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[54] **WATER ECONOMIZING FLUSH TANK**

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[51] **Int. Cl.²** **E03D 1/34**

[58] **Field of Search** ..... 4/67 R, 67 A, 56, 57 R, 4/37; 138/DIG. 8

[56] **References Cited**

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Primary Examiner—Henry K. Artis

[57] **ABSTRACT**

The invention utilizes a conventional toilet flush tank utilizing the usual float which operates the water supply inlet valve and having a unique connecting arm to the supply valve. The arm is manually bendable to selectively position the float in a vertical plane at any desired level, whereby the point of operation of the supply valve in being shut off may be varied so that a lesser quantity of water would predeterminedly flow into the tank than would normally be the case. Thus, the invention controls the water level in the tank to effect water savings in as large a quantity as possible yet permitting sufficient water in the tank for normal flushing needs. The arm is adjusted readily by mere bending and requires no tools nor mechanical skill for adjustments, being constucted of an undulated (e.g., corrugated) metal tube of sufficient stiffness to hold a bent shape and being repeatedly bendable so that various water levels may be tested before a final determination of maximum water savings commensurate with ample flushing effect is determined.

3 Claims, 2 Drawing Figures

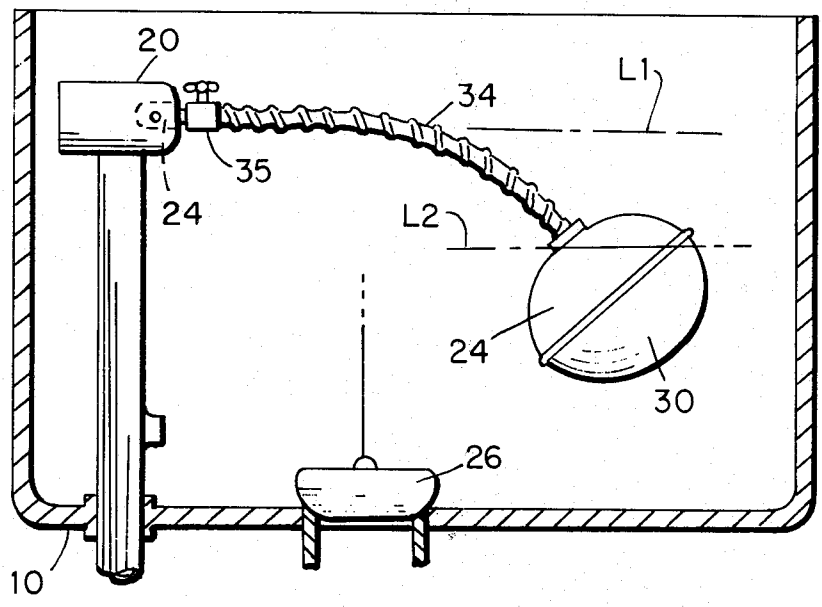
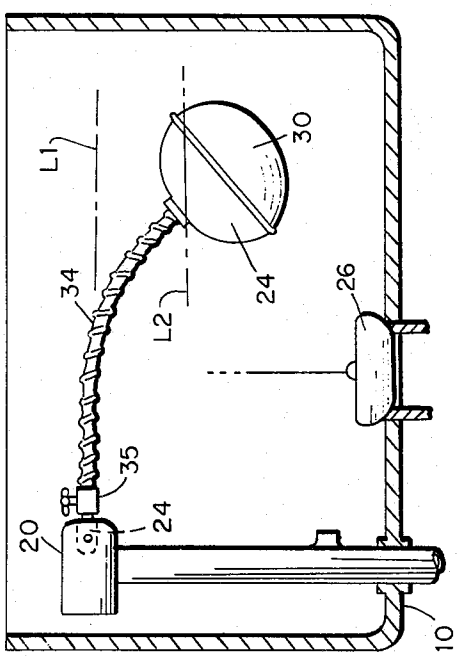


Fig. 1



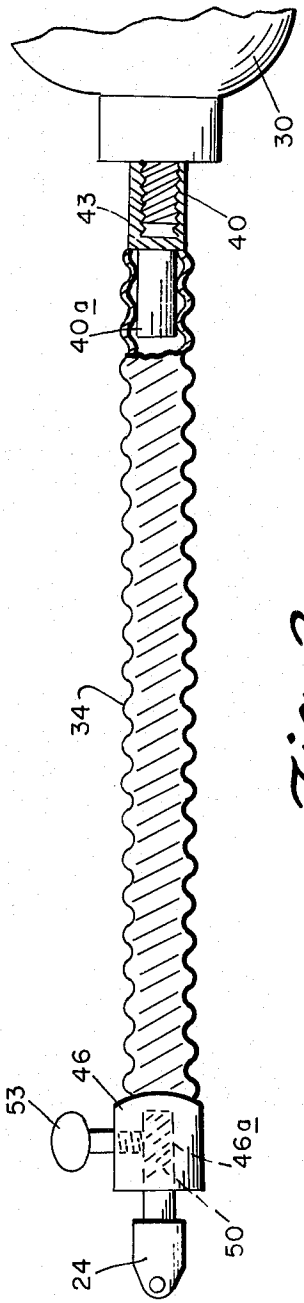


Fig. 2

WATER ECONOMIZING FLUSH TANK

Briefly, the invention comprises a lever arm of spirally wound or pressed convoluted metallic material of the type usually used for the manufacture of so-called goose necks, heretofore known in assembly of gooseneck lamps wherein the gooseneck can be bent to adjust the lamp at the end of the gooseneck to various desired positions. However, the construction of tubular goosenecks for the purposes of this invention, to hold a selective manually bent arc in a vertical plane, must be of suitable rigidity so that a float at the free end of the arm can operate a valve actuating stem to close and hold closed the water fill valve of a flush tank. Thus, if the lever arm be bent to establish the float at a lower position than normal, the rising float will cut off the water fill valve at a level below the level used in flush tanks. This has been found to be quite feasible for operation in that a lesser amount of water is usable and an economy effected.

A detailed description of the invention now follows in conjunction with the appended drawing in which:

FIG. 1 shows a cross section elevation of a flush tank illustrating essential components and further illustrating the invention as used therein;

FIG. 2 is a more detailed view of the element of the invention including illustration of how it is combined with the lever of a pivotal fill valve, and a float.

Referring to the drawing, a flush tank **10** is illustrated having the fill pipe **14** surmounted by the fill valve **20** which has a pivotal actuating lever **24.** It will be understood that counterclockwise movement of the actuating lever serves to close the fill valve in the usual manner. The flush tank has an opening at the bottom with the usual flush valve **26** operable as by linkage and exterior lever, all in a conventional manner to flush a toilet bowl, the linkage not being shown since thus far everything described is clearly conventional.

The lever **24** of the fill valve is connected to a float **30** by means of a lever arm **34** which is similar to a bendable gooseneck although preferably of enhanced rigidity as compared with conventional goosenecks so that it can be bent in a vertical plane in an arc as shown in FIG. **1** to a predetermined extent and hold that bent position against the buoyant force of the float.

The mode of connection illustrated in detail in FIG. **2** may be readily effected by an internally threaded nut member **40** having a turned down portion **40***a* extending a short distance into the tubular lever arm **34** and sweated or brazed therein. The nut member is threaded to take the usual screw stud **43** of the conventional float **30** at the free end of the lever arm **34.** The other end of the lever arm may have secured, as by welding, braising or soldering or the like, a socket member **46** having a cavity **46***a* for accommodating the usual screw stud **50** to fill valve actuating lever **24,** a thumb screw **53** being threaded through member **46** to clamp screw stud **50.** Obviously, either of the attaching or connecting means just described can be used at either end of lever arm **34** or for that matter an identical connecting means can be used at the ends.

I claim:

1. In combination, a flush tank float and a lever arm having one end connected thereto, said lever arm being for connecting the float with the fill valve of a flush tank and comprising a manually bendable undulated tube for receiving a predetermined bend, said lever arm having respective connection means at its ends for connection between a fill valve and said float and being of tubular corrugated construction and having an inherent resistance to bending sufficient to maintain said predetermined bend for transmitting the buoyant force of said float to a fill valve connected at the other end for operating said valve for closure at a selected water level in said flush tank.

2. A lever arm and float as set forth in claim **1,** further including in combination therewith at the other end of said lever arm a fill valve connected thereto; a flush tank and said lever arm and float being disposed in said flush tank, including means for effecting filling of said tank upon opening of said fill valve by movement of said lever arm.

3. A lever arm and float as set forth in claim **1,** wherein said connection means comprises a nut member at one end of said lever arm for connection to said float and a socket member at the other end of said lever arm having a cavity for accommodating a screw stud and a thumb screw extending through the side of said socket member and threaded for adjustment to clamp a screw stud in said cavity for connection to a fill valve.

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