

J. SMITH.

FEED-MECHANISM FOR SEWING-MACHINES.

No. 178,478.

Patented June 6, 1876.

FIG. 1.

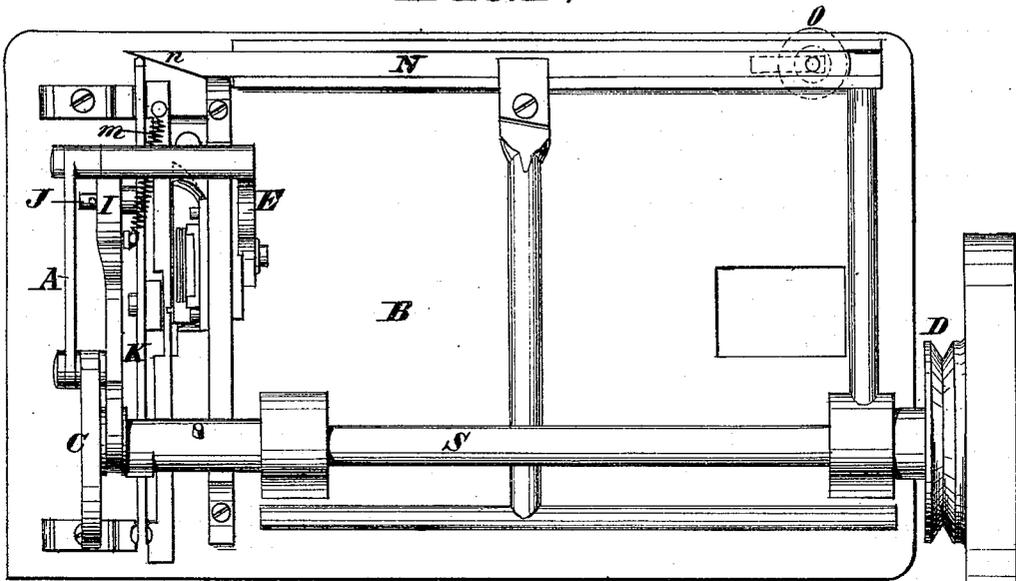


FIG. 2.

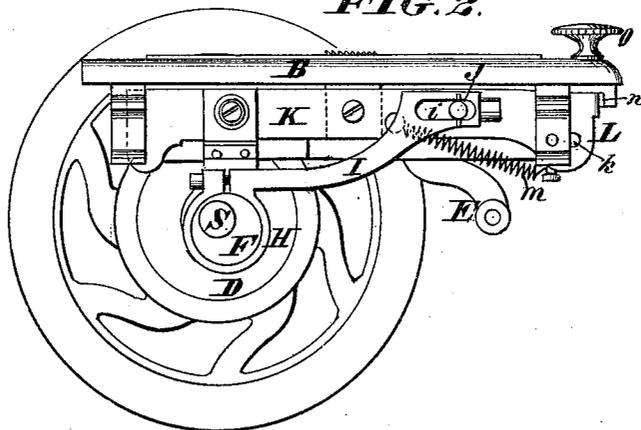
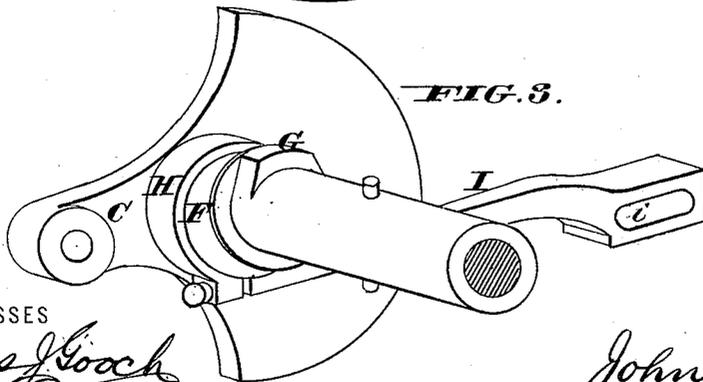


FIG. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN SMITH, OF BALTIMORE, MARYLAND, ASSIGNOR TO LEVIN T. JONES,
OF SAME PLACE.

IMPROVEMENT IN FEED MECHANISMS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **178,478**, dated June 6, 1876; application filed
April 3, 1876.

To all whom it may concern:

Be it known that I, JOHN SMITH, of Baltimore, in the State of Maryland, have invented a certain new and useful Improvement in Feed Mechanism for Sewing-Machines, of which the following is a specification:

My invention consists in providing the main driving-shaft with a double cam, or two cams, or a cam and eccentric, one cam serving to impart the horizontal reciprocating movement to the feed, and the other to throw it up at the proper period when it is to take the cloth in its forward movement. The rod by which the horizontal motion is communicated to the feed-bar has a slotted connection therewith, allowing independent movement, so that the feed is drawn to the same point each time in its forward movement, and may be retracted by a spring to a variable distance, determined by a wedge-shaped regulating-stop, which is adjusted by a knob above the table, in convenient reach of the operator.

In the accompanying drawing, Figure 1 is an under-side view of a portion of a sewing-machine illustrating my invention. Fig. 2 is an end view of the same, with the shuttle-connection removed from the end of the main shaft. Fig. 3 is a perspective view of the end of the main shaft, illustrating the form of the cam and eccentric.

B is the bed-plate of the machine; S, the main shaft; D, the driving-wheel, keyed to one end of the said shaft; and C, the crank, which is keyed to the other end, and communicates motion, by a rod, A, to the shuttle-driver E, in customary manner. F G represent the two cams employed by me to operate the feed. In the present illustration F takes the form of an eccentric connected with the feed-bar by a band, H, and rod I, which latter is provided near its end with a slot, *i*, receiving a stud, J, on the feed-bar K. The said feed-bar is slotted at *k* to work on a pivot-pin, L, so that it may receive both a horizontal and an oscillating movement. The horizontal movement is produced in a forward direction by the connecting-rod I. Its back-

ward movement is produced by a spiral or other spring, M, and is limited in extent by the contact of the end of the feed-bar K with the wedge-shaped end *n* of the regulator N, which consists of a bar fitted to slide between guides underneath the bed, and moved by a knob, O, which projects above the bed-plate B, and takes the form of a clamp screw, extending through a slot in the bed-plate, and screwed into the bar N, so that by turning the knob the bar may be clamped securely in any position in which it is set.

Operation: By the rotation of the main shaft motion is communicated to the needle-bar and shuttle in customary manner. The feed-bar K is thrown forward at the proper moment to feed the goods by the contact of the end of the slot *i* with the stud J of the feed-bar, the feed-bar being at the same time elevated by the contact of the cam G with the edge of the bar K. As the bar K is released by the backward movement of the rod I and the rotary movement of the cam G, the said bar is drawn endwise and downward by the action of the spring M, its endwise movement being limited by the contact of its extremity with the oblique end of the regulating-bar N. The said bar is set backward or forward, to shorten or lengthen the stitch, as required, by means of the screw-knob O, which is loosened when the regulator is to be moved, and again screwed tight to fix it in position.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

The combination, with the wedge-shaped regulator N, of the double or dual cams F G on the main shaft S, one cam operating to raise the feed-bar, and the other imparting a longitudinal movement thereto through the medium of the slotted strap-rod I and stud J, substantially as set forth.

JOHN SMITH.

Witnesses:

ALEXANDER WILEY,
THOS. F. MCHUGH.