

No. 877,556.

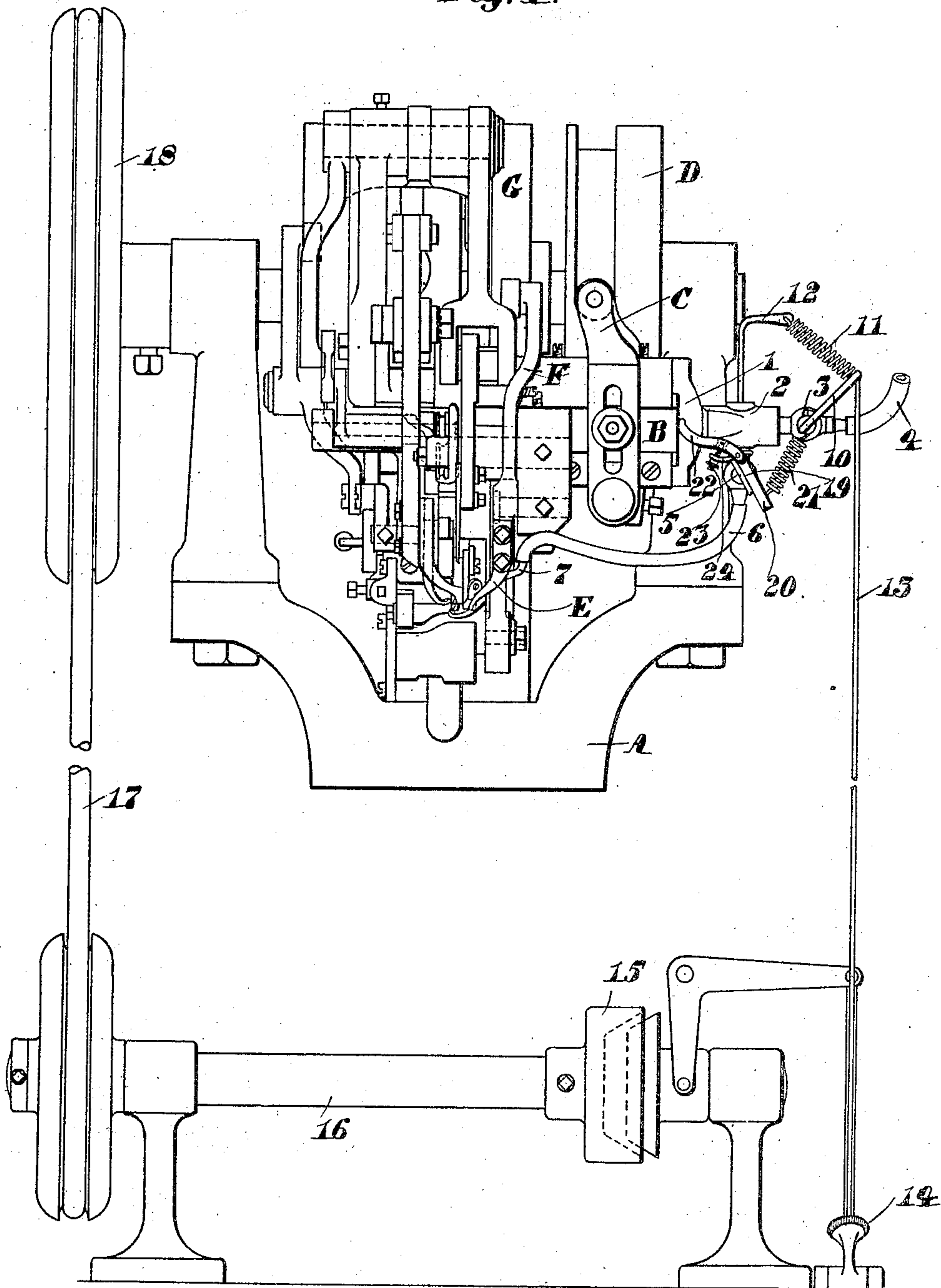
PATENTED JAN. 28, 1908.

C. L. EATON.  
SHOE SEWING MACHINE.

APPLICATION FILED JUNE 9, 1905.

3 SHEETS—SHEET 1.

*Fig. 1.*



**Witnesses:**

Pauline M. Corey.  
May A. Kenney

*Inventor*

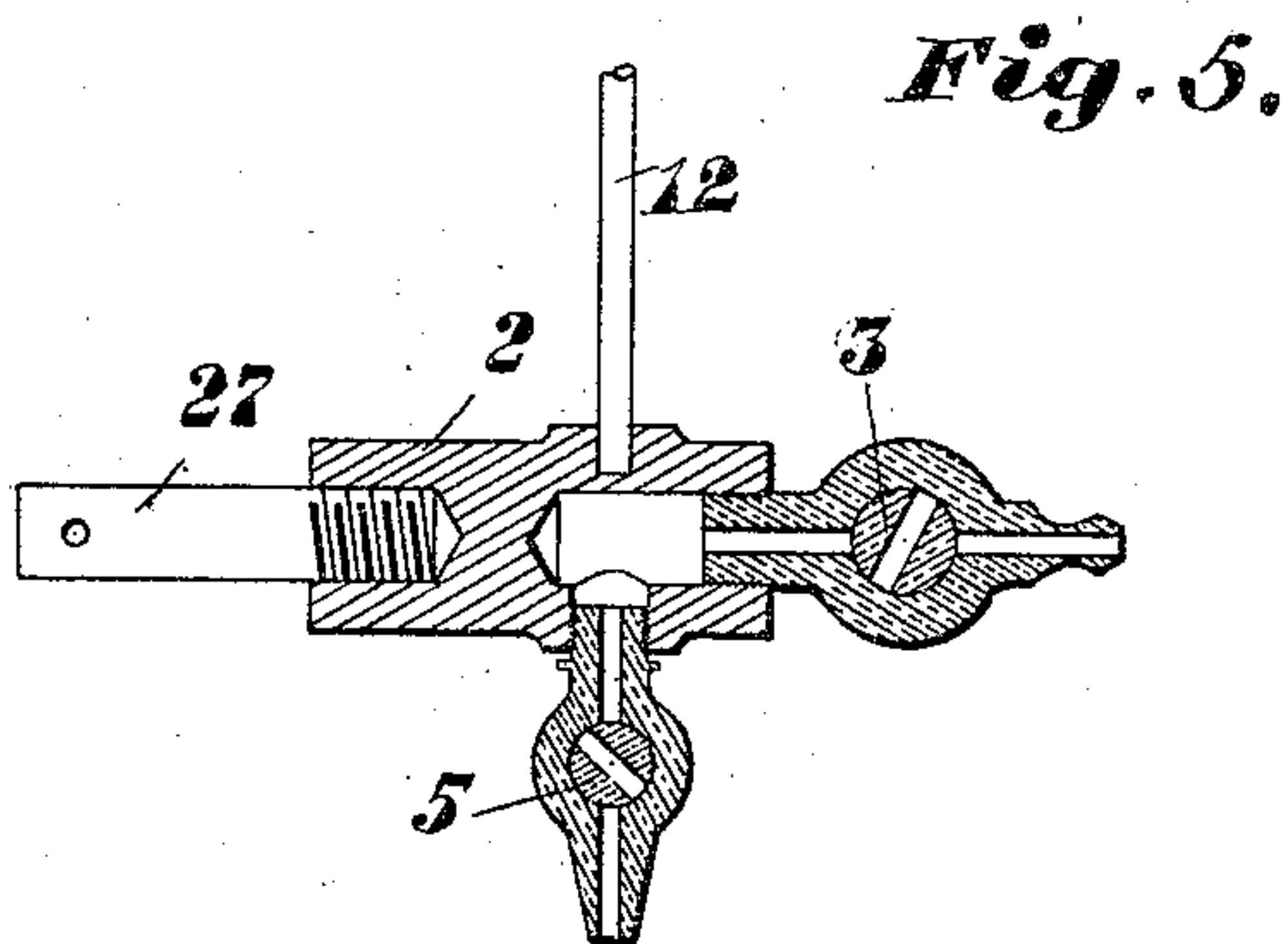
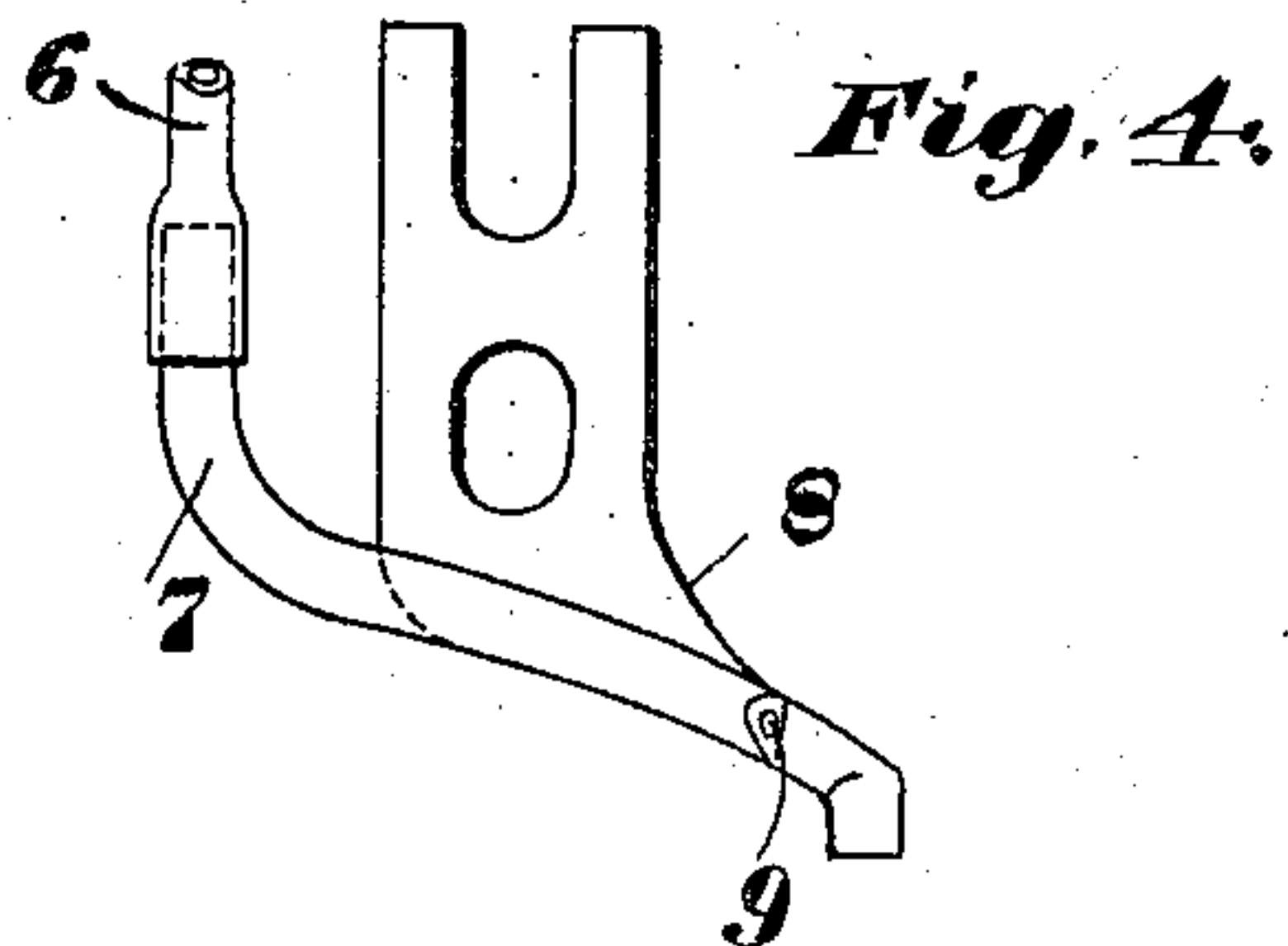
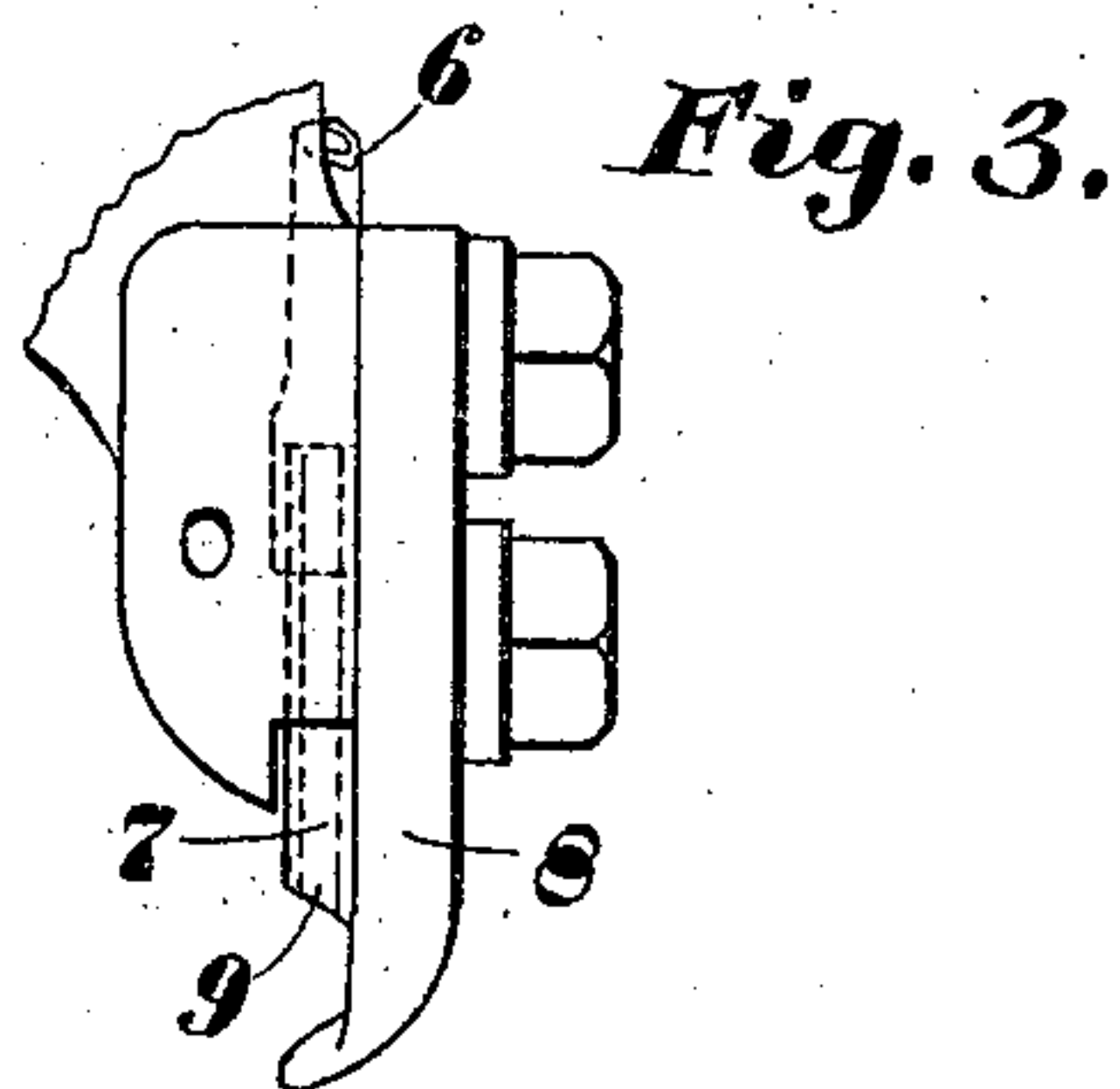
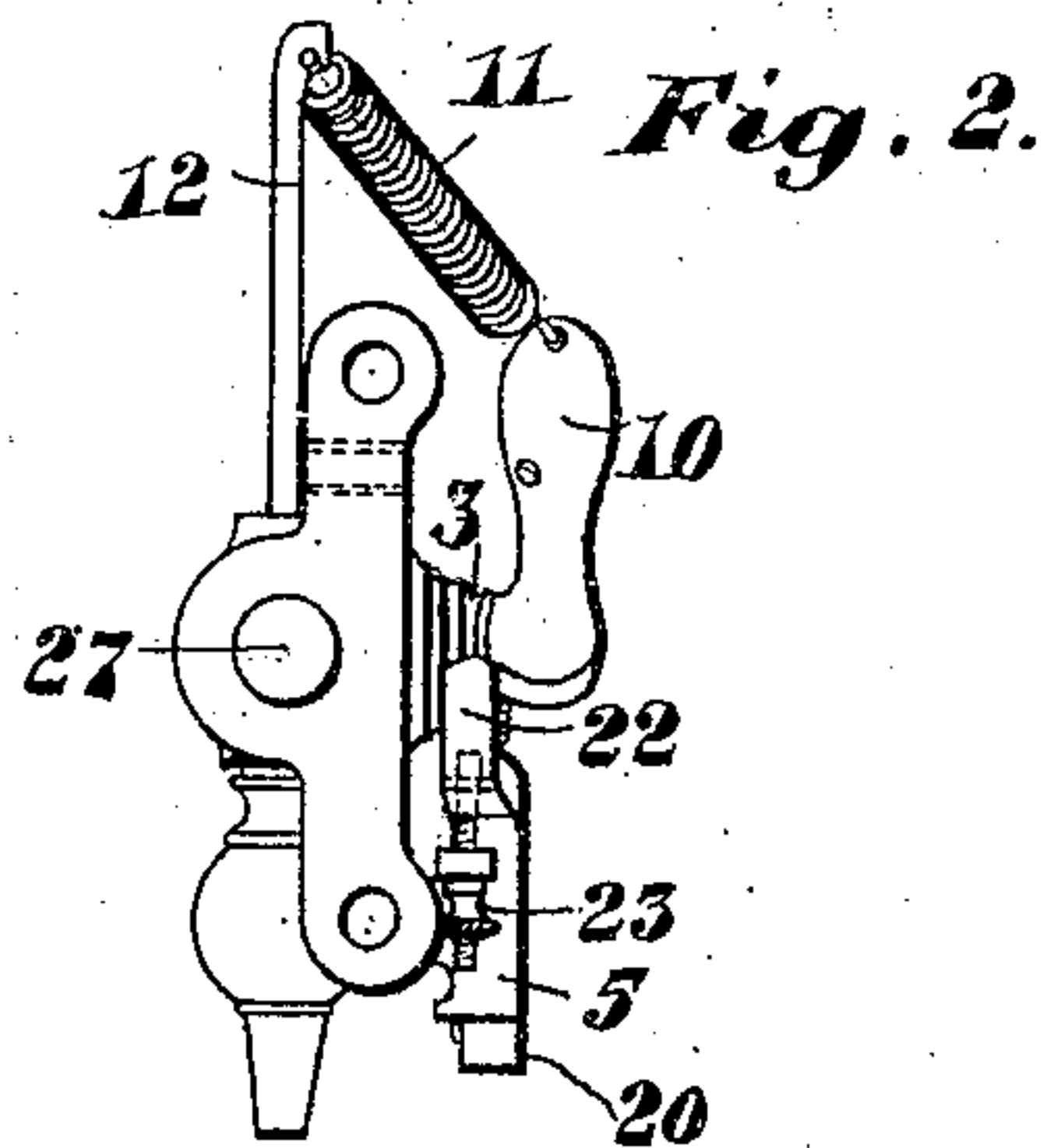
Clarence T. Eaton  
 By his Attorney,  
 H. A. Anderson

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3 SHEETS—SHEET 2.



**Witnesses:**

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May A. Kennedy

**Inventor:**  
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Hart Anderson

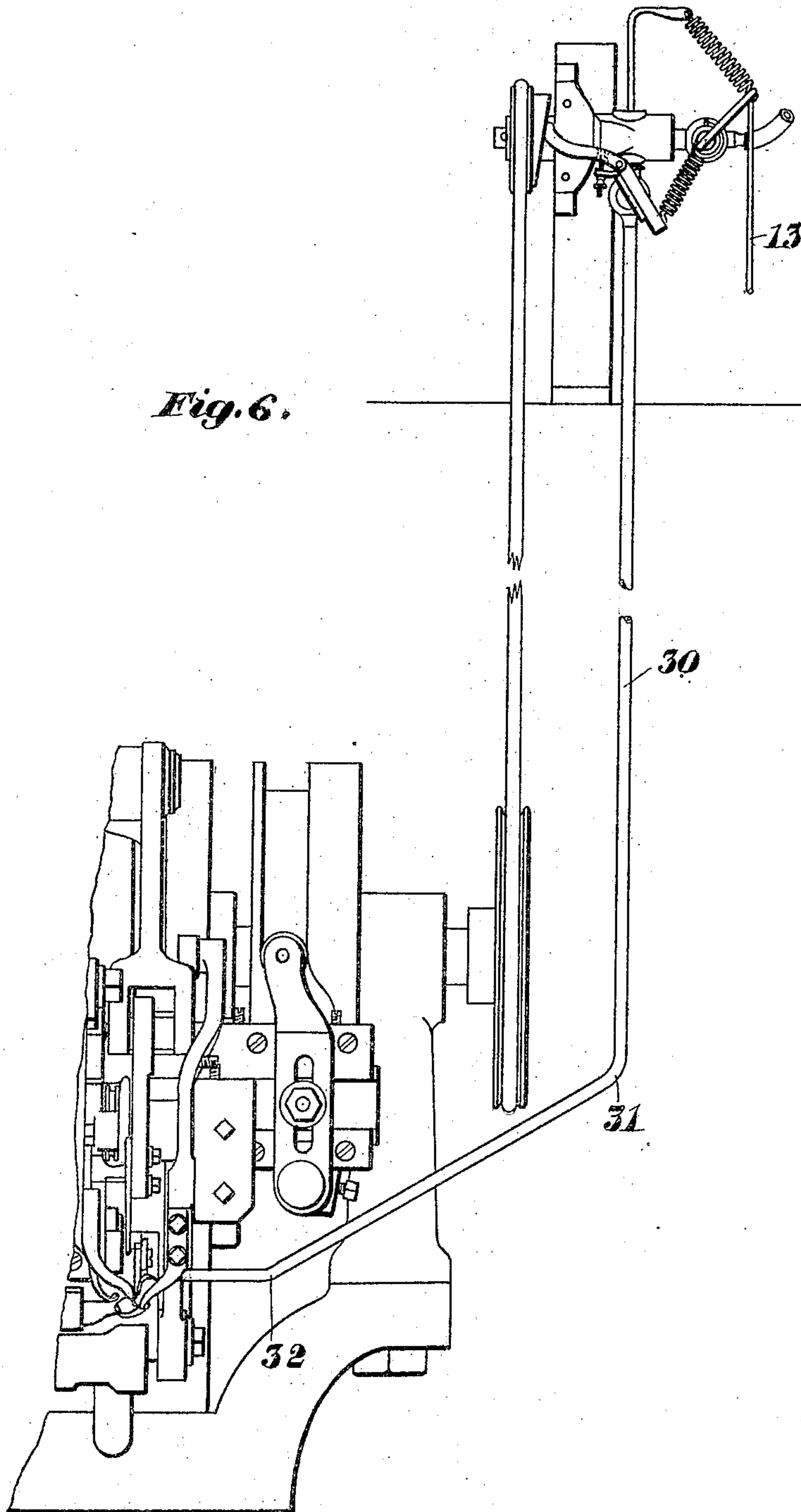
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3 SHEETS—SHEET 3.

*Fig. 6.*



*Witnesses:*

*Pauline M. Corey.*  
*May A. Kenney*

*Inventor:*

*Clarence L. Eaton,*  
*By his Attorney,*  
*Wash Anderson*



# UNITED STATES PATENT OFFICE.

CLARENCE L. EATON, OF WORCESTER, MASSACHUSETTS.

## SHOE-SEWING MACHINE.

No. 877,556.

Specification of Letters Patent.

Patented Jan. 28, 1908.

Application filed June 9, 1905. Serial No. 264,476.

*To all whom it may concern:*

Be it known that I, CLARENCE L. EATON, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Shoe-Sewing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to sewing machines used in uniting the uppers and soles of boots and shoes, and more particularly to that type of such sewing machines known as turn and welt machines, which machines embody a curved hooked needle and other instrumentalities operating to form chain stitches, and in which the needle does not pass through and through the materials in a line at right angles to the plane of said materials but passes through the materials in a curved path approximating the plane of the sole and the particular object of the invention is to provide such a sewing machine with means for wetting or dampening the sole of the shoe, and also to provide improved means for so connecting this wetting or tempering device with the sewing machine that it is automatically brought into operation as the sewing machine is started up, and will intermittently and progressively wet and temper the shoe sole at a point in line with the line of stitches just preceding the formation of a stitch and progressively as the stitches are formed.

To the above ends the present invention consists of the devices and combinations of devices which will be hereinafter described and claimed.

The present invention is illustrated in the accompanying drawings in which:—

Figure 1 shows in front elevation the head of the well known Goodyear turn and welt sewing machine with my invention embodied therein and showing also the counter shaft and connections for operating the sewing machine and my tempering mechanism. Fig. 2 shows the bracket supporting the tempering mechanism removed from the machine. Figs. 3 and 4 show detail views of the channel guide employed in my machine. Fig. 5 shows a vertical sectional view taken through the cocks regulating the supply and

flow of water. Fig. 6 illustrates a modified construction.

Similar reference characters will be employed throughout the specification and drawings to designate corresponding parts.

I have in the accompanying drawing illustrated my invention as embodied in the well known Goodyear turn and welt sewing machine, which machine is illustrated in Letters Patent of the United States No. 412,704, dated the 8th day of October, 1889 and granted upon an application filed by Zachary T. French and William C. Meyer.

In the drawings, A represents the head of the machine, B, the feed slide upon which is mounted the puncturing and feeding awl, and which slide is reciprocated to feed the work, by the lever C operated by the cam D.

The machine is provided with a channel guide E mounted upon a lever F operated by a cam G, all of which parts except as will be hereinafter set forth and the other thread handling and stitch forming devices of the machine, will be organized and arranged to operate as set forth in the Letters Patent No. 412,704 hereinbefore referred to, or in any other desired manner, my invention being applicable to any type of sewing machine for uniting the soles and uppers of turn shoes, the insole, upper and welt of welted shoes and the outsole to the welt, known as an outsole stitcher, all of which machines embody a curved needle. It is thought that it will be unnecessary to further describe the thread handling and stitch forming mechanism.

In the form of my invention shown in Fig. 1, a bracket 1 is supported upon the end of the guide in which the feed slide B reciprocates. Upon the bracket 1 is mounted a casting 2, which at its outer end is fitted with a cock 3 connected with a pipe 4 leading to any suitable source of water supply. The casting 2 is also provided with a cock 5 to which is connected a pipe 6 leading to a fixed tube 7 attached to and forming a part of the channel guide 8, the open end 9 of the pipe 7 discharging very near the end of the channel guide (see Figs. 3 and 4). The cock 3 controls the supply of water from the source of supply to the device, and it is provided with an arm 10 connected to a spring 11, which spring at its other end is connected to a standard 12, the spring operating to normally keep the cock 3 closed and the supply of water



shut off. The arm 10 is also connected to a rod 13 which is connected to a foot treadle 14 which foot treadle controls any suitable form of clutch mechanism 15, transmitting power from a counter shaft 16 through the belt 17 to the driving pulley 18 of the sewing machine.

The arrangement is such that when the foot treadle is depressed to start the sewing machine, such depression will also through the rod 13 open the cock 3 and permit the water to flow from the pipe 4 through the casting 2 to be led through the pipe 6 to the sole to be dampened. It is not, however, my intention to permit a steady and continuous flow of water to the work, but to provide for an intermittent flow in time relation to the operation of the sewing machine parts, and this is secured through the cock 5, which is provided with a two-arm lever 19, one arm 20 being connected to a spring 21, which acts normally to close the cock 5 and shut off the supply of water to the pipe 6, and the other arm 22 rests against the end of the feed slide B, all as shown in Fig. 1 of the drawing, the arrangement being such that the reciprocation of the feed slide B to the right will, through the two-armed lever 19, open the cock 5, and upon the reciprocation of the feed slide to the left, permit the spring 21 to close the cock 5. It will thus be noted that the supply of water to the tempering pipe 7 will be controlled by two valves, a main valve opened and closed in time relation to the starting and stopping mechanism of the sewing machine, and what might be called a feed valve, opened and closed in time relation to the operating mechanism of the sewing machine as the stitches are formed.

For the purpose of adjusting the opening movement of the cock 5 to regulate the amount of water delivered at each intermittent opening, the arm 22 of the lever 19 is pivotally secured to the arm 20 and is adjusted with relation to the arm 20 by means of the adjusting screw 23 which is fastened at one end to the arm 22 and takes into a track 24. Thus the arm 22 may be adjusted to regulate the opening of the valve 5 and the amount of water delivered to each opening thereof.

It is of course understood that the pipe 6 in the construction just described is a flexible rubber pipe so as to permit the free movement of the channel guide during the stitch forming operation. The pipe 4 may also be a flexible pipe leading to any suitable water supply.

While it is preferred to mount the tempering pipe 7 upon the channel guide 8, it is not essential that it be so mounted, and in Fig. 6 is shown a construction where a metallic pipe 30 leads from the casting 2, bent at 31 and again at 32 leading forward in front of the sewing machine and having its end disposed

in the rear of and adjacent to the end of the channel guide, but not connected therewith.

I am aware that it has been proposed to provide the usual McKay sewing machine operating with a straight needle with a water supply, but so far as I am aware of the state of the art, no one has ever provided a welt and turn shoe sewing machine, or any sewing machine having a channel guide and a curved needle, with a wetting mechanism operating to temper the channel of the sole during the sewing operation.

Having described my invention I claim as new and desire to protect by Letters Patent of the United States:—

1. In a machine of the character described, the combination with stitch-forming mechanism, stock feeding mechanism, and mechanism for starting and stopping the machine, of a stock-wetting device, a main valve for controlling the supply of liquid to said stock wetting device, connections between the main valve and the starting and stopping mechanism, a feed valve, and means whereby said feed valve is operated by the movement of said stock feeding mechanism.

2. In a sewing machine, the combination with sewing mechanism including a stock penetrating member and a starting and stopping device for said sewing mechanism, of a channel wetting device, a main valve controlling the supply of water to the channel wetting device, connections between the main valve and the starting and stopping mechanism, a feed valve, and means whereby the feed valve is operated by the movement of said stock penetrating member, substantially as described.

3. In a shoe sewing machine, the combination with a stock penetrating member, of a channel wetting mechanism for wetting the channel of the sole during the sewing operation, a starting and stopping mechanism for the machine, means controlled by the starting and stopping mechanism for controlling the supply of water to the wetting mechanism, and means operated by said stock penetrating member for further controlling the supply of water to said wetting mechanism.

4. In a sewing machine, the combination with an awl, and means for operating the same, of a stock wetting device, means for supplying liquid to said wetting device, a feed valve, and operative connections between said valve and said awl-operating means for actuating the former from the latter.

5. In a sewing machine, the combination with an awl, a laterally moving slide by which said awl is carried, and means for reciprocating said slide, of a stock wetting device, a feed valve, and operative connections between said valve and said slide for actuating the former from the latter.



6. In a shoe sewing machine, the combination with stock feeding mechanism, of a channel guide, a channel wetting device carried by said channel guide, means for  
5 supplying water to said wetting device, a feed valve, and means for operating said feed-valve from said stock-feeding mechanism.

In testimony whereof I affix my signature in presence of two witnesses.

CLARENCE L. EATON.

Witnesses:

T. HART ANDERSON,  
MARY A. KENNEY.