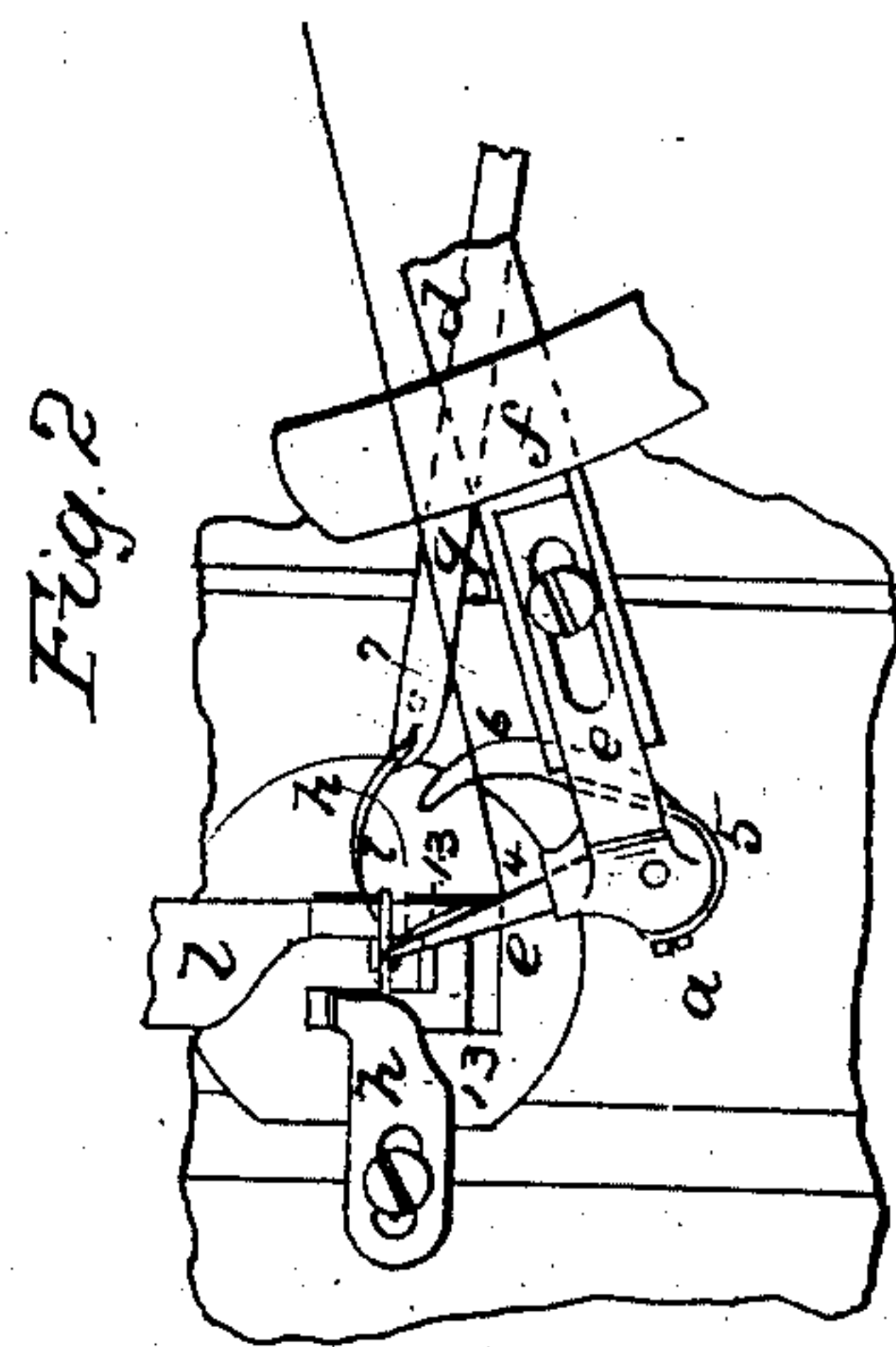
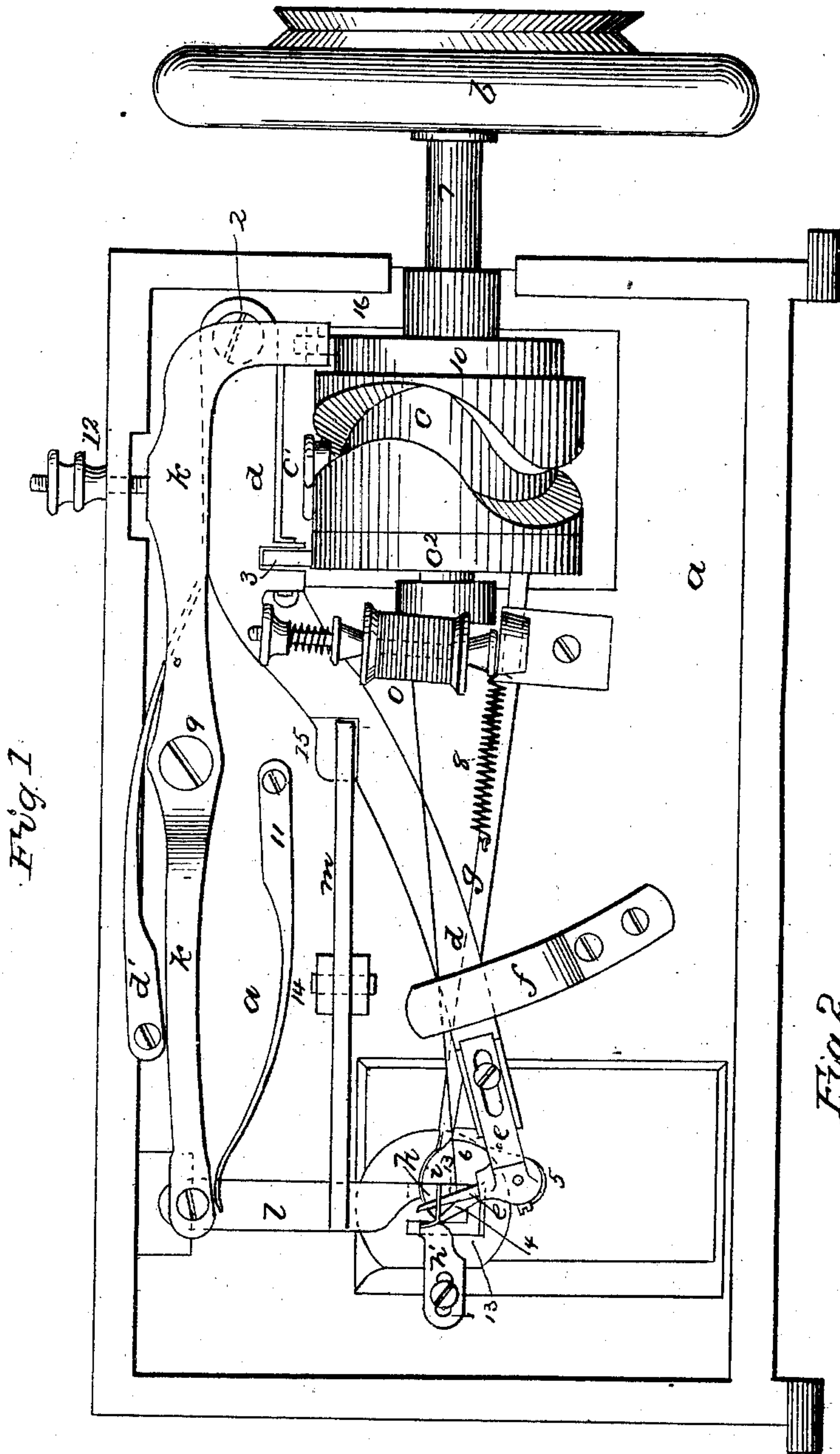


J. THOMSON.
Sewing Machine.

No. 27,082.

Patented Feb. 7, 1860.



Witnesses
John D. Watson

Henry Hill

Inventor
John Thomson

UNITED STATES PATENT OFFICE.

JOHN THOMSON, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 27,082, dated February 7, 1860.

To all whom it may concern:

Be it known that I, JOHN THOMSON, of Worcester, in county of Worcester and State of Massachusetts, have invented and made certain new and useful Improvements in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is an inverted plan of my improved sewing-machine, and Fig. 2 is a similar plan of a portion with the parts in a different position.

Similar marks of reference denote the same parts.

My invention relates to the means for controlling the movements of the needle-thread and concatenated second thread, and as the whole of the parts to which my invention applies are below the bed, I have not represented in the drawings the arm, presser-foot, and needle-bar, which may be of any usual construction and do not require further description herein.

a is the bed of the machine. *b* is a fly-wheel rotated by a band or otherwise. 1 is the shaft carrying said fly-wheel, and also the revolving cams *c*, that give motion to the various parts of the machine. *c'* is the roller and lever actuated by the groove *c* to give motion to the needle-bar and needle. *d* is a lever on a fulcrum, 2, having a roller, 3, kept to the cam *c'* by the spring *d'*. *e* is the looper, adjustably attached to the end of the lever *d*; and 4 is a spreading-finger moving on a center screw.

The second thread from the spool *o* passes over the looper *e* and through the two eyes, as represented in the drawings, and thence to the hole in the bed through which the needle passes.

The operation of sewing is performed in the well-known manner, and the stitch formed is the double loop, the looper passing through the loop of needle-thread, the needle rising, then descending and taking a loop of second thread, the looper drawing back, dropping the first loop, and taking a third loop by entering the loop of needle-thread, and so on. The spreading-finger 4 carries the second thread across the needle's path to insure the taking

of a loop in the same manner as in my patent of June 29, 1858. I have, however, arranged the mechanism for giving motion thereto by the use of an arm, 6, extending from the finger 4, acted on by a pin, 7, on the sliding bar *g*, that gives motion to said spreading-finger 4; and 5 is a spring to return the finger 4 into line with the looper *e*. The sliding bar *g* is fitted in a groove in the bed *a* beneath the lever *d*, and both are kept in place by the guide *f*. This bar *g* receives motion endwise at the right time by cam-shaped indentations in the ends of the revolving cam *c'*, and 8 is a spring drawing said bar endwise toward the cam. At the end of the bar *g* is a spring loop-opener, *i*, the point of which slides against the shield-plate *h*. The perforating eye-pointed needle comes down against the side of this plate *h* in the position shown by the small circle in Fig. 1, and as it rises and the loop springs out, the loop-opener *i* draws across the needle and spreads the loop of needle-thread against the plate or shield *h*, as shown in Fig. 2, so that the looping device passes through said loop and concatenates the threads, as aforesaid.

The feed-motion is given to the cloth by the lever *k*, set on the fulcrum 9, and acted on by the cam 10, which takes a roller, 16; and 11 is a spring that keeps the roller to the cam, except when the stitch is shortened by the screw 12 drawing the lever *k* and its roller partially away from the cam. *l* is a slide attached to the end of lever *k*, and provided with piercing-points or roughened surfaces against the cloth at the parts 13 13. *m* is a lever on a fulcrum, 14, acted on by an incline, 15, on the lever *d*. The operation of this feed is that a regulated reciprocation is given by the cam 10, while the feeding-points are pressed against or relieved from the cloth by the incline 15 and lever *m*.

Having thus described my said invention, I do not claim extending the loop by a pair of spring-grippers, as the same have before been made and patented; but in this instance there was nothing to guide or sustain the needle, and with thin or fine needles the sidewise pull of the grippers was apt to bend the needle, rendering it liable to breakage by the looper coming in contact with said needle. In my improvement the needle is sustained on one side by the stationary plate against the action

of the spreading-finger 4, and the loop is guided against the plate or shield *h* in the most reliable manner, and draws away from under the finger 4 without any liability to breakage from becoming entangled.

What I claim, and desire to secure by Letters Patent, is—

The combination of shield or needle-guide *h*

with the spring-finger *i*, in the manner and for the purposes specified.

In witness whereof I have hereunto set my signature this 14th day of November, 1859.

JOHN THOMSON.

Witnesses:

JOHN D. WASHBURN,
J. HENRY HILL.