

No. 720,731.

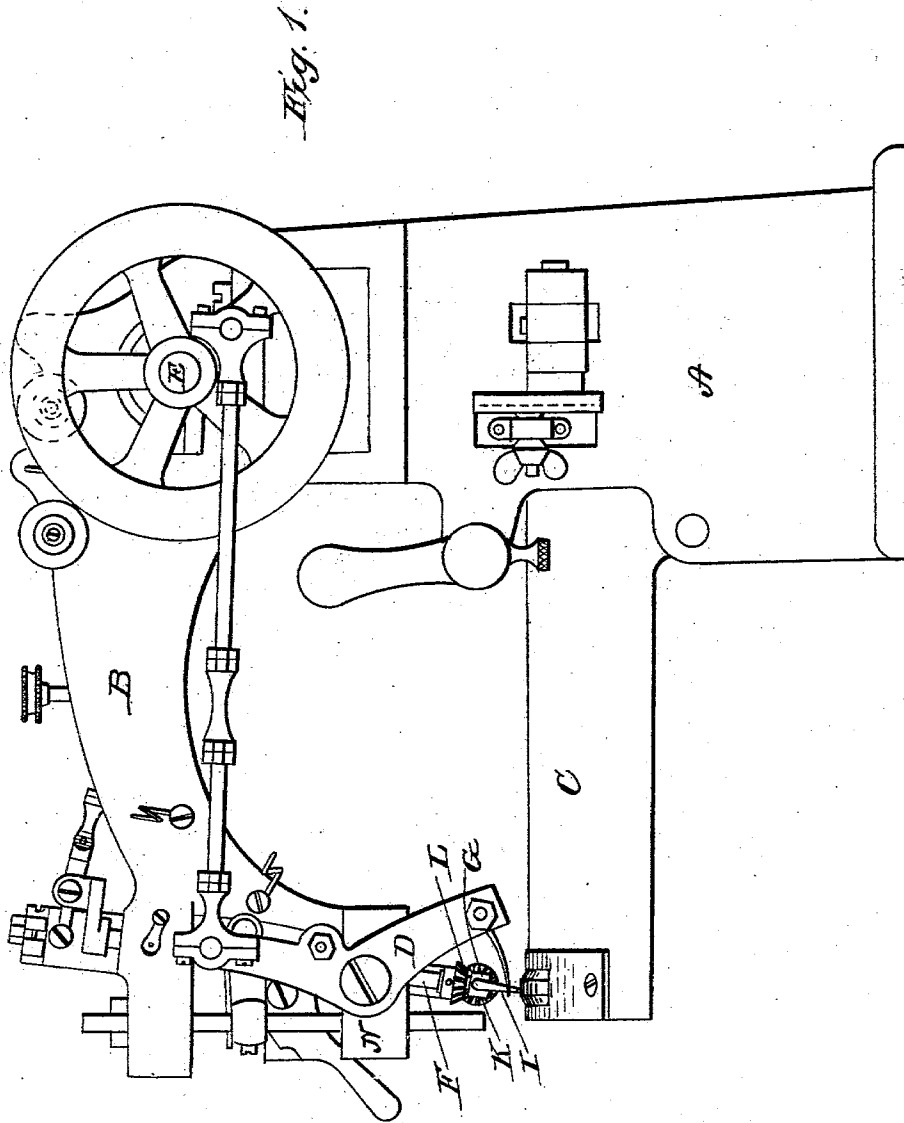
PATENTED FEB. 17, 1903.

L. ONDERDONK.
BLINDSTITCH SEWING MACHINE.

APPLICATION FILED NOV. 7, 1899.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
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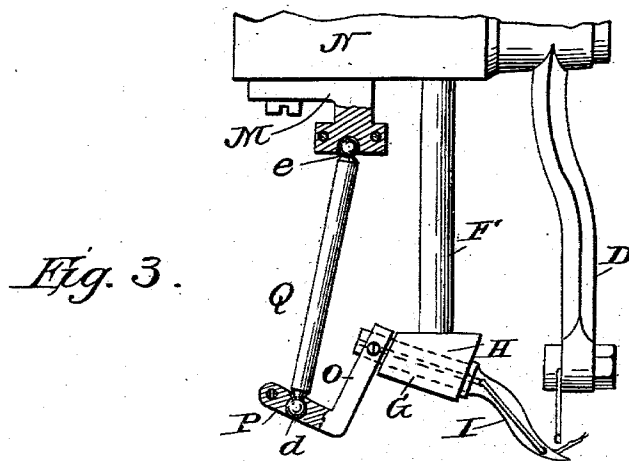
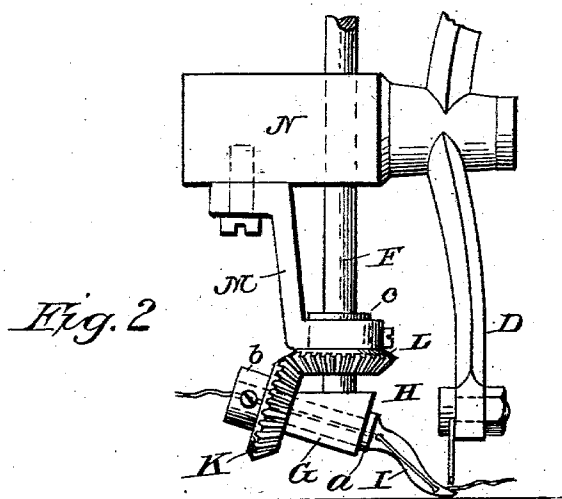
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Witnesses
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UNITED STATES PATENT OFFICE.

LANSING ONDERDONK, OF NEW YORK, N. Y., ASSIGNOR TO THE UNION SPECIAL SEWING MACHINE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

BLINDSTITCH SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 720,731, dated February 17, 1903.

Application filed November 7, 1899. Serial No. 736,131. (No model.)

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 Blindstitch Sewing-Machines, of which the following is a description, reference being had to the accompanying drawings and to the letters of reference marked thereon.

My invention relates to an improvement in looper-operating mechanism for sewing-machines, and especially to sewing-machines for making blindstitches of the type illustrated in a series of companion applications filed by me in the Patent Office of even date herewith, Serial Nos. 736,129, 736,130, and 736,132, and also in another application, Serial No. 711,025, filed March 25, 1899, Case A.

The object of the present invention is to provide a novel arrangement in which the looper in passing from one extremity to the other of its movement in taking and leaving the loop will bodily raise and lower in order to pass over any obstructions, such as a seam or ridge, formed by bending the goods over a former on the bed or cloth-plate.

The invention consists, primarily, of a looper-supporting bar or rod with means for oscillating it, a looper mounted upon the lower end of said bar or rod, and means for oscillating said looper on its axis.

Secondly, it consists of a looper-supporting bar or rod with means for oscillating it, a looper mounted upon the lower end of said bar or rod, and connections between the bar or rod and the looper, whereby the latter is oscillated on its axis as the bar or rod is oscillated.

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

In the accompanying drawings, which illustrate the invention, Figure 1 is a side elevation of a sewing-machine embodying my invention. Fig. 2 is an end view of the same, and Fig. 3 a similar view of a modification.

In the drawings the mechanism for imparting the oscillating movement to the

looper-supporting bar may be substantially the same as shown in the application Serial No. 711,025, or, as herein illustrated, the same as that shown in companion Case E, filed of even date herewith, Serial No. 736,130. This mechanism and other parts of the machine are disclosed in said other applications and are only briefly referred to here.

A is the standard of the machine; B, the gooseneck; C, the cylindrical bed or work-plate; D, the needle-lever pivoted to the machine-head, carrying a needle on its lower end and oscillated on its pivot by a pitman-and-crank connection, with a balance-wheel on the transverse driving-shaft E.

F is the looper-supporting bar or rod, journaled in suitable bearing-lugs on the head of the machine and oscillated in its bearings on its axis by the connections shown in the drawings between it and the driving-shaft of the machine.

Upon the lower end of the looper-supporting rod or bar F is fixed a block G, having an inclined opening through it, in which is journaled a shaft or rod H, to which the looper I is attached, said shaft being kept from longitudinal displacement by the collars *a b*. Fixed to the shaft H, between the block G and the collar *b*, is a bevel-gear K, which meshes with a stationary bevel-gear L, through the hub *c* of which passes the bar or rod F, said hub being secured within an opening in the lower arm of a bracket M, secured to the lug N on the machine-frame.

As the bar or rod F oscillates the block G will be carried with it, and the bevel-gear K will travel around and be rotated by the stationary gear L. Thus the looper I will be caused by the oscillating movement of the bar F on its axis to take the needle-loop at one extremity of its movement and carry its thread over the line of the seam into position to be engaged by the needle in its next movement forward to pierce the goods, and between these two extremities the shaft H will be rotated, thus oscillating the looper on its own axis and cause it to take a semicircular or semi-elliptical path in traveling between its extremities of movement, thus enabling it

to escape any obstructions, such as a seam or ridge in the goods being sewed, the goods being creased or crimped over a V-shaped throat-plate on a ridge thereon, as in the application, Serial No. 711,025, referred to, and the oscillatory movement on its own axis gives to the looper the necessary up-and-down movement whereby, in connection with the oscillation of the bar F, which gives the movement bodily from one extreme to the other, the proper concatenation of threads is effected.

In Fig. 3 is shown a different mechanism for giving this oscillatory movement to the looper on its own axis. In this figure the rod or shaft or shank H of the looper I passes through and is journaled in the block G, said member H being attached to an inclined crank O, having a socketed head P, within which is pivoted the ball d on the lower end of the link Q, the upper end of which is provided with a ball e, pivoted in a socket in the bracket M, secured to the lug N on the machine-frame. In this arrangement as the bar or rod F oscillates the crank and link or ball connections between the looper-shank H and the bracket M will give an oscillating motion to the looper I.

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

1. A looper-operating mechanism for sewing-machines, comprising a supporting rod or bar with means for oscillating it, a looper supported by said rod at an angle thereto and having movement across the line of the seam, and means for oscillating it on its own axis, whereby as it moves bodily across the line of

the seam, it oscillates on its own axis to rise and fall between the extremities of its movement; substantially as described.

2. In a sewing-machine, a looper-operating mechanism, comprising an upright supporting rod or bar, and means for oscillating it, a looper shaft or rod journaled on the lower end thereof, and arranged at an angle thereto, and means for oscillating it, whereby as the looper is moved bodily, it also oscillates on its axis, to rise and fall between the limits of its bodily oscillation; substantially as described.

3. A looper-operating mechanism for sewing-machines, comprising an upright oscillating bar or rod, a looper carried thereby pivoted to oscillate on its own axis which is at an angle to the axis of the said bar or rod, a stationary rack or gear on the machine-frame and a rack or gear carried by the looper, meshing with said stationary rack or gear, whereby as the looper is carried bodily around by the bar or rod, it will also rotate on its own axis; substantially as described.

4. A looper-operating mechanism for sewing-machines, comprising an upright oscillating bar or rod, having a block on its lower end, a shaft as H journaled therein and extending at an angle to said bar or rod, a looper attached thereto, a bevel-gear on the shaft H, and a stationary bevel-gear, in mesh therewith; substantially as described.

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

LANSING ONDERDONK.

Witnesses:

W. L. SWIFT,

W. H. MOYER.