

C. PAGE.
Sewing-Machines.

No. 150,479.

Patented May 5, 1874.

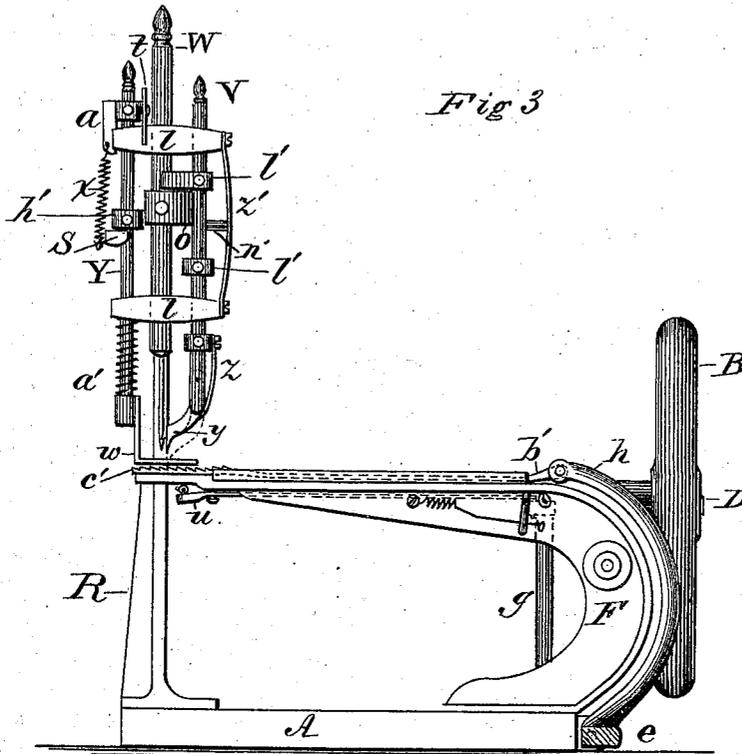


Fig 3

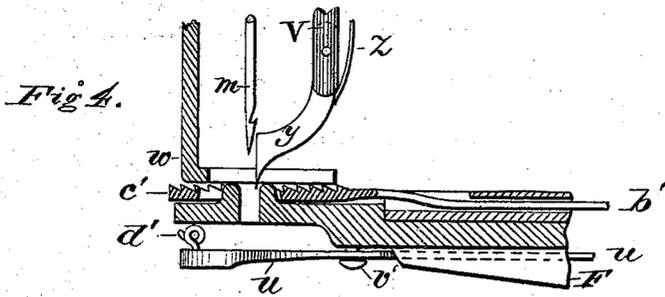


Fig 4.

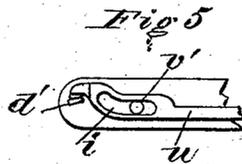


Fig 5

Witnesses.

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IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **150,479**, dated May 5, 1874; application filed November 24, 1873.

To all whom it may concern:

Be it known that I, CHARLES PAGÉ, of Montreal, in the Province of Quebec and Dominion of Canada, have invented certain Improvements in Sewing-Machines of which the following is a specification:

My invention relates to that class of sewing-machines which is used in the manufacture of boots and shoes, my improved machine being intended more especially for sewing on the straps of boots and gaiters; and the invention consists in a novel construction and combination of parts, as hereinafter more fully explained.

Figure 1 is a top-plan view; Fig. 2, a side elevation with a portion in section. Fig. 3 is a front elevation taken at right angles to Fig. 2. Figs. 4 and 5 are portions shown more in detail.

In the drawings, A represents the bed-plate, on which are two uprights, E, in which is mounted the driving-shaft D, as shown in Figs. 1 and 2, this shaft being provided with a fly-wheel, B, a cam-wheel, G, for operating the feed, a cam, K, for operating the thread-carrier or looper, and still another cam, M, for operating the presser-foot, all as represented in Fig. 1. This shaft is provided with a pulley, L, for imparting motion to the machine from any suitable motor, and the needle-bar Q is also connected to it by means of a pitman, *n'*, as shown in Fig. 2. A curved rigid arm, R, rises from the bed-plate A, and extends to the front, where it is provided with two arms, *l*, widened transversely at their front ends to afford bearings for the needle-bar W, the presser-foot bar Y, and also a bar, V, as shown in Figs. 2 and 3. The needle-bar W has a short arm, O, secured rigidly to it by a set-screw, so it can be adjusted vertically, this arm O being slotted longitudinally and connected by a sliding screw, *n'*, to the front slotted end of the needle-arm Q, as shown in Figs. 1, 2, and 3, so that by adjusting the screw *n'* in the slots the needle can be made to move a greater or less distance at each stroke. The needle-arm or lever Q is pivoted by a screw, U', to the inner side of the rigid arm R, as shown in Fig. 1. The presser-foot bar Y has a collar, *h'*, secured upon it by a set-screw, and is pressed down by a spiral spring, *a'*. It is raised by a vibrating arm or

lever, S, which is pivoted by a screw, U, to the outer side of the rigid arm R, as shown in Fig. 1, this lever S having at its rear end an arm, O', which projects at a right angle and carries on its inner end a friction-roller, against which the cam M strikes at each revolution of the driving-shaft D, the front end of the lever S resting under the collar *h'*, as shown in Fig. 3, so that when operated by the cam M it raises the presser-foot *w*. A spiral spring, *x*, is connected at one end to the front end of the lever S, and at its opposite end to a collar, *a*, upon the top of the bar Y, as shown in Fig. 3, there being also a cam or lever, *t*, pivoted to this collar for holding the presser-foot elevated, when desired. The office of the spring *x* is to hold the end of the lever S up in contact with the collar *h* and prevent it from dropping away, and then striking the collar noisily as it rises again. The bar V, which carries at its lower end the cast-off *y* and a spring, *z*, to press the cast-off against the needle, has secured upon it two collars, *v* and *v'*, as shown in Fig. 3, and the arm O attached to the needle-bar W is made to project at the side next the bar V, so as to strike alternately against these collars *v*, and thus impart an intermittent motion to the bar V, the latter having a pin, *n*, projecting from its side, and bearing against a flat spring, *z'*, thus creating sufficient friction to hold the bar V stationary while the arm O passes from one to the other collar *v*. The collars *v* are secured to the bar V by set-screws, so that they can be adjusted thereon to regulate the distance that said bar shall move, as may be desired. A rigid arm, F, to support the boot or article being operated upon, is secured to the bed-plate A at its front side, near one corner, and extends from thence to a point directly under the needle, this arm *f* standing at right angles to the arm R and the levers S and Q, as shown in Figs. 1, 2, and 3. The feed *c'* consists of a plate having several rows of ratchet-shaped teeth upon its face, with a groove between each row, and has attached to it a bar or rod, *b'*, Figs. 3 and 4, which extends along the top of the supporting-arm F in a groove or recess made for it, and is covered by a metal plate, as shown in Fig. 4. At its rear end this rod *b'* is pivoted to an arm, *p*, located close behind the upright

portion of arm F, as shown, this arm *p* at its lower end being rigidly secured to a rock-shaft, *e*, which extends parallel to the arm R back to the shaft D, where it has another vertical arm, H, which has its upper end close to the shaft, alongside of the cam-wheel G, as shown in Fig. 1, so that as the shaft rotates the cam-wheel G strikes against the arm H, (which is held back by a spring suitably applied,) and thus imparts motion to the feed *c'*. Underneath the outer end of the supporting-arm F I locate a looper, *u*, as shown in Figs. 3 and 4, it having an eye or staple, *u'*, for the thread to pass through at its outer end. This looper or thread-carrier has formed in it, near its outer end, a curved slot, *i*, as shown in Fig. 5, which is an under-face view thereof; and through this slot a pin, *v'*, passes, and is secured in the arm F, the slot and pin thus serving to guide the looper *u*, and cause it to move both longitudinally and laterally at the proper times, so as to carry the thread into the required positions in relation to the barbed or hook needle *m*. This looper is also extended back along the under side of the top part of the arm F, as represented in Figs. 3 and 4, and at its rear end is pivoted to a horizontal arm, *f*, of a vertical rock-shaft, *g*. (See Figs. 1 and 2.) This rock-shaft *g* extends through to the under side of the bed-plate A, where it is provided with another horizontal arm standing at right angles to the arm *f*, as shown by dotted lines in Fig. 1. To this arm a rod is connected which extends back to the shaft D, where it is connected to an upright lever, J,

which is pivoted to the side of one of the uprights E, directly opposite the cam K, as shown in Fig. 1, so that as the shaft D rotates this cam K, by striking the upper end of the lever J, communicates motion to the looper *u*, there being a spiral spring, *o'*, connected to the lever under the bed-plate, to draw it back after the cam has passed.

Suitable devices are also applied for holding the spools, and for guiding and giving to the threads the required tension; but these, being similar to the devices in common use, need not be specially described.

In using the machine, the strap is placed inside of the boot or shoe at the proper place, and then placed on the arm F, the strap being next to and resting on the feed *c'*, and the foot-presser let down as usual. Motion being imparted to the machine, the sewing is performed in the usual manner.

Having thus described my invention, what I claim is—

1. The thread-guide *u*, provided with the curved slot *i*, in combination with the rock-shaft *g* connected to the lever J, and the cam K, all constructed and arranged to operate as set forth.

2. The slotted lever Q, in combination with the slotted arm *o* attached to the needle-bar W, with the adjustable screw *n'*, substantially as described.

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Witnesses:

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