(No Model.)

C. F. HARLOW & E. E. ANGELL,

SEWING MACHINE.

No. 349,844. Patented Sept. 28, 1886.

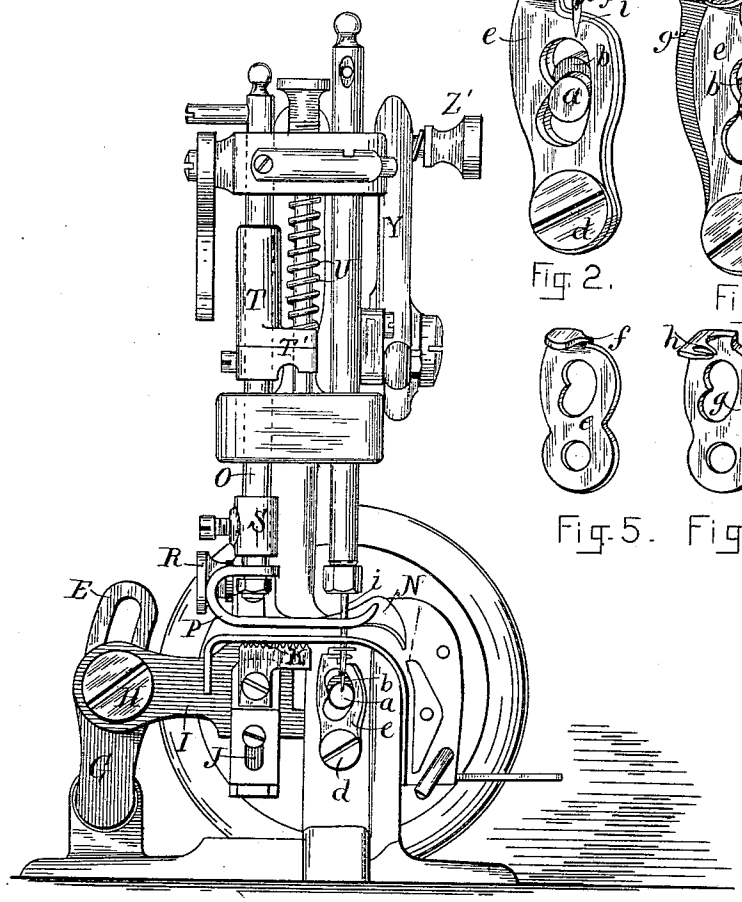


Fig. 1.

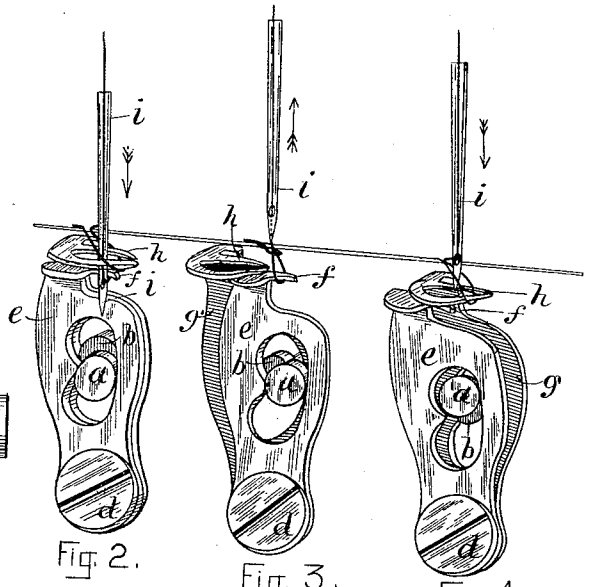


Fig. 2. Fig. 3. Fig. 4.

Fig. 5. Fig. 6.



Fig. 7.

WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES F. HARLOW AND EDWIN E. ANGELL, OF MALDEN, ASSIGNORS TO THE GLOBE SEWING MACHINE COMPANY, OF BOSTON, MASSACHUSETTS.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 349,844, dated September 28, 1886.

Application filed February 24, 1885. Renewed February 11, 1886. Serial No. 191,640. (No model.)

To all whom it may concern:

Be it known that we, CHARLES F. HARLOW and EDWIN E. ANGELL, citizens of the United States, residing at Malden, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Sewing-Machines; and we do hereby declare that the same are fully described in the following specification and illustrated in the accompanying drawings.

This invention relates to an improved looper mechanism located beneath the work-plate of a sewing-machine, and serving as a substitute for the well-known rotary hook or looper of the Willcox & Gibbs machines.

In the drawings, Figure 1 is an end view of a suitable machine having our present improvement applied to it. Figs. 2, 3, and 4 show the hook and spreader in the successive positions they assume in the formation of a stitch when actuated by the double eccentric, and Figs. 5, 6, and 7 represent these parts detached.

The rotary shaft of the machine has at its extremity a double eccentric, *a b*, preferably formed integral with a stem, *c*, which is inserted axially into said shaft and held by a set-screw or otherwise. Each eccentric engages with and rotates in a slot in a vertical lever, pivoted on a horizontal axis, *d*. One of these levers, *e*, has at its free end a hook, *f*, which takes into the loop of the thread as the needle begins to retreat, and, traveling forward, this hook holds the thread in position for the spreader *h*, formed on the other lever, *g*, to enter and spread the loop. While thus spread the hook recedes, the needle again descends through the goods and the open loop on the spreader, and the hook, being free, again moves forward, engages the thread beside the needle-eye and draws it out from between the prongs of the spreader, separated slightly at the tip. The previous loop, thereby cast off, is drawn up by the ascent of the needle and tightened under the goods to complete the chain-stitch. The shape of the parts and the successive steps by which this operation is performed will be clear from the detail Figs. 2 to 7. The spreader *h* extends horizontally above the hook *f*, formed, respectively, at the upper ends of the levers *g* and *e*, pivoted side by side at their lower ends. The hook and spreader, therefore, reciprocate, one beneath the other, in a short arc, being actuated by the double eccentric *a b*. The needle descends through the opening in the spreader as it advances, and ascends as it retreats, the hook moving forward in time to engage the loop thrown out by the slackening of the thread as the needle starts upwardly.

The other parts shown in Fig. 1, and indicated by capital letters, form no part of our present improvement, and hence need no description.

We claim as our joint invention—

The looper mechanism herein described, consisting of the eye-pointed needle and the rotating double eccentric *a b*, in combination with the hook-lever *e f* and spreader-lever *g h*, pivoted on the axis *d*, and slotted for engagement with said eccentrics, for the purpose set forth.

In testimony whereof we hereto affix our signatures in presence of two witnesses.

CHARLES F. HARLOW.
EDWIN E. ANGELL.

Witnesses:
A. H. SPENCER,
E. A. PHELPS.