

UNITED STATES PATENT OFFICE.

ROBERT BARCLAY, OF BUFFALO, NEW YORK.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **81,328**, dated August 25, 1868.

To all whom it may concern:

Be it known that I, ROBERT BARCLAY, of Buffalo, in the county of Erie and State of New York, have invented a new and Improved Sewing-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and improved sewing-machine; and it consists in a novel feed mechanism and a take-up movement for the thread, as hereinafter fully shown and described, whereby simplicity, economy in construction, and durability of the working parts are obtained.

In the accompanying sheet of drawings, Figure 1 is a longitudinal vertical section of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a transverse vertical section of the same, taken in the line *y y*, Fig. 1; Fig. 3, a transverse vertical section of the same, taken in the line *z z*, Fig. 1.

Similar letters of reference indicate corresponding parts.

A represents the bed of the sewing-machine; B, the arm attached thereto, and C the driving-shaft, which passes horizontally through the arm, and has a balance-wheel, D, on its rear end, said balance-wheel having a concentric crank-pulley, E, attached to its outer side, and two cams, F F, at its inner side. G is a connecting-rod attached to the crank-pulley E, and to a crank, *a*, at the rear end of a rock-shaft, H, placed longitudinally underneath the bed, and having an arm, I, at its front end, the upper end of said arm being connected to a shuttle-carrier, J, to which, by the means above referred to, a reciprocating movement is given from the driving-shaft. K K' are two upright levers, which are made to press against the cams F F by means of springs *b b*. (See Fig. 3.) These levers are attached at their lower ends to shafts L L', which are placed longitudinally underneath the bed A of the ma-

chine, and on the front ends of these shafts there are secured, respectively, arms M M', which, in connection with a spring, N, operate the feed-bar O, the arm M of shaft L giving the longitudinal movement to said bar, and the arm M' of shaft L' giving the rising movement to said bar, while the spring N gives the return movement to the same, the falling movement of the feed-bar being due to its own gravity only. This operation will be fully understood by referring to Fig. 2.

On the front end of the driving-shaft C there is a cam, P, which has a stud, *c*, projecting from it, said stud working in a slot in a horizontal bar, *d*, attached to the needle-bar Q. (See Figs. 1 and 2.)

The cam P acts against a lever, R, and the latter actuates an arm, S, which projects through a slot in the front plate T of the machine, said arm having a spring, U, bearing upon it, which spring has a tendency to keep the arm S down. (See Fig. 1.)

Below the arm S there is a similar arm, V, which also has a spring, *e*, bearing upon it, and the thread *f* passes from the spool through the outer end of V, thence upward through the outer end of the arm S, and down through the eye of the needle.

The arm S constitutes the take-up, and the arm V works, in connection with S, in such a manner as to yield or give when any extra strain comes upon the thread, thereby preventing the breaking of the latter by any undue tension.

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

The cam P and lever R, in combination with the spring-arms S and V, constructed and arranged to operate as and for the purpose set forth.

The above specification of my invention signed by me this 16th day of April, 1868.

ROBT. BARCLAY.

Witnesses:

MAURICE COURTNEY,
RUDOLF VON TOBEL.