

G. H. TARLETON.
FLUSHING TANK.
APPLICATION FILED SEPT. 13, 1912.

1,079,615.

Patented Nov. 25, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

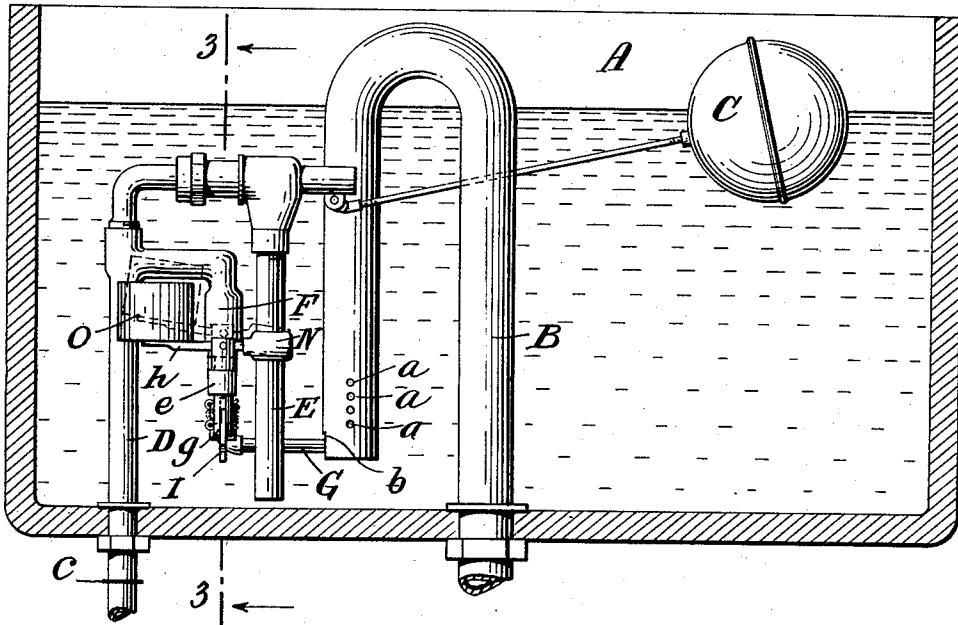
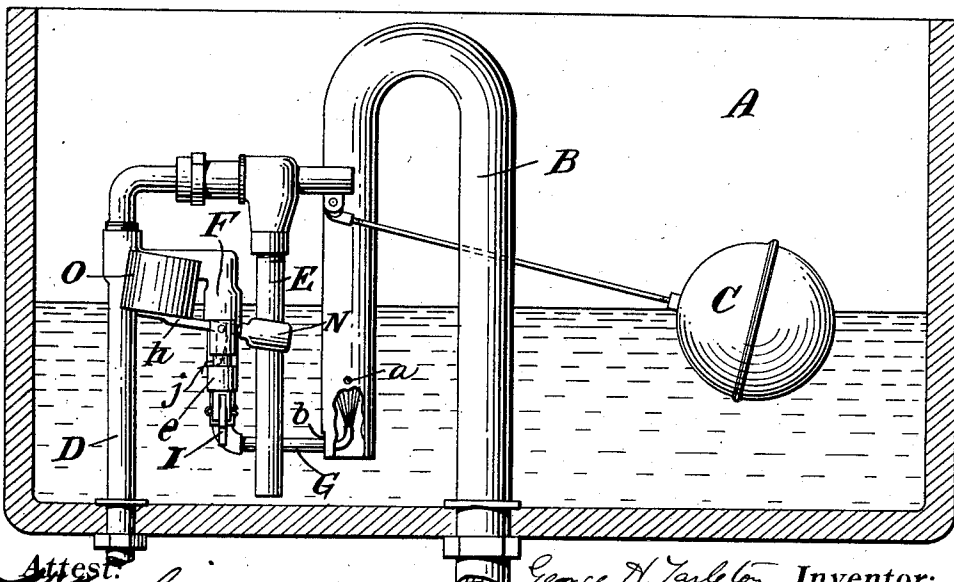


Fig. 2.



Attest.
Lillian E. Lindquist.

George H. Tarleton Inventor:
by *W. P. Preble*

Att'y.

G. H. TARLETON.
FLUSHING TANK.
APPLICATION FILED SEPT. 13, 1912.

1,079,615.

Patented Nov. 25, 1913.

2 SHEETS-SHEET 2.

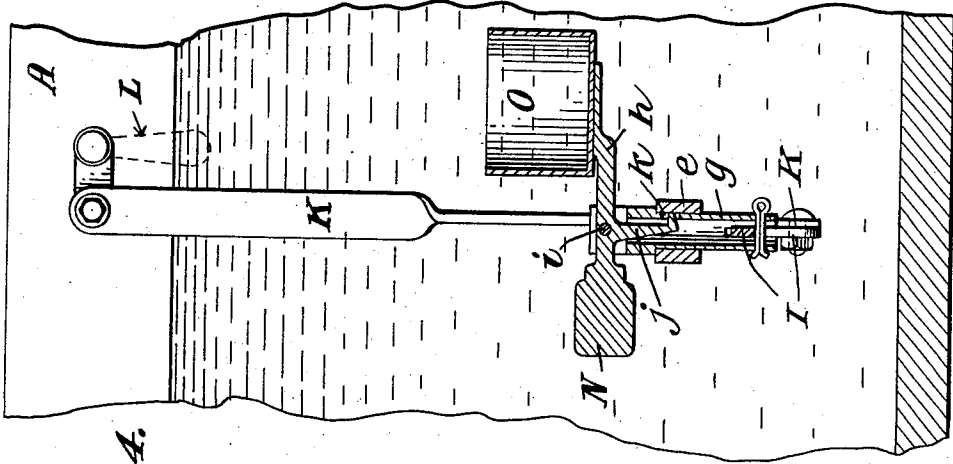


Fig. 4.

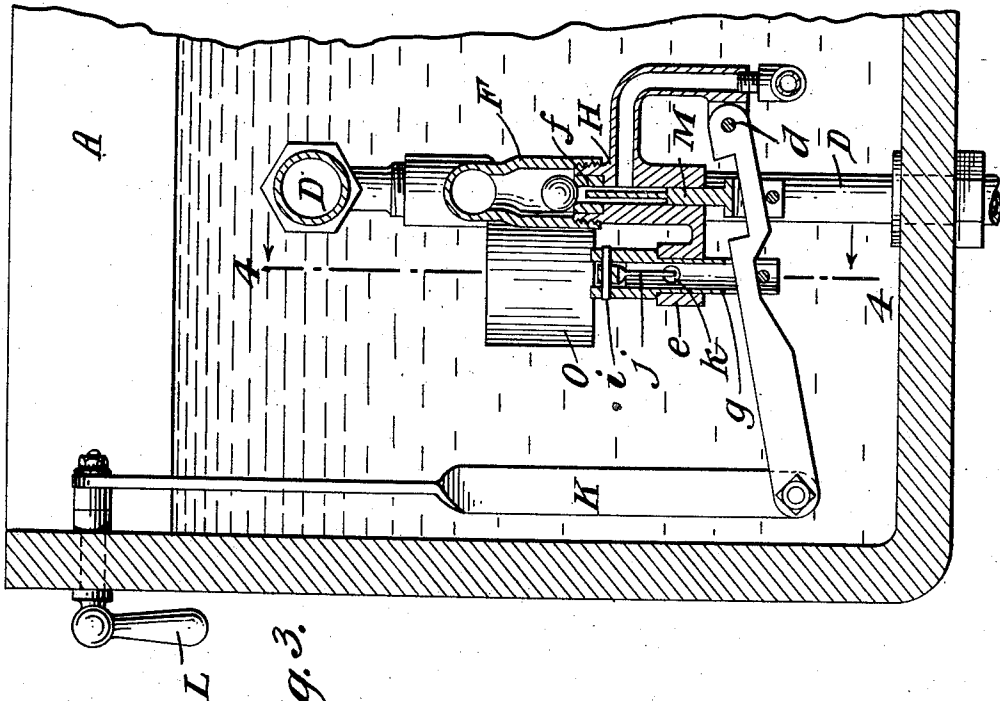


Fig. 3.

Attest:
Lillian E. Lindquist.

George H Tarleton Inventor:
by *W. P. Peck* Atty.

UNITED STATES PATENT OFFICE.

GEORGE H. TARLETON, OF NEW YORK, N. Y.

FLUSHING-TANK.

1,079,615.

Specification of Letters Patent.

Patented Nov. 25, 1913.

Application filed September 13, 1912. Serial No. 720,118.

To all whom it may concern:

Be it known that I, GEORGE H. TARLETON, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Flushing-Tanks, of which the following is a specification.

My invention relates to that class of flushing tanks, which is known as a siphon jet tank, and the object of my invention is to provide new and improved means for starting and stopping the action of the siphon jet.

One form of my invention is shown in the accompanying drawings in which:

Figure 1 is a longitudinal section showing the tank, full, but not in action. Fig. 2 is a similar view showing the tank in action and partly empty. Fig. 3, is a vertical section on line 3, 3, of Fig. 1. Fig. 4 is a vertical section on line 4, 4, of Fig. 3.

Same letters indicate similar parts in the different figures.

A is the body of the tank of usual construction.

B is a siphon outlet, the longer leg of which passes through the bottom of the tank, where a water tight joint is made in any manner desired. Near the end of the shorter leg of the siphon, holes *a, a*, are preferably made to aid in the effective breaking of the siphon.

C is the ball float and D the supply pipe of usual construction, provided with the usual inlet valve which is opened by the depression of the ball float and closed when the ball float is raised by the incoming water to a pre-determined height which is preferably such that the water level is slightly below the overflow point of the siphon. The water preferably enters the tank through a hush pipe E, of usual construction. A strainer *e* is preferably placed in the supply pipe to prevent the entrance of anything which might clog the jet. The supply pipe D is tapped before it reaches the inlet valve by a branch pipe F, which terminates in the siphon jet G, the inner end of which is bent upward into the short leg of the siphon B, and is preferably prevented from lateral displacement by the walls of the opening *b*, through which said pipe enters the siphon.

The important feature of this invention is, as before stated, the means by which this siphon jet is started and stopped. It will readily be understood that as the siphon jet

pipe F taps the supply pipe D, before that is, outside the inlet valve, the jet which issues through said pipe F, has the full force of the supply behind it as soon as the pipe is opened and is thus best adapted to an immediate starting of the siphon. As soon as the action of the siphon, which is of considerably larger diameter than the supply pipe, has exhausted the tank down to a given point, it is desirable for the jet to stop playing, and for the further discharge of the tank to take place under the unaided action of the siphon in the usual way. To accomplish this starting and stopping of the jet, I provide a valve H, located at any desired point in the pipe F, which valve is operated by the lever I, which, in turn, is operated by the usual chain or by a rod K, and handle L, if preferred. The end of this lever I, is pivoted, as at *d*, to the pipe F, and the upward movement of the lever lifts the valve-stem M, of valve H,—and at the same time the tripping device N which holds said valve open for a time and then releases it automatically as the water in the tank falls to a certain point. This tripping device is slidingly mounted in a bracket *e*, projecting from the pipe F. The jet valve H, is preferably a ball valve, the ball seating itself under pressure of the supply, on a bronze bushing *f* inside the pipe F, and being forced away against the pressure of the incoming water by the upward motion of the stem M, but of course, other forms of valve might be used if preferred.

The tripping device consists of a hollow stem *g* which is adapted to move up and down through said bracket, *e*, an open top cylinder or bucket O, mounted on one branch of the balance arm *h*, the other end of which carries the counter-balance N. This balance-arm is pivoted in the hollow stem by a pivot *i*, so as to hang with sufficient sensitiveness to yield to any change in the weight of the bucket O. The bucket and the counter-balance being both below the level of the water in the tank, when full, are so balanced as to be normally in the position shown in full lines in Fig. 2, the weight of the counter-balance being slightly in excess of the weight of the full bucket when the latter is supported by its own depth of the water, but this tripping device is prevented from assuming this position by a finger *j*, which depends from the balance-arm inside the hollow stem and tends to project through an opening *k*, therein.

When the tripping device is down, which is its normal position, as shown in full lines in Fig. 1, the outer end of this finger comes against the inner wall of the bracket *e*.

5 When the tripping device is raised by the lifting of the lever, I, the opening *k*, of the hollow stem, is raised above the top of the bracket and the end of the finger is therefore free to come out under the influence of
10 the counter-balance which it does. This finger then rests upon the top of the bracket and prevents the hollow stem G, from returning to its normal position.

The operation of my improved device is
15 as follows: The tank being full, as shown in Fig. 1, and it being desired to flush the closet connected with said tank, the lever I, is raised thus pushing up the tripping device, into the position shown in Fig. 2, and
20 simultaneously opening the valve H, and starting the siphon jet. This jet starts the siphon P into action and the tank proceeds to exhaust. As the water runs out, and the water level falls, the water which is held in
25 the bucket O, gradually ceases to be supported by a corresponding amount of water, outside of said bucket. When the water level has fallen below the point required for

such support, the unsupported weight of the bucket over-powers the counter-balance, 30 and tilts the balance-arm, so as to withdraw the finger into the interior of the hollow stem. The tripping device now falls into its normal position, pushing the lever I down and thus releasing the jet valve which 35 is closed automatically by the pressure of the incoming water. The jet no longer playing the siphoning keeps up unaided until it breaks by the water level falling below the mouth of the short leg of the siphon or 40 a sufficient number of the holes *a, a*, to break the siphon. The tank now refills through the hush pipe until the water rises again to the position shown in Fig. 1.

I claim:—

45 A siphon jet flushing tank, provided with a tripping device, comprising a water-containing bucket, a counter-balance, and means whereby said bucket and counter-balance are alternately operated to hold 50 open or permit the closing of the valve controlled by said tripping device.

GEORGE H. TARLETON.

Witnesses:

FRANK CASSEBOOM,
W. P. PREBLE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."