W. L. GROUT.

SEWING-MACHINES.

No. 195,502. Patented Sept. 25, 1877.

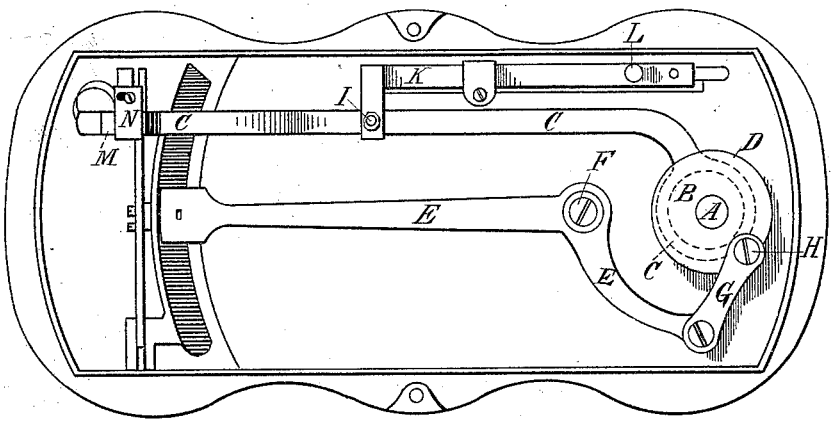

Fig. 1.

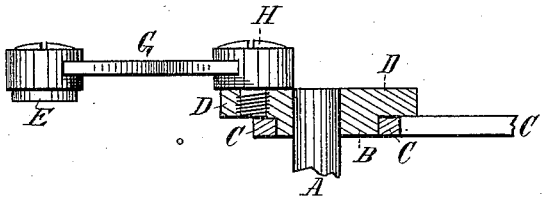

Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM L. GROUT, OF EAST STOUGHTON, MASSACHUSETTS.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **195,502**, dated September 25, 1877; application filed March 3, 1877.

To all whom it may concern:

Be it known that I, WILLIAM L. GROUT, of East Stoughton, Massachusetts, have invented certain Improvements in Sewing-Machines, of which the following is a specification:

My invention consists in a new combination of devices for operating the feed-bar of what is known as the "four-motion feed;" and also in a new combination and arrangement of devices for actuating the shuttle and the feed mechanism in unison direct from the main shaft.

In the drawings, Figure 1 is a plan of the under side of the table of my sewing-machine. Fig. 2 is a vertical section through the shaft and adjacent parts.

My improvements are applied to the under side of the metallic table of a sewing-machine, as shown in the drawing, in which A is the driving-shaft, and B an eccentric fixed thereon, or forming part thereof, and giving motion to the feed-lever C, which, at one end, is mounted thereon, as shown, so as to be actuated by direct engagement therewith. D is a hub or crank, also secured to or forming part of the shaft A, and formed integral with the eccentric B, so that the mechanisms they respectively actuate shall invariably be moved in unison. E is the shuttle-carrier, pivoted to the table at F, and connected by the link G and crank-pin H to the hub D. The feed-lever C rocks or slides upon a fulcrum, I, which is adjustable toward or from the shaft A by a slide, K, and set-screw L. By varying the position of the fulcrum the length of the stitch is regulated. One end of the feed-lever C, as stated, embraces the eccentric B and receives motion therefrom, causing it to vibrate upon and slide over the fulcrum I. The other end M is formed as a wedge, to operate in connection with a fixed block, N, to raise and lower the feed.

The operation of the feed proper is too well known to require further description. The device shown for adjusting the length of the stitch is also old.

The rotation of the eccentric hub B D upon the main shaft A thus actuates the pivoted shuttle-carrier, so as to drive the shuttle in its curved channel, and also gives to the feed mechanism the peculiar motions essential thereto.

The simplicity, cheapness, and efficiency of this arrangement are apparent.

I disclaim the use of a cam in any form other than an eccentric, and also the use of an eccentric not engaging directly with the feed-lever to actuate it.

I claim as my invention—

1. The feed-lever C, perforated cylindrically at one end to receive the shaft A and eccentric B, by which it is actuated, in combination with the adjustable fulcrum I, substantially as and for the purpose set forth.

2. The feed-lever C, mounted at one end upon the eccentric B, and thereby caused to vibrate upon the pivot I, in combination with the shuttle-carrier E, link G, and crank-pin H, when such crank-pin is erected upon the eccentric hub B D, substantially as and for the purpose set forth.

WILLIAM L. GROUT.

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