

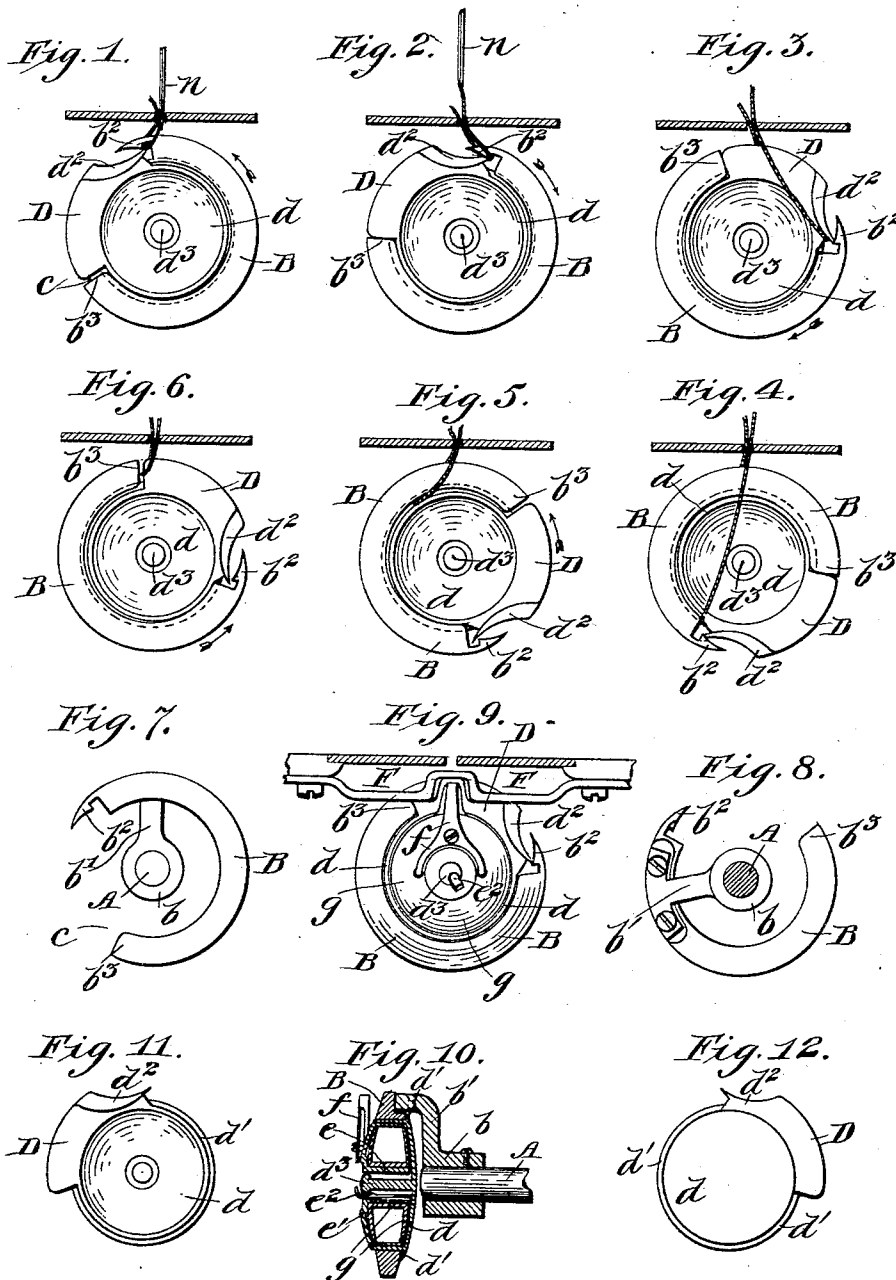
(No Model.)

A. RONTKE.

OSCILLATING HOOK FOR SEWING MACHINES.

No. 484,462.

Patented Oct. 18, 1892.



Witnesses

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UNITED STATES PATENT OFFICE.

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OSCILLATING HOOK FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 484,462, dated October 18, 1892.

Application filed June 2, 1892. Serial No. 435,294. (No model.)

To all whom it may concern:

Be it known that I, ALBERT RONTKE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Oscillating Hooks for Sewing-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of lock-stitch sewing-machines in which the needle-thread is carried around a bobbin containing the interlocking thread by means of an oscillating hook which supports or carries the bobbin on which the locking-thread is wound.

In carrying my invention into effect I provide, in connection with the oscillating hook, a loop-spreader, which I furnish with a barb pointing backward or in a direction opposite to that in which the beak of the hook extends, said barb extending under the said beak of the hook in such a manner that after a loop of thread has been caught by the latter on the forward movement of the hook the said loop will on the backward movement of the hook be engaged by the barb of the loop-spreader in such a manner as to be carried around the bobbin-case and bobbin in position to be drawn up by the take-up. This loop-spreader is preferably attached to a carrier extending within the oscillating hook.

In the accompanying drawings, Figures 1 to 6, inclusive, are face or front views, in different positions, of the oscillating hook and loop-spreader embodying my invention. Figs. 7 and 8 are front and back views, respectively, of the oscillating hook. Fig. 9 is a front view showing my invention in connection with a portion of the bed-plate of a sewing-machine. Fig. 10 is a vertical sectional view illustrating my invention; and Figs. 11 and 12 are front and back views, respectively, of the loop-spreader and its carrier.

A denotes a portion of a shaft to which a rocking or oscillating movement may be imparted by any suitable mechanism. To the

forward end of said shaft is attached a sleeve *b*, having an arm *b'*, to which is secured the oscillating hook B, the latter being provided with a loop-seizing beak *b*². The hook B is in the form of a ring or annulus, about one-fourth of which is removed, leaving between the beak *b*² and the heel *b*³ of the hook a mouth or opening *c*.

D denotes a loop-spreader which, in the form of my invention herein shown, is made in segmental form and is shown as being attached to a carrier *d*, the latter having a flanged *d'*, as more clearly shown in Figs. 10, 11, and 12, which is adapted to engage the rear side of the oscillating hook B to retain the said carrier and the loop-spreader attached thereto in the said hook.

The loop-spreader D is of such circumferential extent as to nearly fill the opening or mouth *c* between the beak and the heel of the hook B, and the said loop-spreader is provided with a barb or hook *d*², which points backwardly or in a direction opposite to that in which the beak *b*² of the hook B extends, the said barb or hook being arranged to come beneath or inside of the said beak and rearward of the point thereof.

The loop-spreader carrier *d* is provided with a pin *d*³, which receives a sleeve *e*, formed on the bobbin-case *e'*, to which latter is attached the tension device *f*, extending upward and being received in a suitable recess in the bed-plate F of the machine or in a suitable part or device attached thereto, the said tension device thus serving to hold the bobbin-case *e'* stationary while the hook and loop-spreader oscillate about it. To retain the bobbin-case *e'* and the bobbin *g* in place, a small spring *e*², having a lug or projection to engage the head of the pin *d*³, is provided.

The operation of my invention is as follows: The oscillating hook first advances and seizes the loop of needle-thread thrown out by the needle *n*, as shown in Fig. 1, and the movement of the hook is then reversed, causing the loop of needle-thread to be engaged by the barb of the loop-spreader, as shown in Fig. 2. The hook continues its backward movement through the position shown in Fig. 3 to that indicated in Fig. 4, when the loop of needle-thread will have been carried a little more

than half around the bobbin-case and bobbin. The hook now reverses its movement, while the take-up begins to draw-up the loop, as indicated in Figs. 5 and 6, so that when the parts have reached the position shown in Fig. 5 the loop may be drawn out between the heel of the hook B and the adjacent portion of the loop-spreader, there being sufficient looseness between the loop-spreader carrier and the said hook, and also between the loop-spreader and the front and heel portions of the hook, to permit of the free passage of the loops of needle-thread.

I claim—

1. The combination, with an oscillating hook provided with a loop-seizing beak, of a loop-spreader provided with a barb or hook arranged to point backward or in a direction opposite to that in which the said beak extends, the point of said barb being within the periphery of the said oscillating hook and rearward of the point of said beak, and said loop-spreader being formed on a carrier which is separate from or independent of the said hook.

2. The combination, with an oscillating hook

provided with a loop-seizing beak, of a loop-spreader provided with a barb or hook arranged inside of or beneath the said beak and pointing backward or in a direction opposite thereto, the point of said barb being also rearward of the point of said beak, and a carrier contained in said hook and by which the said loop-spreader is sustained or supported.

3. The combination, with the oscillating hook B, provided with the loop-seizing beak *b*, of the carrier *d*, provided with the loop-spreader D, having a loop-spreading hook or barb arranged to point in a direction opposite to that of said beak, the point of said barb extending rearward of the point of said beak and beneath or inside of the latter, said loop-spreader being constructed to be oscillated by said hook, a stationary bobbin-case provided with a tension device, and a bobbin contained within said case.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT RONTKE.

Witnesses:

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