No. 756,538. PATENTED APR. 5, 1904.

F. C. SMITH.

BALL COCK FOR TANKS.

APPLICATION FILED JUNE 20, 1903.

NO MODEL.

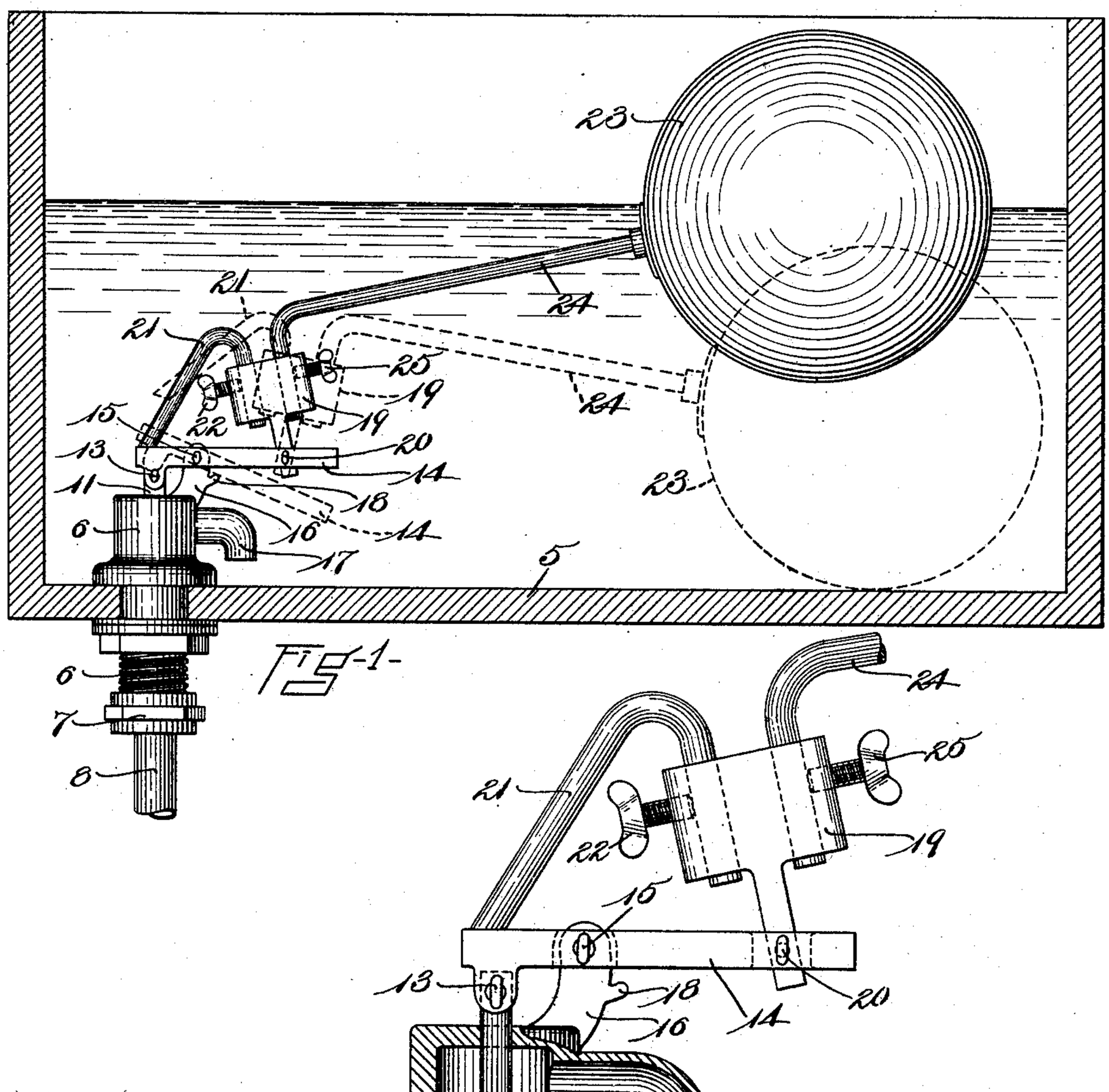

Fig-1-

Fig-2-

WITNESSES:
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No. 756,538. Patented April 5, 1904.

UNITED STATES PATENT OFFICE.

FRANKLIN C. SMITH, OF NEW BEDFORD, MASSACHUSETTS.

BALL-COCK FOR TANKS.

SPECIFICATION forming part of Letters Patent No. 756,538, dated April 5, 1904.

Application filed June 20, 1903. Serial No. 162,360. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN C. SMITH, a citizen of the United States, residing at New Bedford, in the county of Bristol and State of Massachusetts, have invented new and useful Improvements in Ball-Cocks for Tanks, of which the following is a specification.

The invention relates to a shut-off valve or ball-cock for tanks, the object of the invention being to provide a ball-cock which will quickly open the valve to its full extent and will close said valve quickly during the latter part of the upward movement of the ball-float, the larger part of the upward movement of said ball-float having no effect upon the valve proper.

The invention consists in a device of the character described, comprising in its construction an inlet-pipe, a valve-lever pivoted thereto, a valve constructed to open or close said inlet-pipe, said valve connected to said lever at one side of the pivot thereof, a rocking holder pivoted to said lever at the opposite side of said pivot from that to which said valve is connected, and an arm fast to said rocking holder and constructed to abut against said lever.

The invention further consists in the instrumentalities hereinbefore set forth, together with an arm, preferably adjustably fastened to said rocking holder and constructed to abut against said valve-lever.

The invention finally consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings, Figure 1 is a longitudinal section of a tank with my improved ball-cock, shown in elevation, attached thereto. Fig. 2 is an enlarged vertical central section of my improved ball-cock, partly in elevation, the ball-float and arm to which the ball-float is attached being broken away to save space in the drawings.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 5 is a tank of any suitable construction, and 6 is an inlet-pipe projecting through the bottom of the tank 5. The portion of said inlet-pipe which projects outside of said tank is provided with a screw-thread adapted to receive a union 7, which clamps the flanged supply-pipe 8 against a washer 9, said washer 9 being thus clamped against the end of the inlet-pipe 6 and forming a seat for the valve 10. The valve 10 has fast thereto a stem 11, provided with wings 12 12, projecting laterally therefrom and bearing against the interior of the inlet-pipe 6, acting as a guide for said valve. The upper end of the valve-stem 11 projects through a hole formed in the end of the inlet-pipe 6 and is connected by a pin 13 to a valve-lever 14, pivoted at 15 to an arm 16, integral with the upper end of the inlet-pipe 6. The inlet-pipe 6 is provided with an outlet 17, which when the inlet-pipe is fastened to the bottom of the tank is preferably turned downward, so that the water as it discharges into the tank will be directed against the bottom thereof. A stop 18 is provided upon the arm 16, which limits the distance to which the lever 14 can rock upon its pivot 15. A rocking holder 19 is pivoted at 20 to the valve-lever 14 upon the opposite side of the pivot 15 to that at which the valve-stem 11 is connected to said lever 14. An arm 21 is adjustably fastened to the rocking holder 19 by a thumb-screw 22, the outer or free end of said arm being constructed to bear against the lever 14 when said lever is in the position shown in full lines in Figs. 1 and 2.

A ball-float 23, of the usual construction, is attached to an arm 24, said arm being fastened by a thumb-screw 25 to the rocking holder 10.

The operation of my improved ball-cock, hereinbefore specifically described, is as follows: Assuming the valve 10 to be closed, as shown in Fig. 2, the valve-lever 14 will then be in the position indicated in full lines in Figs. 1 and 2. When water is drawn from the tank in the usual manner well known to those skilled in this art, the ball-float descends from the position shown in full lines to that shown in dotted lines. During the first portion of this descent the lever 14, rocking holder 19, arm 21, arm 24, and ball-float 23 move together as one piece. As soon, however, as the lever 14 abuts against the stop 18, as shown in dotted lines, Fig. 1, said lever stops and the valve 10 is then wide open, having been

raised by the pressure of the water in the pipe 8. As the water continues to be drawn from the tank the ball 23 descends to the position shown in dotted lines, Fig. 1, and the rocking holder 19, together with the arm 21, assumes the position shown in dotted lines in said Fig. 1. Now as water is admitted to the tank the ball 23 ascends from the position shown in dotted lines to that shown in full lines, and it is evident that the lever 14 will remain in the position shown in dotted lines, Fig. 1, and the valve remain open until the ball 23 has risen to a sufficient height to tip the rocking holder 19 upon its pivot 20 and cause the free end of the arm 21 to abut against the upper face of the lever 14. This will be at the latter end of the rising motion of the ball 23, so that it will be evident that the valve 10 will be wide open and will remain stationary until the ball 23 is at the latter end of its rising movement. It will also be evident that the time at which the valve 10 begins to close may be regulated by adjusting the arm 21 toward or away from the lever 14 by means of the thumb-screw 22.

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

1. A ball-cock for tanks comprising in its construction an inlet-pipe, a valve-lever pivoted thereto, a valve connected to said lever at one side of the pivot thereof, a rocking holder pivoted to said lever at the opposite side of said pivot from that to which said valve is connected, an arm fast to said rocking holder and constructed to abut against said lever, and means to adjust said arm with relation to said lever.

2. A ball-cock for tanks comprising in its construction a valve-lever, a pivot therefor, a rocking holder pivoted to said valve-lever, a float fast to said rocking holder, an arm fast to said rocking holder, constructed to abut against said valve-lever, and means to adjust said arm with relation to said valve-lever.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FRANKLIN C. SMITH.

Witnesses:

FREDERIC A. WASHBURN,

REBECCA M. HOWARD.