

(No Model.)

M. ZIMMERMAN.  
CAR COUPLING.

No. 509,993.

Patented Dec. 5, 1893.

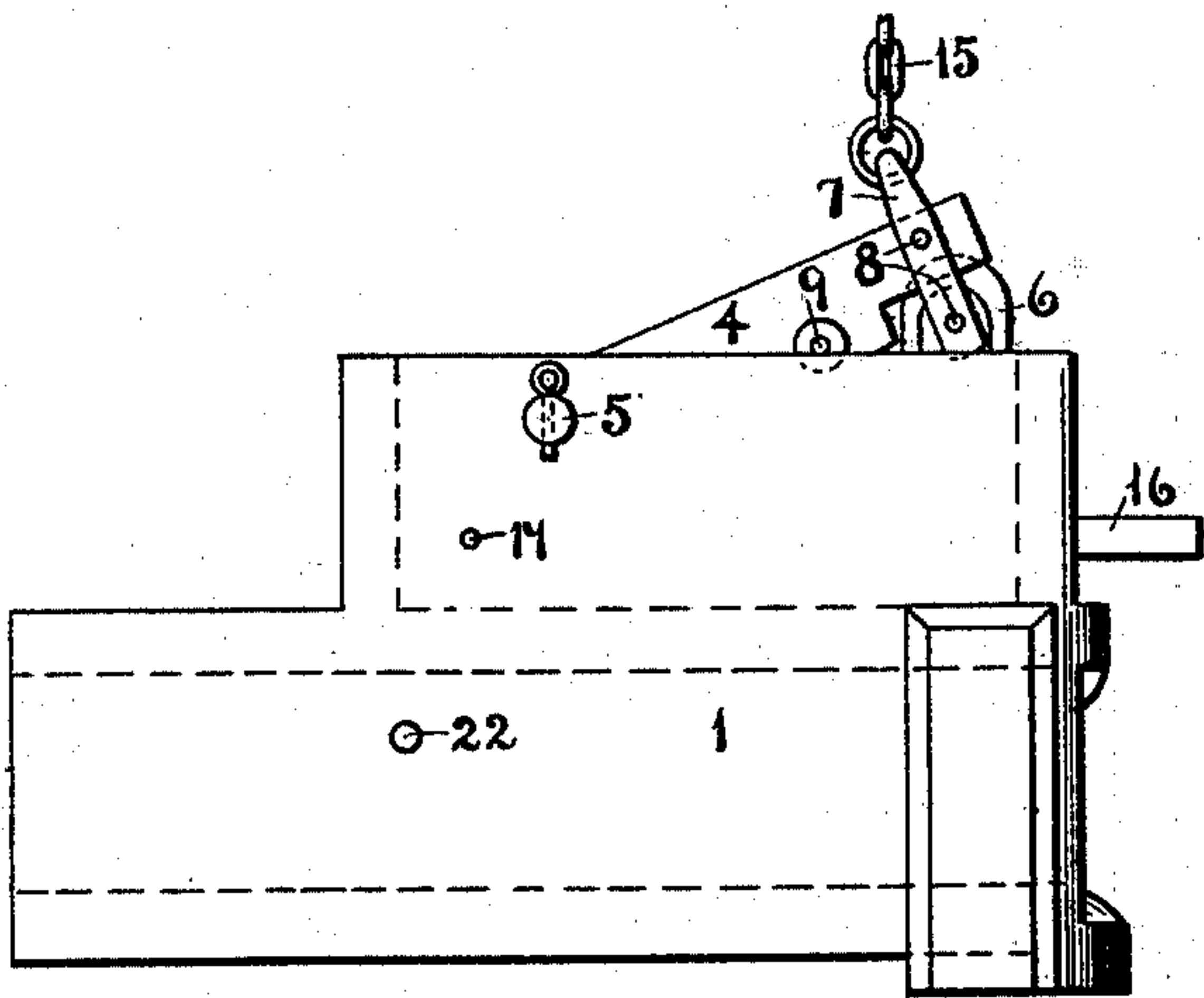


FIG. 1.

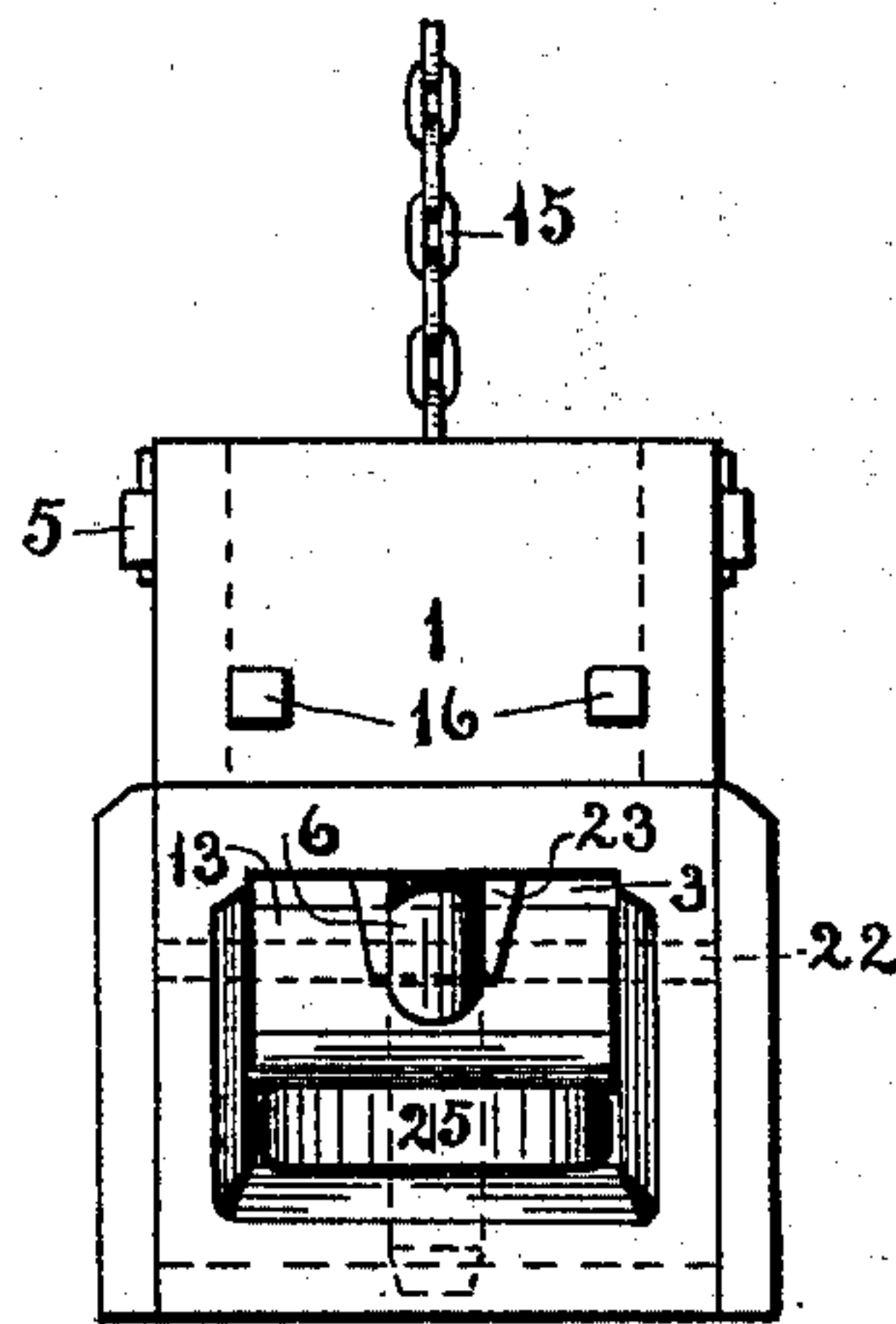


FIG. 2.

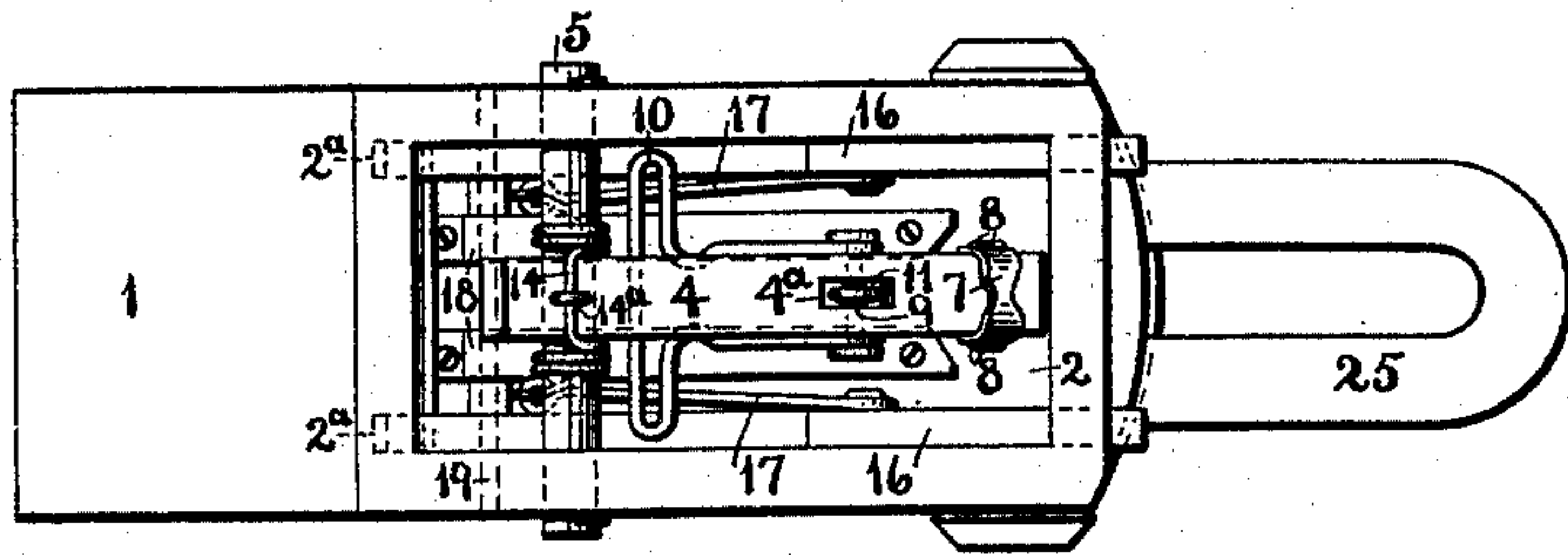


FIG. 3.

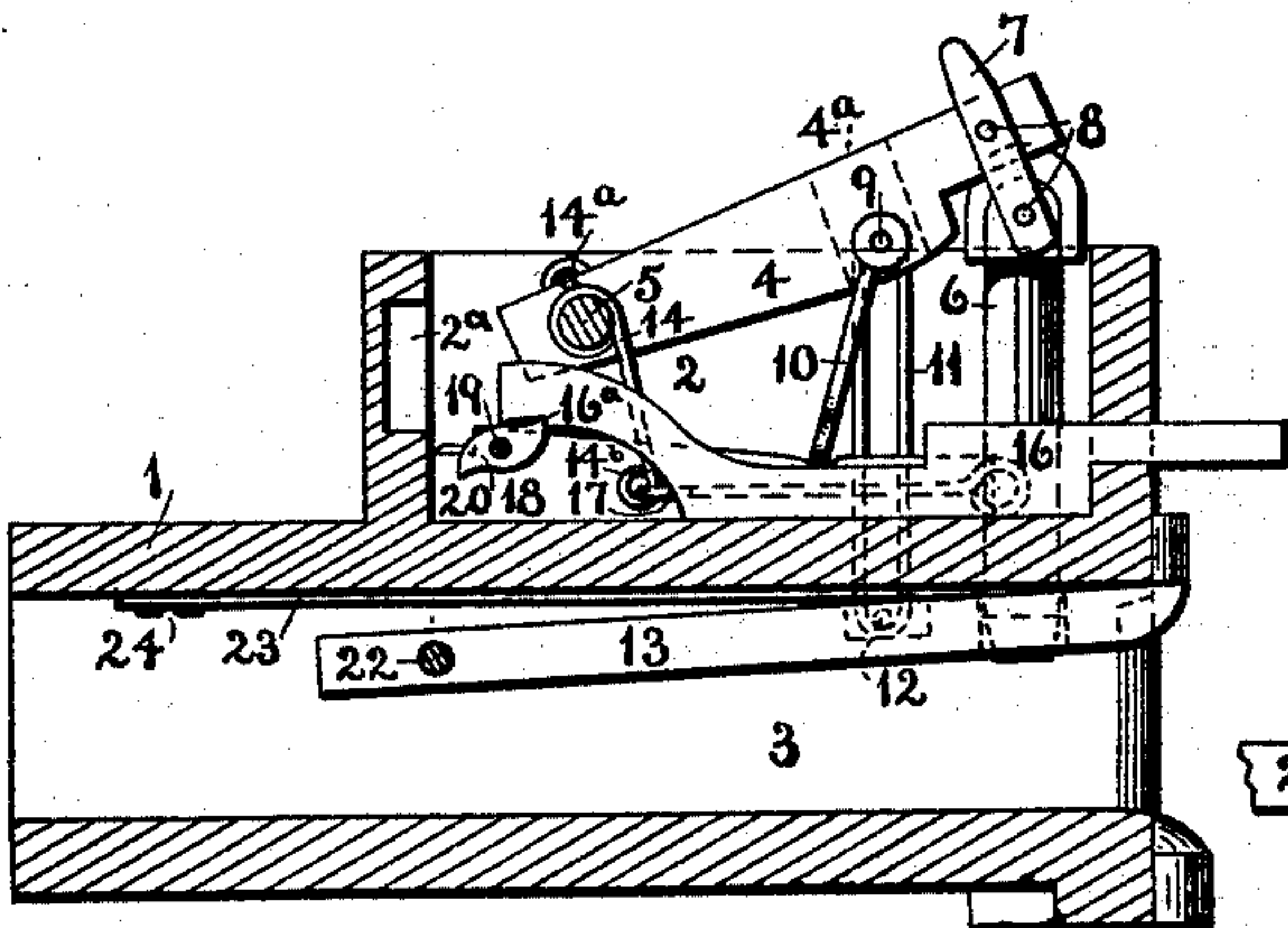


FIG. 4.

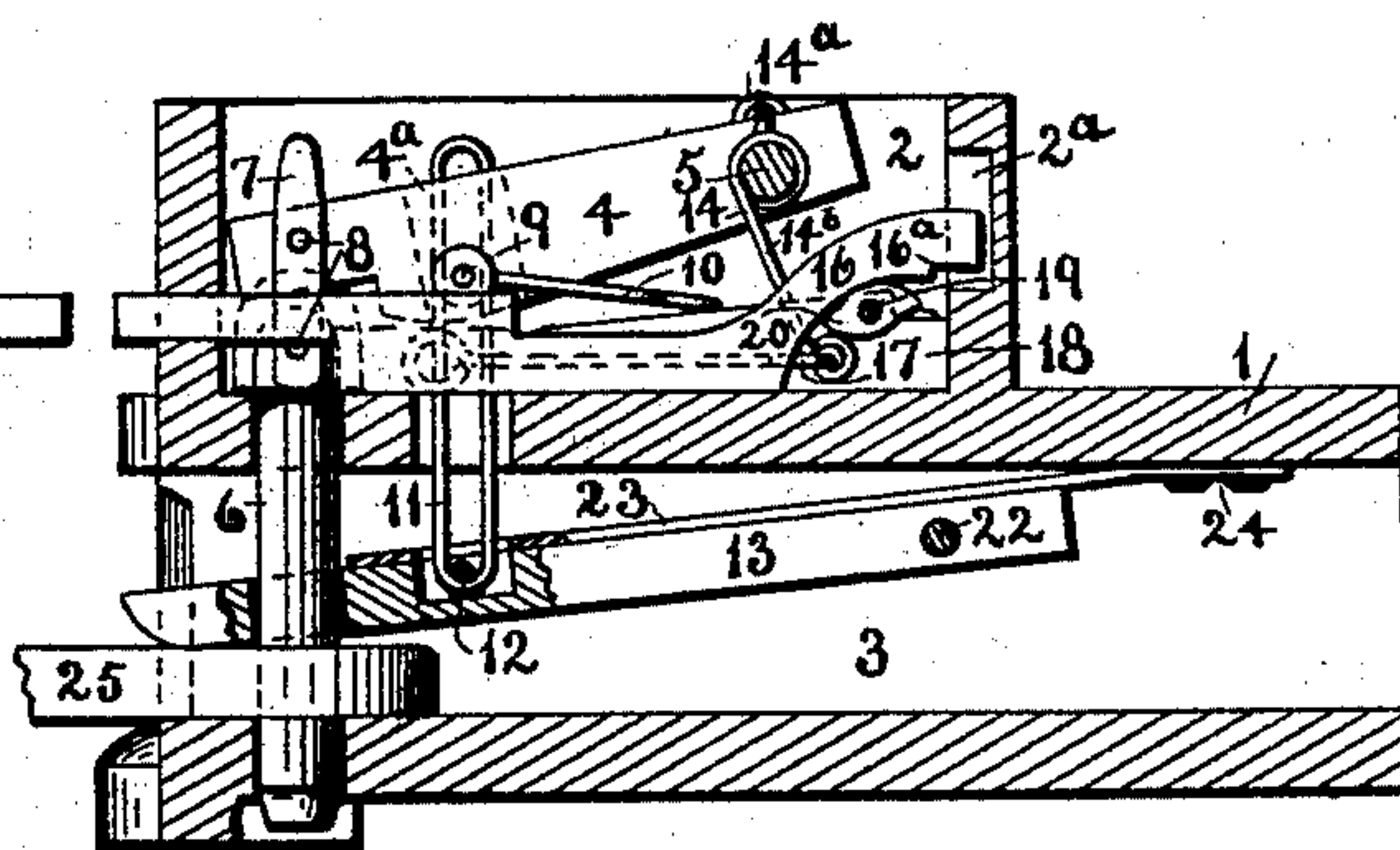


FIG. 5.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

MARTIN ZIMMERMAN, OF JEROMESVILLE, OHIO.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 509,993, dated December 5, 1893.

Application filed September 25, 1893. Serial No. 486,373. (No model.)

*To all whom it may concern:*

Be it known that I, MARTIN ZIMMERMAN, a citizen of the United States, residing at Jeromesville, in the county of Ashland and State of Ohio, have invented certain new and useful Improvements in Car-Couplings, of which the following is a full, clear, and exact description.

My invention consists of a bi-chambered draw-head provided with an automatically actuated pin and tongue for securing the link by means of which two cars are coupled together.

The object of my improvement is to provide a coupling for cars which is manipulated automatically without danger to the person operating the same.

That my invention may be seen and fully understood by others, reference will be had to the following specification and annexed drawings, forming a part thereof, in which—

Figure 1 is a side view of my device, the pin being elevated; Fig. 2, an end view showing the pin and tongue depressed, with the link in place; Fig. 3, a top view with the link in position; Fig. 4, a side view of the pin and tongue with their actuating mechanism, one side of the draw-head being removed to exhibit the same, and Fig. 5, an opposite side view of the pin and tongue, depressed, with the actuating mechanism and a portion of a link held in place by said pin and tongue.

Similar figures of reference designate like parts in the drawings and specification.

The draw-head 1 is provided with the two chambers 2 and 3, the former above the latter. In the upper part of the chamber 2 is the beam 4 rigidly attached, near its rear end, to the shaft 5, said shaft bearing in the sides of said chamber. The head of the pin 6 is pivotally connected to the forward end of the beam 4 by means of the link 7 and the pins 8, 8. Back of the link 7 in the beam 4 is the opening 4<sup>a</sup> and the pin 9 extends through said opening and projects on both sides of said beam to receive the upper terminals of the prop 10. The elongated link 11 connects the beam pin 9 with the pin 12, let into a recess in the tongue 13, or said link may be connected with said tongue in any other suitable manner. The stiff spring 14 passes over the top of the beam 4 where it is held in place by

the staple 14<sup>a</sup> and, after being wound around the shaft 5 several times each side of said beam, terminates in the straight portions 14<sup>b</sup>, 14<sup>b</sup>.

The chain 15, shown in Figs. 1 and 2, extends from the upper part of the link 7 to the top of the car or other convenient locality and is for the purpose of elevating the beam 4, as hereinafter fully described.

On each side of the interior chamber 2 are the slides 16, 16 resting on the floor of said chamber, of essentially the form shown in the drawings. The forward ends of the slides 16, 16 project through openings in the front of the draw-head 1 and the recesses 2<sup>a</sup>, 2<sup>a</sup> are provided in the rear walls of the chamber 2 to receive the rear ends of said slides when forced back. Each slide 16 has the notch 16<sup>a</sup> indented in the under side at the rear. The rods 17, 17 connect the slides 16, 16 with the spring terminals or straight portions 14<sup>b</sup>, 14<sup>b</sup>. Between the slides 16, 16 are the ways 18, 18 inclined from before, upward and backward. The base of the prop 10 rests upon the ways 18, 18.

In the rear of the chamber 2 beneath the ends of the slides 16, 16 is the shaft 19 having the cams 20, 20 upon opposite ends thereof and the rear upwardly extending terminals of said slides rest upon said cams.

Suitable openings are provided in the top and bottom of the chamber 3 and in the tongue 13 for the passage of the pin 6 when said pin is depressed, as shown in Fig. 5. The tongue 13 is pivoted at 22 to the sides of the chamber 3 and the free terminal of the spring 23 bears upon the top of said tongue retaining the same in its normal or depressed position. The rear end of the spring 23 is secured to the top of the chamber 3 at 24 and has an opening therein for the link 11 after said link has passed through a suitable hole in the floor of the chamber 2.

The operation of my device is as follows: The pin 6 being elevated in the draw-head 1, as shown in Figs. 1 and 4, another draw-head, having the link 25 in position, strikes the projecting ends of the slides 16, 16 and at the same time said link passes into the chamber 3 beneath the lower end of said pin. The notches 16<sup>a</sup>, 16<sup>a</sup> in the slides 16, 16 engage the cams 20, 20, as illustrated in Fig. 4, when said



slides are forward; hence when they are forced back said cams rotate and elevate the rear terminals of the slides until a half revolution of the cams takes place and the slides drop down into position again with their ends in the recesses 2<sup>a</sup> 2<sup>a</sup>. As the slides 16, 16 are elevated by the cams 20, 20 the base of the prop 10 is carried up on the inclined ways 18, 18 and the shaft 5 is caused to rotate through the medium of the spring 14 and the rods 17, 17; thus plunging the beam 4 downward with the pin 6. The sudden lowering of the beam 4 releases the tongue 13 which drops, under the force of the spring 23, with the pin 6 and serves as a guide for said pin as well as retaining the link 25 in a horizontal position, when the opposite end of said link is disconnected, so that it is always in a suitable position to enter the opposite draw-head. The several parts are now in the positions indicated in Figs. 2, 3 and 5. To release the link 25 draw up the beam 4 and the pin 6 by means of the chain 15 and the link 7. When the beam 4 is elevated the shaft 5 is rotated and the slides 16, 16 are forced forward by the spring 14 and the rods 17, 17 until the notches 16<sup>a</sup>, 16<sup>a</sup> again engage the cams 20, 20. The tongue 13 is elevated with the beam 4 by the link 11 and the base of the prop 10 slides down the ways 18, 18 until said prop stands nearly perpendicular beneath said beam which is supported thereby.

The spring 14 is used in place of rigid connections between the shaft 5 and the rods 16, 16 in order to prevent injury to the pin-and-tongue-actuating mechanism, by the shock resulting from the contact between two draw-heads.

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

1. In a car coupling, a bi-chambered, recessed, perforated draw-head, a shaft and the beam 4 rigidly attached to said shaft, a pin pivotally connected to the free terminal of said beam, the prop 10 pivoted to the beam, and the spring 14 having the straight portions 14<sup>b</sup>, 14<sup>b</sup>, in combination with the shaft 19, the cams 20, 20 on said shaft 19, the notched slides 16, 16, the rods connecting said slides with the spring terminals, and the ways 18, 18, in the manner substantially as and for the purpose set forth.

2. In a car coupling, a bi-chambered, perforated draw-head, a spring-actuated, perforated tongue pivoted within the lower chamber of said draw-head, and the link 11 connecting said tongue with the beam 4, in combination with said beam rigidly attached to a shaft, the prop 10, and the ways 18, 18, in the manner substantially as and for the purpose set forth.

3. In a car coupling, a bi-chambered, recessed, perforated draw-head, a shaft and the beam 4 rigidly attached to said shaft, a pin pivotally connected to the free terminal of said beam, the prop 10 pivoted to the beam, the spring 14 having the straight portions 14<sup>b</sup>, 14<sup>b</sup>, the shaft 19 and cams 20, 20 on said shaft, the notched slides 16, 16, the rods connecting said slides with the spring terminals, and the ways 18, 18, in combination with a spring-actuated, perforated tongue, the link 11 connecting said tongue with said beam and a coupling-link, in the manner substantially as and for the purpose set forth.

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

MARTIN ZIMMERMAN.

Witnesses:

D. E. WILSON,  
JOHN WILSON.