through the link 9 oscillate the arm 8 and the shaft 7 with which it is rigidly connected.

Mounted on the shaft 8 and extending upwardly therefrom is a bracket member 16 carrying two spaced arms 17 and 18. At the upper end of each arm 17 and 18 there is a sleeve. Mounted in said sleeve is a shaft or support 19 which is provided with a rib 20 adapted to engaged a recess 21 in each sleeve. This permits the shaft 19 to move endwise, but said shaft is held from rotating or oscillating in the sleeves 17 and 18. Freely mounted on the end of the shaft is an arm 22. A spring 23 is secured to the shaft 19 at one end and the arm 22 at its other end, and is coiled about the shaft so as to normally turn the arm on the shaft in a clockwise direction as viewed in Fig. 3. Fixed to this arm 22 is the ruffling blade 24. Said ruffling blade extends forward toward the stitching mechanism and is of such a length that on its forward stroke it will engage and carry a ruffle into the path of the

needle which is shown at 25 in Fig. 3 of the drawings. The feed dog of the machine is indicated at 26 and the presser foot at 27. The lower section of fabric is indicated at F and the section being ruffled is indicated at F'. The presser foot has an upturned toe 28 of the usual construction and directly in front of said upturned toe is a guide 29 for the upper strip of fabric. Said guide 29 consists of a lower guiding plate 30 having its extreme upper end turned down at 31, and an upper plate 32. The lower plate is relatively short, as clearly shown in Fig. 3, so that the upper plate 32 extends beyond the lower plate and to a point adjacent the upturned toe 28. The ruffling blade 22 is turned by its spring upwardly into contact with the fabric section passing between the plates 30 and 32 and will bear against the upper plate 32 and then against the underface of the upturned toe 28 as it moves forward. The plates 30 and 32 are provided with slots 33—33 and screws passing through these slots secure the plates to a supporting shank 34. This supporting shank 34 is carried by a plate 35 mounted on the upper face of the work support 2. Said plate 35 is provided with a longitudinal slot 36. Overlying said slot is a spring steel plate 37 and screws 38—38 pass down through said spring plate and the slot 36 and are threaded into the work support. The plate 35 is therefore capable of being moved endwise from the full line position shown in Fig. 2 to the dotted line position shown therein. When moved to the dotted line position the plates 30 and 32 will be withdrawn from the strip of fabric F' so that said strip of fabric may be laid flat on the lower strip of fabric and stitched thereto without ruffling.

In order that the ruffling blade may be simultaneously moved laterally with the guide plates 30 and 32, I have secured to said plate 36 a bracket 39. Said bracket has slots 40—40 through which screws 50—50 pass for adjustably securing the bracket to the plate 36. Said bracket 39 has an outwardly projecting curved arm 41. Mounted on the shaft or support 19 is a collar 42. Said collar is fixed to said support 19. Said collar is provided with a segmental groove 43 which conforms to the shape of the arm 41. The arm 41 is curved about the axis of the shaft 7 as a center. As a result the bracket 16 carrying the ruffling blade may rock with the shaft 7 and the collar will slide back and forth freely on the arm 41. Any sidewise movement of the arm 41 however, will move the shaft 19 endwise in the supporting sleeves 17 and 18.

When the parts are in full line position shown in Fig. 2, strips of fabric may be led to the stitching mechanism, the one beneath

the ruffling blade and the other above said blade. The lower fabric section F will lie plain and without any gathers therein because the ruffling blade is spring pressed upward and will not contact with said lower fabric section. The upper fabric section F' is led between the guide plates 30 and 32 and will be engaged by the ruffling blade and laid in gathers or ruffles which will be entered by the needle and these ruffles will be stitched to the lower fabric section. When a point is reached in the forming of an article where it is desired to suspend the ruffling and stitch the two fabric sections together plain and unruffled, then the operator by pushing on the arm 41 or any other suitable place, may move the shaft 19 endwise and simultaneous with the endwise movement of the shaft the plate 36 will be moved longitudinally and this will carry both the ruffling blade and the guiding plates 30 and 32 to the dotted line position shown in Fig. 2. The ruffling blade may continue its oscillations back and forth but it is now out of range of the fabric sections and is, therefore, ineffective.

It will, therefore, be seen that I have provided very simple means whereby at the will of the operator a ruffling mechanism and fabric guiding mechanism may be rendered ineffective by a movement of the same laterally to a position where it will not engage and operate upon the fabric sections being stitched.

It is obvious that minor changes in the details of construction and the arrangement of the parts 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 and desire to secure by Letters Patent, is:

1. A sewing and ruffling machine comprising a work support, a stitching mechanism, feeding mechanism and a ruffling mechanism, said ruffling mechanism including a rock shaft mounted beneath the work support, an arm projecting upward therefrom and carrying a ruffling blade overhanging the work support, a fabric guide co-operating with the ruffling blade, and means whereby said fabric guide and ruffling blade may be simultaneously moved in a straight line transversely of the line of feed to ineffective position.

2. A sewing and ruffling machine comprising a work support, a stitching mechanism, feeding mechanism and a ruffling mechanism, said ruffling mechanism including a rock shaft mounted beneath the work support, an arm carried thereby and projecting above the work support, a ruffling blade carried by said arm, a spring normally pressing said ruffling blade upwardly, a fabric guide with which said ruffling blade co-operates,

whereby the upper section of fabric may be ruffled, and means whereby said ruffling blade and fabric guide may be simultaneously moved in a straight line transversely of the line of feed to ineffective position.

3. A sewing and ruffling machine comprising a work support, a stitching mechanism, feeding mechanism and a ruffling mechanism, said ruffling mechanism including a rock shaft mounted beneath the work support, arms rigidly mounted on the rock shaft and projecting above the work support, a sleeve at the upper end of each arm, a shaft mounted in said sleeves and capable of endwise movement only therein, a ruffling blade freely carried by said shaft, a spring normally moving said ruffling blade upwardly away from the work support, a fabric guide co-operating with the ruffling blade, whereby the upper section of fabric may be ruffled, and means for simultaneously moving the fabric guide and the shaft carrying the ruffling blade endwise transversely of the line of feed to ineffective position.

4. A sewing and ruffling machine comprising a work support, a stitching mechanism, feeding mechanism and a ruffling mechanism, said ruffling mechanism including a rock shaft mounted beneath the work support, arms projecting upwardly above the work support and each having a sleeve at the outer end, a shaft mounted in said sleeve for endwise movement only therein, a ruffling blade freely mounted on the shaft, a spring for turning the ruffling blade upwardly away from the work support, a fabric guide co-operating with said ruffling blade, a plate carrying said fabric guide, means for sup-

porting said plate, whereby the same may be moved longitudinally on the work support, and in a direction parallel with the movement of the shaft carrying the ruffling blade, and means whereby the endwise movement of the shaft will cause a longitudinal movement of said plate and the simultaneous movement of the ruffling blade and the fabric guide to ineffective or effective position.

5. A sewing and ruffling machine comprising a work support, a stitching mechanism, feeding mechanism, and a ruffling mechanism, said ruffling mechanism including a rock shaft mounted beneath the work support, arms projecting upwardly above the work support and each having a sleeve at the outer end, a shaft mounted in said sleeve for endwise movement only therein, a ruffling blade freely mounted on the shaft, a spring for turning the ruffling blade upwardly away from the work support, a fabric guide co-operating with said ruffling blade, a plate carrying said fabric guide, means for supporting said plate whereby the same may be moved longitudinally on the work support and in a direction parallel with the movement of the shaft carrying the ruffling blade, a bracket carried by said plate and having an outwardly projecting arm curved about the axis of the rock shaft as a center, a sleeve fixed to said shaft and having a recess engaging said arm, whereby said shaft may be moved back and forth toward and from said plate, and whereby endwise movement of the shaft will move said plate longitudinally.

In testimony whereof, I affix my signature.

CHARLIE THERO.