June 28, 1932. C. W. JENKINS ET AL 1,864,827

SANITARY TOILET FLUSH

Filed Oct. 2, 1931

Fig. 1

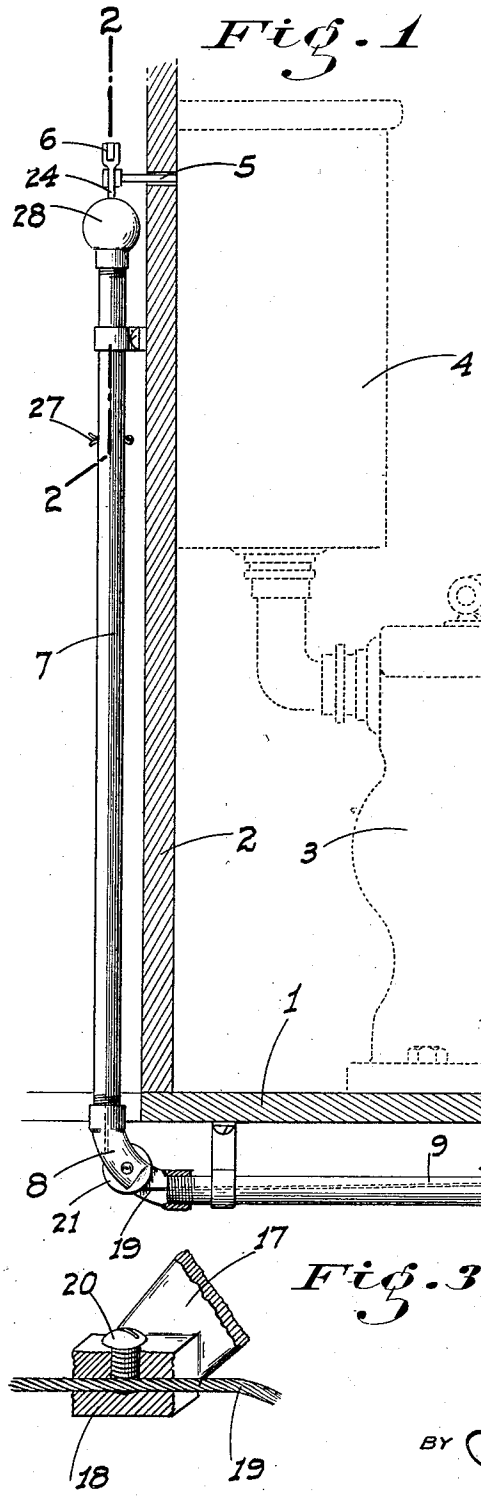


Fig. 2

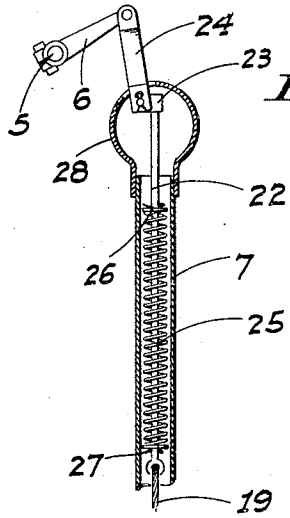


Fig. 3

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SANITARY TOILET FLUSH

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This invention relates to toilets and particularly to a device for actuating the flush lever or trip of the flushing apparatus.

The main object of our invention is to provide an apparatus by means of which said lever will be actuated by foot pressure. It is therefore not necessary for the user of the toilet to touch any part of the same with his hands and the device is therefore especially suitable for public toilets since it is of a very sanitary character. The apparatus is of such a nature that it may be applied to toilets already installed, though it is preferred to incorporate the same as a built-in feature in new installations.

Further objects of the invention are to provide a device for the purpose which is easy to operate with a minimum of effort; one in which little friction and wear are developed and there is nothing apt to get out of order; one which is arranged so as to be easily adaptable, when being installed, to different building or toilet installation conditions; and one which is of simple and inexpensive construction.

These objects we accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawing similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a side outline of a standard toilet installation showing our improved foot actuated flush control device mounted in connection therewith.

Fig. 2 is an enlarged sectional elevation of the upper portion of the device taken on the line 2—2 of Fig. 1.

Fig. 3 is a sectional view of the cable clamping block of the actuating unit.

Referring now more particularly to the characters of reference on the drawing, the numeral 1 denotes the floor and 2 the back wall of a lavoratory, in which the toilet 3 is mounted with its flush tank 4 abutted against the wall as usual. The flushing mechanism in the tank is of that standard character which is actuated by the rotation of a transverse rod 5 projecting from the tank. In the present instance I show the foot control structure as being a built-in feature and in this case the rod 5 projects through the back instead of the front of the tank as usual. The rod projects into the hollow space back of the wall surface and on said end is provided with a normally upwardly sloping operating arm or lever 6.

The foot control structure for depressing this lever to cause the toilet to be flushed is constructed as follows.

Depending from below one lever and substantially in vertical alinement with the outer end of the same is a conduit 7, such as a length of pipe. This conduit extends approximately to the floor level and there has threaded connection with one end of an open elbow member 8. The opposite end of this elbow has similar connection with a horizontal conduit 9 which extends under the floor to an adjustable connection with a rectangular receptacle 10. This receptacle is depressed in the floor and is provided with end brackets 11 adapted to abut against and be secured to the floor, so as to support the receptacle in place. The receptacle is disposed to one side of the toilet in such a position relative to the front of the toilet as to be convenient to a foot of the occupant.

Mounted in the receptacle is a horizontal shaft 12, extending at right angles to the axis of the conduit 9, and from which a radial arm 13 projects in the direction of said conduit. Secured on the end of this arm is an upstanding ball member 14 which is adapted to have a water-tight seat with an orificed gasket 15 secured to the under face of the similarly orificed cover plate 16 of the receptacle. This cover plate is practically flush with the floor and is removably secured to the top of the receptacle in any suitable manner. Another arm 17 rigid with the arm 13 depends from the shaft and has a block 18 secured on the lower end of the same to one side of and disposed in transverse alinement with the conduit 9.

This block has a longitudinal bore to receive a cable 9 therethrough, which is adjustably clamped in place by a screw 20 in the block. This cable extends thence through

the conduit 9 about a pulley 21 mounted in the elbow 8 and up through the conduit 7.

At its upper end some distance below the upper end of said conduit the cable is connected to the lower end of a rod 22 which projects about the conduit. On its upper end the rod has a radially extending head 23 which is alined with the arm 6 and is connected to the outer end of the same by a link 24. A compression spring 25 is disposed about the rod and is engaged at its upper end by a washer 26 fixed on the rod, and at its lower end by cross pins 27 mounted in and projecting across the conduit on opposite sides of the rod adjacent its lower end. The spring therefore acts to hold the rod and consequently the arm 6 raised and also exerts a constant tension on the cable, which acts to maintain the ball raised and in firm water tight contact with its seat in the gasket 15. No water therefore can get into the receptacle when the floor is scrubbed.

The elbow 8, which may be made with different angles of bend, provides a combined pulley support and pipe connection. Being adjustably connected to the vertical conduit, the horizontal conduit and the receptacle may be disposed to any desired or necessary angle relative to the wall 2 as the conditions of installation on any particular job may require. The cable always being held under tension and elbow being rigid with the conduits, said cable will always be maintained in proper alinement and will never drag against the walls of the conduits. Minimum friction and wear in operation is therefore had.

The top of the conduit 7 is capped by a ball 28 having a narrow slot therein of only sufficient width to receive the link 24. In this manner the conduit is prevented from possibly being choked up by dirt and dust dropping from above. When installing the device in connection with a toilet already in place, and which would necessitate the conduit 7 being located in an exposed position in the lavoratory, said ball 28 would then be of an ornamental character.

Though particularly designed for toilet-flush operation, the device is obviously adapted for connection to the valve control lever of other lavatory equipment, such as wash bowls, etc.

From the foregoing description it will be readily seen that we have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described our invention what we claim as new and useful and desire to secure by Letters Patent is:

1. A device to actuate the depressible flush control lever of a toilet flush tank comprising a vertical conduit adapted to depend from the outer end of the lever, a horizontal conduit adapted to extend under the floor from adjacent the lower end of the vertical conduit, an elbow fitting connecting the adjacent ends of the conduits, a direction changing pulley mounted in said elbow, a cable extending through said conduits and about the pulley, connecting means for connecting the upper end of the cable with the lever, a depressible member beyond the outer end of the horizontal conduit, and means connecting said member and the adjacent end of the cable in a manner to cause a depression of said member to exert a pull on the cable.

2. A device to actuate the depressible flush control lever of a toilet flush tank comprising a vertical conduit adapted to depend from the outer end of the lever, a horizontal conduit adapted to extend under the floor from adjacent the lower end of the vertical conduit, means rigidly connecting the adjacent ends of the conduits, a cable extending through the conduits and connecting means, a rod to the lower end of which the upper end of the cable is connected, a link connected to the upper end of the rod and adapted for connection to the lever, a compression spring associated with the rod and vertical conduit to exert a constant upward pull on the cable, and foot actuated means applied to the other end of the cable to pull the same in the opposite direction against the resistance of the spring means.

3. A device to actuate the depressible flush control lever of a toilet flush tank comprising a vertical conduit adapted to depend from the outer end of the lever, a horizontal conduit adapted to extend under the floor from adjacent the lower end of the vertical conduit, means rigidly connecting the adjacent ends of the conduits, a cable extending through the conduits and connecting means for connecting the upper end of the cable to the lever, a covered receptacle connected to the outer end of the horizontal conduit, means to mount the receptacle flush with the floor of the toilet room, a depressible member mounted, in the receptacle and normally projecting upwardly from the same, and connecting means between the member and the adjacent end of the cable to pull the latter with a depression of the member.

4. A device to actuate the depressible flush control lever of a toilet flush tank comprising a covered receptacle adapted to be mounted flush with the floor of a toilet room in offset relation to the toilet, a ball in the receptacle normally projecting upwardly through the cover of the same, a substantially horizontal arm on one end of which the ball is secured, an arm rigid with and depending from the opposite end of the ball arm, means

pivoting said arms at their adjacent ends in the receptacle on a horizontal axis, a flexible element connected at one end to the lower end of the depending arm, means for connecting the other end of said element to the flush control lever, and means for enclosing and guiding the element intermediate its ends.

5. A device to actuate the depressible flush control lever of a toilet flush tank comprising a covered receptacle adapted to be mounted flush with the floor of a toilet room in offset relation to the toilet, a ball in the receptacle normally projecting upwardly through the cover of the same, a substantially horizontal arm on one end of which the ball is secured, an arm rigid with and depending from the opposite end of the ball arm, means pivoting said arms at their adjacent ends in the receptacle on a horizontal axis, a clamping block mounted on the lower end of said depending arm, a cable one end of which is adjustably secured in said block and means for connecting the other end of the cable to the flush control lever.

6. A structure as in claim 4, with spring means tending to hold the flexible element taut and to raise the ball, and a seat member surrounding the ball above its horizontal diameter and mounted on and under the cover of the receptacle.

In testimony whereof we affix our signatures.

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