

No. 737,243.

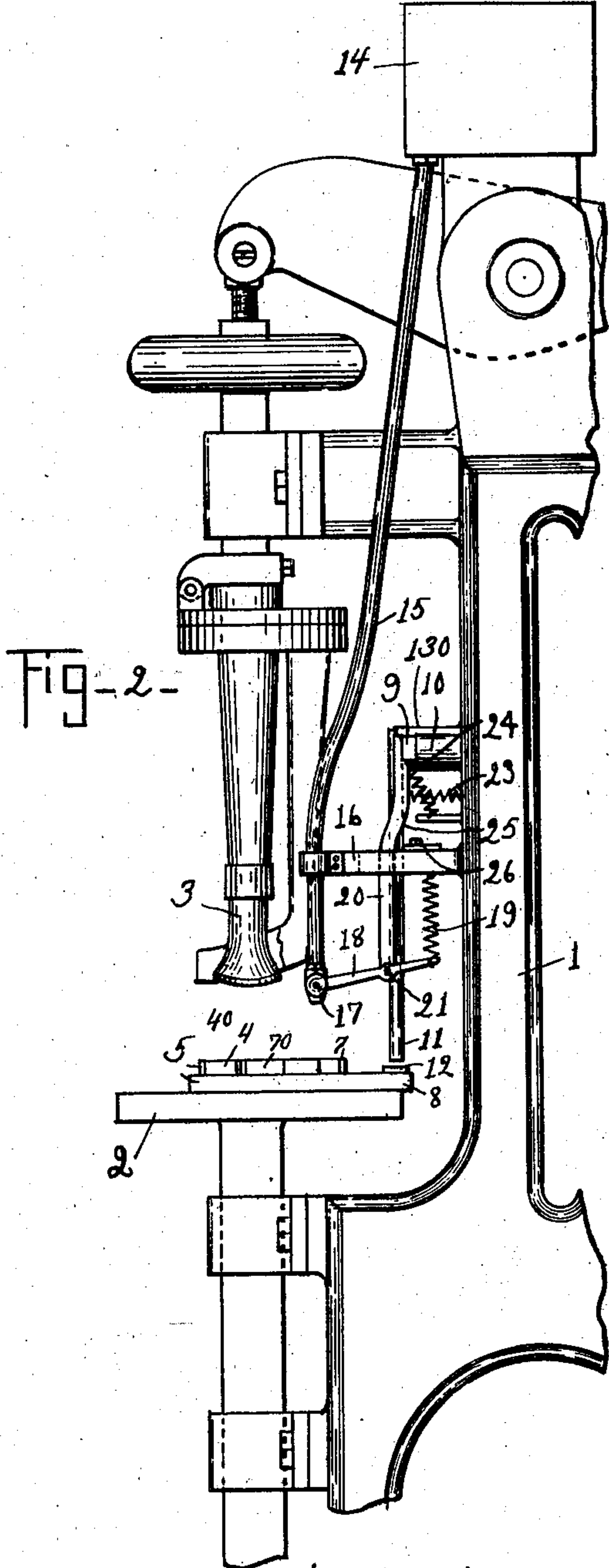
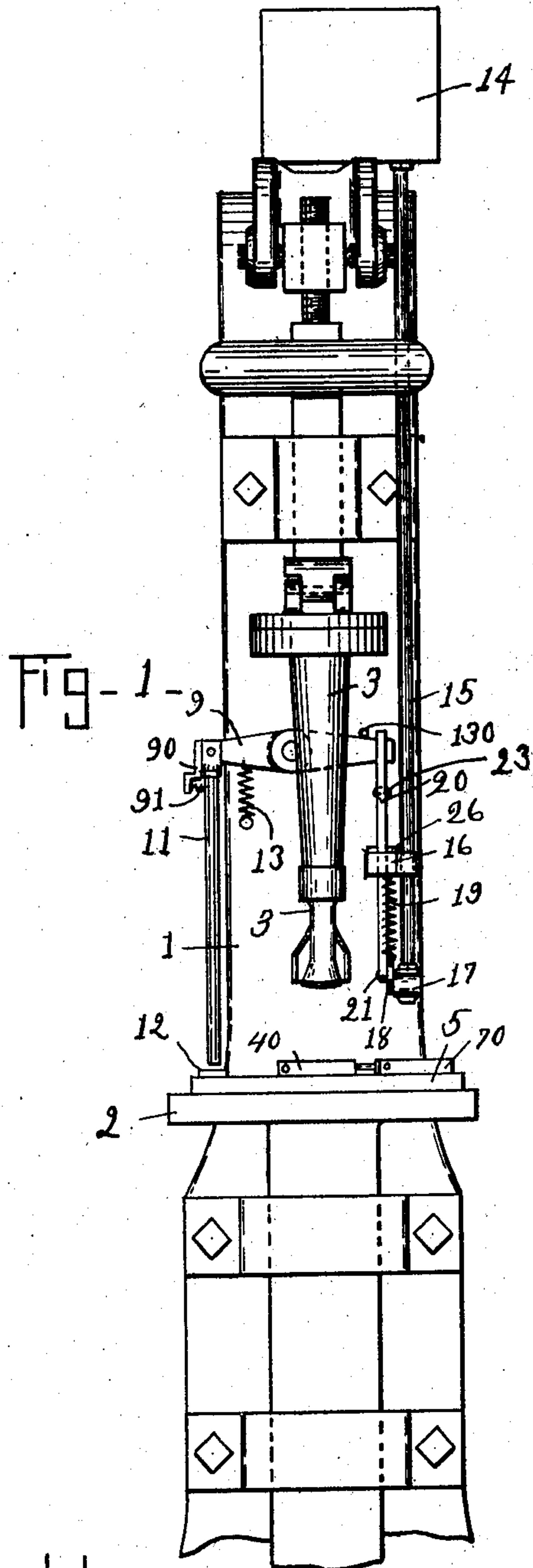
PATENTED AUG. 25, 1903.

J. M. IRVING.
CEMENTING ATTACHMENT FOR HEELING MACHINES.

APPLICATION FILED AUG. 15, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:

H. B. Davis.

M. M. Piper.

Inventor:
Joseph M. Irving
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2 SHEETS—SHEET 2.

Fig. 3.

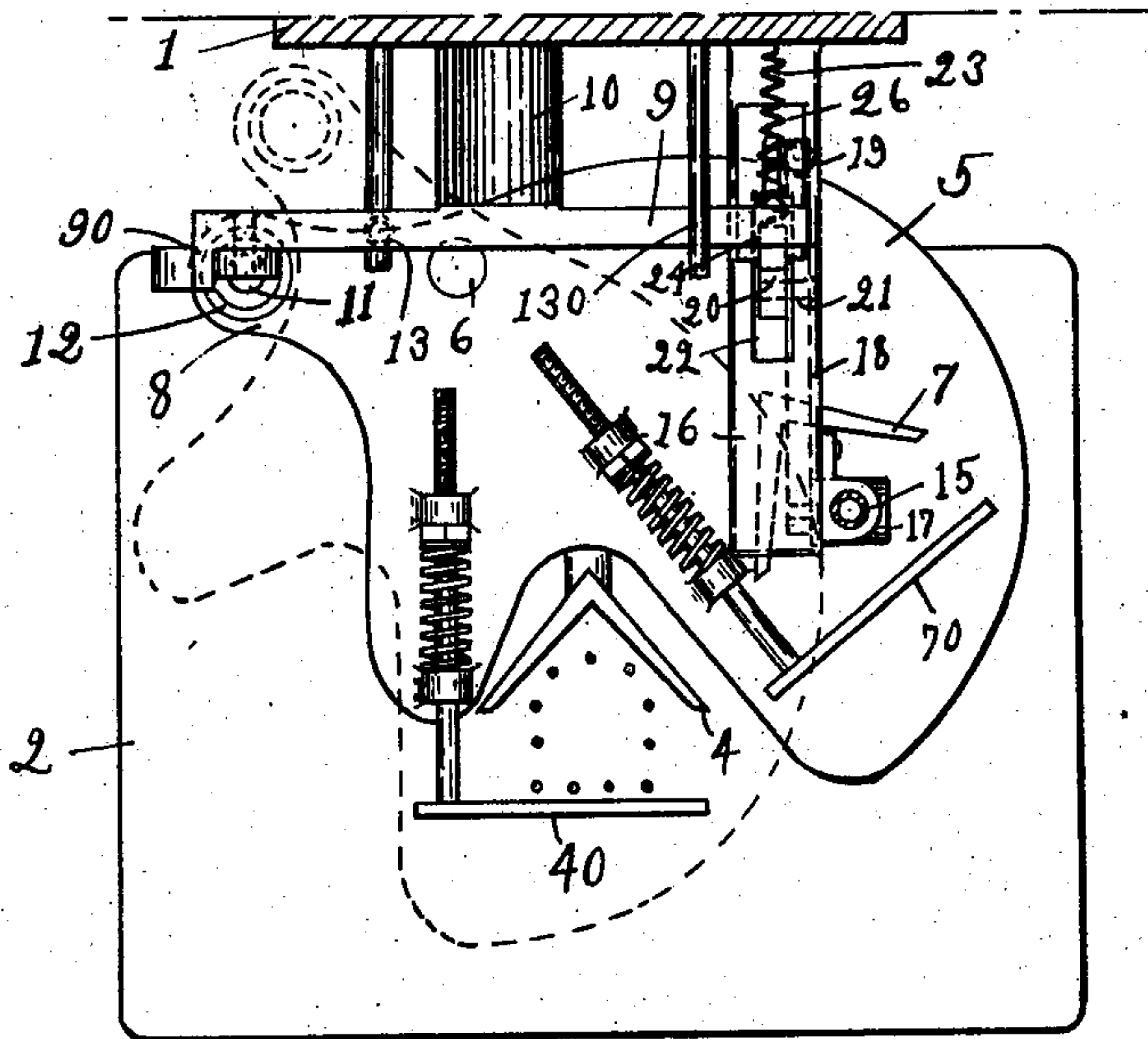


Fig. 4.

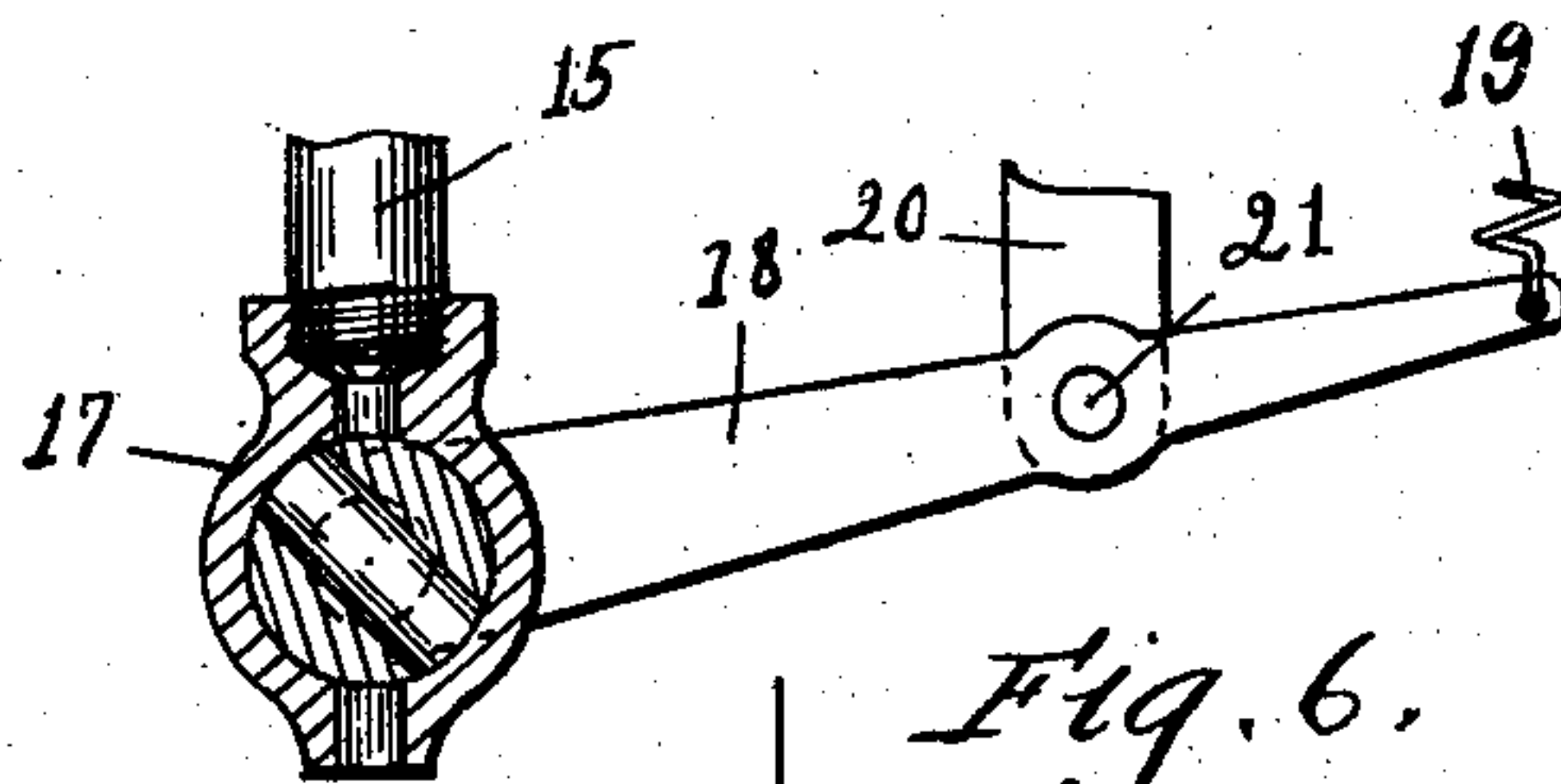
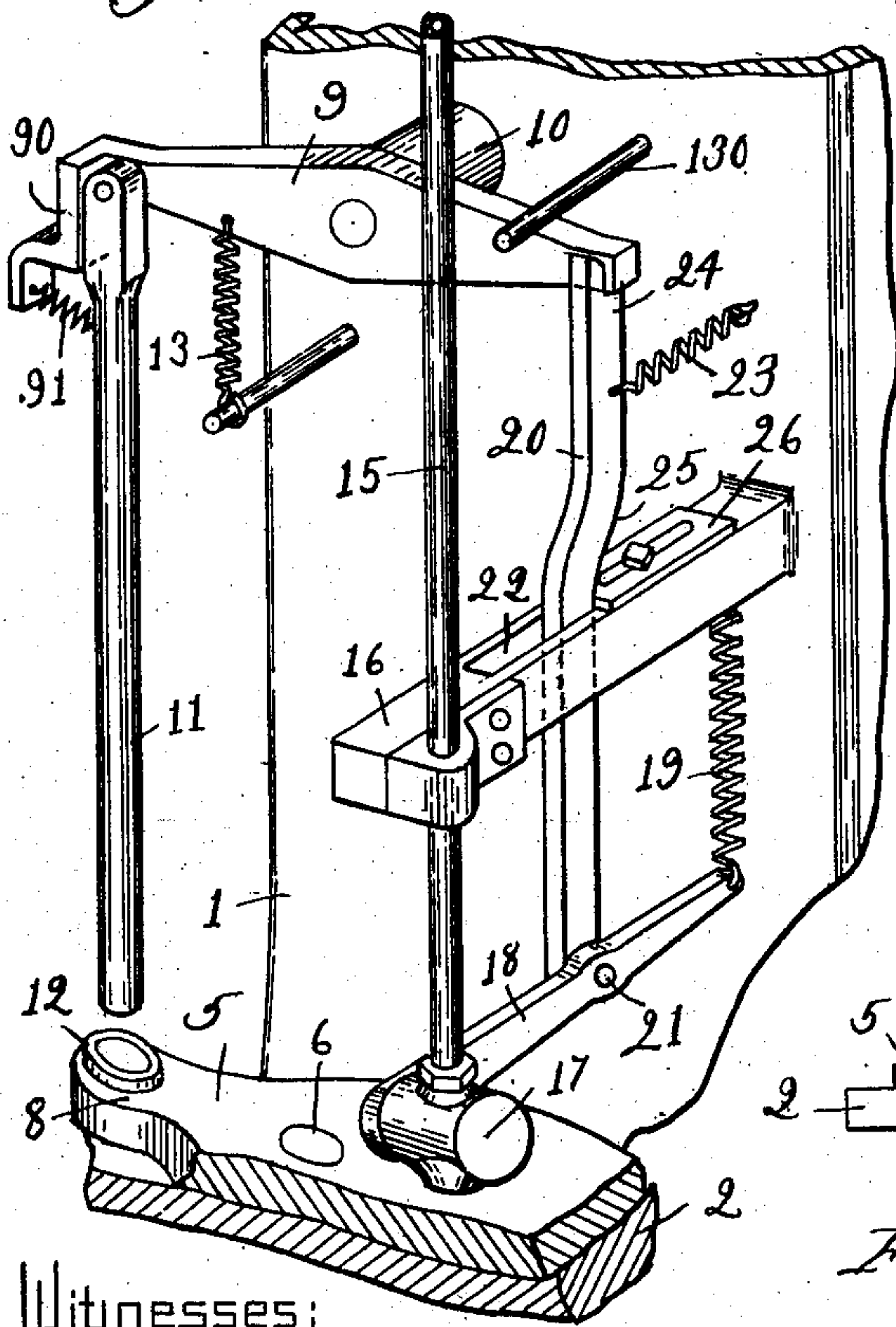


Fig. 6.

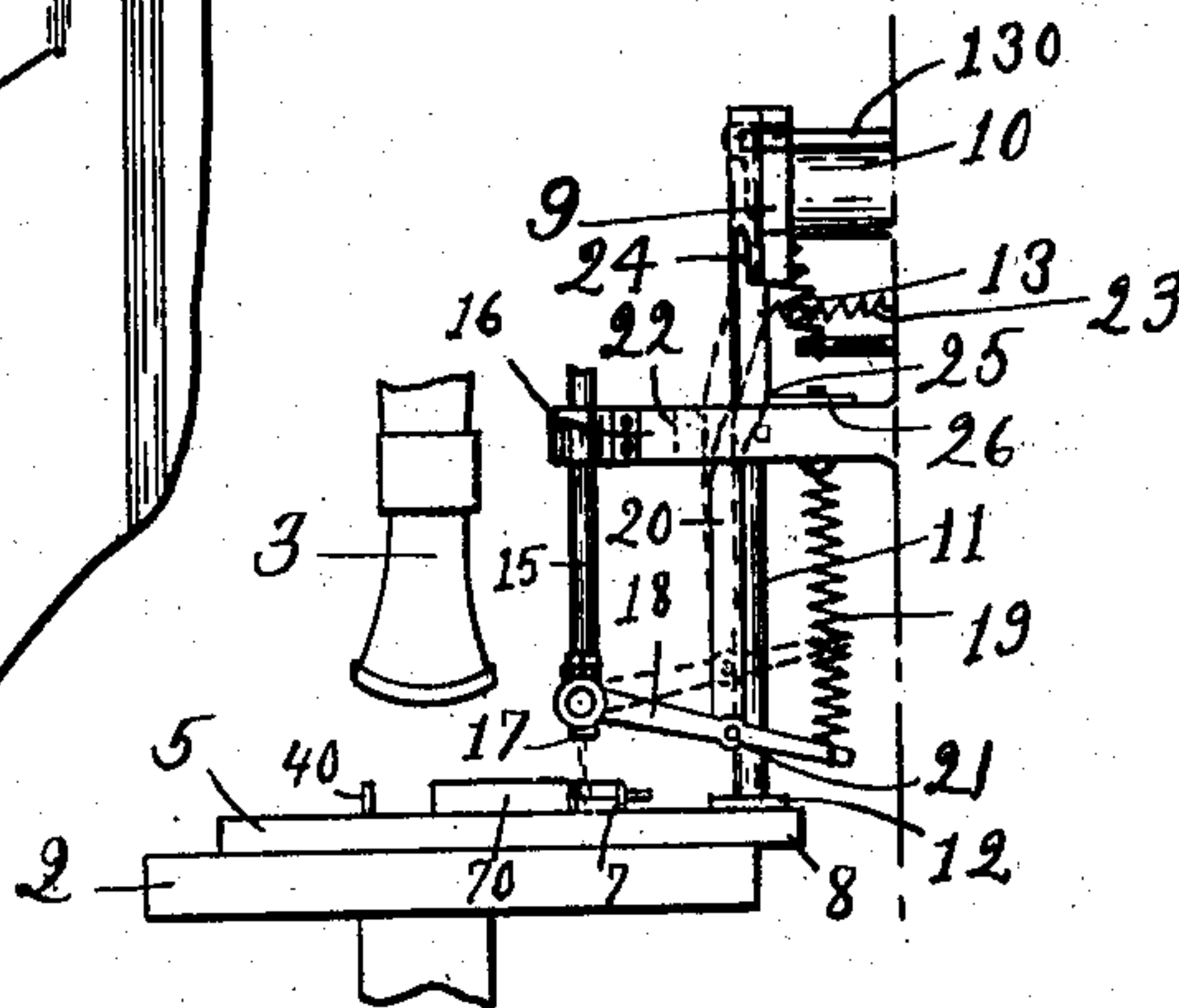


Fig. 5.

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UNITED STATES PATENT OFFICE.

JOSEPH M. IRVING, OF HAVERHILL, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO WILLIAM A. KNIPE, OF HAVERHILL, MASSACHUSETTS.

CEMENTING ATTACHMENT FOR HEELING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 737,243, dated August 25, 1903.

Application filed August 15, 1902. Serial No. 119,725. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH M. IRVING, of Haverhill, county of Essex, State of Massachusetts, have invented an Improvement in
5 Cementing Attachments for Heeling-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

10 In attaching heels to shoes by the ordinary heel-nailing machine the main part of the heel is usually first secured to the shoe, the nails being allowed to project slightly beyond the surface of the heel, and then the top lift
15 of the heel is spanked on so that the nails do not protrude through the top lift. This means of securing the top lift is rather insecure, and difficulty often arises from having the top lift come off, so that it is practically necessary that the top lift be cemented onto the
20 heel as well as held on by the projecting nails.

The object of my invention is to provide an ordinary heel-nailing machine with an
25 automatic device for discharging measured quantities of liquid cement upon the inner side of the top lift after it has been placed in position to be carried beneath the heel and before it is secured to the heel. Experience
30 has shown that means for applying liquid cement which employ a sponge or brush through which the cement passes are wholly unsuited for this purpose, as the sponge or brush soon becomes filled with the solid mat-
35 ter which is in the cement, or becomes dried or hardened when not in use, so that the cement cannot pass therethrough with sufficient readiness.

I accomplish the object of my invention
40 above referred to and without employing a sponge or brush in applying the cement by providing a tube in which the cement is contained under pressure, and at the extreme lower end of which I provide a valve of simple form adapted to be automatically opened
45 upon the upward movement of the head-block and immediately closed, so that only a limited quantity of cement is discharged therethrough, said tube and valve being so
50 located that the cement which is discharged therefrom drops directly upon the upper side

of the top lift in the middle thereof while it is held on the spanking-plate, the quantity of cement being sufficient to cause the same to be spread over practically the entire sur-
55 face of the lift when it is spanked onto the heel.

For a more definite understanding of my invention reference is now made to the ac-
60 companying drawings, in which—

Figure 1 represents a front view, and Fig. 2 a side view, of a portion of a heeling-machine of ordinary form, sufficient parts thereof being illustrated to enable the operation of the attachment which comprises my inven-
65 tion to be understood. Fig. 3 is a plan view of the table or bed of the machine with my attachment applied thereto. Fig. 4 is a perspective view of my attachment. Fig. 5 is a side view thereof, showing the valve in open
70 position; and Fig. 6 is an enlarged cross-section of the valve.

As indicated in the drawings, the frame 1 of the machine is provided with the usual head-block 2, which is guided to move verti-
75 cally in the frame in the ordinary manner. The jack 3 is arranged directly above the central portion of the head-block, as shown.

The spanking-plate 5 is pivoted at 6 and is provided with a yoke 4, and a spring-actuated
80 holding-arm 40 is carried by said plate and holds the heel against said yoke 4. The plate 5 is also provided with a yoke 7, against which the top lift is placed and held by the spring-actuated arm 70. For convenience
85 the yoke 4 and arm 40 will be termed the "heel-holder" and the yoke 7 and arm 70 the "top-lift holder." Said plate 5 is also provided with a projecting portion 8, on the end of which a socket or cup 12 is provided, said
90 projection and socket constituting what I shall hereinafter refer to as an "engaging device."

A lever 9 is pivoted to a bracket 10, the latter being firmly secured to the frame of
95 the machine. A rod 11 is pivoted to the left-hand end of the lever 9 and has a flat side at its upper end which is normally held against the side of a bracket 90 on said lever 9 by means of a spring 91, so that the lower end
100 of rod 11 is normally held directly above said socket when said plate 5 is in the right-hand

or full-line position shown in Fig. 3, said rod 11 being free to swing to the right and its lower end being normally suspended above the end of the cup 12. A spring 13 is connected to the lever 9 and acts to draw the right-hand end of lever 9 against a stop 130 on the frame.

A liquid-cement-containing tank 14 is arranged above the main portion of the machine and is provided with a discharge-pipe 15, which leads downwardly and is rigidly secured to a bracket 16. Said pipe 15 is preferably of metal, particularly at its lower end, so that said lower portion may be held rigidly. A valve 17 is arranged at the extreme lower end of said pipe, said valve being preferably of the ordinary turning-plug form, as shown in Fig. 6, and having a lever 18 secured thereto. A spring 19 is secured to the outer end of said lever and to the bracket 16 and acts to hold said valve 17 in its closed position.

A flat-sided arm 20 is pivotally connected at 21 to the lever 18 and passes through a slot 22 in the bracket 16, (see Figs. 3 and 4,) so that it may swing toward the front of the machine. Said arm 20 is provided with a shoulder 24 at its upper end, which is adapted to engage the under side of the lever 9 at its right-hand end, and a spring 23 acts to draw the rear edge of said arm against said lever. Said arm 20 is also provided with a curved portion 25, which in certain positions is adapted to engage a trip device or plate 26, adjustably secured to the upper side of the bracket 16.

Having now described the general construction of my attachment, the operation thereof may be described as follows: The shoe is placed upon the jack 3, and the heel and top lift, which are to be attached thereto, are placed in the heel-holder 4 and top-lift holder 7, respectively, the plate 5 then being in the right-hand position, (shown in full lines in Fig. 3,) so that the heel is held directly beneath the jack, and the lift is held at one side thereof. The head-block 2 is then forced upwardly, and the nails carried thereby are driven through the heel, attaching the heel to the shoe. As the block 2 is moved upwardly the plate 5 is carried with it, and its projecting portion 8 will engage the lower end of the rod 11, said rod passing into the cup 12 of said projecting portion. This will cause the right-hand end of the lever 9 to swing downwardly, forcing down the arm 20 and swinging the handle 18, which is connected to the valve 17, to the position shown in Fig. 4, opening the valve and discharging a quantity of cement upon the top lift, which is in position directly beneath it. As the table is lifted the lever 9 will continue to be swung, as just described; but as soon as the arm 20 is pressed downwardly a short distance its curved portion 25 will be engaged by the plate 26, and said arm will be swung forwardly, as shown in Fig. 4, so that its shoulder 24 will become disengaged from the

lever 9, and the spring 19 will throw said arm and the handle 18 upwardly, closing the valve. The parts are adjusted so that the valve begins to close before it is fully opened, the extent to which it is opened depending on the adjustment of plate 26, so that a quantity of cement is discharged upon the top lift, which is always practically constant, the valve being opened the same distance and for the same length of time each time it is opened. When the block 2 again descends to its normal position, the lever 9 will also return to its normal position, and the spring 23 will swing the arm back to the position shown in Figs. 2 and 4, so that it will be in position to be engaged by the lever 9 when the rod 11 is again lifted. Before or as the head-block starts to move upwardly to spank on the top lift the plate 5 is swung to the dotted position shown in Fig. 3, so that the lift is carried directly beneath the heel. When plate 5 is moved to said dotted position, the engaging devices 8 and 12 thereof will be swung to one side of the rod 11, so that on this second upward movement of the block and plate the parts connected to the cement-supplying valve 17 will not be moved. The pressure which is applied to the top lift in spanking it onto the heel will cause the cement which has previously been discharged thereon to spread over the surface of the connected parts, thoroughly cementing one to the other. It will be observed that this operation is purely automatic, and the cement will be applied without trouble or attention on the part of the operator, it simply being necessary to supply the tank 14 with cement at proper intervals.

The valve 17 is of such construction that its effectiveness of operation will not be impaired by the continued flow of cement through it, so that practically a measured quantity of cement will always be discharged upon the top lift for the same adjustment of the plate 26, the extent to which the valve is opened, and consequently the quantity of cement discharged, being varied by adjusting said plate 26.

While I have illustrated a preferable form of apparatus for applying the cement to the top lift, yet other forms may be satisfactorily employed in a machine of this general character without departing from the spirit and scope of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a heeling-machine, a jack, a top-lift holder movable to and from the jack, a cementing device, and an operating device for said cementing device, and means for actuating said operating device to discharge cement upon the lift as it is held by the holder, substantially as described.

2. In a heeling-machine, a jack, a top-lift holder movable to and from the jack, a cementing device, an operating device for said

cementing device, and means for actuating said operating device while said holder is in a position remote from the jack, substantially as described.

5 3. In a heeling-machine, a jack, a movable top-lift holder, a valve, means for supplying liquid cement thereto, an operating device for said valve, means for moving said holder to and from the jack, and means for actuat-
10 ing said operating device in time to cause the valve to open and to discharge cement on the top lift while held in said holder, substantially as described.

4. In a heeling-machine, a jack, a movable
15 top-lift holder, a valve, means for supplying liquid cement thereto, an operating device for said valve, means for moving said holder to and from the jack, and means for actuat-
20 ing said operating device when the holder is beneath the valve to discharge cement on the top lift while held in said holder, substantially as described.

5. In a heeling-machine, a jack, a top-lift holder movable to and from said jack, a valve
25 arranged directly above a position of said holder which is remote from the jack, means for automatically opening said valve while the holder is in said remote position, and in-
30 dependent means for automatically closing said valve when it has been opened to a pre-determined extent, substantially as de-
scribed.

6. In a heeling-machine, a jack, a top-lift holder movable to and from said jack, a valve
35 arranged directly above a position of said holder which is remote from the jack, means for supplying liquid cement to said valve, means for automatically opening said valve while the holder is in said remote position,
40 means for automatically closing said valve and means for varying the extent to which said valve may be opened, substantially as described.

7. In a heeling-machine, a jack, a top-lift
45 holder movable to and from said jack, a valve arranged directly above a position of said holder which is remote from the jack, means for supplying liquid cement to said valve, means for automatically opening said valve
50 while the holder is in said remote position,

closing means for said valve and a trip device for disconnecting a portion of the valve-open-
ing means from said valve and rendering said closing means operative, substantially as de-
scribed.

8. In a heeling-machine, a jack, a top-lift holder movable to and from said jack, a valve arranged directly above a position of said holder which is remote from the jack, means
55 for supplying liquid cement to said valve, 60 means for automatically opening said valve while the holder is in said remote position, closing means for said valve and an adjust-
able trip device for disconnecting a portion
65 of the valve-opening means from the valve and rendering said closing means operative, substantially as described.

9. In a heeling-machine, a jack, a top-lift holder movable from a position at one side
70 of the jack to a position beneath it, a valve arranged above said first-named position, means for supplying said valve with liquid cement, means for moving said holder toward
75 said valve while in said first-named position and means for opening said valve which are automatically operated upon the upward
movement of said holder, substantially as de-
scribed.

10. In a heeling-machine, a jack, a top-lift holder movable from its initial position at one
80 side of the jack to a position beneath the jack, a valve arranged above the initial position of said holder, means for supplying said valve with liquid cement, means for moving said
85 holder upwardly while in either of said positions, operating devices for opening said valve, engaging devices for said operating
90 devices which cause said valve to be opened upon the upward movement of said holder from its initial position, and means for rendering said engaging devices inoperative
upon movement of said holder to a position
beneath the jack, substantially as described.

In testimony whereof I have signed my
name to this specification in the presence of
95 two subscribing witnesses.

JOSEPH M. IRVING.

Witnesses:

LOUIS H. HARRIMAN,
M. M. PIPER.