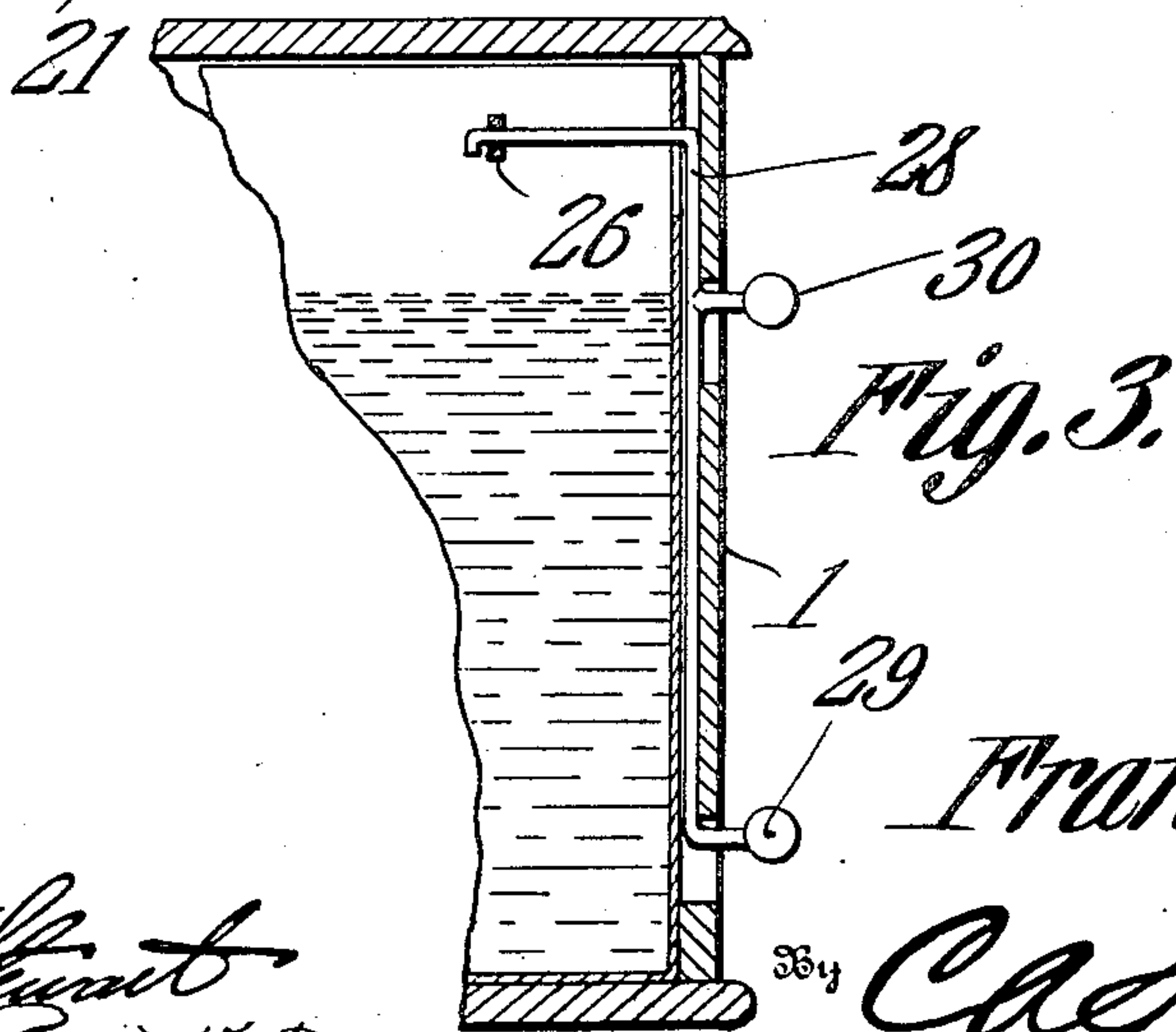
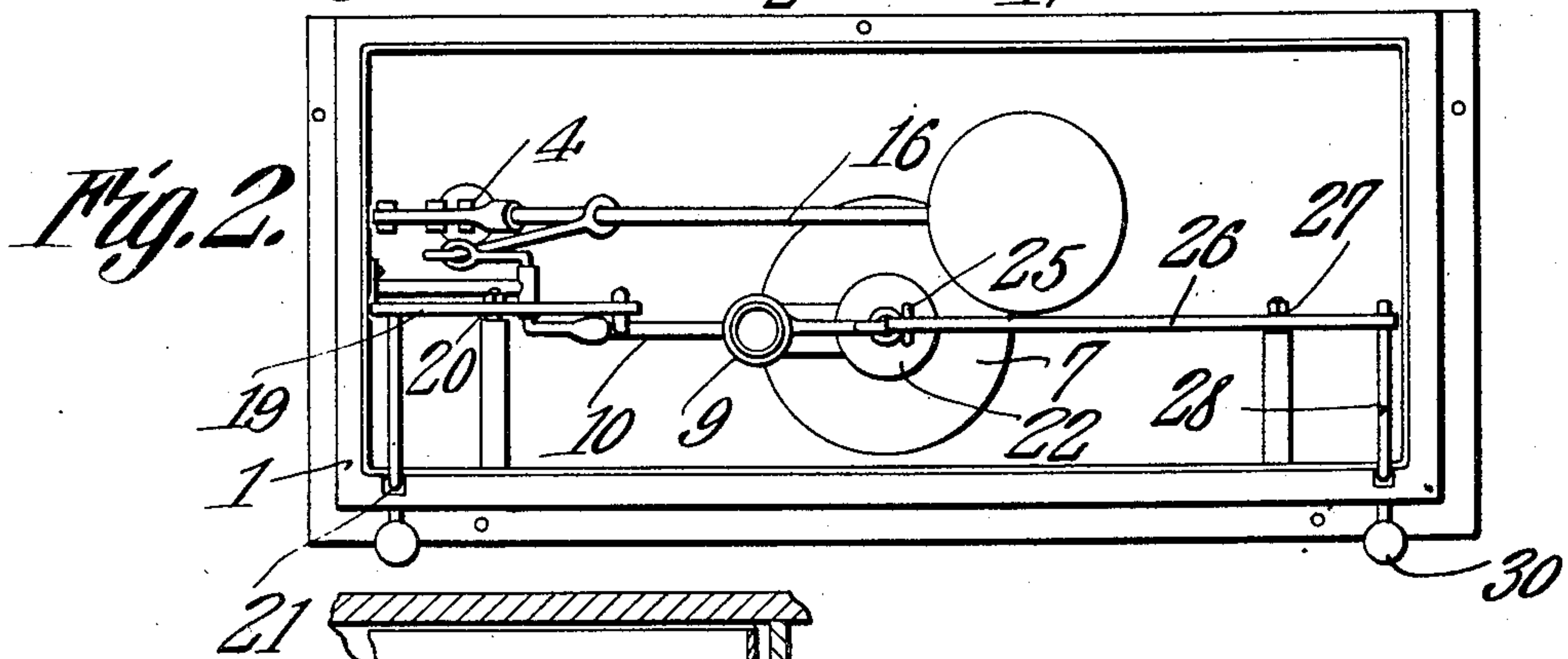
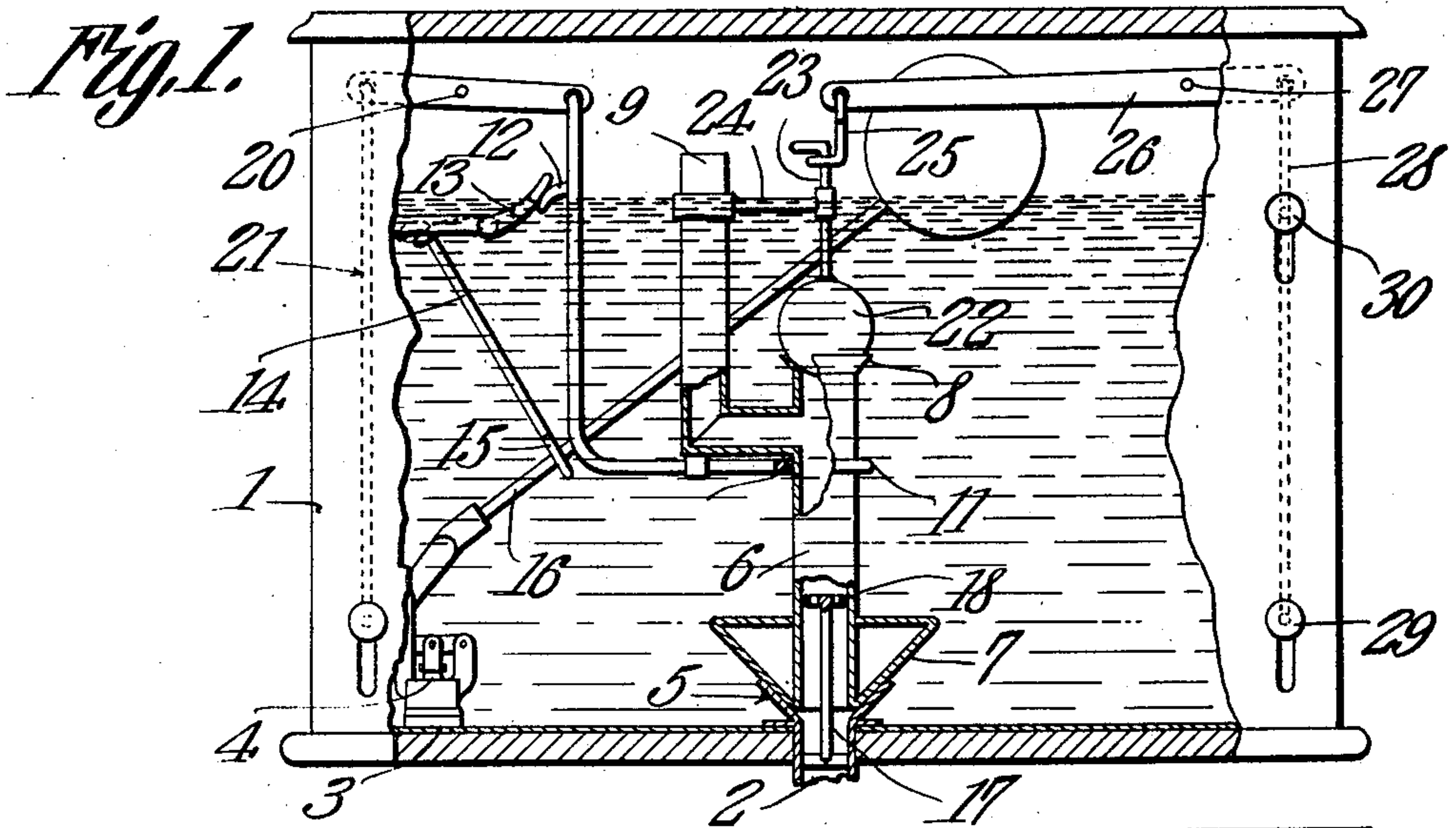


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VALVE FOR FLUSHING TANKS.  
APPLICATION FILED AUG. 31, 1907.

934,353.

Patented Sept. 14, 1909.



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# UNITED STATES PATENT OFFICE.

FRANK PRICHETT, OF FORT MADISON, IOWA.

## VALVE FOR FLUSHING-TANKS.

934,353.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed August 31, 1907. Serial No. 390,976.

*To all whom it may concern:*

Be it known that I, FRANK PRICHETT, a citizen of the United States, residing at Fort Madison, in the county of Lee and State of Iowa, have invented a new and useful Valve for Flushing-Tanks, of which the following is a specification.

This invention has relation to valves for flushing tanks, and it consists in the novel construction and arrangement of its parts, as hereinafter shown and described.

The object of the invention is to provide an improved flushing tank with a valve of such construction that the tank may emit water in minor or major quantities, as desired or required for flushing purposes. Means are located at one side of the tank for operating the valve to liberate water in major quantities, and means are located at the opposite side of the tank which may be operated for liberating water in minor quantities. The last said means are so arranged that it may be conveniently operated at two points at different altitudes, one of which, however, is substantially at the same level as the means for operating the valve to liberate a major quantity of water.

In the accompanying drawings:—Figure 1 is a side elevation of a tank, with a portion broken away, showing the valve mechanism in elevation, with parts in section. Fig. 2 is a top plan view of the tank with the top removed and showing the valve mechanism located therein. Fig. 3 is a vertical sectional view of a portion of the tank.

The tank 1 is of usual construction and is provided with the usual water outlet 2 and inlet 3, controlled by a float-operated valve 4. A valve-seat 5 is located directly over the outlet 2. A buoyant pipe 6 is adapted to seat itself upon the seat 5. The pipe 6 is provided at its lower portion with an enlarged frusto-conical head 7 of sufficient size to close the seat 5 and the said pipe is provided at its upper end with a seat 8. The pipe 6 has an over-flow pipe 9 extending therefrom and movable therewith. The pipe 9 communicates with the pipe 6 at a point between the seat 8 and the enlarged head 7. A rod 10 is secured to the lower portion of the pipe 9 and is also looped about the pipe 6 as at 11. A finger 12 extends from the upper portion of the rod 10 and projecting into the path thereof is a pivoted catch 13 to one end of which is pivoted a rod 14,

having a loop 15 at its lower end, through which the stem 16 of the float of valve 4 extends. A guide-rod 17 is secured in the pipe 2 and extends upward into the pipe 6, the same being slidably engaged by a cross-strip 18, secured within the pipe 6. A lever 19 is fulcrumed at the point 20 within the tank 1, and has its power end projecting close to the side of the said tank. The outer end of the lever 19 is provided with a depending handle 21, the lower end of which is in the vicinity of the lower side of the tank 1, and may be conveniently operated by one while in seated posture.

A buoyant ball-valve 22 rests upon the seat 8 and is adapted to close the same, but may be lifted off of said seat for the purpose of permitting a minor quantity of water to escape from the tank through the pipe 6. The valve 22 is provided with a stem 23, which passes through a guide 24 attached to the overflow pipe 9. A link 25 connects the stem 23 with a lever 26 which is fulcrumed at a point 27 within the tank 1 and has its power end close to the side of the tank 1 opposite to that side adjacent which the end of the lever 19 extends. The outer end of the lever 26 is provided with a depending handle 28, which in turn is provided with knobs 29 and 30. The knob 29 is substantially at the same level as the lower end of the handle 21 and may be operated conveniently by one while in seated posture, while the knob 30 is at a higher point than the knob 29, and may be conveniently operated by one while in standing posture.

From the foregoing description it is obvious that when the handle 21 is depressed the buoyant pipe 6 will be elevated through the instrumentality of the lever 19 and the rod 10. As soon as the head 7 leaves the seat 5 it will attempt to assume a position at the surface of the water and the seat 5 will be uncovered, so that the water may rush from the tank into the outlet 2. The head 7 will remain away from the seat 5 until the water in the tank becomes sufficiently low to gradually lower the head upon the said seat. When the head 7 resumes its position upon the seat 5 the tank begins to fill with water admitted through the inlet 3 and valve 4, but as the pressure of the said water is applied to the sides and top of the head 7 it is held by the weight of the water against the seat 5. When the tank is suffi-



ciently filled the water is cut off automatically at the valve 4. If, however, the valve should, for any reason, fail to operate, the water will fill the tank until it arrives at the level of the upper end of the overflow pipe 9, when the water will flow through the said pipe and the pipe 6, and out through the outlet 2. Inasmuch as the seat 8 is located at a higher point within the tank than the seat 5, when the ball 22 is raised off of the seat 8 by means of the lever 26 and its connections, a minimum quantity of water escapes from the tank through the pipe 6 and outlet 2. The operation of the head 7 and the ball 22 is identical. Consequently, a description of the operation of one will answer for both.

When it is desired to discharge practically all of the water from the tank, the lever 19 is operated to lift the pipe 6. This will cause the head 7 to rise from the seat 5, and the water will be free to flow out through the pipe 2. This movement results in the finger 12 on rod 10 being moved upward into position above the catch 13. This catch is so mounted and is of sufficient strength to support the weight of pipe 6 and rod 10 until the float of valve 4 during its downward movement causes stem 16 to come in contact with the lower portion of the loop 15. This does not occur until almost all of the water has left the tank, and, during the final downward movement of the stem 16 the same will pull on rod 14 with sufficient force to disengage the catch 13 from the finger 12. The pipe 6 will therefore drop downward and the head 7 will move into position upon the seat 5. Water will then be free to enter the tank,

and to return the float of valve 4 to its initial position, as shown in Fig. 1.

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

1. In combination with a tank having a water inlet and a single water outlet and adapted to hold a body of water, a vertically disposed valve member adapted to seat at one end upon the water outlet, said valve member being hollow and having a valve seat at its upper end, a valve for closing against the seat of the first said valve member, and an overflow outlet communicating with the first said valve member, and a separate lever mechanism for operating the valve member and the valve.

2. In combination with a tank having a water inlet and a single water outlet, and adapted to hold a body of water, a vertically disposed hollow buoyant valve member adapted to close against the water outlet, said valve member having at its upper end a valve seat, an overflow outlet communicating with the interior of said valve member, a valve adapted to close against the seat at the upper end of the valve member, and separate lever mechanisms for operating the valve member and the valve.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

FRANK PRICHETT.

Witnesses:

J. R. FRAILEY,  
W. S. HAMILTON.