

R. SGHELLI.
FLUSHING TANK.
APPLICATION FILED JULY 5, 1912.

1,052,384.

Patented Feb. 4, 1913.

Fig. 1.

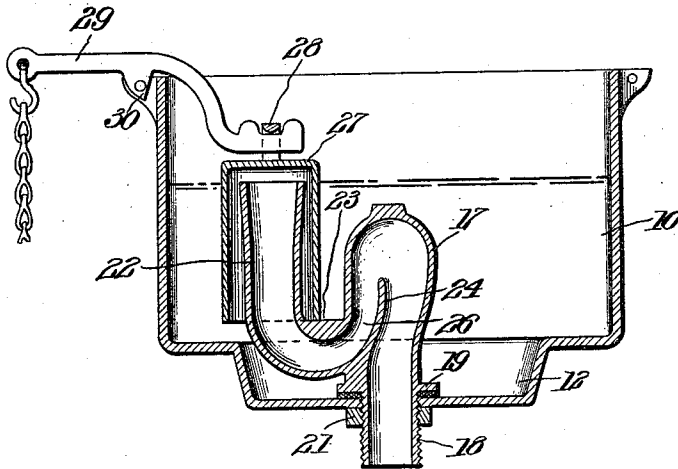
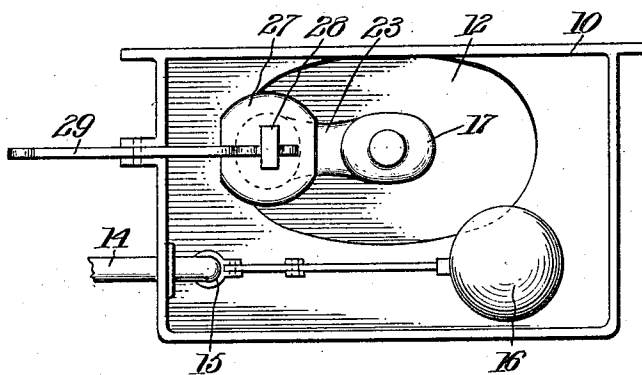


Fig. 2.



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FLUSHING-TANK.

1,052,384.

Specification of Letters Patent.

Patented Feb. 4, 1913.

Application filed July 5, 1912. Serial No. 707,946.

To all whom it may concern:

Be it known that I, RODOLFO SGHELLI, a subject of the King of Italy, residing at Providence, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Flushing-Tanks, of which the following is a specification.

This invention relates to certain new and useful improvements in flushing tanks.

The invention has for its object the provision of the tank of this character which will be simple and inexpensive in construction, and provided with means for controlling the discharge of water without the use of valves.

A further object is to provide improved means by which a maximum flushing action is obtained with the use of a minimum quantity of water.

The invention will be hereinafter fully set forth and particularly pointed out in the claim.

In the accompanying drawings:—Figure 1 is a longitudinal sectional view of a flushing tank illustrating my invention. Fig. 2 is a plan view.

Referring to the drawings, 10 designates a tank or reservoir of any preferred design, and constructed of metal or other suitable material, the bottom wall being provided with a recess 12. The water is supplied to the tank from any convenient service source through the pipe 14, the supply being controlled by a float valve 15 operated by a float 16 in a well known manner.

Located in the recess 12 is a bulbous member or casting 17 provided with a threaded stem 18 which extends through a suitable opening in the bottom of the tank, said stem being provided with a collar 19 resting upon the bottom of the tank, suitable packing being clamped between said collar and the bottom of the tank by means of a nut 21, thus rigidly holding the member 17 in an upright position. Extending laterally from the bulbous portion of the casting 17 is an inlet arm or branch 22. This branch extends some distance above the bulbous portion and is enlarged at the inlet end considerably above the average area of the cross section of the flushing pipe. Said arm or branch 22 is integral with the bulbous portion and provided with a flattened portion 23. The interior of the bulbous portion of

the casting 17 is provided with a partition 24 which divides the interior of said bulbous portion to form a trap. It will be noted that the diameter of the arm or branch 22 gradually diminishes as it approaches the lower end and the internal diameter of the inlet branch 25 of the trap also gradually decreases in about the same ratio until the point 26 is reached which is the point of smallest area. The partition 24 moves away from this point toward the center of the bulbous portion until the outlet end of the branch 25 conforms approximately to the diameter of the discharge branch or stem 18. Fitting over the open end of the arm or branch 22 is an inverted cup 27 which is preferably constructed of metal so that it will fall of its own weight, the lower edge of said cup resting upon the flattened portion 23 so as to limit the downward movement. When at rest the top wall of said cup is some distance above the inlet end of arm or branch 22. The top of the cup 27 is provided with an eye or bail 28 to engage one end of an operating lever 29 pivotally supported by the tank. Movement of the lever in one direction is limited by means of a finger 30 carried by the lever 29 and adapted to engage the side of the tank.

In the operation of my improved flushing tank, the latter is normally filled to the height indicated in Fig. 1. When the lever is operated to raise the cup 27, a partial vacuum is created at the upper end of the latter creating a siphonic action which causes the water to flow upward through the cup and down through the inlet arm or branch 22 and from thence through the trap. It will be noted that by reason of the gradual decrease in diameter of the arm 22 and the inlet end of the trap the water accumulates and is driven through the trap and flush pipe with tremendous force, thereby securing a maximum flushing action with a minimum quantity of water. Also by forming the arm or branch 22 with a taper while the sides of the cup 27 are parallel the space between the two is such that should the float valve fail to operate the water will be forced up through the cup and over into the arm 22, causing the tank to be emptied before it can overflow. By placing the narrowest portion of the inlet to the trap within the upturned inlet branch of the trap the siphonic action of the trap is also destroyed

so that after each flushing action the trap remains filled with water, thereby affording a perfect seal against sewer gas. After each operation the cup 27 is permitted to return to its normal position and the flow of water is interrupted just as soon as the tank empties to a level coinciding with the lower edge of said cup. The tank will then remain inoperative unless the cup is again lifted, or unless an excess quantity of water flows into the tank so that the level is raised sufficiently high to force the water to the top of the cup.

Having thus explained the nature of my invention and described an operative manner of constructing and using the same, although without attempting to set forth all of the forms in which it may be made, or all of the forms of its use, what I claim is:—

20 An improvement in flushing tanks comprising a tank, a bulbous casting provided with an internal partition forming a trap, the outlet branch of said trap being ex-

tended downwardly, means engaging the extended portion of said casting to secure the latter in position, said casting being also provided with an upwardly projecting inlet branch connected with the inlet branch of the trap by a laterally extending neck having a flattened top surface, said inlet arm and said inlet branch forming a continuous conduit which gradually diminishes in diameter as it approaches the outlet, the narrowest point being located intermediate of the ends of the inlet branch of the trap, an inverted cup normally resting upon said flattened portion and of uniform diameter, and means for raising said cup to start the flow of water.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

RODOLFO SGHELLI.

Witnesses:

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