Jan. 12, 1960 F. W. MONTAGUE ET AL 2,920,333

FOUNTAIN BRUSH

Filed May 21, 1954

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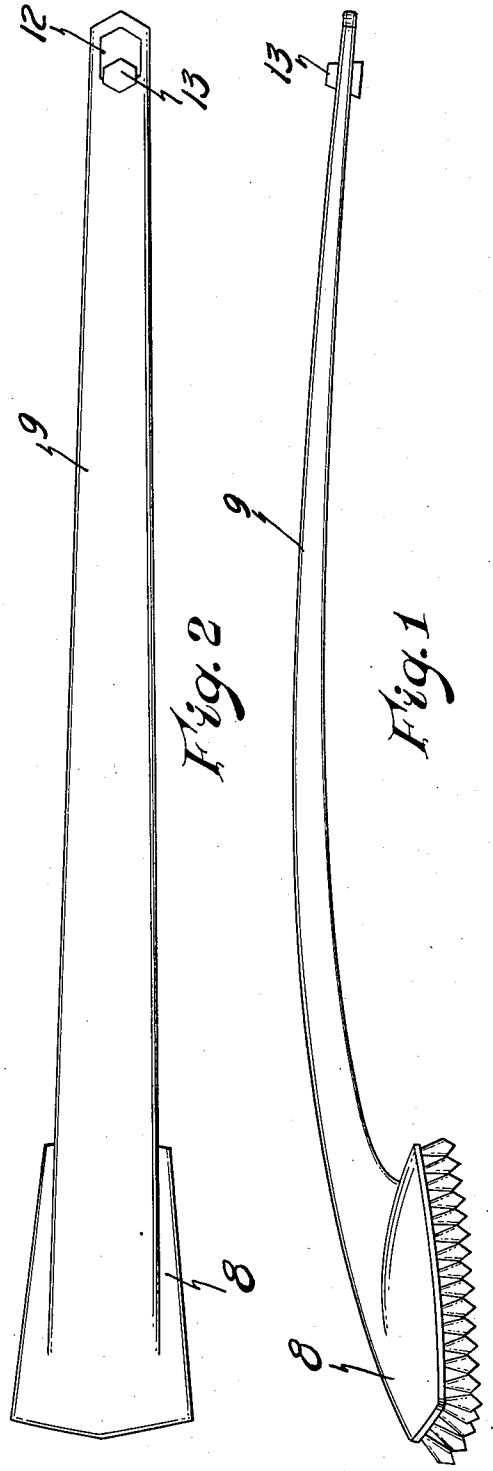


Fig. 2

Fig. 1

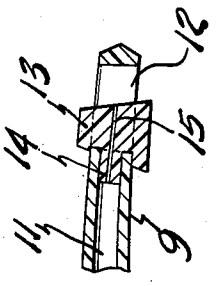
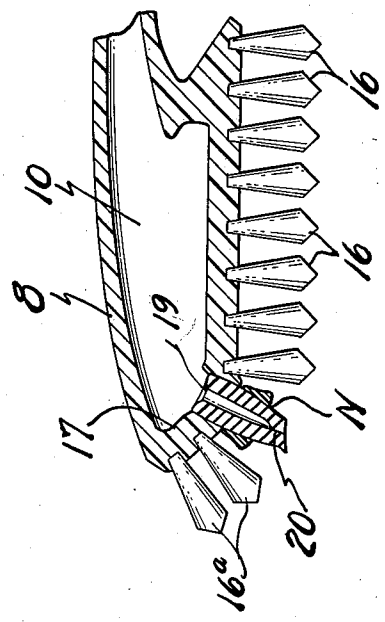


Fig. 3



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Fig. 7

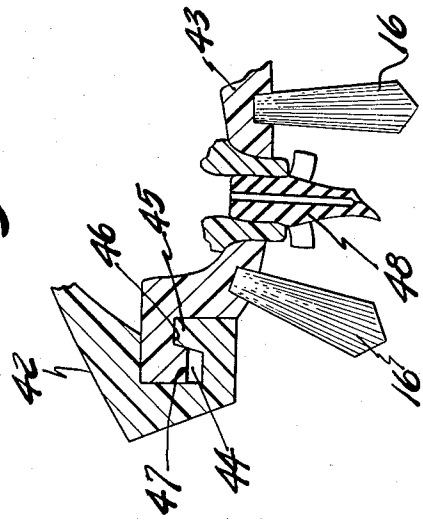


Fig. 6

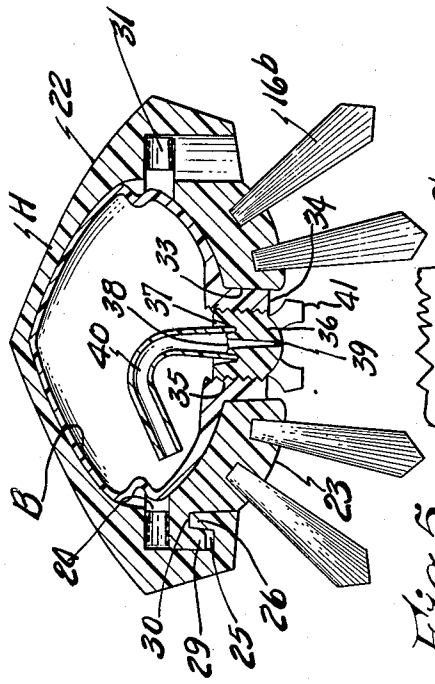


Fig. 5

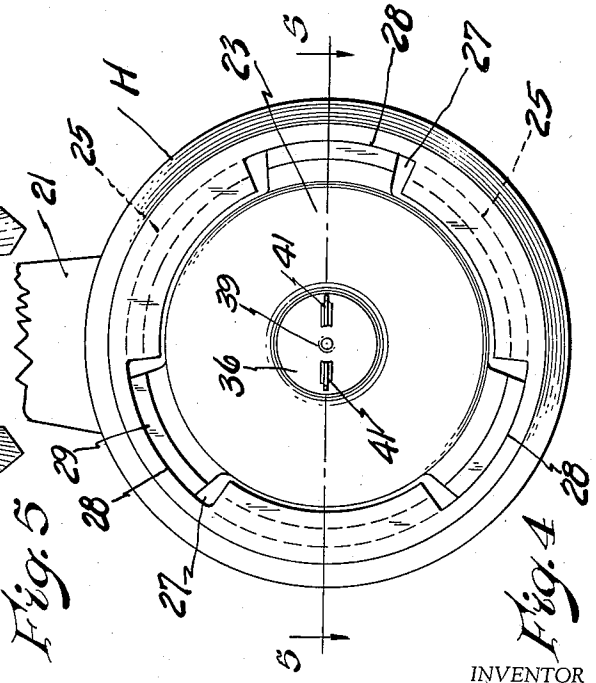


Fig. 4

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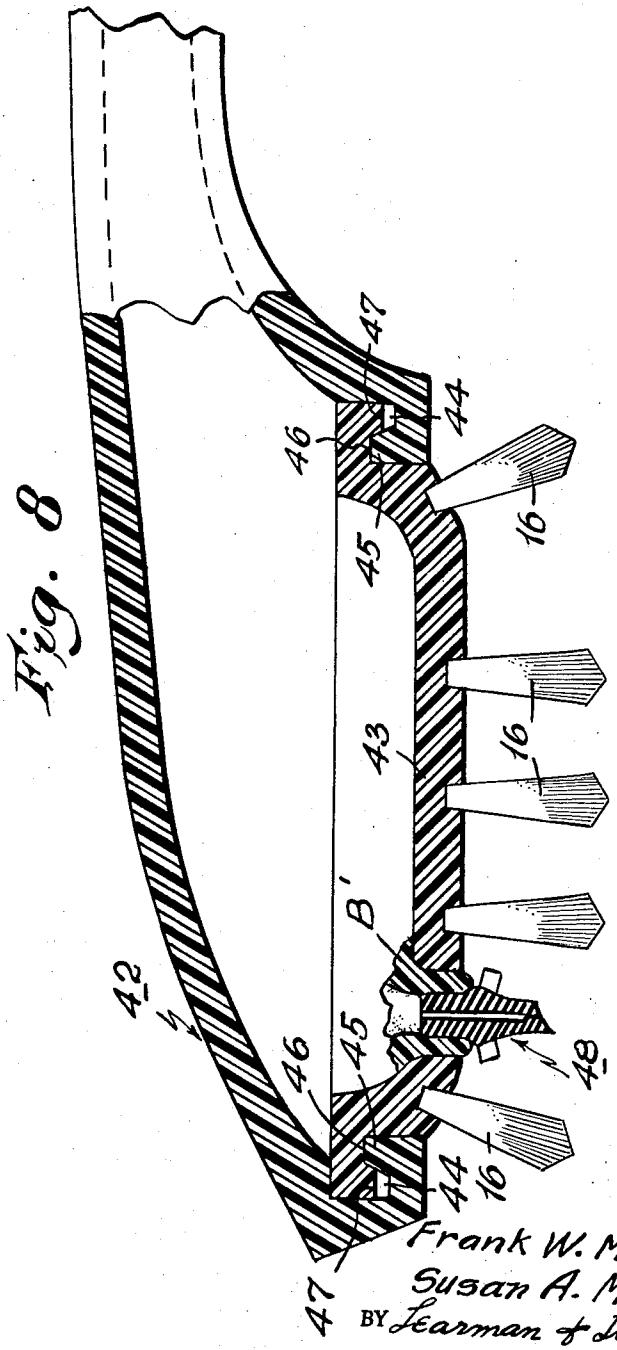
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Fig. 8



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2,920,333

FOUNTAIN BRUSH

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Application May 21, 1954, Serial No. 431,353

2 Claims. (Cl. 15—139)

This invention relates to brushes for cleaning bathtubs, receptacles, interior walls of buildings and surfaces of any nature, and more particularly to a fountain brush for dispensing a detergent or soap when predetermined downward pressure is exerted on the brush during the cleaning operation.

One of the prime objects of the invention is to design a fountain reservoir brush of simple, practical and pleasing design from which a detergent can be expelled by suitable pressure on the brush as the work is being carried on.

Another object is to design a fountain brush which can be formed of wood, plastic, or metal and provide self-sealing means connected to the detergent reservoir for automatically closing the dispensing orifice when the pressure is relieved.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts, hereinafter more fully described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportion, and minor details of construction, without departing from the spirit, or sacrificing any of the advantages of the invention as set forth in the claims.

In the drawings:

Fig. 1 is a side elevational view of a non-elected form of our fountain brush.

Fig. 2 is a top plan view thereof.

Fig. 3 is an enlarged, fragmentary, sectional view.

Fig. 4 is an inverted view of a non-elected modified design.

Fig. 5 is a sectional, inverted elevational view taken on the line 5—5 of Fig. 4 with portion **23** rotated 45 degrees.

Fig. 6 is an enlarged, fragmentary, sectional detail showing the elected form of the dispensing nozzle.

Fig. 7 is a fragmentary, edge elevational view of the undulating spring in Fig. 5.

Figure 8 is an enlarged cross-sectional view similar to Figure 6 and showing the elected form of Figure 6 in the general combination set forth in the claims.

Referring now more specifically to Figs. 1, 2 and 3 of the drawings in which is shown one embodiment of our invention, the brush proper can be made up of any desired material and design, and comprises a head section **8** terminating in an elongated handle **9**, said head being hollow as at **10** to form a reservoir, and the handle is also hollow as at **11** to connect therewith. An opening **12** is provided directly adjacent the end of the handle so that the brush may be hung on a suitable hook (not shown) and also to accommodate a stopper **13** formed with a projection **14** which forms a closure for the open end of the passage **11**, a small air passage **15** being provided in the stopper to admit air to the reservoir and head element to eliminate any possibility of vacuum forming in the head as the detergent is dispensed.

The brush proper is formed as clearly shown in Fig. 3 of the drawings, the bristles **16** being inserted in the usual manner and the front end **17** of the brush being beveled as shown with rows of bristles **16*a*** set therein. A self-sealing dispensing nozzle N is located in the head between the bristles at the point where the beveled front wall **17** meets the lower face of the head, and this nozzle is formed of rubber or other resilient material having a centrally disposed dispensing orifice **19** therein open to the hollow portion of the head, the outer end terminating in a slit **20** which leads to the top of the nozzle, which slit is open only when pressure is exerted on the brush to force the nozzle against the surface being cleaned and spread the slit **20** to permit detergent to escape, said nozzle being opened also when cleaning in corners etc. or by tilting the brush so that the forwardly projecting tufts **16*a*** and nozzle H simultaneously engage with the surface being cleaned.

The head **8** can be easily filled by merely removing the plug **13** and pouring detergent (not shown), into the passage **11** which leads to the reservoir **10**, after which the plug is again inserted, and the brush is then ready for further use.

In Figs. 4 and 5 of the drawings, we have shown another modification of our brush, the structure comprising a head H having a handle **21** as usual. The head H is preferably formed in two sections **22** and **23** respectively, the upper section **22** being hollow as shown with the lower edge being circumferentially recessed as at **24**, said recess opening into a groove **25** with an upstanding rib **26** forming one wall thereof.

Circumferentially spaced cut-outs **27** are provided in the lower face of the section **22** and accommodate radially disposed wings **28** formed on the lower head section **23**, each wing having a depending rib **29** which slidably engages in the groove **25**, a groove **30** being provided adjacent the ribs **29** to accommodate the rib **26** of the upper head section **22**.

Rows of bristles **16*b*** are provided on the lower face of the member **23** as usual, and it will be noted that whereas the sections **22** and **23** can be held in assembled relation, they are in reality movable with respect to each other, an undulating spring **31** being interposed between the two sections so that pressure on the head will tend to collapse the head and move the sections with relation to each other.

To assemble, it is merely necessary to place the undulated spring in position; then place the wings **28** in the cut-outs **27** as shown in Fig. 4, after which predetermined rotation locks the members in assembled relation, the spring **31** normally holding the sections in spaced-apart relation.

A centrally disposed opening **33** is provided in the lower section **23** of the head to accommodate the neck **34** of a flexible bag B, this neck being provided with a centrally disposed, internally threaded opening **35**, and accommodates a stopper **36** which has threaded engagement therewith, said stopper being counterbored as at **37** and having a discharge orifice **38** terminating in a slit **39** which is opened when the brush is collapsed to force detergent therefrom. A short, curved, plastic tube section **40** is fitted in the counterbore **37**, the free end being normally submerged when the brush is used on side walls, so that practically the entire contents of the bag can be dispensed before it is necessary to refill the bag.

Wings **41** are moulded on the lower end of the stopper **36** and project below the body of the section **23** so that they may be readily grasped to facilitate removal of the stopper to permit refill of the bag when necessary, and when sufficient pressure is exerted on the brush, the spring **31** will yield, permitting the sections to move toward each other, thus collapsing the bag B, and forcing

the detergent through orifice 38 to the surface being cleaned. When the pressure is reduced, the spring 31 forces the parts back to original position, the bristles again are upright and the orifice is again closed.

It will, of course, be obvious that any desired resilient means may be substituted for the spring 31 without departing from the spirit of the invention.

In Fig. 6 of the drawings, there is shown another modified construction in which the head comprises two sections 42 and 43, the section 42 being formed with a groove and rib 44 and 45 respectively and the section 43 being formed with a rib and groove 46 and 47 which intermesh with the rib and groove 44 and 45; the head sections are secured together the same as the construction shown in Figs. 4 and 5 and the nozzle 48 is substantially the same as that shown in Fig. 3, being actuated in the same manner and mounted in the neck of a flexible bag B' similar to the flexible bag shown in the form of the invention illustrated in Figure 5.

From the foregoing description, it will be obvious that we have perfected a very simple, practical and convenient fountain brush and dispenser from which detergent or other cleaning fluid can be dispensed during the cleaning operation, without placing the user's hands in the detergent or water used, said brush or bag being readily refillable when the container is empty.

What we claim is:

1. In a fountain cleaning implement adapted to carry its own supply of cleaning fluid, a hollow, sectional head member adapted to be filled with a liquid, each section being formed with an outer annular rim, said rims being formed with intermeshing grooves and ribs so that said sections may be rotated with relation to each other to predetermined position to form a leak-proof connection, an elongated hollow handle having one end connected to said hollow head and having a conventional venting means for said supply, a plurality of spaced apart, surface engaging bristle members projecting downwardly from the lower face of said head member, a resilient

member projecting from the lower face of said head in the same direction as said surface engaging bristle members, the free end of said resilient member being spaced upwards from the free ends of said bristles and normally out of engagement with the surface being cleaned, said resilient member being formed with a passage open to the interior of said head and the fluid therein, with the lower end of the passage being normally closed, the wall of said normally closed passage being spread to permit escape of liquid when pressure is exerted on the surface engaging bristle members to bend them sufficiently to bring the free end of the resilient member into yielding contact with the surface being cleaned to release liquid from said head.

2. The combination set forth in claim 1 in which the lower face of said head and said bristle members form a brush having an upwardly curved front wall section, said resilient member being located in said front wall section of the brush and being engageable with the surface to be cleaned only when the brush is tilted to raise the bristles on the bottom face of the brush out of contact with the surface being cleaned, pressure on said brush, when tilted, permitting opening of said normally closed passage and escape of liquid therefrom when the brush is pulled across the surface being cleaned.

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