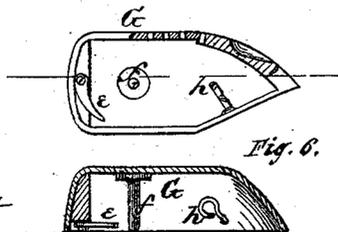
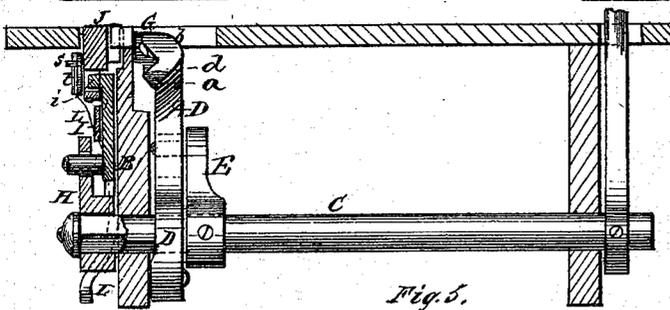
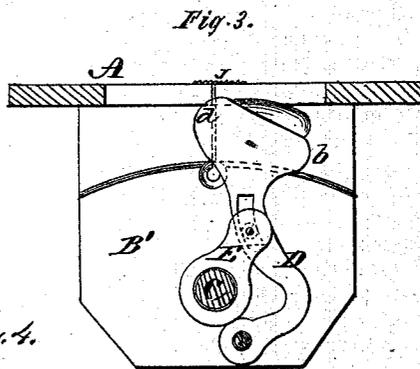
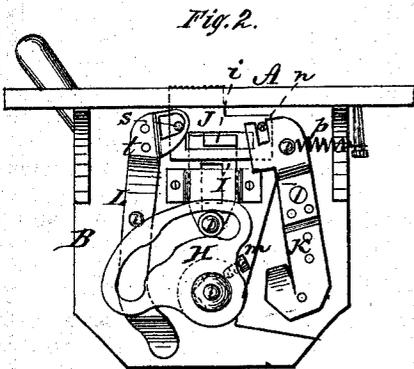
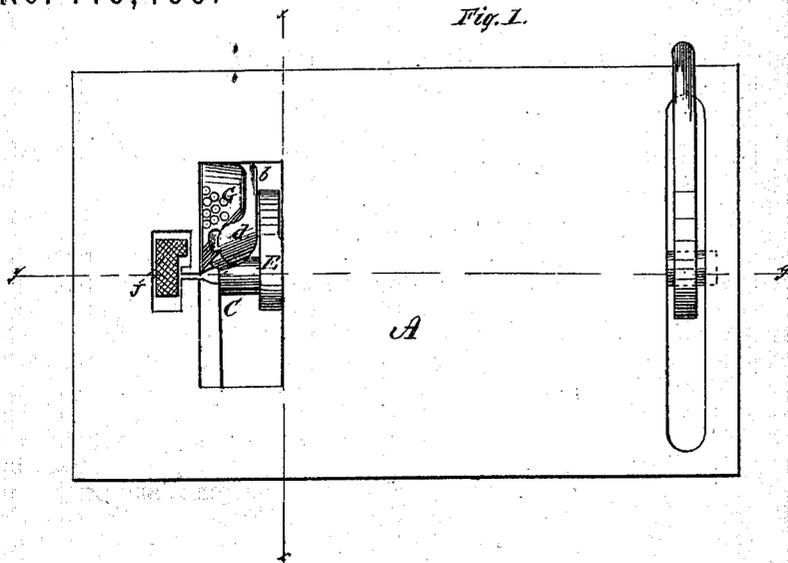


**A. MOLTZ.**  
**Sewing-Machines.**

No. 146,466.

Patented Jan. 13, 1874.



WITNESSES:  
P. C. Dietrich.  
Harry Scott

INVENTOR,  
Adam Moltz,  
per: C. H. Watson & Co.  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

ADAM MOLTZ, OF NEW YORK, N. Y.

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **146,466**, dated January 13, 1874; application filed December 16, 1873.

*To all whom it may concern:*

Be it known that I, ADAM MOLTZ, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My present invention is intended as an improvement upon the Letters Patent Nos. 103,070 and 118,631, granted to me, respectively, May 17, 1870, and August 29, 1871; and the nature of my invention consists in the construction of the feeding mechanism, all of which will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view of the bed of a sewing-machine embodying my invention. Fig. 2 is an end view of the same, showing the feeding mechanism. Fig. 3 is a transverse vertical section, showing the shuttle-carrier and the device for operating the same. Fig. 4 is a longitudinal vertical section taken through the line *xx*, Fig. 1. Fig. 5 is a side view of the shuttle, and Fig. 6 is a longitudinal section of the same.

A represents the bed-plate of the machine, with bearings B B' on its under side for sustaining the rocker-shaft C, from which motion is communicated both to the shuttle-carrier and the feeding mechanism. D represents the shuttle-carriage, which is pivoted at its lower end to the bearing B, almost directly below the rocker-shaft C, and is then curved to pass around the same, and its upper end formed to receive the shuttle. The shuttle rests upon a flange, *a*, and its heel or rear end is held by an ear, *b*, while the point of the shuttle projects through a V-shaped notch in an ear, *d*, at the front end of the shuttle-bed. The shuttle-carrier is actuated from the rocker-shaft C by an arm, E, in the same manner as described in the Patent No. 118,631, above referred to. The shuttle G is substantially of the form

shown in Figs. 5 and 6, and provided with a pin, *f*, in the center of the bottom, upon which the bobbin revolves, the bobbin being held in check by a spring, *e*, pressing upon it. This spring is located immediately in rear of the pin *f* in the center of the back, and held in place by a pivot, upon which it may be turned in removing and inserting the bobbin. *h* is a spring formed like a hook and located immediately in front of the pin *f*, and employed to give tension to the thread. On the end of the rocker-shaft C is secured a cam, H, which operates a vertical slide, I, moving up and down in suitable guides on the outer side of the bearing B. The slide I is, near its upper end, on the outer side, provided with a flange or elongated projection, *i*, which passes through a horizontal slot in the feed-bar J, and hence said feed-bar is moved up and down by the rocking or backward-and-forward movement of the cam H.

The feed-bar J is moved backward and forward by the following means: On the hub of the cam H is a bevel-headed pin or screw, *m*, which operates against the lower end of a pivoted lever, K, to turn the same on its pivot, when the feed-bar has been raised by the cam H. The upper end of the lever K is forked or slotted, and fits over a pin, *n*, in the feed-bar J, so that said feed-bar will, by the movement of the lever K, be moved forward to feed the goods. As soon as the feed-bar is moved downward and the pin *m* clears the lower end of the lever K, a spring, *p*, attached to the upper end of said lever, throws the feed-bar back again in its former position, thus forming the usual four-motion feed. The extent of the forward-and-backward movement of the feed-bar is regulated by means of a lever, L, the upper end of which is slotted or provided with a slotted plate, *t*, which is placed over a pin, *s*, in the feed-bar. By setting this lever backward or forward, the length of the stitch is regulated, as the feed-bar can only move back till the pin *s* strikes the end of the slot in the plate *t*.

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

1. The cam H, vertical slide I, with projection *i*, in combination with the slotted feed-bar

J, pins *m* and *n*, spring *p*, and lever K, all constructed and arranged for operation as and for the purpose specified.

2. The lever L, with slotted plate *t* and pin *s*, in combination with cam H, slide I having projection *i*, slotted feed-bar J, pins *m* and *n*, lever K, and spring *p*, substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ADAM MOLTZ.

Witnesses:

R. WETZLICH,  
A. KRATZ.