

No. 641,331.

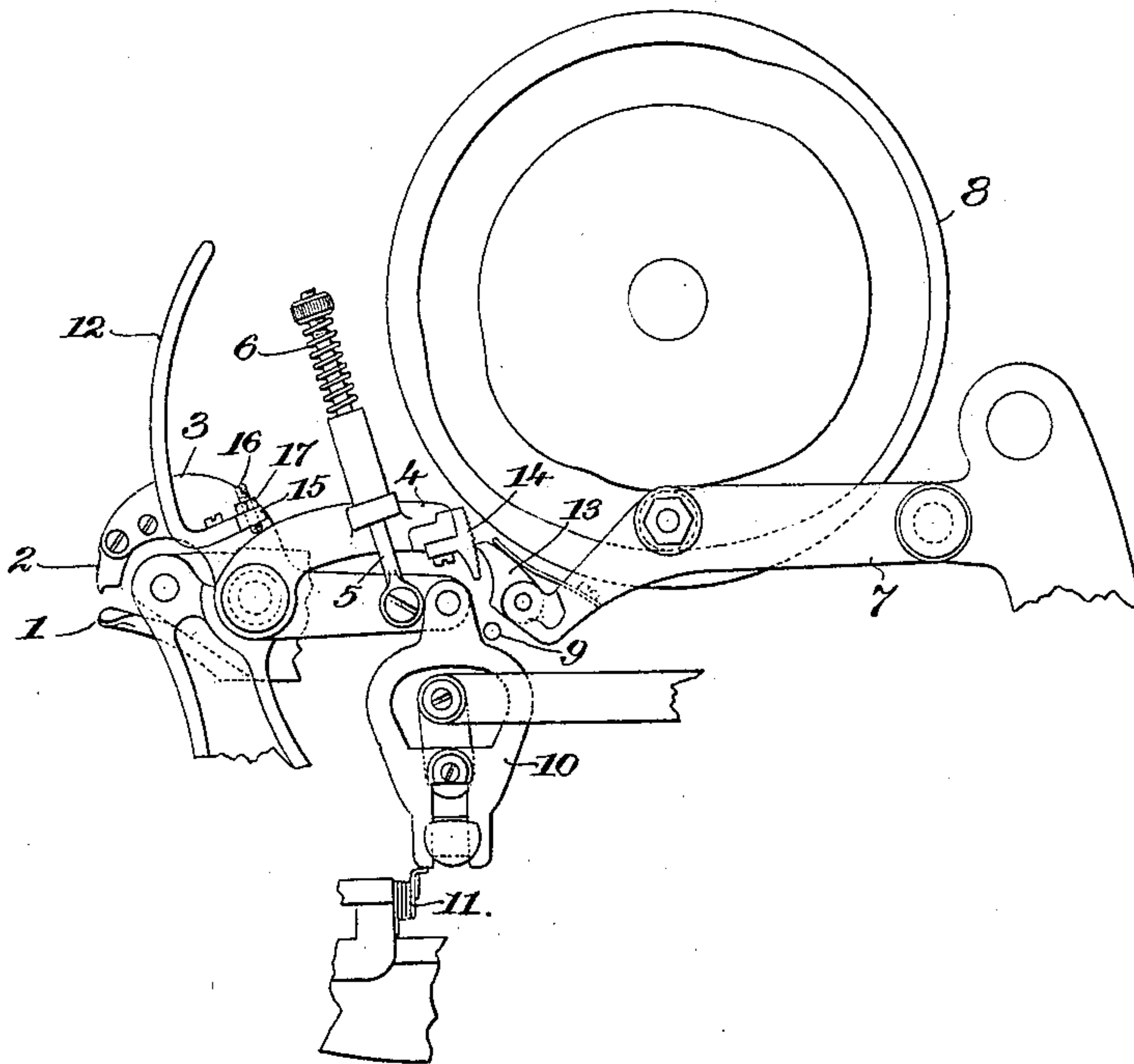
Patented Jan. 16, 1900.

J. T. RUSH.

PRESSER FOOT MECHANISM FOR SOLE SEWING MACHINES.

(Application filed Feb. 11, 1899.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

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PRESSER-FOOT MECHANISM FOR SOLE-SEWING MACHINES.

SPECIFICATION forming part of Letters Patent No. 641,331, dated January 16, 1900.

Application filed February 11, 1899. Serial No. 705,331. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMAS RUSH, a subject of the Queen of Great Britain and Ireland, residing at Northampton, England, have invented certain new and useful Improvements in Presser-Foot Mechanism for Sole-Sewing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to sewing-machines for uniting the outsoles to welts of boots and shoes, and more particularly to certain improvements in the presser-foot mechanism of the machine disclosed in Letters Patent of the United States No. 474,774, of May 10, 1892.

In the device disclosed in the patent above referred to the presser-foot is normally held under a relatively light spring-pressure against the work during the feeding movement. After the feeding movement and before the awl enters the work to feed it another stitch interval the pressure is increased and by means of a locking device the presser-foot is locked in its position of extreme pressure.

In the device of the patent above referred to the pressure exerted by the presser-foot is dependent upon the force exerted by the spring controlling the same, and since the pressure exerted by the spring prior to its increase, as hereinbefore stated, must be sufficiently light to allow the work to be fed along under the presser-foot it is difficult to secure sufficient increase of pressure to closely clamp together the welt and outsole, particularly in heavy work. Furthermore, with any form of locking device known to me intended to lock the presser-foot in its position of greatest pressure there is a liability of a failure of positive action, so that after being pressed together the welt and sole are permitted to separate to a greater or less degree during the puncturing movement of the awl, thus requiring an extra strain on the stitch-forming devices, which must thereafter operate while setting the stitch to draw the upper and welt together. In accordance with the present invention the pressure-foot is normally

held against the work by spring-pressure and thereafter during its final clamping action is given a positive movement and positively held in its position of greatest pressure without the employment of separate locking instrumentalities, thus both simplifying the presser-foot mechanism and materially improving the operation of the machine and the quality of the work.

To the above end the present invention consists of the improved presser-foot mechanism hereinafter more particularly described in this specification and defined in the claims thereof.

The accompanying drawing shows the form of my invention and illustrates in side elevation so much of a sole-sewing machine as is necessary to show the connection of my invention thereto.

The stationary work-support 1, the presser-foot 2, the presser-foot lever 3, the auxiliary presser-foot lever 4, the link 5, and spring 6 for connecting the said presser-foot levers, the presser-foot-actuating lever 7 and its cam 8, the stud 9, the frame 10, its connecting mechanism and the spring 11 for supporting said frame, and the hand-lever 12 are and preferably will be, except as to differences hereinafter pointed out, the same as shown and described in the Letters Patent hereinbefore referred to.

The present invention contemplates the actuation of the presser-foot for a certain part of its movement by yielding means and thereafter imparting to it a further positive movement, and to these ends any suitable means may be employed which will accomplish such results. In the illustrated embodiment of my invention the presser-foot-actuating lever 7, oscillated by the cam 8, actuates the auxiliary presser-foot lever 4 through the spring presser-pawl 13 engaging the ratchet-toothed dog 14 on the rearwardly-projected end of the lever 4, and the presser-foot lever 3 by means of the link 5, through the intervention of the spring 6, is yieldingly actuated to depress the presser-foot 2, which yielding movement continues until the resistance of the material balances the pressure of the spring 6 and arrests further downward movement of the presser-foot, when the auxiliary lever 4 en-

gages a suitable stop rigidly connected with the presser-foot lever 3 and projected into the path of further movement of the auxiliary lever 4, whereupon the auxiliary lever 4 picks up the presser-foot lever 3 and moves it with a positive unyielding movement to cause the presser-foot to positively clamp the layers of the stock together and against the work-support during the formation of the stitch by the stitch-forming devices. Any suitable form of stop may be employed for this purpose, the stop of the machine of the drawing comprising an adjustable pin 16, screwed into a lug 15 on the base of the hand-lever 12, the lug 15 projected outward over the auxiliary lever 4, so as to bring the stop over the auxiliary lever 4. A suitable nut 17, screwed on the pin 16, maintains said pin in proper adjustment.

Having thus described the construction, organization, and mode of operation of my invention, I claim as new and desire to secure by Letters Patent of the United States—

1. In a shoe-sewing machine, the combination with a work-support, of a presser-foot, mechanism for actuating the presser-foot, a

spring interposed between the presser-foot and its actuating mechanism whereby the actuating mechanism imparts an initial yielding movement to the presser-foot, and a stop or shoulder arranged to be engaged by the presser-foot-actuating mechanism to impart a subsequent positive work-clamping movement to the presser-foot, substantially as described.

2. In a shoe-sewing machine, the combination with a work-support, of a presser-foot, a presser-foot lever, a stop on said presser-foot lever, an auxiliary presser-foot lever arranged to engage the stop to impart a positive clamping movement to the presser-foot lever, a spring connection between the presser-foot lever and auxiliary lever, and means to actuate the auxiliary lever, substantially as described.

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

JOHN THOMAS RUSH.

Witnesses:

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