

(No Model.)

3 Sheets—Sheet 1.

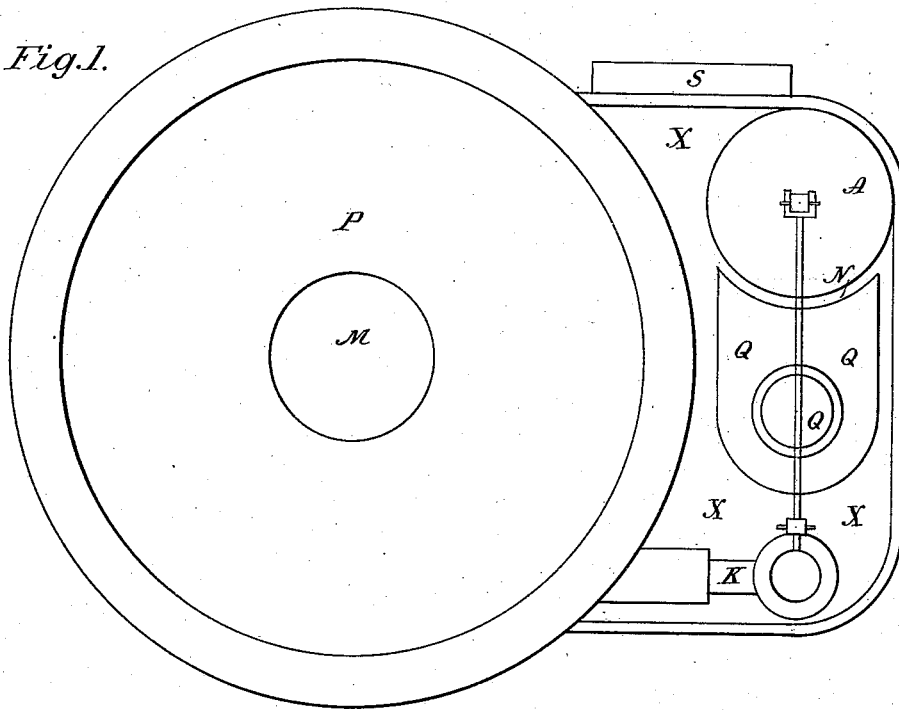
D. S. KEITH.

WATER CLOSET MECHANISM.

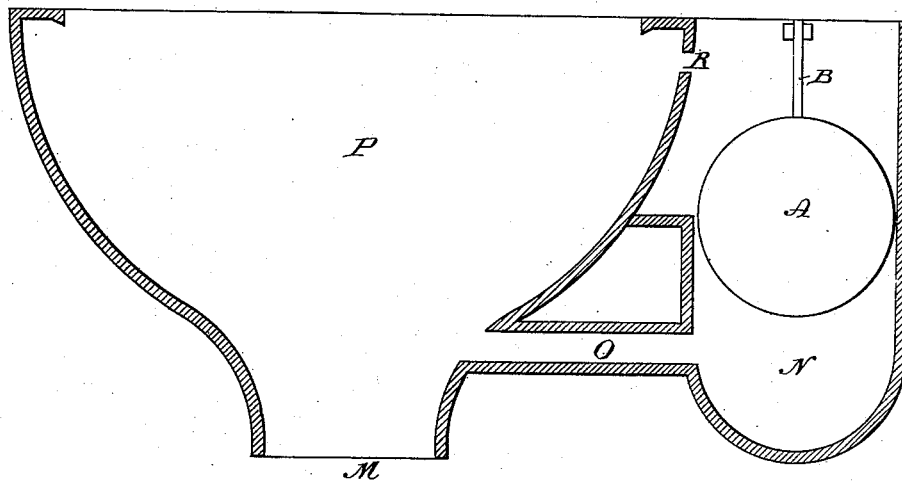
No. 261,358.

Patented July 18, 1882.

*Fig. 1.*



*Fig. 3.*



WITNESSES

*Wm A. Shinkle*  
*Wm J. Tanner*

INVENTOR

By his Attorneys *David Smith Keith,*  
*Baldwin, Hopkins, & Peyton.*

(No Model.)

3 Sheets—Sheet 2.

D. S. KEITH.

WATER CLOSET MECHANISM.

No. 261,358.

Patented July 18, 1882.

Fig. 2.

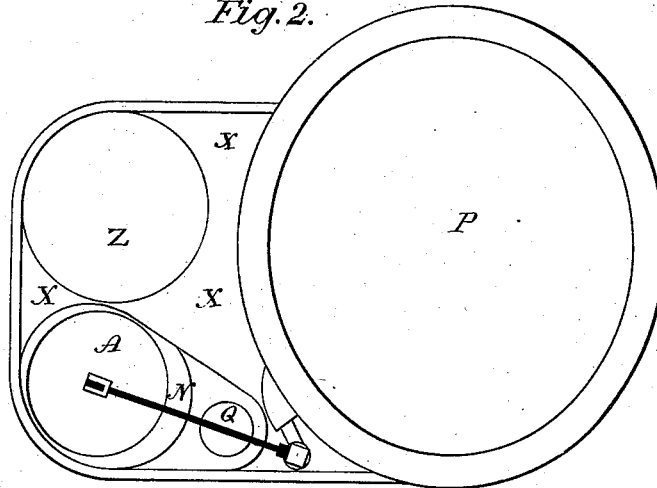
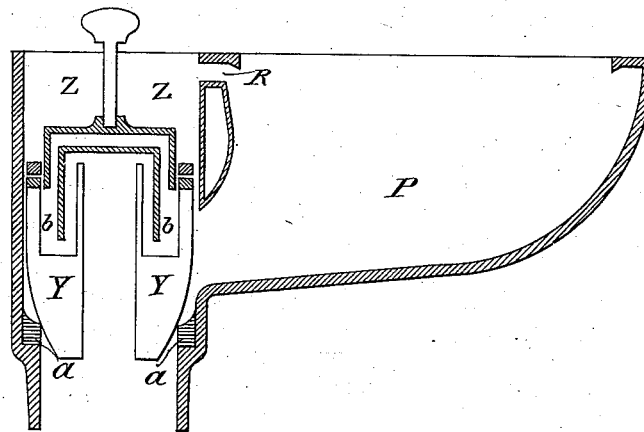


Fig. 4.



WITNESSES

Wm. A. Skunkle.  
Wm. J. Tanner.

INVENTOR

By his Attorneys

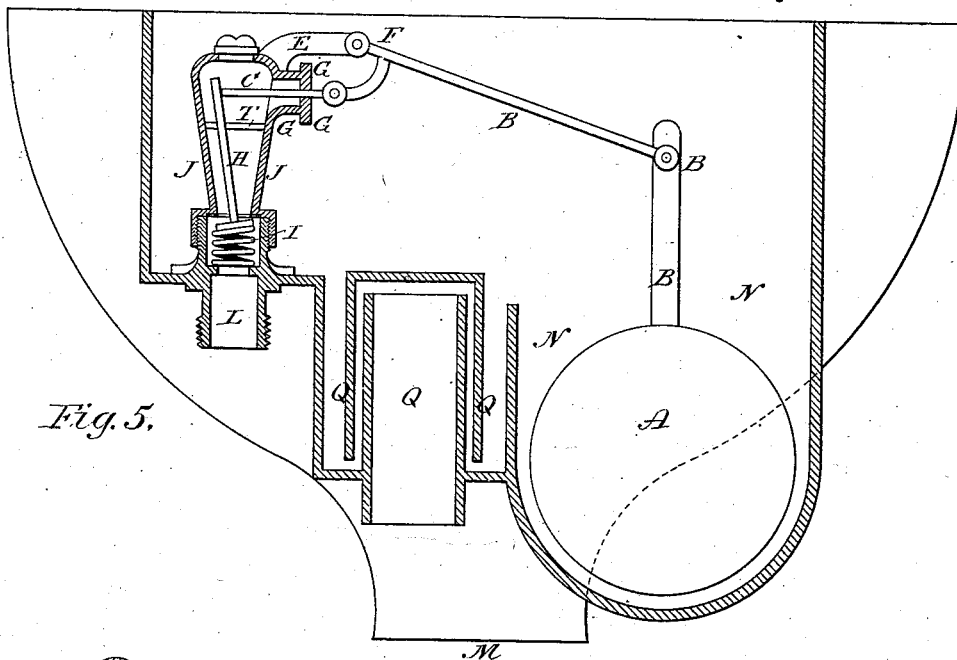
David Smith Keith,

Baldwin, Hopkins, & Peyton.

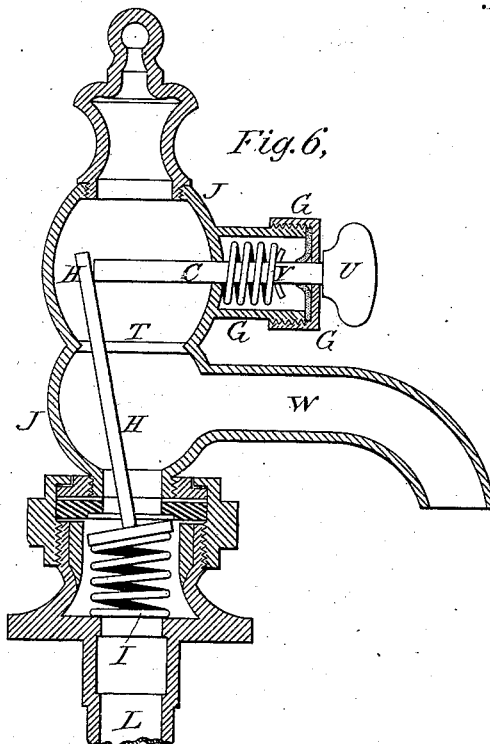
3 Sheets—Sheet 3.

## WATER CLOSET MECHANISM.

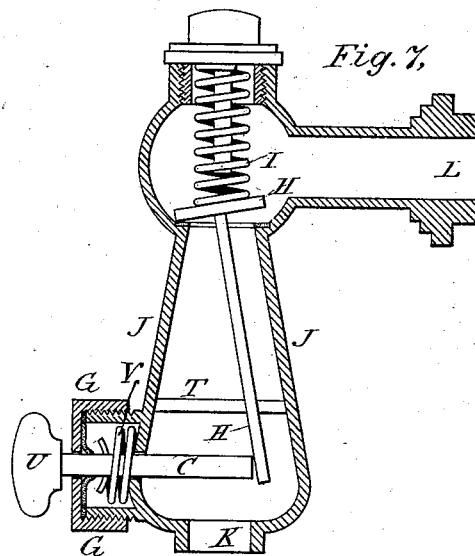
Patented July 18, 1882.



*Fig. 5.*



*Fig. 6,*



*Fig. 7.*

WITNESSES

Wm. A. Shinkle  
Wm. J. Tanner

INVENTOR

By his Attorneys *David Smith Keith,*  
*Baldwin, Hopkins, & Peyton.*

# UNITED STATES PATENT OFFICE.

DAVID S. KEITH, OF TORONTO, ONTARIO, CANADA.

## WATER-CLOSET MECHANISM.

SPECIFICATION forming part of Letters Patent No. 261,358, dated July 18, 1882.

Application filed April 12, 1882. (No model.) - Patented in Canada June 30, 1881, No. 13,040.

*To all whom it may concern:*

Be it known that I, DAVID SMITH KEITH, a subject of Her Majesty Queen Victoria, residing in the city of Toronto, in the county of York, Province of Ontario, and Dominion of Canada, plumber, have invented new and useful Improvements on Water-Closet Mechanisms, (for which I have obtained a patent in said Dominion of Canada, No. 13,040, bearing date June 30, 1881,) of which the following is a specification.

One part of my apparatus consists of a canting spindle valve supported by a spiral or rubber spring, the canting spindle valve and spring being inclosed in a jacket in such a way as to control the outlet of water coming in through the valve and sending it in such direction as may be required for various purposes, and a spindle in a stuffing-box, operated by a floating ball on a hinged ball-lever.

Another part of my apparatus consists in the same combination of mechanical forces or appliances, the spindle in the stuffing-box being worked without the ball by means of a push-button or knob affixed to the end thereof, the said spindle-rod being worked in and out by means of a spring inside the stuffing-box.

Another part of my apparatus consists in a safe embracing a cistern, bell-trap overflow, and ventilator, in combination with a basin and a connecting-tube for the passage of water from basin to safe, said safe, basin, and tube being made in one piece, but in separate compartments, so as to effect a saving of water and keep the soil out of the compartments in which is the valve apparatus. The connecting-tube feeds the cistern with water in such manner as to prevent any soil going with the water from the basin into the cistern and clogging the ball or valve, thus preventing the emitting of noxious odors or gases. Into this safe is also brought the horn or inlet of the basin, so that the valve can be connected therewith without piping, and requiring no putty joints, but merely a rubber washer, thus keeping all water-connections inside the safe.

Another part of my apparatus consists in the combination of the canting valve, as described above in clause No. 1, worked by a floating ball, with a basin having center outlet and safe, as above described in clause No. 3.

Another part of my apparatus consists in

the same combination of canting valve as described in clause No. 1, (worked by a floating ball,) with a basin with a side outlet, and safe, as described in clause No. 3, the side outlet being furnished with an earthenware or porcelain plunger, pressing against a rubber ring, as hereinafter more fully set forth.

Figure 1 is a top view showing the mouth of the basin with center outlet, the safe, the cistern, bell-trap overflow, and valve connected with horn of basin, also the ventilating-pipe leading from the cistern. Fig. 2 is a top view showing the mouth of a side outlet basin, the safe, the cistern, and also the plunger-chamber, in which is the plunger referred to above. Fig. 3 is a vertical transverse section of closet with center outlet to basin, showing the ball raised so as to close the valve, as will happen when the basin and cistern are nearly filled with water. Fig. 4 is a vertical transverse section, front view, of closet with side outlet to basin and plunger resting on rubber ring so as to keep the water in basin. Fig. 5 represents the valve in the basin with center outlet open, the water having been withdrawn from the basin by the opening of the basin-valve (not shown) into the trap in the ordinary way, thus withdrawing the water from the ball-cistern through the tube O, which tube is shown on Fig. 3. Fig. 6 shows the valve operated without ball by spring push-button. Fig. 7 shows the same valve, with this modification, that it is inverted, in which position the canting valve may be kept in place by its own weight without the use of a spring, the water coming in at the side and flowing out at the bottom, in which form the construction of the jacket may be more simple, the coupling of the valve being done away with and access to the inside of the valve being had by means of a plug at the top. In the spindle-valve seat in this figure is inserted a rubber washer to keep the valve water-tight.

A is a floating ball, operating on the hinged ball-lever B B B, and connected with the spindle C by the hinge D, also connected with the shears E by the hinge F.

G G G represent the stuffing-box.

H H is the canting spindle valve, supported by the spiral or rubber spring I; J J, the sides of the jacket.

K in Fig. 1 is the pipe for the water which

comes in through L in Fig. 5 and passes the canting valve H into the compartment J J and is driven into the basin P. When the ordinary basin-valve (not shown) at the bottom M in Fig. 5 has closed, or the plunger Y is down, (in Fig. 4,) the water, discharging through the pipe K into the basin P, flows through the tube or passage O in Fig. 3, or through plunger-chamber Z in Fig. 2, into the cistern N until the ball is raised to the proper level to withdraw the spindle-shank C from canting spindle valve H H, which is closed by the force of the water upon its lower surface by means of the pressure through the tube L. When the basin-valve at M is opened or the plunger Y is raised and the water discharged from the basin P the water flows from the cistern N and prevents any possibility of accumulation of foul or stagnant water, the cistern N being supplied with fresh water immediately through the tube O in Fig. 3 or plunger-chamber Z in Fig. 2 from the basin P, which is then being filled from the canting valve through the pipe K. By this contrivance no soil can get into the cistern N, and the basin P and cistern N are always supplied with pure and fresh water whenever the closet is being used. Should the action of the basin-valve at M in Fig. 3 or of the plunger Y in Fig. 4 be at any time interfered with, so as to allow an escape of water from the basin P, the water from the cistern N is at once withdrawn, and the ball A, sinking, opens the canting spindle valve H H and causes a flow of water through the tube K until the obstruction is removed, thus supplying the basin continually with water until the valve H H is again closed, so as to allow a rise of water in cistern N sufficient to close the valve, when the water again rises to the proper level. By this constant supply of water in the basin P the smell from the usual trap (not illustrated because so well known) underneath M in Fig. 3 or plunger Y in Fig. 4 is prevented from escaping into the room.

Q represents the cistern-overflow bell-trap. R is an overflow from the basin P into the safe X, which will prevent any possible discharge of water from the basin P into the room should the basin-trap at M become choked. The water flowing through R into the safe X will go through the bell-trap Q directly into the soil-pipe without passing through the usual closet-trap below M in Fig. 3 or plunger Y in Fig. 4, thus overcoming the possibility of any discharge of water by overflow into the room. This overflow R also serves as an opening to ventilate the basin P above the water while the basin is being used, the odor passing through

said opening R, and by draft being carried through the opening S into a pipe leading into the chimney. This mode of ventilation may be further assisted by having a hollow rubber ring, as is usual, placed upon the rim of the basin and cistern, so that the basin-seat placed upon the rim will be air-tight.

T T are guides in canting valve to keep canting spindle H H in the center of valve and allow a back-and-forward movement.

In Fig. 6, U is the push-button operating on spindle C. V is the spiral or rubber spring in stuffing-box G G G. W is the outlet or flow into sink or wash-basin, taking the place of K in Fig. 1.

In Fig. 4, Y Y is the plunger. a is the rubber ring inserted in a recess the bottom of plunger-chamber, the plunger resting on the sharp corner of the rubber ring. b is a bell-trap overflow in plunger Y.

In the stuffing-box G G G should be inserted a piece of cup-leather for the spindle C to work through, thus making the opening into the stuffing-box water-tight.

The above-described mechanism prevents a waste of water and requires less than half the supply for sanitary purposes usually required by other ball-cock closets; also, the valve, being closed by the pressure, is more likely to act than the ball-cock, which often sticks.

I make no claim to the ball-float A, the hinged ball-lever B B B, the spindle C, passing through the stuffing-box G G G, the stuffing-box G G G, the canting spindle valve H H, the spiral or rubber spring I, the cistern bell-trap Q, the basin P, the plunger Y, the ring a, the bell-trap b in the plunger, or any of the parts of the invention separately, none of which are new; nor do I claim herein any of the combinations of parts herein set forth, except as below specified, because I have reserved all others to be embraced in other applications for patents of the United States, so far as they are patentable.

What I claim herein, and desire to secure by Letters Patent, is—

The combination, with a water-closet basin, P, of a safe, X, communicating by an overflow, R, the said safe being provided with the cistern N, bell-trap overflow Q, and being cast in one piece with the basin and connected thereto by means of a pipe or passage, O, substantially as and for the purposes set forth.

DAVID S. KEITH.

Witnesses:

R. A. WIDDOWSON,  
JNO. HOLLAND.