

United States Patent Office.

HENRY J. HANCOCK, OF NEW YORK, N. Y.

Letters Patent No. 83,492, dated October 27, 1868.

IMPROVEMENT IN SEWING-MACHINE.

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, HENRY J. HANCOCK, of the city, county, and State of New York, have invented a new and useful Improvement in Sewing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a side elevation of a single-thread sewing-machine, constructed in accordance with my improvement, and

Figure 2, a front view of the same, the presser-foot and cloth-bed, or table, being in section in both views.

Similar letters of reference indicate corresponding parts.

My invention consists in a combination, in a needle-feed, of a needle-bar slide, working between fixed inclined ways or guides, to produce the feed of the material, and presser-foot, capable of independent lift from the cloth, but reciprocating in direction of the feed, together with the needle-bar slide, from a rock-shaft, or rocking centre, common to both, and operating, it may be, in connection with a suitable tension-device for taking up the slack, and controlling the run of the thread to the needle.

Referring to the accompanying drawing, A represents the cloth-bed, or table, B the main frame of the machine, carrying the needle-thread spool C, and main driving-shaft D, which, as it is rotated, serves, by an eccentric, E, rod *a*, and crank, or its equivalent, F, to give a reciprocating motion to a shaft, G, that carries on its forward end a hook, or looper, H, for catching the loop as it is brought down by the needle, and holding it for the passage of a subsequent loop through it, as in other single-thread machines.

The main driving-shaft D also serves to operate, through a crank or wrist-pin, *b*, from a disk, *c*, to give an up-and-down motion to a needle-bar slide, I, formed with ears or wings *x x*, which work within fixed guides or ways J J'; that, in the up-and-down movements of the needle-bar, give the necessary reciprocating lateral movement to the needle *d*, and its appendages, to effect the feed of the cloth or other material across the table, and which may be regulated, according to the length of stitch required, by raising or lowering, through an adjustable-screw arrangement, the one fixed incline J'.

The table A has the usual oblong slot *e*, made in or through it for play of the needle in effecting the feed, and the presser-foot K, which is connected with a bar, *f*, has an aperture through it for passage of the needle in its up-and-down motion.

The bar *f*, of the presser-foot K, passes closely, but loosely, through the socket-portion of the needle-bar slide I, and through guides *g g*, that form projections from a bar or frame, L, which, by means of a rock-shaft, *i*, working in cylindrical bearing or socket, *k*,

connected with the main frame, serves as a common centre to both the needle-bar slide and presser-foot, to admit of the lateral or swinging action of both devices, in effecting the feed of the cloth, as accomplished by the up-and-down movement of the needle-bar slide, or its wings, *x x*, between the stationary guides J J', with, however, every facility for independent lift of the presser-foot K, which is held down to its bearing on the cloth by a spring, *l*, that may be raised when it is required to raise the presser-foot from the cloth, by pulling on a knob, *m*.

To prevent the cloth or material from slipping, or being drawn back by the presser-foot K, as the latter makes its return stroke in the lateral swing of it, together with the needle-bar slide, through the agency of the wings *x x*, and inclined guides J J', I furnish the cloth-bed or table A with a serrated surface or surfaces, *n*, situated below the presser-foot, and the serrations or teeth of which are of ratchet-form, or so shaped and arranged as that, in the lateral action of the needle and presser-foot, in effecting the feed of the cloth, the latter will be at liberty to slip or slide over said serrated surfaces, *n*, while in the back movement of the presser-foot, after the needle has retired from the cloth, the serrations or teeth of the fixed surfaces *n* will, by their configuration and arrangement, hold the cloth from slipping or moving back with the presser-foot in its return movement.

The needle-thread *o* passes from the spool C round an adjustable tension device, M, and from thence down through a spiral or coiled-wire spring, N, fastened at its lower end to the needle-bar slide, so as to reciprocate with the latter, said thread afterwards passing through a front lower guide, *r*, projecting from the needle-bar, and from thence through the eye of the needle. Such a spring-tension device, M, serves, in a most simple and efficient manner, to take up the slack of the thread in the up-stroke of the needle, and to induce a proper draught on the reel to keep up the supply.

P is a mirror secured to one side of the frame, and *s s'* a clamping-plate and screw for attaching the machine to a table or bench.

What is here claimed, and desired to be secured by Letters Patent, is—

The combination of the needle-bar slide I, with its wings *x x*, inclined guides or ways J J', presser-foot K, made capable of independent lift from the cloth, but reciprocating in direction of the feed, together with the needle-bar, from or through a rock-shaft or centre, *i*, common to both, substantially as specified.

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Witnesses:

A. LE CLERC,
A. KINNIEB.