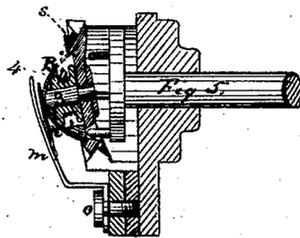
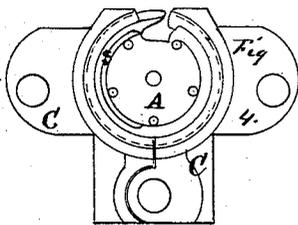
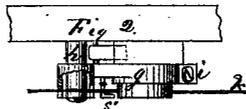
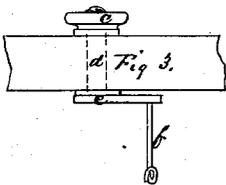
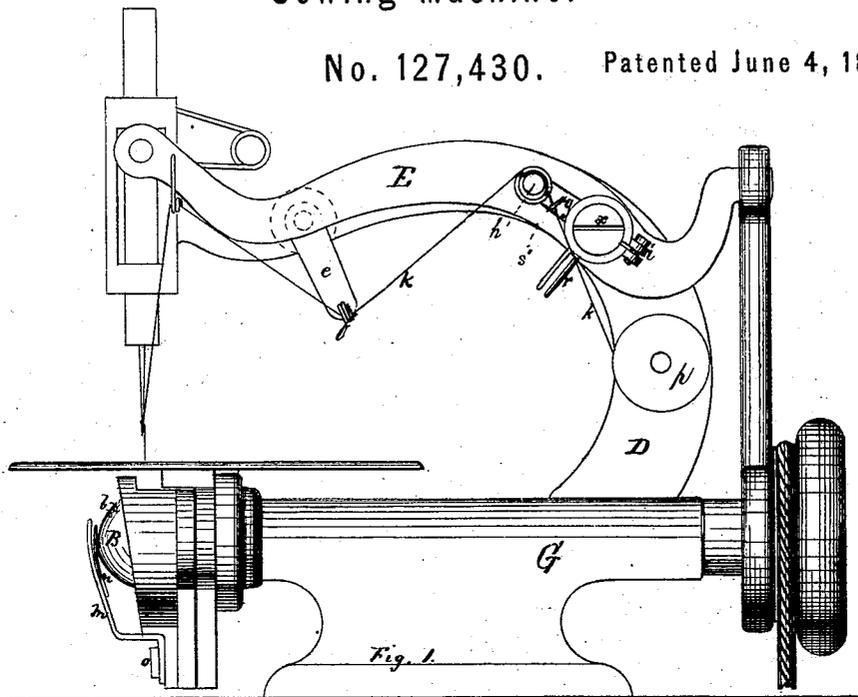


JOHN REECE.
Sewing-Machine.

No. 127,430. Patented June 4, 1872.



Witnesses.

G. Mather
Wm. L. Thompson

Inventor.

John Reece.

By B. F. James,
his atty.

UNITED STATES PATENT OFFICE.

JOHN REECE, OF STANSTEAD, CANADA, ASSIGNOR TO HIMSELF AND OZRO MORRILL, OF SAME PLACE.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 127,430, dated June 4, 1872.

To all whom it may concern:

Be it known that I, JOHN REECE, of the village and county of Stanstead, in the Province of Quebec, Canada, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare the following to be a true and correct description of the construction and operation of the same, reference being had to the accompanying drawing making part and parcel of this my specification.

The nature of my invention consists in the peculiar construction and arrangement of a circular rotary shuttle formed of two parts—one part being a hook engaged and revolved by a rotary plate, while the other part, of hemispherical shape, remains stationary. Within the latter is a bobbin containing the thread, and it can be arranged either with or without the central support or pin attached to the part of hemispherical configuration. The tension of the thread is regulated as it passes from the bobbin by means of holes in part B. And also in the peculiar construction, arrangement, and adaptation of a thread-adjusting mechanism, or devices regulating the tension and supply of the thread to the needle of the machine, attached to the needle-bar and controlled by its operation and movement.

In order to enable others skilled in the art to make and use my invention, I will describe its construction and operation.

Figure 1 is a side view of sewing-machine showing two of my improvements and their mode of attachment to the arm and needle-bar. Figs. 2 and 3 represent views, enlarged and in detail, of the devices regulating the tension and determining the character of the stitch. Figs. 4 and 5 show the position and arrangement of the shuttle to and with the shaft operating the machine.

In Fig. 1, D represents the arm of the sewing-machine, connected with the base G in the usual manner. E is the needle-bar actuating-arm, pivoted to the arm D at X, which also represents the screw, the shaft of which supports the tension clamp or device *g*; the latter is composed of metal, and constructed to fit upon the shaft *x*, its lower end open, as at *i*, and the clasp of the same upon the shaft *x* regulated by a set-screw; the forward and upper end of the clamp fits upon the pivot *h* at-

tached to the needle-bar, as shown in Fig. 2 *p* represents the spool holding the thread, from which it passes up and between the forked wire *r* soldered to the clamp or tension-plate *g*, over the hook *s'*; thence, between the slots formed on the end of the clamp or tension plate, over the pivot *h*, and thus on to the needle. The upward and downward movement of the needle-bar alternately holds and releases the thread passing over the pivot *h*, allowing a sufficient quantity of thread to be supplied for the proper operation of the machine—the downward movement releasing or freeing the thread, and the upward holding it firmly in place, taking up the loop. The lever *e*, Figs. 1 and 3, is attached to the arm D of the sewing-machine by means of the shaft or pivot *d*, and held in position and regulated by the set-screw *c*. Upon the lower end of said lever a wire arm, *f*, is attached, upon the end of which a hook or loop is formed to receive the thread *k* as it passes to the needle. This lever *e* works freely upon its shaft or pivot, the friction occasioned by the set-screw holding it in any desired position. By moving the lever up or down the character of the stitch is regulated and determined; the nearer approach of the lever to a vertical position the tighter or closer will the stitch become.

The shuttle of this machine is circular, composed of two parts, A and B, the former a flat plate, with the hook formed upon it as shown in Fig. 4, supplied with holes into which pins engage from the plate attached to the end of the shaft, as seen in Fig. 5. A V-shaped groove is formed upon the periphery of the shuttle, and the same held in its proper position by the jointed sector plate C C, the edges of which conform to the shape of such groove and fitting into the same. A groove, *s*, is formed upon one side of the shuttle A, as seen in Fig. 4, to make the loop. The part B, with the part A, forms the shuttle proper. The former is hemispherical in shape and configuration, and fits into the cavity formed by reason of a raised edge in the plate A, as seen in Fig. 5, and fits loosely therein. The part B does not revolve with the part A, and in order to aid in its retention in an upright position a weight, *l*, as seen in Fig. 5, may be soldered to its lower and inner edge. On the upper part of the portion

B of the shuttle holes are made, varying in distance from the circumference, through either one of which the thread may pass, and by which the tension of the under thread is regulated. These holes may be made of different sizes to accommodate themselves to the different sizes of thread used. To the center of the part B of the shuttle a pin may be attached, upon which the spool 4 may be placed and revolve thereupon, as may be seen in Fig. 5; this is not absolutely necessary to be done, as the spool, being adapted in form to the space between the parts A and B, will perform all the functions required of it in holding and releasing the thread upon it when the machine is in motion. To prevent the part B from being jarred out of its position I employ an arm, *m*, and sensitive spring *n*, attached to its upper and inner end, that very nearly impinges upon the part B of the shuttle, as seen in Figs. 1 and 5. It is not necessary, or even desirable, that these parts should touch each other, but that space at least sufficient may be allowed for the thread to pass between the spring and shuttle B. The arm *m* is secured to the plate C by the screw *o*.

By the peculiar construction of my shuttle much less metal, in weight, is required, and they can be made cheaply.

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

1. The rotary shuttle, when composed of the two parts A and B, constructed and arranged as described, and the latter furnished with holes *b b b* through which passes the thread from the bobbin, regulating and controlling the tension thereof, in the manner and for the purpose herein described.

2. The thread controlling and holding mechanism, consisting of the devices *g*, *r*, *i*, and *h*, attached to, connected with, and operated by the needle-bar, in the manner and for the purpose herein specified.

3. The combination, with the elements of the preceding clause, of the lever *e*, its projecting arm *f*, and set-screw *c*, when arranged upon the main arm of the sewing-machine, as herein specified.

JOHN REECE.

Witnesses:

WILLIAM L. THOMPSON,
EDM. F. BROWN.