

(No Model.)

2 Sheets—Sheet 1.

E. F. MOWER.  
FAIR STITCH SEWING MACHINE.

No. 507,377.

Patented Oct. 24, 1893.

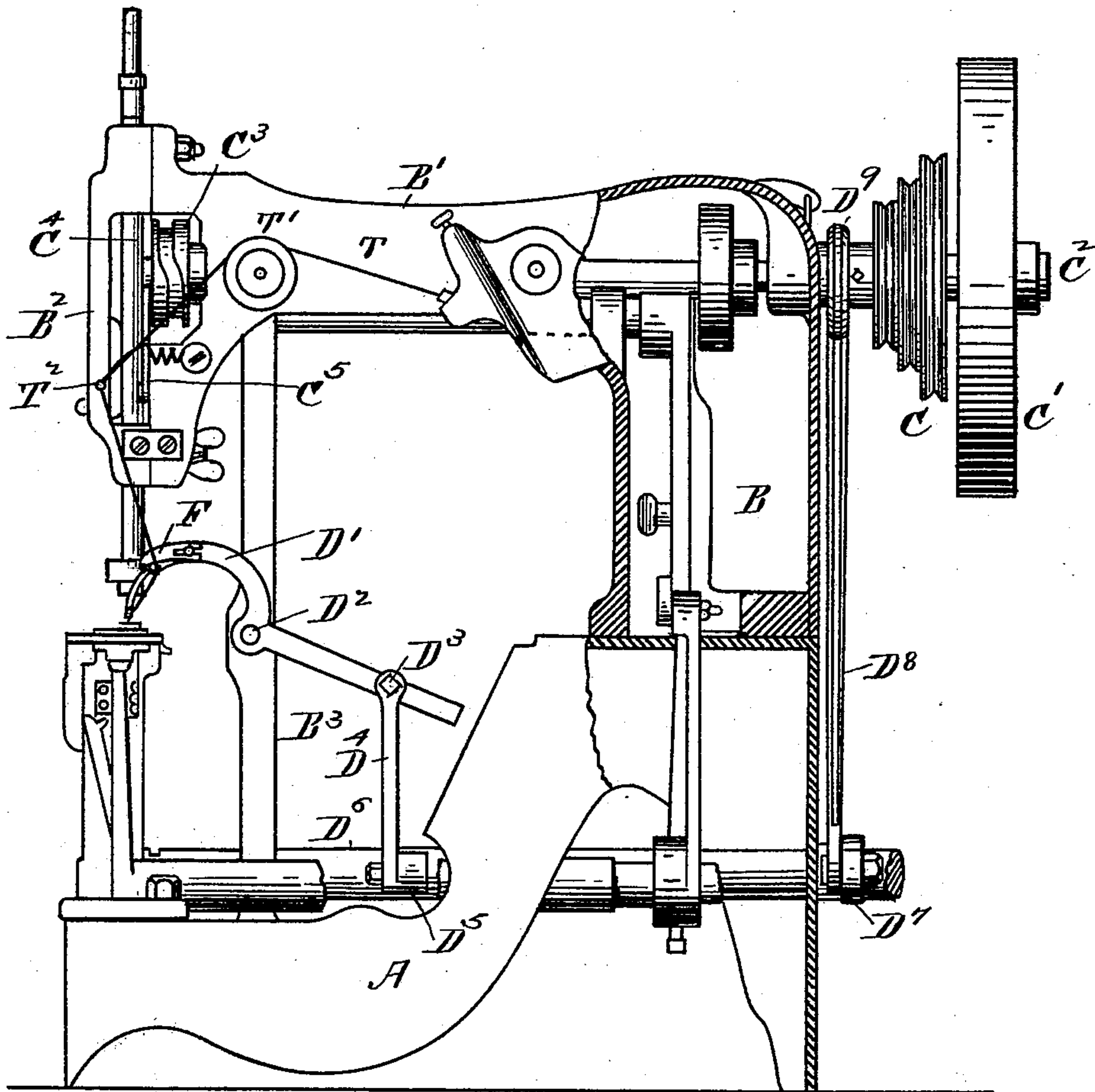


Fig. 1.

WITNESSES

Frank H. Parker  
Edward S. Day

INVENTOR

Edwin F. Mower

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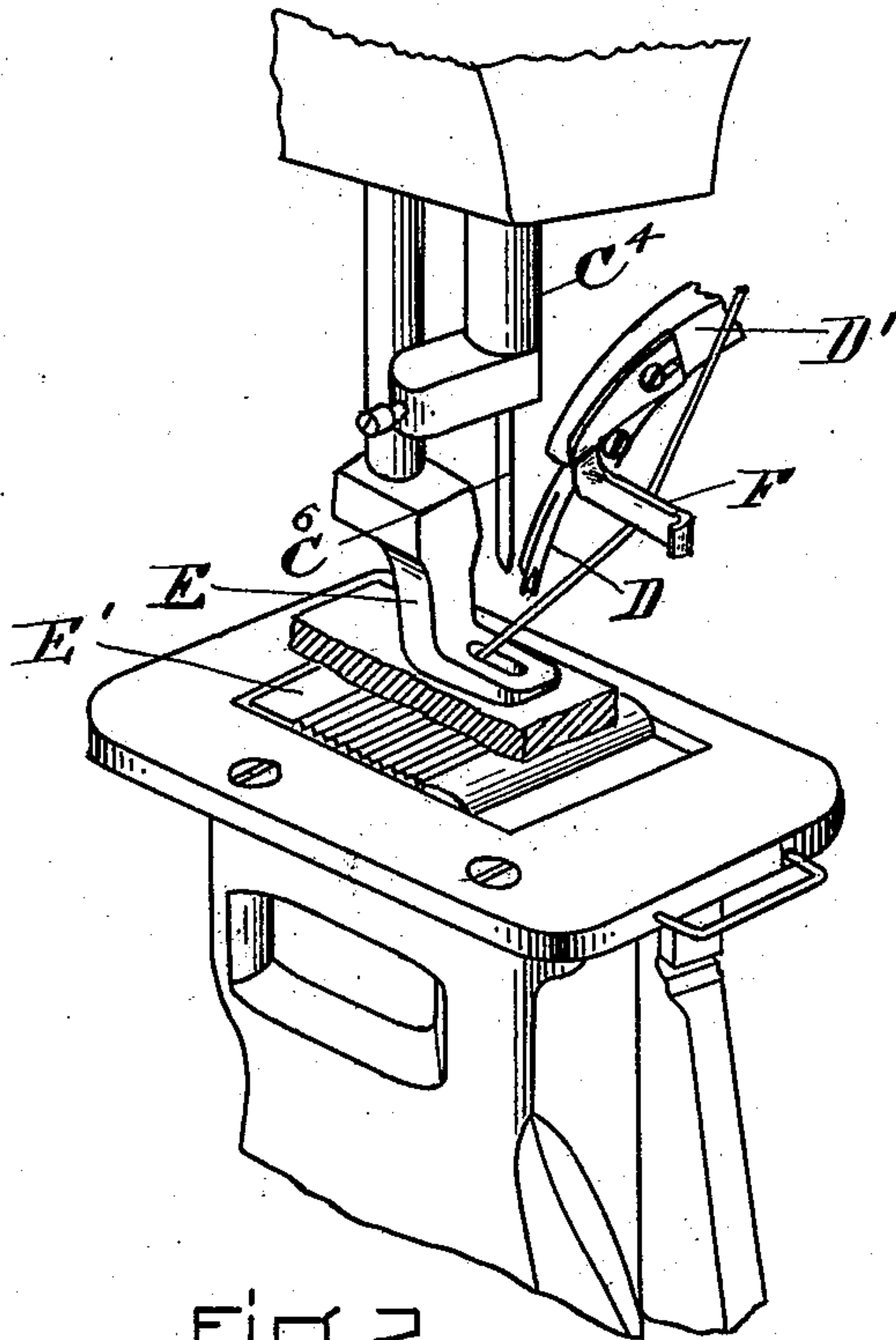


Fig. 2.

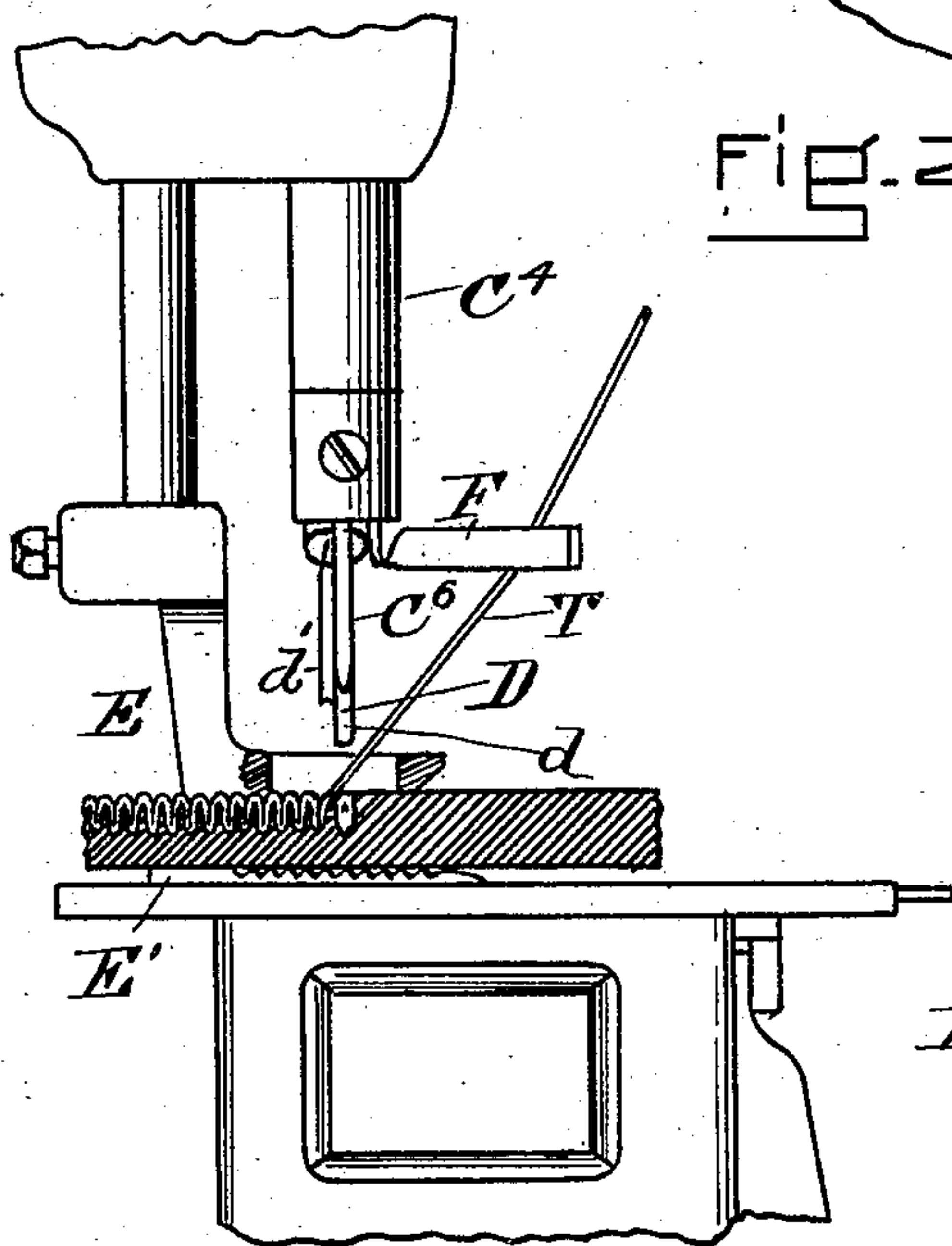


Fig. 3.

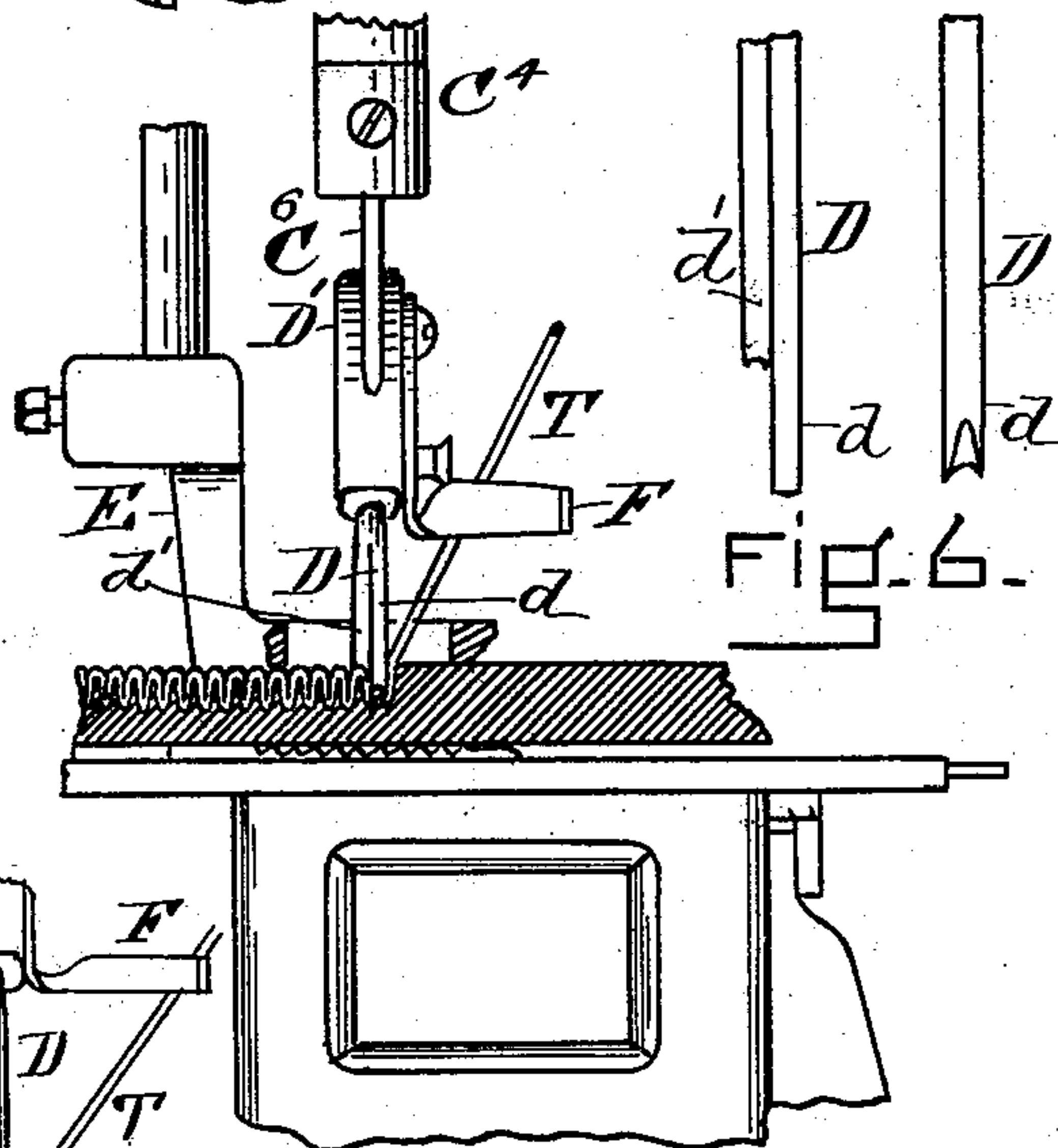


Fig. 4.

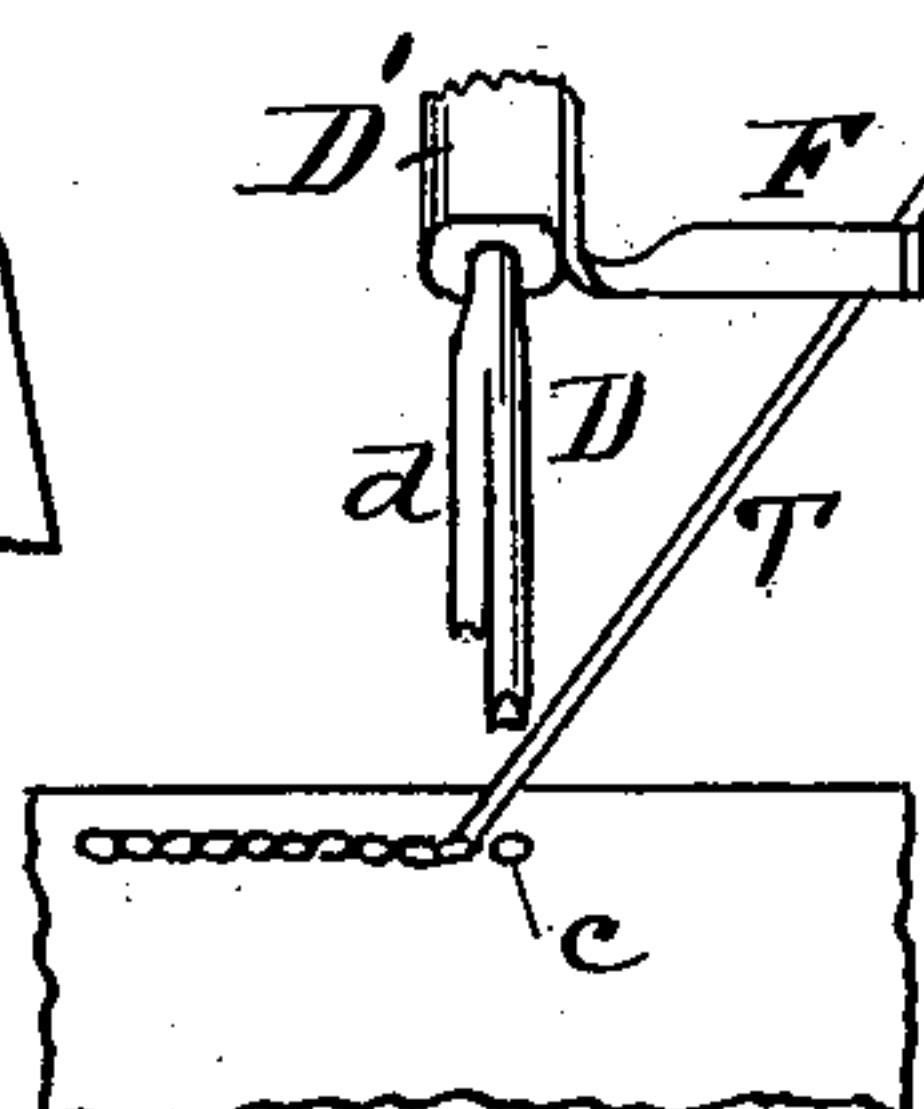


Fig. 5.

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# UNITED STATES PATENT OFFICE.

EDWIN F. MOWER, OF BOSTON, MASSACHUSETTS.

## FAIR-STITCH SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 507,377, dated October 24, 1893.

Application filed February 10, 1893. Serial No. 461,788. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN F. MOWER, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Fair-Stitch Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to mechanism for producing that class of boot or shoe ornamentation that is known as fairstitch, the object being to do the work with greater rapidity and to save in the amount of thread used. This object I attain by the mechanism shown in the accompanying drawings, in which—

Figure 1 is a view, partly in side elevation and partly in section showing a machine adapted to produce my improved fair stitch. Fig. 2 is a perspective view showing the parts of the machine that are more intimately connected with producing my improved fair stitch. Figs. 3 and 4 illustrate more in detail the action of the recess and stitch forming tools. Fig. 5 is a sketch in plan, adapted to illustrate the position of the thread in relation to the awl and the stitch forming tool, during the operation of the machine. Fig. 6 shows by enlarged elevation the form of the end of the stitch forming tool.

Although this machine is especially adapted for ornamenting the edges of soles of boots or shoes in close proximity to the rand, I have not shown in the drawings a boot or shoe, as its presence would hide the working parts, but have shown the machine as working upon a piece of detached leather, the action, of course, being the same as though the leather formed a part of the sole of a boot or shoe.

In the drawings, A represents the base of the machine; B the standard; B' the arm, and B<sup>2</sup> the head; all of these parts together represent what may be called the frame of the machine and are adapted to support the moving parts.

C<sup>2</sup> is the main shaft having a balance wheel C' and a driving pulley C. At the front end of the shaft C<sup>2</sup> I have crank disk C<sup>3</sup>, which gives motion to the bar C<sup>4</sup>, by means of a pitman C<sup>5</sup>. The bar C<sup>4</sup>, having a tool C<sup>6</sup>, adapted to form recesses in the leather, as

illustrated in Fig. 3, that is, to make a hole in the leather, but not to go through; that is, the tool C<sup>6</sup>, prepares a recess into which the stitch forming tool D may force the thread T (as shown in Fig. 4), the recess being of such size as to firmly hold the thread, thus forming a fair stitch ornamentation.

The stitch forming tool D is forked at its end as shown in Fig. 6, the branch *d* being hollowed out at its lower extremity so as to hold the thread and force it down into the recess formed for it by the tool C<sup>6</sup>; the branch *d'* serves to hold the thread of the previously formed stitch in place while the new stitch is being made.

The stitch forming tool D, is attached to a lever D', said lever being pivoted at D<sup>2</sup> to a standard B<sup>3</sup>, this lever being operated by an eccentric D<sup>9</sup>, on the shaft C<sup>2</sup>, the motion being transmitted from the eccentric D<sup>9</sup> by means of D<sup>8</sup>, rocker arm D<sup>7</sup>, rocker shaft D<sup>6</sup>, rocker arm D<sup>5</sup>, link D<sup>4</sup> and connecting pin D<sup>3</sup>.

The thread T passes around a tension device T', through a take-up T<sup>2</sup> and a thread guide F. The details of this part as well as of the feed device, E' and presser foot device E, need not be described in this application, as they are ordinary devices and well understood.

To prevent the thread T from being cut off by the tool C<sup>6</sup>, in its descent, the thread guide F holds it at an angle from the line of stitches, as shown in Fig. 5, so that as the awl descends in a vertical direction, occupying the place indicated by *c* (Fig. 5) it will not come in contact with the thread. The movement of the stitch forming tool D not being vertical, but in an inclined curved line (as shown in Fig. 1), its hollowed out branch *d* will engage with the thread and carry it over and into the hole at *c* (Fig. 5) and the branch *d'* will hold the thread in the previously formed stitch.

From the above description and inspection of Figs. 3, 4, and 5, it is evident that I do not form a complete stitch, but simply a loop as an imitation of one, which as a matter of ornament, is equally useful as the ordinary fair stitch ornamentation, and does not require more than half the thread and enables me to

use a much simpler and easier running machine.

I claim—

In a fair stitch machine the combination  
5 of a presser-foot E feed device E' and tool C<sup>6</sup>  
adapted to form a recess into which a loop of  
thread may be forced as described; with a  
loop forming and carrying tool said tool hav-  
ing at its working end two branches one of  
10 which forces the loop into its recess, and the  
other serves to hold the previously formed

loop in place substantially as and for the  
purpose as before set forth.

In testimony whereof I have signed my  
name to this specification, in the presence of 15  
two subscribing witnesses, on this 2d day of  
November, A. D. 1892.

EDWIN F. MOWER.

Witnesses:

FRANK G. PARKER,  
EDWARD S. DAY.