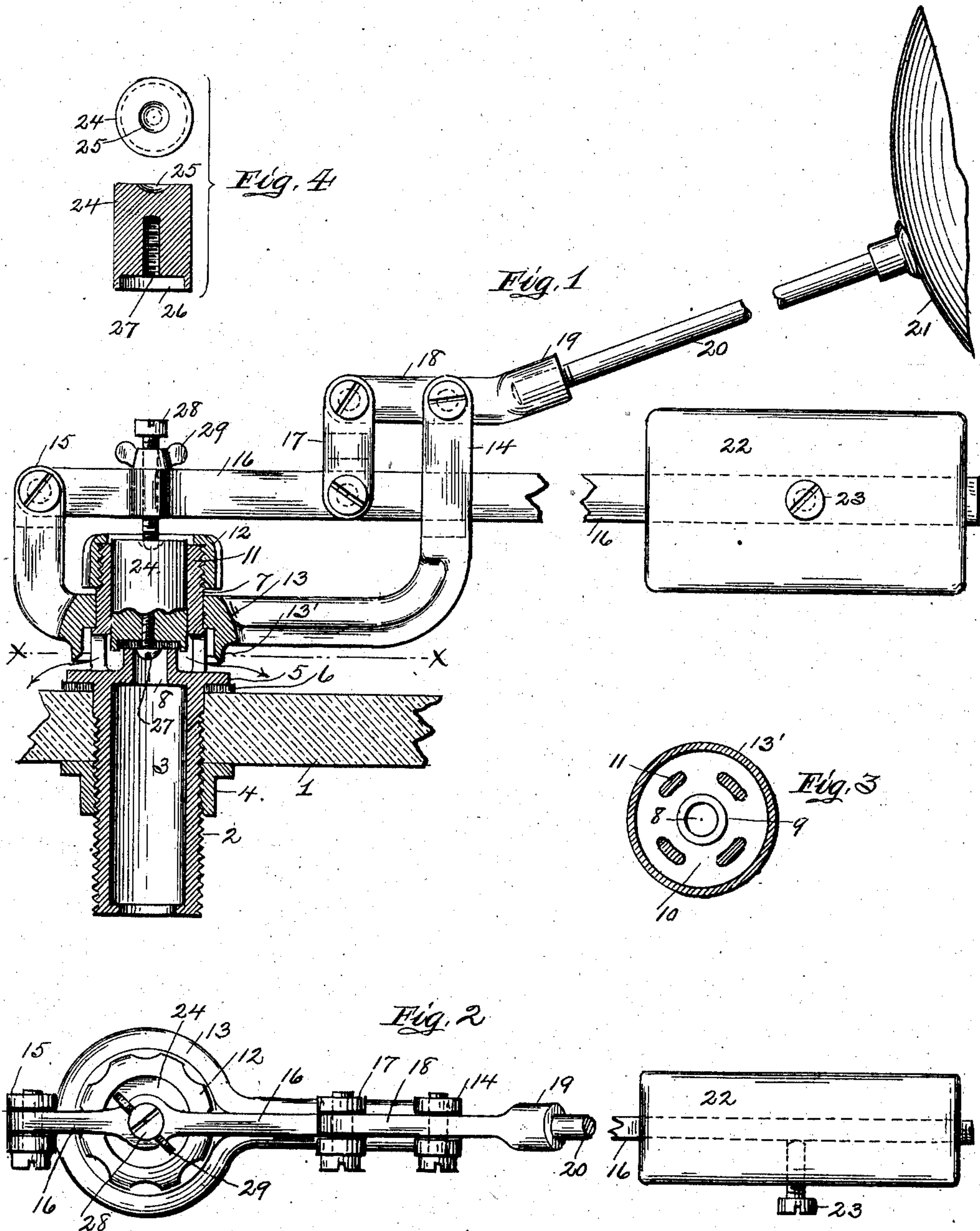


No. 846,598.

PATENTED MAR. 12, 1907.

J. McKAIG.  
BALL COCK FOR FLUSH TANKS.  
APPLICATION FILED DEC. 14, 1905.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

JAMES McKAIG, OF ALLEGHENY, PENNSYLVANIA.

## BALL-COCK FOR FLUSH-TANKS.

No. 846,598.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed December 14, 1905. Serial No. 291,917.

*To all whom it may concern:*

Be it known that I, JAMES McKAIG, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Ball-Cocks for Flush-Tanks; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in ball-cocks for flush-tanks; and it consists in a means whereby the valve proper may be regulated for varying water-pressures independent of the length of the float-lever, a means for regulating and controlling the throw of said valve, together with the certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a side sectional elevation of my improved ball-cock for flush-tanks, the same being constructed and arranged in accordance with my invention. Fig. 2 is a plan view of the same. Fig. 3 is a sectional plan view taken on the line  $xx$  of Fig. 1. Fig. 4 is a plan view and side sectional elevation of the valve removed from the casing.

To construct a ball-valve for flush-tanks in accordance with my invention, I form from suitable material a shell comprising a lower threaded portion 2, having an annular bore 3, a lateral flange 5, and is fitted with a flanged nut 4, by means of which the valve may be attached in position in the bottom of a flush-tank 1 in a manner well known in the art. Above the lateral flange 5 and integral therewith is an extension 11 of the shell 2, also formed with an annular bore and in which a plug-valve 24 is made to operate. This valve 24 consists of a cylindrical body portion 24, having at its top a depression 25 and at its base an annular recess 26, adapted to contain a washer, said washer being kept in position by a screw 27. This valve 24 is located above a contracted bore 8, formed integral with the lateral flange 5, and forms a valve-seat 9. Opposite this valve-seat 9 are openings 10, formed through the shell 11,

through which the water flowing from the orifice 8 finds its way to the tank 1. Resting upon a shoulder formed on the upper portion 11 of the shell is a yoke 13, annular in form and provided with a downwardly-projecting apron 13' to deflect the water downward, the said yoke being loosely mounted and free to revolve about the casing 11 and is held in position by an inwardly-flanged nut 12, screwed upon an external thread formed on said shell, as will be best seen by reference to Fig. 1 of the drawings.

Formed integral with the above-described yoke 13 are two brackets 14 15, the one in line with the other and located at different distances from the center line of the valve. Each of these brackets is slotted for the reception of a lever 16, arranged in a horizontal position a short distance above the valve 24, the said lever being fulcrumed to the bracket 15 nearest the valve and guided in the slot of the other bracket 14. Attached to the outer or free end of the lever 16 is an adjustable weight 22, which may be moved along the length of said lever and secured in the desired position by means of a set-screw 23, which passes through one side of the weight and impinges upon the lever. Fulcrumed, by means of a transverse pin, to the bracket 14 and in the same plane as the lever 16 is a short supplemental lever 18, which is connected to the main lever 16 below by a short link 17 and its free end formed with a threaded socket 19, in which the float-lever 20 is attached, said float-lever being provided with a hollow ball or float 21, common with this class of valves. Arranged through the lever 16 in a vertical position is a temper-screw 28, fitted with a locking-nut 29, which screw may be adjusted toward or away from the valve 24 and increase or diminish the throw of said valve, thereby regulating the volume of water in the tank.

In operation this ball-cock will be found particularly useful, as it can be adjusted by moving the weight along the lever 16 to work perfectly under the minimum and maximum pressures of water against the bottom of the valve 24. By moving the weight 22 outward or away from the valve 24 a greater pressure will be required to lift the valve independent of the float 21 or the length of its lever. This advantage will be appreciated where city water-pressure varies in different



localities, as by means of the weight the float may be balanced to the greatest degree of accuracy.

Various slight modifications and changes  
5 may be made in the details of construction without departing from the spirit of the invention. Therefore I do not wish to confine myself to the exact construction shown and described, but wish to claim all such modified  
10 forms as would come properly within the general scope of the invention.

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

15 1. In a device of the class described, a valve-casing having a valve-seat, a valve bearing upon said seat, a lever swinging from said casing and coupled to said valve near its swinging end and with a weight adjustably

disposed thereon, and a float-lever coupled to  
20 said weight-lever between its weight and the valve.

2. In a device of the class described, a valve-casing having a valve-seat and with spaced lateral standards, a valve bearing  
25 upon said seat, a lever pivoted to swing from one of said standards and coupled to said valve and with its free end weighted, a float-lever swinging from the other of said standards and coupled to said weighted lever be-  
30 tween the valve and weight.

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

JAMES McKAIG.

Witnesses:

C. C. LEE,  
A. M. LEE.