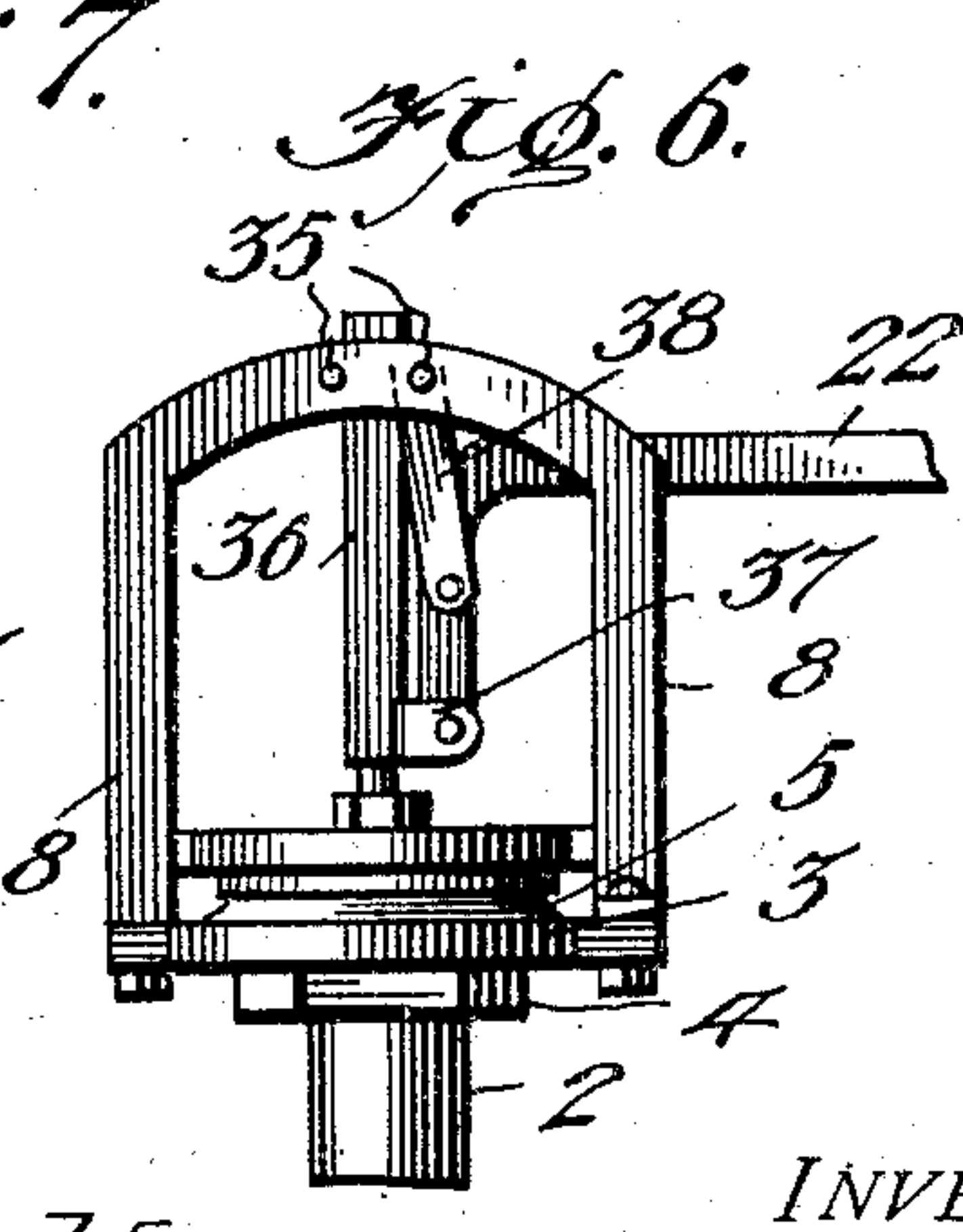
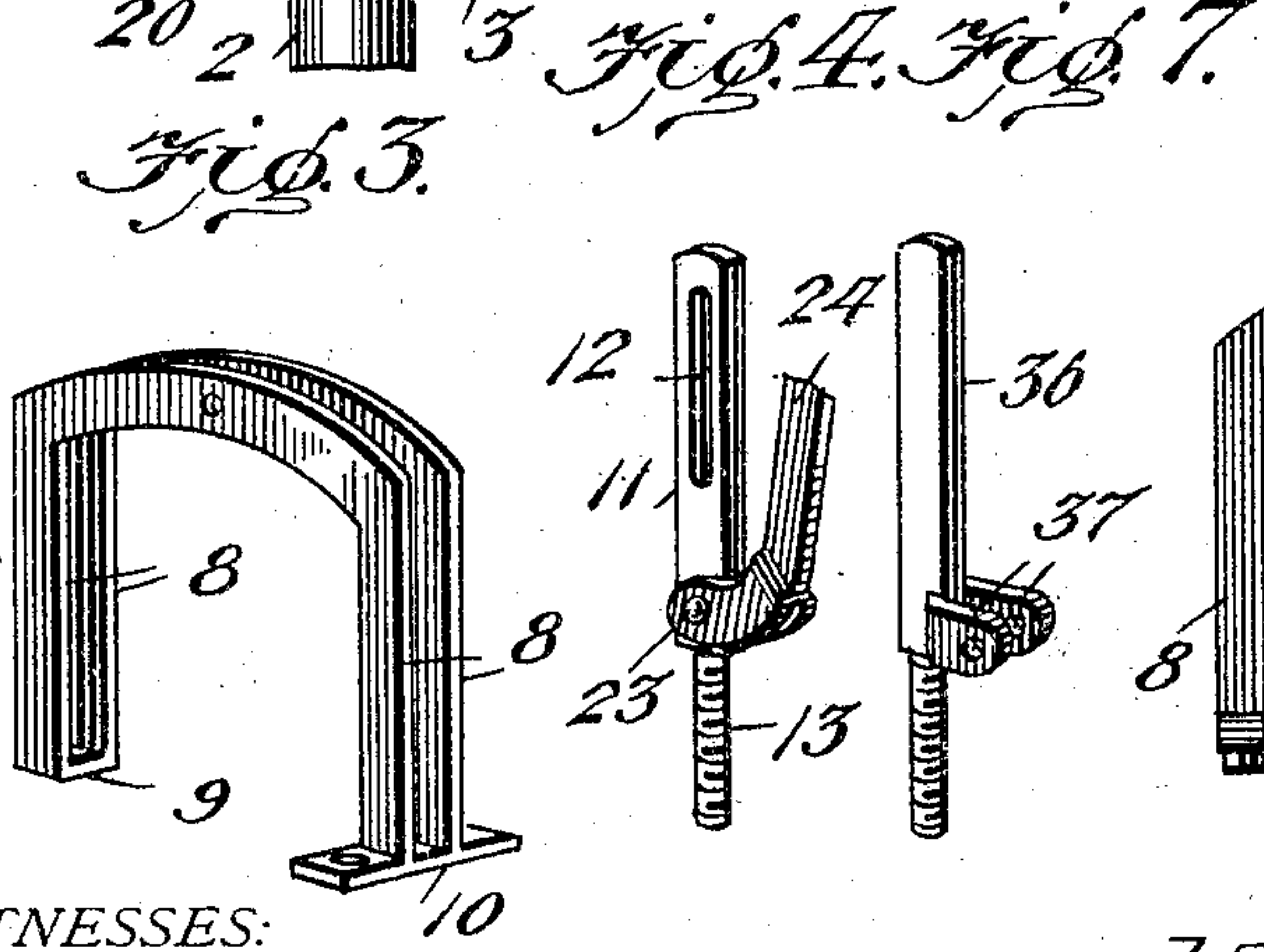
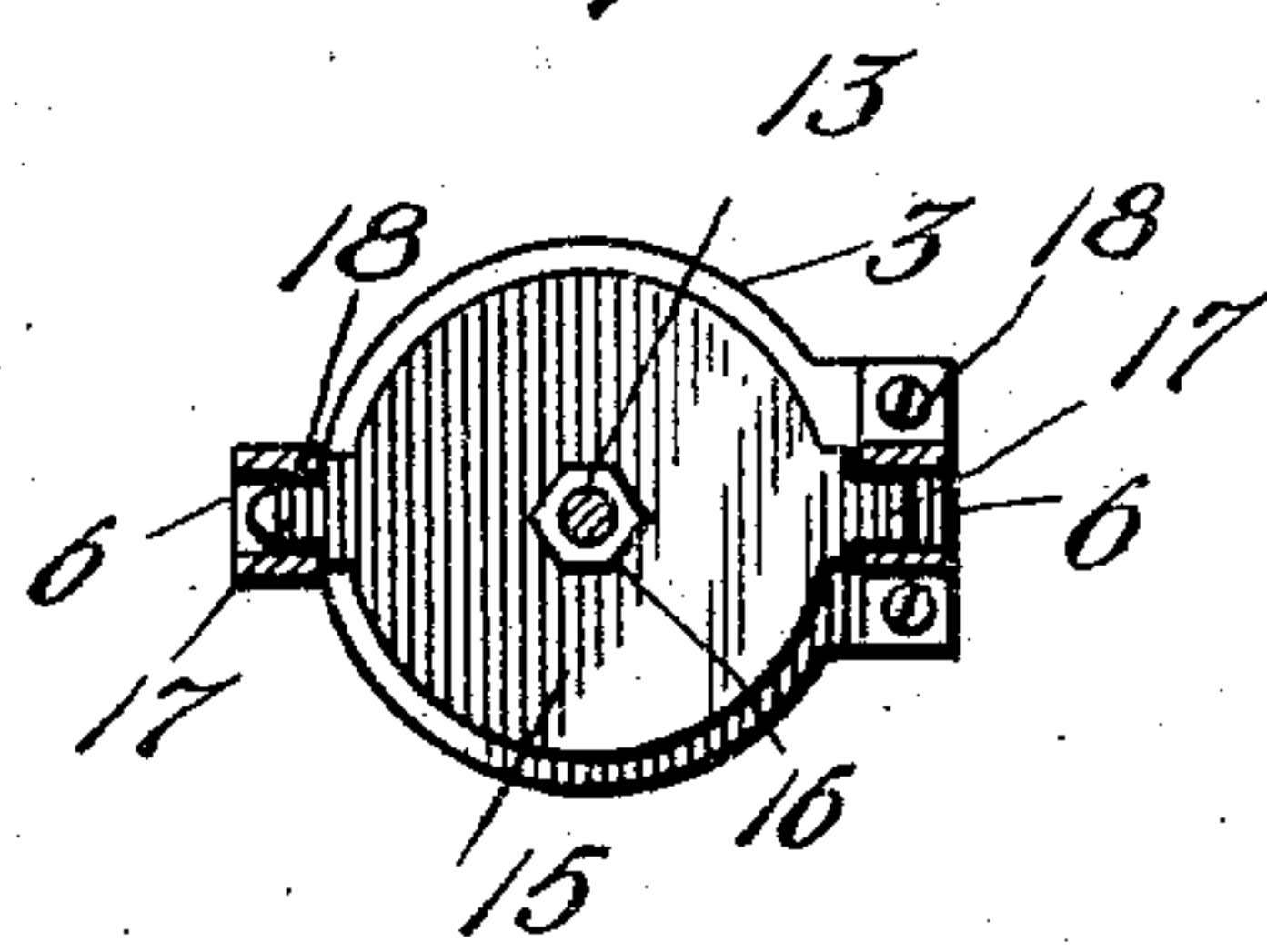
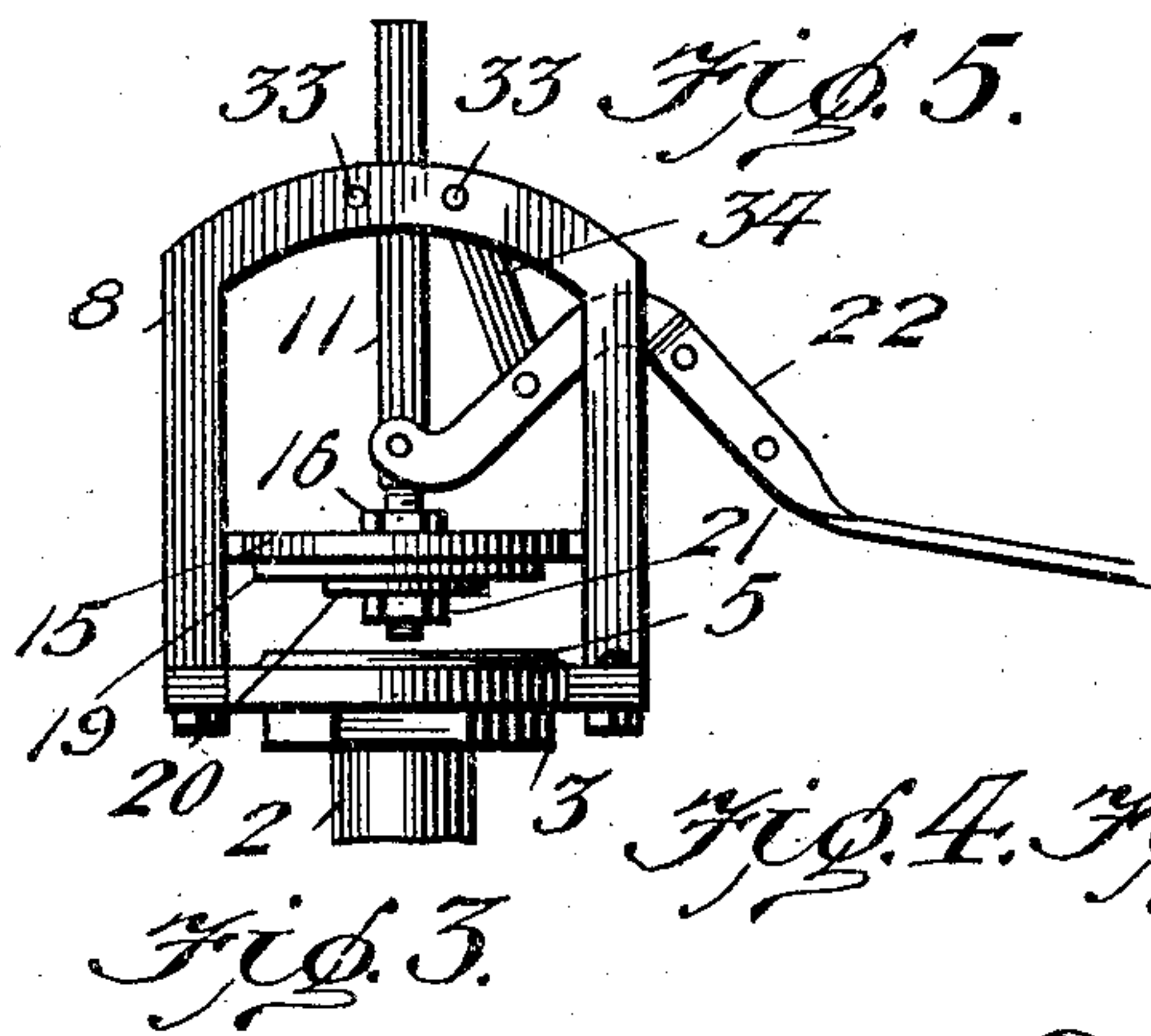
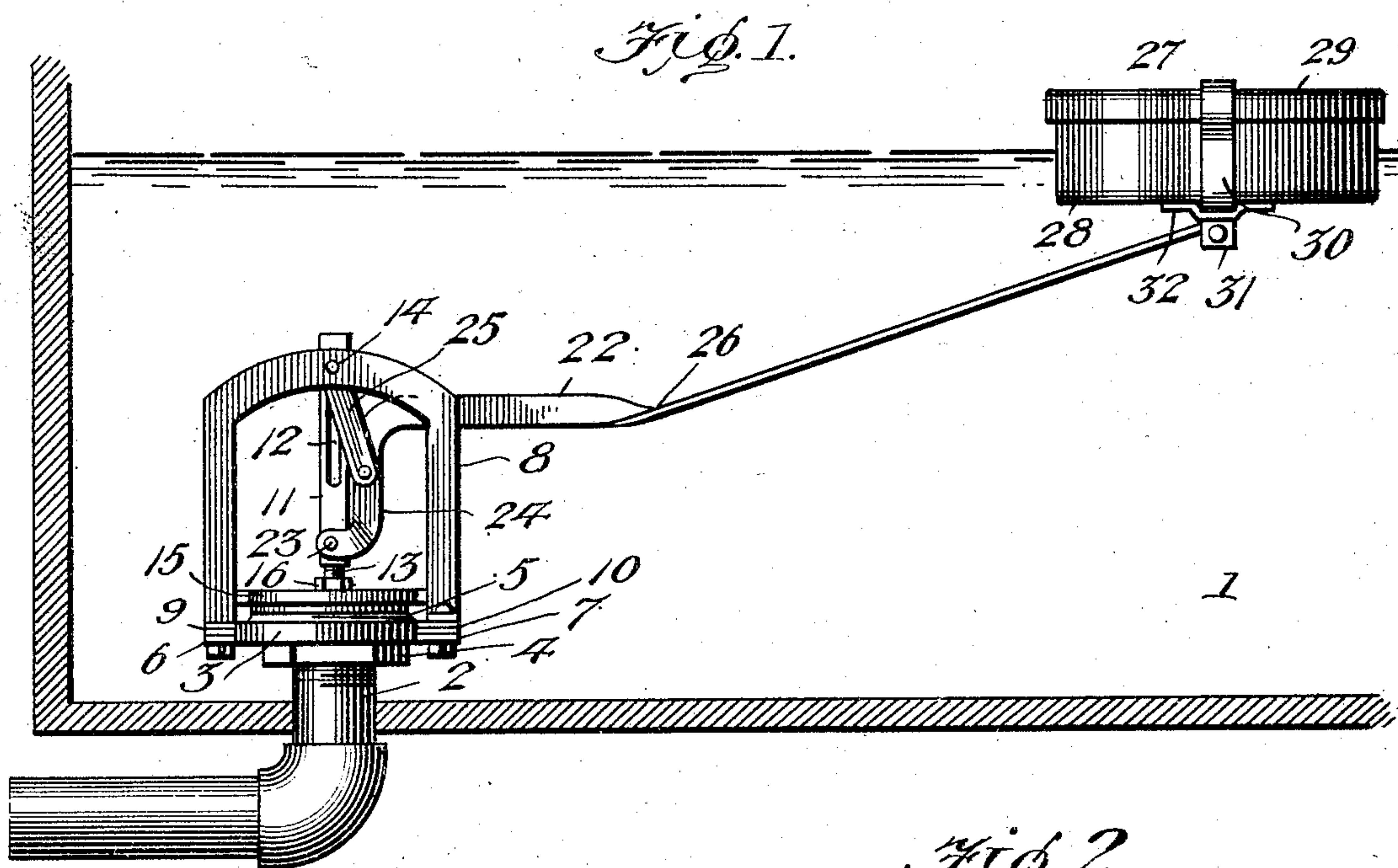


No. 788,426.

PATENTED APR. 25, 1905.

H. S. PINKERTON.
AUTOMATIC VALVE.

APPLICATION FILED JULY 19, 1904.



WITNESSES:

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HENRY S. PINKERTON, OF JUNO, TEXAS.

AUTOMATIC VALVE.

SPECIFICATION forming part of Letters Patent No. 788,426, dated April 25, 1905.

Application filed July 19, 1904. Serial No. 217,234.

To all whom it may concern:

Be it known that I, HENRY S. PINKERTON, a citizen of the United States, residing at Juno, in the county of Valverde and State of Texas, have invented new and useful Improvements in Automatic Valves, of which the following is a specification.

The invention relates to an improvement in valves of the class designed to automatically control the water-supply to a suitable reservoir through the operation of a float.

The invention has for its object to provide a simple inexpensive valve of maximum durability and service and to operate the valve in a positive manner by means of the float of particular construction and to further provide for the ready and convenient adjustment of the connection between the valve and float.

To enable others skilled in the art to gain a comprehensive knowledge of the construction of my invention, I will hereinafter describe the details thereof with particular reference to the accompanying drawings, in which—

Figure 1 is a view in elevation, showing my improved valve in use, the valve being closed. Fig. 2 is a sectional view of the valve, taken just above the valve-plate. Fig. 3 is a perspective view of the valve-frame. Fig. 4 is a detail perspective of the valve-stem. Fig. 5 is an elevation of the valve, showing a modified operating mechanism. Fig. 6 is a similar view showing another form of valve-operating mechanism. Fig. 7 is a detail perspective of the valve-stem illustrated in Fig. 6.

In the drawings, 1 represents any fixed reservoir, such as a watering-trough, and 2 a water-supply pipe leading into the trough from the bottom.

The valve comprises a valve-seat plate 3, arranged to be screwed onto the end of the supply-pipe within the reservoir and held against displacement by a lock-nut 4. The plate is formed on its upper surface with a projecting valve-seat 5 of usual shape and at diametrically opposite points with projecting lips 6 and 7, the latter of greater extent than the former.

The valve proper is supported in a suitable frame comprising parallel metallic strips 8 of

inverted-U shape spaced a short distance apart. The frame is, however, preferably formed of a single strip bent to form the parallel members shown in the drawings, leaving a base 9 at one end and provided at the opposite end with an elongated strip 10 to form a base projecting beyond the sides of the frame. The base 9 is secured to lip 6 of plate 3, while base 10 is secured to the larger lip 7, as clearly shown in Fig. 2, thus supporting the frame vertically from the valve-seat plate, it being noted that the respective bases 9 and 10 correspond in size to the respective lips 6 and 7 to give firm support.

The valve comprises a stem 11, preferably rectangular in cross-section and of a width somewhat less than the distance between the frame-strips. The stem is formed near its upper end with a slot 12 and is reduced and threaded at its lower end to provide shank 13. A pin 14, passing through the slot 12 of the valve-stem and through the frame-strips, suitably supports and guides the stem. A guiding-plate 15 is placed on shank 13, being held against upward movement by lock-nut 16, the plate being formed with ears 17 fitting between the frame-strips 8 and formed with shoulders 18 to bear against the inner edge of the strips, thus guiding the valve in operation. A valve-disk 19 of suitable material, as leather, is fitted over shank 13 and against plate 15, being secured in place by a washer 20 and lock-nut 21, the disk being of course of suitable size to rest upon the valve-seat 5.

22 represents the operating-lever, being preferably a thin metallic strip bifurcated at one end to embrace the valve-stem near the lower end of the latter, as at 23, then bent upwardly practically parallel with the valve-stem, as at 24, and then outwardly, projecting between the frame-strips 8, with its opposite end connected to a float to be described.

Locking-links 25 are secured on pins 14, one on each side of the valve-stem, and project toward and are pivotally connected to lever 22, preferably to the vertical portion of the latter.

I provide for a ready and convenient adjustment of the lever to increase or decrease the operation of the valve by bending or

twisting the lever-strip upon itself, as at 26, into a plane transverse to its plane within the frame, so that for a greater portion of its length the lever-strip is of greatest extent horizontally instead of vertically, as where 5 connected to the valve. The strip thus arranged may be readily bent vertically at its twisting-point 26 to elevate or depress the float with relation to the valve, hence closing 10 the valve under the influence of greater or less height of water, as may be desired. By thus constructing the lever I am enabled to use a comparatively thin strip, arranged on edge with relation and connection to the valve, 15 whereby to gain its greatest strength, while the transversely-arranged portion provides for the adjustment just described.

The float 27 is of peculiar construction to provide a simple and air-tight arrangement, 20 comprising a cup-shaped member 28, stamped from a single piece, and a flange-cover 29, also stamped from a single piece, the latter snugly fitting the former with the joints soldered to prevent leakage. A reinforcing-strip 30 extends across the bottom of the member 28, having central pendent ears 31, between which the free end of the lever is 25 secured, the ends of the strip extending up the sides of the float and partially across the cover. Brace-strips 32 are secured across the 30 bottom of the member 28, beneath the reinforcing-strip 30, one on each side of the ears 31. The reinforcing-strip and brace-strips are each soldered throughout their entire lengths 35 to the float.

In Fig. 5 the construction tends to a lighter valve, having a frame comprising but a single strip 8, the valve-stem being guided between pins 33, secured to the frame, to one of which 40 a single link 34 is pivoted. The bottom end of this link is connected to a lever 22, similar in construction to the lever just described.

In Fig. 6 the frame is of the preferred form described, with the valve-stem guided between 45 pins 35, joining the strips at their central upper portions. In this instance the valve-stem 36 is formed near its lower end with laterally-projecting parallel ears 37, between which the valve end of the lever is secured. Links 38,

pivoted on one of the pins 35, are pivoted at 50 their lower ends on the vertical portion of the lever, as in the preferred construction.

The operation of the parts is fully apparent from the above description, it being noted that when the valve is closed the portion 24 of the 55 lever extends practically parallel with the valve-stem and the locking-links are approximately vertical. This provides an effective lock for the valve when closed, as the resistance to the opening-pressure is practically a 60 single brace fixed at both ends.

Having thus described the invention, what is claimed as new is—

1. In combination with a reservoir and a supply-pipe therefor, of a valve for the pipe 65 comprising a valve-seat plate secured to the pipe and formed with a valve-seat, a frame comprising parallel strips secured to said plate, a guiding-plate formed with ears arranged to project between the frame-strips, a valve-disk 70 secured to said plate, a lever having pivotal connection with the valve-plate and with the frame, and projecting between and guided by the frame-strips, and a float for the free end of the lever.

2. In combination with a reservoir and a supply-pipe therefor, of a valve for the pipe 75 comprising a valve-seat plate secured to the pipe and formed with a valve-seat, said plate having projecting lips, a frame comprising 80 parallel inverted-U-shaped strips secured to said plate, a guiding-plate formed with ears arranged to project between the frame-strips, a valve-stem secured to said plate and formed near its upper end with a slot, a pin passing 85 through said slot and secured in the frame-strips, a valve-disk secured to the guiding-plate a lever pivoted to the valve-stem and projecting between and guided by the frame-strips, a float for the free end of the lever, and 90 locking-links secured on said pin at one end and to the lever at the opposite end.

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

HENRY S. PINKERTON.

Witnesses:

Mrs. GEO. EDMONDS,
BEULAH EDMONDS.