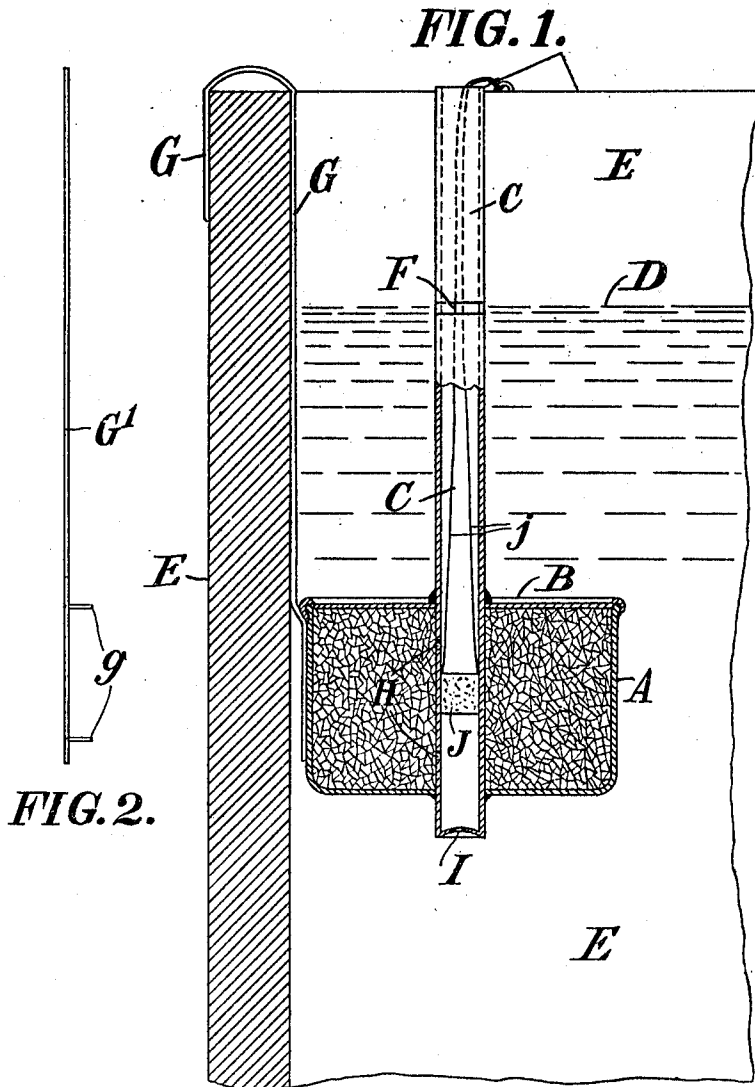


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 APPARATUS FOR DISTRIBUTING DISINFECTANTS.
 APPLICATION FILED JULY 21, 1908.

945,255.

Patented Jan. 4, 1910.



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JOHN WILLIAM WILKIE AND ROBERT WILSON, OF BIRKENHEAD, ENGLAND.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, JOHN WILLIAM WILKIE and ROBERT WILSON, subjects of the King of Great Britain, residing in Birkenhead, in the county of Chester, in the Kingdom of England, have invented certain new and useful Improvements in Apparatus for Distributing Disinfectants.

Our invention relates to certain improvements in that type of apparatus which distribute disinfectants and the like in the water of flushing cisterns and so forth.

The invention will be understood from the following description, reference being had to the accompanying drawings in which:—

Figure 1 shows our apparatus partly in vertical section applied to a flushing tank; Fig. 2, an edge view of the lengthening strip.

The apparatus consists of a light receptacle A of suitable material, preferably of circular form but we do not insist upon this point, the top B of which is preferably soldered or firmly secured thereon, but it might be screwed or secured in any other suitable way, so long as the water is unable to penetrate into the receptacle A through the lid B. A short length of pipe C is inserted and firmly secured in this receptacle A in such a way that its lower end projects slightly beyond the bottom of the receptacle A, while its upper part is carried to a sufficient height to project to a certain extent above the level D of the water in the flushing cistern E or the like, a mark F being made on the upper part of the pipe C to indicate to what level the apparatus must be lowered into the cistern E. The apparatus has a thin strip of metal or wire G soldered or secured to it in any suitable way, in order to allow of its being easily engaged over the upper edge of the flushing cistern E and then bent down in the form of a hook, so as to enable it to hold firmly thereon. Inside the receptacle the pipe C is perforated with two small holes H one toward the bottom and the other toward the upper part of the receptacle. More than two holes H may however be made in the pipe C if desired. The top of the pipe C is open, but the portion which projects from the lower part of the receptacle A is flanged over at its orifice I so as to reduce the size of the passage. The orifice I is, for the sake of clearness, shown larger than what it really is in actual use.

Before the lid B of the receptacle is fas-

tened down the vessel is filled with some suitable, preferably crystalline, disinfectant, such for instance as permanganate of potash, and then the lid B is soldered or firmly secured on the receptacle A.

J is a cork or plug in the tube C to which is looped a cord j having a tab at the end. This cork or plug is located between the perforations H, but leaves them both absolutely free, and directs the liquid through the perforations.

When it is desired to use the apparatus, the top of the tube C is held under a flow from a tap. When the water begins to drip pink from the bottom of the tube the cord is pulled till the starting plug J comes right out. Then place the device in a flushing tank E to such a depth that the surface water of the tank when full, stands at the level of the mark F on the pipe C and then the upper end of the supporting strip G is bent around so as to firmly clip the wall of the tank E. The water then slowly penetrates through the small bottom orifice I of the pipe into the receptacle which it fills and dissolves a small quantity of the disinfectant contained therein. The strong solution, formed by the penetration of the water into the disinfectant crystals or the like, is retained in the pipe C, the orifice I being so small as not to enable it to come out readily except when the flush is operated. When however the flush takes place, this strong solution is discharged or sucked through the small bottom orifice I and distributes itself throughout the liquid forming the flush. This enables a strictly limited quantity of the strong solution to be mingled with the flushing water, particularly toward the closing of the flushing operation, such quantity being sufficient to tinge the water and have the necessary disinfecting action. The result is a considerable economy of disinfectant. The coloring of the water also indicates that the apparatus is working satisfactorily. The upper end of the pipe C has a very much larger aperture than the lower end, in order to allow of air entering freely through this upper end and assisting the discharge of the solution. The strong disinfecting solution can only get into the cistern through the single minute orifice I and thus it cannot practically get into the cistern at all except when the flush is operated.

In case it is required to lengthen the

strip G, owing to the height of the cistern, we provide a lengthening strip G¹ having tangs *g* and there are corresponding holes or slots in the strip G. By laying this strip G¹ against the strip G with the tangs *g* passed through the slots, and then bending back the tangs *g*, the strip is lengthened to the required extent.

The advantages of the apparatus are great simplicity of construction and certainty and regularity of action, and a great economy in the use of disinfectant, as a minimum quantity of strong solution is always discharged particularly in the last moments of the flush, which is precisely the moment when it is most required.

As the apparatus is very cheaply constructed usually one charging of the disinfectant will suffice, as by the action of the water and the disinfectant, the apparatus may be so far affected as to render a further charging inadvisable, but if it be desired to make the apparatus applicable for re-charging, the lid or cover B of the receptacle may be screwed or otherwise suitably fastened on the receptacle A instead of being soldered, or a removable screw cap could be used in any part of the receptacle.

We declare that what we claim is:—
1. In a disinfecting device, the combination with a cistern or the like, of a receptacle immersed therein, and adapted to con-

tain a suitable disinfecting substance, and having a pipe passing through the same and extending above the water level of the cistern, the said pipe being perforated where it passes through the said receptacle, and having a reduced opening in its lower end whereby the pipe acts as a reservoir for the solution and in the flushing action such solution is sucked through the small opening.

2. In a disinfecting device, the combination with a cistern or the like, of a receptacle immersed therein and adapted to contain a suitable disinfecting substance and having a pipe passing through the same and extending above the water level of the cistern, the said pipe being perforated where it passes through the said receptacle and having a reduced opening in its lower end whereby the pipe acts as a reservoir for the solution and in the flushing action such solution is sucked through the small opening, and having also its lower end internally flanged.

In witness whereof, we have hereunto signed our names this 10 day of July 1908, in the presence of two subscribing witnesses.

JOHN WILLIAM WILKIE.
ROBERT WILSON.

Witnesses:

G. C. DYMOND,
W. H. BEESTON.