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UNITED STATES PATENT OFFICE.

FRED A. PUTNAM, OF MELROSE, AND LLOYD L. LIVINGSTON, OF ABINGTON, MASSACHUSETTS, ASSIGNORS TO PURITAN MANUFACTURING COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

SEWING-MACHINE.

970,550.

Specification of Letters Patent. Patented Sept. 20, 1910.

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To all whom it may concern:

Be it known that we, FRED A. PUTNAM, a citizen of the United States, residing at Melrose, county of Middlesex, State of Massachusetts, and LLOYD L. LIVINGSTON, a citizen of the United States, residing at Abington, county of Plymouth, and State of Massachusetts, have invented an Improvement in Sewing-Machines, of which the following description, in connection with the accompanying drawing, is a specification; like letters on the drawing representing like parts.

This invention relates to sewing machines and has for its object to provide a novel mechanism for automatically stopping the machine after a predetermined number of stitches have been sewed.

While the invention may be applied to sewing machines having different constructions, we have herein illustrated it as applied to the type of sewing machine illustrated in Patents No. 575,530, January 19, 1897, and No. 582,792, May 12, 1897. We wish it distinctly understood, however, that the invention is not confined to this particular type of sewing machines.

The drawings show one simple way in which the invention may be incorporated in a sewing machine of the type above referred to, and Figure 1 is a rear elevation of such a sewing machine having our invention applied thereto; Fig. 2 is a section on the line $x-x$ Fig. 1; Fig. 3 is a section on the line $y-y$, Fig. 1; Fig. 4 is a plan view of the controller.

The parts which are old and form no part of our present invention are the base 4 from which extends the overhanging arm 5, the stitching mechanism which includes the needle (not shown) moving vertically through the work rest 7, the looper 8, the presser foot 6 which is raised and lowered automatically by the rock-shaft 30, the main shaft 9 by which these various parts are operated, the clutch for driving the main shaft which comprises the clutch member 10 fixed to the main shaft and the cooperating clutch member 11 loose thereon, said latter clutch member being constantly rotated, the clutch-operating mechanism which comprises the clutch-operating lever 12 for throwing the clutch members into engagement, which lever is pivoted to the frame at 13, and the manual means for controlling

said lever which comprises an arm 14 rigid with the lever 12 and the link 15 connected to the arm and extending to a treadle (not shown). These parts are such as are commonly found in sewing machines of this class and form no part of our present invention, and their operation, therefore, is well known to those skilled in the art and need not be detailed herein.

In applying our invention to this type of machine, we have provided a controller for the clutch-operating arm 14 which controller acts to hold the clutch members 10, 11 in engagement with each other while the predetermined number of stitches is being sewed, and to permit said clutch members to be disengaged from each other the instant that said predetermined number of stitches has been sewed. In the present embodiment of our invention this controller is a rotary member mounted on a fixed stud 28 carried in an arm or bracket 36 sustained by the frame, said member being provided with a hub or flange 20 that is adapted to engage the end 21 of the finger 14 of the clutch-operating lever. The hub or flange 20 is provided with one or more notches 22 of a size to receive the projection 21. Said hub is so situated with reference to the projection 21 that when the arm 14 is depressed to throw the clutch members into engagement, the projection 21 occupies a position immediately beneath the hub, while when the clutch is disengaged, as shown in Fig. 1, the projection 21 is elevated into one of the notches, as shown in Fig. 3. The parts are shown in the drawings in the position they occupy when the machine is at rest. When the clutch-engaging lever 12 is operated by the treadle to start the machine, the projection 21 is carried out from the notch 22 and as the machine is started the hub 20 is rotated thereby bringing the solid part over the projection 21, and thus holding the lever 12 in operative position and the clutch in engagement. This condition will continue until a notch 22 in the hub comes opposite the projection 21 when the end 14 of the clutch engaging lever will be elevated by the spring commonly used for disengaging the clutch when the treadle is released and the clutch will be disengaged, thus stopping the machine. The number of stitches which the machine will

take before it is stopped depends upon the distance between the two notches 22, and this distance can be made such that the machine will take three, four, five or any predetermined number of stitches before it is brought to rest.

The hub 20 may be rotated in any suitable way, and by means of any appropriate mechanism. We find it convenient, however, to give the hub its rotary movement from the rock-shaft 30 by which the presser-foot is automatically lifted at each stitch. This rock-shaft is operated from the main shaft 9 and oscillates at the same speed that the main shaft rotates. In order to utilize the oscillations of the shaft 30 for rotating the hub 20, we have made fast to said shaft an arm 31 to which is pivoted a spring-pressed pawl 32, the latter engaging ratchet teeth 33 formed on the hub 20. The pawl is held in engagement with the ratchet teeth by means of a spring 34. With this construction the hub 20 will be advanced one step at each oscillation of the shaft 30, and as said shaft 30 oscillates once for each stitch, the said hub 20 will move forward one step each time that a stitch is made. The hub may be given its rotary movement by any other means, however, without departing from the invention.

Having described our invention, what we claim as new and desire to secure by Letters Patent is:—

1. In a sewing machine, the combination with stitching mechanism including a presser foot and a rock shaft for operating it, a clutch for operating said stitching mechanism, a clutch-operating lever for throwing the clutch into engagement, and manual means to operate said lever, of a controller adapted in one position to engage the lever and thereby hold the clutch in engagement and in another position to release the lever, and means actuated by the rock

shaft to move positively the controller from each position to the other position.

2. In a sewing machine, the combination with stitching mechanism including a presser foot and a rock-shaft for operating it, and manual means to set said stitching mechanism in operation, of a controller independent from said manual means operated by said rock-shaft for maintaining the stitching mechanism in operation while it makes a predetermined number of stitches.

3. In a sewing machine, the combination with stitching mechanism including a presser foot and a rock-shaft for operating it, a clutch for operating the stitching mechanism, and a clutch-operating lever, of a rotary controller adapted in one position to act on the lever to maintain the clutch in engagement and in another position to release the lever to permit the clutch to be disengaged, and means connected with said rock-shaft for actuating said controller.

4. In a sewing machine, the combination with stitching mechanism including a presser foot and a rock-shaft for operating it, a clutch for operating the stitching mechanism, and a lever for throwing the clutch into operation, of a rotary controller provided with one or more notches, and a pawl carried by said rock-shaft for turning said controller, said controller when in one position acting to hold the clutch-operating lever depressed but permitting said lever to be elevated when the end thereof comes opposite a notch.

In testimony whereof, we have signed our names to this specification, in the presence of two subscribing witnesses.

FRED A. PUTNAM.
LLOYD L. LIVINGSTON.

Witnesses:

BERTHA F. HEUSER,
FREDERICK S. GREENLEAF.