2 Sheets—Sheet 1.

J. S. MOODY.

Sewing Machine.

No. 24,324.

Patented June 7, 1859.

Fig. 1,

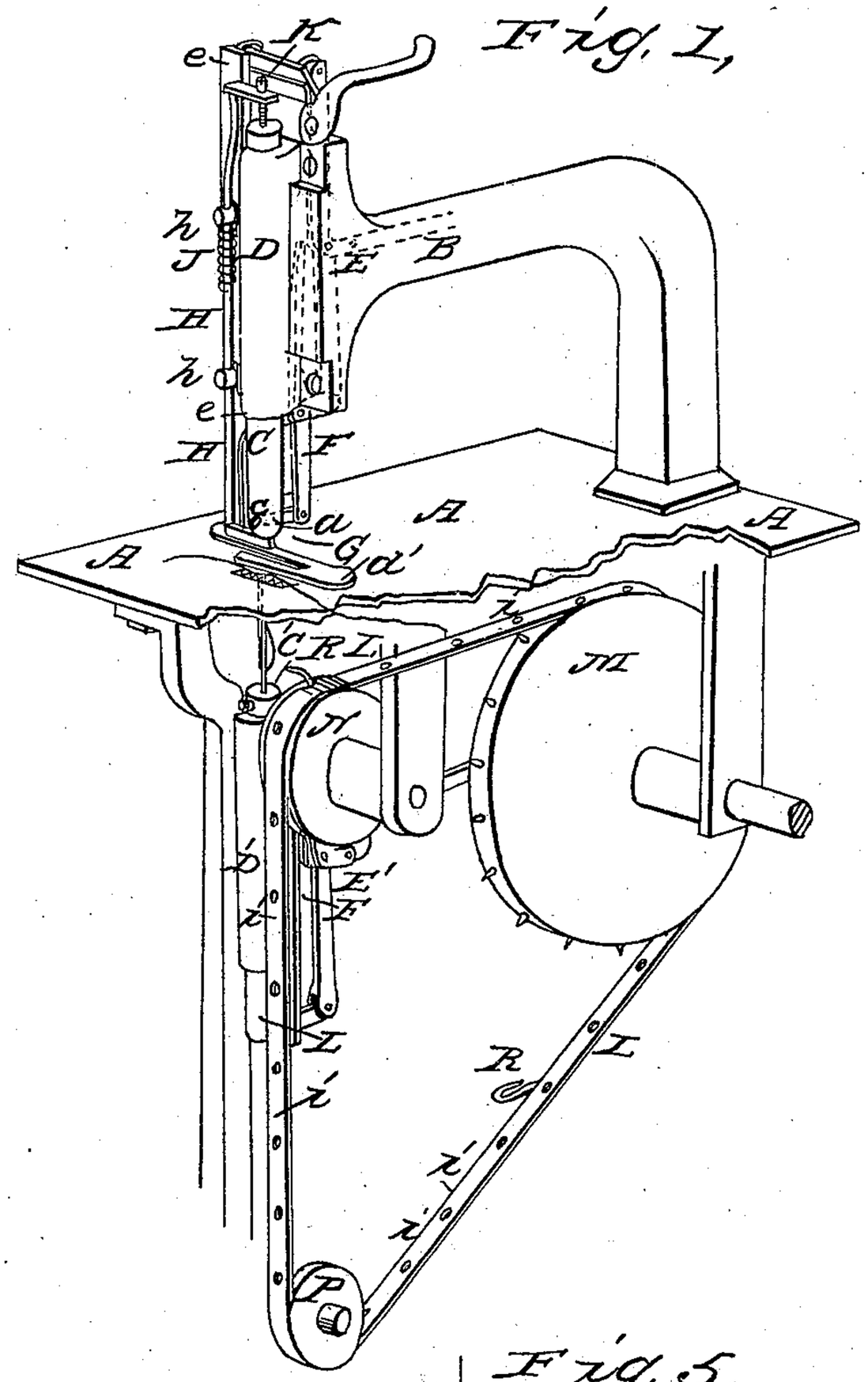
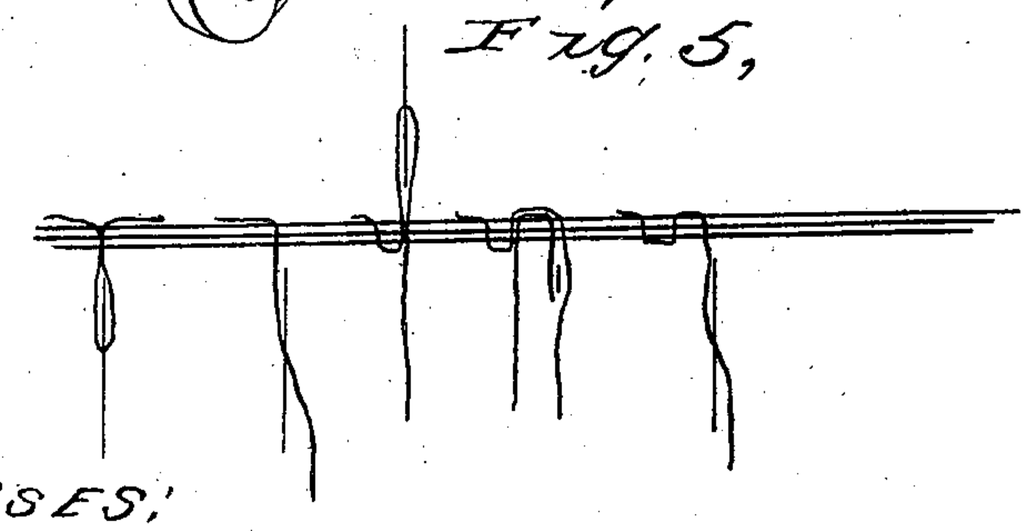


Fig. 5,



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Sewing Machine.

No. 24,324.

2 Sheets—Sheet 2.

Patented June 7, 1859.

Fig. 2.

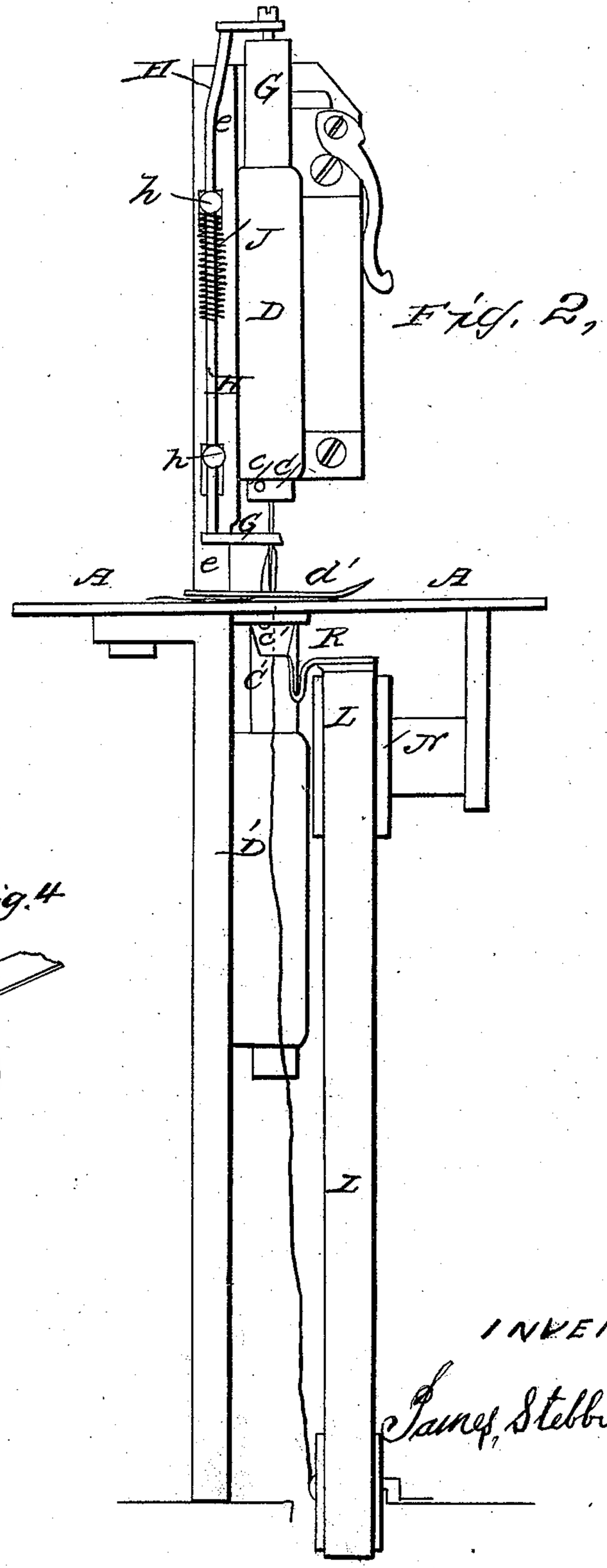


Fig. 3

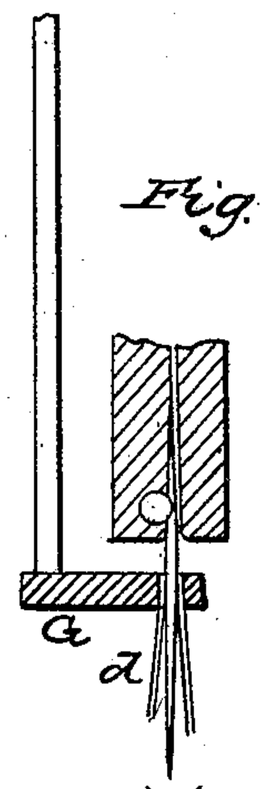
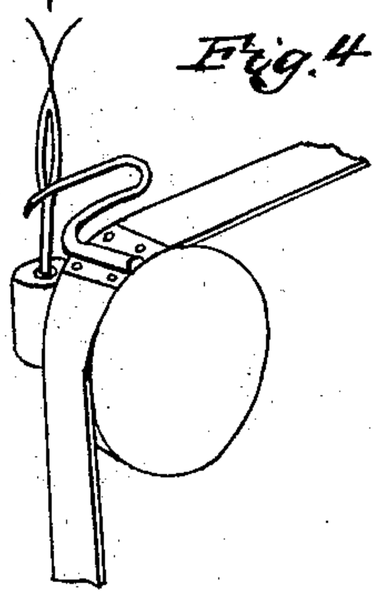


Fig. 4



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UNITED STATES PATENT OFFICE.

J. S. MOODY, OF CINCINNATI, OHIO.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **24,324**, dated June 7, 1859.

To all whom it may concern:

Be it known that I, JAMES S. MOODY, of Cincinnati, county of Hamilton, and State of Ohio, have invented certain Improvements in Sewing Machinery; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 represents a front view of the machine, showing the several parts in perspective arranged for operation. Fig. 2 exhibits a front elevation, in which the needle is shown in a different position. Fig. 3 is an enlarged view detached, so as to show the manner of giving tension to the thread, and also shows the mode of holding the needle within the needle-bar. Fig. 4 is a perspective view of the needle and needle-bar, showing the hook in position to draw the loop. Fig. 5 shows the needle in five positions when forming a running stitch. Fig. 6 is a side view of the lower needle-bar, showing the manner of operating the lower key, *c'*.

My invention consists in certain improvements in sewing-machines, described and represented as follows:

A is the table or bed-plate of the machine, which is fitted with an overhanging bracket, B, containing the mechanism for operating the needle-bar C in the fixed guiding-bracket D. This needle-bar is connected to and actuated by a toggle-joint, E. (Shown in Figs. 1 and 6.) Directly under the needle-bar C there is another needle-bar, C', similar to C, and operated by a toggle-joint, E', in a fixed guide, D'. These needle-bars have an alternate vertical motion, and are made to carry the double-pointed needle back and forth through the fabric.

F', Fig. 6, is a spring-lever having its fulcrum in an arm, *b'*, which is fixed to the needle-bar C'. This lever, pressed upon by spring *x*, is connected with and operates the sliding key *c'*, so as to alternately hold and release the double-pointed needle at the proper times. The toggle E above the table operates by means of a spring-lever and key to hold and release the needle at proper times, in a manner precisely similar to that of toggle E' below the table. These keys *c c'* pass through the ends of the needle-bars, as shown in the drawings, Figs. 1, 2, 3, and 4, and pass into notches *d d* in the needle, and securely retain the needle within the needle-bars. The needle is relieved from the bar, when the opposite bar is ready to receive it, by the spring-levers F F', the ends of which are forced inward by the knees of the toggle-joints E E'. The presser-foot *d'* is fixed to the lower end of a sliding bar, *e*, and works in suitable guides on the front of the bracket B, and is held down by a spring. (Not shown in the drawings.) This enables the presser-foot to yield slightly and to accomodate itself to different thicknesses of fabric, as is usual in most machines. The tension-collar bar G is fixed to a sliding rod, H, which works in guide-pins *h h*, and is held down by helical spring J. This tension-collar bar has a conical perforation through its end, as shown in Fig. 3, through which the needle partly passes as it is pushed upward through the fabric. This tension-collar bar serves also as a guide to the needle in its upward movement, so that it will pass into the perforation in the end of the needle-bar C. The tension-collar bar is made adjustable by means of a set-screw, K, on the top of the needle-bar C, in order to allow of its adaptability to any degree of tension. This tension on the thread is produced by the needle and thread passing into the conical opening in the tension-collar bar and slightly binding the thread at this point, as shown by Fig. 3.

The endless belt L is operated by the driving-belt wheel M, the periphery of which is provided with pins, which pass into oblong holes *i* in the belt, for preventing the belt from slipping. This belt passes over a small flanged wheel, N, and is carried down to the foot of the table and passes over a pulley-wheel, P. On the outer surface of this endless belt are attached suitable hooks, R, one or more in number, as may be required, which rotate with said band and take the free end of the thread from the needle when the thread is slackened or looped, as shown in Figs. 1 and 4, and draws it from the fabric. This slackening or looping of the thread is produced after the needle has passed down through the fabric and formed the stitch, as shown by Fig. 4, when the needle-bar is slightly raised and throws out the loop. The hook then passes through this loop which has been thus formed, and strips the free end of the thread through the fabric. Immediately the end is drawn through, the needle passes up through the fabric and partly through the hole

in the tension-collar bar G, carrying with it the thread. The key in the end of the needle-bar C′ relieves the needle, when it is immediately gripped by the key in the needle-bar C. The needle is then raised by the needle-bar C, carrying with it the tension-foot and drawing the stitch tight. The cloth is then fed forward by any device suitable, and which is not necessary to describe. The needle again passes down through the cloth into the lower needle-bar, when it is caught by the key in this bar and carried down to form the loop and to allow the cloth to be fed along.

The machinery for giving motion to the feeder and for operating the needle-bars, &c., is not necessary to particularize, as there is nothing claimed, and the parts may be modified to any extent.

I do not claim a hook or shuttle or anything of the kind for drawing the thread through the loop preparatory to forming a stitch; nor do I claim the employment of a hook or shuttle for tightening or drawing the thread tight after the stitch has been formed, for the stitch is formed in my machine before the hook comes into operation.

I do not claim, broadly, the use of a hook, nor its continuous movement or rotation, for the purpose of drawing the free end of the thread through the cloth; but

I do claim—

1. The employment of an endless belt arranged and operated, as described, to carry one or more hooks to draw the thread through the cloth, in the manner described.

2. The tension-collar G, embracing the thread and needle, and operating to hold the thread in the manner herein set forth.

3. Alternately holding and releasing the double-pointed needle by means of sliding keys *c* and *c′*, operating so as to pass through notches *d d* toward the ends of said needle at the proper times, arranged and operating substantially in the manner herein set forth.

JAMES STEBBINS MOODY.

Witnesses:

R. S. CAMPBELL,

W. S. PORTER.