June 24, 1952 J. J. BYRNES 2,601,364

SMALL ARTICLE HOLDING AND SPRAYING DEVICE

Filed Oct. 13, 1948

FIG. 1

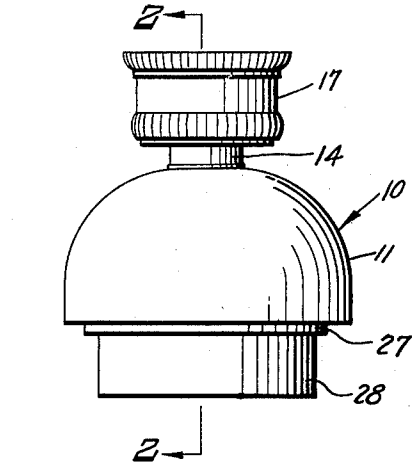


FIG. 2

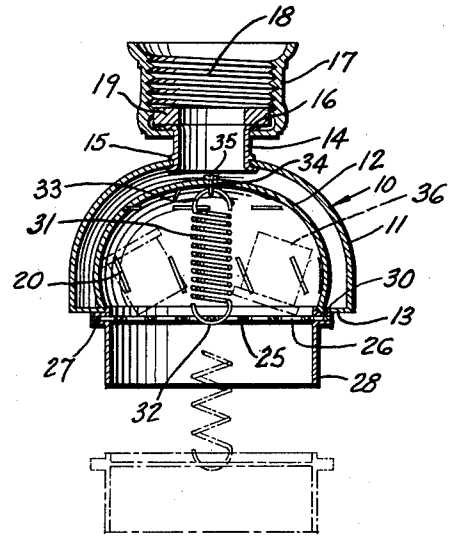


FIG. 3

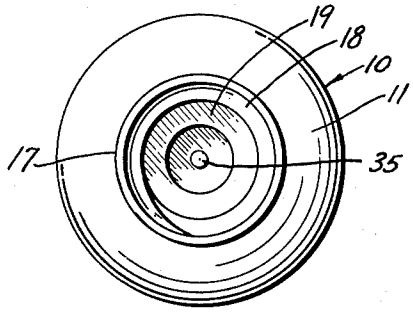


FIG. 5

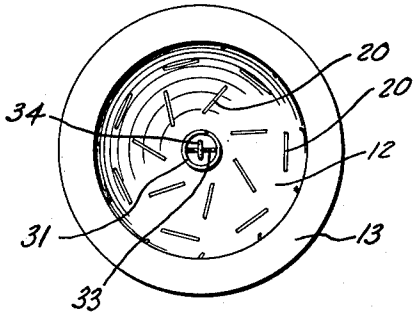
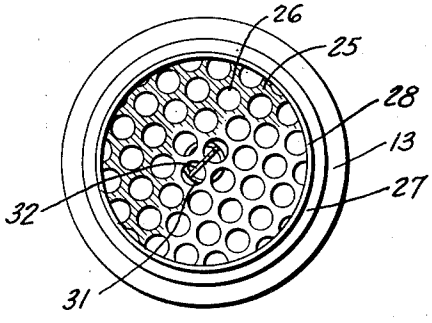


FIG. 4



Inventor

John J. Byrnes

By O. A. Wilson & Co.

Attorneys

Patented June 24, 1952

2,601,364

UNITED STATES PATENT OFFICE

2,601,364

SMALL ARTICLE HOLDING AND SPRAYING DEVICE

John J. Byrnes, Newark, N. J.

Application October 13, 1948, Serial No. 54,268

4 Claims. (Cl. 134—151)

1

This invention relates to an article cleaning device, and more particularly to a device adapted for the hydraulic washing or cleansing of small articles.

A primary object of this invention is the provision of a device adapted for application to a source of water under pressure, having a receptacle in association therewith for the reception of small articles adapted to be cleansed by fluid passing through the device.

An additional object of the invention resides in the provision of improved means facilitating the insertion and removal of articles to be cleansed in the device.

A further and more specific object resides in the provision of such a device particularly adapted for the removal of gummy deposits or other foreign matter from small articles such, for example, as filter screens and nozzles of domestic oil burners.

Still other objects reside in the combination of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and disclosed in the accompanying drawings wherein there is shown a preferred embodiment of this inventive concept.

In the drawing:

Figure 1 is a side elevational view of one form of the device embodying features of the instant inventive concept.

Figure 2 is a sectional view taken substantially along the line 2—2 of Figure 1 as viewed in the direction as indicated by the arrows, an alternative position of adjustment of certain of the parts being indicated by dotted lines.

Figure 3 is a top plan view of the construction disclosed in Figure 1.

Figure 4 is a bottom plan view of the construction shown in Figure 2, and

Figure 5 is a bottom plan view of one element of the device, certain other elements being removed for the sake of clarity.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Referring now to the drawing in detail there is generally indicated at 10 a cup-shaped member, preferably made of sheet metal and includes an outer wall 11 and an inner wall 12 connected at their peripheral rims as by a solid ring or flange 13. The outer wall 11 is provided with a centrally disposed aperture in which is positioned a fitting 14, of tubular configuration, including a channelled boss 15 adapted to secure the fitting in related assembly with shell or wall 11.

2

Fitting 14 terminates in a flange 16 adapted for the reception in a cup 17 interiorly threaded at 18, the cup being rotatable on the flange 16 to facilitate connection of the device to a threaded water outlet (not shown). A conventional washer 19 is provided for sealing purposes. Those parts 14, 17 and 19 are similar to a common form of hose coupling and admit water or other liquid under pressure to the chamber formed in the body 10 between the spaced walls 11 and 12.

The interior wall 12 is provided with a plurality of slots or apertures 20, arranged in any suitable manner to permit the passage of jets or streams of water admitted to the space between the walls 11 and 12 to the interior of the receptacle, the arrangement being such that such jets are admitted in generally radially pattern from all directions about the inner wall 12.

The lower portion of cup-shaped receptacle 10 is provided with a closure member comprised of a plate 25 having a plurality of apertures 26 therein permitting egress of the water passed into the device through the slots 20, plate 25 being seated on a shoulder 27 of a cylindrical member 28, providing a depending flange or skirt beneath the plate to serve as a directional guide for water emanating through the apertures therein. As best shown in Figure 2 the plate retaining member is also provided with an upper flange above the plate 25 adapted to seat against rim 13 of cup 10. The plate is adapted to be held normally in related assembly to close the orifice of cup-shaped member 10 by means of a coil spring 31, one end of which is adapted to be secured as at 32 in suitable adjacent apertures 26 of plate 25, while the other end 33 of the device passes through an eye 34 suspended from a central point of inner wall 12 as by means of a stud 35.

From the foregoing the operation of the device should now be readily understandable. When it is desired to cleanse small articles such as screens or nozzles taken from an oil burner plate 25 and its associated flanged member 28 are moved downwardly against the bias of spring 31 to the position indicated in dotted lines in Figure 2, and the articles, indicated in dotted line at 36, positioned interiorly of the cup. Upon release of plate 25 spring 31 biases the parts to the position disclosed in full lines in Figure 2 retaining the screens or other articles within the cup 10. Fitting 17 is then secured to the end of a hose, or a threaded spigot or the like, and the water turned on. The water

admitted through inlet pipe 14 passes between the double walls of cup 10 filling the space therebetween, and is passed under pressure through the slots 20 thus striking the articles to be cleansed with substantial force from a wide variety of directions. The water exits through the apertures 26 in plate 25, carrying with it sediment and other foreign matter from the articles in process of cleansing. Under certain conditions it will be readily understood that when unusually heavy deposits are to be removed the entire device together with its contents may be submerged in a solvent for partial dissolution of the deposits and subsequently connected to a source of water. It will be noted that because of the use of the connecting spring 31 and the interengagement of the annular flange on the closure member 25, 28 with the open end of the body, the closure member may be rotated to a limited extent while in its closed position to insure that the radially directed streams or jets of liquid from the slots 29 will reach all portions of the screens, nozzles, etc., within the device.

From the foregoing it will now be seen that there is herein provided a device which accomplishes all the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. A portable, article holding and cleaning device for attachment to a hose or faucet comprising a body having spaced and connected inner and outer walls forming a liquid chamber between them, said inner wall being of substantially hemispherical shape to form an open receptacle to receive articles to be cleaned, means for admitting a liquid under pressure to said chamber, said inner wall being formed with spaced apertures to direct substantially radial streams of liquid against articles in said receptacle, means normally closing the open end of said receptacle to retain articles in the latter, said last mentioned means including a closure plate apertured for the escape of liquid from said receptacle, interengaged annular portions on said plate and said receptacle to center said plate with respect to the open end of said receptacle, and a coil spring for normally holding said plate in its closed position, said spring having one end anchored in said receptacle and its other end anchored to said plate, said spring permitting said plate to be pulled away from the receptacle to permit of the insertion and removal of articles.

2. A portable, article holding and cleaning device for attachment to a hose or faucet comprising a body having spaced and connected inner and outer walls forming a liquid chamber between them, said inner wall being of substantially hemispherical shape to form an open receptacle to receive articles to be cleaned, means for admitting a liquid under pressure to said chamber, said inner wall being formed with spaced apertures to direct substantially radial streams of liquid against articles in said receptacle, means normally closing the open end of said receptacle to retain articles in the latter, the last mentioned means including a closure plate apertured for the escape of liquid from said receptacle and a coil spring for normally holding said plate in its closed position, said spring having one end anchored in said receptacle and its other end anchored to said plate, said spring permitting said plate to be pulled away from the receptacle to permit of the insertion and removal of articles, and a cylindrical member in which said apertured closure plate is secured, said member having an annular flange to enter the open end of said receptacle when latter is closed by said plate.

3. In a device of the character described, in combination, a substantially hemispherical open receptacle comprised of connected and spaced inner and outer walls, the outer wall having a liquid inlet and the inner wall having a plurality of slots to emit substantially radially directed streams of liquid into the interior of the receptacle, an apertured plate carried by the device and adapted to extend over the entire open end of said receptacle for the retention of articles within said receptacle, an annular flange carried by said plate to enter the open end of the receptacle for centering it over said open end, and a coiled spring, one end of which is connected to said apertured plate, and the other end of which is secured to the center of said inner wall, said spring normally holding said flange in the open end of said receptacle.

4. The structure of claim 3 wherein said apertured plate is secured within a cylindrical member having said flange at its upper edge, said cylindrical member depending from said plate to serve as a guide for the discharging liquid, and wherein said spring serves to secure both the plate and the cylindrical member in juxtaposition to the open end of said receptacle.

JOHN J. BYRNES.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
Re. 16,797	McKenney et al.	Nov. 22, 1927
846,649	Curatolo	Mar. 12, 1907
985,174	Hill	Feb. 28, 1911
1,154,349	Tanaka	Sept. 21, 1915
1,178,817	Murton	Apr. 11, 1916
1,193,495	Abramo	Aug. 8, 1916
1,827,649	Gallipoli et al.	Oct. 13, 1931
1,900,275	Carter et al.	Mar. 7, 1933