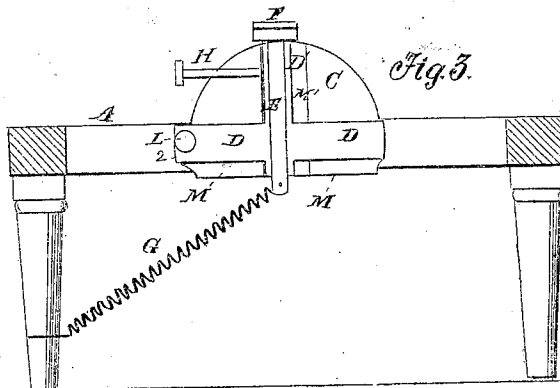
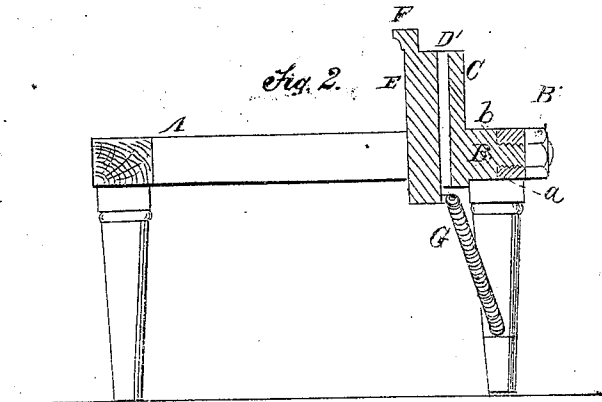
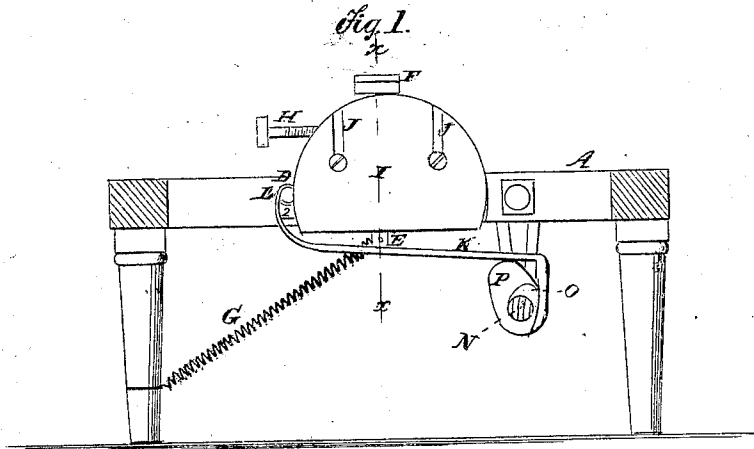


*J. Hanlon,  
Sewing Machine*

*No. 60,888.*

*Patented Jan. 1, 1867.*



*Witnesses.*

*M. Peter  
W. Foster*

*Inventor*

*John Hanlon  
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his atty*

# United States Patent Office.

JOHN HANLON, OF BRIDGEPORT, CONNECTICUT.

Letters Patent No. 60,888, dated January 1, 1867.

## IMPROVEMENT IN FEEDING DEVICE FOR SEWING MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN HANLON, of Bridgeport, in the county of Fairfield, and State of Connecticut, have invented a new and useful Improvement in Sewing Machines; and I do hereby declare that the following is a full, clear, and exact description of my invention, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is an elevation of my improvement.

Figure 2 is a vertical section in the line *x* of fig. 1.

Figure 3 is an elevation of the apparatus, without the plate or cap I and the lever K.

The object of this invention is to simplify and improve the feed of sewing machines.

The letter A designates a frame for supporting such a machine. Through one of the rails of the frame is passed a bolt, B, which is secured on the outside by a nut, B'. The part, *b*, of the bolt is made square so as to prevent the bolt from turning in the rail, and, if desired, the part *a* of the rail may be cut away so as to allow the bolt and its head, C, to be adjusted to a higher or lower position in the frame at pleasure. The head, C, of the bolt is enlarged sufficiently to receive and carry the feeding device, hereinafter described, which is placed therein in a cross-groove composed by cutting a horizontal groove, M, in said head, also a perpendicular groove, M', the latter intersecting the other at right angles, as shown in the drawing. These grooves have square sides and receive a slotted T-frame, or "cross," composed of the horizontal part D and the perpendicular part D', the part C being fitted nicely, but not so as to bind in the horizontal groove, and the part D' being considerably narrower than the perpendicular groove. The said frame or "cross" DD' may be cast in one piece. Its thickness is equal to the depth of the cross-groove MM', and it is confined in said cross-groove by the cap or plate I, which is secured to the head by set-screws that pass through vertical slots JJ which extend from about the middle of the cap through its upper edge. By extending the slots through the upper edge, the cap is permitted to fall away from the head C and expose the feeding device, whenever the screws are sufficiently slackened. The perpendicular part, D', of the slotted T-frame or cross has a slot or groove with straight sides that extend through its whole length and receives a sliding feed bar, E, whose upper end or top, F, is enlarged so as to extend over the sides of said groove in the part D'. The top F is that part of the feeding device which comes in contact with the material to be fed along in the operation of sewing. The front of the feed bar E is flush or even with the front of the part D', and the lower end or bottom of the bar extends far enough below the end of said part D', or of the bolt-head, to allow the spring G to be attached to it, the other end of the spring being fastened to a leg or other convenient part of the frame of the machine in such a position as to retract the feeding device after a forward movement has taken place. The forward movement of the device to effect the feed of the material may be accomplished by any suitable means, as, for instance, by a wiper on the main shaft, which shall first raise the feed bar and then impel the slotted T-frame or "cross," which carries it, in a horizontal direction, and for this purpose the lower parts of the apparatus may be modified in shape so as to bring them into convenient positions for the action of such wiper. In this example I accomplish the movement of the several parts of the feeding device by means of a lever, K, that is hinged to the rear of the slotted T-frame or "cross," by placing its rounded end in a socket, L, formed therein, the lever being then bent downwards so as to pass below the bolt-head and directly under the feed bar, E, which when in its lowest position rests upon or comes very near to it. The forward end of the lever is bent downwards over a shaft, N, which is provided with two cams, one of which, P, serves to raise the lever, thereby lifting the feed bar E, and the other, O, to move the lever in a horizontal direction, thereby moving the feeding device forward towards the right. The hinged end of the lever is in this example made round by bending its extremity into a circular form whose diameter is such that the socket L will receive such rounded end when pushed in from the front; in order to place it in the socket the cap I is removed. When the cap is replaced the lever is kept in place by the cap, the construction of the parts being such that the greatest backward movement allowed to the slotted T-frame or "cross" will not take the joint wholly beyond the cap. When the shaft N is turned the cam P will raise the lever K, causing it to turn on its hinge until the left-hand end of the lever comes snugly against the adjacent end 2 of the "cross," the feed bar E being meanwhile raised by the lifting of the lever. The continued rotation of the shaft brings the cam O against the right-hand end of the lever where it is bent down over the

shaft, the said end being curved to allow the lever to remain the longer in contact with the cam, thereby enabling the cam to actuate the lever until it has passed below a horizontal plane going through the axis of shaft N. The swell of the cam P is made broad enough to keep the lever elevated during the time in which the cam O is imparting the forward movement, when it suddenly falls away and allows the lever to drop. At the time the lever is allowed to drop, the cam O will have ceased to act on the vertical end of the lever, and the spring is consequently permitted both to draw the feed bar downwards and to retract the "cross" or frame D D', which carries said bar. The width of the upright groove M' is greater than the width of the perpendicular portion, D', of the slotted T-frame or "cross," so as to allow it to have a horizontal or forward movement of sufficient extent for producing or effecting the operation of moving the material in stitching or sewing, the degree of which movement is determined by the set-screw H whose end is projected more or less into the groove, according to the feed required. It will be observed that by this feeding device I am enabled to obtain the desired up and down and forward and backward movements with uniformity and steadiness, and with little liability to inequality of wear, while the removal of the cap or plate I enables one to inspect the condition of the "cross" or slotted T-frame D D' and its appurtenances, and to apply oil thereto with ease and without interfering with the adjustment of the apparatus. The bolt and bolt-head by which the feeding device is supported are arranged so as to be independent of the rest of the mechanism of the machine, being held in or to the frame thereof in an independent manner, as is shown in the drawing.

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

1. The slotted T-frame or cross, D D', so constructed and arranged as to contain within its vertical slot the feed bar E, substantially as described.
2. I also claim the use of the bolt-head C, grooved substantially as shown to receive the "cross" or slotted T-frame D D', substantially as described.
3. I also claim the combination of the slotted T-frame or cross, D D', with the feed bar E, when the body of the latter is contained within the former, substantially as described.
4. I also claim hinging the lever K to the "cross" or slotted T-frame D D', substantially in the manner above described.
5. I also claim combining the lever K hinged to the slotted T-frame or "cross," as above shown, with the feed bar E, substantially as described.
6. I also claim combining the "cross" D D', the feed bar E, and the lever K, which communicates motion to both the slotted T-frame or "cross" and the feed bar, substantially as described.

In witness whereof I have hereunto set my hand this third day of October, 1866.

JOHN HANLON.

Witnesses:

E. A. PUNETT,

L. M. SLADE.