

No. 721,082.

PATENTED FEB. 17, 1903.

L. ONDERDONK.
BLINDSTITCH SEWING MACHINE.

APPLICATION FILED NOV. 7, 1899. RENEWED JAN. 26, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

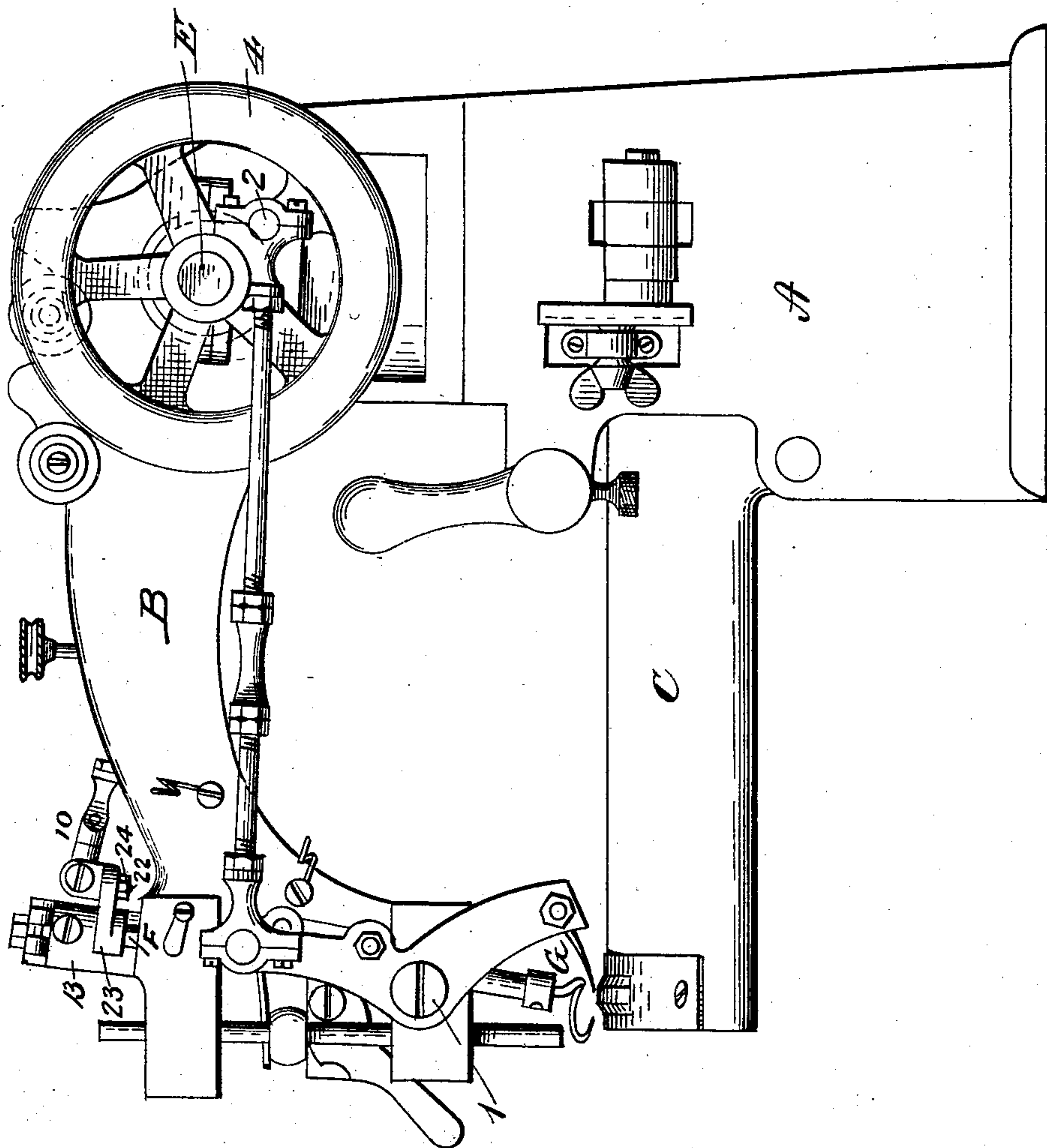


Fig. 1.

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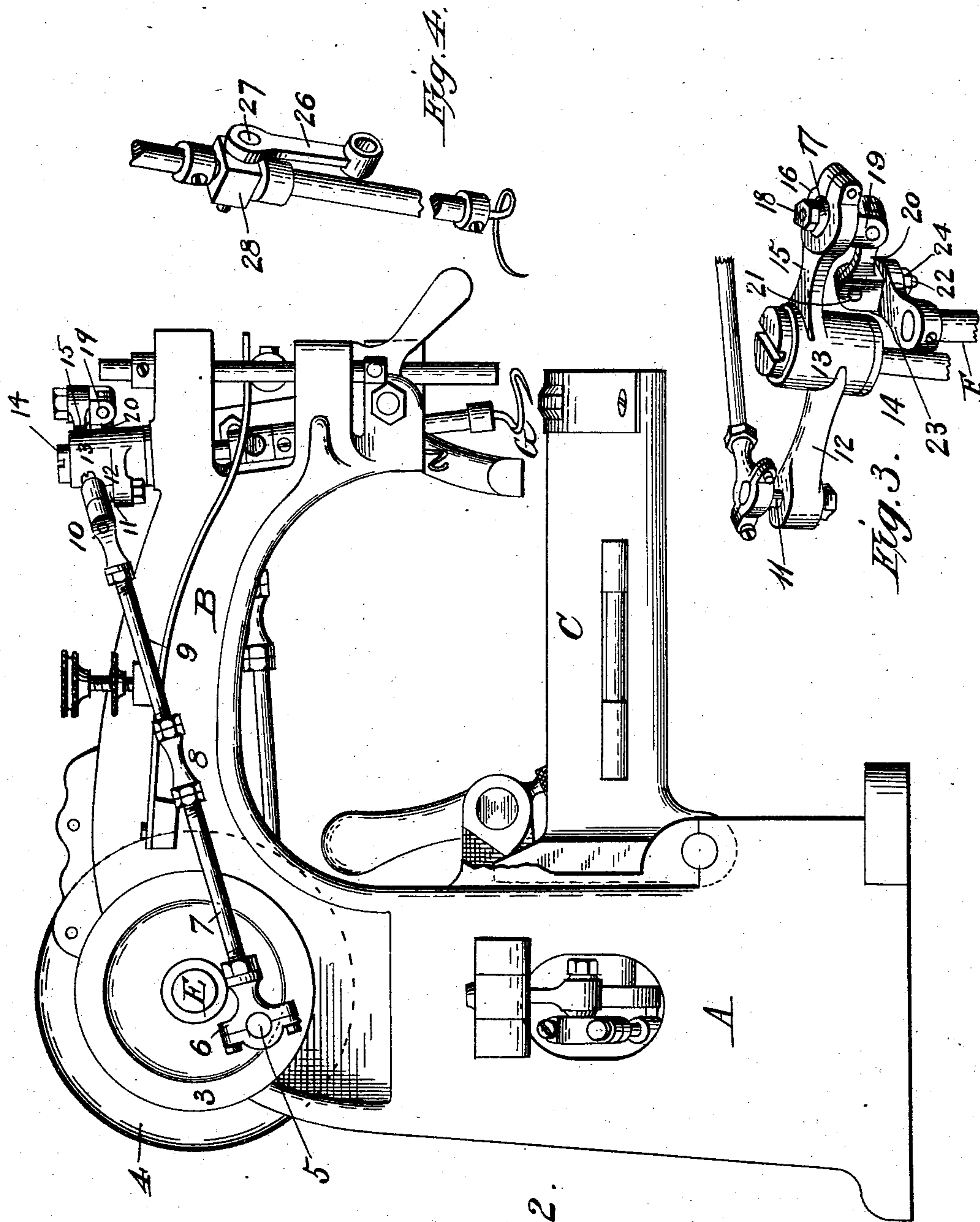
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3 SHEETS—SHEET 2.



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Fig. 2.

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3 SHEETS—SHEET 3.

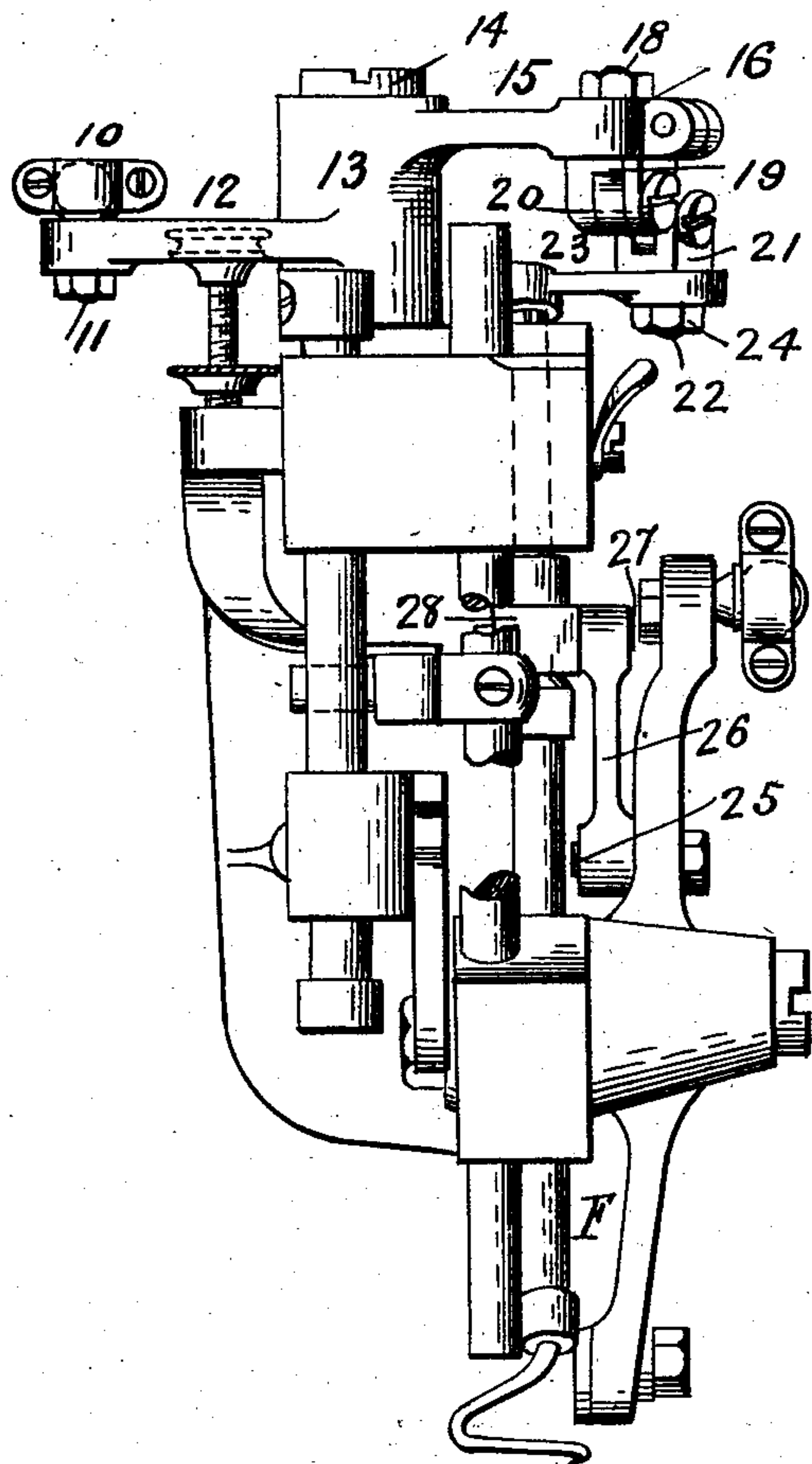
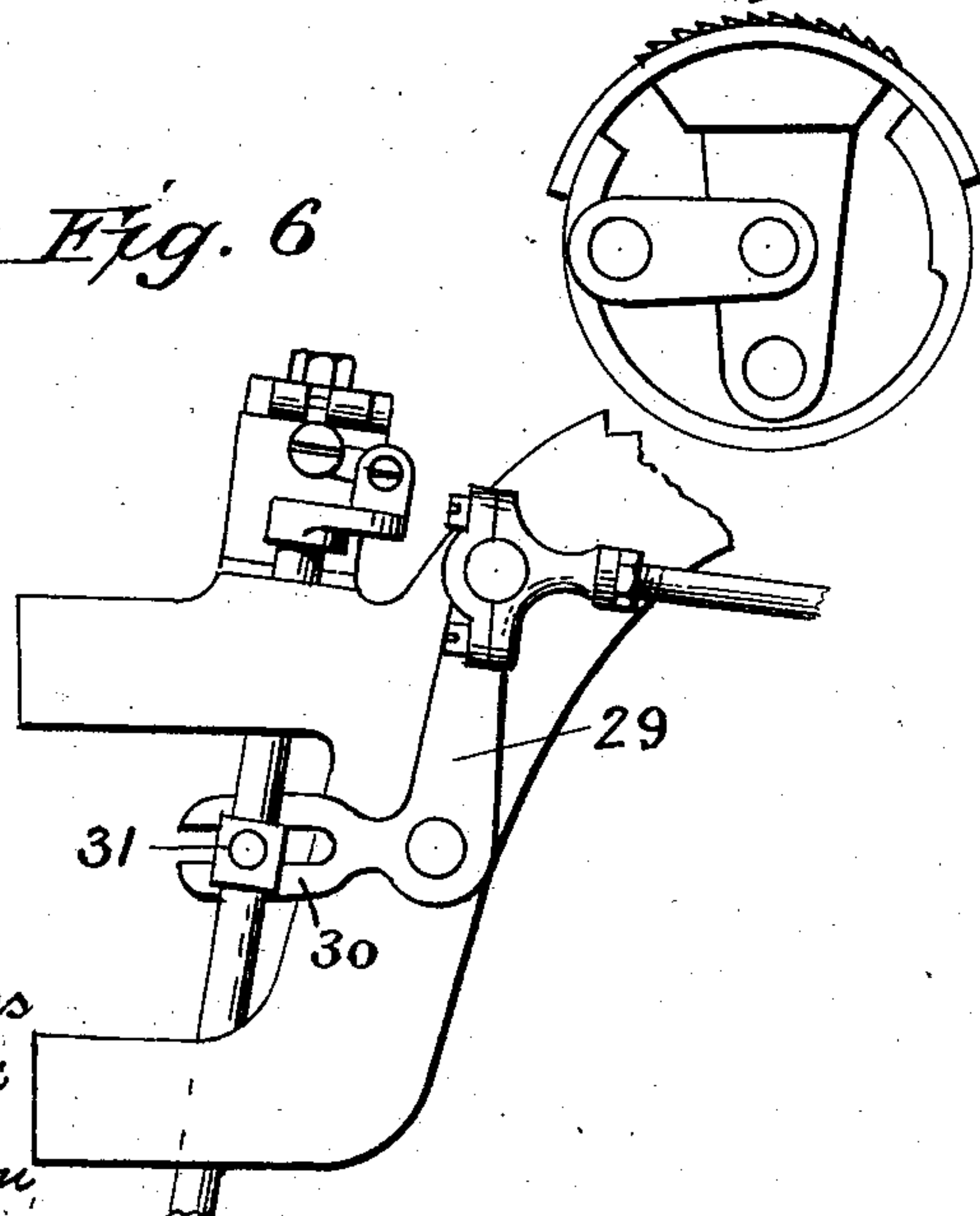


Fig 5

Fig. 6



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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. 721,082, dated February 17, 1903.

Application filed November 7, 1899. Renewed January 26, 1903. Serial No. 140,672. (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 and figures of reference marked thereon.

My invention relates to sewing-machines, and particularly to that class of sewing-machines known as "blindstitch-machines;" and the object of the present invention is to provide a new looper-operating mechanism for machines of such character.

The invention therefore 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 side elevation of a sewing-machine embodying my invention. Fig. 2 is a rear side elevation. Fig. 3 is a detail perspective view of the looper-operating connections. Fig. 4 is a detail view of the looper-supporting bar and the link by which it is connected to the needle-lever. Fig. 5 is an end view of a sewing-machine embodying the invention, and Fig. 6 is a detail view of a different mechanism for vertically moving the looper-supporting bar or rod.

In the drawings, A represents the standard of a sewing-machine, B the gooseneck or overhanging arm, and C the bed or work plate, herein shown as cylindrical in shape. The bed-plate is hinged to the standard, as shown in the drawings and fully described and claimed in my companion Case B. The feeding mechanism is carried in the cylinder or bed-plate and operated by connections, as set forth in my companion application, (Case D.)

The needle-operating mechanism is substantially the same as that shown in my application, Serial No. 711,025, filed March 25, 1899, the needle-lever being pivoted at 1 to the head of the machine and carrying on its lower end a curved needle, the needle-lever being oscillated on its pivot by means of pitman

and ball-joint connections between its upper end and a crank-pin or stud 2 on the balance-wheel 4 of the machine, this balance-wheel being fixed on the rotating driving-shaft E, which is arranged transversely of the stand-ard. At its opposite end the shaft E carries a belt-wheel 3, upon the face of which is arranged a crank pin or stud 5, having a ball-and-socket connection with the head 6, to which is attached one end of a rod 7, which at its opposite end is secured to a sleeve 8. A second rod 9 is attached to the opposite end of the sleeve 8 and is screwed at its opposite end to the head 10, having a socket and clamped around the ball on the ball-stud 11, screwed into the arm 12, which projects from the sleeve 13, pivoted on a screw-stud 14, which is fastened into the head of the machine. From the opposite side of the sleeve 13 projects a plate or arm 15, having a split head 16 on its outer end, which split head encircles a roller or ball 17 on the forked stud 18. Between the forks 19 of this stud 18 is pivoted one end of a link 20, which at its opposite end is pivoted between the forks 21 of the stud 22, passing pivotally through the plate 23 and held from vertical movement by the nut 24, the plate 23 having an opening in which is rigidly fastened by a set-screw the upper end of the looper-supporting rod or bar F. By this series of connections it will be seen that as the driving-shaft rotates an oscillatory movement will be given to the looper-supporting rod or bar F, which is journaled in lugs on the machine-frame and carries the looper G on its lower end.

As was pointed out in my application (Case A) Serial No. 711,025, it is sometimes desirable to give the looper-supporting bar or rod a vertical movement as well as an oscillating movement to enable the looper to be bodily lifted and lowered. The pivotal arrangement of the link 20 between the forks of the two pivotal studs 18 and 22 allows this bodily movement of the looper-supporting bar or rod to take place without bind. In Figs. 4 and 5 is shown one way of imparting this vertical bodily movement to the looper-supporting bar, and in these figures the needle-lever is provided with a stud 25, to which is pivoted

one end of a link 26, which at its opposite end is pivoted to a stud 27, carried by a block 28 on the looper-supporting rod or bar. By this arrangement as the needle-lever swings on its pivot 1 the looper-supporting bar or rod will be raised and lowered. In Fig. 6 is shown a different means for imparting this up-and-down motion to the looper-supporting bar, this means comprising a lever or angle arm 29, pivoted to the head of the machine and having a pitman and crank connection with the balance-wheel 4 in a manner similar to that in which the needle-operating connection is made to the balance-wheel, and this is not deemed necessary of illustration, the lower arm 30 of this lever or angle arm being forked and embracing a portion of a block 31, pivoted to the looper-supporting rod. By this means as the wheel 4 rotates the looper-supporting rod or bar will be positively reciprocated in its bearings.

It will be noticed that the oppositely-extending arms on the sleeve 13, with said sleeve, form an oscillating frame or lever, which is connected to the driving mechanism and to the looper-supporting rod or bar.

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 looper-supporting rod or bar mounted to oscillate in suitable bearings, and capable of longitudinal movement therein, means for oscillating said looper-supporting rod or bar including an oscillating frame or lever, pivotal connections between the same and said looper-supporting bar or rod, and means for giving the looper-supporting bar or rod its bodily movement; substantially as described.

2. A looper-operating mechanism for sewing-machines, comprising a looper-supporting rod or bar, mounted to oscillate in suitable bearings with means for giving said looper-supporting bar or rod bodily up-and-down movement, an oscillating frame or lever pivoted on the machine-frame, a stud pivotally attached to one arm of said frame or lever, an arm or plate rigidly attached to the upper

end of said looper-supporting rod or bar, a stud pivotally mounted thereon, and connections between said two studs; substantially as described.

3. A looper-operating mechanism for sewing-machines, comprising a looper-supporting rod or bar, mounted to oscillate in suitable bearings with means for giving said looper-supporting bar or rod bodily up-and-down movement, an oscillating frame or lever pivoted on the machine-frame, a stud pivotally attached to one arm of said frame or lever, an arm or plate rigidly attached to the upper end of said looper-supporting rod or bar, a stud pivotally mounted thereon, and a link pivoted to both of said studs, whereby upward movement of the looper bar or support is permitted; substantially as described.

4. A looper-operating mechanism for sewing-machines, comprising an oscillating looper-supporting rod or bar with means for giving said looper-supporting bar or rod bodily up-and-down movement, an oscillating frame or lever pivoted on the machine-frame, a forked stud pivotally embraced by one arm of said frame or lever, a link pivoted at one end between the forks of said stud, a plate or arm to which the looper-supporting rod or bar is secured, a forked stud pivoted thereto, to the forks of which said link is also pivoted; substantially as described.

5. A looper-operating mechanism for sewing-machines, comprising a looper-supporting bar or rod, with means for oscillating it about its longitudinal axis, said means comprising an oscillating frame with pivotal connections between the same and the looper-supporting bar or rod, and means for raising said looper-supporting bar or rod bodily, said means comprising a pivoted lever operatively engaging said looper-supporting bar or rod, and having an operative connection with the driving-shaft; substantially as described.

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

LANSING ONDERDONK.

Witnesses:

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J. H. HOWELL.