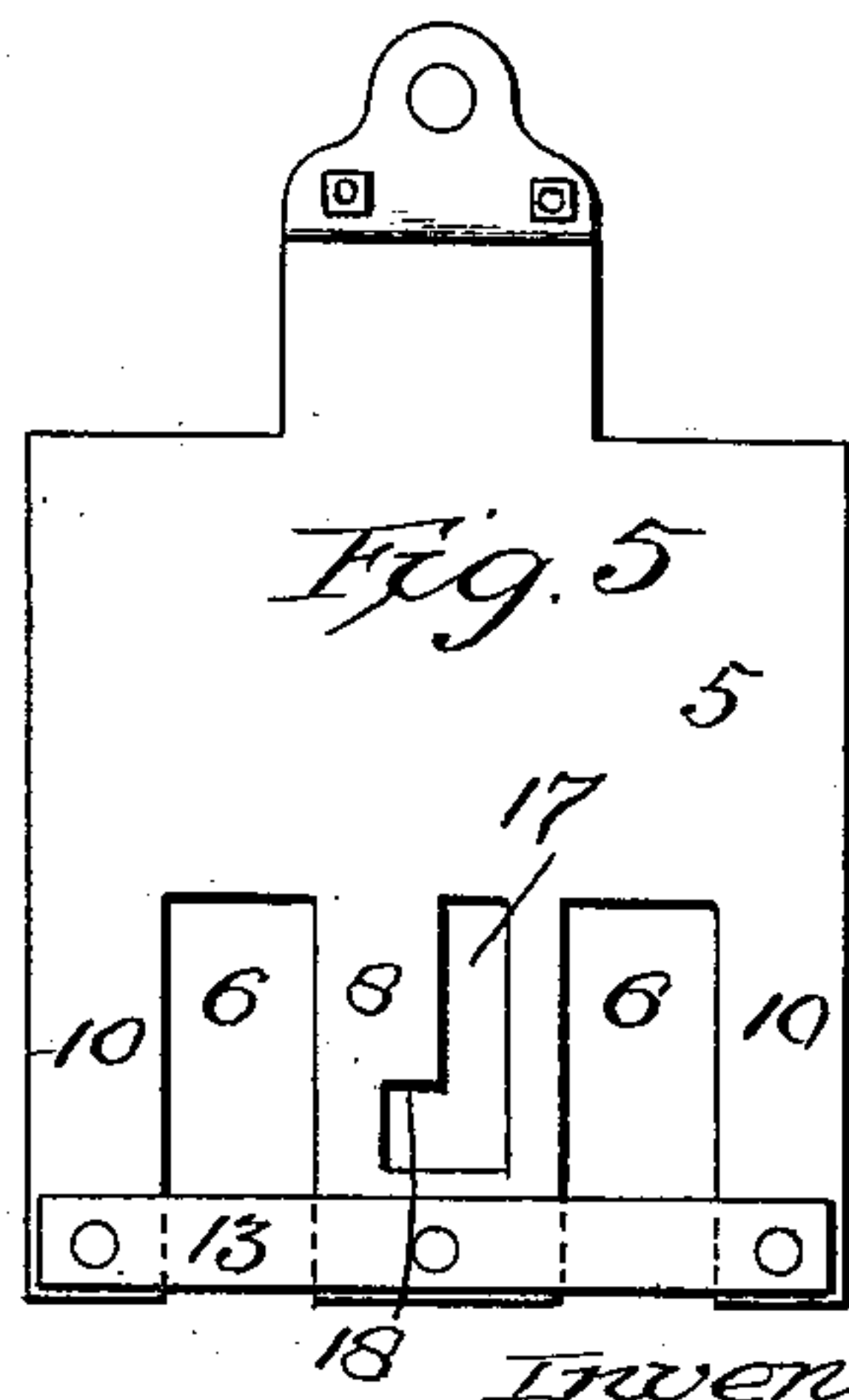
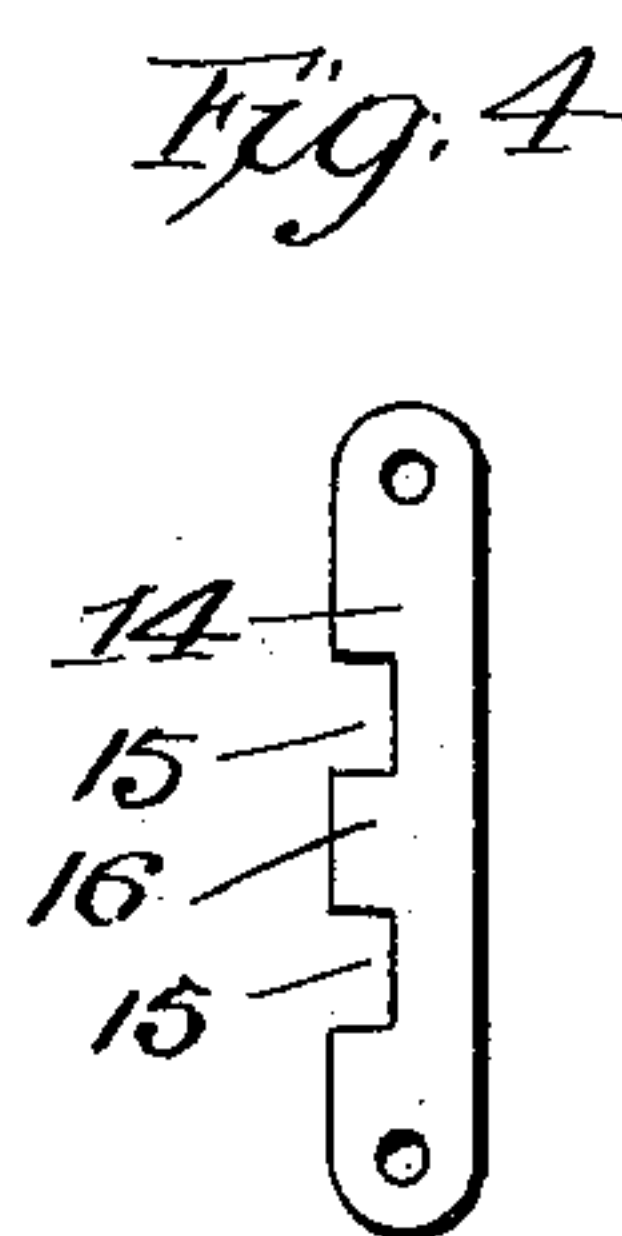
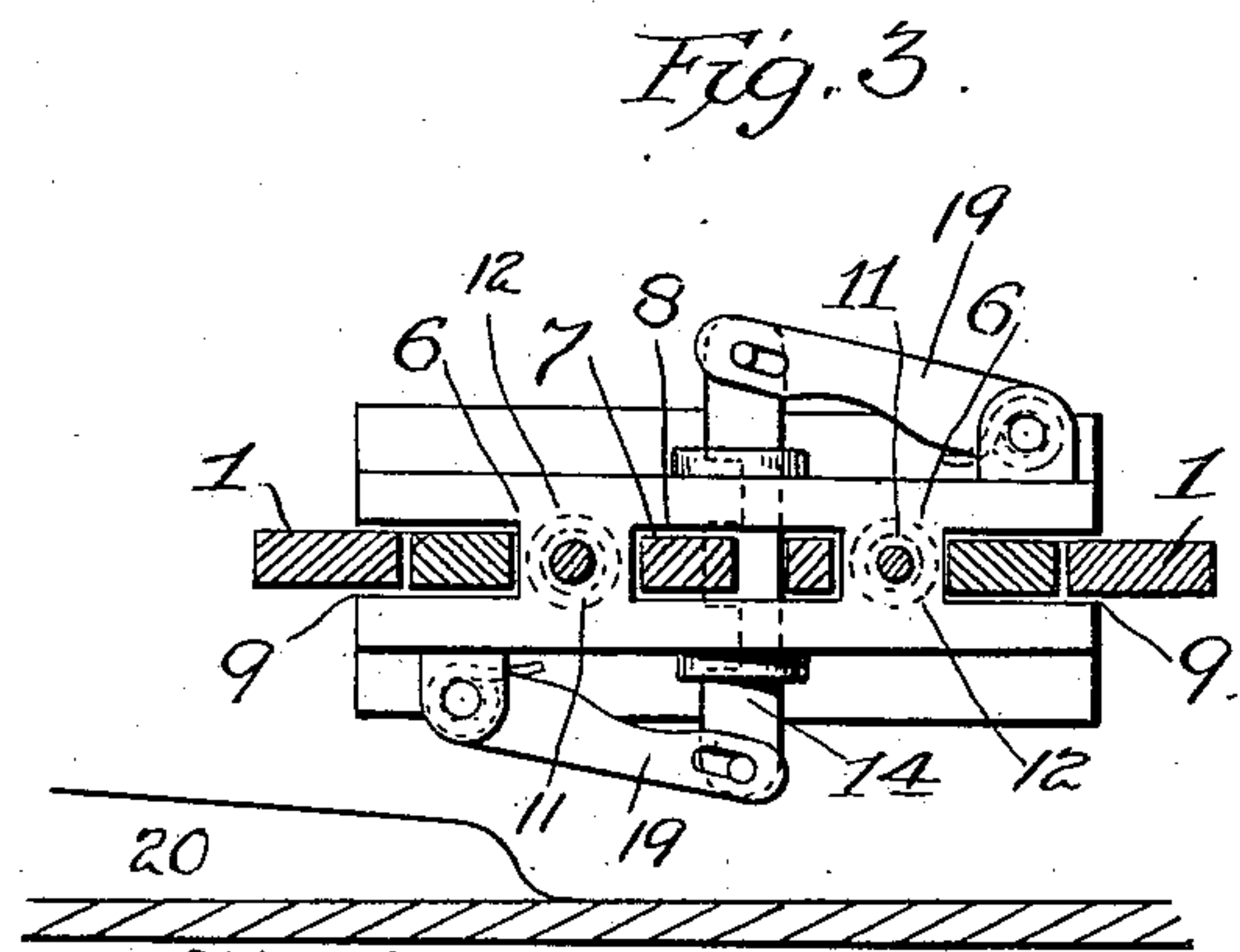
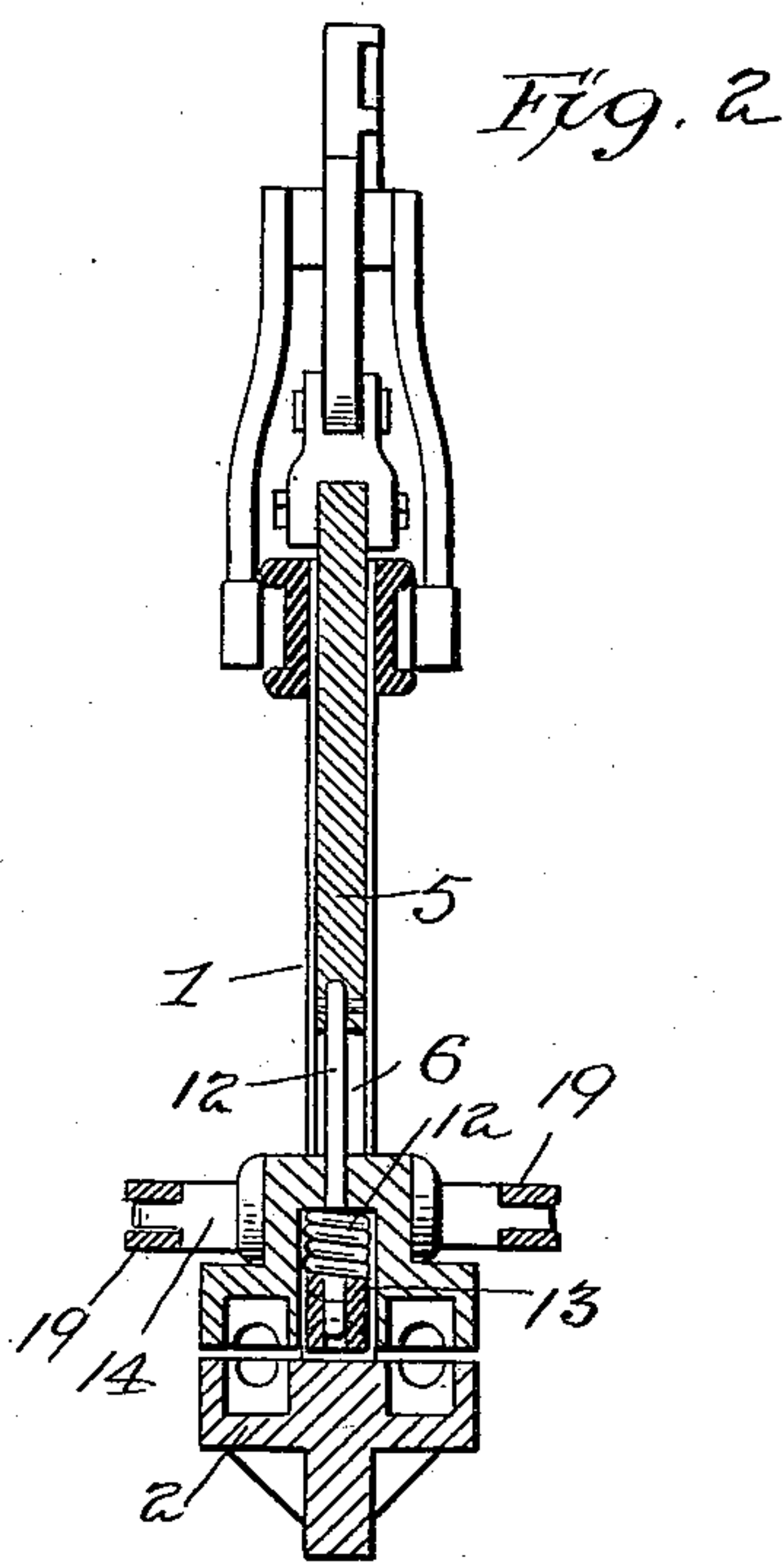
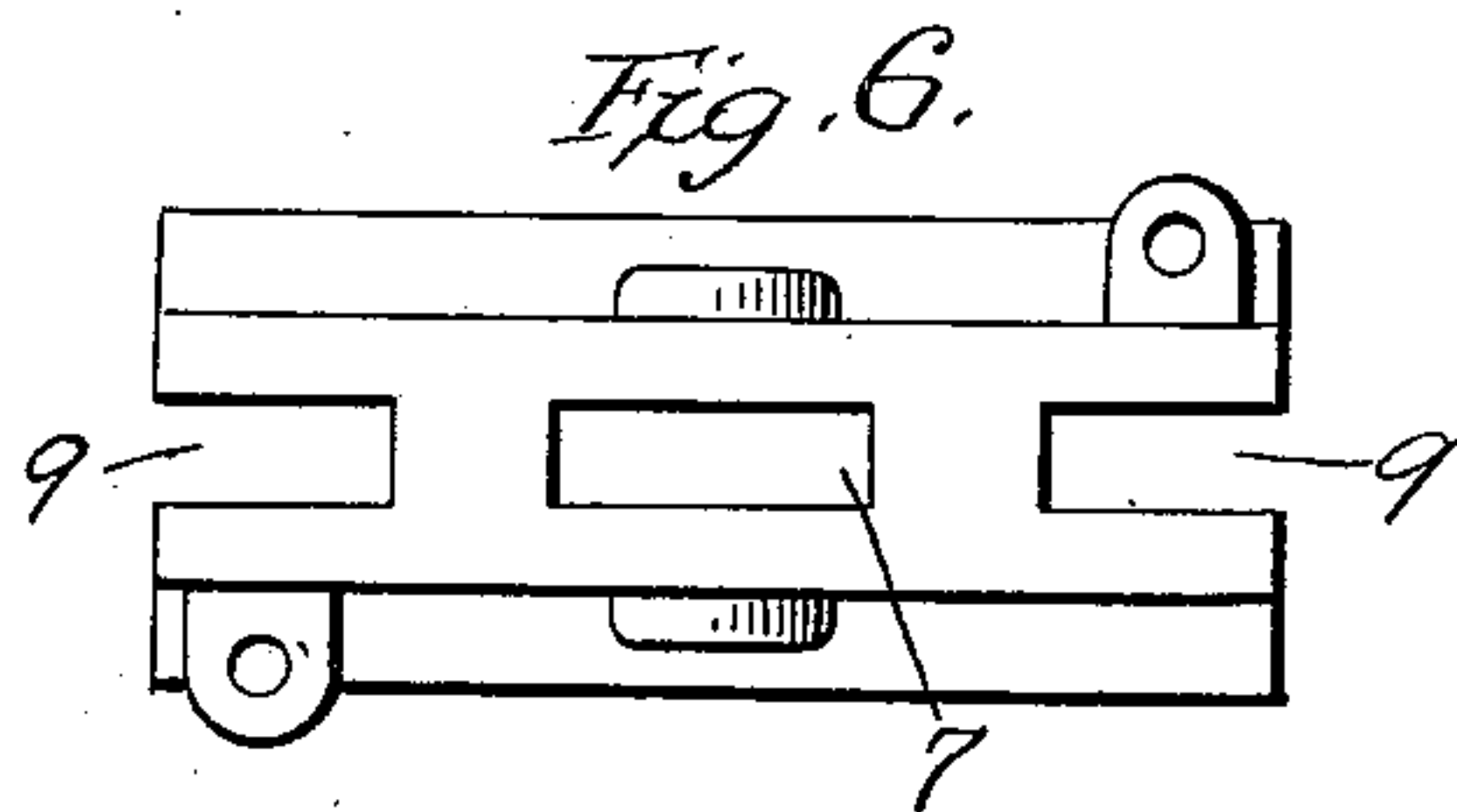
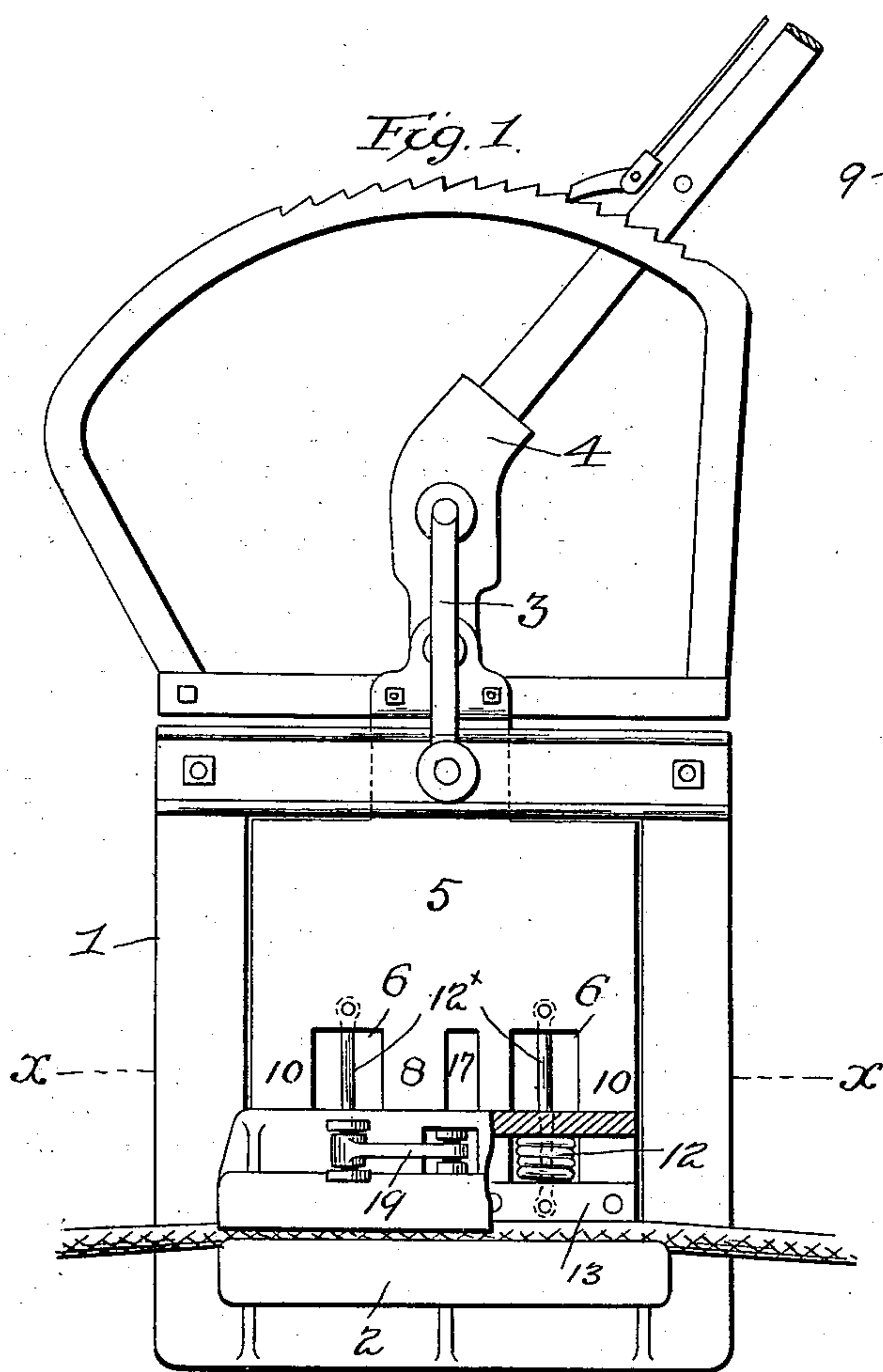


(No Model.)

W. C. CODDINGTON.  
GRIP FOR CABLE ROADS.

No. 506,979.

Patented Oct. 17, 1893.



Attest  
J. L. Mudd  
J. L. Mudd

William C. Coddington  
by *W. C. Coddington*  
ATTY.



# UNITED STATES PATENT OFFICE.

WILLIAM C. CODDINGTON, OF WASHINGTON, DISTRICT OF COLUMBIA, AS-  
SIGNOR OF ONE-HALF TO WILLIAM W. BURDETTE, OF SAME PLACE.

## GRIP FOR CABLE ROADS.

SPECIFICATION forming part of Letters Patent No. 506,979, dated October 17, 1893.

Application filed July 20, 1893. Serial No. 481,035. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM C. CODDINGTON, a citizen of the United States of America, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Grips for Cable Roads, of which the following is a specification.

It is the object of my invention to provide a cable grip capable of automatic operation to release the cable so that should the gripman be negligent and fail to open the grip at the proper point as at crossings, sidings or turn outs, no damage will result as the grip will be released automatically at the proper point.

In carrying out my invention I aim to provide an arrangement which may be combined with grips of ordinary form without materially changing the same or multiplying the parts in any way.

My invention consists broadly in making the upper jaw of the grip separate from the sliding plate or bar to which it is ordinarily connected and making it movable on said plate. It is normally held locked to said bar or plate by a locking bolt or trigger so that the gripman can in the ordinary way operate the jaw by raising and lowering the sliding plate by a lever. When however, the locking bolt or trigger is operated through a suitable cam or projection in the conduit the upper jaw will be released from rigid connection with the sliding plate and it will be raised by springs tending constantly to force it up and then the cable will be released.

In the drawings:—Figure 1 is a front view of a grip partly broken away. Fig. 2 is a vertical sectional view; Fig. 3, a horizontal section on line  $x-x$  of Fig. 1. Fig. 4 is a detail view of the locking bolt; Fig. 5, a detail view of the upper jaw slide. Fig. 6 is a plan view of the upper jaw.

The frame 1, carrying the lower jaw 2 and the link and lever 3, 4 for operating the upper jaw slide 5, is of ordinary form. The slide 5, is slotted at 6, 6, from its lower edge upwardly and the upper jaw is formed with a central opening 7 adapted to the central tongue 8, of the sliding plate 5 and end notches 9 adapted to the side tongues 10 of said plate, these notched ends of the upper jaw embrac-

ing also the side bars of the frame to be guided thereby. The upper jaw has solid parts 11 passing through the slots 6 and springs 12, in the slots press the jaw upwardly so as to release the cable when said springs are free to act. The springs encircle guide rods 12<sup>x</sup>, riveted at their upper ends to the sliding plate and at their lower ends they are riveted to straps 13, extending across the lower slotted sides of the sliding plate and affording bearings for the springs. The jaw is held normally down and in rigid connection with the lower end of the sliding plate to move up and down therewith when operated by the gripman by means of a locking bolt 14 having notches 15 and a central locking tongue 16. The locking bolt passes transversely through and is carried by the sliding upper jaw and it passes through a right angular slot 17 in the sliding plate. When the locking bolt is in central or normal position and the sliding jaw pressed down the central tongue 16 catches under the shoulder 18 of the right angular slot and the upper jaw is thus held down. If however the sliding bolt is shifted laterally to bring either of the notches 15 into alignment with the solid part or shoulder 18 of the tongue 8, the jaw will be released and fly up under the action of the springs 12, the bolt then moving in the elongated vertical part of the right angular slot. The sliding bolt is connected at its ends with the slotted ends of the levers 19 pivoted to the sides of the upper jaw to move up and down therewith. These levers extend in inclined position from the side of the upper jaw and are thus adapted to be struck by cam projections or inclines 20 placed inside the conduit at the points at which the grip is to be opened and when either is struck the locking bolt will be shifted laterally and the jaw released. The levers are held in normal position by coil springs about their pivot points. The levers as shown are set in reversed position so that one will operate on the down trip and the other on the up trip.

Suitable hatches may be provided at the proper points so that access may be had to the grip in order that it may be reset after having been automatically operated.



I claim—

1. In combination, the frame carrying the rigid lower jaw the sliding plate, the means for operating the same, and the upper jaw 5 movably carried by the sliding plate under tension tending to lift it, and the automatic locking and releasing device arranged to be operated by projections within the conduit, substantially as described.
- 10 2. In combination, the frame carrying the rigid lower jaw, the sliding plate having slots at its lower end, the springs in said slots, the upper jaw having solid portions in said slots to be pressed up by said springs, and the au- 15 tomatic locking and releasing device, substantially as described.
3. In combination, the frame, the rigid jaw connected thereto, the sliding plate, the movable jaw carried thereby and arranged to move 20 in relation thereto, said plate having a right angular slot, the transverse locking bolt having a tongue 16 and notch 15 and the lever

pivoted to the side of the upper jaw and connected with the locking bolt, substantially as described. 25

4. In combination, the frame having the fixed jaw, the sliding plate slotted at its lower end and having the cross strap 13, the rods and springs in the said slots, the upper sliding jaw passing through the slots and having 30 a central opening to receive the central tongue 8, the springs in the slots for forcing the sliding jaw upward, the notched locking bolt passing through a right angular slot in the sliding plate and the levers pivoted to the sliding 35 jaw for operating said locking bolt, substantially as described.

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

WILLIAM C. CODDINGTON.

Witnesses:

MYER COHEN,

F. L. MIDDLETON.