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J. DIEHL.

TAKE-UP MECHANISM FOR SEWING MACHINES.

APPLICATION FILED MAR. 21, 1899.

NO MODEL.

Fig. 2.

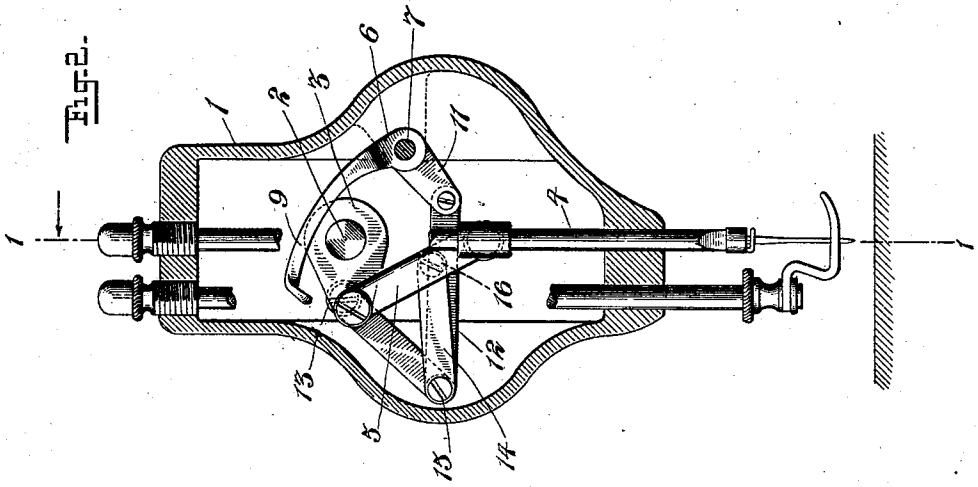
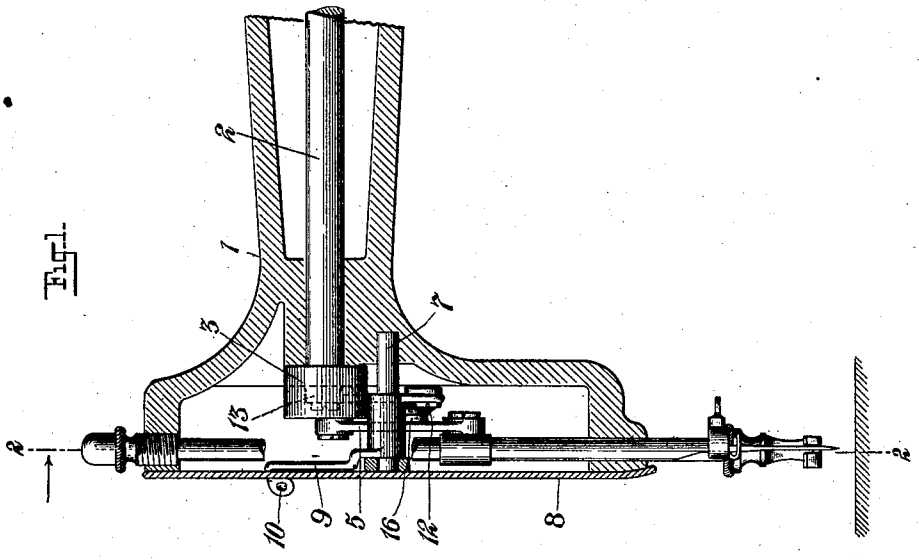


Fig. 1.



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UNITED STATES PATENT OFFICE.

JACOB DIEHL, OF CLEVELAND, OHIO, ASSIGNOR TO THE STANDARD SEWING MACHINE COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

TAKE-UP MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 718,703, dated January 20, 1903.

Application filed March 21, 1899. Serial No. 709,964. (No model.)

To all whom it may concern:

Be it known that I, JACOB DIEHL, a citizen of the United States, residing at Cleveland, Cuyahoga county, State of Ohio, have invented certain new and useful Improvements in Take-Up Mechanism for Sewing-Machines, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

My present invention has for its object to provide a simple and effective take-up mechanism for sewing-machines which will have an equally positive and reliable action when the machine is being operated to sew either at a slow or a very high rate of speed.

In carrying my invention into effect the take-up is made in the form of an elbow-lever, which is preferably pivotally supported in the head of the machine with one arm projecting at its end through a slot in the face-plate to engage the thread and its other arm pivotally connected with one of a pair of toggle-links, the other of which latter is hinged upon a stationary support attached to the head at one side of the upper driving-shaft. A link connecting at one end with the needle-bar pitman and at its opposite end with said toggle-links communicates movement from the pitman to the latter and the connected take-up, as will be described.

In the accompanying drawings, Figure 1 is a side view of a portion of the head of a sewing-machine embodying my invention, the frame being in section through line 1 1 of Fig. 2; and Fig. 2 is a front view of the construction shown in Fig. 1 with the frame in section through line 2 2 of Fig. 1.

To explain in detail, the head 1, the rotating needle-bar-operating shaft 2, with its attached crank 3, the needle-bar 4, and the pitman 5, connecting said crank and needle-bar, are all of usual and well-known construction.

The take-up consists of the elbow-lever 6, which is pivotally mounted upon a shaft or pin 7, supported in the head immediately behind the face-plate 8. One arm 9 of this lever is bent forward at its end through a suitable slot in the face-plate and provided with an eye 10 to receive the needle-thread, and the other arm 11 is pivotally connected with one of a pair of toggle-jointed links, (indicated at 12 and 12',) the other of which links is hinged upon a stationary pin or support 13, which is attached to the head at one side of the shaft 2. A link 14, connecting at one end with the toggle-links at their joint 15 and at its opposite end with the needle-bar pitman at a point between its ends at 16, imparts movement from said pitman to the toggle-links and connected take-up, whereby the latter is vibrated and caused to move in the desired order of time relative to the other parts of the stitching mechanism, as follows: The entire take-up movement of the take-up is effected during about a one-fifth revolution of the shuttle, and during the remainder of its movement the take-up gives down the necessary amount of thread as required by the needle and shuttle without undue slack.

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

1. In a sewing-machine, the combination, with the head, the needle-bar, the rotating needle-bar-operating shaft with its attached crank, and the pitman connecting said crank and needle-bar, of a take-up lever pivoted on a stationary support, and means for operating said take-up lever from the pitman, comprising a pair of toggle-links, one of which is pivoted at one end on a stationary support and the other being connected with the take-up lever, and means operatively connecting said links with the actuating-pitman, for the purpose set forth.

2. In a sewing-machine, the combination, with the head, the needle-bar, the rotating needle-bar-operating shaft with its attached crank, and the pitman connecting said crank and needle-bar, of a take-up lever pivoted on a stationary support, and means for operating said take-up lever from the pitman, comprising a pair of toggle-links, one of which is pivoted at one end on a stationary support and the other being connected with the take-up lever, and a link connecting at one end with the toggle and at its opposite end with the actuating-pitman, for the purpose set forth.

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