

No. 782,091.

PATENTED FEB. 7, 1905.

H. M. WHITCOMB & S. J. MORGAN.

LATCH.

APPLICATION FILED APR. 2, 1904.

2 SHEETS—SHEET 1.

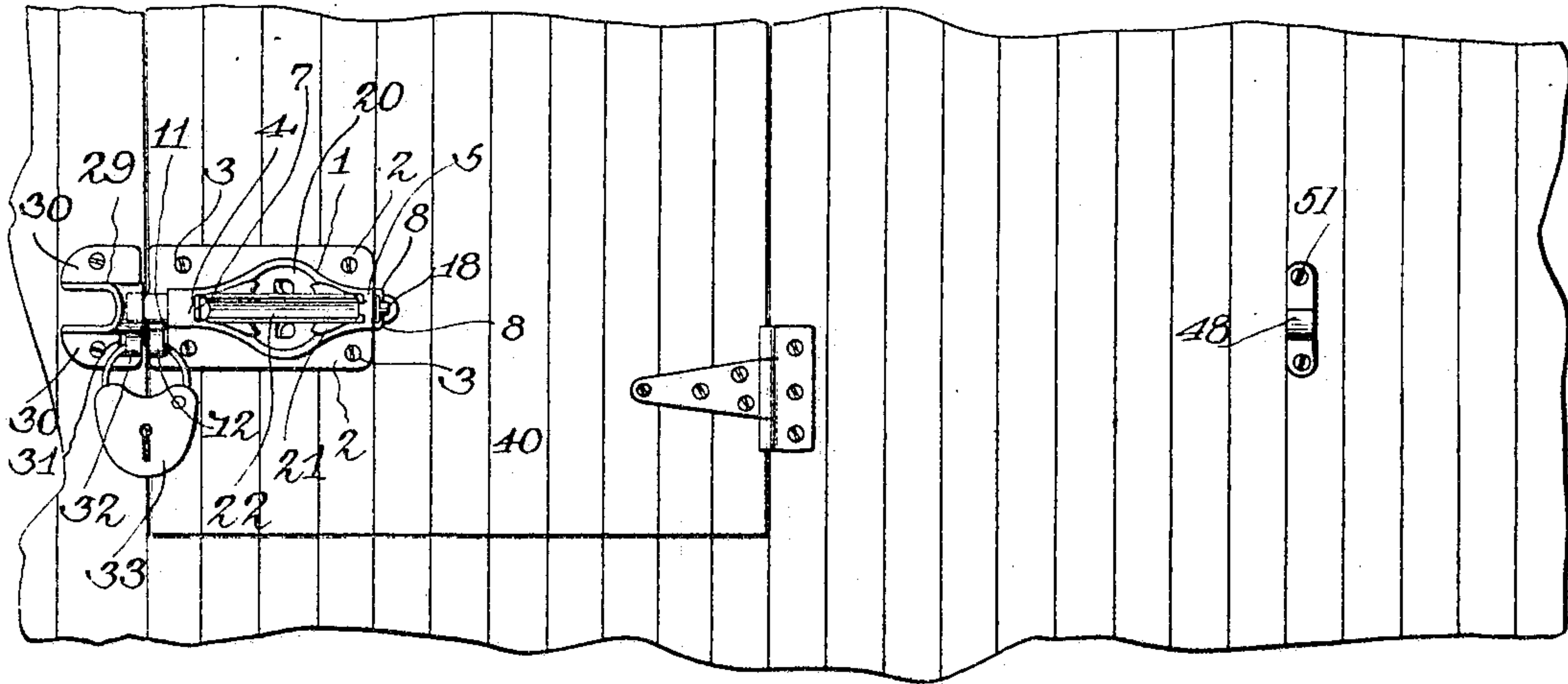


Fig. 1.

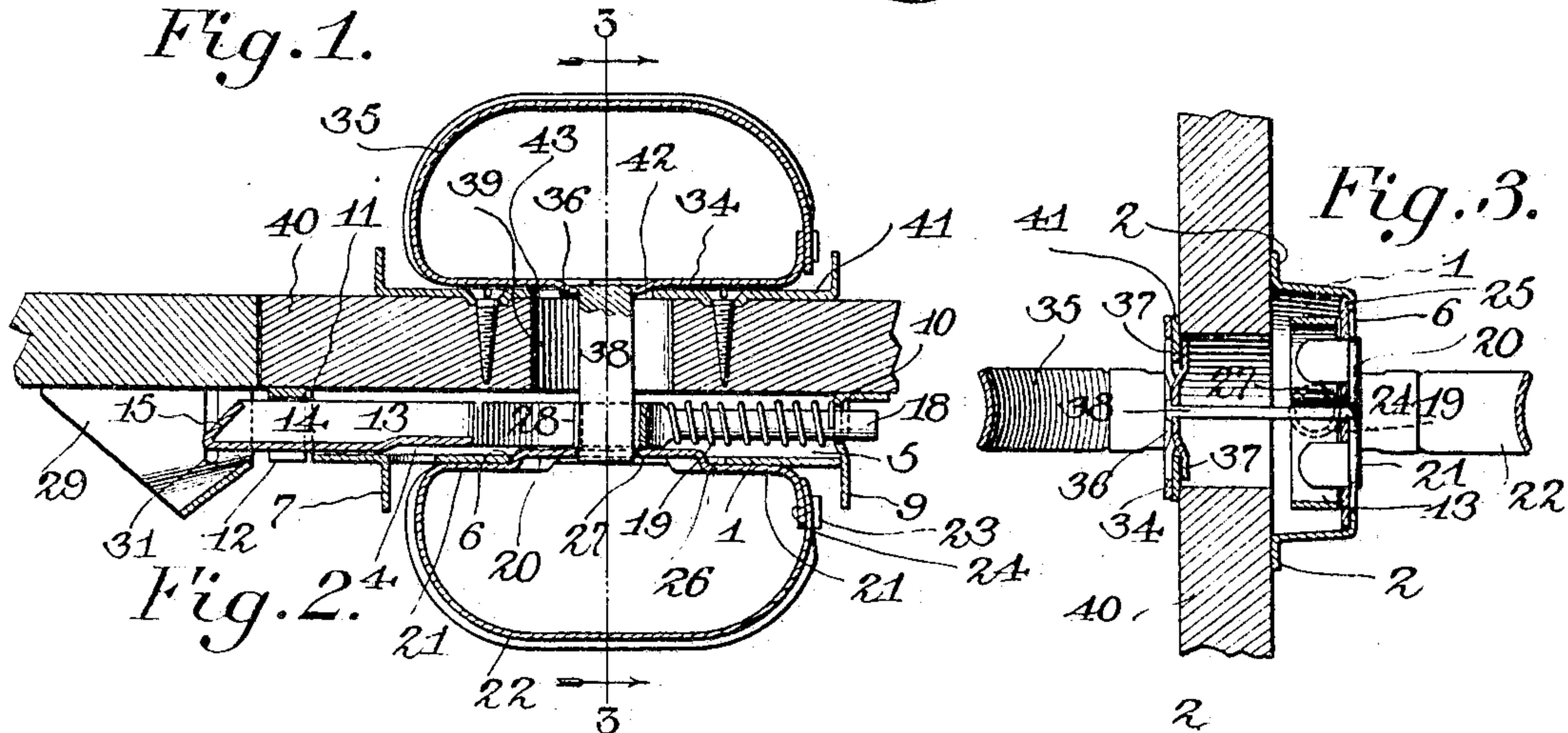


Fig. 2.

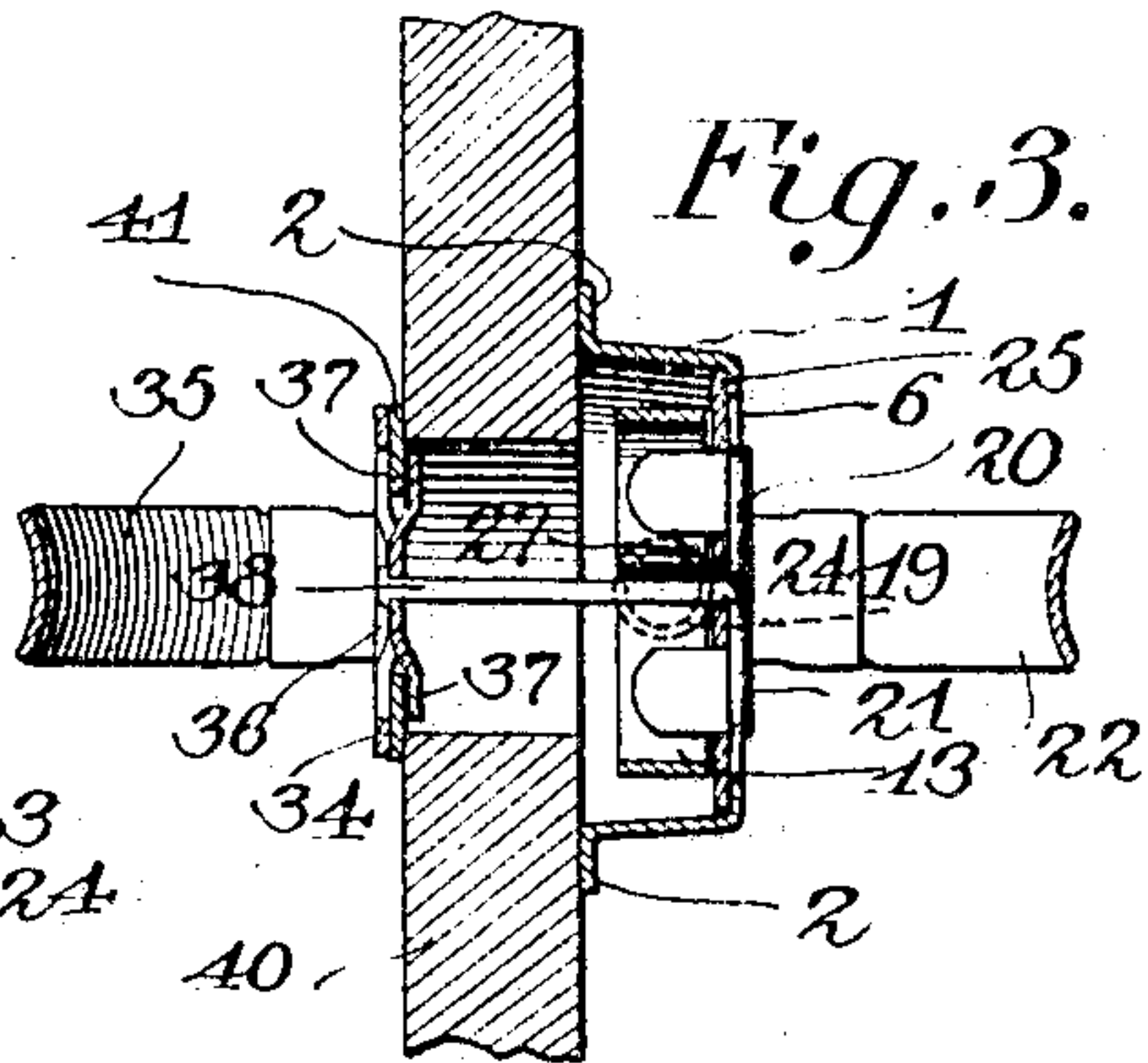


Fig. 3.

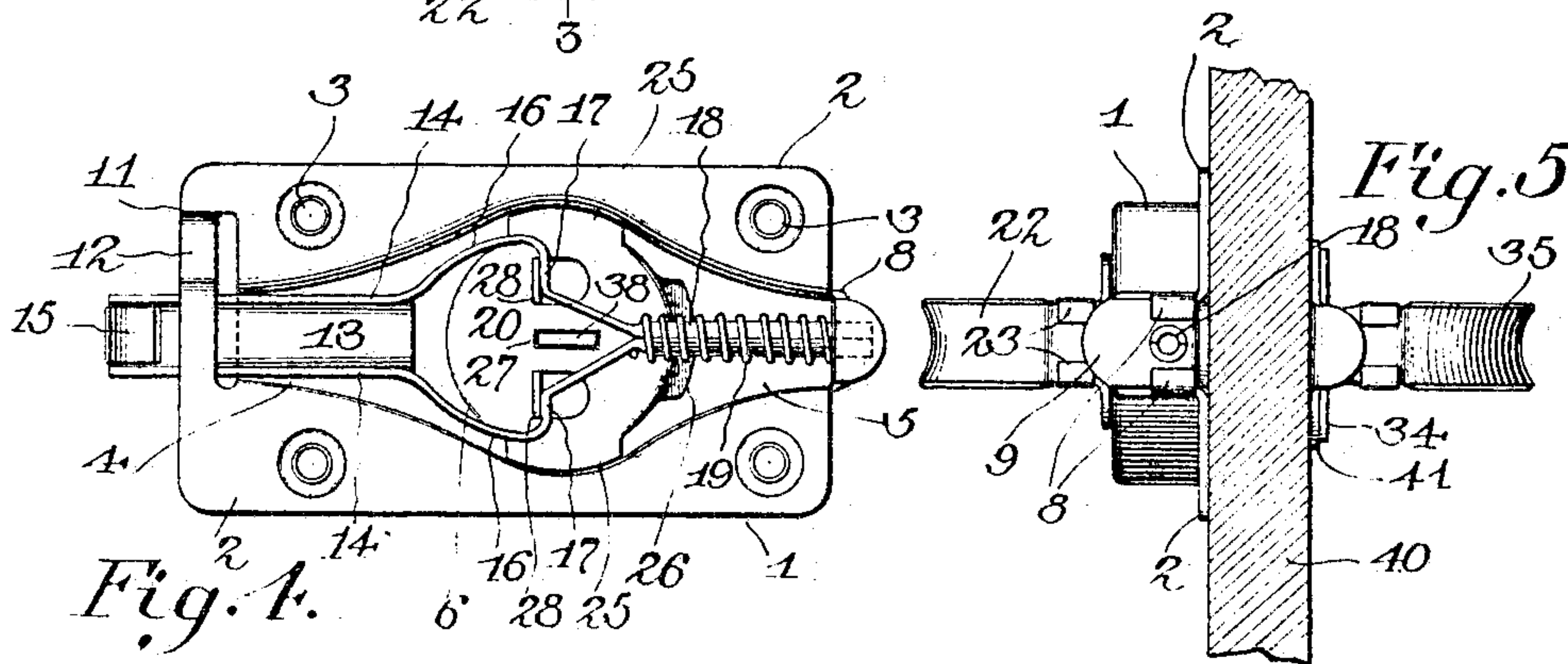


Fig. 4.

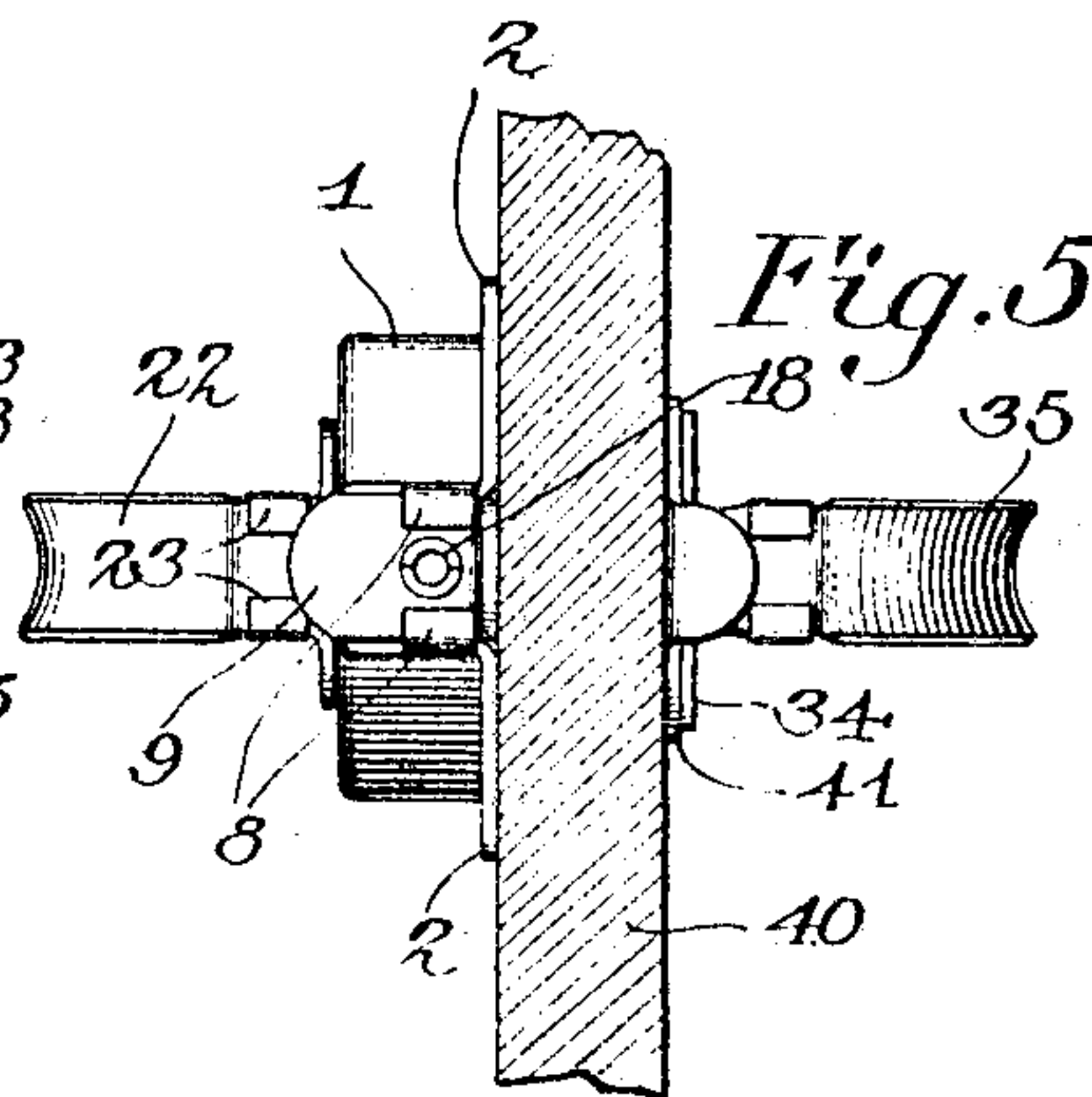


Fig. 5.

Witnesses

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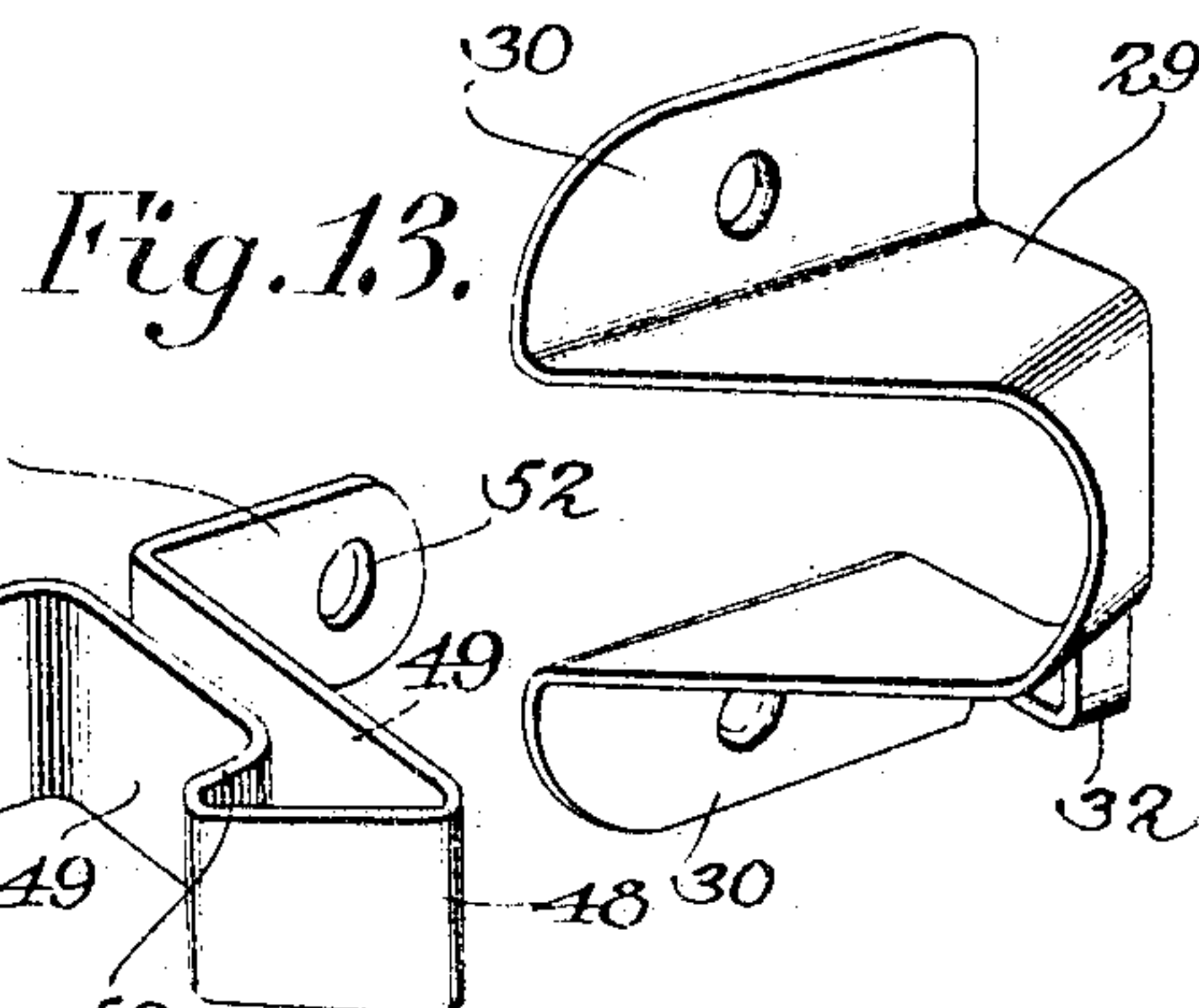
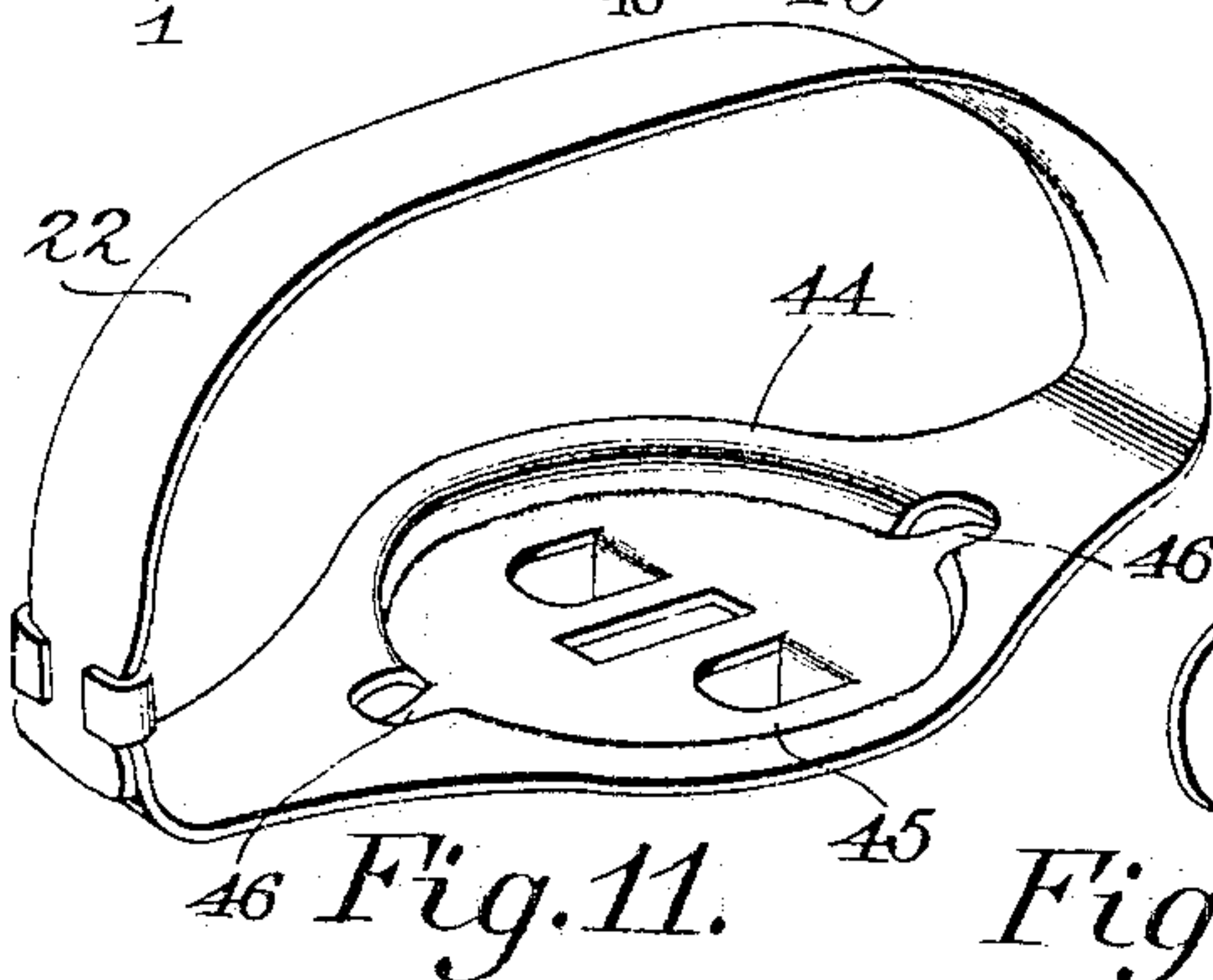
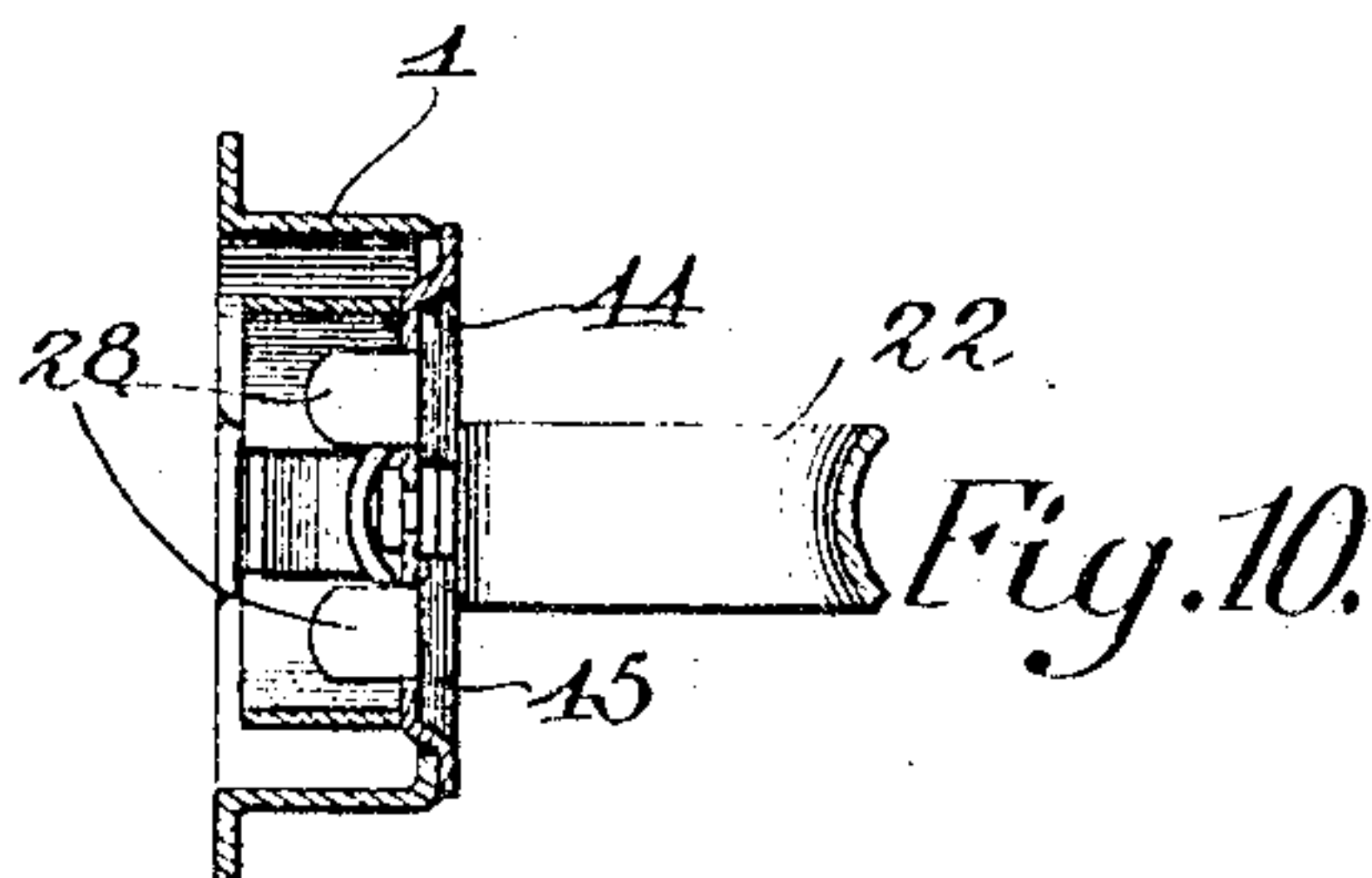
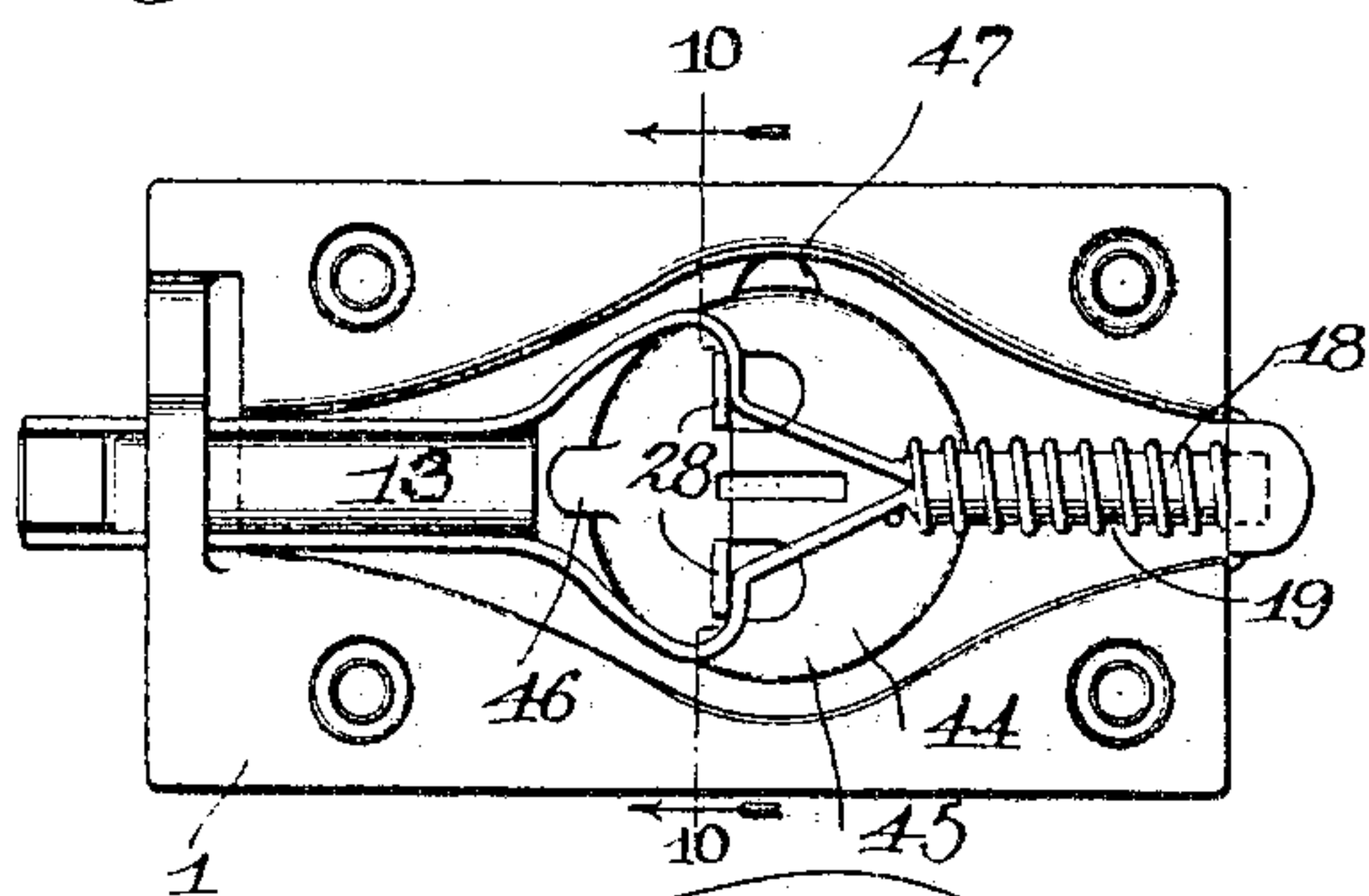
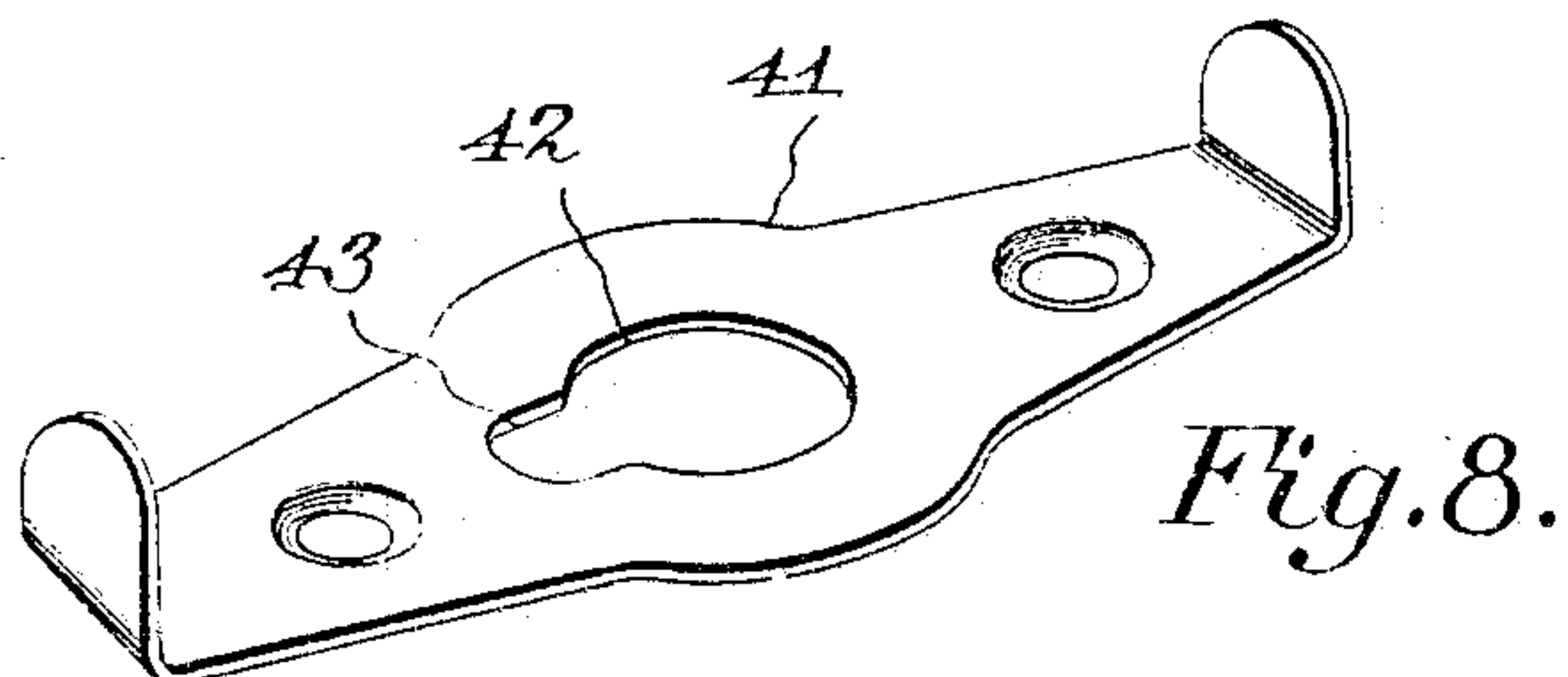
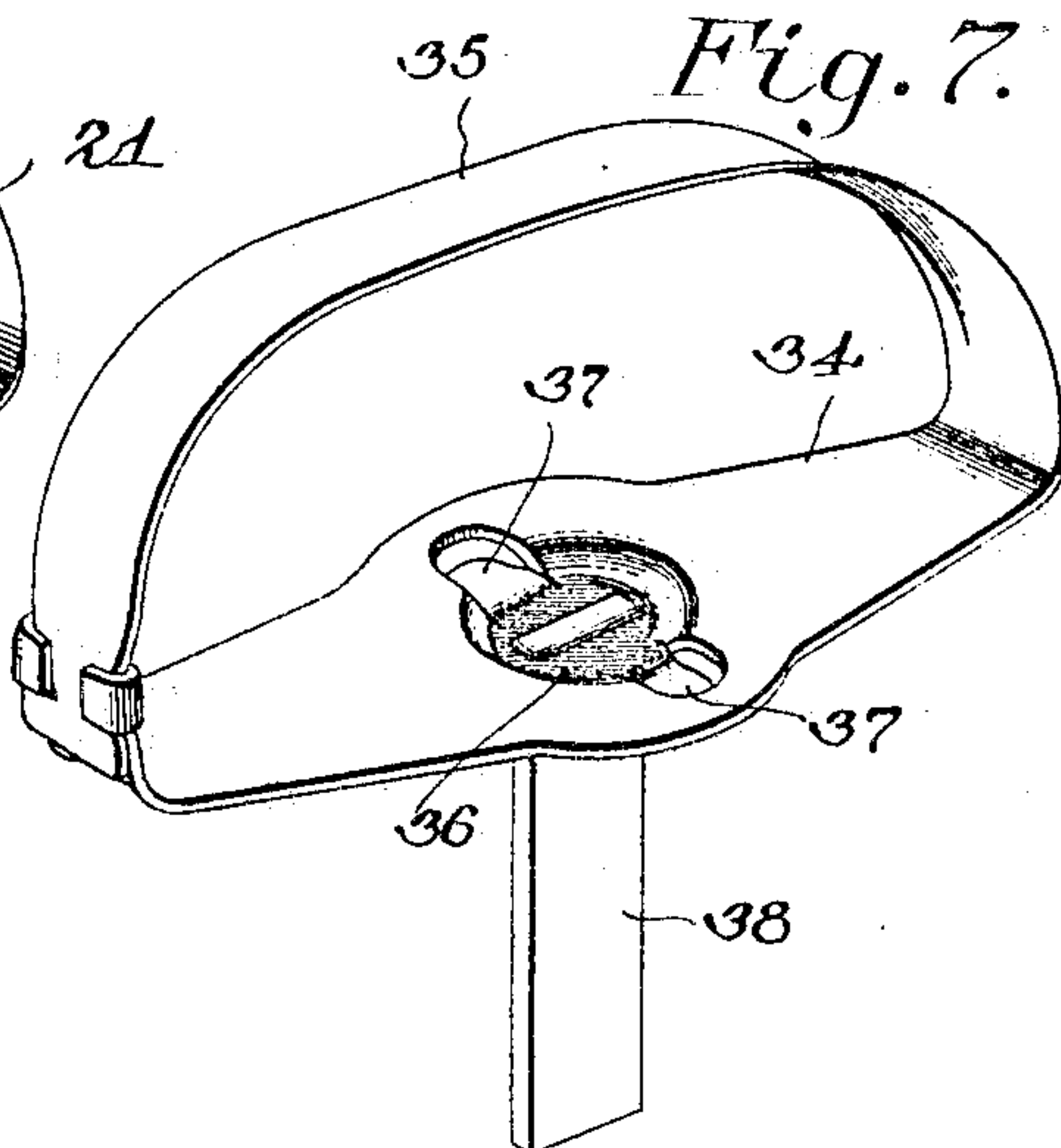
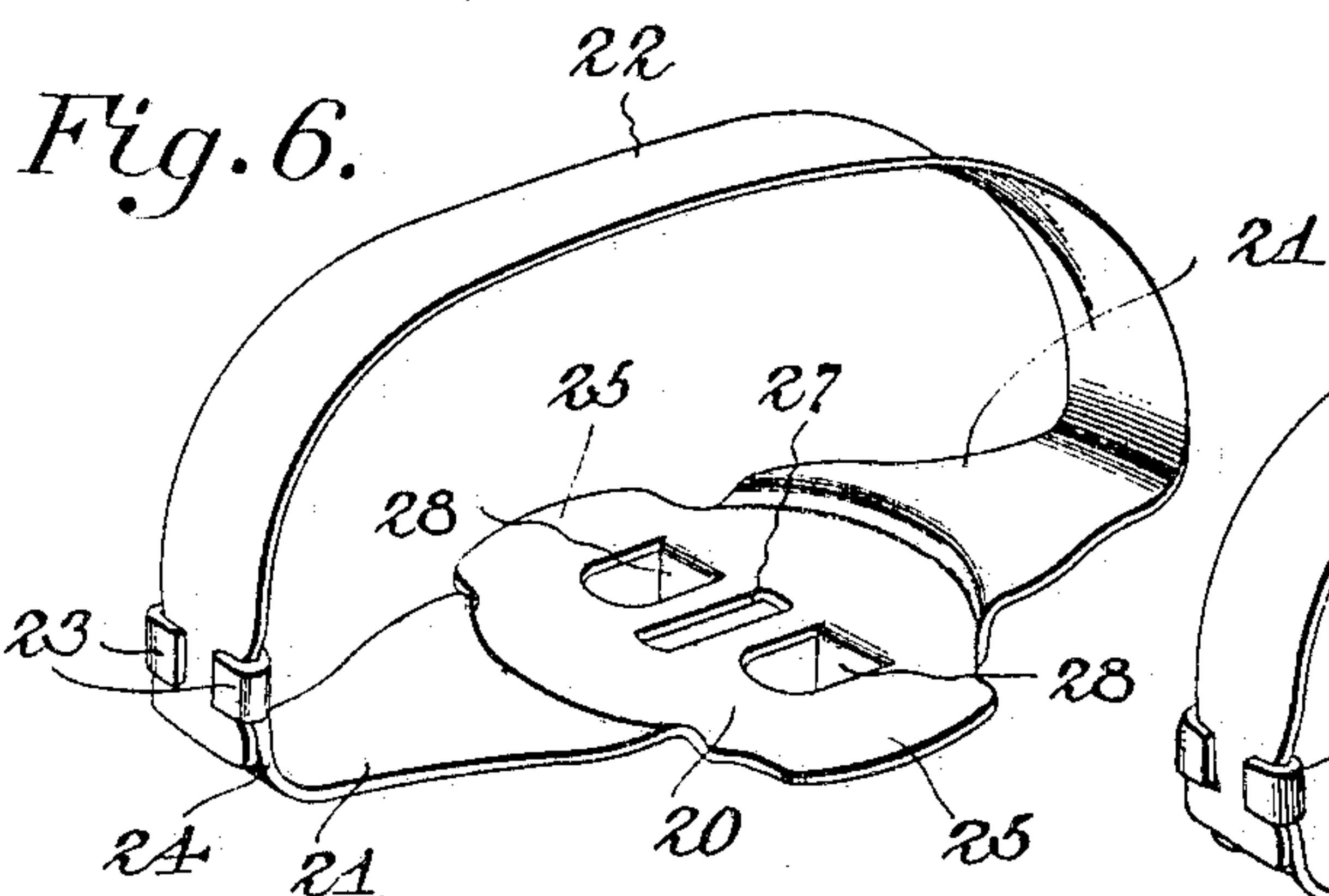
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Witnesses  
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## UNITED STATES PATENT OFFICE.

HARRIS MORGAN WHITCOMB AND SAXTON JOSEPH MORGAN, OF ALBANY,  
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## LATCH.

SPECIFICATION forming part of Letters Patent No. 782,091, dated February 7, 1905.

Application filed April 2, 1904. Serial No. 201,363.

*To all whom it may concern:*

Be it known that we, HARRIS MORGAN WHITCOMB and SAXTON JOSEPH MORGAN, citizens of the United States, residing at Albany, in the county of Green and State of Wisconsin, have invented a new and useful Spring-Latch, of which the following is a specification.

This invention relates to spring-latches, and has for its object to provide certain new and useful improvements in that character of latch disclosed by Patent No. 582,565, granted May 11, 1897, to H. M. Whitcomb.

With this object in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportions, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is an elevation of the latch of the present invention applied to a door. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a cross-sectional view on the line 3 3 of Fig. 2. Fig. 4 is an inverted plan view of the bolt member of the latch. Fig. 5 is a rear elevation thereof. Fig. 6 is a detail perspective view of the outer handle. Fig. 7 is a detail perspective view of the inner handle. Fig. 8 is a detail view of the washer-plate for the inner handle. Fig. 9 is an inverted plan view of a modified form of the latch. Fig. 10 is a cross-sectional view thereof on the line 10 10 of Fig. 9. Fig. 11 is a detail perspective view of the modified form of handle. Fig. 12 is a detail perspective view of the keeper for engagement by the latch when the door is open. Fig. 13 is a detail perspective view of the keeper for engagement by the latch when the door is closed.

Like characters of reference designate corresponding parts in all the figures of the drawings.

The movable parts of the present latch are housed within a casing which is struck from a single blank of sheet metal so as to pro-

duce a central longitudinal casing 1 and opposite longitudinal attaching-flanges 2, which are provided with terminal perforations 3 for the reception of suitable fastenings. The intermediate portion of the casing is laterally enlarged and substantially circular in form, while its end portions are reduced to produce channels 4 and 5, respectively, which are open at their outer ends. In the top of the middle portion of the casing there is a circular opening 6. Intermediate of the ends of the front channel 4 the top of the casing has a lip 7 bent upwardly therefrom to form a guard, as will hereinafter appear. At the rear end of the rear channel 5 the opposite sides thereof are extended to form ears 8, which are bent inwardly to overlap and support a guide-plate 9, the latter being provided with a perforation 10. It will be noted that the front open end of the front channel 4 is terminated short of the front end of the blank from which the casing is struck, there being a slit 11 formed transversely of the plate at said end of the casing and extended at one side thereof, a portion of the plate at one side of the casing and in front of the slit being struck up to form a loop 12.

Working endwise within the casing is a slidable bolt 13, formed from a single blank of metal, the sides of which are bent into substantially parallel flanges 14 on opposite sides of the body of the bolt, so as to produce a substantially rectangular channel-bar which operates in the front channel 4 of the casing. At their forward ends the flanges are beveled, and the extremity of the bar is bent back between the flanges, as at 15, to give the desired bevel to the forward end of the bolt. The flanges 14 are extended in rear of the body of the bolt and are bowed outwardly in opposite directions, as at 16, into the central enlarged portion of the casing, and these bowed portions are then bent inwardly to produce shoulders 17, from which the flanges are extended rearwardly and brought together to form a stem 18, the rear end of which works through the perforation 10 in the guide-plate 9. A suitable helical spring 19 embraces the stem portion 18 of the bolt and bears in oppo-



site directions against the guide-plate 9, which forms the backing of the casing, and the shoulder 17, whereby the bolt is yieldably held in its advanced or locked position.

5 For convenience in operating the bolt there is a handle which is struck from a single blank of metal and comprises a central circular plate member 20, from diametrically opposite points of which extend reduced  
10 shanks 21, the circular plate portion being depressed below the shanks to constitute a circular boss to fit within the circular opening 6 in the top of the casing. One of the shanks, preferably that at the front of the plate, is  
15 bowed or arched upwardly and rearwardly to form a handle-bar 22, the rear end of which is snugly gripped between the ears 23, carried upon an upstanding lug portion 24, bent from the outer end of the rear shank. The dia-  
20 metrically opposite end portions of the circular plate 20 between the shanks 21 are extended to form lips 25, which overlap the inner side of the peripheral edge of the opening 6 in the casing, so as to prevent detach-  
25 ment of the handle, the edge of the opening in the casing being provided with a notch 26 at the rear side thereof and of a size and shape to receive one of the lips when applying and removing the handle. At the center of  
30 the circular plate 20 there is a slot 27, disposed longitudinally with respect to the bolt, and at opposite sides of this slot are inwardly-directed lugs or projections 28, struck from the plate and normally engaging the front  
35 side of the respective shoulders 17 of the bolt.

When the casing, the bolt, and the handle have been assembled as described, the handle may be turned upon its bearing within the casing, whereby one or the other of the lugs or  
40 projections 28 will be moved rearwardly, and thereby draw the bolt inwardly or rearwardly against the tension of the spring 19. When the handle is released, the spring will of course return the bolt to its original position,  
45 and the handle will likewise be returned to its original position.

While any form of keeper may be employed in connection with the present lock, it is preferred to employ the keeper illustrated at 29,  
50 which is struck from a blank of metal so as to produce flanges 30 at opposite sides of the keeper-loop, said flanges of course being provided with perforations for the reception of suitable fastenings. At one side of the keeper  
55 there is a transverse slit 31, which intersects the keeper and one of the flanges thereof, that portion of the plate in front of the slit being bent up to form a loop 32, which is designed to lie adjacent to the loop 12 of the casing of  
60 the bolt in order that an ordinary padlock 33 may have its shackle passed through said loops, so as to lock the door against unauthorized opening.

To permit of the bolt being controlled from  
65 opposite sides of a door, there is an inner han-

dle comprising a base 34, one end of which is bowed or arched rearwardly to form a handle-bar 35, the rear end of which is connected to the plate in the same manner as described for the outer handle-bar. At the middle of the  
70 base there is a depression to form a central circular boss 36, which has diametrically opposite ears or projections 37 struck from the plate and spaced from the inner face thereof. A suitable spindle 38, preferably in the nature  
75 of a flat bar, is secured in any suitable manner to the boss 36 and is designed to pass through an opening 39 in a door 40 and enter the slot 27 in the outer handle, whereby the inner and outer handles are connected for si-  
80 multaneous movements.

In fitting the present form of latch to a door the casing is applied in the desired position to the outer face of the door and then the latter is marked through the slot 27 to indicate the  
85 position of the spindle, after which the casing is removed and a hole bored through the door, so as to receive the spindle. The casing is then reapplied to the door and rigidly secured thereto by means of fasteners passing through  
90 the perforations in the flanges 2. A washer-plate 41 is then secured to the inner side of the door, said plate having a central opening 42 to register with the opening in the door, there being a notch 43 in one edge of the opening  
95 for the reception of one of the ears or projections 37 on the inner handle when the spindle is thrust through the door and engaged with the outer handle. It will here be noted that the boss 36 of the inner handle fits in the open-  
100 ing 42 in the plate 41, so as to form an effective bearing for the handle, and the lugs 37 prevent accidental displacement of the inner handle. In view of the fact that the face-plate  
105 41 and the outer casing 1 are rigidly secured to the door and the handle members are mounted to rotate thereon, but are not detachable therefrom until the plate and the casing have been removed from the door, it is appar-  
110 ent that it is not necessary to fasten the spindle to the outer handle, as its engagement with the slot 27 is sufficient to connect the handles for simultaneous rotation.

A slightly-modified form of outer handle has been shown in Figs. 9, 10, and 11 of the draw-  
115 ings and differs from the preferred form in that the circular plate portion 44 is larger than the corresponding portion of the preferred form and is provided with a concentric circular depressed portion 45, constituting a boss to  
120 enter the opening 6 in the casing, there being suitable lips 46 struck from diametrically opposite portions of the plate and projected at the outer edge of the boss normally in longitudinal alinement with the bolt, said lips being  
125 designed to underlap the edge of the opening in the casing, and thereby prevent accidental displacement of the handle. To receive one of the lips 46 in applying and removing the handle, a notch 47 is formed in the edge of the  
130



opening in the casing at one side of the longitudinal center thereof.

From the foregoing description it will be understood that the present form of latch has all of its parts struck from sheet metal, so as to produce a very strong, durable, light, and inexpensive device, at the same time retaining all of the advantages of the heavy and more expensive form of latch disclosed by the patent above referred to. Furthermore, the several parts of the latch are arranged for convenience in assembling the same, and when they have been assembled they can be readily controlled by manipulation of either of the handle members.

To hold the door in its open position, a suitable keeper 48 is provided upon the outer side of the barn and disposed for engagement by the outer handle when the door has been thrown to its open position. This keeper is preferably formed from a single piece of metal bent to form substantially parallel shank portions 49, the original bend being offset or projected laterally, so as to form a shoulder 50, with which the handle is designed to engage, and the extremities of the piece of metal are bent downwardly in opposite directions to form attaching-ears which are provided with suitable perforations to receive fastenings for securing the keeper in place.

Having thus described the construction and operation of our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a latch, a casing having an opening and provided with a notch in one end of the opening, a slidable bolt within the casing and provided with a shoulder working across the opening, and a handle including a base-plate having a circular boss struck therefrom and rotatably mounted in the opening of the casing, said boss being provided with edge extensions to lap the edge of the opening in the casing, the notched portion of the casing being of a size and shape to permit of one of the extensions of the boss being passed therethrough, and a projection struck from and carried by the inner face of the boss and projected through the opening in the casing and into coöperative relation with the shoulder of the bolt.

2. In a latch, a casing having an opening, a slidable bolt within the casing and provided with a shoulder for working across the opening, and a handle comprising a base-plate having a circular boss struck therefrom and rotatable in the opening of the casing, said boss having a projection struck therefrom and disposed in coöperative relation with the shoulder portion of the bolt, one end of the plate being bent outwardly to form a shoulder, and the opposite end of the plate being bowed or arched to produce a handle-bar with its free end engaged with the shoulder, the opposite

sides of the latter being bent to grip the handle-bar.

3. In a latch, a casing having a circular opening, a slidable bolt within the casing and provided with a shoulder portion working across the opening, a handle comprising a plate having a circular boss portion struck therefrom and rotatable within the opening in the casing, said boss portion having edge extensions lapping the opening in the casing at the inner side thereof and also provided with a lug struck from an intermediate portion of the boss and projected through the opening in the casing into coöperative relation with the shoulder portion of the bolt, the edge of the opening in the casing having a notch of a size and shape to permit of one of the edge extensions of the boss being passed therethrough, and one end of the plate being arched or bowed rearwardly to form a handle-bar with its free end secured to the other end of the plate.

4. In a latch, a casing struck from a blank of metal to produce a longitudinal casing and opposite attaching-flanges, both ends of the casing being open, the rear ends of the opposite sides of the casing being extended and bent inwardly to form ears, a perforate guide-plate held between the ears, a slidable bolt working in the casing and projected through the perforations in the guide-plate, and a spring bearing against the guide-plate and the bolt to yieldably hold the latter projected.

5. In a latch, a casing struck from a blank of metal with the open front end of the casing terminated short of the front end of the blank, the latter being provided with a slit disposed transversely of the front end of the casing and extended at one side thereof, the portion of the blank in front of the slit being bent to form a loop, a slidable bolt carried by the casing, and a keeper bent from a blank of metal, the latter having a transverse slit with the blank portion in front of the slit bent to form a loop, the two loops lying at the same side of the bolt and disposed to come into registered relation in the locked position of the bolt and capable of receiving a padlock.

6. In a latch, a casing having an opening therein, a slidable bolt in the casing and provided with an opening registering with the opening in the casing, a handle including a plate having a boss struck therefrom and rotatable in the opening of the casing, said boss also having a projection struck therefrom and extending into coöperative relation with the bolt, a second handle including a plate having a circular boss struck therefrom with end projections carried by the boss, a face-plate having an opening rotatably receiving the boss of the second handle, the edge of said opening having a notch of a size and shape to permit of one of the projections of the boss being passed therethrough, and a spindle carried by the boss of the second handle and projected



through the opening in the bolt and engaged in the opening in the boss portion of the first-mentioned handle.

- 5 7. A latch-bolt consisting of a channel-bar having its sides extended in rear of the back thereof and being bent inwardly in rear of the back to form opposite transverse shoulders and then formed into semitubular stem members disposed in mutual longitudinal contact.
- 10 8. A latch-bolt consisting of a channel-bar having its back extended in front of the side flanges and bent rearwardly therebetween to form a beveled terminal, the forward ends of the sides being beveled to correspond to the
- 15 bent portion of the back, the side flanges being extended in rear of the back and diverged therefrom with intermediate portions bent inwardly to form opposite transverse shoulders, the rear end portions of the side flanges being
- 20 formed into semitubular stem members disposed in mutual longitudinal contact.
9. In a latch, a casing struck from a single blank of metal to produce opposite reduced guideways and attaching-flanges, the intermediate portion of the casing having a circular
- 25 opening provided with an edge notch, a bolt

consisting of a channel-bar working in one of the guideways with its side flanges diverged into the intermediate enlarged portion of the casing and then bent inwardly to form opposite shoulders with their rear extremities brought into longitudinal contact to form a stem working in the other guideway, a spring embracing the stem and bearing against the casing and the bolt, and a handle having a 35 base-plate provided with a circular boss struck therefrom and working within the circular opening of the casing, said boss having an edge projection lapping the edge of the circular opening in the casing and removable 40 through the notch thereof, and a pair of projections struck from the boss and engaging the respective shoulders of the bolt.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures 45 in the presence of two witnesses.

HARRIS MORGAN WHITCOMB.  
SAXTON JOSEPH MORGAN.

Witnesses:

D. H. MORGAN,  
G. P. BILLINGS.