

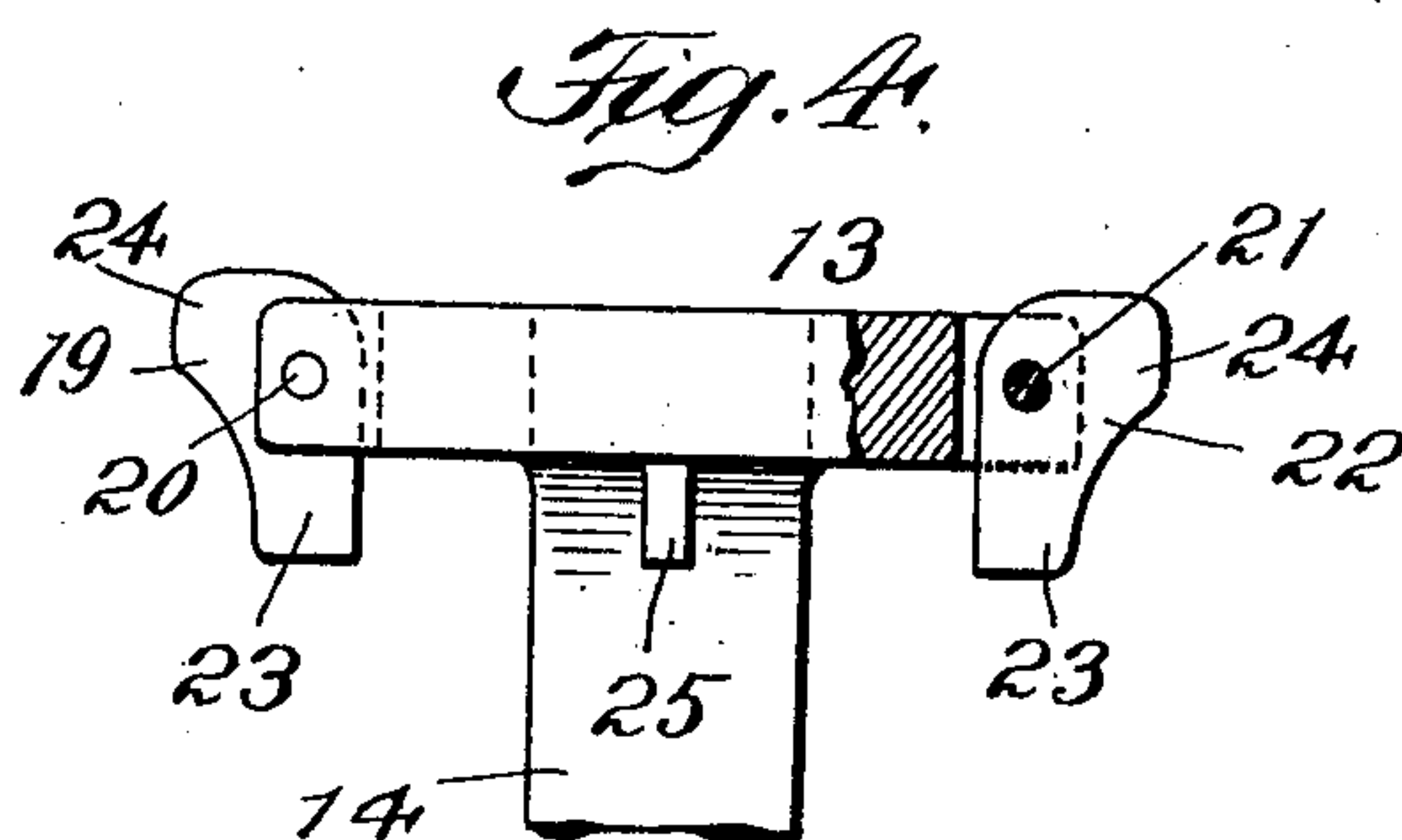
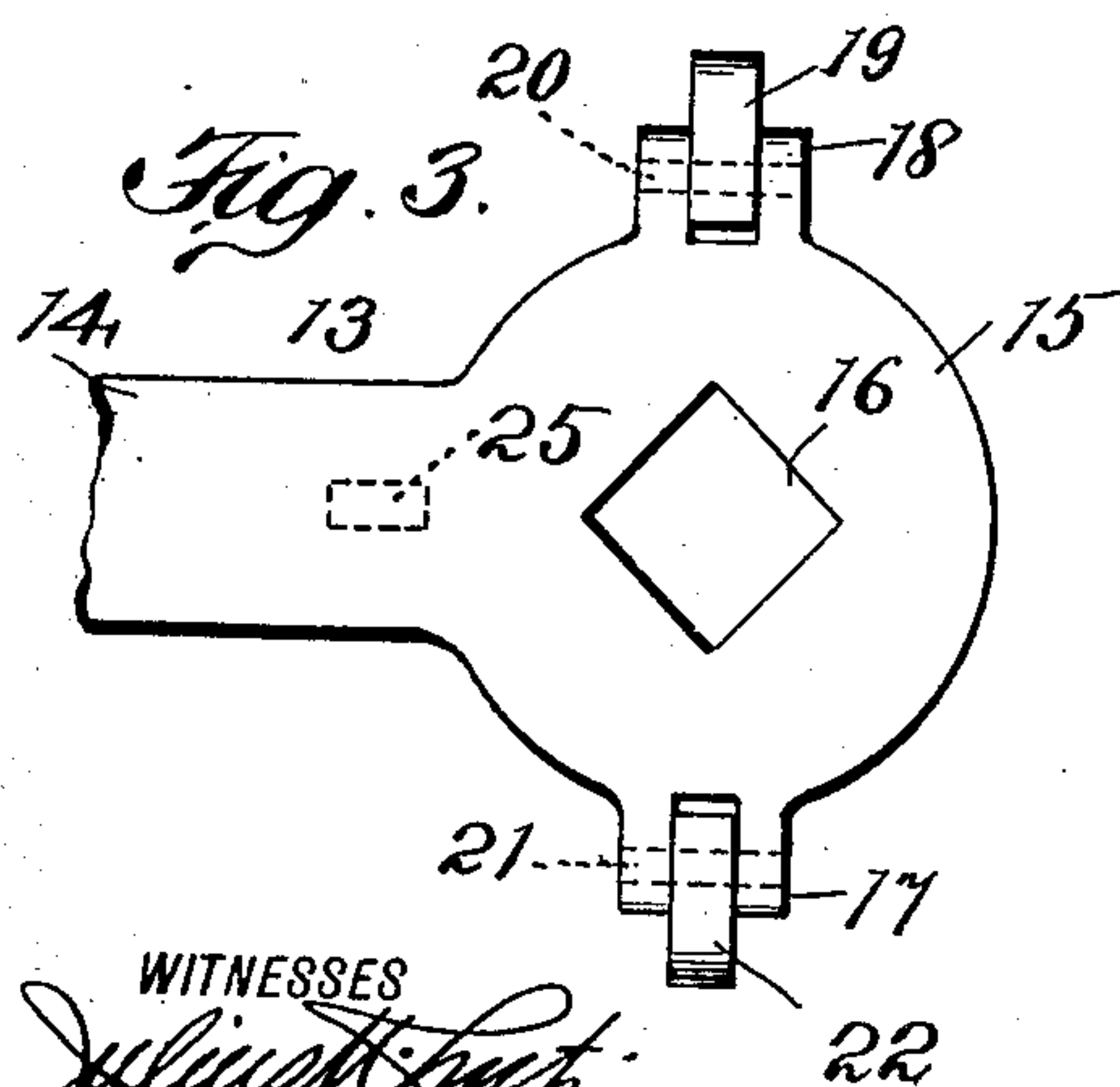
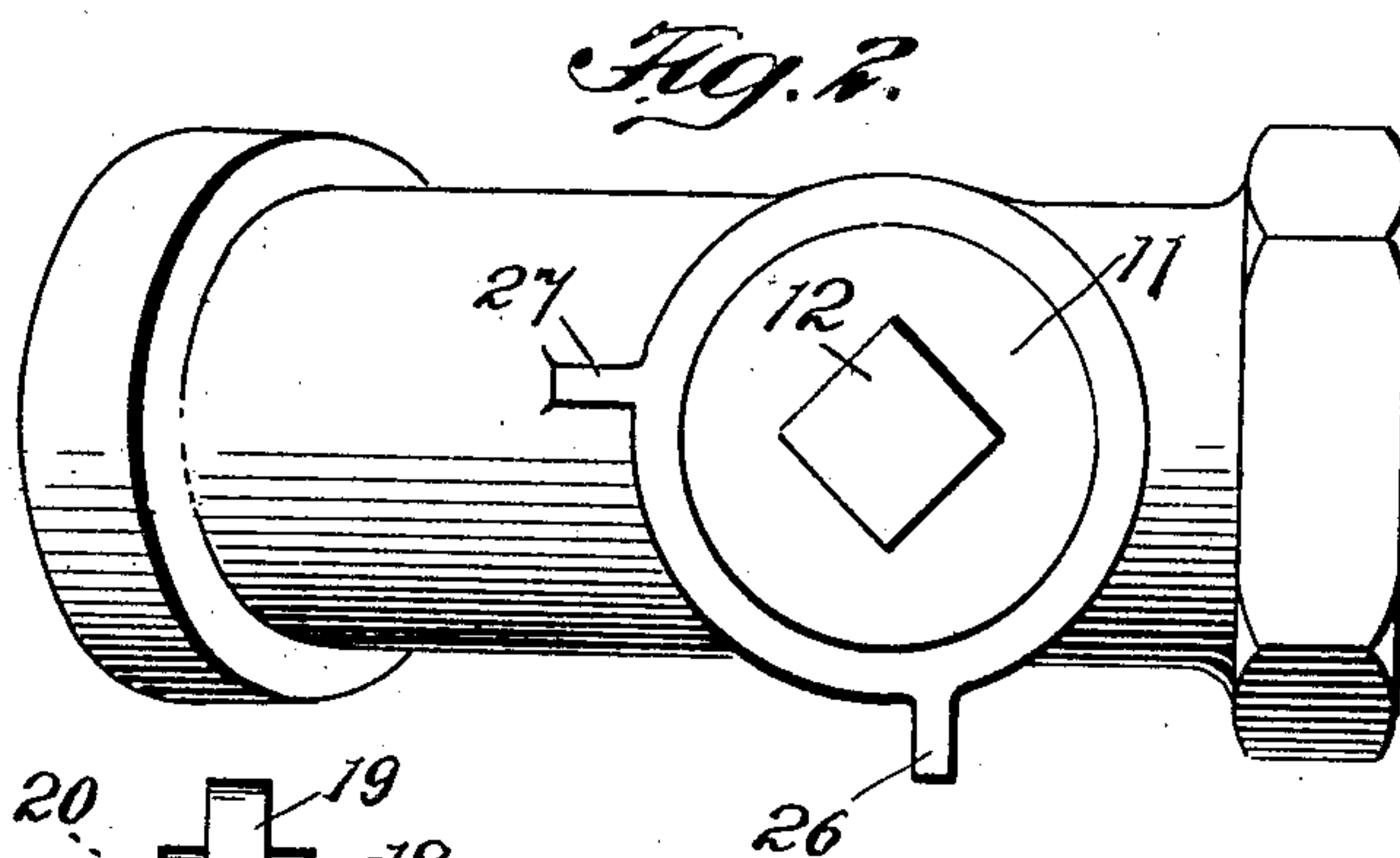
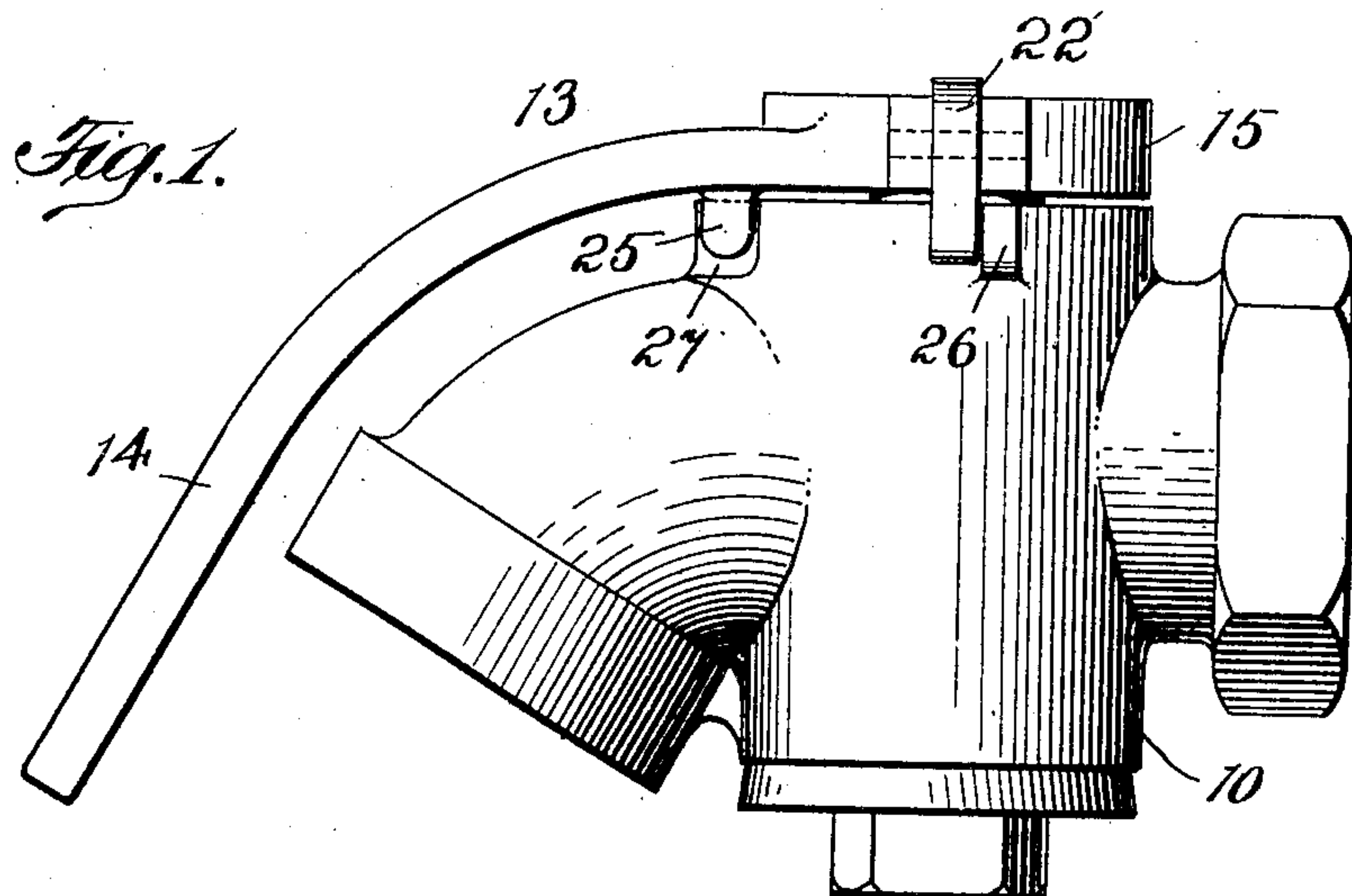
W. B. HEINIGER & W. E. VALLANCE.
ANGLE COCK.

APPLICATION FILED MAR. 30, 1908.

913,287.

Patented Feb. 23, 1909.

2 SHEETS—SHEET 1.



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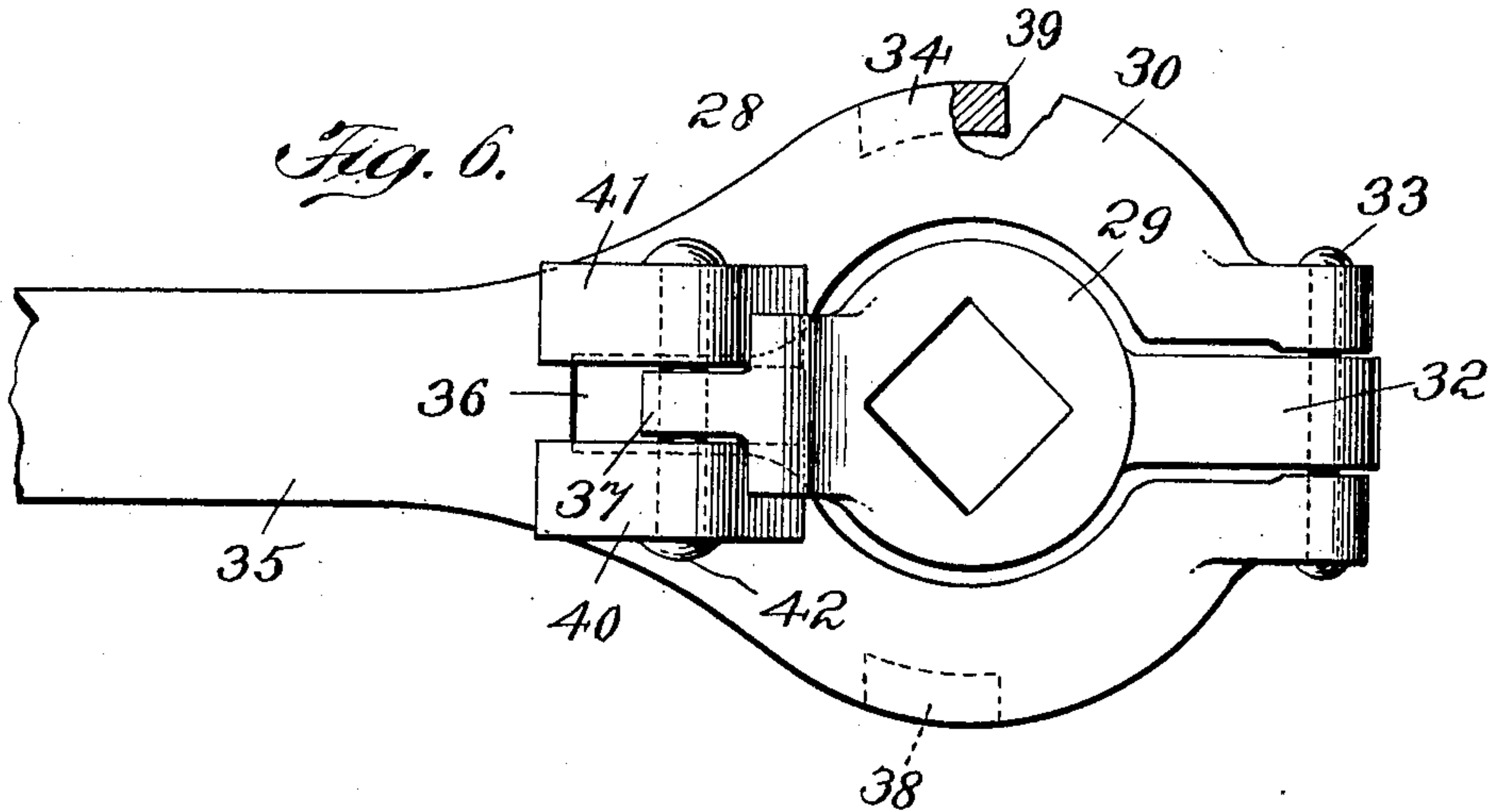
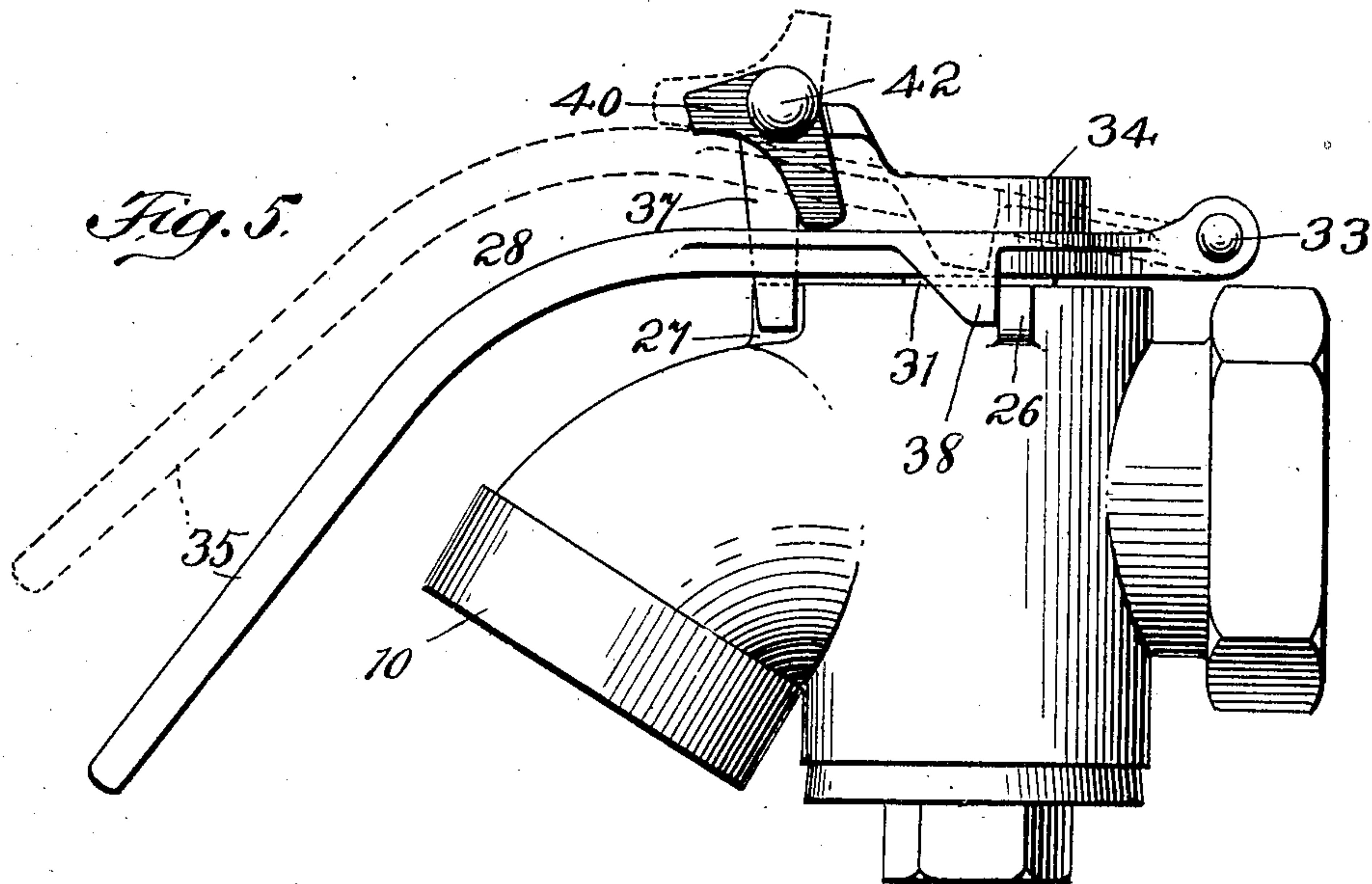
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UNITED STATES PATENT OFFICE.

WILLIAM B. HEINIGER AND WILLIAM E. VALLANCE, OF JERSEY CITY, NEW JERSEY.

ANGLE-COCK.

No. 913,287.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed March 30, 1908. Serial No. 424,231.

To all whom it may concern:

Be it known that we, WILLIAM B. HEINIGER and WILLIAM E. VALLANCE, citizens of the United States, and residents of Jersey City, county of Hudson, and State of New Jersey, have invented certain new and useful Improvements in Angle-Cocks, of which the following is a full, clear, and exact description.

10 This invention relates more particularly to angle cocks for air-brake systems of railway cars.

The primary object of the invention is to provide simple and efficient means whereby the operating handle of the cock may be positively locked in either an open or a closed position in such a way that the handle cannot be shifted or moved accidentally as is the case with valves of this class as ordinarily constructed.

20 A further object of the invention is to provide simple means which may be readily attached to the ordinary form of handle, and which must be manually moved before the operating handle of the plug can be moved from either an open to a closed position, or from a closed to an open position.

30 With these and other objects in view, the invention will be hereinafter more particularly described with reference to the accompanying drawings, which form a part of this specification, and will then be pointed out in the claims at the end of the description.

35 In the drawings, Figure 1 is a side elevation of one form of valve or cock embodying our invention. Fig. 2 is a plan view with the handle removed. Fig. 3 is a fragmentary detail plan view of the handle. Fig. 4 is a fragmentary end view, partly in section, showing the position of the locking means when the handle is held against movement. Fig. 5 is a side elevation showing a different application of the locking means to a differently constructed handle; and Fig. 6 is a plan view of the device shown in Fig. 5.

45 The casing 10 which may be attached to the usual train-pipe, forming a part of the usual air-brake system may be of any suitable form, and of any desired construction, and within the casing is a movable member or plug 11. This plug 11 may be provided with a square or other shank or part 12, and

on this shank 12 is held an operating device 13. The operating device has a handle 14 55 and a head 15, and in said head is an opening 16, corresponding to the shape of the shank 12, and projecting outward and downward from the head 15 is the operating handle 14, by which the plug of the cock 60 may be moved to an open or a closed position in the usual way. The head 15 is provided with lugs 17 and 18 on opposite sides thereof, and between the lugs 18 is pivotally held a pawl or locking device 19, as at 20, 65 and between the lugs or ears 17 is pivotally held, at 21, a similar pawl or locking device 22. Each pawl has a pendent portion 23, and an enlarged operating portion 24, by which the said pawls may be moved on their 70 pivots 20 and 21. The weight of the pendent portion 23 of each pawl is sufficient, however, to cause the said pawls to normally assume the positions indicated in Figs. 1 and 4, under the influence of the force of gravity. 75 The handle 14 is provided with a suitable stop 25 adjacent the head 15, and the same may be secured to the operating device or formed integral therewith as desired.

The casing 10 is provided with lugs 26 80 and 27 which extend outwardly therefrom, and are so positioned that when the stop 25 of the operating device 13 is moved it will engage one face of either of the lugs 26 and 27, according to whether the handle 14 is 85 moved to the open or to a closed position. When the stop 25 on the operating device engages the lug 27 on the casing, the plug should be in an open position, and in this position the pawl 22 is made to engage the 90 face of the lug 26 next to the lug 27, and thereby hold and lock the handle in this position. If the handle is moved so that the stop 25 engages the lug 26, then the pawl 19 is raised sufficiently to pass by the lug 27 95 on the casing, and when in this position is then moved downward so that its pendent end 23 will engage the lug 27 and thereby prevent movement of the handle in either direction. By this means the handle of the 100 operating device may be rigidly held to the plug so as to rotate therewith, and by means of the pawls 19 and 22, the said operating means and its handle, together with the plug connected therewith, will be positively locked 105 in either the closed or an open position, so

as to prevent accidental movement of said operating device.

In the construction shown in Figs. 5 and 6 the operating device 28 comprises two members 29 and 30. The member 29 is secured to the shank 31 of the plug, and has a projecting lug 32, which is pivoted at 33 to the handle member of the operating device 28. This handle member 30 has a head 34, and projecting from the head is the operating handle 35. The head 34 is provided with a slot 36 so as to permit a lug or stop 37 to pass through the same, the said stop being carried by the member 29, and being adapted to engage the lugs 26 and 27 of the casing in substantially the same manner as the stop 25 of the operating device 13. The head 34 is provided with two lugs or fixed pawls 38 and 39, which are adapted to alternately engage either of the lugs 26 and 27 when the other lug is engaged by the stop carried by the member 29. In this construction it is necessary to lift the handle upward on its pivot to release either of the lugs 38 and 39, or raise the same above the lugs 26 and 27 before the handle can be rotated. The construction thus far described of Figs. 5 and 6 is of the usual construction, and is not broadly claimed herein.

To prevent the handle from being raised accidentally, as by a stone from the ballast of the railroad, or by any other accident which might raise the handle and thereby permit the same to operate the plug resulting thereby in a possible accident, we pivot to the member 29 on each side of the stop the pawls 40 and 41. These pawls are pivoted, at 42, to the member 29, and when in the position shown in Fig. 5, the handle cannot be raised unless the pawls are released, and therefore, the cock cannot be moved accidentally as would be the case if the pawls were not used. If the pawls are released so that the handle can be raised, the lugs on the head of the operating device can be lifted above the lugs 26 and 27 to permit the operating handle to be moved, and the pawls can then be moved to a position to lock the handle against vertical movement and thereby prevent the operating handle from being moved.

From the foregoing it will be seen that simple and efficient means is provided whereby an operating device may be applied to the usual form of angle cock or other fitting in such a way that the operating handle may have a rotary movement, and may be positively locked and held in either an open or a closed position; that the said means may be applied to the usual form of fitting; and that the locking pawls may be applied to the operating handle with very little additional expense, and at the same time insures

absolute safety from accidental movement of the operating handle.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:—

1. In a device of the character described, the combination with a casing having a movable member therein, of an operating device comprising a head and a handle portion connected to the member and movable therewith, a fixed stop carried by the operating device, lugs projecting outward from the casing and adapted to be engaged by said stop of the operating device; and gravity controlled pawls pivotally held to the operating device on opposite sides thereof and adapted to alternately engage the lugs of the casing.

2. In a device of the character described, the combination with a casing having a rotary member therein, of an operating device connected to the rotary member and movable therewith, a stop carried by the operating device, lugs projecting outward from the casing and adapted to be engaged by the stop of the operating device, and gravity controlled pawls pivotally held to the operating device on opposite sides thereof adapted to engage the lugs of the casing.

3. In a device of the character described, the combination with a casing having a rotary member therein, of an operating device connected to the rotary member and movable therewith, a stop carried by the operating device, and gravity controlled pawls pivotally held to the operating device on opposite sides thereof and adapted to engage parts of the casing.

4. In an angle cock, the combination with a casing having a rotary plug therein, of an operating device comprising a head and a handle portion connected to the plug and movable therewith, a fixed stop carried by the operating device, lugs projecting outward from the casing and adapted to be engaged by the stop of the operating device, and gravity controlled pawls pivotally held to the operating device on opposite sides thereof and adapted to engage the lugs of the casing.

5. In a device of the character described, the combination with a casing, of a rotary member held in the casing, an operating device provided with a handle and having a stop to engage part of the casing, and gravity controlled pawls pivotally held to the operating device and cooperating therewith to prevent accidental movement of the handle unless the pawls are released.

6. The combination with a casing having lugs projecting outwardly therefrom, of a cock rotatably held in said casing and provided with a shank at one end thereof, an

operating device having a head portion and
an operating handle and held to the shank
of the plug so as to rotate therewith, a fixed
stop carried by the operating device and
5 adapted to alternately engage the lugs on
the casing to limit the movement of the
handle, and two gravity controlled pawls
pivotally held to the head portion on oppo-
site sides thereof and having locking ends
10 adapted to engage the lugs of the casing
opposite to that engaged by the fixed stop

of the operating handle whereby the said
handle may be positively locked against
accidental movement.

This specification signed and witnessed 15
this twenty-eighth day of March A. D. 1908.

WILLIAM B. HEINIGER.
WILLIAM E. VALLANCE.

Witnesses:

ROBERT COMFORT,
ALFRED J. O'NEILL.