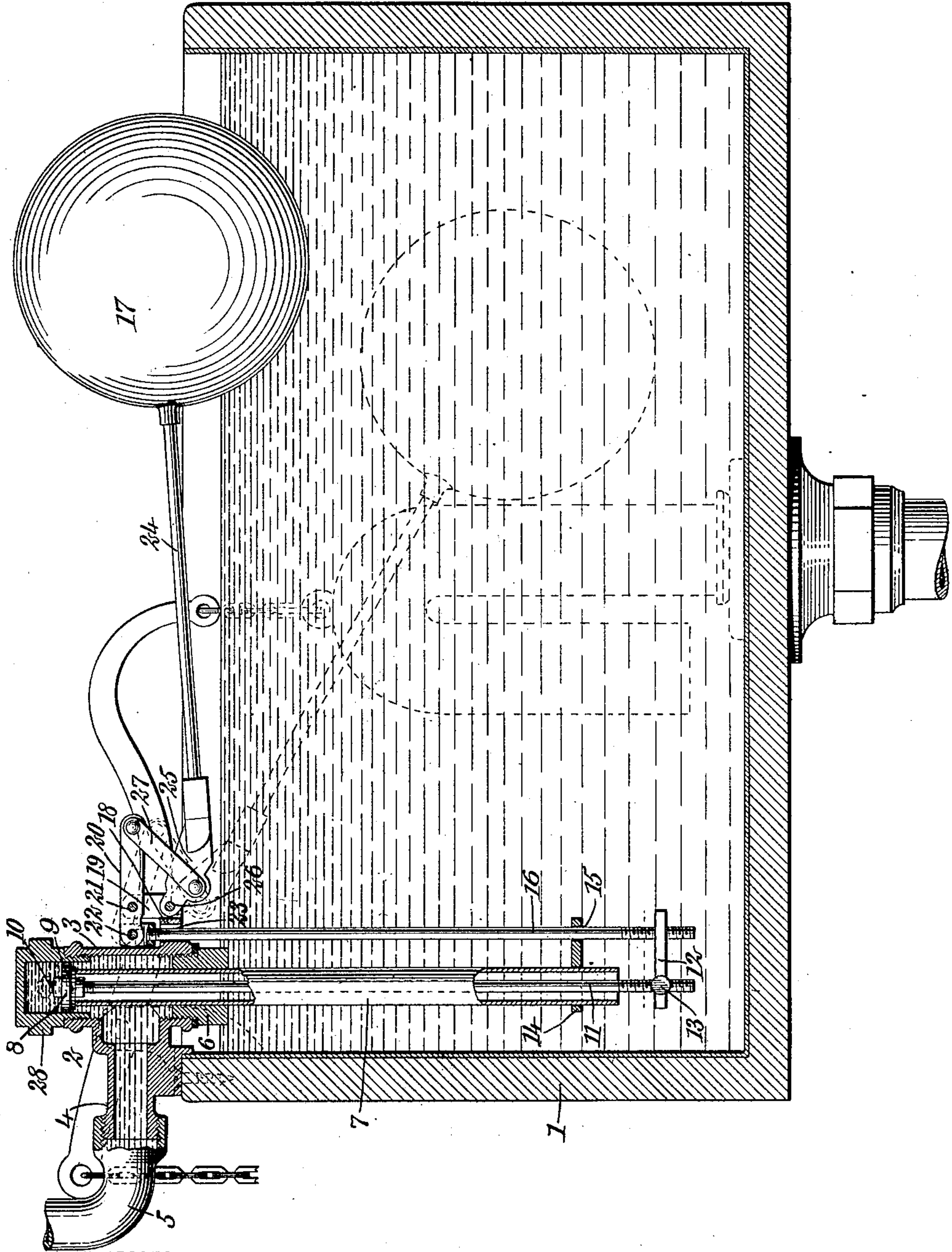


F. CLARK.
BALL COCK.

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910,171.

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WITNESSES
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UNITED STATES PATENT OFFICE.

FRED CLARK, OF NEW YORK, N. Y.

BALL-COCK.

No. 910,171.

Specification of Letters Patent.

Patented Jan. 19, 1909.

Application filed June 11, 1907. Serial No. 378,364.

To all whom it may concern:

Be it known that I, FRED CLARK, a citizen of the United States, and a resident of the city of New York, New Brighton, borough of Richmond, in the county of Richmond and State of New York, have invented a new and Improved Ball-Cock, of which the following is a full, clear, and exact description.

10 This invention relates to ball cocks such as are used in connection with flush tanks.

The object of the invention is to provide a construction which will enable the valve or cock to operate effectively and substantially noiselessly.

15 The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

20 Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in the figure.

25 The figure is a vertical section through a flush tank and a ball cock constructed according to my invention, certain parts being shown in elevation.

Referring more particularly to the parts, 30 1 represents a tank, which is of the usual construction. On the upper edge of this tank the body 2 of the ball cock is mounted. This body 2 comprises a vertically disposed barrel 3 having a horizontal tubular neck 4 to which a supply pipe 5 is attached as indicated. The lower end of the barrel 3 is closed by a threaded removable plug 6 in which there is mounted a drip tube 7, the said tube being rigid in the plug, as will be readily understood. This tube extends upwardly within the interior of the barrel 3 to a point near the upper end thereof, and its upper extremity constitutes a seat for a valve or disk 8. This disk is provided on 45 its under side with a washer or packing disk 9, and these parts are held between nuts 10 on the threaded extremity of a valve stem 11 which passes upwardly through the drip tube 7 as indicated. In this connection it should be observed that the lower end of the drip tube is open and disposed near the bottom of the tank. The lower end of the valve stem 11 is threaded so as to afford means for attaching an adjustable cross 55 head 12, said cross head being provided

with a set screw 13 which enables it to be readily attached to the stem 11 in any adjusted position desired.

Near the lower end of the tube 7 a guide plate 14 is rigidly attached, and this plate is provided with an opening 15 through which a valve rod or valve-operating rod 16 is adapted to slide. This valve rod is operated by means of a float or ball 17, and for this purpose the lower end of the barrel 3 is formed into a laterally projecting bracket 18, which bracket is formed into an upwardly projecting bifurcated post 19. In the upper part of this post a lever 20 is mounted upon a pivot pin 21, and the short arm of this lever is pivotally attached by a pin 22 to the upper end of the valve rod 16, said valve rod being guided through a guide opening 23 formed in the bracket as shown. The float or ball 17 is carried upon an arm 24 having a head 25 which is pivotally attached on a pin 26 in the lower part of the post 19. The head 25 is connected by a link 27 with the aforesaid lever 20. From this arrangement it should be understood that when the tank is full of water, as indicated in the drawing, the arm 24 is held in an elevated position by the float. Through the lever 20 and the valve rod 16, the arm operates to hold the valve 8 upon its seat, so that the valve is closed and the supply of water to the tank is cut off.

The valve disk 8 is guided in a removable cap 28 which has a threaded connection with the upper end of the barrel 3 as shown. When it is necessary to renew the packing disk 9, it is only necessary to remove this cap, whereupon the parts are within easy reach. In this connection it will be observed that the upper end of the drip tube 7 lies quite near the upper end of the barrel 3, so that when the cap 28 is removed, these parts are exposed.

The arrangement for connecting the valve rod 16 with the valve stem 11, enables the parts to be readily adjusted so that the valve will seat at any desired position of the ball or float 17.

It should be understood that the ball cock operates in the usual manner; that is, it is opened wide by the full descent of the float 17, and closes gradually as the float rises with the level of the water in the tank. As the tube 7 has no opening to the tank except at its lower end, it follows that when the

water flows into the valve it must enter the tank through the drip tube 7, the mouth of which is below the low water level in the tank, so that there is substantially no noise from the falling water, and no splashing of water from the tank can occur.

Attention is called to the fact that the tube 7 is imperforate throughout its length, and hence there is no opportunity for water to drip through and fall to the interior of the tank outside of the tube. With my arrangement, the valve is attached at the upper edge of the tank in the usual way, while the water introduces itself to the tank at or near the bottom.

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

1. In a ball cock, in combination, a tank, a valve, a valve body, a tube extending downwardly from said body to a point near the bottom of said tank, a float, a stem extending downwardly in said tube to a point near the lower end thereof, and a valve operating rod connected with said float, extending down at the side of said tube and attached to said stem.

2. In a ball cock in combination, a valve body, a plug mounted in the lower side thereof, a tube fixed in said plug and extending upwardly into said body, a valve disk seating on the upper end of said tube, a removable cap on the upper side of said body, a stem attached to said disk and passing downwardly within said tube, a valve-operating rod extending downwardly substantially vertically and connected with said valve stem below said tube, and a float at-

tached to said valve-operating rod for controlling the same.

3. In a ball cock, in combination, a valve body adapted to be attached to the edge of a flush tank, a plug in the lower side of said body, a tube attached in said plug, extending upwardly within said body and extending downwardly to a low level, a disk seating on the upper end of said tube, a valve stem passing downwardly through said tube and attached to said disk, said stem projecting from the lower end of said tube, a valve operating rod extending downwardly at the side of said tube, a connection between said stem and rod, and a float connected with said valve operating rod.

4. In a ball cock, in combination, a tank, a valve body, the axis whereof is disposed in a substantially vertical position, a removable plug having a thread connection in the lower end of said body, a drip tube passing upwardly through said plug from below forming a valve seat at its upper end, and extending downwardly below the normal water level in said tank, a valve seating on the upper end of said drip tube, a float, a valve stem connecting with said valve and extending downwardly in said tube, and a valve operating rod extending down at the side of said tube and attached to said stem.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRED CLARK.

Witnesses:

F. D. AMMEN,
JOHN P. DAVIS.