United States Patent [19]

Minardi, Jr.

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[54] **WATER CONSERVATION FLUSH TANK**

[76] Inventor: **Samuel C. Minardi, Jr.**, 4314 Riverview Ave., Tampa, Fla. 33607

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[52] **U.S. Cl.** ..... **4/67 A**, 4/34

[51] **Int. Cl.**..... **E03d 1/32**, E03d 5/02, E03d 5/10

[58] **Field of Search**..... 4/34, 37, 54, 57 R, 4/67 R, 67 A, 57 P

[56] **References Cited**

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Primary Examiner—Henry K. Artis

Attorney—Alexander B. Blair et al.

[57] **ABSTRACT**

A water conservation flush tank in which two separate valve seats are formed in the flush tank integrally in the casting of the tank with the valve seats vertically spaced so that the full flush tank capacity is flushed through the lower valve seat and only a portion of the capacity of the flush tank is flushed through the upper valve seat. Each of the valve seats are closed by conventional flush valves separately controlled by individual flush handles. By using the upper valve seat a portion of the flush tank capacity may be used to flush the toilet following urination and the lower valve seat can be opened to flush the toilet with a more positive action following defecation.

3 Claims, 5 Drawing Figures

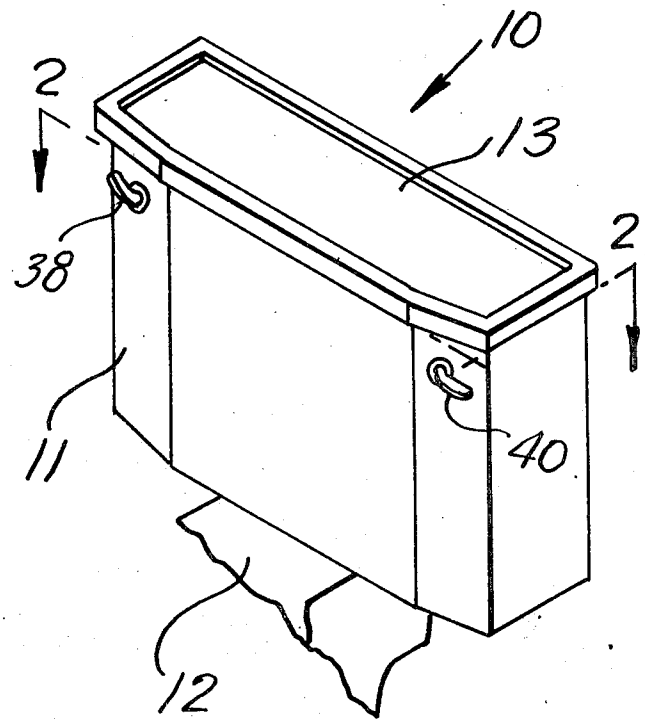


FIG. 4.

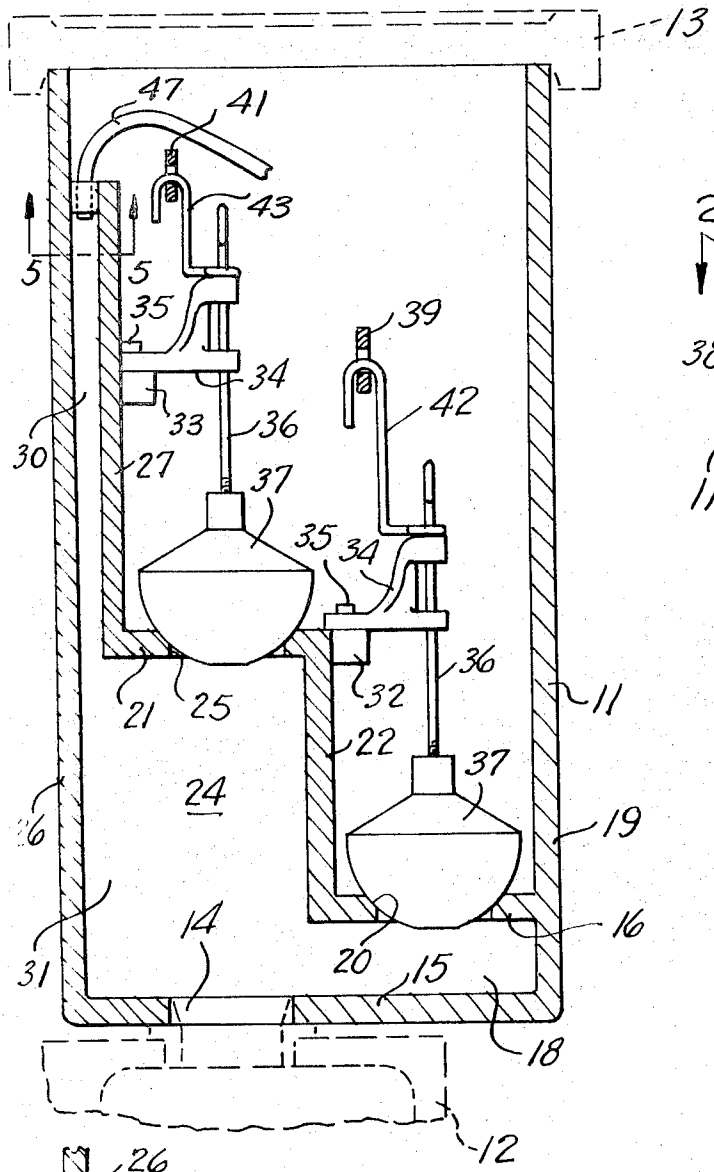


FIG. 1.

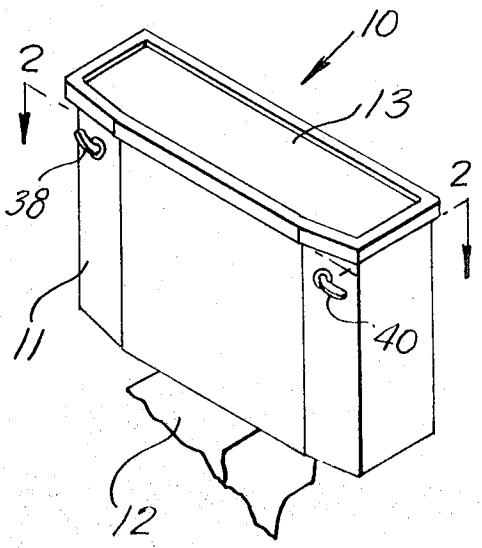
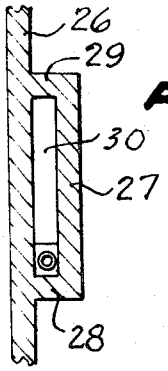


FIG. 5.



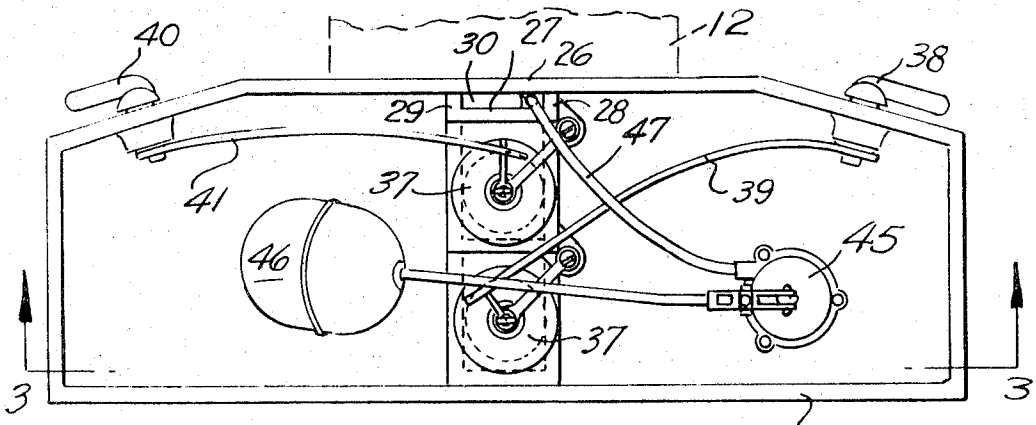
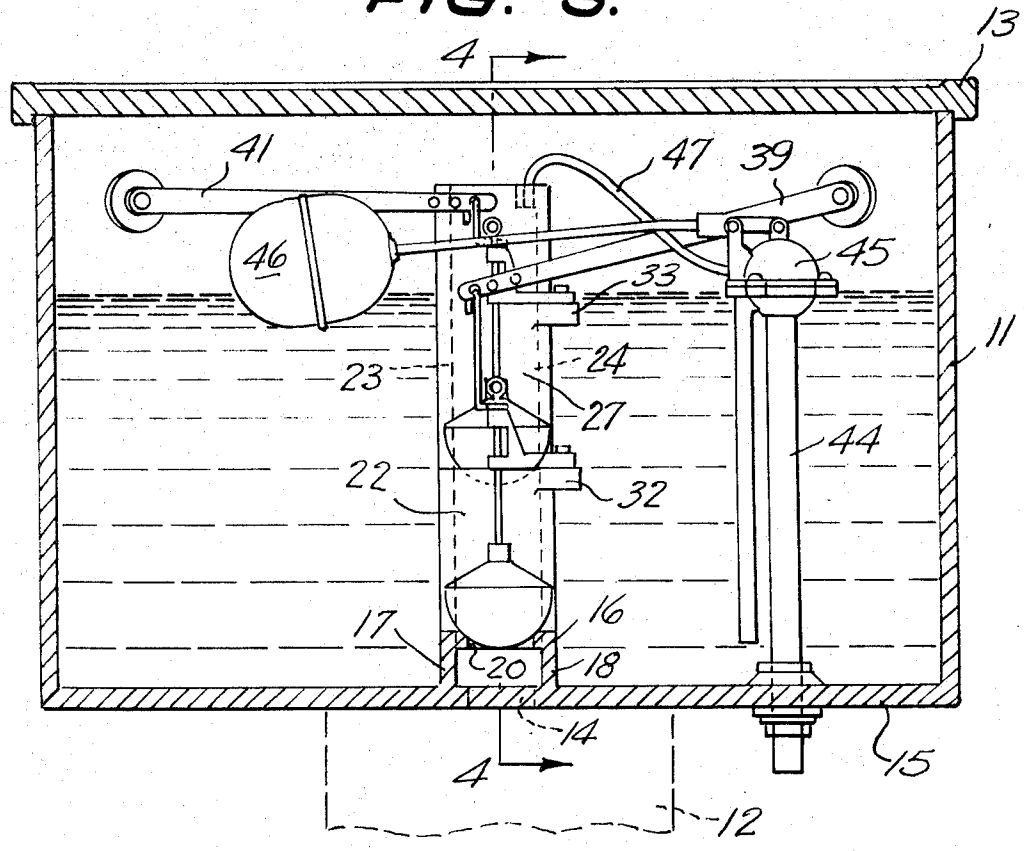

40
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FIG. 2.

FIG. 3.


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WATER CONSERVATION FLUSH TANK

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to water conservation flush tanks.

2. Summary of the Invention

A water sonservation flush tank in which a pair of valve seats are integrally formed in casting of the tank with the valve seats spaced vertically from each other and each controlled by a flush valve individually operated by separate flush handles.

The primary object of the invention is to provide a water conservation flush tank in which standard plumbing fixtures are used for controlling two levels of flushing.

Other objects and advantages will become apparent in the following specification when considered in the light of the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the exterior of a flush tank incorporating the invention;

FIG. 2 is an enlarged fragmentary horizontal sectional view, taken along the line 2—2 of FIG. 1, looking in the direction of the arrows;

FIG. 3 is a vertical sectional view, taken along the line 3—3 of FIG. 2, looking in the direction of the arrows;

FIG. 4 is an enlarged vertical sectional view, taken along the line 4—4 of FIG. 3, looking in the direction of the arrows; and

FIG. 5 is a fragmentary horizontal sectional view, taken along the line 5—5 of FIG. 4, looking in the direction of the arrows.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in detail, wherein like reference characters indicate like parts throughout the several FIGURES, the reference numeral **10** indicates generally a water conservation flush tank constructed in accordance with the invention.

The water conservation flush tank **10** includes a tank **11** formed of ceramic material and adapted to be supported on a commode **12** and connected thereto in a conventional manner. The tank **11** is open at its upper end and is closed with a removable cover **13** which rest on the upper edge thereof.

The tank **11** has a drain opening **14** in the bottom wall **15** thereof through which the water flows to flush the commode **12** as desired.

A generally horizontal wall **16** is arranged in spaced parallel relation to the bottom wall **15** and is supported on a pair of relatively short side walls **17, 18** as can be seen in FIGS. **3** and **4**. The horizontal wall **16** is integrally formed with the rear wall **19** of the tank and the side walls **17, 18** are integrally formed with the bottom wall **15**.

A ported valve seat **20** opens through the horizontal wall **16** for reasons to be described. A second generally horizontal wall **21** is supported on a vertical wall **22** extending upwardly from the horizontal wall **16** parallel to the rear wall **19**. The second generally horizontal wall **21** is further supported on a pair of side walls **23, 24** which are formed integrally with the side walls **17, 18**, the bottom wall **15** and the horizontal wall **21** as well as the vertical wall **22**. A ported valve seat **25** is formed in the horizontal wall **21** for reasons to be assigned.

The tank **11** has a front wall **26** arranged in spaced relation to the rear wall **19** as can be seen in FIG. **4**. A vertical wall **27** extends integrally upwardly from the horizontal wall **21** and is integrally joined to a pair of said walls **28, 29** which are integrally joined to the front wall **26** as well as to the side walls **23, 24** respectively. The vertical wall **27**, front wall **26** and integral side walls **28, 29** form therebetween a passage way **30** which communicates with the chamber **31** formed beneath the horizontal walls **16** and **21**. The chamber **31** communicates with the valve seat **14** to permit water therein to flow into the commode **12**.

An ear **32** is integrally formed on the horizontal wall **21** and vertical wall **22** and a second ear **33** is integrally formed on the vertical wall **27** and side wall **24**. A conventional guide bracket **34** is secured to each of the ears **32, 33** by means of a bolt **35**. A conventional valve rod **36** is mounted in each of the brackets **34** for vertical sliding movement and have a flush ball valve **37** removably secured to the lower end thereof. A flush handle **38** is pivotally mounted on the front wall **26** and carries a lever **39** thereon. A second flush handle **40** is pivotally mounted to the opposite side of the front wall **26** and carries a flush lever **41** thereon. A link **42** is connected to the valve rod **36** and the flush lever **39** to raise the valve **37** from the seat **20** when the handle **38** is depressed. A link **43** connects the valve rod **36** to the flush lever **41** to raise the flush valve **37** from the seat **25** when the flush handle **40** is actuated.

A conventional water inlet pipe **44** extends through the bottom **15** of the tank **11** and has a conventional float control valve **45** on the upper end thereof. A float **46** is connected to the float control valve **45** to operate it in the usual manner. An overflow pipe **47** extends from the valve **45** to the passage way **30** to provide a flow of water therethrough in a conventional manner.

It should be understood that the float valve **37**, valve rods **36**, brackets **34**, links **42, 43** and flush levers **39, 41** are all of conventional construction and may be purchased at any plumbing supply store. The water supply pipe **44**, valve **45** and float **46** are similarly of conventional construction. The flush handles **38, 40** are also of conventional construction so that if any of the plumbing portions of the flush tank **11** require replacement at any time they may be replaced with conventional structures readily available on the market. Applicants integral dual flush valve structure of the flush tank permits the use of conventional plumbing fixtures to provide the water conservation flush feature of applicants invention.

Having thus described the preferred embodiment of the invention it should be understood that numerous structural modifications and adaptations may be resorted to without departing from the spirit of the invention.

What is claimed is:

1. A water conservation flush tank comprising a cast ceramic tank having a commode connection on the lower end thereof for supplying water from said tank to a commode, a pair of vertically spaced horizontal walls integrally formed in said tank of ceramic materials and communicating with a chamber overlying the outlet of said tank, said horizontal walls each having a valve seat formed therein, a pair of vertically movable flush valves

cooperating with each of said seats, and means for individually controlling each of said flush valves for separately flushing through a selected one of said valve seats.

2. A device as claimed in claim 1 wherein a passage way extends upwardly in said tank and communicates at its lower end with said chamber for receiving the overflow pipe from said valve.

3. A device as claimed in claim 1 wherein a pair of ears are integrally formed on said tank for supporting guide brackets for said flush valves.

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