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C. W. REHBACK

2,204,867

FOOT OPERATED FLUSHER FOR TOILETS OR THE LIKE

Filed June 27, 1939

Fig. 1

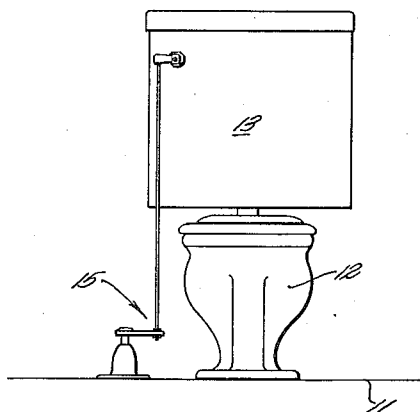


Fig. 2

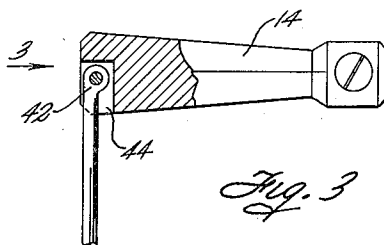


Fig. 3

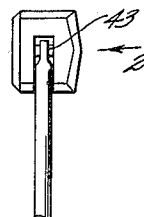


Fig. 4

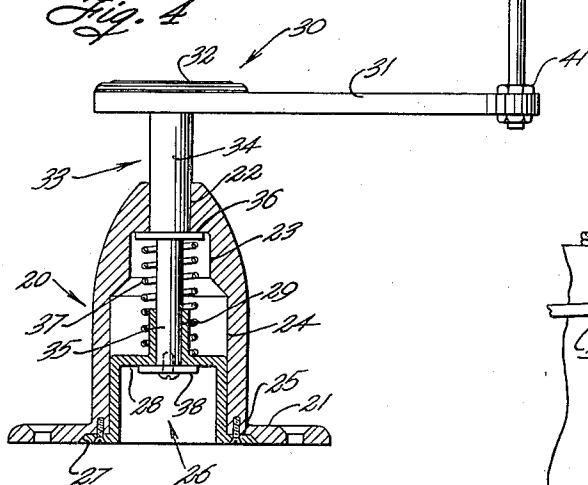


Fig. 5

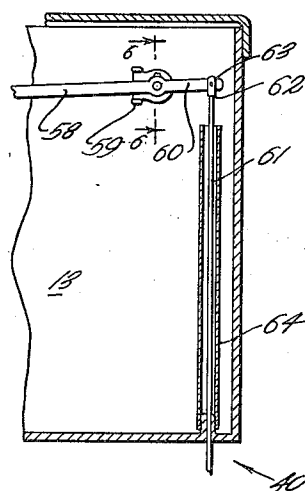
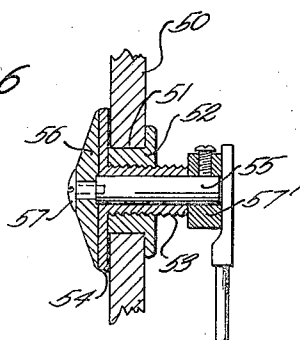


Fig. 6



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UNITED STATES PATENT OFFICE

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FOOT OPERATED FLUSHER FOR TOILETS
OR THE LIKE

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2 Claims. (Cl. 4—249)

My invention pertains to a foot operated device especially designed to actuate the flushing tanks of water closets or the like involving substantially no or minor changes in the tank equipment.

A main object and characteristic of my invention relates to an assembly of a foot pedal, a supporting and guiding base or the like with connecting links in which the base may be attached to a floor adjacent a water closet and thus may be readily used with new or present installations and without cutting into the floor or attaching to the water closet bowl. In this connection a feature of the pedestal is that it forms a guide and support for a vertically movable foot pedal as distinguished from a pivoted lever and this foot pedal in its turn actuates a link rod, the link rod by a pivotal connection to the conventional hand lever of the tank trips the flushing valve. Another detail feature involves the pedestal construction, this having upper and lower guides for the stem of the foot pedal with an intermediate spring urging the pedal to its uppermost position and thus holding the hand operated arm in its normal inactive position.

My invention also contemplates a construction by which the tripping action is internal of the tank by either making a modification in the present tanks or new installations. In this arrangement the present tripping lever inside of the tank is pivotally mounted on a journal through the front wall of the tank as is the present construction and an arm connected to the tripping lever has the upright link connected thereto, this link passing upwardly through a tube extending from the bottom of the tank to above the water level.

My invention is illustrated in connection with the accompanying drawing, in which:

Fig. 1 is a front elevation of the water closet and tank assembly showing my invention connected in one form to trip the external hand lever of the tank.

Fig. 2 is a front elevation taken in the direction of the arrow 2 of Fig. 3 partly broken away showing the connection of the vertical link with the hand control handle omitting details of the tank.

Fig. 3 is an end elevation taken in the direction of the arrow 3 of Fig. 2 of the link connection to the hand lever.

Fig. 4 is an enlarged front elevation of the foot pedal portion of my invention with the pedestal and incorporated parts in vertical section.

Fig. 5 is a vertical section through a tank showing the modified construction with the ver-

tical link entering through the tank and operating a trip lever in the tank.

Fig. 6 is a detail taken on the line 6—6 of Fig. 5 showing the manner of pivoting the trip lever in the tank.

Referring to the drawing, a floor surface is indicated by the numeral 11 on which is placed a conventional water closet 12 above which is a flushing tank 13. Such tank is normally actuated for flushing by a hand operated flushing lever or handle 14 attached in the usual manner. My invention includes the foot operated flusher mechanism designated by the assembly numeral 15.

Referring first to the details of Fig. 4, the support and guide pedestal 20 is illustrated as having a flanged base 21 with screw or bolt openings for attaching to the floor. Extending axially from the top there is an upper guide bore 22 below which is a recess 23, this enlarging to a larger recess 24 and in a portion of the flange there is a shallow recess 25. An inverted guide cup 26 has a flange 27 secured to the pedestal by screws or the like. The cup has an upper wall 28 and a cylindrical guide neck 29 extending thereabove. The pedestal is preferably made circular on any horizontal section and tapers towards the top to give a neat appearance.

The foot pedal or treadle assembly 30 includes a pedal plate 31 which has a circular knurled treadle surface 32, the remainder portion of the plate is in the form of a laterally extending arm. A stem 33 has an upper larger diameter portion 34 operating in the upper guide 22 and a lower smaller diameter portion 35 guided in the neck 29. The thrust washer 36 bears against the shoulder between the portions 34 and 35 of the stem and a reaction compression spring 37 bears against the wall 28 of the inverted cup 26 and the washer 36 thus urging the foot pedal assembly upwardly. A lock washer 38 is secured to the lower end of the stem by a screw or the like and engages underneath the wall 28 of the cup preventing upward removal of the stem and the treadle plate, however these various parts may be readily assembled before the pedestal is attached to the floor.

A vertical link 40 consists of a rod which is rigidly secured to the laterally extending treadle plate 31 by a nut and lock nut assembly 41, the rod extending through a perforation at the outer end of the plate. The upper end of the rod is provided with an eye 42 through which extends a pintle pin 43, the rod entering a recess 44 in the handle 14.

In the manner of operation of the device the spring 37 normally maintains the treadle plate in its uppermost position and hence the link 40 retains the handle 14 in its normal inactive position, this being horizontal. When it is desired to flush the tank in the water closet, the operator only need place his foot on the knurled treadle surface 32. This forces the treadle plate downwardly in a vertical direction, such being guided by the stem 33. There is a downward vertical pull by the link 40 but as an angular movement of the handle 14 is quite small, there is sufficient play on the pintle 43 to allow for any slight angular motion of the link 40. The downward movement of the handle 14 trips the flushing valve in the ordinary manner.

In the modified construction illustrated in Figs. 5 and 6, the tripping equipment is installed inside of the tank. In the normal assembly the front wall 50 of the tank has a square opening 51 in which fits a squared bushing 52, a sleeve 53 is threaded in this bushing and has a head 54 on the outside. The bushing therefore forms a journal for the flushing lever rock shaft 55. This is held in place by a washer 56 and a screw 57 extending through the washer and threaded into the end of the rock shaft. The hub 57' of the tripping lever 58 engages the end of the bushing and thus by means of a set screw attachment prevents the rock shaft from working outwardly. The tripping lever operates between two laterally extending studs 59 connected to the squared bushing 52. An additional tripping arm 60 is attached to or formed integral with the lever 58 extending in the opposite direction from the hub 57'. The link 40 is made longer than in the construction of Fig. 1 and has an upper portion 61 with a yoke 62 pivoted as at 63 to the lever portion 60. The portion of the rod within the tank extends upwardly through a tube 64 aligned with an opening in the bottom of the tank and

having a water tight joint. The tube extends to a position above the water level so that there is no danger of an overflow through the tube, otherwise the assembly of the foot treadle and other details are the same as shown in connection with Figs. 1, 2 and 3 and the operation is the same.

Various changes may be made in the details of the construction without departing from the spirit or scope of the invention as defined by the appended claims.

I claim:

1. A flushing device for toilets or the like including in combination a pedestal having a vertical guide and adapted to be mounted on a floor, a pedal plate having a stem, such stem being operative in the guides of the pedestal, a spring in the pedestal contiguous to the stem, means to react the spring between the pedestal and the stem to urge the stem and the pedal plate upwardly and a link connection from the pedal plate adapted for connection to a flushing mechanism of a toilet to operate said mechanism on displacing of the said pedal plate.

2. A flushing device including in combination a pedestal having a flange at the bottom for attachment to a floor, a recess extending upwardly in the lower part of the pedestal, a shallow recess in part of the flange, an inverted cup fitted in the first recess and having a secondary flange fitted in the shallow recess, means attaching the inverted cup to the pedestal, the cup having a neck, the upper part of the pedestal having an upper guide, a pedal plate having a stem operating through the upper guide and the said neck, a coil spring seated on the inverted cup, a reaction means between the spring and the stem to thrust the stem upwardly, a link rigidly connected to the pedal plate and adapted to operate a flushing mechanism of a tank.

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