

1 457 752

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(22) Filed 17 April 1974 (19)

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(54) REDUCING WATER CONSUMPTION IN WATER CLOSETS

(71) I, CH'NG SEOW KONG, a Singapore Citizen, of 31 Sennett Terrace, Singapore, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to apparatus for the reduction of water consumption in water closets.

According to the invention there is provided, in use, apparatus for reducing water consumption in a water closet associated with a cistern having means for filling the cistern with water to a predetermined depth and means for discharging water from the cistern to the water closet, the apparatus being mounted in the cistern and comprising a structure having two lateral horizontal arms interconnected by a cross-piece, the height of the lateral arms being substantially equal to or less than said predetermined depth, the shape of the apparatus being such that it does not interfere with the mechanical operation of the cistern filling means or the cistern discharging means; whereby the volume of water discharged from the cistern on flushing is reduced by substantially the volume of the structure.

A device in accordance with the present invention will now be more fully described by way of example with reference to the accompanying drawings, wherein:—

Figure 1 is a perspective view of the apparatus;

Figure 2 is a plan view of a cistern incorporating the device.

The device shown in Figure 1 has two lateral arms 1 and 2, with substantially parallel longitudinal axes. A cross-piece 3, of greater height than the lateral arms connects the arms, a vertical opening 4 being defined to allow unimpeded movement of the ball-cock arm 5. The shape of the structure is designed to displace a desired volume below the predetermined water level of the conventional cistern whilst not interfering with the conventional mechanical operation of the cistern parts, the lateral arms 1 and 2 are of such a length and the end block of the lateral arm 2 being shaped

to allow the ball-cock 7 to rise and fall unimpeded, for example, the device is fastened to the cistern wall by brackets 8.

In a cistern where the predetermined water level provides a capacity of two gallons of water before insertion of the apparatus, the preferred volume of the apparatus below the water level is three quarters of a gallon. With the device inserted the amount of water discharged by flushing will be substantially $1\frac{1}{4}$ gallons, thus reducing the amount of water used whilst the loss of flushing efficiency is nil or negligible since the pressure head of water in the cistern is unaffected.

In a cistern of two gallon capacity the height of the lateral arms is 7 inches and the total height of the cross-piece is $9\frac{1}{4}$ inches, the overall length of the lateral arm 1 being $13\frac{7}{16}$ inches, the overall length of the lateral arm 2 being $13\frac{3}{16}$ inches, the overall length of the cross-piece being $6\frac{1}{2}$ inches, the other dimensions of the solid parts of the apparatus are designed to provide a volume of three quarters of a gallon below the predetermined water level of the system. This volume can easily be varied by addition to or subtraction from the solid parts of the apparatus.

The apparatus described is of a unitary construction, but it can also comprise a series of connected blocks.

The attention of the reader is directed to the claims of British Patent Application No. 18525/73 (Serial No. 1,457,751), from which this Application has been divided.

WHAT I CLAIM IS:—

1. When in use, apparatus for reducing water consumption in a water closet associated with a cistern having means for filling the cistern with water to a predetermined depth and means for discharging water from the cistern to the water closet, the apparatus being mounted in the cistern and comprising a structure having two lateral horizontal arms interconnected by a cross-piece, the height of the lateral arms being substantially equal to or less than said predetermined depth, the shape of the apparatus being such that it does not interfere with the mechanical operation of the cistern filling

PATENT SPECIFICATION (11)

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to allow the ball-cock 7 to rise and fall unimpeded, for example, the device is fastened to the cistern wall by brackets 8.

In a cistern where the predetermined water level provides a capacity of two gallons of water before insertion of the apparatus, the preferred volume of the apparatus below the water level is three quarters of a gallon. With the device inserted the amount of water discharged by flushing will be substantially 1½ gallons, thus reducing the amount of water used whilst the loss of flushing efficiency is nil or negligible since the pressure head of water in the cistern is unaffected.

In a cistern of two gallon capacity the height of the lateral arms is 7 inches and the total height of the cross-piece is 9½ inches, the overall length of the lateral arm 1 being 13⁷/₁₆ inches, the overall length of the lateral arm 2 being 13³/₁₆ inches, the overall length of the cross-piece being 6½ inches, the other dimensions of the solid parts of the apparatus are designed to provide a volume of three quarters of a gallon below the predetermined water level of the system. This volume can easily be varied by addition to or subtraction from the solid parts of the apparatus.

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means or the cistern discharging means; whereby the volume of water discharged from the cistern on flushing is reduced by substantially the volume of the structure.

- 5 2. An apparatus as claimed in claim 1, wherein the volume of the structure below the predetermined depth is substantially three quarters of a gallon.

3. When in use, apparatus substantially as hereinbefore described with reference to 10 the accompanying drawings.

MARKS & CLERK,
Chartered Patent Agents,
57—60 Lincoln's Inn Fields,
London, WC2A 3LS.
Agents for the Applicant.

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