A. H. HOOK.

Sewing Machine.

No. 22,179. Patented Nov. 30, 1858.

Fig. 4

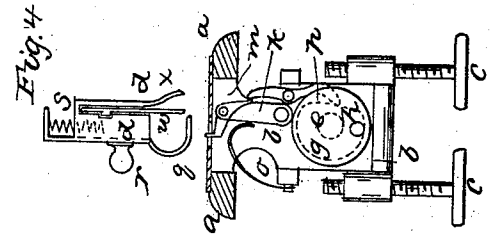


Fig. 3

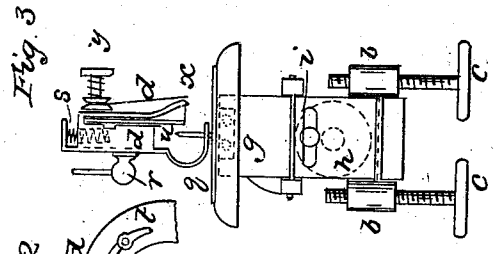


Fig. 2

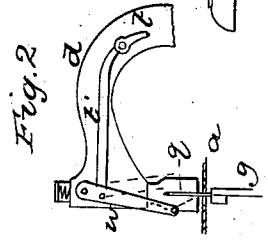
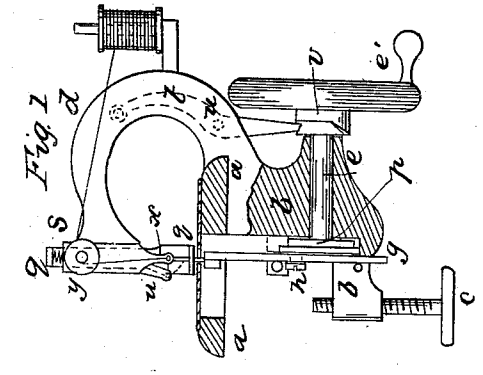


Fig. 1



INVENTOR.

Albert H. Hook

UNITED STATES PATENT OFFICE.

ALBERT H. HOOK, OF NEW YORK, N. Y.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **22,179**, dated November 30, 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 Sewing Machinery; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional side elevation. Fig. 2 is a portion of the arm that holds down the cloth. Fig. 3 is a front view; Fig. 4, a front sectional elevation.

My improvement consists in simplifying and arranging the construction of certain parts of machinery necessary to mechanical sewing, by which I am enabled to make a compact machine at small cost and retain all the useful features of a single-thread sewing-machine, dispensing with threading and other difficulties in its operation usually incident to such devices.

The construction is as follows: A casting is formed, consisting of a base-plate, *a*, having a projection, *b*, projecting from its under side and extended under so as to form a holdfast, by which it can be attached to a table or other fixture by the set-screws *c*, two in number, to insure its firm and steady attachment. Above the table a curved arm, permanently affixed at the rear part, curves over to the front, as is usual in many sewing-machines. This arm is lettered *d* in the drawings, and is hollow for a purpose hereinafter described. A main shaft, *e*, runs through the base-projection *b*, having on its outer end a small fly-wheel with crank *e'* or otherwise, by which it is turned. On the opposite end of this shaft *e* there is a wheel, *f*, (or an arm may be substituted,) on which is a wrist-pin, *h*, by which the needle-bar is moved up and down. The needle-bar is a flat oblong plate, *g*, which slides up and down in a vertical direction or at right angles to plate *a* and below it, as the drawings clearly show. There is an oblong hole, *i*, made across this plate, as seen in Fig. 3, in which the wrist-pin *h* plays sidewise in its revolution. The needle (which is a barbed one without an eye) is affixed to the top of needle-bar *g*, runs up through an opening in plate *a* made for it, and so pierces the cloth in the act of sewing to be hereinafter described. Directly behind the wheel *f* on the end of the shaft there is a cam, *p*, the form of which is represented by dotted lines in Fig. 4. This actuates the feed, which is constructed as follows: An arm, *k*, is affixed to the permanent projection *b* by a screw, *l*, that forms its pivot. To the upper end of this arm a bent lever or bell-crank piece, *m*, is pivoted at its angle. The horizontal arm has an upward projection on its upper end that projects through a slit cut in the base-plate and enters the cloth when feeding. Its opposite arm projects downward, and is struck and forced forward by the upper end of a lever, *n*, pivoted by its center to the projection *b*, and moved by its lower end coming in contact with the cam *p*. A spring, *o*, bears against the arm *k* and causes the parts to recede against the action of the said cam. The action is as follows: The cam throws outward the lower end of the lever *n*, which causes its upper end to move in an opposite direction, forcing forward the bent lever *m*, and also raising its projecting end, so as to push it into the cloth to be fed and carry that forward. The cloth is held down by a sliding piece, *q*, affixed to arm *d*, above referred to. This piece *q* is forced down upon the cloth and held permanently by a set-screw, *r*, and against it the end of *m* strikes, which prevents its rising higher. When the set-screw releases this slide-piece *q*, a spring, *s*, throws it up out of the way, as seen at Fig. 4, and releases the cloth. (At Fig. 4 the slide is held down.) Within the hollow arm *d* a lever, *t*, plays, having its fulcrum at *u*. (See Fig. 1.) Its lower arm extends down to a face-cam, *v*, on shaft *e*. The upper end of this lever has a connecting-rod, *t'*, (see Fig. 2,) which connects it with a vibrating finger, *w*, or thread-guide. This thread-guide *w* is pivoted at its upper end, and rod *t'* connects just below at its lower end. This thread-guide has an eye, through which the thread from the spool passes, after going through the permanent eye *x*, affixed to the arm. The tension of the thread is made by a spring and set-screw, *y*, of ordinary construction.

The operation of this machine is as follows: When the cloth is in place and the thread is passed through the guides, the needle is thrust up through the cloth, as in Figs. 1, 2, 3. The thread-guide, which is in the position shown by red lines in Fig. 2 while the needle ascends, is then brought into the position shown in Figs. 1 and 2, and the thread brought close

around the needle. When this descends the barb thereon catches and carries down a loop of the thread through the cloth, which is then fed forward one stitch, when the needle again ascends, leaving the loop on it, and by the same process again catches the thread and draws another loop down through the first. This is repeated as the sewing proceeds.

Having thus fully described my improvements, what I claim therein as new, and desire to secure by Letters Patent, is—

The combination of the levers *m n*, arm *k*, spring *o*, and cam *p*, constructed and arranged substantially in the manner and for the purpose set forth.

ALB. H. HOOK.

Witnesses:
J. BISALS,
J. JONES.