

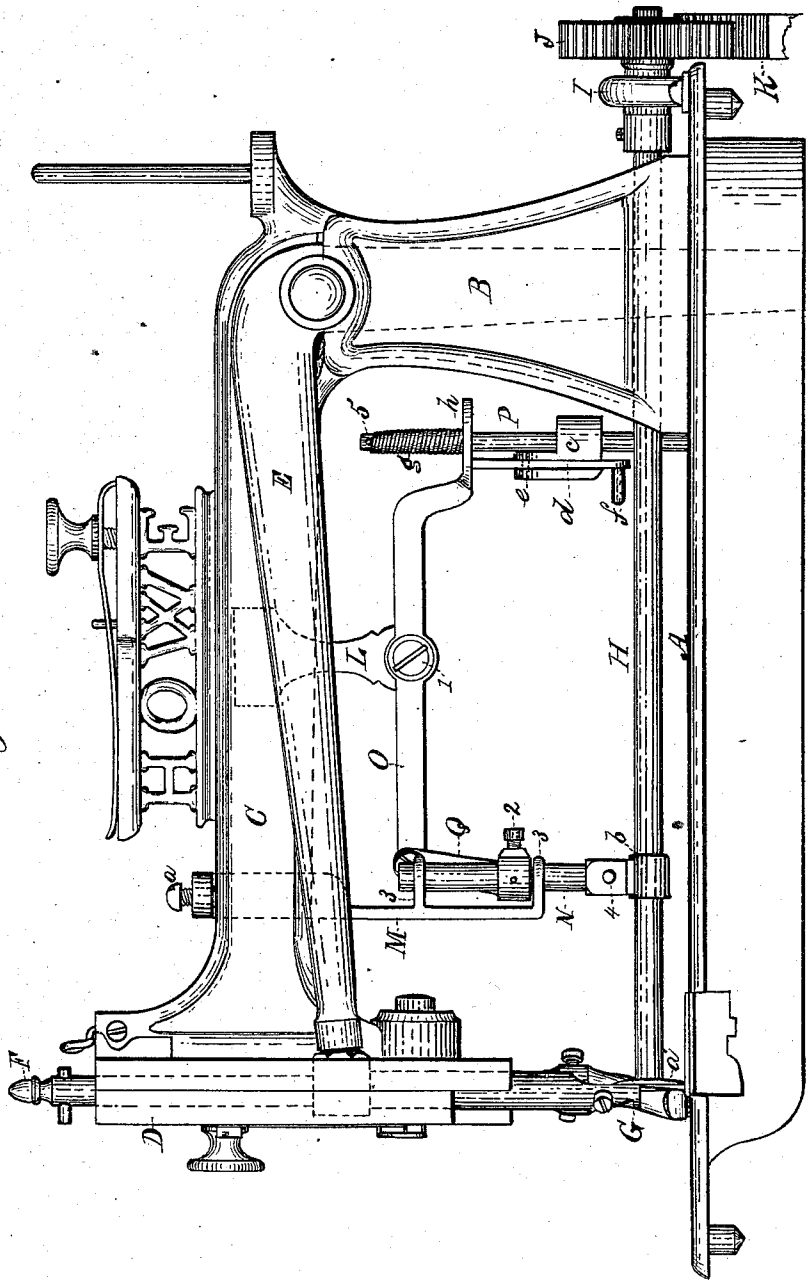
W. A. SPRINGER.

Cutting Attachments for Sewing-Machines.

No 158,813.

Patented Jan. 19, 1875.

Fig. 1.



Witnesses;
P. N. Aldrich
C. L. Whitney

Inventor;
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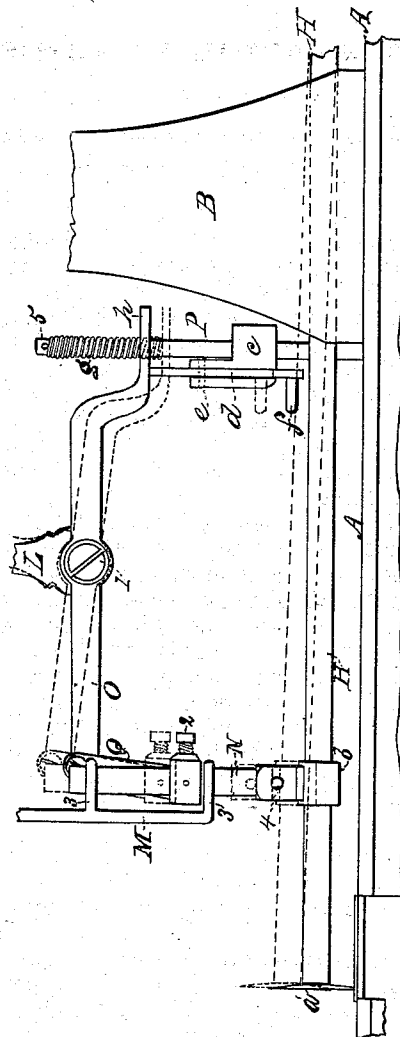
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Fig. 2.



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UNITED STATES PATENT OFFICE

WILLIAM A. SPRINGER, OF MARLBOROUGH, MASSACHUSETTS.

IMPROVEMENT IN CUTTING ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **158,813**, dated January 19, 1875; application filed December 1, 1874.

To all whom it may concern:

Be it known that I, WILLIAM A. SPRINGER, of Marlborough, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Trimming Attachments for Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a side view of so much of a Howe sewing-machine, with my improvements applied thereto, as is necessary to illustrate the application of my said improvements to this class of sewing-machines, the skill of the mechanic being sufficient to apply it to other styles of sewing-machines to which it is applicable; and Fig. 2 represents a side view of my said improvements and parts of the machine shown in Fig. 1, for the purpose of showing more fully the trimming-cutter and its shaft in different positions, as will be hereafter explained.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings, the part marked A represents the table or bed of the machine; B and C, the goose-neck, which supports the front part D and the bearing for the vibrating arm E, which works the needle-rod F. G is the presser-foot; H, the rotating shaft, to which is secured the trimming-cutter *a'*. The rear end of shaft H is provided with a circular and convex bearing, which turns in a corresponding concavity in a bearing-piece, I, which, in this instance, is made open on one side, and with two lips, through which a screw passes, whereby said bearing-piece I can be compressed about the convex bearing, secured to the rear end of the shaft H, sufficiently to retain shaft H from any longitudinal movement, while permitting its front end to rise and fall, as occasion may require in the operation of the trimmer. The convex bearing-piece secured to the rear end of shaft H is, in this instance, an extension of the hub of gear J, which meshes into a larger gear, K, secured on the main shaft of the sewing-ma-

chine, only a section of the gear being shown in the drawings. The part B is recessed or bored out to allow of the passage of shaft H through it, said recess being deep enough to allow the shaft to vibrate up and down into the position shown in full and dotted lines, Fig. 2. L is an arm, the upper end of which is secured to the neck C, to which the upper end of bearing-piece M is also secured, screw *a* holding it securely in position. O is a lever, rocking on pivot 1 in the lower end of arm L. The part M has two bearings, 3 3, in which the standard N works up and down to raise and lower the front end of shaft H, whose bearing *b* has a tongue, which is pivoted at 4 in a slot in the lower end of standard N, so that bearing *b* can swing or vibrate when the front end of shaft H is raised and lowered, and thus prevent binding of said shaft H in its bearing *b*. An adjustable piece, *c*, is secured to the rod P by means of a set-screw, so that it can be adjusted up or down as occasion may require. A lever, *d*, is pivoted at *e*, so as to work in a slot in the front part of the piece *c*, said lever being provided with a thumb-piece, *f*. The upper end of said lever, when in the position shown in Fig. 1, holds the flattened end *h* of rocking lever O up against spring *g*, which is arranged upon the upper end of rod P, and is prevented from slipping from the end of said rod by means of a pin, 5. Rod P passes down through the bed of the machine, and is connected with an eccentric upon the main shaft, so as to give a rocking motion to lever O, the front end of which is connected by an arm, Q, to a hub-piece on standard N, and which hub-piece is secured to said standard by a screw, 2; consequently, it will be seen that, while shaft H is rotated, it will have an up-and-down motion imparted to it, similar to the motion described in my previous patents for trimming attachments for sewing-machines, and upon which my present invention is an improvement. When it is desired to raise the front end of the shaft H and cutter *a'*, for the purpose of turning corners or passing work over the table, the operator takes hold of projection *f* and pulls out the lower end of lever *d*, which throws the upper end of said lever forward from under the rear end *h* of lever O, when

spiral spring *g* forces down the rear end of said lever, thereby raising standard *N*, front end of shaft *H*, and cutter *a'*, as indicated in dotted lines, Fig. 2. By returning lever *d* again to the position shown in Fig. 1, the work progresses as described in my former patents. It will be observed that, by adjusting the piece *c* on rod *P*, and the hub on standard *N*, to which the arm *Q* is hinged, the front end of shaft *H* can be adjusted to work at the desired elevation when it is depressed from trimming the work.

Having described my present improvements in trimming attachments for sewing-machines, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with rod *P* and standard *N*, of rocking lever *O*, substantially as and for the purposes set forth.

2. The combination, with lever *O* and rod *P*, of piece *c*, lever *d*, and spring *g*, substantially as and for the purposes set forth.

3. The combination, with shaft *H*, rod *P*, standard *N*, and neck-piece *C*, of bearing-pieces *L* and *M*, rocking lever *O*, hinged bearing *b*, adjustable piece *c*, lever *d*, and spring *g*, substantially as and for the purposes set forth.

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