

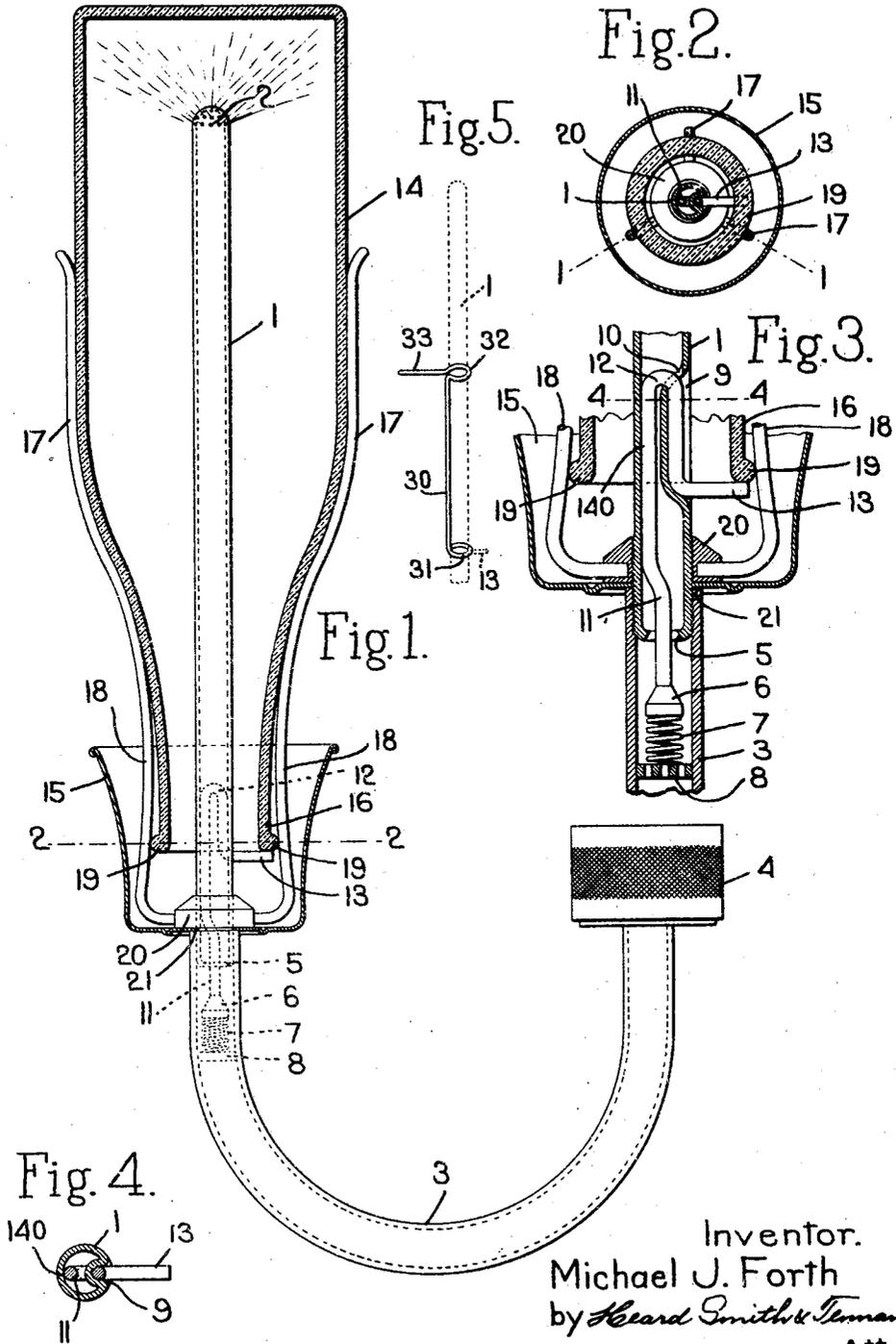
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BOTTLE WASHER

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# UNITED STATES PATENT OFFICE.

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## BOTTLE WASHER.

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This invention relates to bottle washers and has for its general object to provide a bottle washer having the improved features hereinafter described and set forth in the claims.

In order to give an understanding of the invention I have illustrated in the drawings a selected embodiment thereof which will now be described after which the novel features will be pointed out in the appended claims.

Fig. 1 is a view of a bottle washer embodying my invention, the cup 15 and bottle being shown on a section taken on the line 1—1, Fig. 2;

Fig. 2 is a section on the line 2—2, Fig. 1; Fig. 3 is an enlarged fragmentary sectional view on the line 1—1, Fig. 2;

Fig. 4 is a sectional view on the line 4—4, Fig. 3;

Fig. 5 is a view of an attachment adapted to be used for washing bottles.

My improved bottle washer is of that type which comprises a spray or jet pipe that is adapted to be connected to a faucet or other source of supply, a valve normally closing said pipe to the flow of water therethrough and means whereby when the bottle is telescoped over the jet pipe so that the latter extends into the bottle the valve will be automatically opened to deliver a spray of water against the bottom and sides of the bottle for cleaning the latter.

In the drawings 1 indicates the spray pipe or jet pipe which is provided at its end with a plurality of jet openings 2. This pipe can conveniently be connected to a U-shaped pipe section 3 as will be presently described, the latter having a coupling 4 of any suitable type by which it may be attached to a faucet.

The spray pipe 1 is controlled by a valve which is normally closed but which is adapted to be opened by the placing of a bottle over the spray pipe. As herein shown the lower end of the spray pipe 1 is screwed into the end of the pipe section 3 and said lower end of the spray pipe is provided with a valve seat 5 on which a valve 6 is adapted to seat. The valve 6 is acted on by a spring 7 which normally tends to hold the valve seated, said spring being backed by a skeleton backing member 8 which is secured in the pipe section 3.

Novel means are provided for opening the valve away from its seat by the placing of

a bottle over the spray pipe 1. As herein shown the spray pipe 1 is provided in one side with an indentation 9 in the form of a groove and said pipe has an opening 10 at one end of the indentation which opens into the interior of the pipe. The valve 6 is provided with a valve stem 11 which extends up into the spray pipe 1 beyond the indentation and then is bent backwardly or downwardly as shown at 12, said downwardly bent portion extending through the opening 10. The end of the downwardly extending portion is bent laterally as shown at 13 to form a laterally-extending finger or arm adapted to be engaged by the neck of a bottle 14 when the latter is placed over the spray pipe. The engagement of the bottle with the arm 13 will move the valve downwardly away from its seat thus opening the valve. The groove or indentation 9 together with the opening 10 form a sort of guide for the upper end of the valve stem during its movement.

If desired, the upper bent end of the valve stem may be shaped as shown at 140 to contact with the inner wall of the spray pipe thereby assisting in guiding the valve in its movement. An advantage of this construction is that there are no parts of the valve stem projecting beyond the end of the spray pipe 1 which might be accidentally engaged by the bottle or the operator thereby unintentionally opening the valve.

For washing the neck of the bottle I have provided a cup 15 which is carried by the pipe 3 and is situated so that when the neck of the bottle engages the finger 13 said neck will be within the cup 15. When the valve is opened as above described the water which is sprayed into the bottle for washing the bottle will flow down the walls of the bottle and into the cup 15 and then will flow over the edge of the cup. In this way a stream of water is flowing around the neck 16 of the bottle and the latter will be thoroughly cleansed.

The bottle washer is also provided with means for holding the bottle in position with the valve open so that it is not necessary for the operator to keep his hand on the bottle during the washing operation. For this purpose I have shown a plurality of spray fingers 17, each having at its lower end the inwardly directed swell 18, the latter being so shaped that when the bottle is placed in position to

be washed the bead 19 at the neck 16 of the bottle it will be forced past the swells 18, the resiliency of the wire fingers permitting this operation. When the bottle is in position to be washed with the bead 19 below the swells 18 the fingers will be frictionally engaging the side of the bottle. The resiliency of the fingers 17 is sufficient so that the engagement of the swells 18 with the bead 19 will prevent the bottle from being forced upwardly either by the pressure of the valve-closing spring 7 or by the force of the water jet against the bottom of the bottle or by the combined action of these two. The operator may, therefore, simply place the bottle over the spray pipe into the position shown in Fig. 1 and the bottle will remain in this position holding the valve open until it is removed.

The fingers 17 are shown as secured to a collar 20 which is screw threaded on the lower end of the spray pipe 1. This collar also serves as part of the means for retaining the cup 15 in position. Said cup rests on the shoulder 21 formed by the top of the pipe 3 and the collar 20 acts as a clamping member for clamping the cup 15 against this shoulder 21.

For washing short bottles I may use the attachment illustrated in Fig. 5. This consists of a wire 30 having two loops 31 and 32 at its ends, the upper loop being provided with a projecting finger 33. If it is desired to wash a bottle which is shorter than the length of the jet pipe 1 the attachment shown in Fig. 5 will be slipped over the jet pipe 1 so that the lower ring 31 rests on the arm 13. When a bottle or tumbler is placed over the jet pipe the neck of the bottle or edge of the tumbler will engage the arm 33 and act through the attachment to open the valve as will be obvious.

The device has the advantage of being simple in construction and has the further advantage that the part of the valve stem which is exterior to the spray pipe 1 is located within the cup 15. Thus the valve can only be opened after the bottle has been placed over the spray pipe 1 and has been brought into a position where the neck is within the cup 15.

While I have illustrated herein a selected embodiment of the invention I do not wish to be limited to the constructional features shown.

I claim:

1. In a bottle washer, the combination with a spray pipe having jet openings at its end and an opening between its ends, of a valve controlling the flow through said pipe, a valve stem connected to said valve and projecting through said opening, the projecting portion of said valve stem constituting a finger adapted to be engaged by the neck of a bottle which is placed over the spray pipe, whereby pressure of the bottle against said finger will open the valve.

2. In a bottle washer, the combination with a spray pipe having jet openings in one end, a valve seat at the other end and an opening in its side adjacent the valve seat, of a pipe section connecting said spray pipe to a source of liquid supply, a valve adapted to seat against said valve seat and thereby control liquid flowing through said spray pipe, a valve stem connected to said valve, said stem projecting through said opening in the side of the spray pipe, and the projecting portion forming a finger adapted to be engaged by a bottle neck for opening the valve.

3. In a bottle washer, the combination with a spray pipe having jet openings in its end and provided with an indented portion having an opening at one end leading into the pipe, of a valve controlling the liquid flow through said pipe, a valve stem connected to the valve and having a portion extending through said opening and projecting beyond the spray pipe to form a finger adapted to be engaged by the neck of a bottle for opening the valve.

4. In a bottle washer, the combination with a spray pipe, having jet openings in its end, of a valve controlling the flow through said pipe, a valve stem connected to said valve and projecting through said opening, the projecting portion of said valve stem constituting a finger adapted to be engaged by the neck of a bottle which is placed over the spray pipe, whereby pressure of the bottle against said finger will open the valve, and means engaging the bottle and holding it in position to maintain the valve open.

5. In a bottle washer, the combination with a spray pipe having jet openings at its end, and an opening in its side, of a valve controlling the flow through said pipe, a valve stem connected to said valve and projecting through said opening, the projecting portion of said valve stem constituting a finger adapted to be engaged by the neck of a bottle which is placed over the spray pipe whereby pressure of the bottle against said finger will open the valve, and a resilient finger adapted to frictionally engage the bottle and hold it in position to maintain the valve open.

6. In a bottle washer, the combination with a U-shaped pipe section adapted to be attached to a faucet, a spray pipe screwed into the end of said section, a cup member resting on the end of said pipe section and having an aperture in its bottom through which the spray pipe extends, a clamping collar screwed to the spray pipe on the inside of the cup member and clamping the latter against the end of the pipe section, said spray pipe having jet openings in its end, a valve controlling the liquid flow through said spray pipe, a valve stem connected to said valve and having a portion to be engaged by the neck of a bottle placed over the spray pipe, and resilient fingers carried by the clamping col-

lar for holding the valve in position to maintain the valve open.

5 7. In a bottle washer, the combination with a spray pipe having jet openings in its end and provided with an indentation in its side, there being an opening at one end of the indentation leading into the pipe, of a valve controlling the liquid flow through said pipe, a valve stem connected to the valve and having

a portion extending through said opening, the end of the valve stem being bent laterally and projecting beyond the spray pipe to form a finger adapted to be depressed for opening the valve upon placing a bottle over the pipe. 10

In testimony whereof, I have signed my name to this specification.

MICHAEL J. FORTH.