

UNITED STATES PATENT OFFICE.

THOMAS GREEN, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 216,671, dated June 17, 1879; application filed April 4, 1879.

To all whom it may concern:

Be it known that I, THOMAS GREEN, of the city of Newark, in the county of Essex and State of New Jersey, 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 invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in sewing-machines, the object of which is more especially to facilitate the stitching of sweat-bands for hats, as well as for other purposes.

The accompanying drawings illustrate the nature and character of my invention, in which Figure 1 represents a side elevation of a sewing-machine embodying my improvements; Fig. 2, a front-end view; Fig. 3, a top or plan view; Fig. 4, a detached sectional view on the line 1 2, Fig. 1; and Fig. 5, a detached view.

Similar letters of reference indicate corresponding parts in each of the several figures.

My improvement consists in the combination, in a sewing-machine, of the reciprocating needle-carrying head A, sliding at one side of the head A' of the overhanging arm, the connecting-bar B, lever C, open (or closed, if preferred) cam *d*, spiral spring *e*, and pinion or driver *f*, which connects with the large gear-wheel *g*, as hereinafter more fully set forth and described.

The needle-carrying head A is operated upon by the connecting-bar B, which is connected to a rod, Y, attached to said head, which bar B slides nearly parallel to the arm O, in connection with the lever C, which is pivoted to the standard at *b*, and cam *d*, which imparts to the lever C, bar B, and needle-carrying head their reciprocating motions, thus producing the back-and-forth movement of the

needle and zigzag stitch, resulting from the needle perforating the cloth first at one point and then at another.

As will be observed, the cam *d* is attached to a counter-shaft or spindle, *h*, which also carries a gear-wheel, *g*.

The lever C is provided with a friction-roller, *i*, near its lower extremity, and projects far enough through the base of the machine to be operated by the cam *d*; and its friction-roller is kept in contact with the cam by means of the spiral spring *e*, one end of which is attached to the lever below the friction-roller and the other end to the base of the machine, as shown, thus keeping the friction-roller in contact with the cam.

Lever C is also provided with a slot, *a*, at the top, for the purpose of adjusting the connecting-rod, by means of which the stitches may be lengthened or shortened, as required.

To the driving-shaft K is attached the pinion or driver *f*, which gears with the wheel *g*, and is of such size that the pinion makes two revolutions to one of the gear-wheel *g*.

The bar B is connected to the reciprocating needle-carrying head A by means of a stud, *o*, and rod *r*, which has its bearing or seat in a hole in arm O, said arm being slotted at its forward end to admit of the horizontal reciprocating motions of the stud produced by the vibrations of the lever C.

I claim—

The combination, with a sewing-machine, of the reciprocating needle-carrying head A, connecting-rod B, slotted lever C, cam *d*, spring *e*, pinion or driver *f*, and gear-wheel *g*, as and for the purpose set forth.

In testimony that I claim the foregoing as my own I hereto affix my signature in presence of two witnesses.

THOMAS GREEN.

Witnesses:

OLIVER DRAKE,
P. J. INSLEE.