L. ONDERDONK.

FEEDING OR RUFFLING MECHANISM FOR SEWING MACHINES.

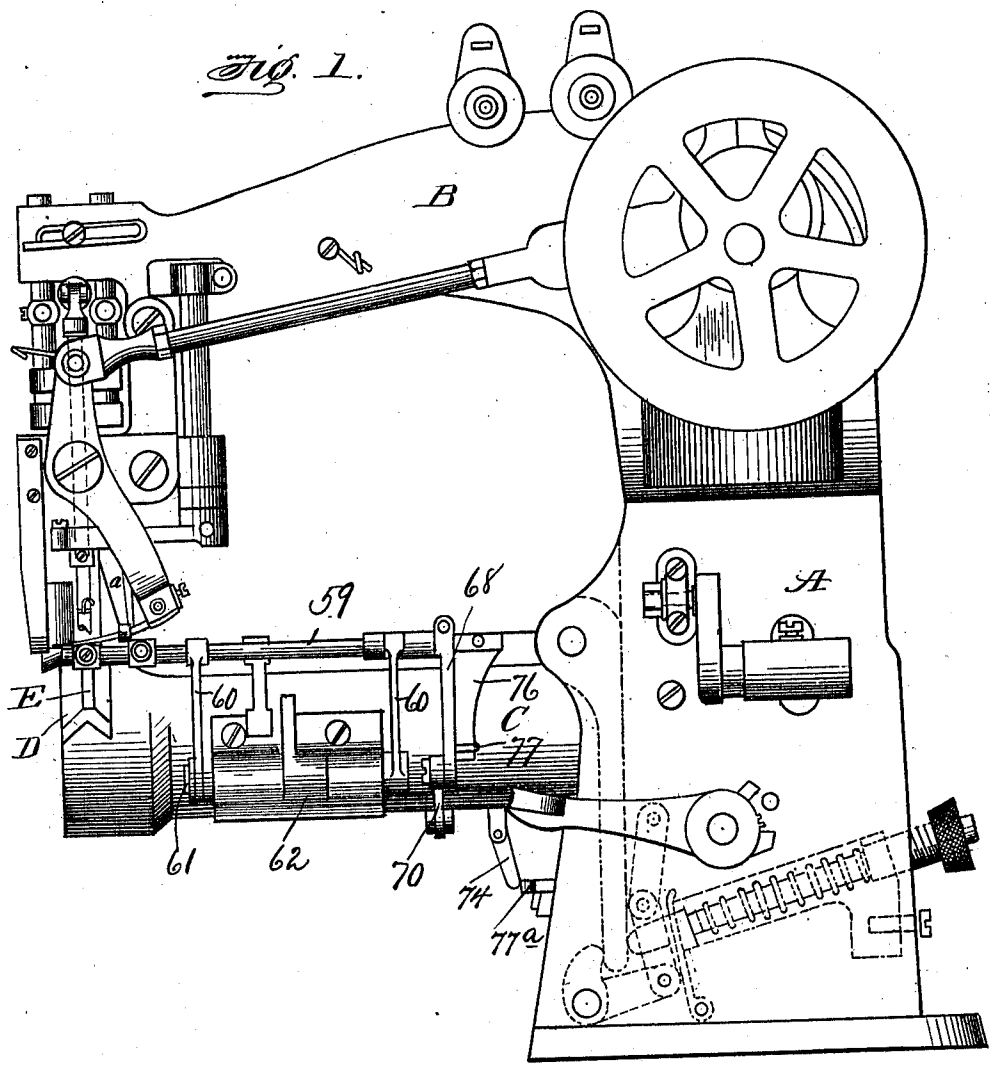
APPLICATION FILED OCT. 30, 1902.

990,160.

Patented Apr. 18, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses
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2 SHEETS—SHEET 2.

Fig. 3.

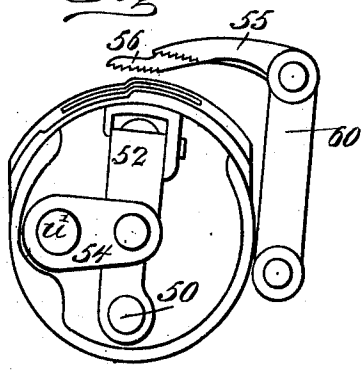


Fig. 4.

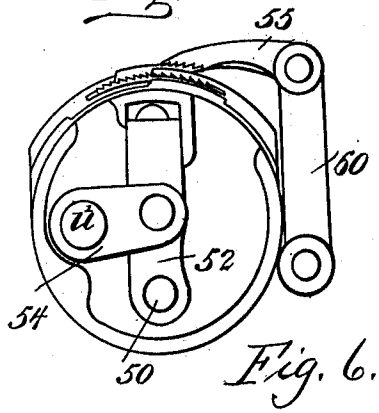


Fig. 5.

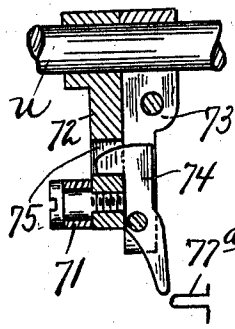


Fig. 6.

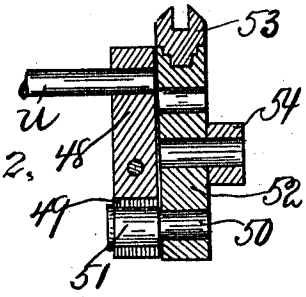


Fig. 2.

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UNITED STATES PATENT OFFICE.

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FEEDING OR RUFFLING MECHANISM FOR SEWING-MACHINES.

990,160.

Specification of Letters Patent. Patented Apr. 18, 1911.

Application filed October 30, 1902. Serial No. 129,397.

To all whom it may concern:

Be it known that I, LANSING ONDERDONK, a citizen of the United States, residing at New York, in the county of New York, State of New York, have invented certain new and useful Improvements in Feeding or Ruffling Mechanisms for Sewing-Machines, of which the following is a description, reference being had to the accompanying drawing and to the letters and figures of reference marked thereon.

My invention relates to an improvement in sewing machines, and particularly to blind stitch sewing machines of the type illustrated in my applications for Letters Patent filed on the 29th day of March, 1899, Serial No. 711,025, patented Feb. 17th, 1903, No. 721,077 and on the 31st day of December, 1901, Serial No. 87,959.

The particular object of the present invention is to provide a top feed mechanism for use on machines of such type, which can also be adapted for ruffling or gathering, and I intend the claims to cover the invention whether used for a feeding or a ruffling mechanism.

When a machine of the character referred to, is to be used for certain classes of work, particularly in blind stitching the bottoms of trousers legs, or for ruffling, it is desirable in the one case, and necessary in the other, to use a top feed mechanism coöperating with the lower feed. As herein shown, this top feed or ruffling mechanism is connected to and operated by the lower feeding mechanism, although it will be understood that such is not absolutely necessary, as other means may be used for operating said top feed or ruffling mechanism.

The invention consists in the matters hereinafter described and referred to in the appended claims.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a blind stitch machine, embodying my invention; Fig. 2 is a perspective view of the top feed mechanism detached; Figs. 3 and 4 are end views of the work support and top feed dogs in different positions. Fig. 5 is a detail in section, showing the latch for fastening together certain parts of the feeding mechanism; Fig. 6 is a detail in section, showing the sliding connection between the feed-supporting member, and the part for rocking the same.

In these drawings, A is the standard of a blind stitch sewing machine; B, the overhanging arm or gooseneck, and C the work supporting plate, herein shown as a cylindrical casing inclosing the feeding mechanism, and provided with a throat plate D having openings for the passage of the feed dogs, and provided with a V-shaped central rib or ridge E, over which the goods are crimped.

The needle and looper-operating mechanisms are the same as those shown in the latter application above referred to. These connections are not herein specifically shown and described as they are shown in detail in my application 117,878, filed July 31, 1902.

The shaft u is oscillated by a suitable mechanism, and at its forward end is secured to a head 48, which has a rectangular slot 49 at its lower end, in which slides the squared head 51 of the pivot pin 50, which is attached to the lower end of the feed-dog-carrying bar 52, supporting the feed dog 53 at its upper end. This shaft u, gives the forward and backward movement to the feed dogs 53. The shaft u' gives the vertical movement to the feed dogs, through the link 54, fixed to the outer end of the shaft u' and pivotally attached to the bar 52, the latter sliding up and down as the link 54 oscillates.

The numerals 55 and 56 represent two feed dogs having teeth in their lower forward edges. The feed dogs 55 and 56 are fixedly sleeved at the front of the machine to a shaft 59, extending longitudinally of the work support, and journaled in the upper ends of arms 60, 60, fixed at their lower ends to the rock shaft 61, journaled in bearings in a lug 62, secured to the work support. This rock shaft is provided with an upwardly and outwardly extending arm 63, in which, near its upper end, is fitted a bolt

64, upon which is pivoted one end of a link 65, which at its opposite end is pivoted on a bolt 66, secured to the upper end of the arm 67, which latter is at its lower end clamped upon the shaft u. It will be seen, therefore, that as the shaft u oscillates, the shaft 62 rocks, and swings the arm 60, bodily, thus moving the feed dogs 55 and 56 bodily back and forth.

Near its inner end, the shaft 59 has fixed upon it, a downwardly projecting arm 68, which, at its lower end is provided with a stud 69, upon which is pivoted one end of a curved link 70, which, at its lower end is pivoted on the stud 71, secured in the lower end of the lever or crank 72, loosely sleeved on the shaft u'. This lever or crank 72 is normally pinned to the crank 73, fixed at its upper end to the shaft u'. This pinning together of the two cranks is accomplished by means of a spring catch 74, pivoted to the crank 73, and having a latch engaging the slot 75 in the crank 72.

When the cranks 72 and 73 are pinned together, they move as one, and the oscillations of the shaft u' transmit an oscillatory movement to the arm 68. A leaf spring 76 is secured to the end of the shaft 59, and rests at its lower end between projections 77 on the arm 68. When the arm 68 has swung through its connection to the shaft u', the projections will engage first one side and then the other of the leaf spring 76, and through the leaf spring 76 impart an oscillatory movement to the shaft 59, thus swinging the forward ends of the feed dogs 55 and 56 up and down. This will cause the feed dogs to be yieldingly pressed against the fabrics, and allow unequal thicknesses of fabric to pass beneath the feed dog without in any way retarding or interfering with the feed.

Means are provided for automatically releasing the top feed mechanism when the work plate is lowered for the insertion or removal of the work, and to this end, the spring catch 74 has its lower end projecting downwardly into position to be engaged by a projection 77^a on the machine standard, whereby when the work support is lowered, the clutch will be tripped and release the crank 72 from engagement with the crank 73, holding the catch in disengaged position until the work support returns to elevated position, and the shaft u' begins to oscillate when the cranks are again united. These connections are not herein specifically shown and described as they are shown in detail in my application 117,878, filed July 31, 1902.

While I have herein described my invention as applied to a top feed mechanism, it will be readily understood that ruffling or gathering blades may be substituted for the feed dogs 55 and 56, which will ruffle or gather the goods, and I, therefore, wish to claim my invention broadly enough to cover the mechanism, whether applied for operating a ruffling attachment or top feeding dogs.

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

1. In a blind stitch sewing machine having an overhanging arm, a needle and looper mechanism supported thereby, a work support extending parallel with the overhanging arm, and extending beneath the needle and looper mechanism and having a ridge or rib over which the goods are crimped, a fabric manipulating device including a swinging framework pivotally attached to the work support and carrying a member engaging the fabric, means for oscillating said framework to move said member bodily backward and forward and means for swinging said member on said framework up and down; substantially as described.

2. In a blind stitch sewing machine having an overhanging arm, a needle and looper mechanism supported thereby, a work support extending parallel with the overhanging arm, and extending beneath the needle and looper mechanism and having a ridge or rib over which the goods are crimped, a feeding mechanism within the work support, a fabric manipulating device including a swinging framework pivotally attached to the work support, and carrying members engaging the fabric, means for oscillating said framework to move said members bodily backward and forward, and means for swinging them up and down, each of said means being operatively connected to the feeding mechanism; substantially as described.

3. In a blind stitch sewing machine having an overhanging arm supporting a needle, and looper mechanism, a work support extending beneath the overhanging arm, and having a ridge-forming rib over which the goods are crimped, a top feed mechanism comprising feeding blades, a rock shaft supporting the same, and means for oscillating said rock shaft, a framework pivoted to the work support in which framework said rock shaft is journaled, an oscillating shaft, and connections between the framework and the oscillating shaft, whereby the framework is oscillated; substantially as described.

4. In a blind stitch sewing machine having an overhanging arm supporting a needle, and looper mechanism, a work support extending beneath the overhanging arm, and having a ridge-forming rib over which the goods are crimped, a top feed mechanism comprising a framework pivoted to the work

support of the machine frame, an oscillating shaft, connections between the oscillating shaft and the pivoted framework for oscillating said framework, upright supporting arms, a rock shaft journaled therein, a second oscillating shaft, and connections between the rock shaft, and said oscillating shaft, whereby the rock shaft is oscillated, and work-moving devices attached to the rock shaft; substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses.

LANSING ONDERDONK.

Witnesses:

W. L. SNIFT,

MILLARD VAN WAGNER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."