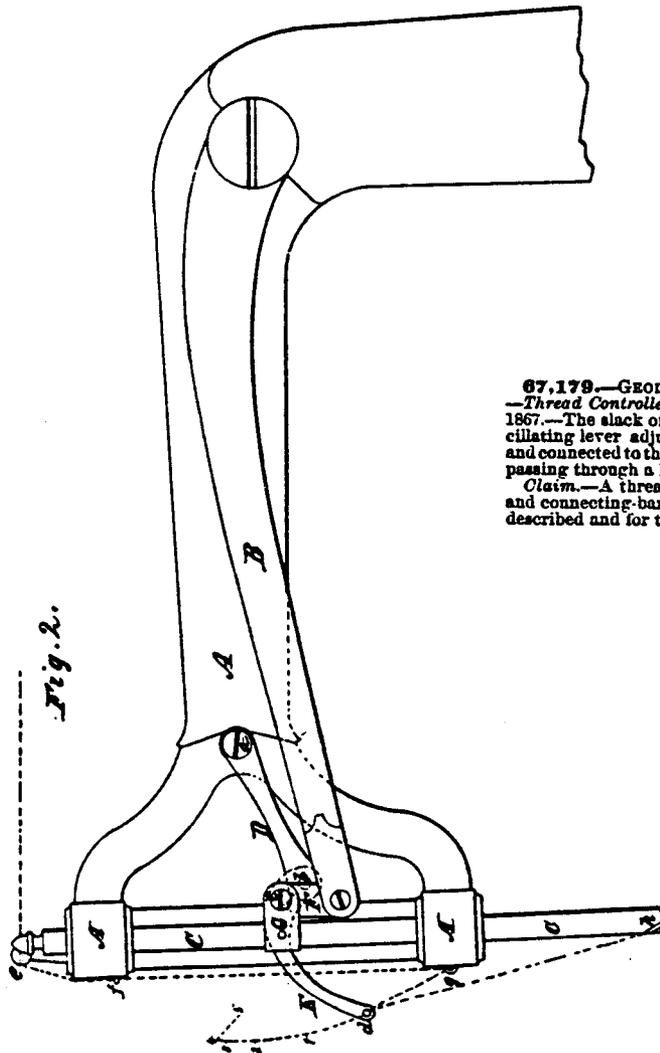


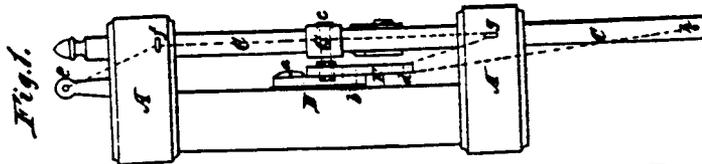
G. A. Fairfield.
Sewing Machine.

Patented Jul. 30. 1867.

Nº 67,179.



67,179—GEORGE A. FAIRFIELD, Hartford, Conn.
 —*Thread Controller for Sewing Machines.*—July 30, 1867.—The slack of the thread is taken up by an oscillating lever adjustably pivoted to the needle bar, and connected to the frame by its inner end, the thread passing through a hole in its outer end.
Claim.—A thread controller, consisting of a lever and connecting-bar, arranged substantially as herein described and for the purpose herein set forth.



Witnesses.
H. Blanchard
William. C. Hill.

Inventor.
G. A. Fairfield

United States Patent Office.

GEORGE A. FAIRFIELD, OF HARTFORD, CONNECTICUT.

Letters Patent No. 67,179, dated July 30, 1867.

IMPROVEMENT IN THREAD-CONTROLLER FOR SEWING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE A. FAIRFIELD, of Hartford, in the county of Hartford, and State of Connecticut, have invented a new and improved Thread-Controller for 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 accompanying drawings, and to the letters of reference marked thereon.

Figure 1 shows a front and

Figure 2 a side view of the improved thread-controller and the parts of the machine to which it is attached. The same letters in both figures show corresponding parts.

A is the arm of the frame of the machine to which the working parts are attached. B is the movable arm which gives motion to the needle-bar C by means of the link F and strap G. D is a connecting-bar, forming part of the improved thread-controller, which is hinged to the arm A at *a*, and to the lever E, which forms the other part of the improved thread-controller, at *b*. E is a lever turning upon the pivot-screw *e* which passes through the strap G and link F, and attached to the bar D by the joint *b*. This lever has a hole at *d*, through which the thread passes, and which describes the line 1 2 3 4 5 when the machine is in motion. The thread, shown by a broken line, passes through the holes *e f g d h* to the needle.

My invention consists in a thread-controller composed of the bar D and the lever E, together with the necessary pivots, attached to the frame A and to a vertically-moving part of the machine G, giving the parts such proportions as that the hole *d* in the end of the lever E shall move in such a manner as to properly take up and give out the slack of the thread when the machine is in operation. The bar D is attached to the frame of the machine by the screw *a*, and to the lever E by the screw *b*, both forming pivots on which the bar D can turn freely. The lever E is shown in the drawings as pivoted on the screw which passes through the strap G and the link F to form the joint, but might be attached to any vertically-moving part of the machine, as the needle-bar C on the arm B.

The operation of my invention is as follows: In the drawings, the position of the parts shown is when the needle-bar C is at its lowest point. The hole *d* is then at its lowest point and the thread slacked to form the loop through which the shuttle is about to pass. When the needle-bar commences rising, and the shuttle has passed through the loop, the point *d* rises rapidly and takes up the slack of the thread while passing over the spaces to 1 2 and 3. It then remains nearly stationary for a time at 4, while the needle-bar continues to rise, and then passes downward from 4 to 5, which it reaches when the needle-bar is at its highest point. The spaces 1 2 3 4 5 show the unequal distances passed over by the point *d* while the needle-bar is passing over equal spaces. When *d* is at its highest point 4 the thread is drawn tight to close the stitch and draw the necessary feed from the spool. In passing from 4 to 5 the thread again becomes slightly slack to allow the work being operated upon to move freely the length of one stitch. When the needle-bar descends the point *d* moves back over the same path, tightening the thread most when at 4, while the needle is passing through the work. The thread is then slackened rapidly through 3, 2, and 1, to form the loop, until the needle-bar again reaches its lowest position.

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

A thread-controller, consisting of a lever and connecting-bar, arranged substantially as herein described and for the purpose herein set forth.

G. A. FAIRFIELD.

Witnesses:

H. BLANCHARD,
WILLIAM H. HILLS