June 16, 1925. 1,542,703

W. J. KIRKHAM

WATER CLOSET

Filed May 29, 1924

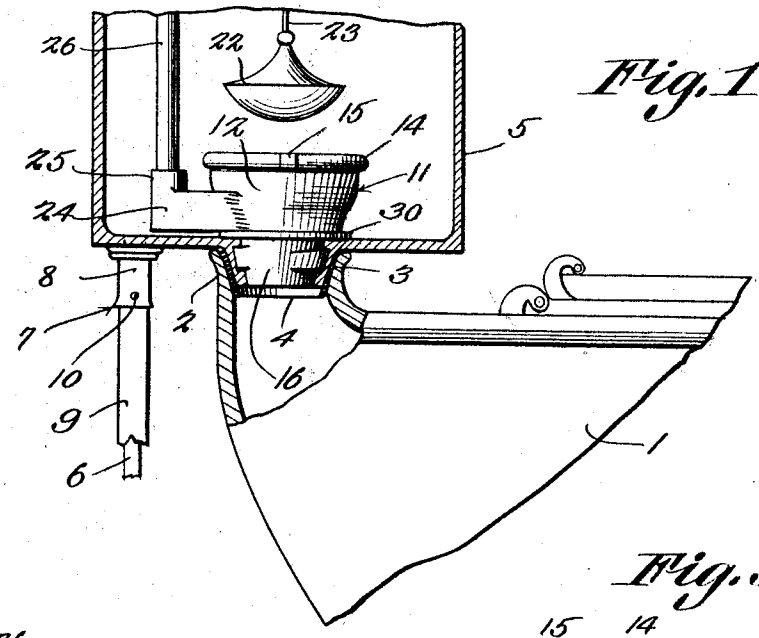


Fig. 1.

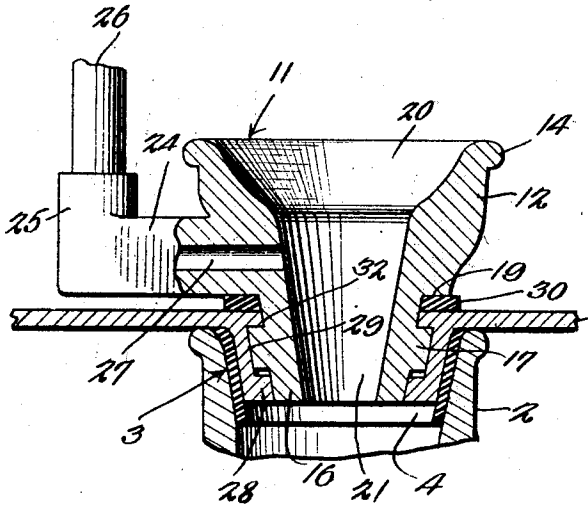
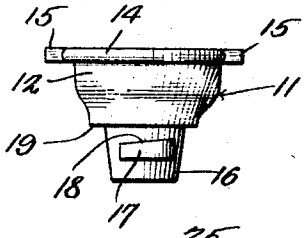


Fig. 2.

Fig. 3.



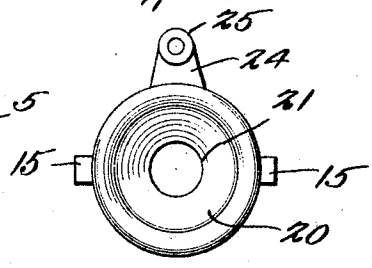


Fig. 4.

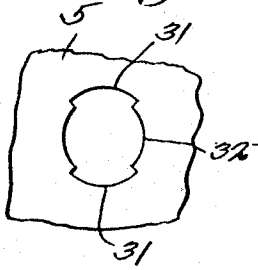


Fig. 5.

Inventor

W. J. Kirkham

By CA Snow & Co

Attorneys.

Patented June 16, 1925. 1,542,703

UNITED STATES PATENT OFFICE.

WALTER JOSEPH KIRKHAM, OF HELENA, ARKANSAS.

WATER CLOSET.

Application filed May 29, 1924. Serial No. 716,712.

To all whom it may concern:

Be it known that I, WALTER J. KIRKHAM, a citizen of the United States, residing at Helena, in the county of Phillips and State of Arkansas, have invented a new and useful Water-Closet, of which the following is a specification.

This invention aims to provide novel means whereby a connection between a closet bowl and a flush tank, and a connection between the valve seat and the flush tank may be effected, without resorting to flush ells, spuds, lock nuts and the like, which tarnish, accumulate dirt and lend complications of various sorts.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

Although a preferred form has been shown in the drawings, it will be understood that a mechanic, working within the scope of what is claimed, may make changes, without departing from the spirit of the invention, or placing the utility of the device in jeopardy.

In the drawings:—Figure 1 is a vertical sectional view disclosing a device constructed in accordance with the invention, some parts being in elevation; Figure 2 is a section taken through the valve seat and attendant parts; Figure 3 is an elevation disclosing the valve seat; Figure 4 is a plan of the valve seat. Figure 5 is a fragmental plan showing a portion of the bottom of the flush tank.

The numeral 1 marks a closet bowl having an upstanding integral neck 2 provided with a tapered bore 3 wherein is seated a conical gasket 4, which may be made of lead, if desired. The flush tank is marked by the numeral 5, and water is furnished to the tank through a supply pipe 6 enclosed within a casing 7 of tubular form, comprising telescoped parts 8 and 9, held against relative movement by a set screw 10.

The numeral 11 designates a valve seat including a body 12 having a rim 14 equipped with outstanding lugs 15, adapted to cooperate with a spanner wrench, or like tool, whereby the valve seat may be rotated for a purpose to be explained hereinafter. The valve seat 11 includes a tapered foot 16 provided with cam ribs 17 on its sides, the upper edges of the ribs being inclined, as at 18, circumferentially of the foot 16. There is a shoulder 19 at the place where the foot 16 of the valve seat 11 joins the body 12 of the valve seat. The valve seat 11 is provided in its upper end with a recess 20, and has a tapered bore 21 communicating with the recess. The recess 20 is adapted to receive a float valve 22 operated by any common means 23. The valve seat 11 is equipped with an offset arm 24 provided with a nipple 25 adapted to receive a pipe 26 discharging through a passage 27 in the arm 24, into the bore 21 of the valve seat, below the valve 22, when the valve cooperates with the recess 20. The pipe 26 communicates with the ball cock (not shown) and serves as a refill for the siphon of the bowl 1, in a way well understood by those skilled in the art.

The bottom of the flush tank 5 is provided with a tapered spout 28 seated within the gasket 4. The spout 28 is equipped with internal circumferential grooves 29, shaped and adapted to receive the cam ribs 17 of the valve seat 11, a gasket 30, made of lead or any other suitable material, surrounding the foot 16 of the valve seat 11 and bound between the shoulder 19 and the bottom of the tank 5. In order that the cam ribs 17 may be inserted into the circumferential grooves 29, the bottom of the tank 5 is provided, as shown in Figure 5, with slots or notches 31 communicating with the grooves 29 and with the opening 32 in the tank bottom 5, through which the tapered foot 16 of the valve seat 11 extends.

In practical operation, the foot 16 of the valve seat 11 is inserted into the spout 28 on the bottom of the tank 5, the ribs 17 passing downwardly into the grooves 29 through the notches 31. A spanner wrench or like tool is applied to the lugs 5 of the valve seat 11, and the seat is rotated, the ribs 17 and the grooves 29 causing the seat 11 to move downwardly, the gasket 30 being bound tightly between the bottom of the tank 5 and the shoulder 19 of the valve seat 11.

What is claimed is:—

In a device of the class described, a flush tank comprising a bottom having an integral spout provided in its interior with circumferential grooves, the upper walls of which are formed by the bottom of the tank, the bottom being provided with notches communicating with the grooves,

and a valve seat extended into the spout, the seat having lateral cam ribs insertable through the notches into the grooves, the seat having an external shoulder, and a gasket interposed between the shoulder and the bottom of the tank, the ribs cooperating cam-wise with the grooves, when the seat is rotated, to bind the gasket between the shoulder and the bottom of the tank, the gasket and the shoulder cooperating to prevent a distortion of the bottom of the tank, due to the cam action of the ribs.

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

WALTER JOSEPH KIRKHAM.

Witnesses:

J. E. OATES,

ELROD OATES.