

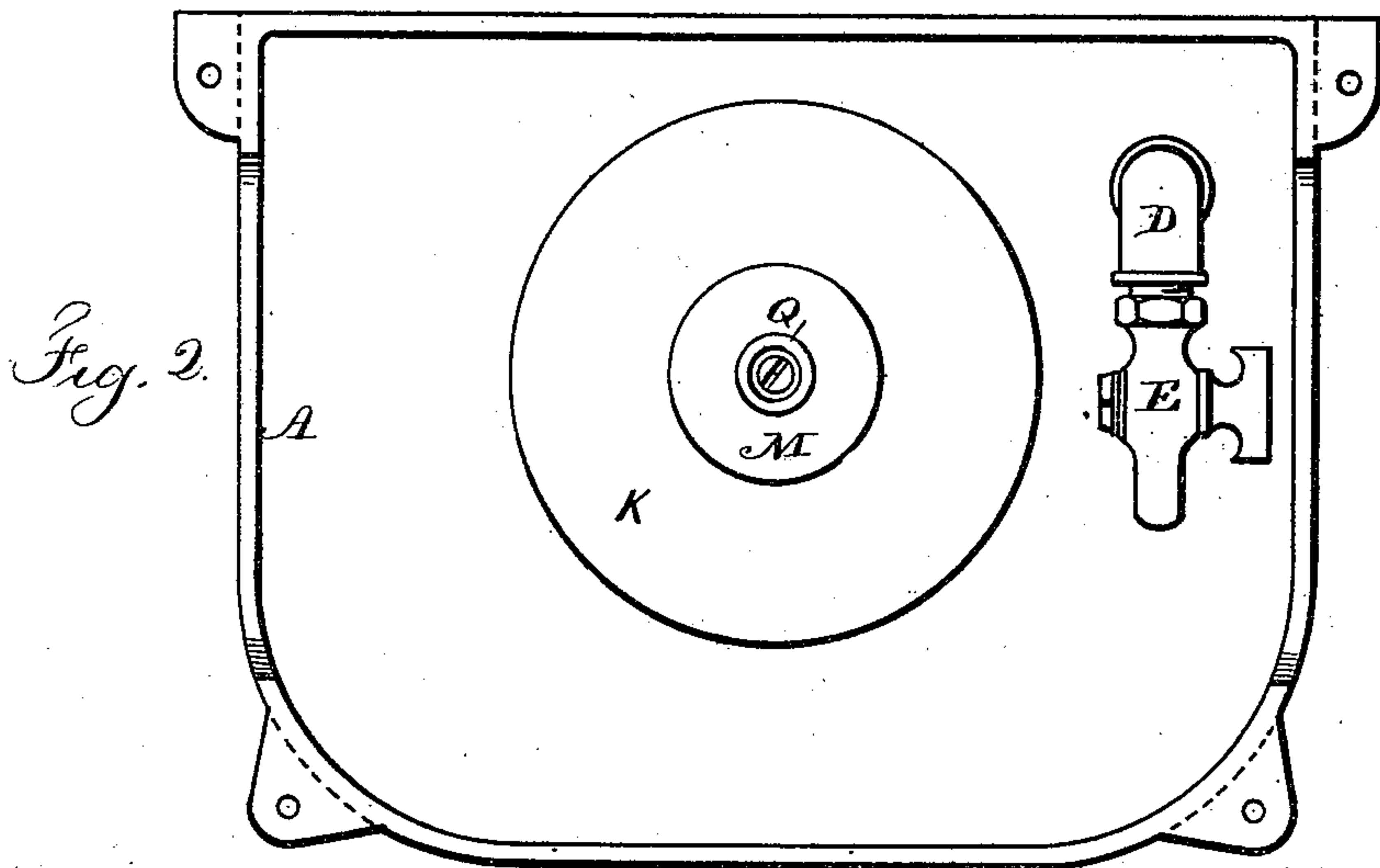
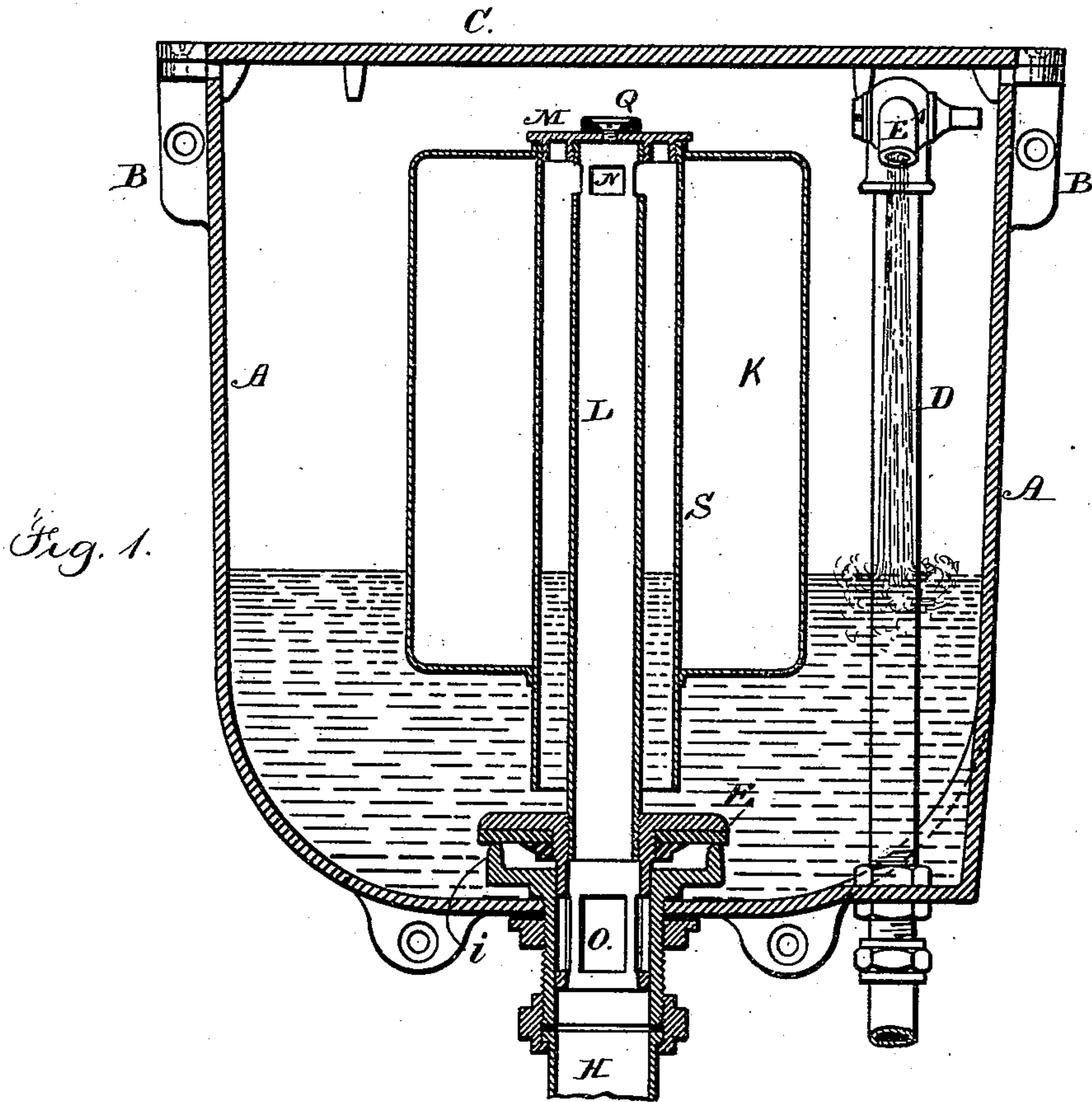
(No Model.)

J. DEMAREST.

CISTERN FOR WATER CLOSETS.

No. 337,133.

Patented Mar. 2, 1886.



Witnesses:  
J. Stait  
Chas. H. Smith

Inventor  
John Demarest  
per Lemuel W. Serrell  
att'y



# UNITED STATES PATENT OFFICE.

JOHN DEMAREST, OF NEW YORK, N. Y., ASSIGNOR TO THE J. L. MOTT  
IRON WORKS, OF SAME PLACE.

## CISTERN FOR WATER-CLOSETS.

SPECIFICATION forming part of Letters Patent No. 337,133, dated March 2, 1886.

Application filed February 1, 1886. Serial No. 190,401. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN DEMAREST, of the city and State of New York, have invented an Improvement in Cisterns for Water-Closets, of which the following is a specification.

This improvement relates to that class of cisterns in which the water is allowed to run continuously in a small stream, and to discharge periodically and with a powerful flushing action into the closet.

I make use of a float, a siphon within the same, and a valve below and surrounding the siphon, the parts being constructed in such a manner that the column of water, as it accumulates, will hold the valve tightly closed against the lifting action of the float, and as soon as the buoyancy of the float is sufficient to lift the valve and siphon the valve is raised and fully opened and sustained in that position in consequence of the pressure of the column of water being balanced on both sides of the valve and the valve relieved from the pressure of the column. The discharge of the water causes the siphon to fill, and the siphon continues to run after the valve rests upon its seat until the water in the cistern descends below the lower end of the siphon, and the flushing action ceases until the cistern is again filled by the gradual supply to the same.

In the drawings, Figure 1 is a vertical section of the cistern complete, and Fig. 2 is a plan of the cistern with the cover removed.

The cistern A is preferably of cast-iron, with lugs or ears B, by which the same is bolted to the wall or other support, and usually there is a cover, C, attached to the top by screws that allow of its removal, to give access to the cistern when necessary.

The water is supplied into the cistern by the pipe D and a cock, E', which is of any suitable character, and said cock is to be opened more or less to regulate the period of time consumed in filling the cisterns, and consequently the number of discharges or flushing operations per hour.

The pipe H leads from the bottom of the cistern to the water-closet, and the coupling

of the pipe H is provided with a seat, I, within the cistern. This seat I is considerably larger than the pipe H.

The annular float K surrounds the siphon-pipe L, there being a closed cap, M, at the upper end of the siphon-pipe, and lateral openings N into the siphon-pipe near the top thereof. This pipe L extends down into the coupling for the pipe H, and it slides freely therein, and it is provided with lateral openings at O, so that this skeleton pipe becomes a guide to the float and siphon in their vertical movements, and the valve E surrounds the pipe L, and it has an elastic face to rest upon the seat I, and there is an elastic washer, Q, upon the top of the cap M, to limit the upward movement of the float by striking against the under side of the cover c. The operation of these parts is as follows: As the water runs gradually from the cock E' and it accumulates within the cistern A, the pressure upon the upper side of the valve E increases, according to the height of the column. The floating-power, however, of the float K must be sufficient to lift the valve before the water reaches the openings N. As soon as the float lifts the valve, the water rushing in under the same equalizes the pressure, and the valve and float rise until arrested by the cover C. The rush of the water through the openings O and down the pipe H exhausts the air from the pipe L and fills the siphon formed by said pipe L and the pipe S of the annular float, and the water runs away rapidly, and as soon as the valve touches its seat the suction action holds it there, and the water continues to run through the siphon S L until the water descends in the cistern A below the level of the lower end of the pipe S, when air is admitted and the siphon action ceases.

I claim as my invention—

1. The combination, with the cistern A and pipe H to the water-closet, of the large valve-seat I, the valve E, siphon-pipes L S above the valve, and the annular float K, surrounding such siphon, substantially as set forth.

2. The combination, with the cistern A,

supply-pipe D, and cock E', of the annular  
seat I, pipe H, leading to the closet, the tube  
L, passing at its lower end into the coupling  
of the pipe H and having openings for the  
5 passage of the water, the valve P, surround-  
ing the tube L, the float K, and tube S around  
the pipe L, the cap M, and elastic washer Q,  
substantially as specified.

Signed by me this 27th day of January, A.  
D. 1886.

JOHN DEMAREST.

Witnesses:

GEO. T. PINCKNEY,  
WILLIAM G. MOTT.