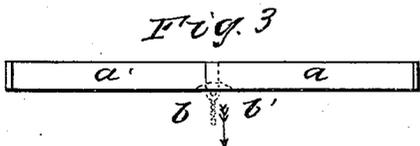
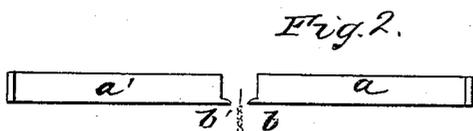
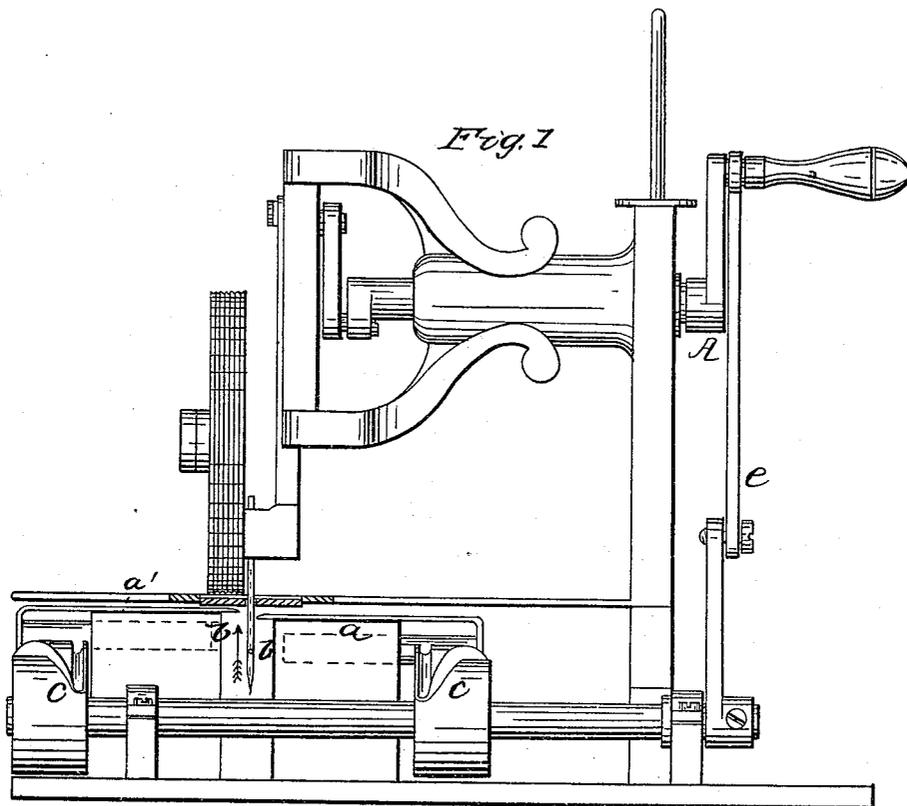


H. BEHN.  
Sewing Machine.

No. 18,071.

Patented Aug. 25, 1857.



# UNITED STATES PATENT OFFICE.

HENRY BEHN, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND  
THOMAS SEWELL.

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 18,071, dated August 25, 1857.

*To all whom it may concern:*

Be it known that I, HENRY BEHN, of New York, county of New York, and State of New York, have invented a certain new and useful Improvement in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being made to the annexed drawings, forming part of this specification, in which—

Figure I is a side view or elevation. Figs. II and III are of parts in detail, (these latter being taken as if looking upon the under side of the bed); and similar letters indicate similar parts throughout the figures—that is to say:

My invention is an improvement in the loopers of sewing-machines, being intended for use in the "single-thread," or what are known as "chain-stitch" machines, in which an eye-pointed needle is employed to carry the thread. The principle consists in the employment of two pieces moving from opposite directions, which play across the path of the needle at proper times to engage the thread, and then, moving on, hold the loop in such position that the needle will be sure to pass through on its return-stroke.

I am aware that there are a number of different devices for operating the loop in chain-stitch machines; but more or less uncertainty, I believe, attends their use, and, in addition to this, most of them operate to spread the loop in the path of the needle by twisting it over, or partially so.

At *a a'* is shown the two pieces which, acting in conjunction, form the looper of my machine. These are placed just under the bed-piece or table and lie parallel thereto, playing in guides to keep this parallelism. The outer end of each of these pieces is bent down at a right angle, while the inner end of each is cut away to form points, as seen at *b*. The looping-piece *a'* is a little above the other, or *a*, as shown in Fig. I. These two pieces are made to play back and forth to and from each other, and each of the points *b* and *b'* to pass across the needle's path. The vibrations are effected by two cams placed upon one shaft, and as seen at *c c*. These cams are grooves cut in a cylinder and wound spirally round the same, starting, however, in lines at right angles to the axes of the cylinders, as seen in Fig. I,

and curving afterward spirally. In these cams the bent ends of *a* and *a'* terminate, respectively. The other parts of the sewing-machine may be according to any of the known ways of construction.

The operation will be as follows: On turning the crank A all the several parts will be set in motion. The cams *c c'* will be vibrated by means of the connecting-link *e*, while the needle will be carried up and down in accordance with the movement of its needle-stock which is connected with the shaft of A by a crank in the usual manner. In Fig. I the needle is shown as at the bottom of its stroke and about to ascend. The half-looper *a* now advances, so that its point *b* passes between the thread and the needle, carrying it to one side. The other half of the looper, *a'*, now also approaches and catches hold of the thread (immediately over the first looper) in like manner from the opposite side, and carries said thread also along with it, so that the thread has been curved to a right angle, or nearly so, with the needle. The latter now has risen to the end of its upstroke, and a feed of cloth then taking place (in the direction of the arrows, Fig. III,) the loop is pulled along, thus forming a bow, as seen in that figure. The outer ends of the loopers now being in that part of their cams which turn at right angles to the cam's axis, the vibrations of the latter produce no movement of them at this place, and while being so held the needle descends and passes through the loop spread in its way, as in said last-named figure. The needle now retreats, another loop is caught and spread, and so the operation is continued.

I claim—

The specific looping device herein set forth, consisting of two pointed bars, the one moving in a plane above the plane of motion of the other, and operating in combination with the needle in such manner that the loop is formed and held open by bending the thread out of a straight line in opposite directions, as described.

In testimony whereof I have hereunto subscribed my name.

HENRY BEHN.

Witnesses:

THOMAS DUCEY,  
ANSON C. SMITH.