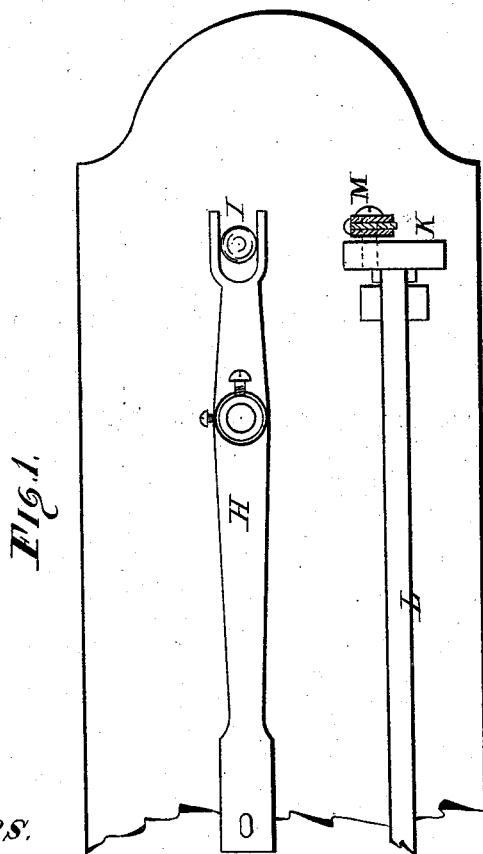
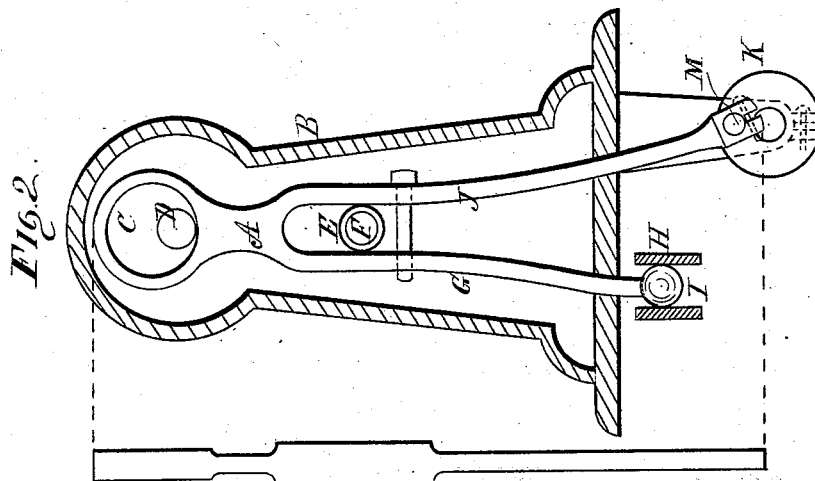


(No Model.)

E. BOUSCAY.
SEWING MACHINE.

No. 261,578.

Patented July 25, 1882.



Witnesses.
J. H. Burridge
M. G. Loring

Inventor.
E. Bouscay
W. H. Burridge
att'y

UNITED STATES PATENT OFFICE.

ELOI BOUSCAY, OF NORWALK, OHIO.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 261,578, dated July 25, 1882.

Application filed October 29, 1881. (No model.)

To all whom it may concern:

Be it known that I, ELOI BOUSCAY, of Norwalk, in the county of Huron and State of Ohio, have invented a certain Improvement in Sewing-Machines; and I do hereby declare that the following is a full, clear, and complete description thereof.

The nature of this invention has reference to sewing-machines, and more particularly to that class of said machines in which the shuttle-carrier and feed mechanism are driven by an upper needle-bar-operating shaft co-operating with eccentrics or cranks and levers arranged below.

The devices heretofore adopted for connecting the upper and lower operative mechanism in the abovesaid class of machines have been complicated by reason of their consisting of several parts carefully and expensively jointed to each other.

To avoid the complicated devices for connecting the upper and lower mechanism above alluded to, and reduce the same to a minimum, and a consequent reduction in the expense of manufacture, and at the same time obtain all the essential movements for a perfect working of the machine, are the purpose of this invention, which is constructed and operated substantially as follows, reference being had to the accompanying drawings for illustrating the same, and making a part of this specification, in which—

Figure 1 is a plan view of the under side of a sewing-machine, showing the shuttle-carrier and feed-shaft. Fig. 2 is a view of the improved device for connecting the needle-bar-operating shaft with the shuttle-carrier and the feed-operating shaft.

Like letters of reference refer to like parts in the views.

As shown in Fig. 2, A represents a bifurcated lever housed in the hollow standard B of the machine. (Shown in transverse vertical section.) The upper end of the bifurcated lever terminates in a ring, within which is fitted an eccentric, C, secured on the needle-bar-operating shaft D. In lieu of an eccentric, a crank may be used. An eccentric, however, is preferable.

F is a sleeve inclosing a stud, F. Said stud

forms a pivotal point for the horizontal vibratory movement of the lever above alluded to, and on which the lever moves reciprocally in a vertical direction by the revolving movement of the eccentric C.

The limb G of the bifurcated lever is connected to the shuttle-carrier H by a suitable joint-connection, I, whereas the limb J is connected to a disk or crank-wheel, K, on the feed-shaft L by a suitable wrist-and-box connection, as seen at M, Fig. 2, whereby said shaft L is rotated for operating the feed mechanism of the machine. (Not shown in the drawings, as it forms no part of the improvement herein specified.)

It is not essential that the bifurcated lever should be of the special shape shown in the drawings, so long as the lever is without joints, and the limbs thereof respectively connected to the disk or crank K and shuttle-carrier for the purposes above mentioned.

The arms G J may be attached to each other below the pivotal point F at any suitable position in relation to the shuttle-driver H and needle-bar, and said pivotal point may be arranged in a slot in the lever, without departing from the nature of said invention.

The practical operation of the above-described bifurcated lever-connections of the eccentric C, shuttle-carrier H, and shaft L, actuating the feed mechanism of the machine, is substantially as follows: The shaft D, carrying the cam C for operating the needle-bar, is or may be made to revolve by the ordinary means adopted for that purpose. As the said cam C revolves it imparts to the bifurcated lever a vertical reciprocating movement, thereby revolving the disk or crank-wheel K by its connection with the limb J of the lever, which in turn causes the shaft L to revolve for operating the feed mechanism. During this vertical movement of the lever it is given a horizontal vibratory motion by means of the pivotal stud or fulcrum F. The limb G of the lever, by its peculiar connection to the rearend of the shuttle-carrier H, communicates to said carrier only the horizontal vibratory movement of the bifurcated lever, and that sufficiently to operate successfully the shuttle in connection with the said carrier.

Heretofore in this class of sewing-machines, wherein the shuttle-carrier and feed mechanism are driven from an upper needle-bar-operating shaft, the connecting device between the upper and lower mechanisms consists of a greater or less number of parts, but which number of parts is avoided by substituting therefor the bifurcated lever herein described, which consists of a single piece interposed between the upper and lower mechanisms—that is to say, connecting the eccentric C to the shuttle-carrier H and feed-shaft for operating the same. The said lever receives its duplex movements for the purposes specified by means of the eccentric and pivotal stud or fulcrum, as set forth, thereby rendering the said operative device simple and inexpensive in structure, and practically successful in its operation.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In sewing-machines, a pendent bifurcated lever arranged in relation to and in combination with the eccentric C on the needle-bar-operating shaft, shuttle-carrier, and shaft op-

erating the feed mechanism, substantially as described, and for the purposes set forth.

2. In sewing-machines, the combination, with the eccentric on the upper shaft and the bifurcated lever, of a pivoted stud or fulcrum arranged in connection with the said lever, causing the same to be vibrated by said eccentric in a horizontal direction conjointly and synchronously with the vertical reciprocating movement thereof, thereby producing a duplex action of the lever, for the purpose specified, and substantially as set forth.

3. In sewing-machines, the combination of the eccentric C, bifurcated lever, pivotal stud or fulcrum F, feed-shaft and shuttle-carrier, and their respective connections to the bifurcations of the lever, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ELOI BOUSCAY.

Witnesses:

W. H. BURRIDGE,
J. H. BURRIDGE.