July 12, 1949. J. W. SHOOK 2,475,919

SHOWER HEAD

Filed May 28, 1946

Fig. 1.

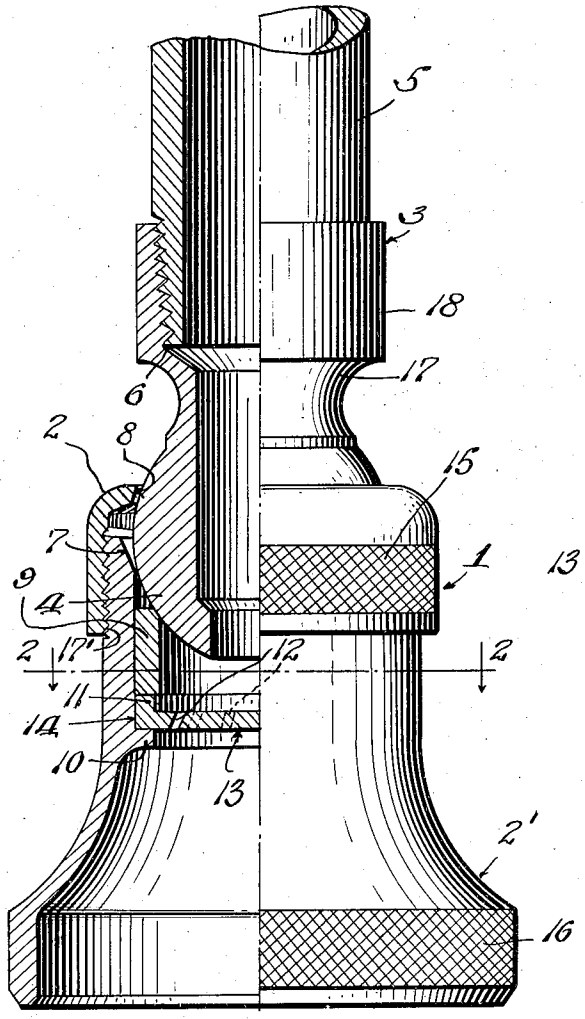
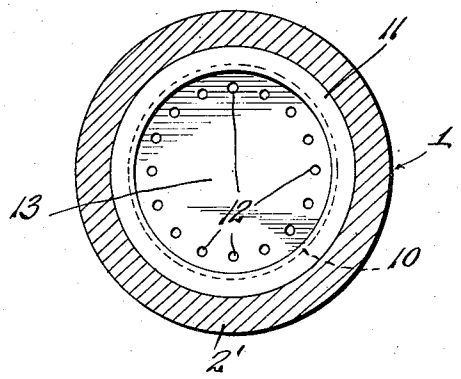



Fig. 2.




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2,475,919

## SHOWER HEAD

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1 Claim. (Cl. 299—141)

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This invention relates to improvements in plumbing fixtures and more particularly to a spray nozzle used as a shower head.

The principal object of the present invention is to provide a spray nozzle for shower heads having means therein for removably mounting the spray controlling disc in such a manner that the same may be readily assembled, disassembled and/or replaced.

Another object is the provision of a spray nozzle for shower heads having the spray controlling disc arranged adjacent the upper end of the head so that the spray is retained under control.

Still another object is the provision of an inexpensive light weight shower head constructed of a minimum number of parts to facilitate assembly and disassembly and/or replacement of the parts, and wherein stop means is provided for limiting the movement of the head.

These and various other objects and advantages will be apparent as the specification is considered in connection with the accompanying drawings, wherein:

Figure 1 is a perspective view of the improved fixture partly in section; and

Figure 2 is a section on the line 2—2 of Figure 1, looking in the direction of the arrows, with the sleeve or washer removed.

Referring more particularly to the drawings wherein like reference characters designate similar parts throughout the several views, the numeral 1 indicates in general the improved fixture comprising a hollow, bell-shaped sprayer head or body 2'. The upper end of the head is threaded, as at 17', to threadedly receive an annular collar or coupling nut 2, by means of which the spherical end 4 of a connection 3 may be secured to the head for relative swivelling movement. It will be understood that, in use, the connection 3 is connected to the externally threaded end of a water pipe 5, which, through the medium of the connection 3, supports the head in the usual manner for bathing purposes, the spherical connection 3 being bored and internally threaded, as at 6, to facilitate such assembly. As the inner face of the head 2' is beveled at its upper end, as at 7, and the collar 2 is also formed with a tapered inner edge 8, the head is free to be moved or adjusted universally relative to the spherical connection in order that the stream of water may be directed as desired.

An annular flange 10 integrally formed on the inner face or wall of the head 2' approximately midway between the ends thereof, to accommodate a flat shower disk 14, of any suitable material

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such as metal, having a plurality of perforations 12 extending therethrough for the passage of water. The disk 14 is formed with a flat bottom face 13 and a perpendicular annular flange 11 to permit of the disk being snugly but removably seated upon the flange 10 and with the flange 11 in rather snug engagement with the inner wall of the head. The disk is readily assembled in the head by dropping or otherwise inserting the former into the upper end of the latter before the connection 3 is assembled. After the shower disk 14 has been assembled, a tubular sleeve or washer 9 of any desirable slightly compressible material, is snugly sleeved within the upper open end of the head 2', with its lower end seated upon the disk 14. The spherical end 4 of the connection 3 is then seated within the head and snugly clamped partially within and against the upper end of the sleeve 9, thus tightly compressing the latter outwardly and downwardly, respectively, against the inner wall of the head and the upper edge of the peripheral flange 11, when the collar or nut 2 is screwed in place. Consequently it will be noted that the disk 14 is held securely to its seat and the different units of the fixture are coupled together and sealed in such a manner that fluid can escape only through the shower disk, thus allowing full water pressure to pass through the perforations 12 and produce the desired spraying effect. As the sleeve 9 is of sufficient height or depth to engage substantially the entire inner wall of the head 2' above the flange 11, it affords a most effective sealing medium in addition to holding the shower disk in place.

By reference to Figure 1, it will be noted that the spherical end 4, of connection 3, extends into the upper end of the body 2' and terminates a relatively short distance above the shower disk 14 so that the full force of the stream of water passing therethrough will be diverted against the disk. This is an important feature of the present shower head as the full force and pressure of the water being applied directly against the disk minimizes the possibility of the perforations 12 becoming clogged or corroded. And, as previously stated, it assures of the water passing through the perforations in desirably relatively fine streams.

By spacing the shower disk 14 a considerable distance from the open lower end of the head, it will be apparent that the water or spray passing through the disk is confined within the head and assures of the entire stream of water being directed against the bather, in an obvious man-

ner. Thus, the bell-shaped inner wall of the head confines the streams of water passing through the disk within the head and thereby materially reduces the consumption of water. This is an improvement over shower heads now being used wherein the shower disks are located at the bottom or lower end of the head and water will be discharged therefrom as a very fine mist.

The annular collar 2 and lower end of the head or body portion 2' are knurled, as at 15 and 16 respectively, to facilitate assembly and disassembly of the fixture without the use of tools. By adjusting the collar 2, it will be apparent that a uniform pressure will be applied to the spherical end 4, which will be communicated to the upper end of the gasket or sleeve 9 to preclude any leakage at this point. As the shower disk 14 is removably fitted within the body, the disk may be readily removed and replaced should the same become unduly clogged or corroded. The connection 3 is formed with a reduced concave neck portion 17 which terminates in a straight side wall 18 on the upper end of the connection. Thus, the neck will abut the upper end of collar 2 and serve as a stop to limit the angular adjustment of the shower head and prevent the latter from being turned too far and causing the spray of fluid being discharged from the head to go out of bounds.

While I have shown and described a preferred form of my improved shower head, it is to be understood that various changes and improvements may be made without departing from the scope and spirit of the appended claim.

Having thus described my invention, what I claim is:

In a shower bath fixture, the combination with a fluid connection having a spherical end, a hollow bell-shaped sprayer head, an annular flange integrally formed on the inner wall of said head substantially equi-distant from the inner and outer ends of said head, the upper inner wall of said head being beveled and the lower edge of said beveled portion being in close contact with said spherical end, a perforated shower disk supported in said head on said annular flange, said disk formed with a perpendicular annular flange, a tubular sleeve of compressible material sleeved within the inner end of said head and seated at its outer end on the annular flange of said disk, said sleeve being several times greater in length than the combined height of said disk and its annular flange, and a collar on the inner end of said head having a tapered inner edge and adjustably engaging said spherical end for forcing the same into or against the beveled portion of said inner wall and against the inner end of said sleeve to clamp the disk tightly in place on said annular flange and to force the outer face of the sleeve into fluid sealing relation with the inner wall of the head.



JACOB W. SHOOK.


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