

(No Model.)

W. J. STEWART.

FEEDING MECHANISM FOR SEWING MACHINES.

No. 460,730.

Patented Oct. 6, 1891.

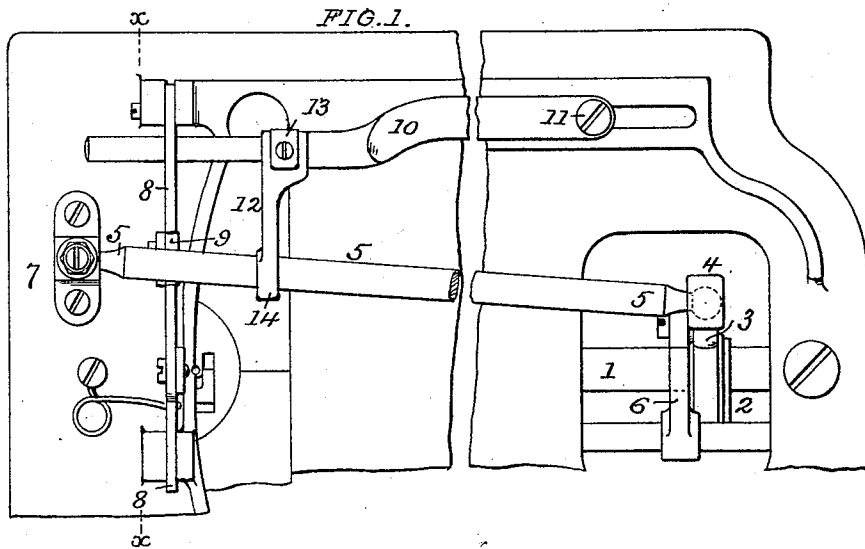


FIG. 2.

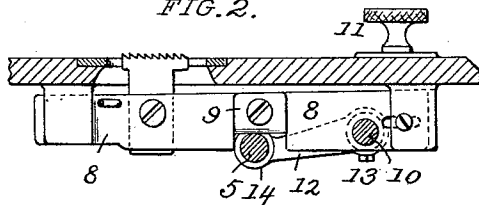


FIG. 3.

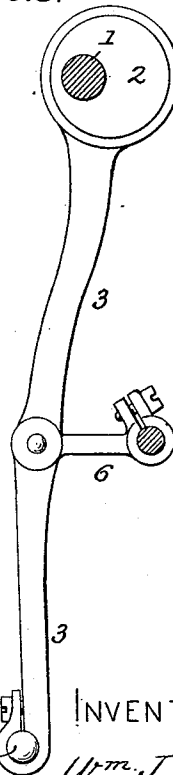


FIG. 4.

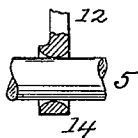
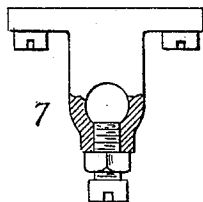


FIG.5.



ATTEST:

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UNITED STATES PATENT OFFICE.

WILLIAM J. STEWART, OF CHICAGO, ILLINOIS.

FEEDING MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 460,730, dated October 6, 1891.

Application filed May 20, 1891. Serial No. 393,453. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. STEWART, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Feed Mechanism for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to cloth-feeding mechanism for sewing-machines.

The object of the present improvement being to provide a simple and effective mechanism for such purpose, embodying the features of a minimum amount of friction and a corresponding lessening in the wear of parts by constant use, combined with ease of movement and a small and uniform amount of power required in the operation of the mechanism. I attain such objects by the construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is a bottom view of a portion of a sewing-machine, illustrating my present invention; Fig. 2, a transverse section at line *xx*; Fig. 3, an end elevation of the connecting mechanism between the needle-bar shaft and the gyrating-lever, with the needle-bar shaft in section; Fig. 4, detail sectional view showing the joint between the driving and driven lever-rods of the feed-bar; and Fig. 5, a detail view of the pivot-box of the gyrating-lever, that imparts motion to the feed-bar.

Similar numerals of reference indicate like parts in the several views.

Referring to the drawings, 1 represents the rotary driving-shaft that imparts motion to the needle-bar, as usual, and which in the present invention carries an eccentric 2, the yoke of which is at the upper end of the pendent arm 3, that connects at its lower end by a ball-and-socket joint 4 with the free end of the gyratory lever 5 to impart a gyratory or circular motion in a vertical plane to the end of said lever, which motion is attained by the combination of the eccentric motion generated by the yoke and eccentric 2 and

the link 6, pivoted to the pendent arm 3, midway of its length and to the stationary frame or housing of the machine. The gyratory lever 5 extends forward in front of the feeding mechanism proper, and is pivoted in a ball-and-socket box 7, so as to be capable of the required motion. The feed-bar 8 rests upon the upper surface of the lever 5 through a shoe 9, and receives its "up" and "down" directly therefrom, its "forward" and "backward" movement being attained by the following mechanism.

10 is a longitudinally-slidable lever having its fulcrum on a slidable thumb-screw 11 that acts as a stitch regulator and indicator, the forward end of said lever 10 being made cylindrical, so as to slide through a cylindrical orifice in the feed-bar 8, so that the two will move backward and forward together transversely or in the line of feed. Said lever 10 carries an arm 12, loosely arranged between collars 13, which arm has an eye 14 on its opposite end that engages around the gyratory rod or lever 5, and is capable of sliding along the same in effecting an adjustment of the "stitch," said eye 14 being of the flaring form shown to admit of the gyratory motion of the lever 5, with the box 7, as an axis or pivot.

In use the adjustment of the arm 12 and lever 10 toward the feed-bar shortens the stitch, while the movement away from the feed-bar lengthens the stitch.

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

In a feed mechanism for sewing-machines, the combination of a horizontally-arranged lever 5, having a gyratory motion on an axis arranged forward of the feed-bar, in combination with the feed-bar 8, its slidable operating-lever 10, arm 12, connecting the levers 5 and 10, the main shaft 1, eccentric 2, pendent arm 3, and link 6, substantially as set forth.

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

WILLIAM J. STEWART.

Witnesses:

ROBERT BURNS,
GEO. H. ARTHUR.