

No. 827,655.

PATENTED JULY 31, 1906.

L. ONDERDONK.
TAKE-UP MECHANISM FOR SEWING MACHINES.
APPLICATION FILED NOV. 15, 1904.

Fig. 1.

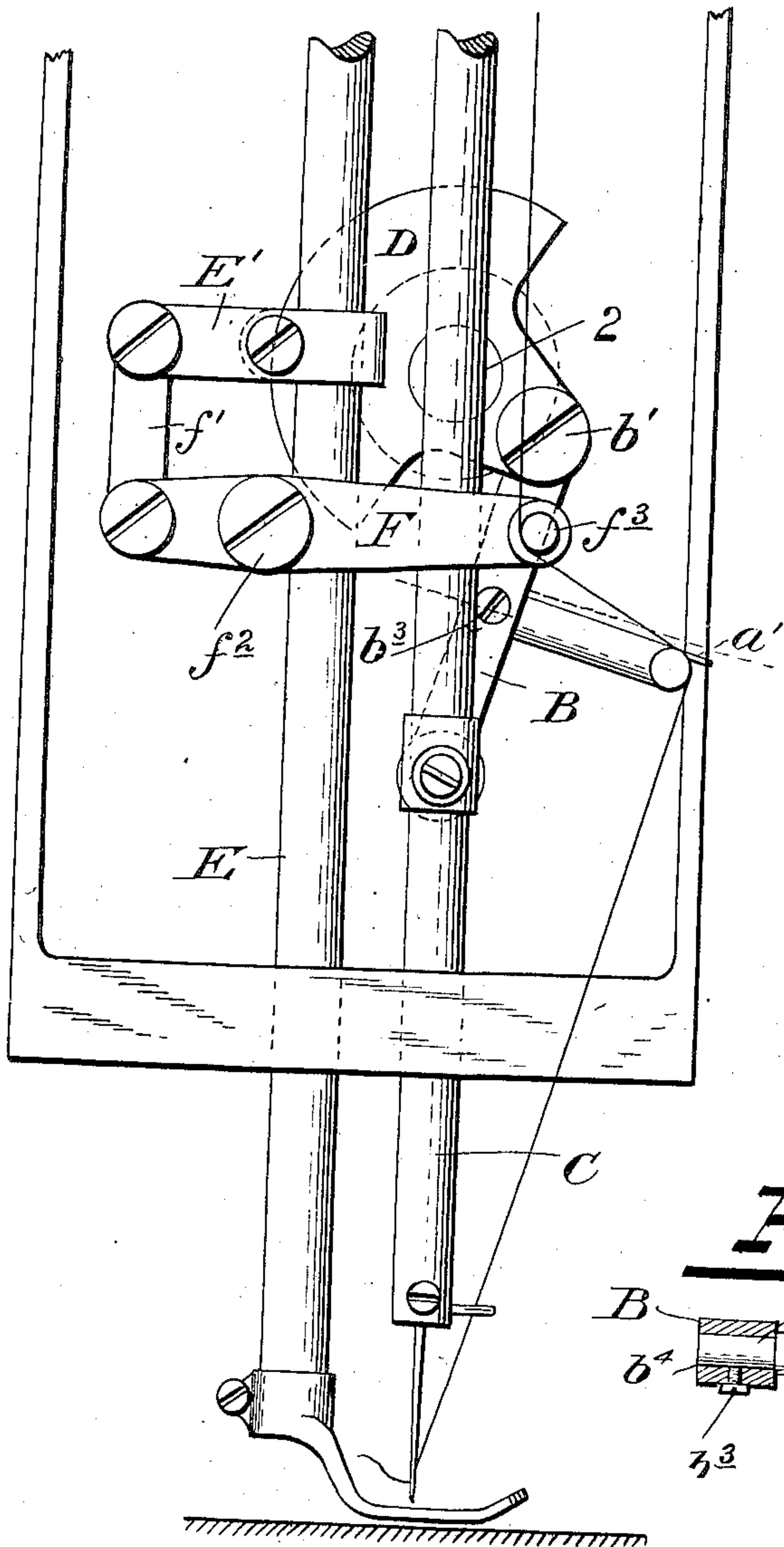


Fig. 2.

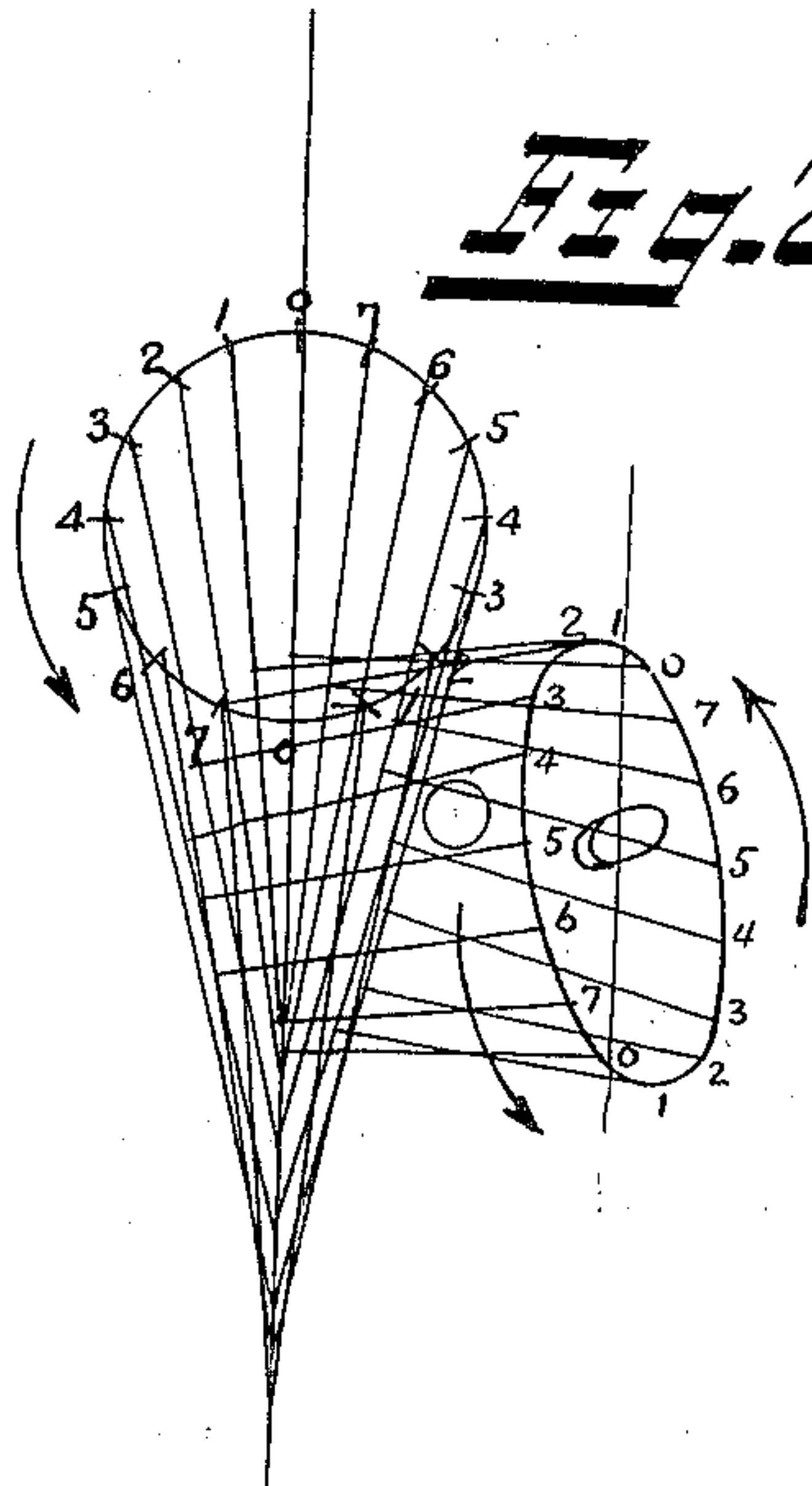
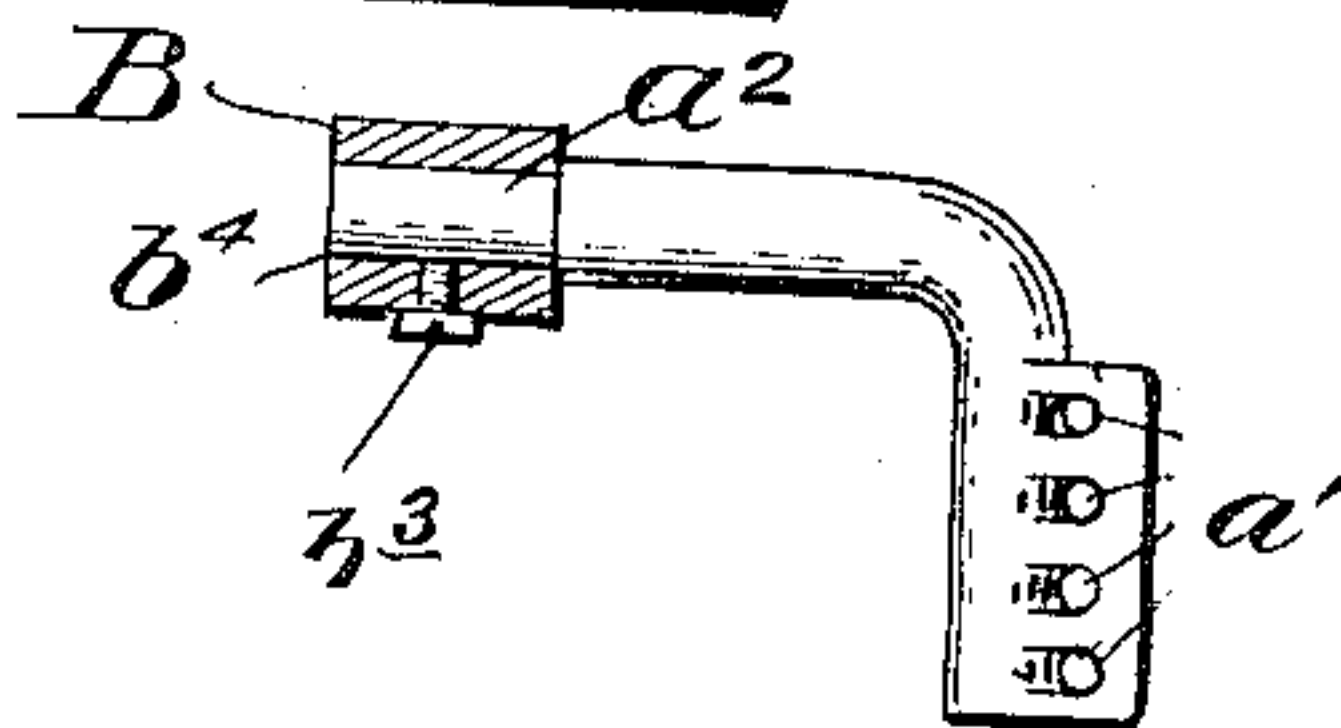


Fig. 3.



WITNESSES:

F. L. Ourand.

Albert Poppens

INVENTOR
Lausing Onderdonk

BY *C. S. Sturtevant*
Attorney

UNITED STATES PATENT OFFICE.

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

TAKE-UP MECHANISM FOR SEWING-MACHINES.

No. 827,655.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed November 16, 1904. Serial No. 232,785.

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 Take-Up Mechanism for 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 take-ups for the stitch-forming mechanism of a sewing-machine, and more especially that class of sewing-machines in which the needle is operated by a horizontally-arranged rotating shaft.

My invention consists in the construction and arrangement of parts set forth in the description and drawings, and particularly pointed out in the claims.

In the drawings, Figure 1 is a front elevation of a sewing-machine head with the face-plate removed to show the arrangement of the parts of my improvement. Fig. 2 is a diagrammatic view showing the relative movements of the needle-bar, crank-pin, and take-up; and Fig. 3 is a top plan view of the take-up arm and a section of the needle-operating link, showing the manner of connecting these parts.

The upper rotating shaft 2 carries on its forward end the usual disk D, which is provided with a crank-pin b' . The needle-bar C is connected to the crank-pin b' by the usual link B and through this connection receives its usual movements. Midway between the ends of the link B is a socket b^4 , extending at right angles to the longitudinal axis of the link and lying in the plane of movement of the link. The take-up arm has a reduced shank portion a^2 , adapted to fit snugly in the socket b^4 , and is firmly clamped therein by a set-screw b^3 . The outer end of the take-up arm is deflected at right angles to the body of said arm and is provided with thread-eyes.

Suitably pivoted at f^2 on the head of the machine is a controller F, one end of which is connected by a link f' to an arm E', rigidly clamped to the presser-bar E. The outer end of said controller extends adjacent to the path of the take-up and carries a thread-guide f^3 . The thread in passing through the

machine passes over the guide f^3 and thence through the eyes a' onto the needle.

The operation of the parts and the timing of the effective end of the take-up relative to the movements of the needle-bar may be easily followed from the diagram shown in Fig. 2 of the drawings. Following the direction of the arrows, the crank B moves from the zero-point through the arcs 1 2 3, &c., and when it reaches the zero-point on the upper portion of the circle the needle is at its extreme upper position. Meanwhile the take-up moves from the zero-point first downward and outward from the controller-guide f^3 , and this movement is sufficient to take up the slack in the needle-thread below the throat-plate when the looper engages the needle-loop, and thus prevents the thread from doubling up and breaking in the needle-eye or either side of the eye. The take-up begins to move upward through the points 1 2 3, &c., but does not reach its maximum pull or extreme upward movement until the needle begins to descend, and on the downward movement of the needle said take-up keeps the thread out of the way of the point of the needle. It will be noted that my take-up serves the double function of a take-up and slack-thread controller. The stitch is regulated by the thickness of the work through the controller F. Said controller is pivoted at f^2 to a bracket carried by the machine-head, but which has been omitted from the drawings for the sake of clearness. At the rear end of the controller F a link f' is pivoted, which in turn is pivoted to a bracket E', carried by the presser-bar. It will be clear from the above description that any movement of the presser-bar owing to differences in thickness of the material operated upon will be communicated to the controller, changing the position of the guide f^3 relative to the take-up arm, and thus controlling the stitch in the usual manner.

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

1. In combination with a stitch-forming mechanism, including a needle-bar, a rotating shaft and a link for operating said needle-bar, of a take-up arm rigidly connected to said link and extending at substantially right

angles to the longitudinal axis of said link whereby the free end of said take-up arm has an upward movement after the said needle-bar begins to descend; substantially as described.

2. The combination of a driving-shaft, a crank-pin carried thereby, a needle-bar, a link connecting said needle-bar and crank-pin, and a take-up arm rigidly connected to said link and extending at substantially right angles thereto in the plane of movement of said link, the outer end of said take-up arm being bent at right angles to the body thereof and provided with a thread-guide; substantially as described.

3. The combination of a driving-shaft, a crank-pin carried thereby, a needle-bar, a link connecting said needle-bar and crank-pin, said link having a socket intermediate its ends, a take-up arm rigidly secured in said socket and extending at right angles to said

link, the outer end of said take-up arm being bent at an angle to the body thereof and provided with a thread-guide; substantially as described.

4. The combination of a driving-shaft, a crank-pin carried thereby, a needle-bar, a link connecting said needle-bar and crank-pin, said link having an apertured socket intermediate its ends, a take-up arm rigidly secured in said socket and extending at right angles to said link, a stitch-regulator pivoted to the machine-head and having one end connected to the presser-foot and its free end extending adjacent to the path of movement of the take-up arm; substantially as described.

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

LANSING ONDERDONK.

Witnesses:

W. L. SWIFT,

WM. BLANCHARD.