A. W. JOHNSON.

Embroidering Attachment for Sewing Machines.

No. 108,150. Patented Oct. 11, 1870.

Fig. 1.

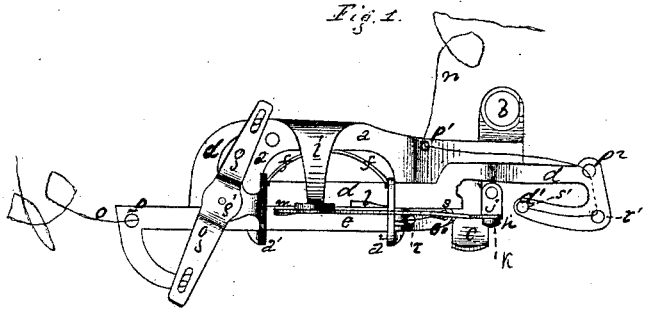


Fig. 2.

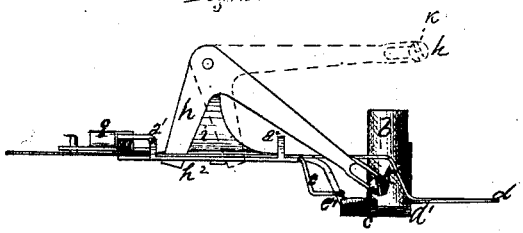
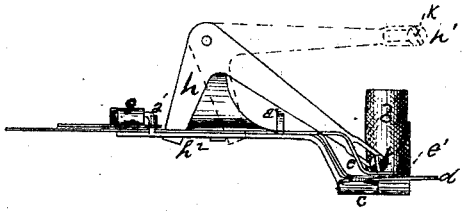


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALBERT W. JOHNSON, OF MIDDLETOWN, CONNECTICUT.

IMPROVEMENT IN EMBROIDERING ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **108,150**, dated October 11, 1870.

I, ALBERT W. JOHNSON, of Middletown, in the county of Middlesex and State of Connecticut, have made certain Improvements in an Embroidering Attachment for Sewing-Machines, of which the following is a specification:

Nature and Objects of the Invention.

My invention is a device for attachment to sewing-machines, enabling the operator thereby to embroider ornaments upon cloth, and the like.

Description of the Accompanying Drawing.

Figure 1 is a plan view, the needles being in the position designated hereinafter as the "first position." Fig. 2 is a front view, (supposing the machine to feed from you,) the needles being in the first position. Fig. 3 is a front view, the needles being in the second position.

General Description.

All the parts are of metal.

The letter *a* indicates the frame of the device attached to the barrel *b*, which fits on the presser-bar, and the lower part *c* of the barrel runs down to form a presser-foot. In the frame *a*, confined in a slot in the raised ribs a^1 a^2, run two parallel bars or needles, *d* and *e*. These needles are held in the slot by the spring *f*, and the slot is open on the side next the spring, to admit the needles. These needles are free to play back and forth in the direction of their lengths, but always in opposite directions; and to insure this motion as positive, the needles are connected together at their rear ends by the pivoted cross-arm *g*, pivoted at g^1 to a thumb-piece running out from the rib a^1. A lever, *h*, with an elbow, is pivoted to a standard, *i*, running up from the frame *a*. At the extremity h^1 this lever is to be fastened to the regular needle of the sewing-machine by a small wrist-pin, *j*, having a perforation in it to embrace the needle, and a set-screw, *k*, to make fast its hold, which set-screw fits loosely through a slot in the end of the lever *h*. As the needle plays up and down it will rock the lever *h*. The needles *d* and *e* have notches *l* and *m* in their sides, which are next each other; and as the end h^2 of the lever *h* travels back and forth it will catch in the notches *l* and *m* alternately, and thus rock the needles *d* and *e*. The lever end h^2 plays between the needles *d e*, and these being held together by the spring *f*, they will give so as to allow the lever end to pass readily from one notch to the other after drawing back one of the needles, and thus it is accomplished that with each downward, but not with the upward, motion of the regular needle of the sewing-machine the needle-points d^1 and e^1 will first separate, which I call the "first position," and will then approach and cross by each other, *e* being over *d*, into what I call herein the "second position."

Embroidering-threads *n* and *o*, coming from properly-hung spools, pass to the points d^1 e^1 of their respective needles, the thread *o* down through the hole *p*, out through the hole *r*, and, lastly, down through the hole *s*. The thread *n* comes up through the hole p^1, down through the hole p^2, up through r^1, and, lastly, down through s'. Now, hold the loose ends of these threads on a piece of cloth, or the like, so that they cross in front of the regular needle of the machine; let the needle rise and fall once, and the crossed embroidery-threads are fastened to the cloth by the thread of the machine. While the needle was coming down this last time the needles *d* and *e* were caused to play, and the embroidery-threads *n* and *o* are again crossed in front of the needle of the machine. Now, when the needle rises again, the cloth will be fed backward, and the needle, coming down again, will have stepped over the second crossing of threads and fastened it to the cloth, and so on.

At every downward stroke of the regular needle the threads *n* and *o* will be crossed first one way and then the other, and every time the needle rises the cloth will move backward, so that the needle steps over the crossing, and, in coming down, pins the crossed threads to the cloth.

If only one of the needles *d* or *e* is threaded, a single wavy line of embroidery will be produced in the place of the series of diamond-shaped figures resulting from the use of two threads.

Claims.

I claim as my invention—

1. The parallel and longitudinally-recipro-

cating needles *d* and *e*, constructed as described, combined with the presser-foot frame, and operated substantially as and for the purposes set forth.

2. The combination of the needles *d* and *e*, one or both, with the lever *h*, the whole constructed, arranged, and operated substantially as and for the purposes set forth.

3. The combination of the parallel needles *d* and *e*, the lever *h*, frame *a*, barrel *b*, and cross-arm *g*, the whole constructed, arranged, and operated substantially as and for the purposes set forth.

4. The combination of the needles *d* and *e*, one or both, with the lever *h*, the said lever being attached to the regular needle of a sewing-machine, the whole constructed, arranged, and operated substantially as and for the purposes set forth.

ALBERT W. JOHNSON.

Witnesses:
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S. J. SIMONDS.