

I. M. ROSE.

Embroidering Attachments for Sewing Machines.

No. 153,116.

Patented July 14, 1874.

Fig. 1.

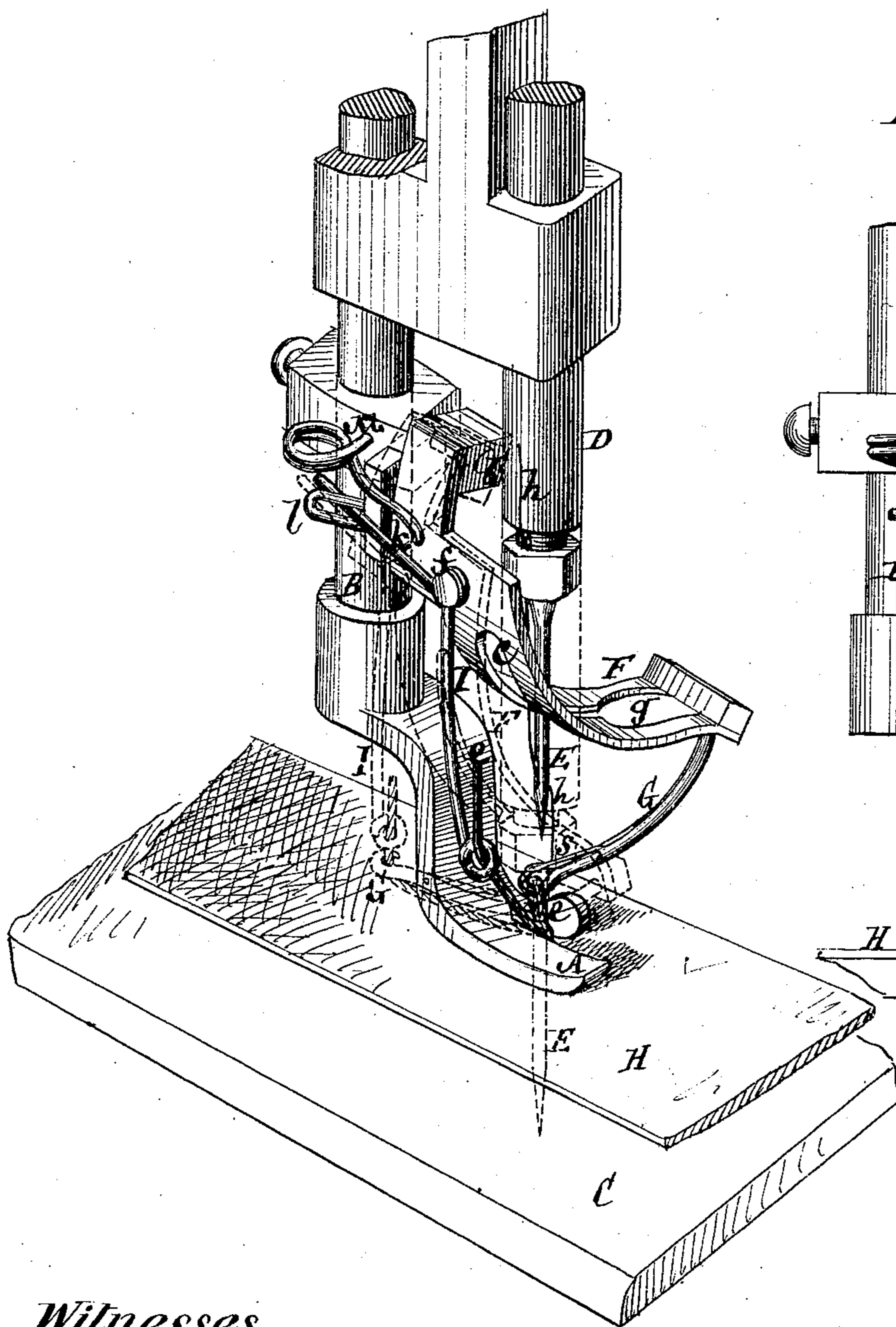
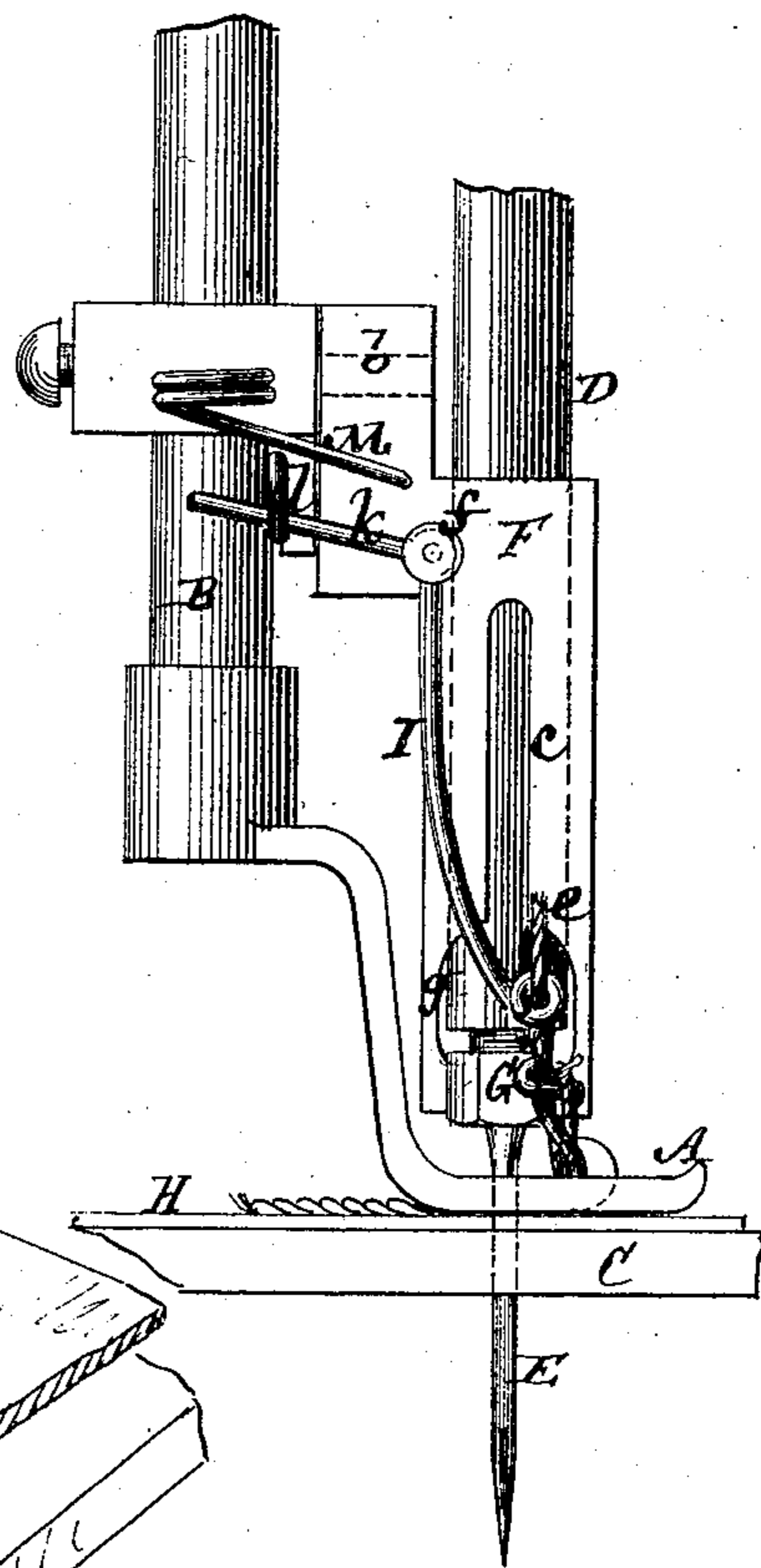


Fig. 2.



Witnesses.

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IMPROVEMENT IN EMBROIDERING ATTACHMENTS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **153,116**, dated July 14, 1874; application filed
January 10, 1874.

CASE A.

To all whom it may concern:

Be it known that I, ISRAEL M. ROSE, of Brookhaven, in the county of Suffolk and State of New York, have invented an Improvement in Embroidery Attachments to Sewing-Machines, of which the following is a specification:

This invention, which may either be applied to single or double thread sewing-machines of any suitable description, relates to mechanism for laying an embroidery-thread on the upper surface of the fabric, and fastening the same down thereon. This improvement generally consists in a vibrating guide for the embroidery-thread, arranged to operate in concert with a reciprocating latch-needle, arranged in suitable relation with the presser-foot, and actuated in one or both of its movements by the bar of the main or sewing needle, to catch the embroidery-thread as it is brought by the vibrating thread-guide across the path of the latch-needle, and to deposit it in a succession of loops on the surface of the fabric, and secure the stitching or fastening of the same by the thread of the sewing-needle. This improvement essentially differs from that patented to me February 18, 1873, in which a stationary embroidery-thread guide was used, and the latch-needle or embroidery-thread carrier, in addition to its reciprocating movement across the presser-foot, had a lateral movement communicated to it to effect the same result that is attained by the vibrating embroidery-thread guide in this improvement.

In the accompanying drawing, Figure 1 represents a view in perspective of a sewing-machine, in part, showing the cloth-bed, needle-bar and presser-bar with their attachments and improvement applied. Fig. 2 is a front view of the same, in part, with the operating portions in different positions.

Similar letters of reference indicate corresponding parts.

A is the presser-foot of a sewing-machine, and B the bar or holder thereof. C is the cloth-bed or table. D is the needle-bar, and E the sewing-needle carried thereby. To the presser-foot bar B is pivoted, as at *b*, an arm, F, ar-

ranged to reciprocate in a crosswise direction over the presser-foot, and carrying in a rigid manner at its lower end the latch-needle or embroidery-thread carrier G, which device may be of similar construction to that described in my previous patent, hereinbefore referred to, but which is restricted from lateral movement, or only has an intermittent reciprocating motion across the presser-foot, in common with the arm F from the center *b*. The arm F has a slot, *c*, in it for the needle E to pass through, and said arm is so shaped that the needle-bar D, or an attachment thereto, comes down on the arm after the needle E has fairly penetrated the fabric H, and moves said arm with its attached latch-needle G across the presser-foot A—that is, from the position represented for it by full lines in Fig. 1 to the position shown for it by dotted lines in the same figure, and by full lines in Fig. 2, which latter figure shows the operating parts generally in the same position as they are represented by dotted lines in Fig. 1. This movement provides for the hooked end or nose of the latch-needle to pass under and take hold of the embroidery-thread *e*, which is then brought across the path of the needle for the purpose by the independent vibration or lateral swing in a forward direction, as from a pivot, *f*, on the arm F of a movable embroidery-thread guide, I. The usual or any suitable tension is applied to the embroidery-thread.

During the continued descent of the needle-bar D, and until its needle in the succeeding ascent is about clearing the fabric, the arm F and thread-guide I are retained in the positions just described for them by the passage of the needle-bar D through an opening, *g*, in the arm F. After this, and as the needle-bar D continues to rise, the arm F, with its latch-needle G, moves in a reverse direction to its former movement across the presser-foot A, and the thread-guide I swings laterally backward, both assuming the positions represented for them by full lines in Fig. 1, and causing the embroidery-thread *e* to be carried across and over the presser-foot, and so that the one line or portion of said thread is, by the lateral

backward action or swing of the thread-guide I, carried behind the sewing-needle E, in order that that portion of the embroidery-thread *e* which lies across the presser-foot may be sewed down during the descent of and by the sewing-needle and its thread *h*. Each succeeding vibration of the arm F to its position, shown by dotted lines in Fig. 1, causes the latch-needle to slip or slide through the loop lying over the presser-foot, the latch S being then opened or thrown back, while the hook of the needle assumes its position to take hold of a fresh loop as the thread-guide I swings forward, and in the reverse movement of the latch-needle to its position shown by full lines in Fig. 1, the first-mentioned loop slips off the latch-needle, lifting and closing the latch during such movement of the needle, and passing over the new loop, as in various knitting operations, and in the arrangement described in my patent of February 18, 1873, hereinbefore referred to.

The lateral or swinging action of the thread-guide I in relation with the arm F or its latch-needle G, as described, may be effected by crooking or bending said guide, so that an arm, *k*, of it passes through a slotted projection, *l*, attached to the presser-bar, whereby the swinging of the arm F to its position shown by dotted lines in Fig. 1 will cause the thread-guide I to swing forward across or toward the path of the latch-needle, and to be returned

during the reverse stroke of the arm F, which reverse stroke may be accomplished by a spring, M, so soon as the bar D of the sewing-needle is clear of the opening *g* in the arm F.

If preferred, however, a positive motion may be substituted for the spring M, and instead of the thread-guide I being swung by the action of the arm F, it may be similarly operated by other and independent means in timely relation with the reciprocating latch-needle.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The laterally-swinging embroidery-thread guide I, in combination with the rocking latch-needle G, for operation in relation with each other, and with the presser-foot and sewing-needle of the machine, substantially as specified.

2. The combination with the laterally-swinging embroidery-thread guide I of the rocking arm F of the latch-needle, for operation essentially as described.

3. The combination of a spring, M, with the rocking arm F, the laterally-swinging embroidery-thread guide I, and the sewing-needle bar D, substantially as and for the purposes specified.

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Witnesses:

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LEANDER G. HOMAN.