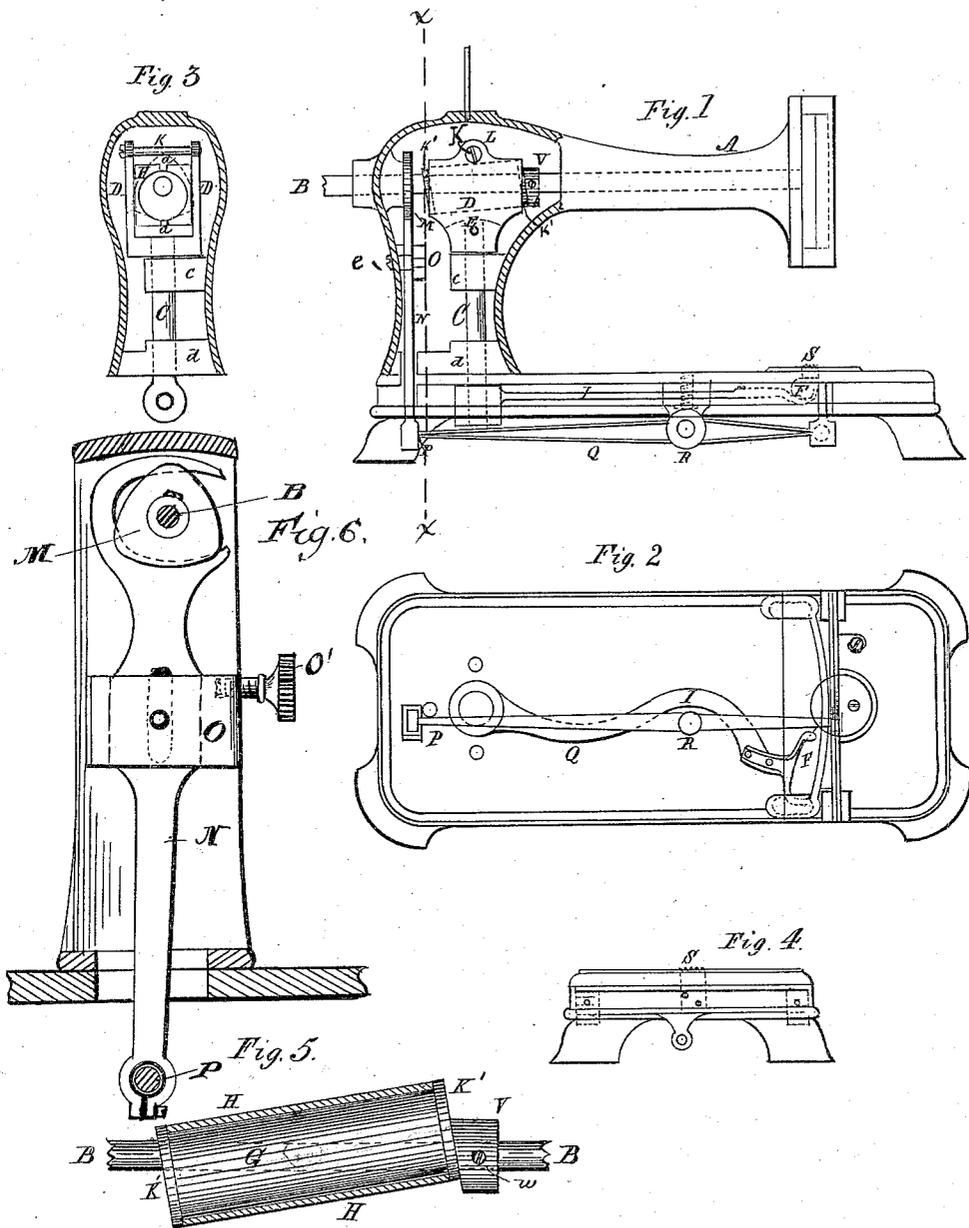


(Model.)

A. ABELL.
SEWING MACHINE.

No. 319,435.

Patented June 9, 1885.



Inventor

Asahel Abell

By W. Bruce
his atty.

Witnesses
Chas. T. Hunt
C. E. Leisterman

UNITED STATES PATENT OFFICE.

ASAHIEL ABELL, OF HAMILTON, ONTARIO, CANADA.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 319,435, dated June 9, 1885.

Application filed August 10, 1881. (Model.) Patented in Canada June 16, 1883, No. 16,931.

To all whom it may concern:

Be it known that I, ASAHIEL ABELL, of the city of Hamilton, in the county of Wentworth, in the Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same.

The object of my invention is to improve the present shuttle-motion of sewing-machines in such a manner that the device will be very simple in construction and will work smoothly and easily with very little noise or friction, and to provide a simple device for operating the feed from the upper driving-shaft.

Figure 1 represents a side view, with a portion broken away, of my improved sewing-machine; Fig. 2, a plan view of the under side; Fig. 3, a vertical section of the upright portion of the arm of the machine; Fig. 4, a front view of the cloth-plate or lower part of the machine, and Fig. 5 a detail view of the eccentric and box. Fig. 6 is a vertical section on the line *xx* of Fig. 1, showing on an enlarged scale the cam and the lever which it operates.

A is the arm of the machine, and B the upper horizontal driving-shaft.

C is an upright rock-shaft having bearings at *c d*, to the lower end of which is secured the shuttle arm or carrier I, which carries the shuttle F at the opposite end.

D is an eccentric-box case secured to the top of the rock-shaft C by a pin, E, as shown.

H is an eccentric-box fitting in the case D, and split longitudinally at top and bottom, as at *a a*, Fig. 3.

K is a screw-bolt passing through lugs or projections L on the top of the eccentric-box case D, and about midway of its length. When the eccentric-box becomes loose from wear, the same can be tightened up by turning the screw-bolt so as to cause the sides of the case D to compress the two halves or sections of the eccentric-box closely about the eccentric.

G is an eccentric fitted within the box H, and it has a hole drilled diagonally through it, as seen in dotted lines, Fig. 5, of about the size of the shaft B, which passes through it, as shown in said figure.

K' K' are disks or collars secured to each end of the eccentric, and serve to keep the box in place upon the eccentric.

V is a hub placed at the end of the eccentric G, and provided with a screw, *w*, to secure the eccentric to the shaft at the proper place.

The operation of this part of the machine just described is as follows: Motion is given to the shaft B, thence to the eccentric G, which in turn gives motion to the upright rock-shaft C, and thence a horizontal movement to the arm I, which carries the shuttle and causes it to move easily and smoothly back and forth.

The feed of the machine is constructed and operated as follows: Upon the driving-shaft B, and just in the rear of the eccentric-box case D, is secured a cam, M. N is an upright cam-lever passing through the slotted bearing O, and secured by means of a ball-and-socket joint, P, to the feed-lever Q, which swings horizontally and vertically on the universal joint R. S is the feed bar connected to the feed-lever Q, as shown. The cam-lever N is slotted, as shown, within the bearing O, and a screw, *e*, is passed through the arm of the machine, the slot in the cam-lever, and into the bearing O, so as to hold the lever within said bearing, and the extent of the lateral swing of the cam-lever in its slotted bearing is regulated by the adjustment of the set-screw O', which passes through the end of the bearing. The shaft B being rotated, motion is communicated to the lever N through the medium of the cam M, and the feed-lever Q is in turn caused to oscillate horizontally and vertically to give proper motion to the feed-bar S.

Having thus described my invention, what I claim is—

In a sewing-machine, the combination, with the shafts B and C, of the eccentric G, provided with the hub V, and secured to said shaft B at the desired point by a screw passed through said hub, the box H, made in two halves and inclosing said eccentric, and the eccentric-box case D, provided with screw-bolt K, and secured to the rock-shaft C, said rock-shaft being secured to the shuttle-carrier I, substantially as described.

Dated at Hamilton, Ontario, Canada, this 7th day of July, A. D. 1881.

ASAHIEL ABELL.

In presence of—
A. A. ANDREWS,
WM. BRUCE.