Aug. 26, 1952 G. HINDERER 2,608,443

SHOWER HEAD

Filed March 27, 1950

Fig. 1.

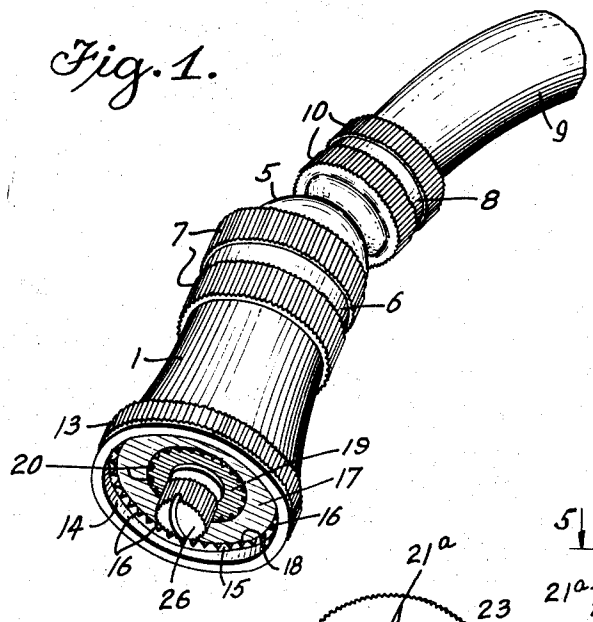


Fig. 3.

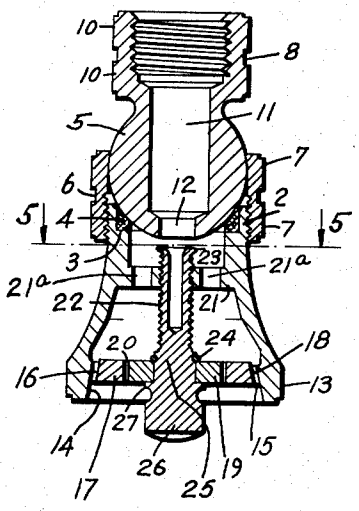


Fig. 5.

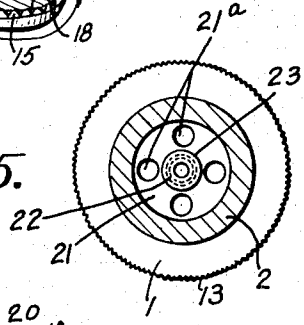
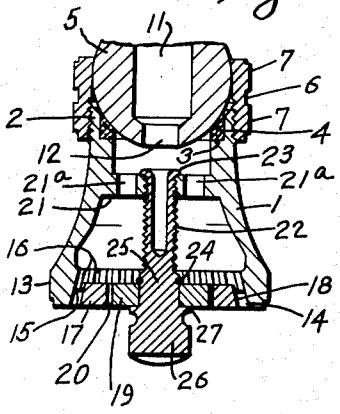


Fig. 4.



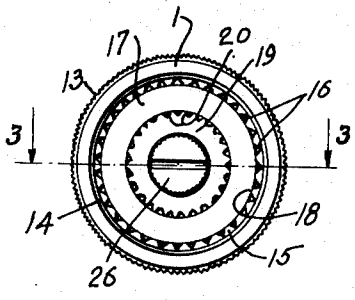


Fig. 2.

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SHOWER HEAD

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2 Claims. (Cl. 299—136)

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This invention relates to shower heads.

It is one of the objects of this invention to provide a shower head readily adjustable to vary the fineness of the spray.

It is another object of this invention to provide a simple and inexpensive shower head of the adjustable type.

It is still another object of this invention to provide a shower head that can deliver a plurality of annular sprays, and in which at least one of the annular sprays is adjustable.

This invention possesses many other advantages, and has other objects which may be made more clearly apparent from a consideration of one embodiment of the invention. For this purpose there is shown a form in the drawings accompanying and forming part of the present specification. The form will now be described in detail, illustrating the general principles of the invention; but it is to be understood that this detailed description is not to be taken in a limiting sense, since the scope of this invention is best defined by the appended claims.

Referring to the drawings:

Figure 1 is a pictorial view of a shower head incorporating the invention, shown as installed on a pipe;

Fig. 2 is a bottom plan view of the shower head;

Fig. 3 is a sectional view, taken along a plane corresponding to line 3—3 of Fig. 2;

Fig. 4 is a fragmentary view similar to Fig. 3, but showing another position of the adjustable spray utilized with the shower head; and

Fig. 5 is a sectional view, taken along a plane corresponding to line 5—5 of Fig. 3.

The shower head includes a hollow body 1, which is flared outwardly and downwardly, and which has an externally threaded inlet end 2. In this threaded inlet end there is an interior shoulder 3 for the accommodation of a packing washer 4. This packing washer cooperates with a ball member 5 to form a universal joint. A nut 6, having two exterior knurled bands 7, is provided for engaging the threaded inlet end 2. The upper portion of this nut 7 is formed with a concave spherical surface to provide the other element of the universal joint. By the aid of the knurled bands 7, the joint may easily be loosened, or tightened, to permit adjustment of the angular position of the head.

The ball 5 is provided with an internally threaded extension 8 adapted to engage the pipe 9. The exterior of this internally threaded extension may be provided with one or more knurled peripheral surfaces 10 for ease of assembly on the pipe 9. A central longitudinal bore 11, having an outlet bore 12, is provided through the ball member 5 to pass water into the interior of the body 1.

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The lower end of the body 1 has a knurled peripheral surface 13.

Opening into the hollow body 1 is an outwardly flared outlet opening 14. The inner portion of this opening 14 is provided with an inwardly projecting flange 15 in which a series of V-shaped notches or serrations 16 are formed to define spray jets.

Cooperating with these notches or serrations 16 is an outer annular spray disc 17. This spray disc 17 is formed with a tapered surface 18 that cooperates with the serrations 16 to define a series of jet sprays.

Mounted securely within this outer disc 17, as by a force fit, is an inner spray disc 19. This spray disc 19 is provided with a series of peripheral serrations 20.

Water may flow into the body 1 from the pipe 9 through a series of openings 21a formed in the wall 21 extending across the body 1, intermediate the inlet end and the outlet end. The water can then be discharged through the series of spray openings formed by the serrations 16 and 20.

The disc assembly, including the members 17 and 19, is arranged to be axially adjusted so as to vary the size of the spray openings between the disc member 17 and the body member 1.

For this purpose, a screw 22 is provided which is attached to the disc assembly. Its threaded portion engages a threaded aperture in the wall 21. This threaded portion is made hollow, so that its upper end may be upset, as indicated at 23, to form a limit for the outward movement of the disc assembly.

In Fig. 3, the disc assembly is in its innermost position. Accordingly, the spray openings formed between the periphery of member 17 and the serrations 16 are constricted, and the resultant spray is quite fine. The screw 22 may be turned outwardly so as to move the disc assembly 17—19 away from the serrations 16. The limited position of this movement is indicated in Fig. 4. In this position, the outer spray is quite coarse. The inner spray, flowing through the spray openings 20, remains as a fine spray. Accordingly, by adjustment of the screw 22, the degree of fineness of the outer of the two annular sprays can be easily adjusted.

The screw 22 is attached to the disc 19 by the aid of a spring snap ring 24. This engages a

groove in the shank 25 of this screw, and lies closely to the inner surface of the disc 19.

A slotted head 26 is formed on the screw 22 for manipulating it. The peripheral surface of this head may be knurled, and it may be provided with a flange 27 against which the lower surface of the disc 19 rests.

The inventor claims:

1. In a shower head: a body forming a fluid chamber, said body having an inlet opening at one end, and a flange forming a uniformly diverging outlet opening at the other end, said flange having similarly diverging annularly arranged substantially longitudinally directed ribs terminating short of the end of said outlet; a first spray member of flat annular form having a peripheral tapered edge cooperable with said outlet opening and engageable in a wedging relation with said ribs of said outlet opening; a supplemental spray member telescoping in and immovably secured to said first spray member and having peripheral serrations forming with said first spray member an inner annular series of spray openings of invariant size; and means for adjusting the longitudinal position of said first spray member in said outlet opening, including perforated wall means carried by the body and having a threaded portion, and an adjusting screw secured immovably against longitudinal movement with respect to said supplemental spray member for moving said spray members together and having a threaded shank portion cooperating with said threaded portion of said wall means.

2. In a shower head: a body forming a fluid chamber, said body having an inlet opening at one end, and a flange forming a uniformly diverging outlet opening at the other end, said flange having similarly diverging annularly arranged substantially longitudinally directed ribs terminating short of the end of said outlet; a first spray member of flat annular form having a peripheral tapered edge cooperable with said outlet opening and engageable in a wedging relation with said ribs of said outlet opening; a supplemental spray member telescoping in and immovably secured to said first spray member and having peripheral serrations forming with said first spray member an inner annular series of spray openings of invariant size; and means for simultaneously adjusting the longitudinal position of said first spray member in said outlet opening, including perforated wall means carried by the body and having a threaded aperture, an adjusting screw having a head exterior of said supplemental spray member and a threaded shank portion extending therethrough and engageable with said threaded aperture, and a snap ring engaging the screw on the interior side of said supplemental spray member for securing said adjusting screw against longitudinal movement with respect to said inner spray member.

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