

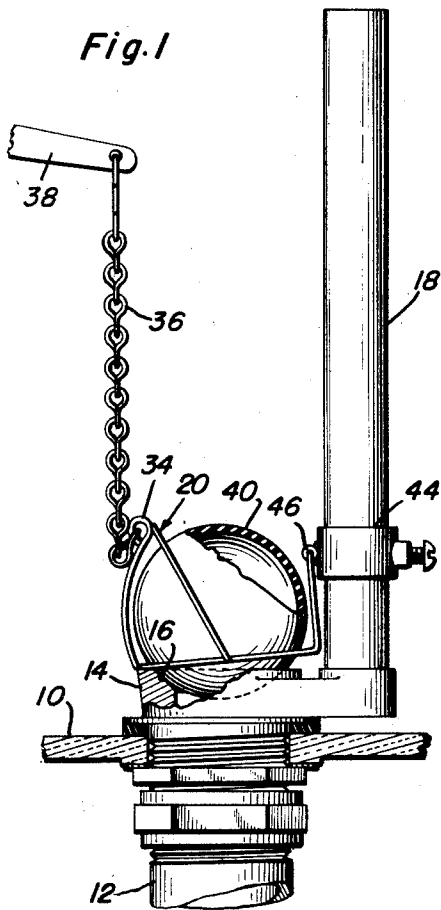
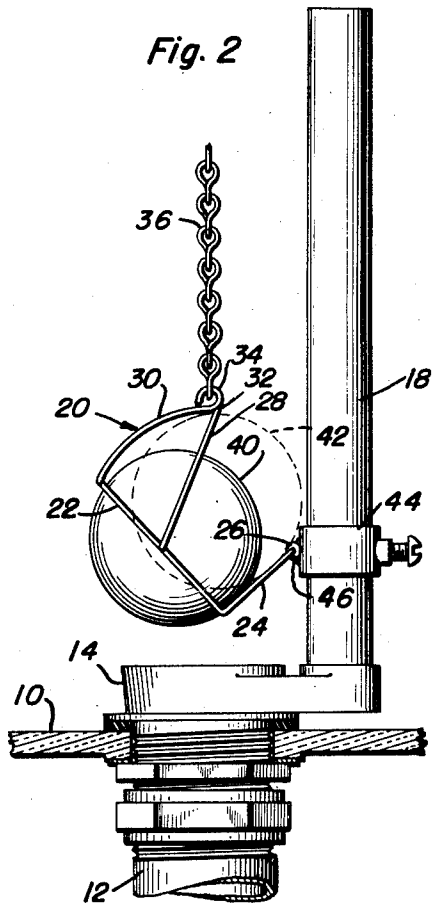
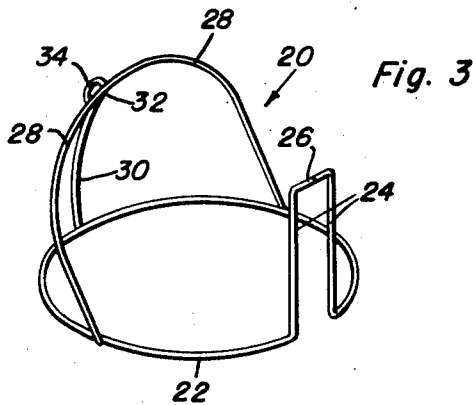
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2,643,393

TOILET TANK FLUSH VALVE

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TOILET TANK FLUSH VALVE

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2 Claims. (Cl. 4-57)

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This invention relates to new and useful improvements and structural refinements in toilet tank flush valves, and the principal object of the invention is to provide a flush valve wherein the valve ball is movably disposed in a swingable cage which is operatively connected to the flushing lever, the movable disposition of the ball in the cage assuring proper engagement thereof with the valve seat and elimination of any possible leakage.

An important feature of the invention resides in the construction of the ball cage itself, while another feature lies in the attachment of the ball cage to a conventional overflow pipe in a toilet tank, whereby the invention may be readily installed in new tanks as well as a replacement for conventional flush valves in existing tanks.

Some of the advantages of the invention lie in its simplicity of construction, in its efficient and dependable operation, and its adaptability to economical manufacture.

With the above more important objects and features in view, and such other objects and features as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a side elevational view, partially broken away and in section, illustrating the valve in its closed position; and

Figure 2 is a side elevational view showing the valve open, and Figure 3 is a perspective view of the cage used in the invention.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the reference character 10 designates the bottom of a toilet tank having the usual outlet 12 provided at its upper end with a fitting 14 which affords a seat 16 for the flush valve, the fitting 14 also carrying an upwardly extending overflow pipe 18 of a conventional type.

The flush valve constructed in accordance with this invention involves the provision of a cage which is designated generally by the reference character 20 and is constructed in its entirety from wire, including a substantially annular base member 22 which is provided at one side thereof with an inverted, U-shaped hanger 24, including a bight portion 26.

The cage 20 also includes a set of arcuate top members 28, 30 which are secured to and extend

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upwardly from diametrically spaced points of the base member 22 and have their upper ends connected together as at 32. An upper end portion of the top member 30 is arcuated so as to form an eye 34 which is operatively connected by a length of chain 36 to the usual flushing lever 38 of the toilet tank.

A suitable ball 40 is movably disposed within the cage 20, the ball 40 being of such a size as to project downwardly from the cage when it is seated on the annular base member 22. However, at the same time, the distance between the bight portion 26 and the point of connection 32 of the top members 28, 30 is less than the diameter of the ball, so that the latter cannot be withdrawn upwardly from the cage, beyond the position illustrated by the dotted line 42 in Figure 2.

A suitable mounting bracket 44 is secured to an intermediate portion of the overflow pipe 18 and is provided with a horizontal bearing 46 in which the bight portion 26 of the hanger 24 is rotatably journaled, so that when the invention is placed in use and the flushing lever 38 is in its lower position, the cage 20 may also be lowered to permit the ball 20 to engage the seat 16 in the fitting 14. When the tank is flushed by raising the lever 38, the entire cage 20 is swung about the bight portion 26 in the bearing 46, so as to raise the ball 40 from the seat 16 as shown in Figure 2.

It is believed that the advantages and use of the invention will be clearly understood from the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having described the invention, what is claimed as new is:

1. Toilet tank flush valve unit, comprising a mounting bracket adapted to be secured to an overflow pipe and including a horizontal bearing, a wire cage comprising a substantially annular base member, an inverted U-shaped hanger extending upwardly from one side of said base member and having a bight portion rotatably journaled in said bearing, and a set of arcuate top members extending upwardly from perimetri-

cally spaced points on said base member and having their upper ends connected together, and a valve ball movably disposed in said cage, said base member affording a seat for said ball.

2. The device as defined in claim 1, wherein the distance between said bearing and the point of connection of the upper ends of said top members is less than the diameter of said ball, whereby the ball is retained in said cage.

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