Jan. 21, 1936. J. H. COLLIOT 2,028,193

FLUSHING APPARATUS

Filed April 21, 1932

Fig. 1.

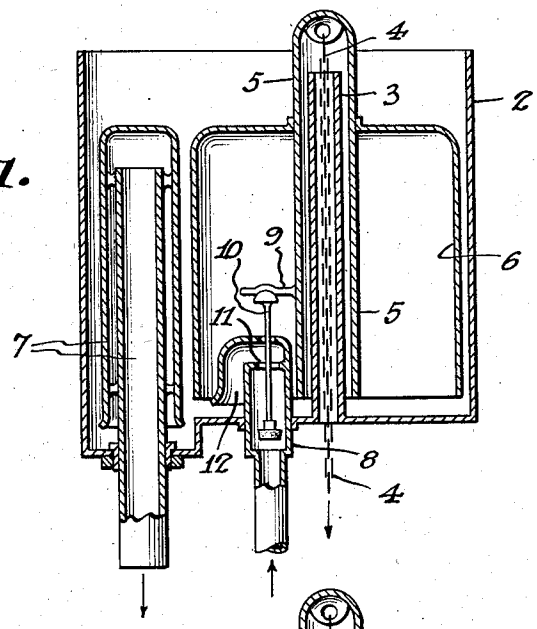
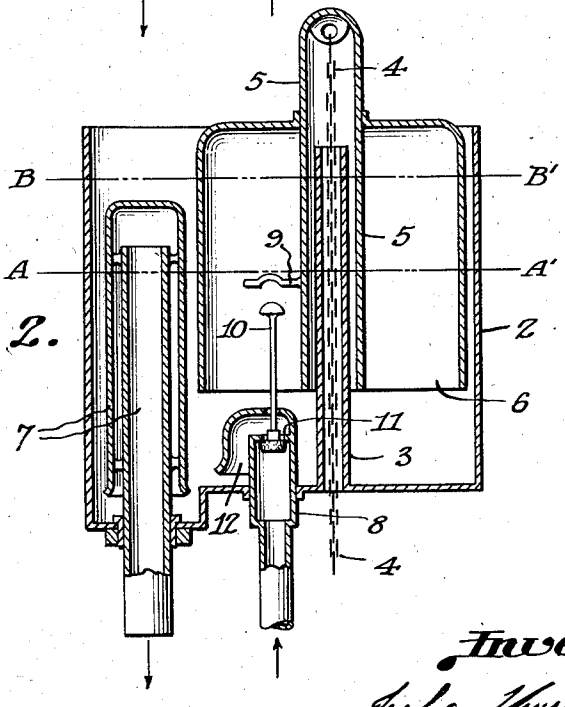


Fig. 2.



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FLUSHING APPARATUS

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In France April 21, 1931

1 Claim. (Cl. 4—48)

This invention relates to a flushing apparatus of the kind as is principally used for flushing the cup of water-closets.

Numerous devices have been proposed for the said use, but most of them give trouble through vibrations, noises and hydraulic recoils in the water pipes and chiefly through the very important wasting of water caused either by the feeding valve that is always unsufficiently balanced, or by the floater, or by the rubber packing under the mobile bell, or by the seat of the cock or the bell.

In the new apparatus which is hereby presented, the overflow siphon is fixed and the floater valve is dispensed with. It is composed of a box made of wood, metal, porcelain, etc., a feeding valve, an inner fixed siphon and a mobile floating bell.

The outer box, of indifferent shape, has a bottom provided with two holes, the one for the flushpipe and the other for the feeding valve. At the centre of the box, a tube acts as guide to the floating bell and as passage for the pullchain.

The feeding valve is, in the given example, placed in the axis of the box, near the inner tube, and it is mounted on a leading stem. The priming siphon, whose height and diameter are proportioned to the volume of the flush, is fixed to the bottom of the box by a jam-nut making a tight joint.

The bell, whose weight is calculated to balance the pressure of the water during feeding, is provided with an inner tube which slides on the tube containing the pullchain.

In order that the following explanations may be clearly understood, an example of practical realizing of the invention is shown by the annexed drawing.

Fig. 1 is a transverse section of the complete reservoir during feeding, the valve being kept open by the weight of the bell.

Fig. 2 is a transverse section of the complete reservoir as filled the feeding valve being closed. The line A—A′ shows the normal level of water at that moment. The line B—B′ shows the level of the water at the moment of priming the siphon.

The apparatus works in this way: the reservoir being empty (Fig. 1) the weight of the floating bell presses through the spur 9 on the stem 10 of the valve, which is thereby kept removed from its seat permitting arrival of water through the aperture 11 and the conduit 12.

As the water rises in the reservoir, it compresses the air of the bell until the resulting pressure balances the weight of the bell. From that moment, the bell rises with the water, freeing gradually the stem of the valve, which is pushed towards its seat by the pressure of the water. At the moment the bell has reached its level, the valve is pressed on its seat, intercepting completely the passage of water. The water has then reached the level A—A′ of Fig. 2 and the reservoir is ready for use. To produce a flush, one has only to depress the floating bell. In the example, that is done by a pull at the chain. As the floating bell descends, it makes the water rise to the level B—B′ where it flows over in the siphon which is thereby primed. The resulting flush empties the box. Refilling of the box begins at once as the floating bell is pressing through its spur on the stem of the valve giving inlet to a new volume of water.

It is well understood that the above described reservoir is given as an example and that it may, in the limits of the invention, be modified in different ways or adapted to other uses. For instance, the shape of the box, of the floating bell and of the valve may be modified, the valve having the shape of a disc, a conus, a ball, etc. The descending movement of the floating bell may be produced by any other means than the chain described above. In some cases, the inner leading tubes may be dispensed with; for instance, when the reservoir is placed low so that the floating bell can be actuated by pressure exerted on its top.

What I claim and desire to secure by Letters Patent is:

In a flushing apparatus, the combination of an outer reservoir, a feeding pipe with a lifting valve, a fixed siphon with a flushing pipe, a float open at its underside actuated directly by a pullchain and rising with the incoming water, means for stopping said float at a predetermined level, said float causing the siphon to be flooded on being actuated by said pullchain and means for opening the feeding valve just before reaching the lower limit of the downward travel of said float.

JULES HENRI COLLIOT.