

UNITED STATES PATENT OFFICE.

A. H. HOOK, OF NEW YORK, N. Y., ASSIGNOR TO UNION SEWING MACHINE COMPANY, OF SAME PLACE.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 21,049, dated July 27, 1858.

To all whom it may concern:

Be it known that I, ALBERT H. HOOK, of the city, county, and State of New York, have invented certain new and useful Improvements in Single-Threaded Sewing-Machines; and I do hereby declare and ascertain said invention, referring to the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a plan of the under side of the machine, showing the part beneath the table-top; Figs. 3 and 4, parts of the feed-motion detached. Figs. 5, 6, 7, and 8 are illustrations of the looper.

My improvements are made upon the single-threaded or tambour sewing-machine, to which alone they relate, the construction and arrangement of the parts being devised with special reference to cheapness and durability, combined with accuracy and certainty of operation and ease of adjustment, such as no other machine with which I am acquainted possesses.

The construction is as follows: On a suitable table, *x*, of any figure, I hinge two arms, A and B, with their fulcrums *y* below the top of the table *x*. The arm A is for the purpose of holding down the cloth or material to be sewed. It is kept down by a spring, *a*. Its functions are old and well known. The arm B has the needle *b*, attached, as usual, to its forward end. This arm B receives its motion from a wrist or crank pin, *c*, on the driving-shaft *e* by means of connecting-rod *d*, jointed to the lower end of the arm B, and uniting it with the crank-pin *c*, the revolution of which vibrates the arm B and needle up and down. When the needle is threaded it carries a loop of thread down below the under side of the table-top *x* and opposite the point of a finger, *e*, of a curved figure, as clearly seen at Fig. 8 detached. Then, as the needle recedes, the loop bows outward, guided by the guard-piece *f*, and is then readily and surely caught by the point of finger *e*, and is thus retained until the needle is withdrawn. The finger *e* is affixed to a bent arm, *g*, clearly represented in Figs. 1, 2, 5, 6, 7. It lies along the upper side of said arm *g* at just sufficient distance therefrom to permit the largest-sized thread to pass between the finger and arms. (This is best seen in Figs. 6 and 7.) When the finger *e* passes through the bight of the loop the thread is drawn in between the arm and finger, and lies there

loosely. The face of the arm *g* opposite the finger being roughened, it catches the thread on its roughened surface and causes the loop to incline over, and the position of the fulcrum (hereinafter described) aiding, the loop is thrown out so as to cause the needle to pass through it with certainty and without springs or compound motion of any kind. The position of the fulcrum or center of motion of arm *g* throws the finger backward, as will be clearly seen by an examination of Fig. 5, so as to insure the tapping of the loop by the needle. Motion is given to the looper by the same crank-pin, *c*, as moves the arm B. This may be effected by attaching it to the same pin as connects the arm B with the connecting-rod *d*, as seen in the drawings, by means of the connecting-rod *h*; or this connecting-rod *h* may be jointed to the same crank-pin or to any part of rod *d*.

The feed is effected by means of a lever, *i*, having its fulcrum at *k*. On the front end of this lever there is a projection, *i'*, (seen in Fig. 3,) which works in a slot through the table. The other end of lever *i* is bent into an inclined plane, as at *i''*. A small arm, *i'''*, may also extend from *i* out on one side to steady it. It will be noticed that the arm *i''* of lever *i* inclines two ways relatively to the line of motion of arm B, on which, opposite the lower end of the arm *i''*, there is a set-screw, *w*, which strikes against the inclined arm *i''* and lifts up the end projection, *i'*, through the plate *x*, so as to come in contact with the cloth and bring arm *i* up against the bottom of the table, and then, by still bearing against the arm *i''*, a side motion is given by the side incline of arm *i''* to projection *i'*, which feeds the material being sewed. A small spring, *m*, (see Fig. 3,) retracts the projection *i'* below the surface of the plate, as seen in that figure, and the spring *n* draws back the lever *i* to its place.

Having thus fully described my improved single-threaded machine, what I claim therein as new is—

Forming a narrow space between the looper-finger *e* and arm *g*, in combination with the rough surface on *g*, the whole being constructed and arranged substantially as herein set forth.

ALB. H. HOOK.

In presence of—

J. O. SEYMOUR,
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