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PATENTED FEB. 13, 1906.

J. O. BANE.  
PUMP SPRING ATTACHMENT.  
APPLICATION FILED JUNE 30, 1905.

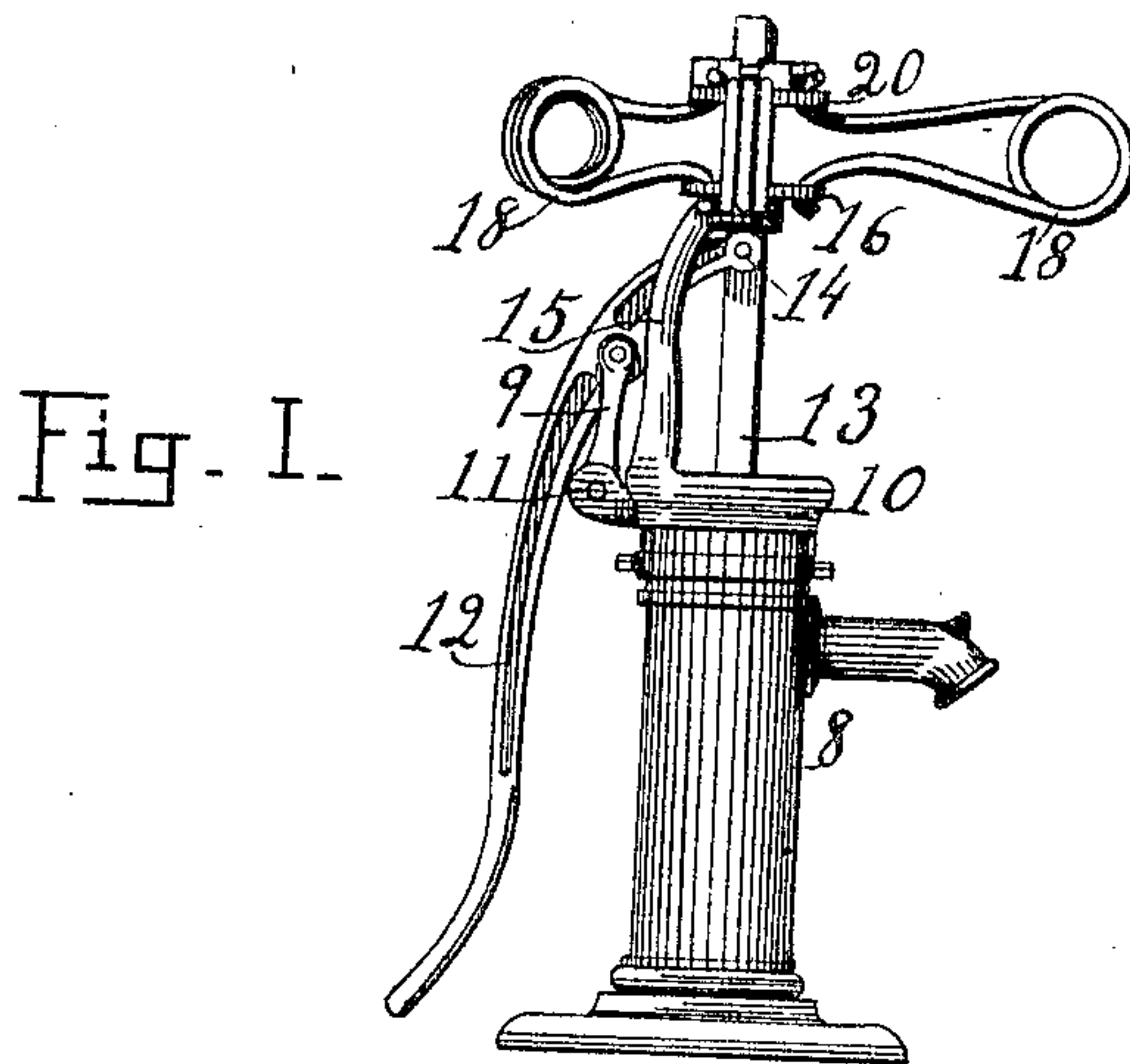


Fig. II. Fig. VI. Fig. III.

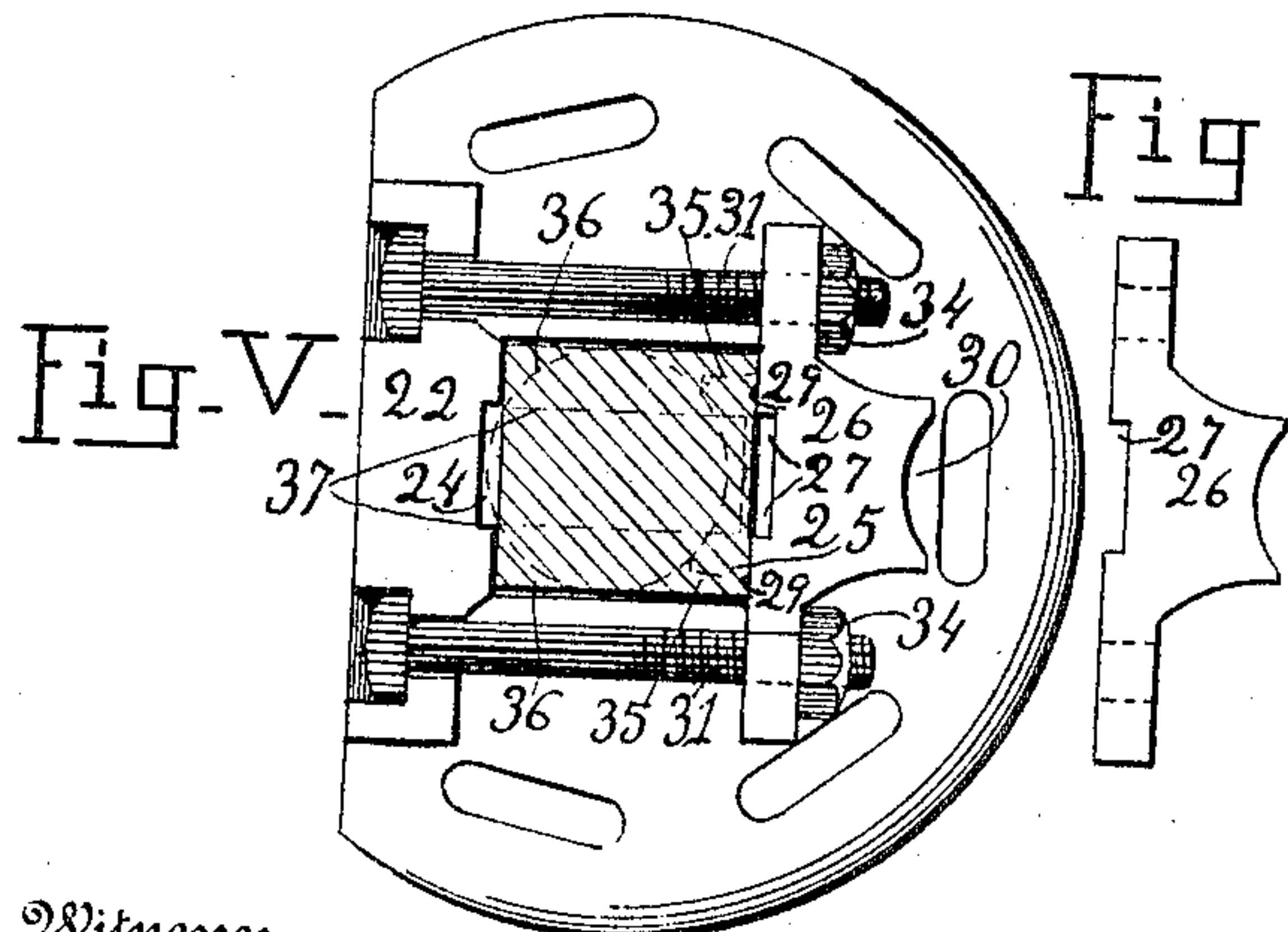
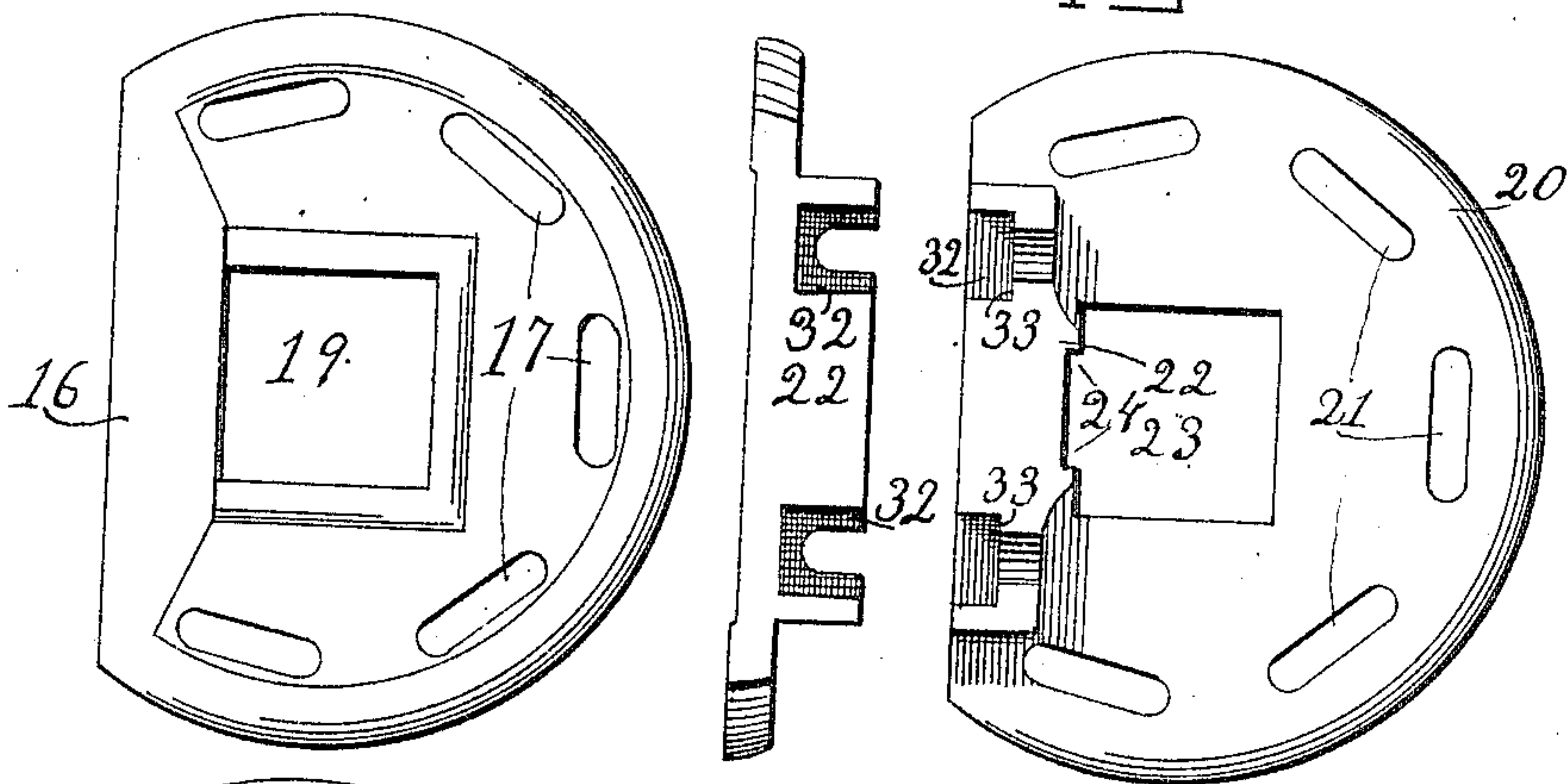
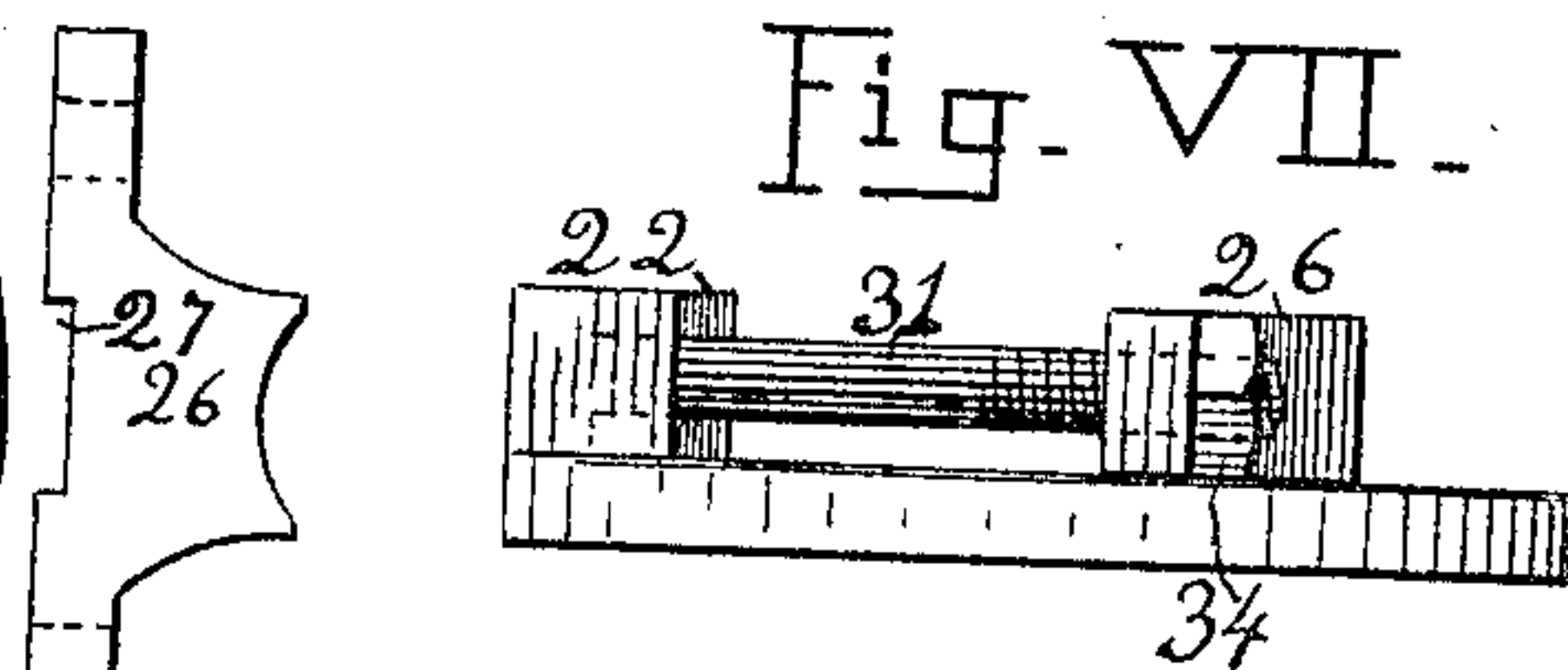


Fig. IV.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JAMES O. BANE, OF WASECA, MINNESOTA.

## PUMP SPRING ATTACHMENT.

No. 812,716.

Specification of Letters Patent.

Patented Feb. 13, 1906.

Application filed June 30, 1905. Serial No. 267,837.

*To all whom it may concern:*

Be it known that I, JAMES O. BANE, a citizen of the United States, residing at Waseca, in the county of Waseca and State of Minnesota, have invented new and useful Improvements in Pump Spring Attachments, of which the following is a specification.

This invention relates to spring attachments for pumps.

It has been found in practice that both machine and hand pumps operate easier for having the weight of the piston and rod and a part of the weight of the water pumped at each stroke balanced by a spring or springs connected with the operative mechanism of the pump; and the object of this invention is, first, to provide means for connecting springs with pumps having either round or square or flat bar piston-rods, and, secondly, to adapt the connecting parts so that they may be cast ready for attachment by means of common bolts that are for sale in hardware stores without the aid of drilling or other machine-work.

To this end my invention consists in the construction and combination of parts forming pump spring attachments hereinafter more fully described, and particularly set forth in the claims, reference being had to the accompanying drawings, in which—

Figure 1 represents a hand-pump in side elevation with my spring attachments as in service. Fig. 2 is a top side view of the base-plate for the springs. Fig. 3 is an upper side view of the top plate. Fig. 4 represents either the upper or under side view of the clamping-jaw. Fig. 5 is an upper side view of the top plate with the clamping-jaw attached as in service with a square pump-rod, the latter being shown in cross-section. Fig. 6 is an edge view of the top plate looking at the left-hand edge of Fig. 3. Fig. 7 is a view of the edge of the upper plate and attachments in line of the arrow *a*, Fig. 5.

Numeral 8 represents the body of a hand-pump; 9, the handle-post, which is pivoted at 11 to the top 10 of the pump-body. The handle 12 is pivoted to the top of the post 9 and is connected with the piston-rod 13 by a pivot 14.

15 is a bracket extending upward from the top 10 to serve as a guideway for the piston which reciprocates therein.

Thus far the parts described are common; but either upon the top 10 or upon the bracket 15 I locate the base-plate 16 of my invention. Some pumps are so proportioned that the full

swing of the handle does not give room for the location of my spring attachments on the top 10 of the pump, and in such cases I apply them on top of the bracket 15. The plate 16 may have any suitable number of apertures 17—five are shown—to receive the hooking ends of the spring 18, the attachment of which to a pump is the primary object of this invention. The plate 16 has also a large aperture 19, through which the piston-rod plays freely in service. The top plate 20 has spring-holes 21, corresponding in number and location to the spring-holes 17 in plate 16, and it has a fixed jaw 22 at one side of the central aperture 23. A notch 24 extends with parallel sides and rectangular corners down the face of the jaw 22 and down the thickness of the plate to receive the edge of the flat-bar piston-rod, as shown in dotted lines 37, or the side of a round rod, and the flat face of the jaw at both sides of this notch are for a square-bar piston-rod to rest on, as in Fig. 5, in which 25 is the piston-rod.

26 represents a free jaw located opposite to the fixed jaw 22 and provided on one face with a rectangular-cornered notch 27, corresponding to the notch 24, and with flat surfaces 29 at both sides of the notch, and in its opposite face this jaw has a notch 30, which is curved to fit the surface of a round piston-rod when this jaw is reversed, as shown in dotted lines 35, the round piston-rod being shown by dotted lines 36. This movable jaw has holes through it to receive two bolts 31, and the fixed jaw 22 has recesses 32, shaped to receive and hold the heads of the bolts from turning, and these recesses are provided each with a retaining-shoulder 33 to engage a bolt under its head and against its neck to keep the bolt firmly in place in service.

34 represents nuts screw-threaded upon the bolts and bearing against the jaw 26 to adjust the latter to bear against a piston-rod of any usual size or form and by pressing the rod against the opposite jaw 22 to hold rigidly to the rod.

The springs 18 being located between the two plates 16 and 20 act to press them apart, and as plate 16 rests on a stationary portion of the pump the action of the springs is to lift the piston-rod.

The apertures in and through the three parts 16, 20, and 26 are in each piece in the same direction and parallel with each other, so that these pieces may all be cast in sand from patterns in common two-part flasks



without requiring cores to be set, and each piece when so cast is finished without the aid of any machine-work.

By means of the two jaws shaped as described and the movable one being reversible to bring either of its two working faces into service this device is adapted for attachment to any of the piston-rods usually found on the market, and by so designing the construction of the three parts to be cast that all apertures and recesses in them have sides substantially parallel these parts are adapted to be easily and economically made.

Having thus fully described my invention, what I believe to be new, and desire to secure by Letters Patent, is the following:

1. In pump spring attachments, a base-plate having a central aperture and a series of spring-receiving apertures around it; a top plate having a central aperture and spring-receiving apertures to correspond with those of the base-plate; the said top plate being provided with a fixed jaw located at one side of the central aperture; the said fixed jaw having the described rectangular-cornered notch in its face and a plane surface at each side of the notch; the said fixed jaw further having shouldered recesses to hold bolts by their

heads; a movable jaw having a plane face and a rectangular notch therein at one side and a curved notch at the other side, and having bolt-holes, one at each side of the said notches, and screw-bolts fitted to engage the said recesses and to draw the movable jaw toward the fixed jaw.

2. In pump spring attachments, a lower plate having a central aperture, and holes around it to receive springs; an upper plate having a central aperture and holes around it to receive springs, and further having a fixed jaw with a rectangular-cornered notch in one face, also having shouldered recesses for bolt-heads; and a movable jaw having a rectangular-cornered notch in one side and a curved notch at the other side, also having bolt-holes through it; the two plates and the movable jaw each having the sides of its apertures substantially parallel, as and for the purpose specified.

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

JAMES O. BANE.

Witnesses:

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JOHN MOONAN