Nov. 1, 1949 E. W. LEHMANN 2,487,023

FAUCET SPRAY ATTACHMENT

Filed Feb. 14, 1946

FIG. 1.

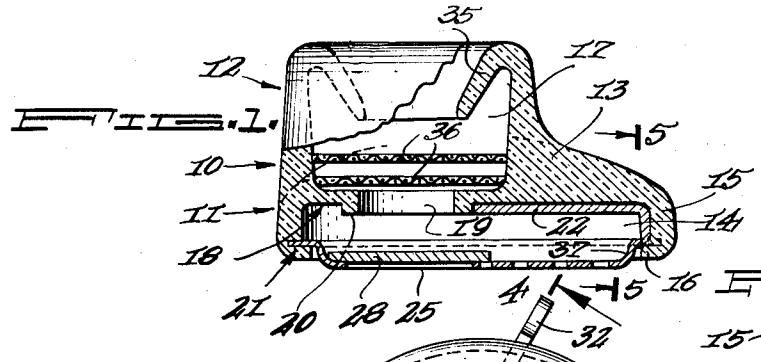


FIG. 5.

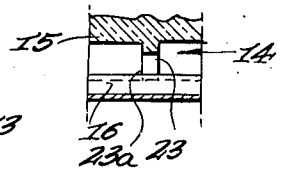


FIG. 2.

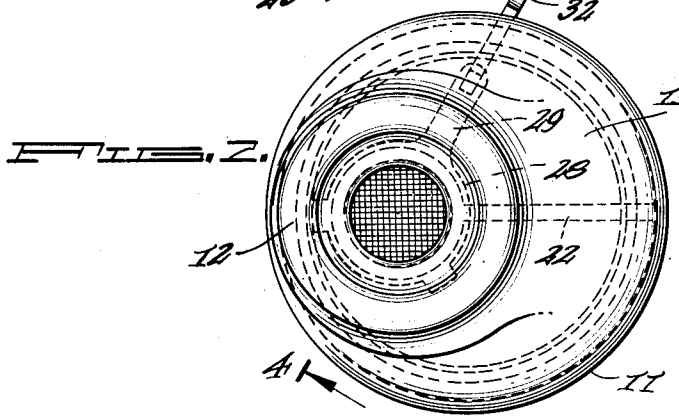


FIG. 3.

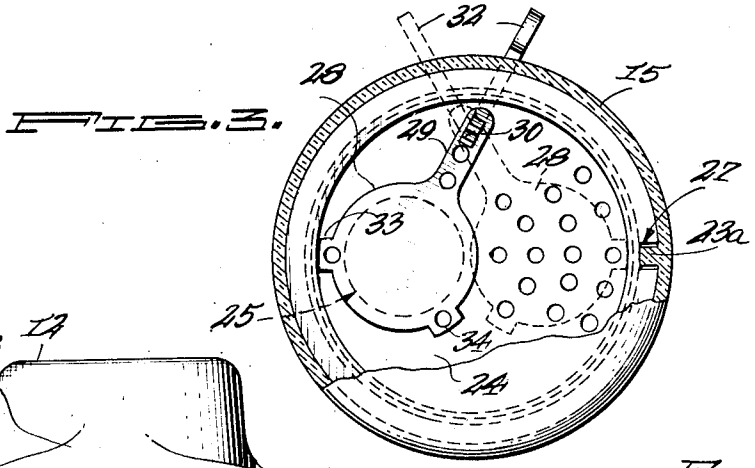
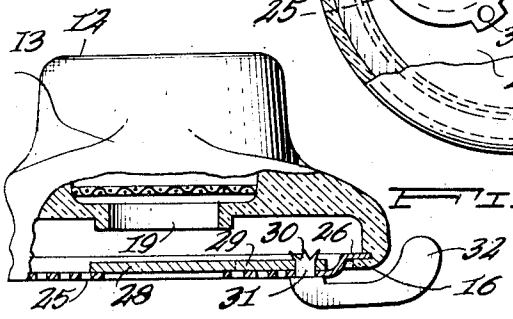


FIG. 4.



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FAUCET SPRAY ATTACHMENT

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2 Claims. (Cl. 299—145)

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This invention relates to faucet spray attachments, and aims to provide certain new and useful improvements whereby the device is more securely and positively releasably secured on the faucet, whereby the spray discharged from the faucet through the attachment is largely directed in a forward direction with respect to the axis through the center of the perforated circular plate or disc of the device, and whereby the entire device is made more efficient, useful and durable.

The above broad as well as additional and more specific objects will become apparent in the following description, wherein characters of reference refer to like-numbered parts in the accompanying drawing. It is to be noted that the drawing is intended solely for the purpose of illustration, and that it is neither desired nor intended to limit the scope or form of the invention necessarily to the specific details of construction shown excepting insofar as such details may be deemed essential to the invention.

Referring briefly to the drawing, Fig. 1 is a side elevational view of the faucet spray attachment, with parts broken away and partly in section.

Fig. 2 is a top plan view of the same.

Fig. 3 is a bottom plan view of the same, with parts broken away and partly in section.

Fig. 4 is a front elavational view of the device, with parts broken away and partly in section.

Fig. 5 is a cross-sectional view taken on the line 5—5 of Fig. 1.

Referring in detail to the drawing, the numeral 10 indicates a unitary rubber housing moulded or otherwise formed into the shape shown. The housing 10 comprises a base portion 11 which is circular in outline, and at the rear and eccentric with respect to the base portion 10 a cylindrical portion 12 extends upward therefrom. Around the forward portion of the housing, the junction of the two portions 11 and 12 is filled in as shown at 13 to blend them into a unitary housing having contours pleasing to the eye.

Within the circular base portion 11 is a disc-shaped circular compartment 14 surrounded by the wall 15 of the housing, and this wall is provided with an inwardly extending peripheral flange 16. A downwardly tapering passage or compartment 17, also circular in cross-section, extends through the cylindrical portion 12 of the housing, and is separated from the compartment 14 by a partition 18. The latter has an opening 19 therethrough in axial alignment with the passage 17 but eccentric with respect to the compartment 14, that is, positioned rearward with

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respect to the compartment 14. A circular depending flange 20 surrounds the opening 19.

A peripheral recess 21 is provided between the wall 15 and its flange 16. From the flange 20, a depending ridge 22 extends radially forward against the roof of the compartment 14, and then downward at 23 against the side of the wall 15 including the wall of the recess 21, as shown in Fig. 5. Thus, the lower portion of the ridge 23, that is, the portion which extends down the depth of the recess 21, provides a fixed and rigid tooth-like member at that point in the recess 21, shown at 23a.

A perforated disc 24 is provided with an opening 25 therethrough, positioned with respect to the disc at the same degree of eccentricity as is the opening 19 with respect to the circular compartment 14. This disc has a flange 26 adapted to register in the recess 21 and be retained therein by the housing flange 16, in an obvious manner. The disc 24 moreover is provided with a peripheral notch 27 in diametrical alignment with the center of the disc 24 and the center of the opening 25, which means that that notch 27 is positioned at the point of maximum distance of the periphery of the disc 24 from the opening 25. Thus, the disc 24 will register in the recess 21 in only that position in which the ridge or tooth 23 will register in the notch 27. Hence the interrelationship of the tooth 23a with the notch 27 serves not only as a means to prevent axial movement of the disc 24 within the recess 21, but also serves as a guide for the proper positioning of the disc 24 in the recess 21 when assembling the spray. The ridge 22 moreover serves as an added guide means in assembling the spray, in that, as the first step in inserting the disc 24 into the housing, its notched edge is applied against the roof of the compartment 14 with the ridge 22 registering in the notch, and the disc 24 is pushed forward and into the housing with the registration of the ridge 22 in the notch 27 serving as a guide, to bring the notch 27 finally into engagement with the tooth 23a in the final position of the disc 24.

A valve door 28 has a neck 29 and is positioned on the upper surface of the disc 24, the neck being secured to a pivot 31 extending through the disc 24 by any suitable means, such as, for example, by peening the head 30 of the pivot over the neck 29 after passing therethrough, thereby providing a rigid securement of the neck 29 to the pivot 31. The pivot 31 comprises one end of a deformed handle 32 which extends outward beyond the confines of the housing 10, as shown.

The pivot 31 is so positioned in the disc 24 as to enable swinging of the door 28 between the two extreme positions shown in Fig. 3, one extreme position, shown in full lines, being such that the door obstructs or closes the opening 25 through the disc 24, and the other extreme position, shown in broken lines, being such that the door stands clear of the opening 25. Radial ears 33 and 34, extending from the edges of the door 28 at substantially the positions shown, provide limit stops for the movement of the door between its two positions, as shown.

In applying the attachment to a faucet, not shown, the latter enters between the resilient substantially conical flange 35 of the cylindrical portion of the housing 12, and by virtue of the tapering of the walls of the passage 17, a firm and secure frictional engagement of the housing 10 on the faucet is assured. Two spaced screens 36 are shown mounted above the opening 19, for the usual obvious purpose.

When the door 28 is in the position of closing the opening 25, all the water entering the housing will leave through the perforations of the disc 24. Since the pattern of the perforations around the opening 24 is such that the greater number are positioned in a direction forward of the opening 24, the greater volume of the water emerging in the form of a spray will come out forward of the housing, and this is a condition desirable to the user, as is obvious.

The entire housing 10 is made of rubber and molded in a unitary member ready to have the various parts above described assembled therein-to. It can be readily seen from Figs. 1 and 4 that the limit stops 33 and 34 on the door 28 contact the metal wall 37 between the flange 26 of the disc 24 and the body of the disc, thereby preventing the door from cutting into the rubber of the housing as it is swung from one position to the other. The feature above set forth of the construction and functions of the ridge 22 and its extensions 23 and 23a in cooperation with the notch 27 of the disc 24, is of consequence in preventing rotational movement of the disc 24 out of its desired position wherein the openings 19 and 25 are in axial alignment, and also in facilitating the assembling of the disc 24 into the housing.

Obviously, modifications in form and structure may be made without departing from the spirit and scope of the invention. A feature of the attachment, resulting as an inherent characteristic of the rubber of which it is molded, is that when attached to a faucet it may be readily tilted at an angle to the axis of the disc 24, so that the spray may be directed as desired within the range permitted by the said flexibility of the rubber.

I claim:

1. In a faucet spray attachment, a unitary housing comprising a substantially disc-shaped base portion and a substantially cylindrical portion extending upward from said base portion, said cylindrical portion having a diameter substantially less than that of said base portion, the axis of said cylindrical portion being eccentric with respect to said base portion, said portions of said housings having compartments therein enclosed thereby, a partition separating said compartments and having an opening therethrough, the axis of said opening being in alignment with the axis of said compartment in said cylindrical portion, a perforated disc in said base portion covering the bottom of said compartment therein, said perforated disc having an eccentric opening therethrough aligned with said partition opening, a door of larger area than that of said disc opening having a neck extending rigidly therefrom, said neck being pivotally mounted on said disc and being adapted to be swung from a position of obstruction of said disc opening by said door to a position wherein said door is clear of said disc opening, a flow of water passing into the attachment from the faucet with said door clear of said disc opening thereby passing out of said disc opening as a straight solid stream, and said flow of water with said door obstructing said disc opening passing out of said disc as an off-center spray.

2. The device set forth in claim 1, said disc-shaped base portion of said housing having a peripheral recess in the inner wall thereof, said disc having a peripheral notch positioned at the end of a diameter of said disc drawn through the center of said disc and the center of said disc opening, said recess having a tooth-like ridge therein positioned at a point at the end of a diameter drawn through said recess and through the axis of said partition opening, said disc being insertable in said base portion of the housing with the peripheral edge thereof registering in said recess and said ridge registering in said notch, the interengagement of said ridge and notch thereby restricting said disc from rotational movement in said housing.

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