

Sewing Machines.

Patented April 16, 1872.

This technical drawing illustrates a mechanical assembly, possibly a pump or engine component, with various parts labeled with letters and numbers. The main body is a horizontal cylinder or pipe, with a vertical section on the left. A large flywheel or wheel is attached to the right end. The vertical section on the left contains a piston or plunger mechanism, with labels 'a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n', 'o', 'p', 'q', 'r', 's', 't', 'u', 'v', 'w', 'x', 'y', 'z' indicating specific components. A vertical rod or shaft is connected to the piston, passing through a series of guides or bearings. The flywheel has a large circular face with radial spokes. A vertical rod or shaft is also connected to the flywheel, passing through a series of guides or bearings. The entire assembly is mounted on a base or frame, with various supports and connections labeled with letters and numbers. The drawing is a detailed cross-section, showing the internal components and their arrangement.

Fig. 1 is a perspective view of the device 100. It consists of a rectangular body 102 with a handle 104 on the right side. A locking mechanism 106 is located on the left side of the body, featuring a vertical rod 108 and a horizontal rod 110. The handle 104 has a circular knob 112. The locking mechanism 106 includes a vertical rod 108 and a horizontal rod 110. The device 100 is shown in a perspective view, highlighting its three-dimensional structure.

John Beecher.
Geo. W. Mabee

J. Gordon
W. E. Kiser
Munnell
Attorneys.

PER

UNITED STATES PATENT OFFICE.

JAMES GORDON AND WILLIAM E. KINERT, OF BLUFFTON, INDIANA.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 125,807, dated April 16, 1872.

Specification describing a new and Improved Sewing-Machine, invented by JAMES GORDON and WILLIAM E. KINERT, of Bluffton, in the county of Wells and State of Indiana.

The nature of our invention consists in the construction and arrangement of a "sewing-machine," as will be hereinafter more fully set forth.

Figure 1 is a side elevation of the improved machine. Fig. 2 is a plan of the bottom. Fig. 3 is a section on the line *x x* of Fig. 1. Fig. 4 is a partial elevation of the reverse of Fig. 2; and Fig. 5 is a plan view of part of the plate.

Similar letters of reference indicate corresponding parts.

We pivot the needle-arm A to the fixed support B at its center of gravity to balance it, to run with less noise and jarring than is caused by the needle-arms as commonly arranged, and we work it by wrist-pin C at the end of a pulley-shaft, D, arranged at right angles to the long axis of said shaft, said wrist-pin working in the irregular slot E at the rear end of the arm, the said slot being so shaped in the part where the wrist-pin works at the time the shuttle is passing through the loop of thread as to allow the needle to rest while the shuttle is passing. With this pulley-shaft D we propose to work the shuttle-carrier and the feed; also through the medium of a rock-shaft, F, below the plate of the machine, and parallel with shaft D, which said rock-shaft is actuated by a crank, G, and rod H, the latter being connected to the wrist-pin C. The shuttle-carrier I, which is worked by this rock-shaft F, arm K, and connecting-rod M, is arranged to work in a course at right angles to that of the feed. The feed-bar L, which is pivoted at N for swinging vertically, has its other end in a slot, O, of a plate attached to the under side of the shuttle-carrier, by which it is oscillated vertically, the said slot being of the required irregular form to cause the oscillations as the plate moves forward and back. The horizontal forward and back motions of the feed-bar are caused by the sliding bar P, with an inclined groove, Q, in which a pin, R, of said bar works. This bar is worked by the rock-shaft F, to which it is connected by

rod T and slotted plate K, by a wrist-pin, V, in the radial slot W, to be adjusted toward or from the axis of the rock-shaft for varying the feed; and it is so adjusted by the notched finger-rod Q', arranged vertically through the plate of the machine, and having the connecting-rod T connected to its lower part; also having a spring, R', and a rod, S, applied to it in such manner that its notches will be kept in engagement with the edge of the plate for holding the rod M at any point to which it may be adjusted. Said notched rod is disengaged from the plate by grasping it and the spring R' between the thumb and forefinger, and pressing them together. The slotted plate K ranges vertically above the rock-shaft F to allow of this adjustment of the feed by a vertical movement of the said adjusting-rod. This slotted plate is arranged loosely on the rock-shaft F, and is caused to vibrate with it by the crank or arm X, keyed fast to the shaft, and having a pin projecting into the curved slot Y in said plate, the object of which is to allow the feed the necessary periods of rest. The thread take-up wire *a* is attached to a slotted plate, *b*, which is pivoted to the front of the needle-bar support *d* at *e*, and is worked by a pin, *f*, on the needle-bar, projecting into the curved slot *g* of said plate, which is so shaped as to swing the thread-guide *h* of said take-up at the proper time into the space between the two fixed thread-guides *i* on the side of the needle-bar support *d*, and away therefrom for taking up the slack and letting it go again. *l* and *m* are two thread-tension disks, mounted on the vertical rod *p*, and held both in their position, vertically, and against turning, by the bent rod *q*, which said plates are pressed together by the spring *r* and nut *t*, the latter being screwed up and down to vary the tension. The thread passes from the spool on the stand *j*, around the rod *p*, and thence to the guides *e*.

Having thus described our invention, we claim as new, and desire to secure by Letters Patent—

1. The arrangement, with the feed-bar L and the rock-shaft F, of the slotted plate P, pin R, rod T, and plate K, notched finger-rod Q', spring R', and rod S, for imparting the horizontal movements to the said bar and regu-

lating the length of the stitch, substantially as specified.

2. The slotted plate K, arranged loosely on its shaft, when combined with and operated by the crank X keyed to the shaft, and having a wrist-pin that enters the curved slot Y to give the feed-plate the necessary periods of motion and rest, substantially as specified.

3. In combination with the mechanism claimed in the preceding claim for operating

the feed-bar L, we claim the mechanism for operating the shuttle-carrier I, when both of said mechanisms are connected with and operated by the same rocking-shaft F, substantially as herein set forth.

JAMES GORDON.

WILLIAM E. KINERT.

Witnesses:

JACOB J. TODD,

O. C. MITCHELL.