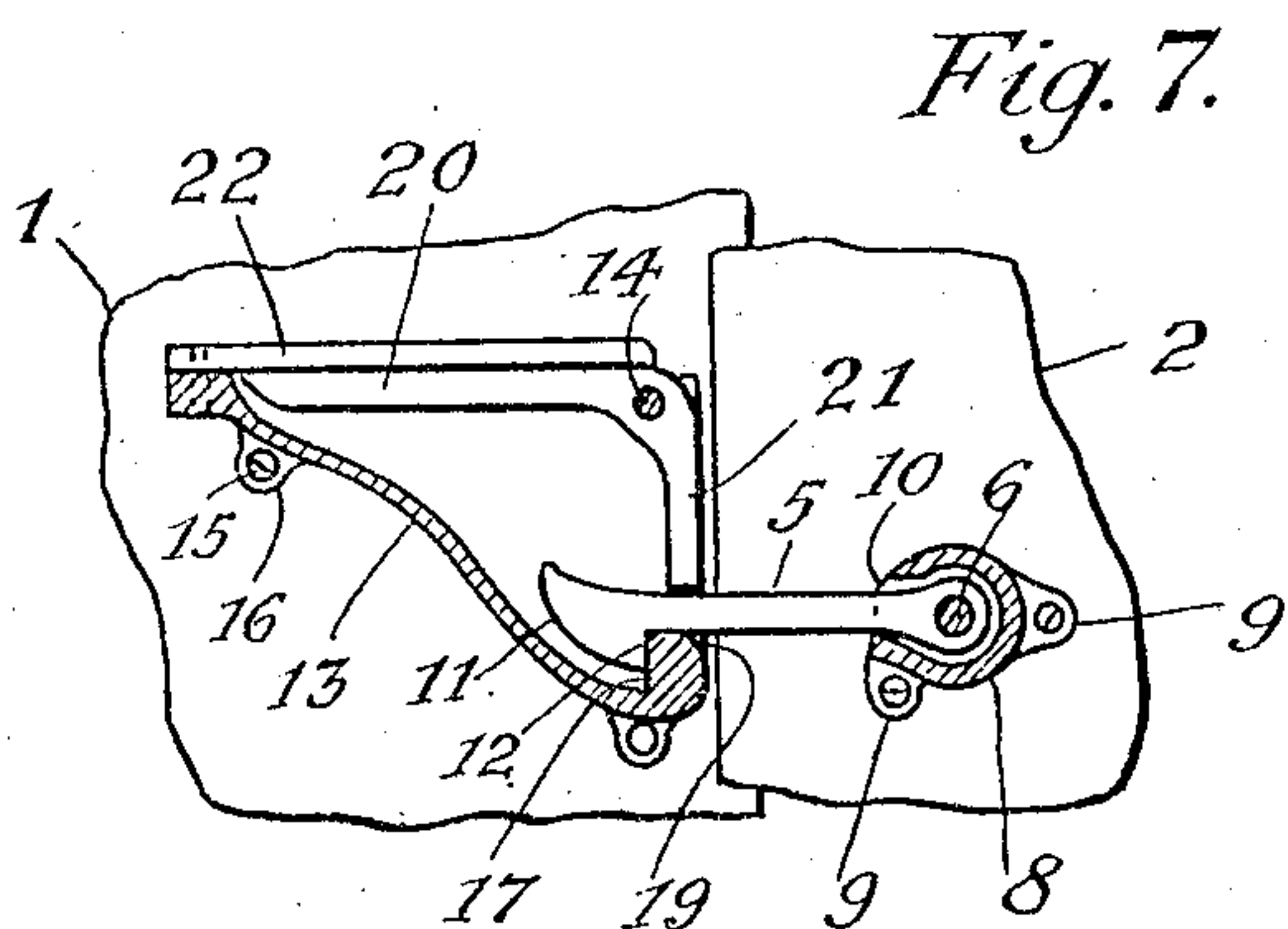
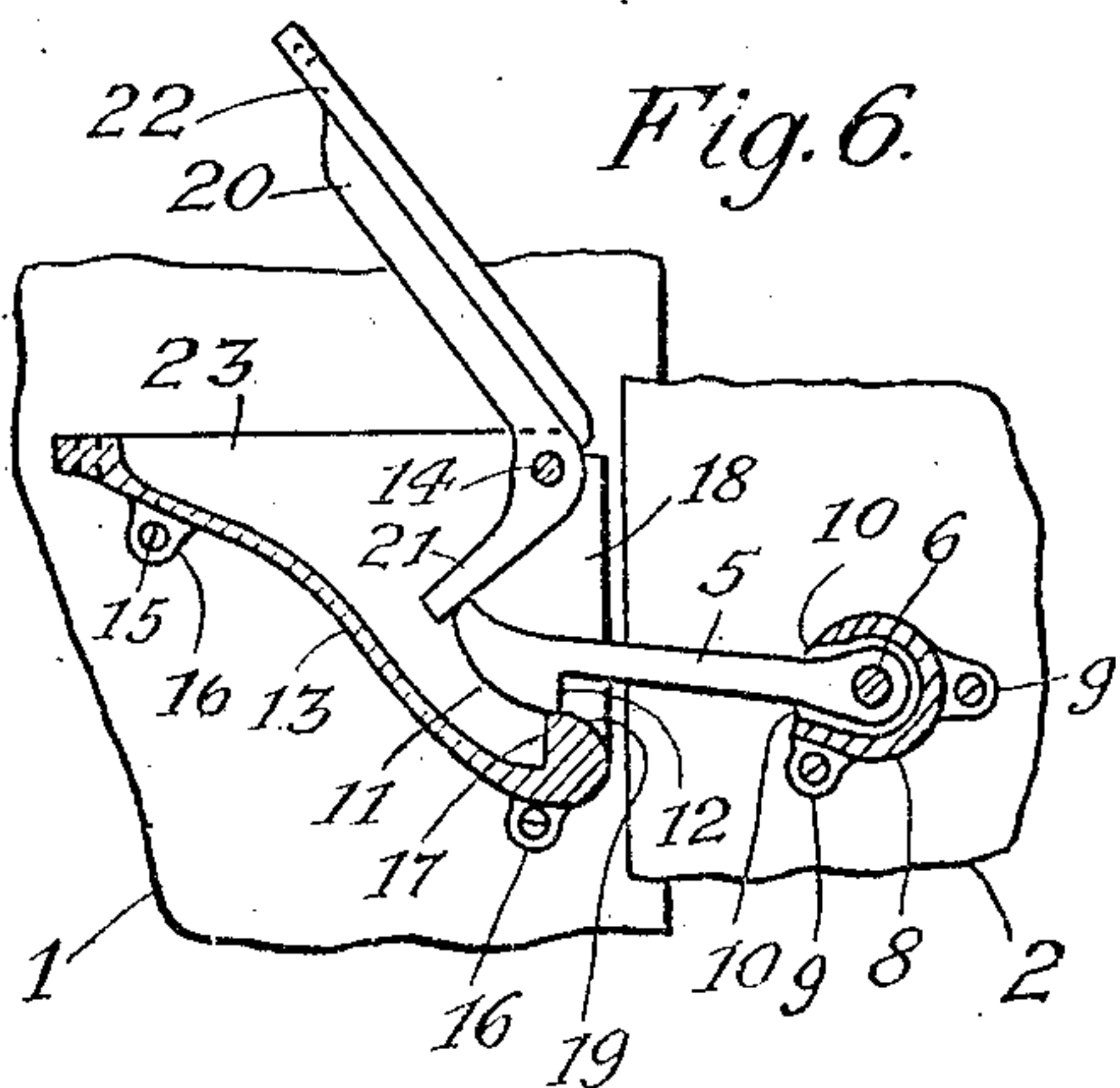
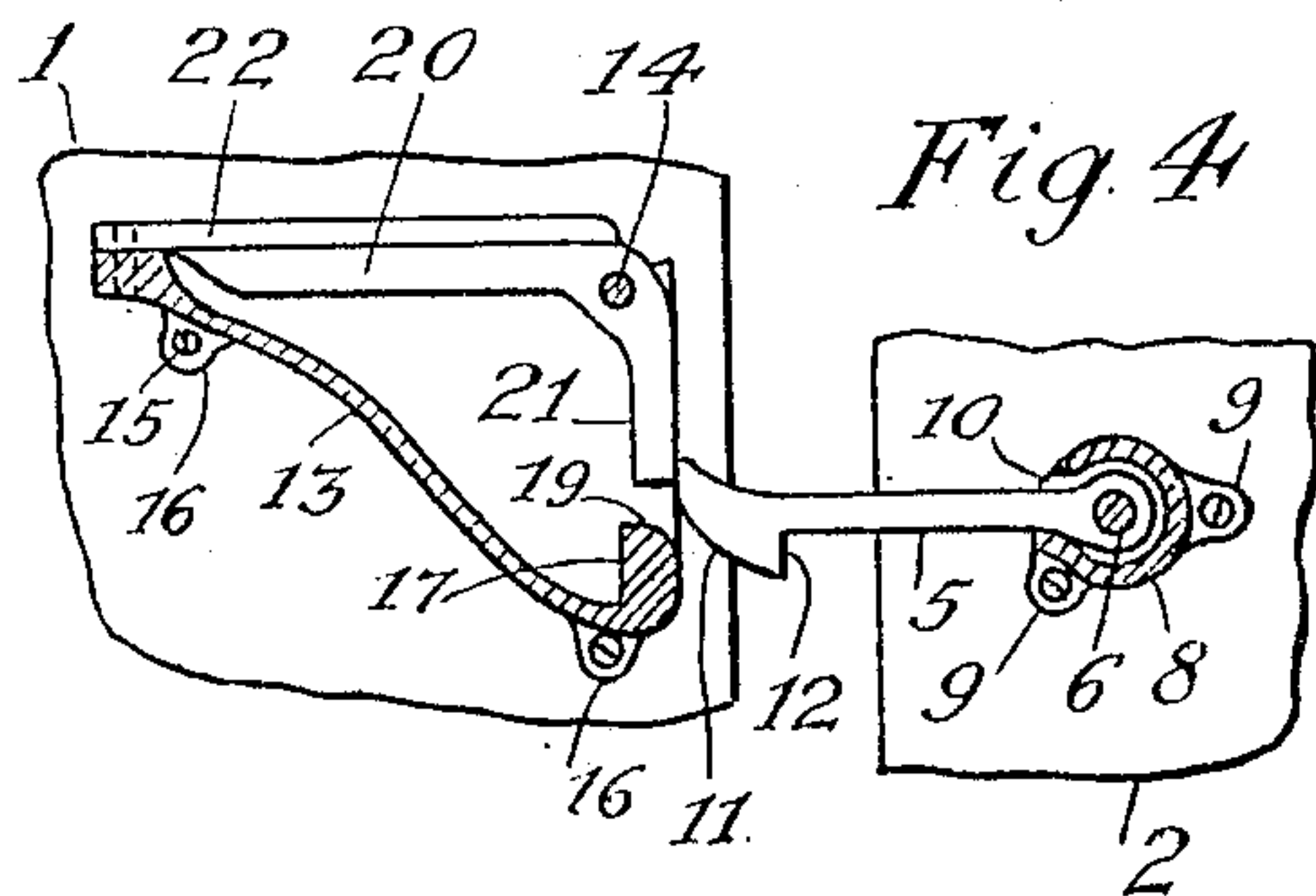
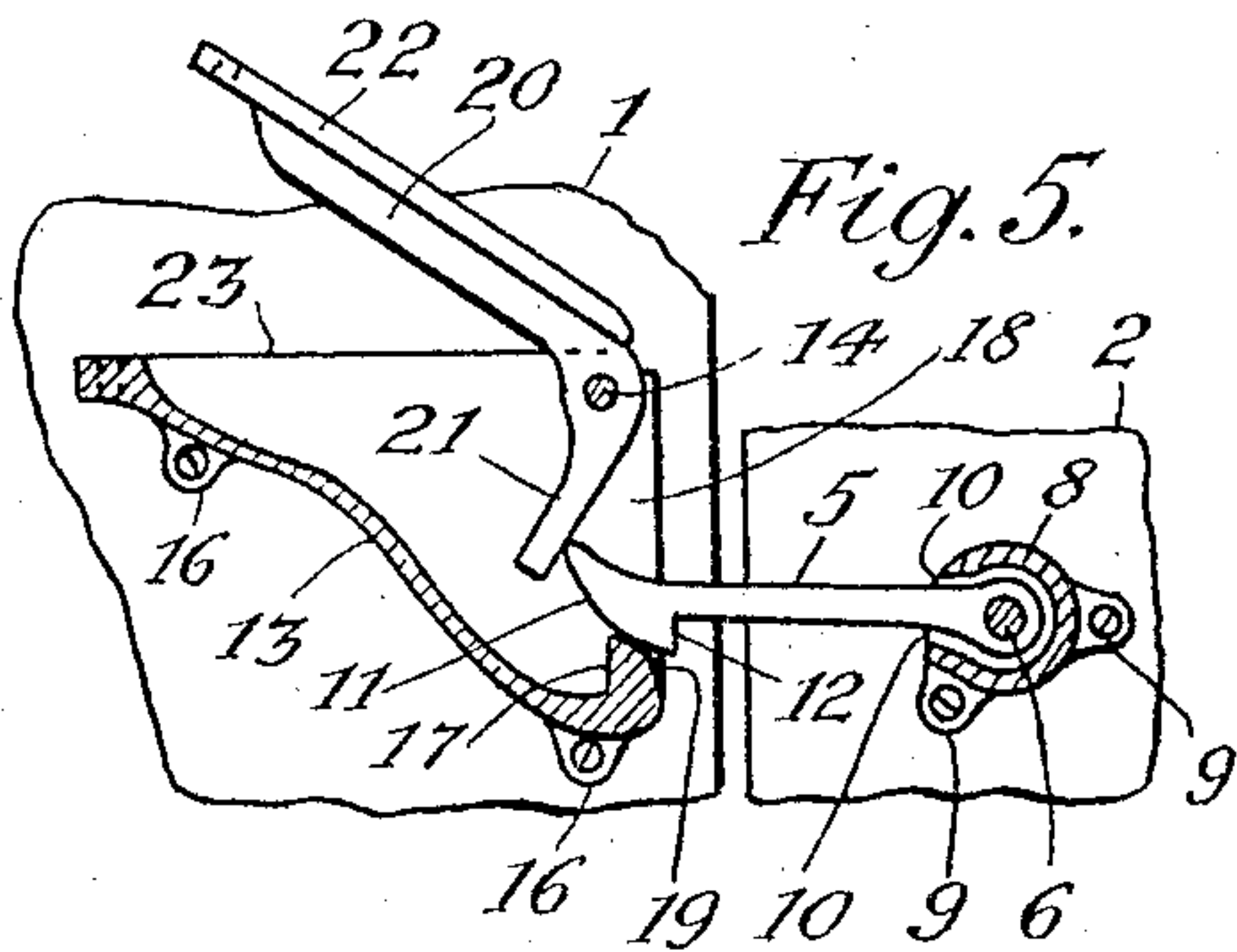
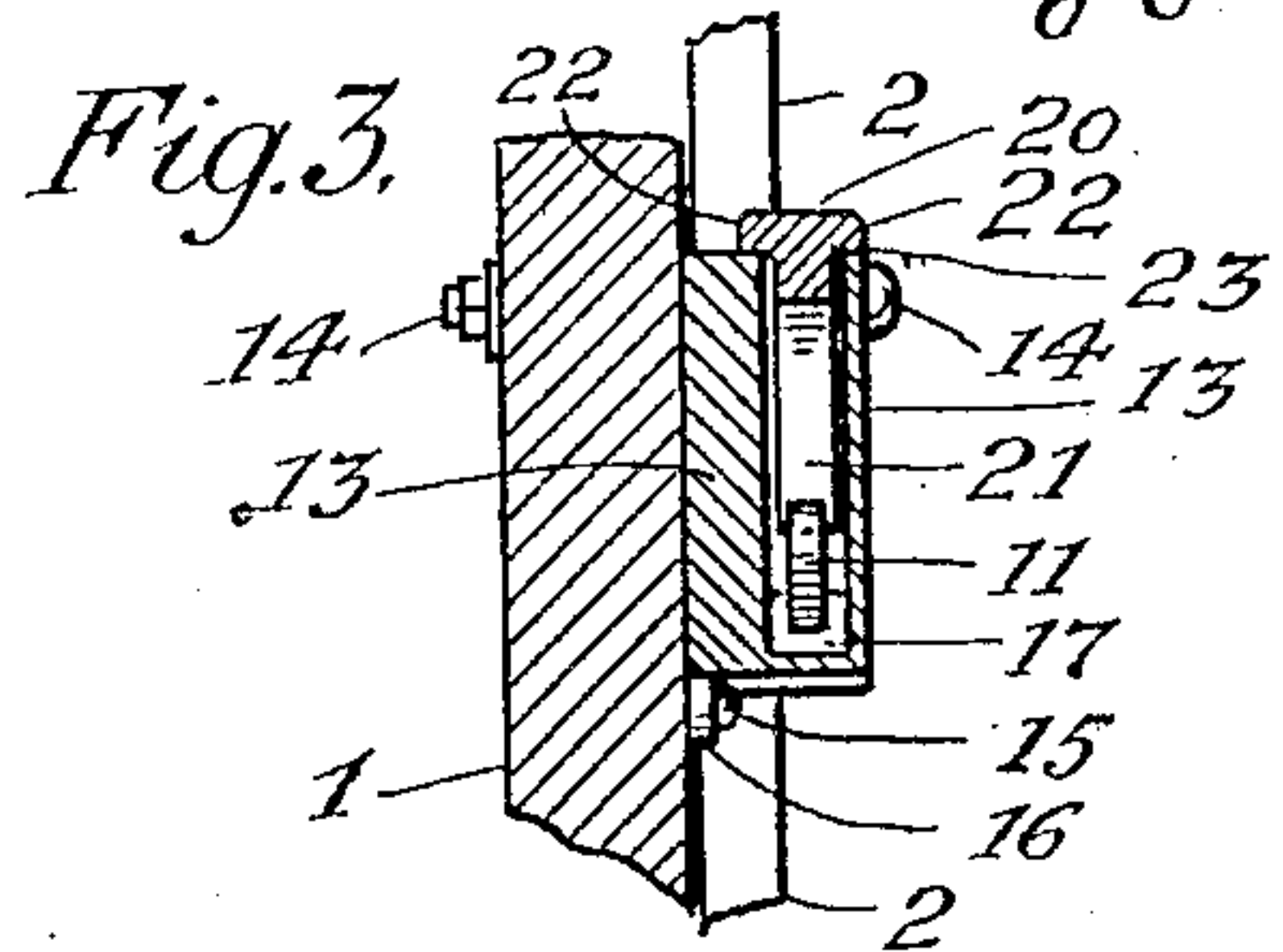
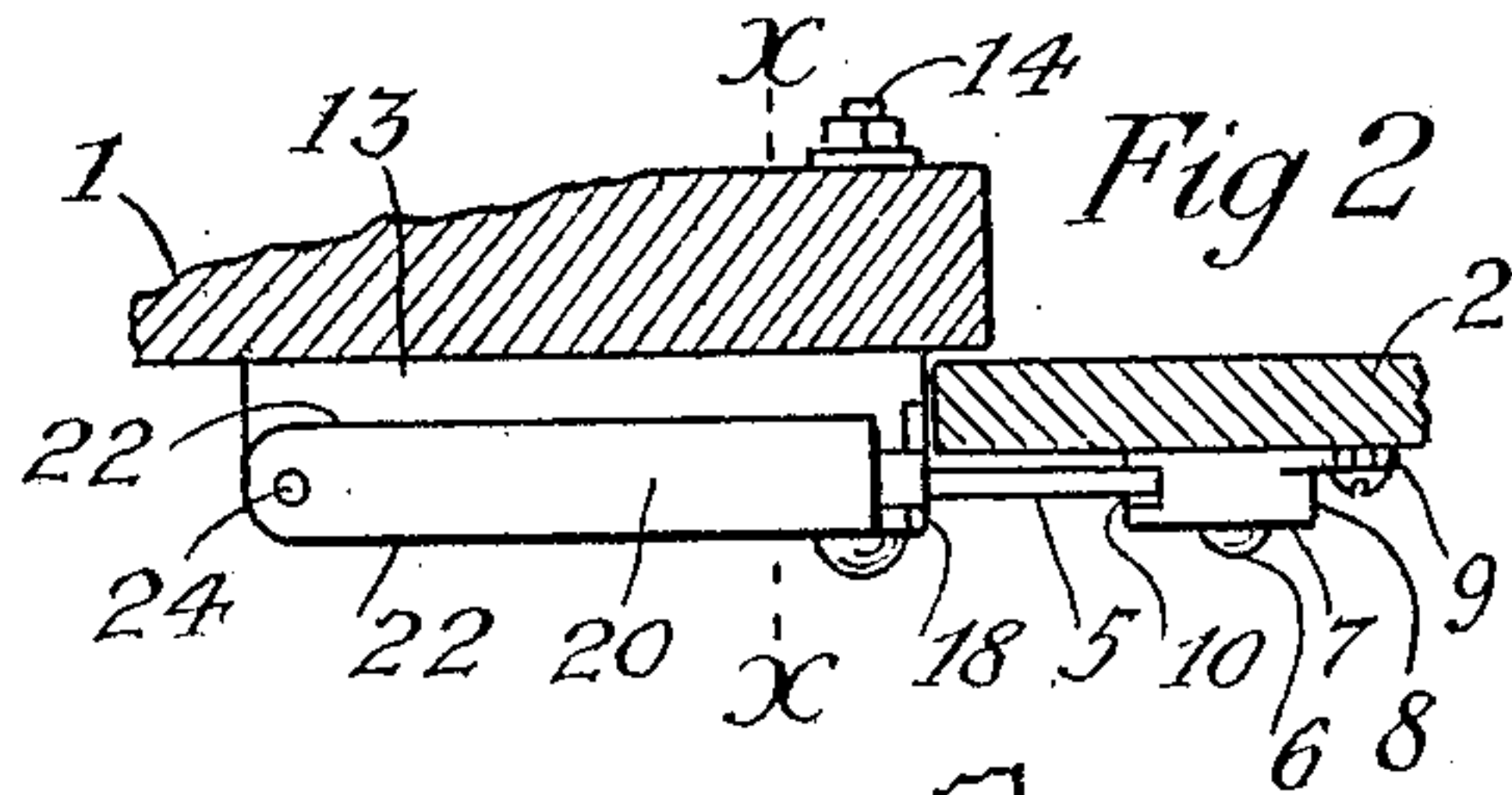
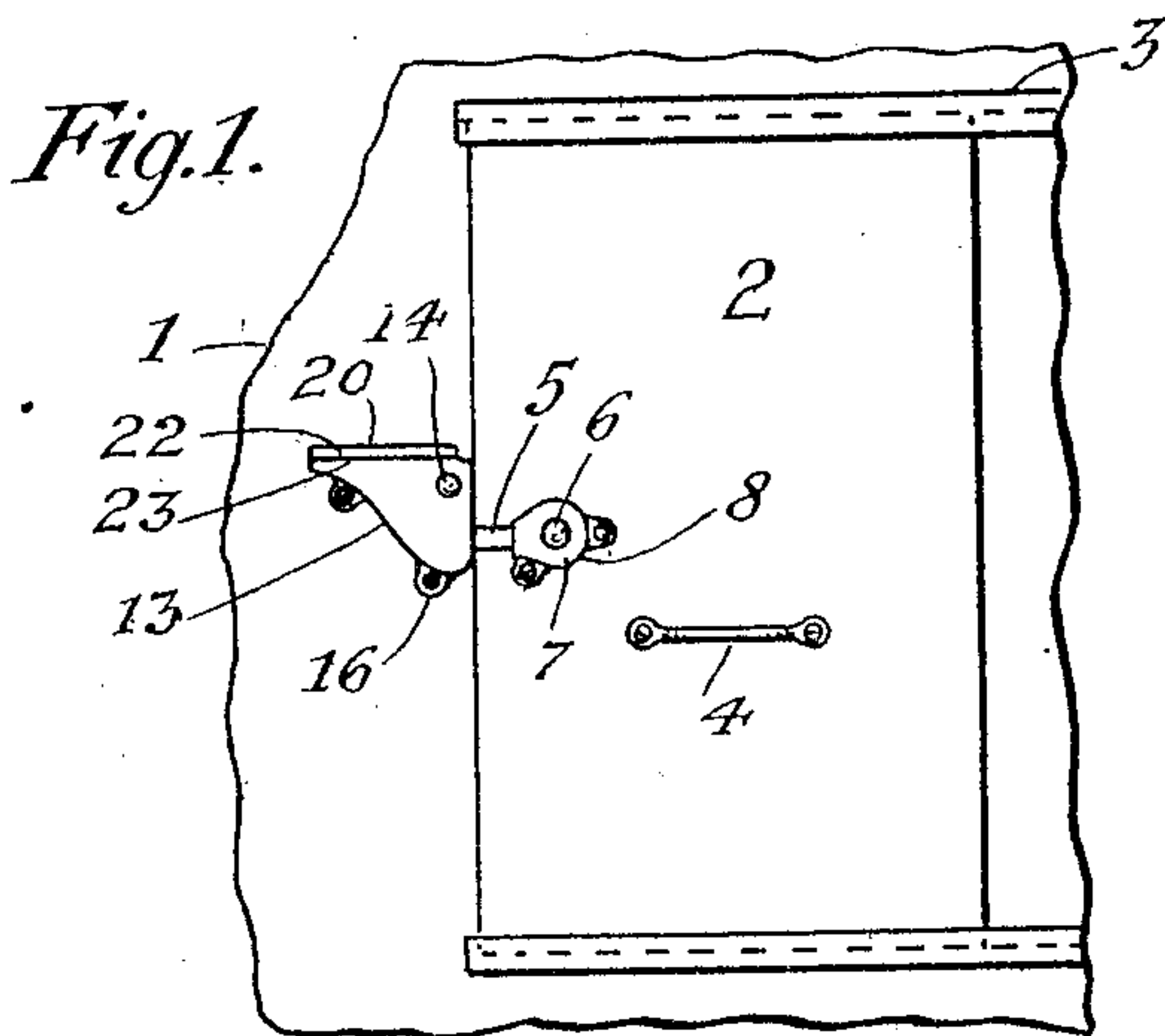


No. 882,296.

PATENTED MAR. 17, 1908.

W. N. CARROLL.  
SLIDING DOOR FASTENER.  
APPLICATION FILED MAY 21, 1907.



Witnesses:  
*Theo. Lagaard.*  
*H. A. Bowman.*

Inventor:  
*William N. Carroll*  
By *P. H. Funkel*  
*his Attorney.*



# UNITED STATES PATENT OFFICE.

WILLIAM N. CARROLL, OF MINNEAPOLIS MINNESOTA, ASSIGNOR OF ONE-FOURTH TO HENRY F. SCHLINK AND ONE-FOURTH TO DANIEL G. TYLER, OF MINNEAPOLIS, MINNESOTA.

## SLIDING-DOOR FASTENER.

No. 882,296.

Specification of Letters Patent.

Patented March 17, 1908.

Application filed May 21, 1907. Serial No. 374,819.

*To all whom it may concern:*

Be it known that I, WILLIAM N. CARROLL, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Sliding-Door Fasteners, of which the following is a specification.

My invention relates to locks for doors, and especially to locks for the sliding doors of freight cars, barns, etc.

The object of the invention is to provide a combined lift-latch locking device adapted to operate automatically upon the closing of the door.

My improvements are illustrated in the accompanying drawings in which—

Figure 1 is an elevation of a sliding door and a portion of the side of a car, or other structure, equipped with the improved locking device; Fig. 2 shows a plan view of the locking device and portions of the door and car in horizontal section; Fig. 3 is a vertical section on the line  $x-x$  of Fig. 2; and Figs. 4 to 7 show vertical longitudinal sections of the locking device and illustrate the different positions of the devices as the door is made to slide from open to closed position.

In the drawings 1 designates a portion of the side of a car, or other structure; 2 a door; 3 the horizontal ways in which the door is arranged to slide; and 4 a hand-hold for operating the door.

A gravitating latch 5 is connected by a pivot 6 to the heads 7 of a drum-shaped casting 8 that is provided with ears 9 by means of which it is attached to the door. A slot 10 in the side of the drum allows the latch to swing vertically on its pivot to the desired extent. The outer end of the latch has its under surface 11 rounded or curved and back of such surface it is provided with a notch or shoulder 12.

To the car-side 1 adjacent to the door opening is secured a relatively flat hollow casing 13 of somewhat triangular shape within which the hooked end of the latch engages when the door is closed. The casing is attached by means of a bolt 14 through the upper corner next to the door, and screws 15 through lips 16 at the other two corners. A hook-shaped catch 17 is provided on the lower angle of the case for engaging the notch 12 of the latch, and a vertical slot 18 in the end wall of the casing admits the latch. The

bottom wall of the slot is inclined or rounded, as shown at 19, to cause the latch to slide freely into engaging position.

A locking-dog of angular form, composed of the normally horizontal body portion 20 and the depending arm 21, is fulcrumed at its angle on the shank of the bolt 14. The body 20 may have side flanges 22 that seat on the upper edges 23 of the casing sides, so that the body and its flanges serve to cover the longitudinal opening in the top of the case.

The arm 21 is free to swing from its normal position, as shown in Figs. 4 and 7, in the end slot 18 into the open interior of the casing, as shown in Figs. 5 and 6. When in normal position, and the latch-hook is in engagement with the catch 17, the arm 21 prevents the latch from rising. To enable the device to be securely locked, if desired, coincident holes 24 are provided in the end portion of the dog body 20 and in the underlying end wall of the case, adapted to receive the hasp of a padlock, car seal, or other device.

In operation, while the door is being moved to close the door-way the point of the latch first contacts with the dog-arm 21, as indicated in Fig. 4; then further movement swings the arm inward, as indicated in Figs. 5 and 6, and when the latch reaches the limit of its inward movement its point will have passed beyond the end of the dog-arm, whereupon the body 20 will gravitate to its seat on the top of the case and the dog-arm will be swung to position on top of the latch over the catch 17, as shown in Fig. 7. The door will thus be securely locked until the dog-body 20 is raised to permit the latch to be lifted free from its catch.

A locking device of this character is especially desirable for use on freight cars to prevent the doors from being thrown open by the jarring and bumping of the cars while in use, for the holding-dog 21 cannot be swung free from the latch by such movements of the cars.

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

1. A lock for a sliding door, comprising a case having slots in its top and one end, and providing a catch at the bottom of the latter opening, a gravitating locking-dog consisting of a flanged horizontal body portion adapted to cover the top slot and a depend-

ing arm pivoted to the case and adapted to close said end slot, and a horizontal pivoted latch having a hook and arranged to thrust said arm inward and permit it to gravitate to locking position upon engagement of the hook with said catch, substantially as set forth.

2. A lock for a sliding door, comprising a case having slots in its top and one end, and providing a catch at the bottom of the latter opening, a gravitating locking-dog consisting of a flanged horizontal body portion adapted to cover the top slot and a depending arm pivoted to the case and adapted to close said end slot, the opposite end portions of the

case and locking-dog body having openings to receive a padlock or car-seal, and a horizontal pivoted latch having a hook and arranged to thrust said arm inward and permit it to gravitate to locking position upon engagement of the hook with said catch, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses this 11th day of May, 1907.

WILLIAM N. CARROLL.

Witnesses:

P. H. GUNCKEL,

H. A. BOWMAN.