

F. P. CANFIELD.

Sewing Machine.

No. 86,057.

Patented Jan'y 19, 1869.

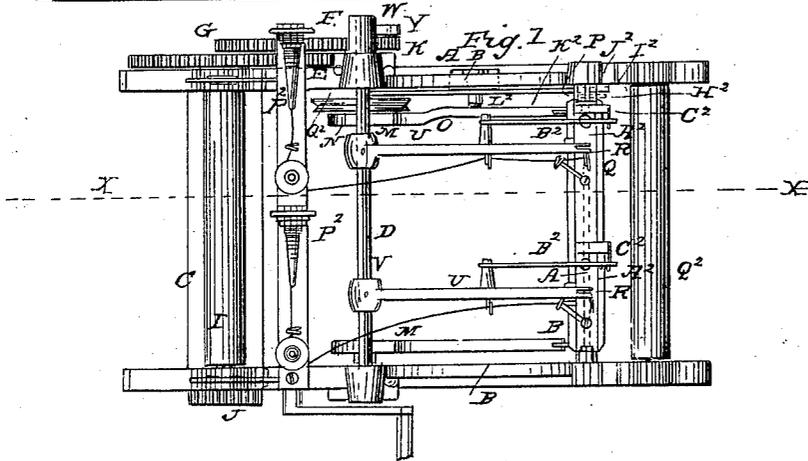
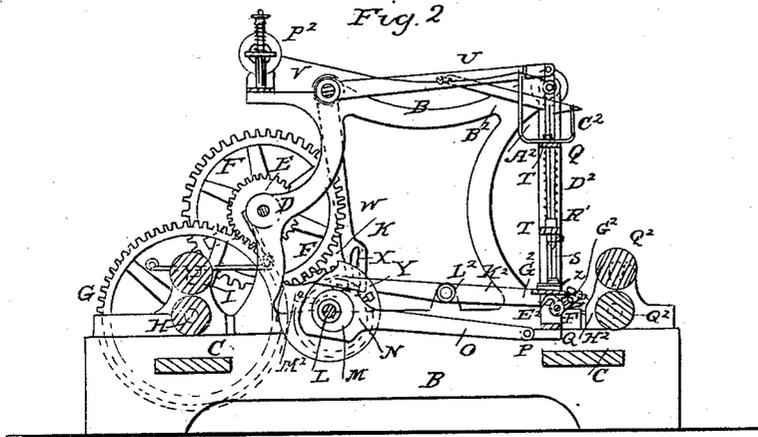
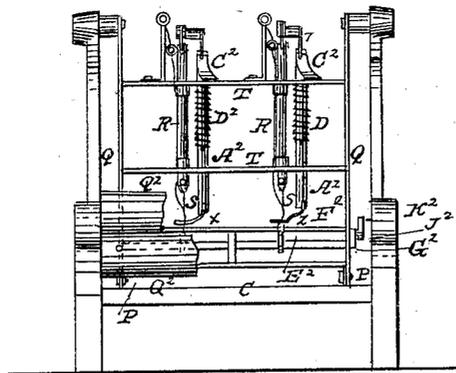


Fig. 3



WITNESSES  
Wm. Ashkettle  
Wm. A. Morgan

INVENTOR  
F. P. Canfield  
per Murray  
attorneys

# United States Patent Office.

F. P. CANFIELD, OF CAMBRIDGEPORT, ASSIGNOR TO HIMSELF AND  
J. F. FALES, OF WALPOLE, MASSACHUSETTS.

Letters Patent No. 86,057, dated January 19, 1869.

## IMPROVEMENT IN SEWING-MACHINE FOR SEWING PARALLEL SEAMS.

The Schedule referred to in these Letters Patent and making part of the same

### To all whom it may concern :

Be it known that I, F. P. CANFIELD, of Cambridgeport, in the county of Middlesex, and State of Massachusetts, have invented new and useful Improvements in "Sewing-Machines;" and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

In the machine referred to, in connection with the hereinafter-described improvements, the fabric which is to be sewed or stitched is fed through the machine with a continuous motion. The frame carrying the needles, as the latter enter, pass through, and are in the fabric, will be carried along or swung in a direction corresponding thereto. The needles having passed out of the fabric, the frame is then swung back to its original position, without disturbing or interfering, in either case, with the continuous forward movement or feed of the fabric.

I employ a particular mode of hanging and operating the vibrating frame, carrying the needles, presser-feet, cloth-plate, and hook, and thereby render the movement of the swinging frame independent of the movement of such needles and presser-feet, and thus, by such improved construction and arrangement of parts, gain many advantages; as, for instance, the needle-bars and presser-rods, being attached to the rocker-shaft by means of intervening levers or arms, and independent of the motion of the vibrating frame, they involve very little weight in their upward and downward movements; also, the reciprocating frame may be disconnected from the eccentrics, while the sewing-mechanism would still operate.

The presser-rods are also very conveniently attached to the mechanism operating the needle-bars, and the arrangement of parts such as to permit of the introduction of a vibrating hook on the vibrating frame containing the needle-bars and presser-rods.

In the accompanying plate of drawings, my improvements in sewing-machines are illustrated—

Figure 1 being a plan or top view of the machine; Figure 2, a longitudinal vertical section, taken in the plane of the line *x x*, fig. 1; and Figure 3, a view of the front end of the machine.

Similar letters of reference indicate like parts.

The supporting frame-work of the machine may be of any suitable construction to receive and support the various working-parts of the same, it consisting, in the present instance, of two parallel side-frames, B B, joined or connected together by horizontal cross-bars or braces, C C, at suitable points of the same.

D, the driving-shaft of the machine, which extends horizontally across from one of the side-frames B to the other, in each of which it is arranged to turn.

E and F, gear-wheels, secured to one end of shaft D, with the smaller gear inside of the larger, and engag-

ing with a gear, G, secured to one end of the lower feed-roller H, at the rear end of the machine, above which roller H another similar feed-roller, I, is hung.

The two feed-rollers, H and I, are geared together at their ends J.

The larger gear-wheel F of the driving-shaft engages with a small gear-wheel, K, upon one end of a horizontal shaft, L, extending across from one side-frame, B, to the other, in bearings, on which it turns.

M, two similar eccentric-wheels, secured to shaft L, around which eccentric-wheels straps N, at one end of connecting or pitman-rods O, fit.

These rods O, at their outer ends P, are hung to the lower end of a vertical frame, Q, suspended at its upper end, in and between the parallel side-frames B of the machine, so as to swing forward and backward thereon.

In this swinging frame Q the mechanism for sewing is arranged or hung, which mechanism, in the present instance, is shown as duplicated in the drawings.

R, the needle-bars, carrying needles S at their lower ends, and arranged to move in vertical planes, passing through the horizontal cross-bars or plates T of the frame Q.

U, levers, hung at one end to the upper ends of needle-bars R, from which they extend horizontally, or nearly so, and are fastened to the horizontal rocker-shaft V, turning in suitable bearings of the upper portion of the side-frames B.

W, a vertical rod, fastened to one end of rocker-shaft V, outside of side-frames, from which it extends downward, and is hung by its slotted end X upon the pin or stud Y, fixed in the gear-wheel K, hereinbefore referred to.

Z, the presser-feet of the sewing-mechanism, formed at the lower ends of the vertical presser-rods A<sup>2</sup>, moving in and through the cross-bars or plates T, hereinbefore referred to.

B<sup>2</sup>, levers, hung to upper ends of presser-bars A<sup>2</sup>, and at one end to the rocker-shaft levers U, with their opposite ends resting upon and playing in the vertically-slotted uprights or standards C<sup>2</sup>, fixed to the upper cross-bar of the swinging frame Q.

D<sup>2</sup>, springs, coiled around presser-bars A<sup>2</sup>, to hold the presser-feet down upon the cloth or fabric being sewed, as in ordinary presser-rods of sewing-machines.

E<sup>2</sup>, the loopers of the sewing-mechanism, one to each needle, but both being connected to a common horizontal shaft, F<sup>2</sup>, placed below the bed-piece or cloth-plate G<sup>2</sup> of the swinging frame.

This shaft F<sup>2</sup>, at one end, has a crank-arm, H<sup>2</sup>.

I<sup>2</sup>, a stud or pin on outer end of crank-arm H<sup>2</sup>, on which stud plays the slotted end J<sup>2</sup> of a lever-arm, K<sup>2</sup>, turning upon a fulcrum, at L<sup>2</sup>, of the stationary frame-work, and receiving its motion through a pin arranged to play in and around the cam-way or groove M<sup>2</sup>, upon

one face or side of a wheel, O<sup>2</sup>, secured to and turning with the eccentric-wheel shaft hereinbefore referred to.

P<sup>2</sup>, the bobbins for supplying the needles with thread during the sewing-operation, from which bobbins the threads pass to the needle, through any of the ordinary arrangements of guides and tension-regulators.

Q<sup>2</sup> Q<sup>2</sup>, two feed-rollers at front end of machine, between which the fabric to be sewed or stitched is passed, and thence, over the cloth-plate of the swinging frame, to the other feed-rollers, at the rear or opposite end of the machine. The fabric, as it is thus passed or fed from one end of the machine to the other, with a continuous motion, being sewed or stitched by the sewing-mechanism, which, through the arrangement of devices hereinabove described, is not only properly operated therefor, but, by means of the swinging frame carrying the sewing-mechanism, and the manner in which it is connected with the driving-shaft, the needles, &c., as they are passing through, or are in the cloth or fabric, are carried along with the same, while, when out thereof, they are carried in an opposite direction to the movement of the fabric, and thus back to their original position, for the needles to again enter the cloth for forming the next stitch, and so on, the slotted end of the operating-lever for the looper-shaft allowing such shaft to play through the same, as the frame

moves forward or backward, while at the same time the desired or requisite throw or movement of the loopers can be produced.

*Claims.*

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

1. The combination, with a mechanism for moving the material forward continuously, of a vibrating frame, pivoted to the side-frame of the machine, and carrying the reciprocating needles, presser-feet, cloth-plate, and hook, substantially as described.

2. The combination, with the presser-rods, of levers hung at one end to the horizontal levers or arms of the rocker-shaft, and with the other end resting upon and playing in standards placed on the vibrating frame, substantially as described.

3. The combination, with the mechanism for moving the material forward continuously, and the vibrating frame pivoted to the side-frames of the machine, and carrying the needles, presser-feet, cloth-plate, and hook of the levers, rocker-shaft, eccentrics, and pitman for operating the same, substantially as described.

F. P. CANFIELD.

Witnesses:

FRANK G. PARKER,  
A. HUN BERRY.