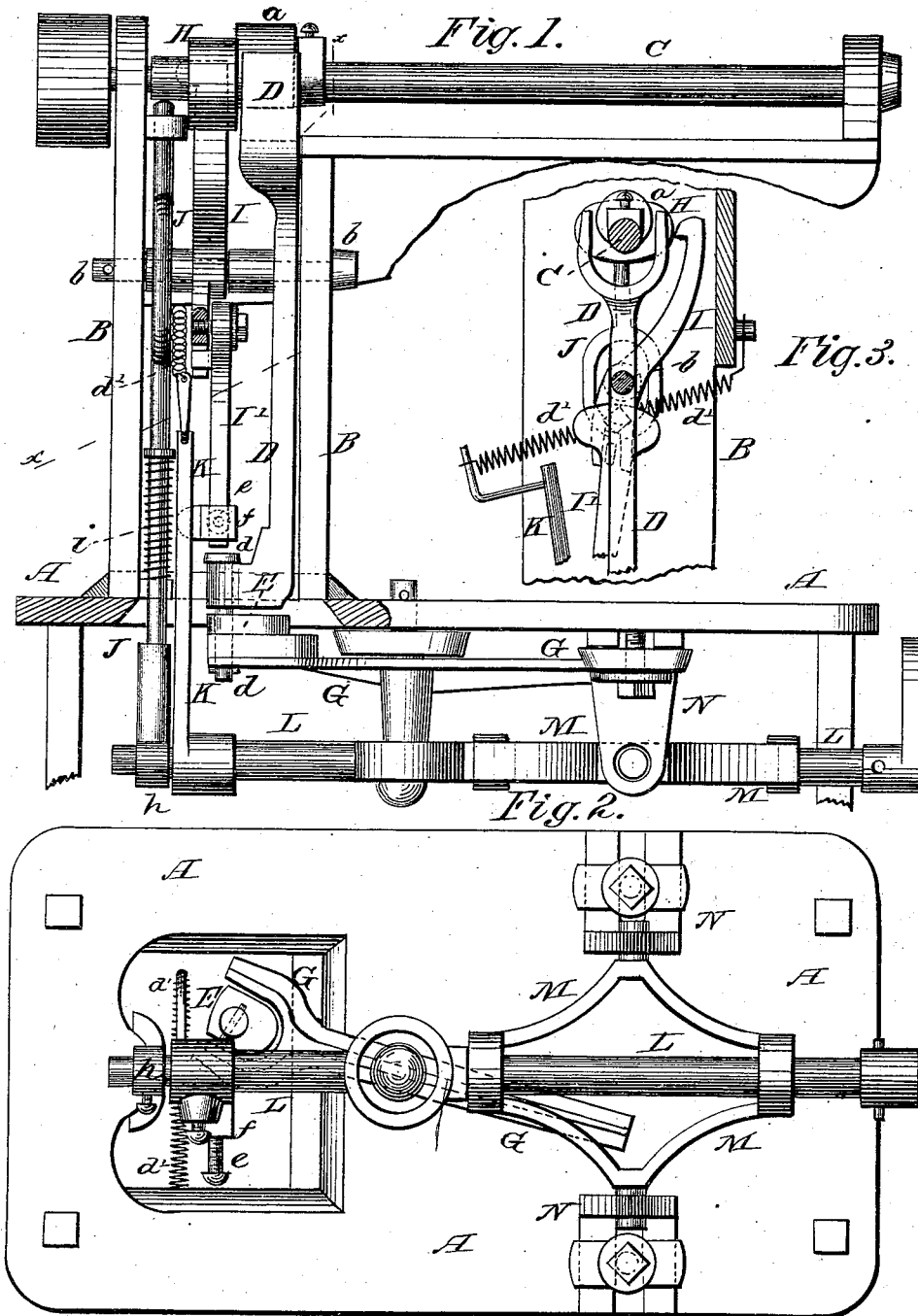


O. S. HAZARD.

FEED MECHANISM FOR SEWING-MACHINES.

No. 183,564.

Patented Oct. 24, 1876.



Witnesses:
P. C. Dietrich
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UNITED STATES PATENT OFFICE.

OLIVER S. HAZARD, OF COVENTRY, RHODE ISLAND.

IMPROVEMENT IN FEED MECHANISMS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **183,564**, dated October 24, 1876; application filed May 18, 1876.

To all whom it may concern:

Be it known that I, OLIVER S. HAZARD, of Coventry, in the county of Kent and State of Rhode Island, have invented certain new and useful Improvements in Feed Mechanisms for Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention relates to sewing-machines; and it consists in the construction and arrangement of devices for operating the feed, as will be hereinafter more fully set forth.

In the annexed drawings, Figure 1 is a side elevation. Fig. 2 is a bottom view, and Fig. 3 is a detail section on line *x x*, Fig. 1.

A represents the bed of the machine, with the usual projecting arm B, through the upper part of which passes the horizontal shaft C. On this shaft is secured an eccentric, *a*, which works in the upper forked end of a lever, D, hung upon a pivot, *b*, in the vertical portion of the arm or standard B. In the lower end of the lever D is a vertical swivel-pin, *d*, on the lower end of which is a block or tablet, E, made of such shape as to fit in and fill the slot in that end of the shuttle-lever G, said shuttle-lever being pivoted to a vertical post under the bed A. The sides of the block or tablet E are straight, and, being swiveled in the eccentric lever D, the said block adapts itself to all the required motions, swings upon its axis, moves in and out of and slides in the slot of the shuttle-lever, thereby filling the same and presenting a full wearing-surface to it, and causes an easy motion. By these means the motion is transmitted from the main shaft C to the shuttle-lever. On the shaft C is further secured a double cam, H, which operates a lever, I, hung upon the pivot *b* and a slotted post, J, guided vertically by said pivot. The

lower end of the lever I extends only a short distance below the pivot *b*, and to its lower end is adjustably connected an arm, I', which may be set at any angle therewith for regulating the feed. On the lower end of the arm I' is an adjustable projection, *f*, which may be raised and lowered on the arm, and fastened by a set-screw, *e*. This projection operates against an arm or lever, K, secured on the feed-shaft L, to turn the same in one direction, said feed-shaft being returned by means of a spring, *d'*, fastened to the lever K, and which spring, through the intermediate parts, as described, holds the upper end of the lever I against the double cam H. The feed-shaft L has its bearings in a double hanger, M, hung upon journals in hangers N N, the axis of said journals being at right angles with the shaft. This hanger M is rocked upon its journals to raise and lower the feed at the proper time by the cam H operating upon the post J, the lower end of which has a collar, *h*, encircling the inner end of the feed-shaft. A spring, *i*, surrounding a portion of the post J, holds the same up against the cam, and raises the inner end of the feed-shaft after it has been depressed by the cam.

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

1. The combination of the cam H, lever I, adjustable arm I', with adjustable projection *f*, feed-shaft L, with arm K and spring *d'*, all as and for the purposes herein set forth.

2. The combination of the cam H, post J, with spring *i* and collar *h*, feed-shaft L, and journaled hanger M, as and for the purposes set forth.

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

OLIVER S. HAZARD.

Witnesses:

J. H. CUSHING,
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