# United States Patent [19]

**Coglitore**

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[54] **ACTUATING MECHANISM FOR TOILET FLUSH TANK OR DUAL FLUSH TYPE**


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[51] **Int. Cl.** ..... **E03d 1/34,** E03d 5/02

[58] **Field of Search** ..... 4/1, 37, 56, 34, 57 R, 4/57 P, 67 R, 67 A, 52, 53



[56] **References Cited**

UNITED STATES PATENTS

| | | | |
|---|---|---|---|
| 2,741,776 | 4/1956 | Christie et al. | 4/67 A X |
| 2,869,141 | 1/1959 | Koch et al. | 4/67 A |
| 2,883,675 | 4/1959 | Hartman, Jr. | 4/57 R |
| 3,320,622 | 5/1967 | Wustner | 4/67 A |
| 3,324,482 | 6/1967 | Wustner | 4/67 A |
| 3,331,084 | 7/1967 | Wustner | 4/67 A X |
| 3,365,730 | 1/1968 | Chiappetta | 4/57 R X |
| 3,546,715 | 12/1970 | Wustner | 4/67 A |



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[57] **ABSTRACT**

An actuating mechanism for conserving water when flushing a toilet tank; the mechanism consisting of a plastic tube connected to the rubber ball valve of the tank, the tube extending upward above the water surface of the tank and having an adjustable air valve on its upper end, so to meter an amount of air being released from the rubber ball valve, thus controlling the length of time that the rubber ball valve would float before re-seating itself and close the water drain pipe leading from the tank to the toilet.


**1 Claim, 2 Drawing Figures**

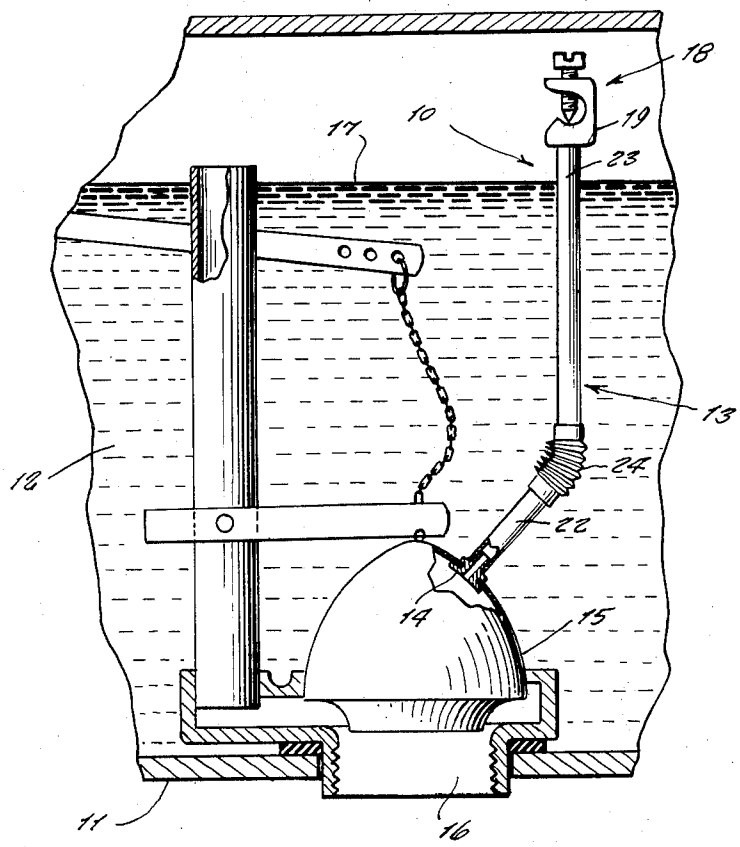
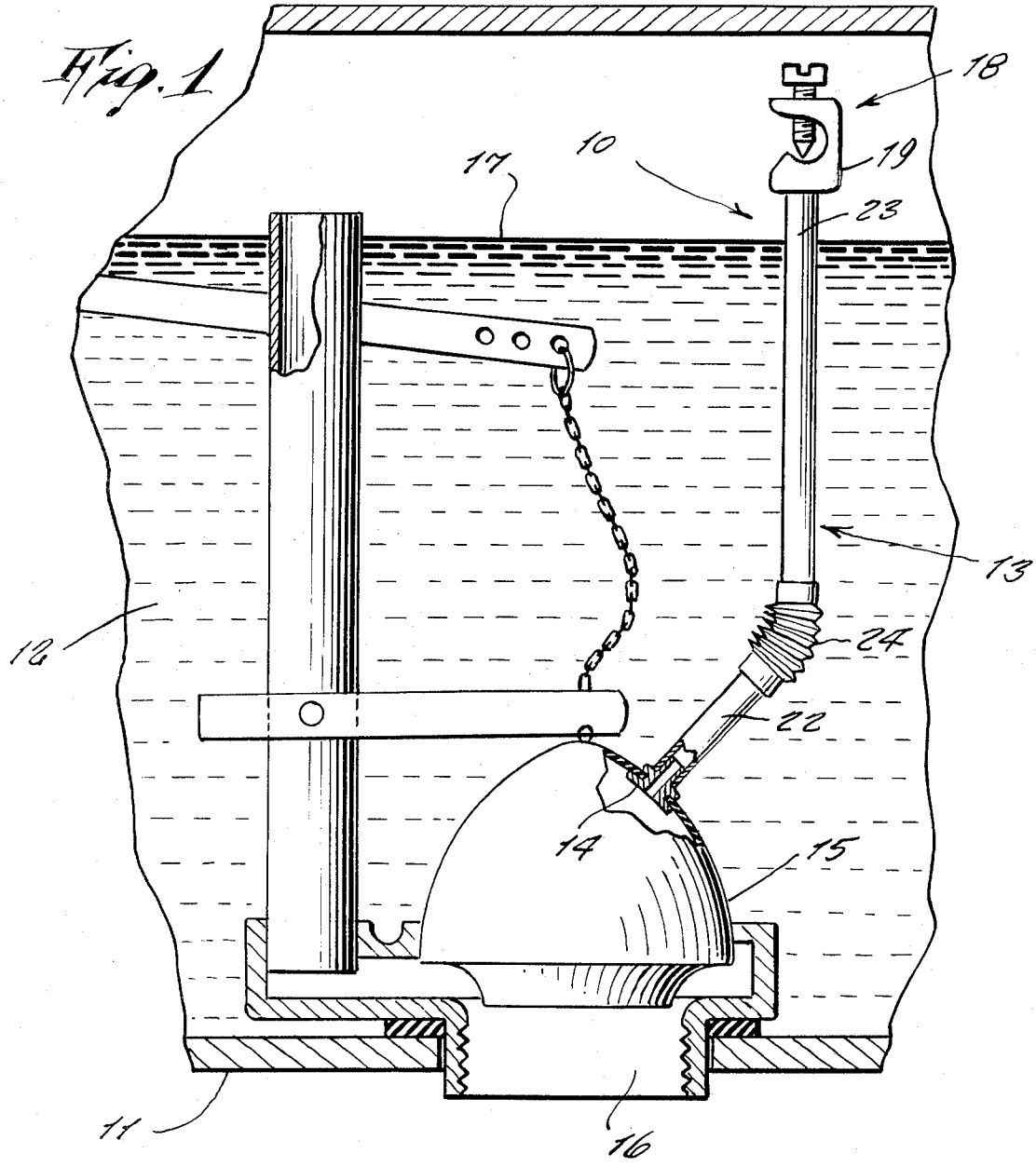


Fig. 1



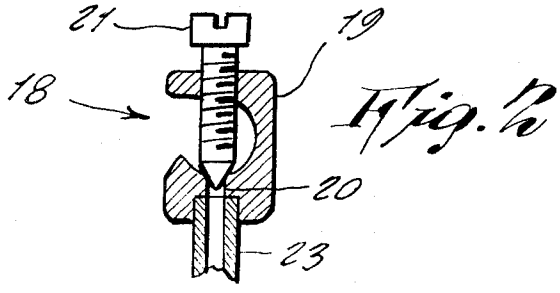




Fig. 2

# ACTUATING MECHANISM FOR TOILET FLUSH TANK OR DUAL FLUSH TYPE

This invention relates generally to toilet flush tanks.

It is generally well known that a concern has finally developed in our time to protect the ecology and also stop the waste of raw materials, among which is the protection and conservation of water. It is also well known that a great quantity of fresh water is wasted daily by all persons when flushing a toilet tank, particularly when the toilet is used only for a urination which can be generally be completely flushed away with only a small amount of water. This situation is of course objectionable, and therefore in want of an improvement.

Accordingly it is a principle object of the present invention to provide an actuating mechanism for a toilet flush tanks which will conserve water at such time when a large full volume of water is unnecessary for flushing away waste.

Another object is to provide an actuating mechanism which can flush a toilet with only half a tank of water when there is no solid matter in the bowl or only a little amount of solid matter such as when the toilet is used by children.

Yet another object is to provide an actuating mechanism which can be readily and easily adjusted when needed.

Yet another object is to provide an actuating mechanism for toilet flush tanks which are of dual flush type.

Other objects are to provide an actuating mechanism for toilet flush tanks which is simple in design, inexpensive to manufacture, rugged in construction, easy to use and efficient in operation.

Further objects of the invention will appear as the description proceeds.

To the accomplishment of the above and related objects, my invention may be embodied in the form illustrated in the accompanying drawings, attention being called to the fact, however, that the drawings are illustrative only, and that changes may be made in the specific construction illustrated and described with in the scope of the appended claims.

FIG. **1** is a side cross section of a toilet flush tank showing the invention therein.

FIG. **2** is a cross sectional view of a detail thereof, and showing an adjustable air valve.

Refering now to the drawing in detail, the reference numeral **10** represents an actuating mechanism according to the present invention and which is installed within a toilet flush tank **11** that contains water **12.**

The actuating mechanism **10** includes a plastic tube **13** which at its lower end is fitted on a brass nipple **14** that is secured to a conventional rubber float ball valve **15** that is seated over a drain opening **16** that leads to the toilet bowl. The upper end of the tube **13** protrudes upwardly above the water surface **17** and the upper end thereof is fitted with an adjustable air valve **18** so to



regulate the quantity of air that can be released from the ball valve **15.** The valve **18** includes a fitting **19** having air bleed opening **20** adjustably closable by a threaded screw **21.**

As shown in the drawing, the plastic tube **13** is comprised of two straight tube plastic members **22** and **23** enjoined together at their ends by an accordian plastic tube member **24** so to allow the upper of the tube members to be tilted respective to the lower tube member and extend vertically upward through the water.

In operative use, the screw **21** is adjusted to control the rate of air to flow from ball valve **15** through the tube **13** and valve **18.** By depressing the operating handle, the ball valve would normally rise, but in the present invention the air would slowly release, thus the valve ball re-seating itself, leaving half a tankful of water or other amount according to the adjustment of screw **21.**

No adjustment would be needed for the elimination of solid waste. For a full tank flush, you hold the operating handle in the down position until the tank completely emptys, which normally takes about 6 seconds.

While certain novel features of my invention have been shown and described and are pointed out in the annexed claims, it will be understood that various omissions, substitutions, and changes in the forms and details of the device illustrated and in its operation can be made by those skilled in the art without departing from the spirit of the invention.

What I claim as new and desire to secure by Letters Patent is:

**1.** In an actuating mechanism for a toilet flush tank, the combination of a toilet tank having a rubber float ball valve normally seated on a drain outlet that communicates with a toilet bowl, said valve including a liftable hollow rubber ball, and control means secured to said ball for controlling an amount of water to be flushed from said tank during each flushing action, said control means comprising a hollow tube unit communicating with the interior of said ball and extending upward above water level within said tank, said hollow tube unit consisting of a two straight plastic tubes having an accordian plastic tube intermediate and adjoining the respective ends of said plastic tubes, a lower of said straight tubes extending angularly upwardly from a side of said float ball, said intermediate accordian tube being axially curved so intermediate a lower end thereof connects to said lower angularly extending straight tube and the upper end thereof extending vertically upward and said upper straight tube extending vertically upward therefrom, said control means further comprising an air control valve at the upper end of said upper straight tube and means for adjusting the rate of airflow through said hollow tube unit.

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