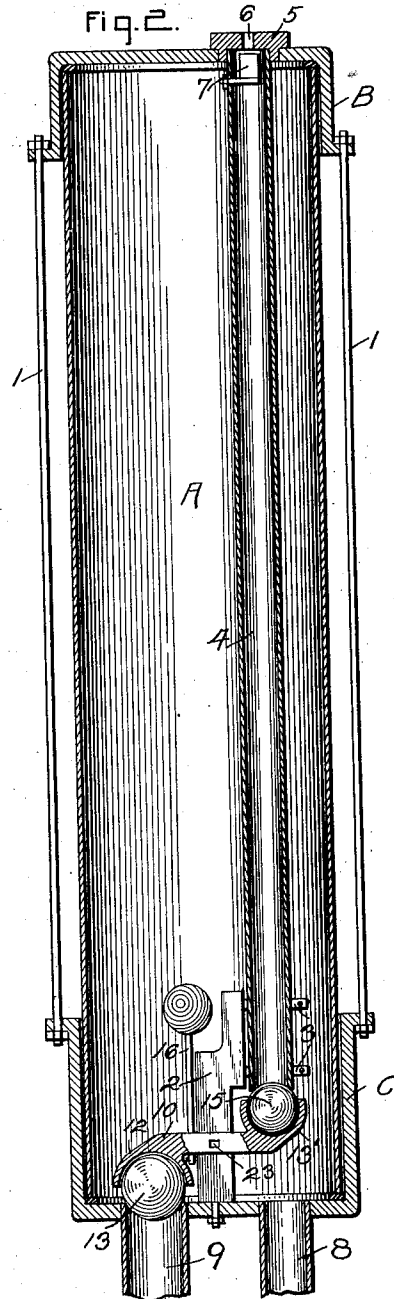
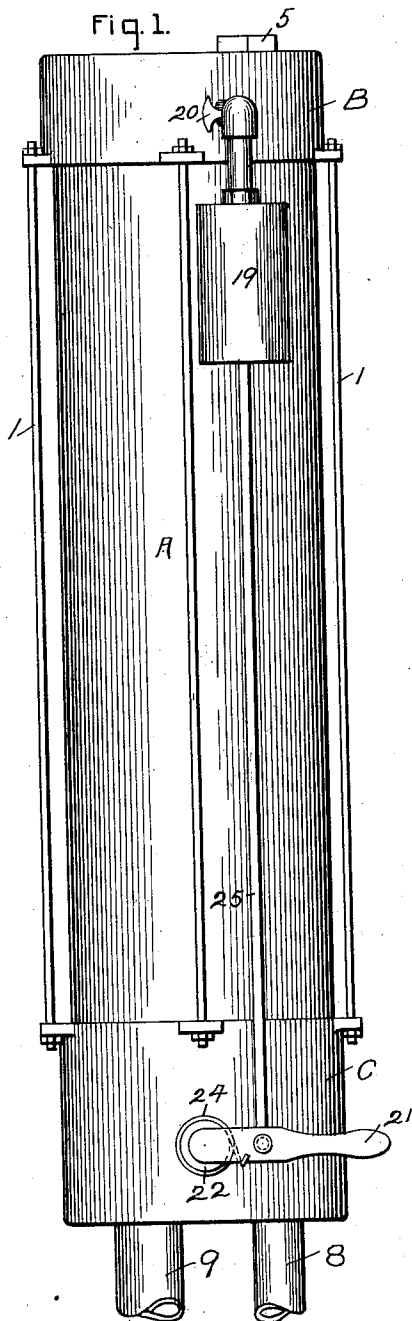


B. E. DORMAN.
CLOSET AND URINAL FLUSHER.
APPLICATION FILED SEPT. 9, 1909.

1,025,740.

Patented May 7, 1912.

2 SHEETS-SHEET 1.



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Fig. 3.

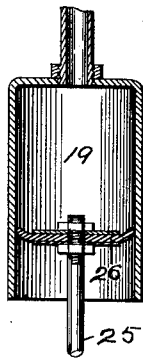


Fig. 4.

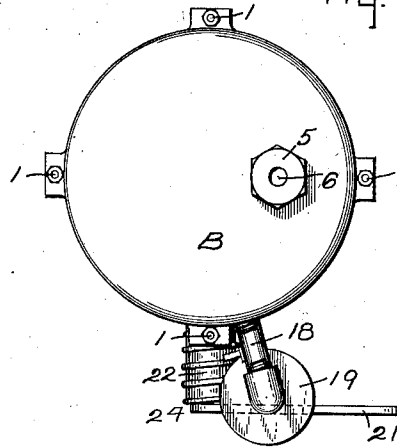


Fig. 5.

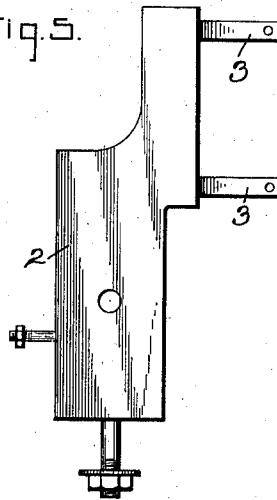


Fig. 6.

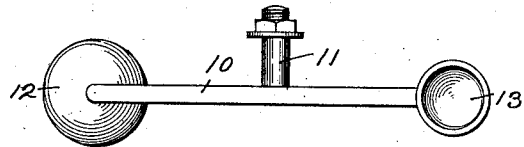
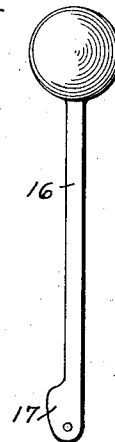


Fig. 7.



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UNITED STATES PATENT OFFICE.

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CLOSET AND URINAL FLUSHER.

1,025,740.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed September 9, 1909. Serial No. 516,894.

To all whom it may concern:

Be it known that I, BERT E. DORMAN, a citizen of the United States, residing at Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Closet and Urinal Flushers, of which the following is a specification.

My invention relates to an improved closet and urinal flusher and the object is to provide means whereby water may be discharged automatically or manually.

The invention consists of certain novel features of construction and combinations of parts to be hereinafter described and pointed out in the claims.

In the accompanying drawings:—Figure 1 is a view in side elevation; Fig. 2 is a vertical sectional view. Fig. 3 is a vertical sectional view of the air chamber; Fig. 4 is a top plan view; Fig. 5 is a view in elevation showing the manner of supporting the air pipe at the lower end of the tank or cylinder; Fig. 6 is a view in elevation of the ball valves; and Fig. 7 is a view of the float.

A represents the cylinder, which is held in heads B and C for closing each end of the cylinder forming a tank. Rods 1, 1 connect the two heads together for forming a tight connection between the heads and ends of the cylinder. A standard 2 is connected to the head C and brackets 3, 3 are mounted or formed on the standard. An air pipe 4 is held in the head B and extends down into the cylinder where it is connected to the standard 2 by the brackets 3, 3. The upper end of the pipe 4 is partially closed by a cap 5, which is provided with an opening 6. A valve 7 in the upper end of the pipe is adapted to regulate the admission of air to the pipe. A pipe 8 is connected to the head C or lower end of the tank which leads to any suitable water supply, and a pipe 9 is connected to the head C which leads to the closet. An arm 10 is pivotally supported upon the standard 2 by a shank 11 on the arm passing through an opening in the standard. At each end of the arm a cage or pocket is formed. The downwardly extending pocket 12 is adapted to receive the ball valve 13 for closing the end of the pipe 9 and preventing the water from the tank passing into the pipe. An upwardly extending pocket or cage 13' on the other end of the arm receives a ball valve 15, which is

adapted to close the lower end of the air pipe 4 to prevent the admission of air to the tank. A float 16 is pivoted to the standard 2 and provided with a cam 17, which is adapted to engage the arm 10 for raising the valve 13 whereby the water in the tank may pass into the pipe 9 and the air in the pipe 4 be admitted to the tank when the tank is operated automatically or by air pressure. A pipe 18 is connected to the upper head B and connected to the pipe is an air chamber 19. A valve 20 is formed in the pipe for regulating the admission of air from the tank to the air chamber. A lever 21 is journaled in the head C. One end of a shank 22 on the lever is received in a socket 23 on the arm 10. A coil spring 24 surrounds the shank 22 and is connected to the head C and lever 21 for limiting the movement of the lever. A rod 25 is connected to the lever 21 and extends upwardly into the air chamber 19. A plunger or piston 26, suitably packed, is mounted on the rod and is adapted to be reciprocated in the chamber upon the operation of the lever.

This device may be operated either automatically or manually, and the mechanical operation will first be described.

The pipe 8 being connected with a suitable source of water supply, the water will be admitted to the cylinder or tank A, and when it is desired to discharge the water from the tank to the closet through the pipe 9 the lever 21 will be operated, which will cause the arm 10 to be partially rotated thereby operating the ball-valves 13 and 15 permitting the water to pass through the pipe 9. When the tank is filled with water, the rod 16 is in a vertical position and the cam 17 is pressing against the side of the arm 10, but as soon as the arm 10 is either manually or automatically operated, causing the ball valves 13 and 15 to be moved away from the pipes 9 and 4, the cam will pass beneath the arm 10 and hold the end carrying the valve 13 upward, thereby allowing the water to be discharged through the outlet pipe 9. The rod 16 will remain in a vertical position until the water in tank A falls below the float, when the weight of the float will cause the cam to be withdrawn from under the arm 10, and the valves 13 and 15 will close the pipes 9 and 4. The pipe 4 allows air to enter the tank A, after the pressure inside the tank is less than the atmosphere pres-

sure, and it will overcome the gurgling noise when the tank is partly empty which is caused by a closed tank.

When operated under air pressure, the air in the cylinder A will be forced to the top of the cylinder by the incoming water through the pipe 8. The air will pass through the pipe 18 into the air chamber 19, and as the tank becomes filled the air which is forced into the chamber will cause the rod 25 to be forced downwardly operating the arm 10, causing the valves 13 and 15 to open the pipes 4 and 9.

It is evident that more or less slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth, but:—

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

1. In a closet flusher the combination with a tank, inlet and outlet pipes connected thereto, of a pivoted arm, a ball valve on the arm for closing the outlet opening and means connected to the arm whereby it is operated for opening and closing the outlet opening.

2. In a closet flusher the combination with a tank having inlet and outlet openings, of an air chamber connected to the tank adapted to receive the air from the tank during the filling operation of the tank, a valve for closing the outlet opening, and means connecting the air chamber and valve whereby the valve is operated for discharging the water from the tank when the required amount of water has entered the tank.

3. In a closet flusher the combination with a tank having inlet and outlet pipes, of an air pipe, valves for closing the air pipe and outlet pipe, an air chamber connected to the tank adapted to receive the air from the tank as the water is admitted for filling the tank, means connecting the chamber and valves whereby they are operated for discharging the water from the tank and admitting air thereto when the tank has become sufficiently filled with water.

4. In a closet flusher the combination with a tank having inlet and outlet pipes, of an air pipe received within the tank, a standard, an arm pivotally mounted on the stand-

ard, valves on the arm for closing the air and outlet pipes, an air chamber connected to the tank adapted to receive the air from the tank as the water is admitted for filling the tank, means connecting the chamber and arm whereby the valves are operated when a sufficient amount of water is received in the tank.

5. In a closet flusher the combination with a tank having inlet and outlet pipes, of an air pipe received within the tank, a standard, an arm pivotally mounted on the standard, valves on the arm for closing the air and outlet pipes, an air chamber connected to the tank adapted to receive the air from the tank as the water is admitted for filling the tank, and means connecting the arm and chamber for operating the valves after each flushing operation upon the filling of the tank.

6. In a closet flusher the combination with a tank having inlet and outlet pipes, an air inlet pipe, a standard, an arm pivotally mounted on the standard, valves on the arm for closing the air and outlet pipes, a lever connected to the arm, of an air chamber connected to the tank adapted to receive the air during the filling operation of the tank, a plunger in the chamber connected to the lever and adapted to operate the lever for operating the valves when the tank has become sufficiently filled with water.

7. In a closet flusher the combination with a tank having inlet and outlet pipes, an air inlet pipe, a standard, an arm pivotally mounted on the standard, valves on the arm for closing the air and outlet pipes, a lever connected to the arm, of an air chamber connected to the tank adapted to receive the air during the filling operation of the tank, a plunger in the chamber connected to the lever and adapted to operate the lever for operating the valves when the tank has become sufficiently filled with water, and a float for operating the valves whereby the air and outlet pipes are prevented from becoming closed until the water has passed from the tank.

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

BERT E. DORMAN.

Witnesses:

ROY E. FREECE,

J. E. JOHNSON.