

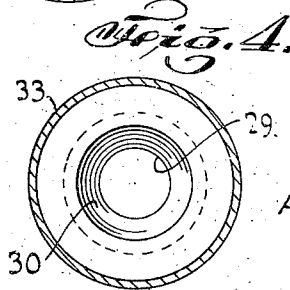
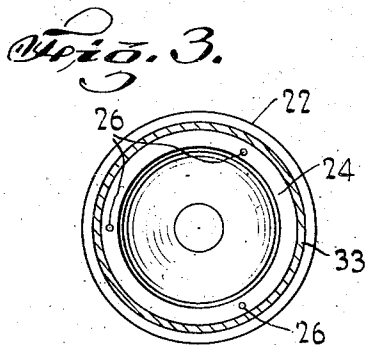
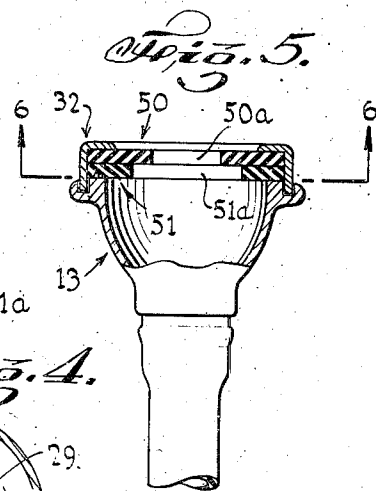
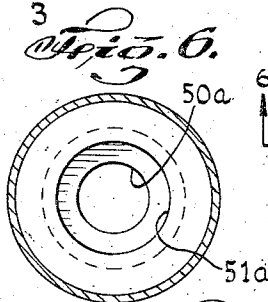
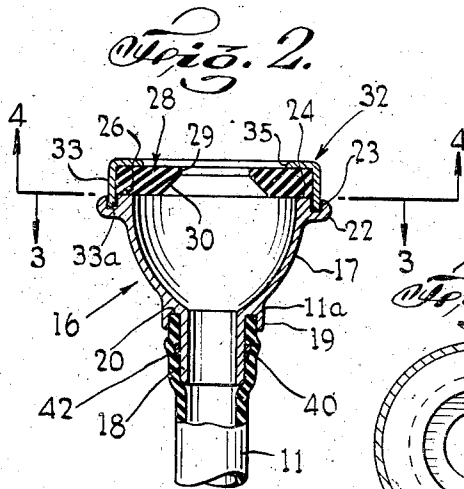
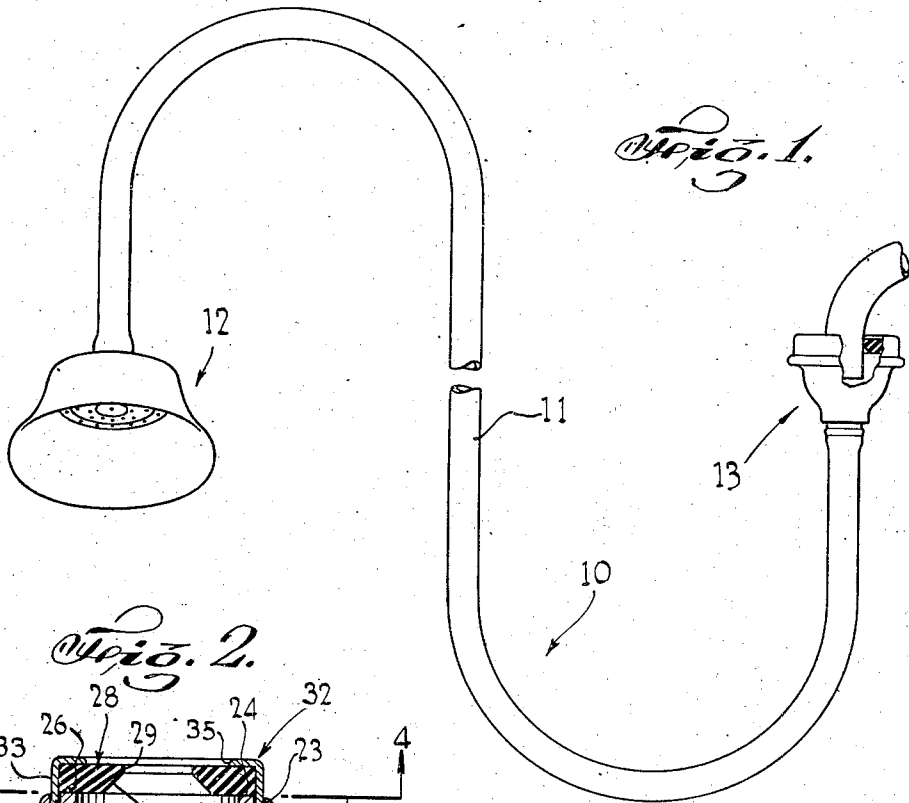
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SPRAYING DEVICE

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SPRAYING DEVICE

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2 Claims. (Cl. 285—90)

This invention relates to spraying devices. It is particularly directed to a spray device adapted to be attached to a faucet of a basin or bath tub, and the like articles.

Sprays of the type described consist of a flexible hose or tube provided with a spray or shower head at one end and an adaptor at the other end for connection to faucets of various sizes. Heretofore the head and adaptor were made of metal and the hose of rubber, both vital materials.

It is an object of the present invention to provide a highly improved adaptor at one end of the tube or hose constructed of plastic material and having improved tight locking means for gripping the tube.

A further object of the present invention is to provide an adaptor of the character described having an annular groove to receive one end of the flexible tube welded within the groove, thereby eliminating show or sign of welding.

Another object of this invention is to provide an adaptor of the character described which may be readily assembled, and the assembled parts welded or fused together, said adaptor being provided with a disc of elastic material formed with an opening to receive faucets of various sizes.

Yet another object of this invention is to provide a strong, rugged and durable spray device of the character described, which shall be relatively inexpensive to manufacture, attractive in appearance, easy to assemble and yet practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the following claims.

In the accompanying drawing, in which is shown various possible illustrative embodiments of this invention,

Fig. 1 is a perspective view of a spray device of the character described, connected to a faucet, with parts broken away and in cross-section;

Fig. 2 is an axial, cross-sectional view of the improved adaptor part of the spray device;

Fig. 3 is a cross-sectional view taken on line 3—3 of Fig. 2;

Fig. 4 is a cross-sectional view taken on line 4—4 of Fig. 2;

Fig. 5 is a view similar to Fig. 2, but illustrating a modified construction; and

Fig. 6 is a cross-sectional view taken on line 6—6 of Fig. 5.

Referring now in detail to the drawing, 10 designates a spray device embodying the invention. The same comprises generally of a flexible tube or hose 11 to one end of which is connected a spray or shower head 12, and to the other end of which is connected an adaptor 13. The tube 11 may be made of rubber, or vinyl chloride plastic material, or of any other suitable flexible and elastic material.

The adaptor 13 comprises a funnel shaped member 16 preferably made of plastic material such as cellulose acetate or butyrate plastic and connected to the tube 11 in the manner hereinafter described. Member 16 comprises a tapering, substantially conical or semi-spherical portion 17 open at the top, and formed at its bottom end with a tubular extension 18.

At the junction of the tubular portion 18 with the portion 17 is a downwardly extending skirted portion 19 concentric with tube 18 and spaced therefrom, forming an annular downwardly opening groove 20 at the base of tube 18. At the upper end of portion 17 is an outwardly extending annular flange 22 formed in its upper surface with an annular upwardly opening groove 23. Extending upwardly from the upper edge 24 of portion 17 are a plurality of angularly spaced upwardly extending projections or teats 26 for the purpose hereinafter appearing, disposed inwardly of the groove 23.

On the upper end of member 16 is a disc 28 made of rubber or plastic material such as vinyl chloride or the like compressible, elastic material. Disc 28 is formed with a central opening 29 to receive faucets of various sizes. The opening 29 is preferably conical as shown at 30, decreasing in diameter toward the top. Disc 28 is held or retained on member 16 by a retainer or cover member 32. Member 32 comprises a cylindrical wall or portion 33 and a top annular horizontal flange 34 forming a central opening 35 substantially similar to the inner diameter at the upper end of member 16. The lower edge 33a of wall 33 is received in the groove 23 as shown in Fig. 2 of the drawing. It is preferably fused with or welded to member 16 by dipping the edge portion 33a of member 32 in acetone and also by applying acetone to the bottom of the groove 23 and then pressing said edge portion into the groove, the acetone serving to seal or fuse or weld the parts together.

It will be noted that downward pressure on the disc will cause the projections or teats 26 to dig into the disc and retain it against rotation.

One end of tube 11 is fitted over tubular portion 18, and the outer edge 11a of said tube is received within the annular groove 20. Said tubular portion 18 is preferably dipped in acetone before the flexible hose or tube 11 is shoved on thereto.

If a plastic hose 11 is employed, both the end of the tube as well as the tubular portion 18 are dipped in acetone before pressing the tubular portion 18 into the hose.

Means is provided to make a lock tight grip for the tube 11 so that it will not come off the adaptor. To this end there is provided an annular ring 40 which may likewise be made of plastic material such as cellulose acetate or butyrate plastic. The ring 40 has a cylindrical inner surface having a diameter substantially equal to the outer diameter of tubular portion 18. It has a conical outer surface 42 decreasing in diameter toward its lower end. The ring 40 is fixed to the tubular portion 18 below the skirt 19 and above the lower edge of said tubular portion by welding it to said tubular portion by means of acetone, as described above.

It will be noted that the tube 11 passes over the ring 40 and is gripped thereby providing a lock tight grip to prevent release of the tube. The annular grooves eliminate any show or sign of welding. The lock tight grip eliminating ferrules which are usually used to clamp the hose to the adaptor in prior devices.

The shower head 12 may be of any suitable construction and is preferably likewise made of plastic material and is connected to the opposite end of the hose 11 in the same way as member 16 is connected to said hose.

In Figs. 5 and 6 there is shown an adaptor 13 provided with a modified form of disc. In fact as shown in Fig. 5 the adaptor contains a pair of superposed discs 50 and 51. The discs 50, 51 are of half the thickness of disc 28. The top disc 50 is formed with a central opening 50a and the bottom disc 51 is formed with a central opening 51a. The opening 51a is of larger diameter than the opening 50a. The discs are clamped together by the retainer 32. The top disc 50 will engage smaller faucets, but if the

device is attached to a larger faucet it will be gripped by both discs 50, 51. With such construction, there is eliminated the necessity for forming conical opening 30 such as in disc 28, which presents operational difficulties at the present time.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiments above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing, is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. An adaptor, comprising a funnel like member formed with an annular groove at its large open end, a disc on said large end, said disc being formed with a central opening, the outer diameter of said disc being less than the diameter of said groove, and a retainer for retaining said disc on said member, said retainer having a cylindrical wall surrounding the outer edge of said disc, one end edge of said cylindrical wall being received in said annular groove and fixed therein, and said retainer having a top flange engaging the top of said disc to retain the same on the large end of said member.

2. An adaptor, comprising a funnel like member formed with an annular groove at its large open end, a disc on said large end, said disc being formed with a central opening, the outer diameter of said disc being less than the diameter of said groove, and a retainer for retaining said disc on said member, said retainer having a cylindrical wall surrounding the outer edge of said disc, one end edge of said cylindrical wall being received in said annular groove and fixed therein, and said retainer having a top flange engaging the top of said disc to retain the same on the large end of said member, said disc being made of compressible, resilient material, and said member being formed with integral projections pressed into said disc to aid in retaining the latter against rotation.

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