

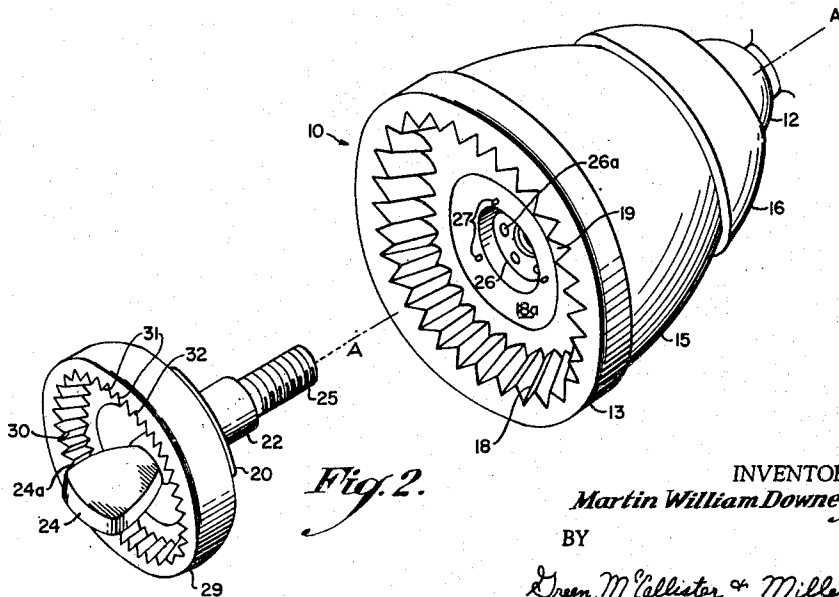
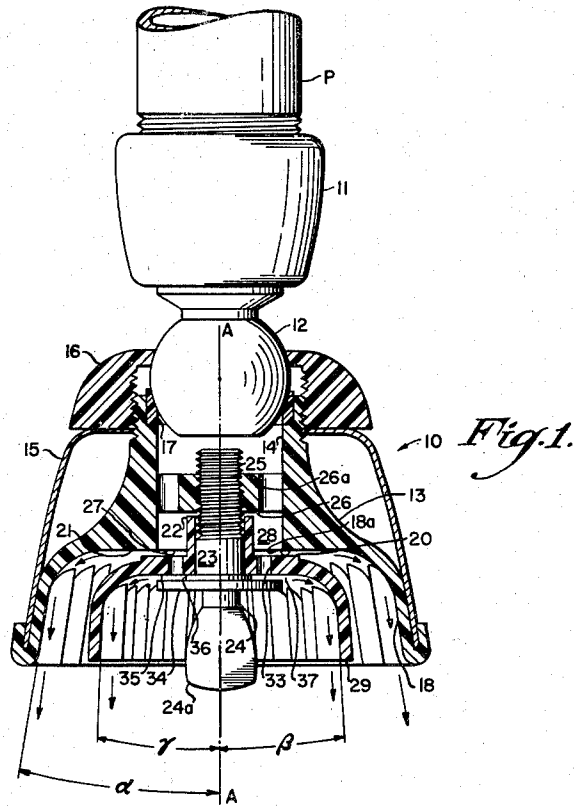
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SHOWER HEAD

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SHOWER HEAD

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This invention relates to shower bath spray nozzles commonly known as shower heads. More particularly this invention relates to a novel shower head that is easy to maintain, produces an improved uniform spray pattern and hence has an overall improved performance.

Shower heads for bathing purposes optimally should emit a deluge of water uniformly throughout a limited target area in the form of separate streams moving at a comfortable velocity. On the current market, there are two basically different major forms of shower heads. A first type employs a conical diffuser that has a single series of peripheral serrations or flow channels. Supplied water enters along the axis of the diffuser and is accelerated radially-outwardly through a peripheral nozzle to within the serrations where it is broken into a plurality of diverging streams. It has been proposed to modify the relative shape of the serrations so as to produce a plurality of streams at several different angles. However, the uniformity of water dispersion available by such construction is inherently limited by the number of adequately large serrations, and hence the number of available streams that can be fitted into the diffuser periphery. Also, due to the limited number of available streams such shower heads do not provide the optimum in comfort or rinsing ability.

A second common form of shower head employs a plurality of orifices which are distributed uniformly over a nozzle plate that extends transversely to the direction of water flow. Such nozzle plates can easily be constructed to emit a uniform dispersion of individual streams as they are not limited in the number of available streams. However, due to the large number of small water passages, they are notoriously difficult to keep clean as is necessary to maintain the uniform water dispersion.

Upon surveying the shower head art, I have determined that those shower heads currently available leave much to be desired in the way of spray uniformity, shower comfort, fool-proof operation and ease of maintenance.

Accordingly, it has been an object of my invention to fully investigate the problems, including inherent functional limitations, that continue to prevent the popular basic forms of shower heads from achieving optimal or completely satisfactory operation;

Another object of my invention has been to provide an improved shower head that retains the simplicity of the popular serration-type shower heads, but which overcomes the peripheral size limitations inherent therein that limit the uniformity and comfort of the available spray;

Another important object of my invention has been to provide a shower head that will produce a highly uniform spray pattern and that can also be completely disassembled, as may be necessary for periodic cleaning when the head is used in hard water areas, and re-assembled without the use of tools;

These and other objects of my invention will appear to those skilled in the art upon reading and understanding the following description of my inventive concepts and a specific embodiment thereof.

One phase of my invention relates to the provision of means for insuring accurate adjustment of nozzle areas within a shower head. I have determined that shower heads, having a peripheral nozzle orifice, perform optimally within a very limited range of nozzle orifice areas. In fact, I have found the limited range of satisfactory

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nozzle areas to be so small that effectively there is but a single critical nozzle area at which the shower head will perform optimally, i.e., provide an adequate and comfortable supply of water. Adjustment in either direction from this critical area causes rapid deterioration of the shower head performance. In the past, shower heads having adjustable peripheral nozzle orifices have been marketed; however, the optimal operation of such nozzles is usually never attained because of the required degree of care that is necessary to find the point of optimum performance. In my invention I provide three or more nozzle gauging studs or pins that are accurately dimensioned to insure optimum performance of the shower head as a whole. This construction permits disassembly of the nozzle for cleaning without worrying about the critical adjustment that usually accompanies nozzle re-assembly.

Another phase of my invention relates to the specific construction of the nozzle gauging studs that insure optimum performance of my shower head. The studs are preferably constructed of a stiffly-flexible material, such as an acetyl resin, which has a modulus of elasticity of about 410,000 p.s.i. Furthermore, the studs have a small (about $\frac{1}{32}$ of an inch) cross-sectional diameter, such that the studs together with the moderate modulus of elasticity, provide an effective compression lock to hold the nozzle parts in their optimum positional relationship. I have found that an effective compression locking force can be developed in the studs between the nozzle forming parts simply by manual turning of a small thumb screw. While any screw device can be tightened into an abutting relationship with a cooperating member, I have found that effective manual tightening can be had only when there is a substantial compression force between the tightening members. Furthermore, I have determined that it is desirable to construct shower heads and other plumbing fixtures in such a manner that tools are not required for their disassembly as may be necessary for periodic cleaning. The construction of the nozzle gauging studs thus permits an effective manual assembly of the shower head and assures that the nozzle parts will not move due to vibration, thereby upsetting the critical area dimension within the shower head.

A further phase of my invention involves the provision of a secondary diffuser or adapter that receives a supply of water simultaneously with the primary diffuser. The secondary diffuser provides an additional serrated surface that enables a given size shower head to produce a greatly increased number of separate streams. Preferably the secondary diffuser includes a portion that cooperates with the primary diffuser to form the primary peripheral nozzle that supplies the primary diffuser. By this construction it is possible to disassemble the primary peripheral nozzle and have effective cleaning access to waterways that supply both the primary and secondary diffusers.

The secondary diffuser of my invention also contains a secondary peripheral nozzle orifice which, like the primary peripheral nozzle orifice, has a critical optimum discharge area. To insure optimum performance of my shower head, I have made the secondary peripheral nozzle orifice of a substantially fixed or non-adjustable area. This is possible because of the cleaning access mentioned above. It will be appreciated that accurate sizing of the primary peripheral nozzle orifice is essential to the proper functioning of the secondary peripheral nozzle orifice since the water pressure upstream of the secondary peripheral nozzle orifice is an inverse function of the area of the primary peripheral nozzle orifice. The nozzle gauging pins of my invention thus are especially important in assuring optimum performance of my compound flow arrangement.

Another important phase of my invention involves the use of a light weight plastic control member and secondary diffuser. The use of a light weight material makes complete removal of the control member and secondary diffuser for cleaning access to the interior of the spray head practical. Currently, brass or other heavy metallic control members are employed in spray heads. Removal of such metallic control members can be dangerous, especially if it is done by a person in the shower. If the control member is dropped accidentally, it could easily injure a toe or chip the finish of a tub. To prevent such accidental droppage, some manufacturers have gone so far as to make complete removal of the control member impossible without disassembly of the remainder of the shower head. In my shower head, the control member is made of light weight plastic such as an acetyl resin that has a specific gravity of 1.425. It is thus possible to permit complete removal of the control member from my shower head, since even if the control member is accidentally dropped no harm will be done.

An embodiment of my novel concepts is shown in the accompanying drawings, of which:

FIGURE 1 is an enlarged cross-sectional view of a shower head constructed in accordance with my invention; and,

FIGURE 2 is a partially-exploded perspective view of the shower head shown in FIGURE 1.

More specifically, in FIGURE 1 there is shown a shower bath spray nozzle or shower head 10 that has a mounting portion or fitting 11 by which the shower head is fastened to supply pipe or water source P. The fitting 11 is hollow or tubular to permit a flow of water there-through, and is provided with a spherical bearing portion or swivel ball 12 at its downstream end.

The shower head 10 further comprises a trunk or body member 13 having an axis A-A along which is formed a flow passageway or bore 14 for receiving supply water from the fitting 11. A shield or cover 15 decoratively surrounds and is securely connected to the body member 13. The cover 15 is preferably constructed of an easily formed material, such as sheet brass, and is chrome plated to provide an attractive appearance. The body member 13 is adjustably connected or articulated to the swivel ball 12 by a rotatable hand nut or sleeve 16 that encloses the swivel ball 12 in a wedging engagement with a bearing member or bushing 17. The sleeve 16 threadably cooperates with an upstream end of the body member 13 to permit tightening or loosening of the wedging engagement between the bushing 17 and the swivel ball 12. The shower head body member 13, thus can be positioned at any of a variety of angles, merely by loosening the sleeve 16, positioning the body member 13 as desired, and re-tightening the sleeve 16.

The body member 13 has primary stream forming means that comprises an internal or concave serrated peripherally downwardly-diverging diffuser surface portion 18 that forms a plurality of individual diverging flow channels or grooves 19, (see FIGURE 2) adjacent its downstream end. A flat movable disc or nozzle part 20 (see FIGURE 1) cooperates with a radially outwardly extending planar wall portion or surface 18a of the surface 18 to form a primary slot-like nozzle or peripheral nozzle orifice 21. The channels 19 receive an accelerated radially-outwardly flowing sheet of water, as it emerges from the nozzle orifice 21 and divide it into a plurality of individual streams that are directed at an angle α to spray a 24" ring of water at 6 feet.

A grip member or thumb screw 24 is disposed along the axis of the body member 13 and includes a shank portion 23 which receives an axially-disposed sleeve portion 22 of the control part 20 by a secure connection such as a press or wringing fit. The thumb screw 24 is threaded along its inner or upstream end portion 25 whereby it cooperatively engages a threaded opening in a fastening portion or anchor plate 26 of the body member 13. The

thumb screw 24 and anchor plate 26 thus provide means for mounting the nozzle part 20 within the body member 13. As the thumb screw 24 and the anchor plate 26 are both constructed of a smooth surface acetyl resin material, freezing together of these parts by hard water deposits is virtually non-existent. A gripping part 24a is formed at the downstream end of the thumb screw 24 where it is available for grasping from outside the body member 13. The anchor plate 26 has a plurality of perforations or waterways 26a extending therethrough to provide fluid communication between the water supply P and a plenum chamber 28.

The nozzle-forming portion 18a of the internal surface 18 is also provided with primary nozzle gauging means that preferably comprises three or more equally spaced small projections, studs, nozzle gauging pins or limit stops 27 (see especially FIGURE 2). The pins 27 are accurately sized to gauge the critical width dimension of the peripheral nozzle orifice 21 that is necessary for optimum performance of the shower head. The pins 27 are formed integrally with the body member 13 adjacent its bore 14. In order that the pins 27 be slightly compressible by manual tightening of the thumb screw 24, they are made to have a small cross-sectional area. As the body member 13, and hence the pins 27, are made of a stiffly flexible material such as an acetyl resin, tightening of the thumb screw 24 will induce a compressive reaction in the pins 27 that will create a locking force in the threaded connection between the threaded end 25 of the thumb screw 24 and the anchor plate 26 of the body member 13. The locking force effectively prevents the nozzle part 20 from working loose over a period of time due to vibrations and swirling water forces encountered during use.

In the device thus far described, water flows from the source P through the fitting 11, past the anchor plate 25 and into the plenum chamber 28 just upstream of the nozzle orifice 21. Water pressure then accelerates the water through the small nozzle orifice 21 and outwardly along the diffuser surface portion 18 where the water is turned and broken into a plurality of individual streams by the serrations 19.

The nozzle part 20 is preferably formed as an integral portion of a secondary stream forming means or diffuser member 29. The secondary diffuser member 29 has a serrated or toothed inner peripheral surface portion 30 that forms a plurality of symmetrically dispersed diverging channels or grooves 31 and 32 which receive radially-outwardly moving water and break it into a plurality of individual diverging streams. Preferably the grooves 31 diverge at a slightly greater angle than the grooves 32 and there are two grooves 31 for every one groove 32. I have found, for example, that the streams formed by the channels 31 should diverge at an angle β to provide an 18" spray ring at 6 feet and that the channels 32 should diverge at an angle γ to provide a 12" spray ring at 6 feet. It will be appreciated that with this preferred construction, there will be a maximum number of streams at the larger angles of divergence and spray ring circumference, and a lesser number of streams at lesser angles of divergence and spray ring circumference, which will result in a relatively uniform number of streams within any given impingement area.

The water supply to the secondary diffuser 29 is provided by a plurality of flow passage means, or waterways 33 (see FIGURE 1) that are formed in the nozzle part 20 and are in fluid communication with the plenum chamber 28 of the bore 14 immediately upstream of the peripheral nozzle 21. When the thumb screw 24 and secondary diffuser 29 are removed as shown in FIGURE 2, the waterways 33 can easily be reached for cleaning. The thumb screw 24 includes an integrally formed, disc-like planar secondary nozzle part or deflector 34 that is spaced from an inner radially-extending secondary planar surface portion 35 of the secondary diffuser member 29

by a sleeve or bushing 36 to form a slot or secondary peripheral nozzle orifice 37. Water from the plenum chamber 28 passes through the waterways 33 and is diverted and accelerated radially-outwardly by the deflector 34 and nozzle orifice 37 into the grooves 31 and 32 where it is turned and broken into a plurality of diverging individual streams.

In use, the shower head 10 is mounted on an exposed water supply pipe from which is received a supply of bathing water. The secondary diffuser 29 and the primary nozzle part 20 integral therewith are positioned, as shown in FIGURE 1—the thumb screw 24 having been tightened into the anchor plate 26 until the nozzle engaging studs 27 compressively abut the nozzle part 20. Supplied water moves through the bore 14, the perforations or waterways in the anchor plate 26 and into the plenum chamber 28 immediately upstream of the primary peripheral nozzle orifice 21. The flow then divides and a portion is turned and accelerated radially-outwardly through the peripheral nozzle orifice 21, along the diffuser surface 18 and into the stream-forming serrated periphery 19. The remaining portion of the supplied water passes through the waterways 33 of the secondary diffuser 29 and is turned and accelerated radially-outwardly through the secondary peripheral nozzle orifice 37 into the channels 31 and 32 formed by the serrated peripheral surface 30. As there are twice as many high angle channels 31 as there are low angle channels 32, two-thirds of the water flowing in the secondary diffuser will diverge at the greater angle and one third will diverge at the lesser angle.

After the shower head 10 has been in use for a period of time, it may be desirable to clean its internal structure especially in hard water areas. Cleaning of the shower head 10 is extremely simple and requires merely the manual loosening and removal of the thumb screw 24 and the secondary diffuser 29 that is connected thereto. With the shower head so disassembled, it is a simple matter to clean the internal flow passageways without removing the body member 13 from the swivel ball 12. After the parts have been cleaned, the thumb screw 24 and the secondary diffuser 29 are simply screwed back into place until the nozzle part 20 is tight against the nozzle engaging studs 27. The re-assembled shower head is again ready for use at optimum performance without any need for a time-consuming critical re-adjustment. While the studs 27 positively locate the nozzle parts to insure optimum performance, I have provided a relatively tight fit between the threaded end 25 of the thumb screw 24 and the anchor plate 26, so that some slight adjustment of the nozzle can be made by those minority of persons who have considerably different ideas of what constitutes an optimum spray.

I have constructed a highly successful shower head in accordance with my invention by employing the following critical dimensional relationships. The diameter of the primary nozzle orifice part 21 is $\frac{3}{4}$ " and the width of the primary nozzle orifice (as accurately determined by the nozzle engaging studs 27) is .020 of an inch. Similarly, the diameter of the secondary peripheral nozzle forming part 34 is $\frac{5}{8}$ " and the secondary peripheral nozzle orifice width (as determined by the bushing 36) is .020 of an inch. The grooves formed in the primary diffuser surface 18 by the serrations 19 diverge from the axis at an angle α of $8^\circ 45'$. The channels 31 in the secondary diffuser 29 diverge at an angle β from the axis of $6^\circ 41'$ and the channels 32 of the secondary diffuser 29 diverge at an angle γ to the axis of $4^\circ 19'$.

It will thus be seen that a shower head constructed in accordance with my invention will create a large number of uniformly distributed individual streams and will always operate at optimum performance due to the internal gauging means that I have provided. It will further be appreciated that shower heads constructed in accordance with my invention can easily be maintained

and operated at peak performance due to the easy manner by which they can be cleaned. Having thus described my invention, I claim:

1. In a shower head for use in bathing that has a body member which is concentric about an axis, the body member having a bore formed therein along the axis and a concentric outwardly-diverging surface that includes means positioned downstream of the bore forming a plurality of individual diverging flow channels; the improvement comprising: means forming a primary peripheral nozzle orifice adjacent the bore and providing a fluid communication between the bore and the outwardly-diverging surface, opposed planar surface means substantially normal to the axis of the bore and forming a secondary peripheral nozzle orifice that is in fluid communication with the bore, and a secondary diverging surface which includes a plurality of diverging channels that are positioned in fluid communication with said secondary peripheral nozzle orifice for receiving a radial outward flow of water therefrom.

2. In a shower head for use in bathing that has a body member which is concentric about an axis, the body member having a bore formed therein along the axis and a concentric outwardly-diverging surface that includes means positioned downstream of the bore forming a plurality of individual diverging flow channels; the improvement comprising: a planar surface formed in the body member that intersects the bore, extends normal to the axis, and is effectively connected to the upstream end of the diverging surface, a substantially planar nozzle part that has an outer transverse dimension which is greater than the transverse dimension of the bore, means for mounting said planar nozzle part within the body member such that said nozzle part cooperatively faces said planar surface to form therewith a primary peripheral nozzle orifice that is a fluid communication with the bore, means integral with said substantially planar nozzle part forming a secondary planar surface that is normal to the axis, a substantially planar secondary nozzle part, means securely connecting said secondary nozzle part to said secondary planar surface such that said secondary nozzle part is spaced from and cooperatively faces said secondary planar surface to form a secondary peripheral nozzle orifice therewith, flow passage means forming a fluid communication between the bore and said secondary peripheral nozzle orifice, and a secondary diverging surface which includes a plurality of diverging channels that are positioned in fluid communication with said secondary periphery nozzle orifice for receiving a radially-outward flow of water therefrom.

3. A shower head having a body member that is concentric about an axis, said body member having a bore formed therein along said axis, opposed planar surface means substantially normal to the axis of said bore and forming a primary peripheral nozzle orifice adjacent said bore and in fluid communication therewith, said body member having a concentric diverging surface portion which includes a plurality of diverging channels that are positioned in fluid communication with said peripheral nozzle orifice to receive a radial outward flow of water therefrom, secondary stream forming means comprising, means forming a secondary peripheral nozzle orifice that is in fluid communication with said bore, and a secondary concentric diverging surface portion which includes a plurality of diverging channels that are positioned in fluid communication with said secondary peripheral nozzle orifice for receiving an outward flow of water therefrom.

4. A shower head having a body member that is concentric about an axis, said body member having a bore formed therein along said axis, said body member having a radially-outwardly extending planar surface that intersects said bore and is substantially normal to said axis, a substantially planar nozzle part that has an outer transverse dimension which is greater than the transverse dimension of said bore, means for mounting said planar nozzle part within said body member such that said nozzle

part cooperatively faces said planar surface of said body member to form therewith a primary peripheral nozzle orifice, means for positively and accurately positioning said nozzle part in a spaced relation with respect to said planar surface to insure optimal performance of said shower head, said body member further having a concentric diverging surface portion which includes a plurality of diverging channels that are positioned in fluid communication with said primary peripheral nozzle orifice to receive a radially-outward flow of water therefrom, means forming a secondary peripheral nozzle orifice that is in fluid communication with said bore, and a secondary diverging surface which includes a plurality of diverging channels that are positioned in fluid communication with said secondary nozzle orifice for receiving a radial outward flow of water therefrom.

5. A shower head having a body member that is concentric about an axis, said body member having a bore formed therein along said axis, an anchor plate mounted within said bore and having waterways and a centrally located threaded bore formed therein, said body member also having a rapidly diverging surface that intersects said bore and is located concentrically thereto, said body member further having a concentric diverging surface portion which includes a plurality of diverging channels that are positioned in fluid communication with said rapidly diverging surface to form a plurality of discrete diverging streams, a substantially planar nozzle part having a circular periphery with an outer transverse dimension that is greater than the transverse dimension of said bore, a thumb screw securely connected to said nozzle part and having a threaded portion for cooperatively engaging said threaded bore to mount said nozzle part within said body member, abutment means securely connected to said nozzle part and cooperatively engaging said body member for accurately and positively positioning said nozzle part a predetermined distance from said rapidly diverging surface of said body member to insure optimal performance of said shower head, means including secondary flow passage means formed in said nozzle part and positioned in fluid communication with said bore forming a secondary nozzle for creating a plurality of separate individual streams which are confined centrally of the individual streams formed by said diverging channels.

6. A shower head as defined in claim 5 wherein said body member and said substantially planar nozzle part are constructed of an acetyl resin material.

7. A shower head having a body member that is concentric about an axis, said body member having a bore formed therein along said axis, said body member having a radially-outwardly extending planar surface that intersects said bore and is substantially normal to said axis, a substantially planar nozzle part that has an outer transverse dimension which is greater than the transverse dimension of said bore, means for removably mounting said planar nozzle part within said body member such that said nozzle part cooperatively faces said planar surface of said body member to form therewith a primary peripheral nozzle orifice, a plurality of nozzle gauging pins that are formed integrally with said body member and extend outwardly from said planar surface thereof for engaging said nozzle part to insure an optimal water flow area of said peripheral nozzle orifice, said body member further having a concentric diverging surface portion which includes a plurality of diverging channels that are positioned in fluid communication with said primary peripheral nozzle orifice to receive a radially-outward flow of water therefrom, means forming a secondary peripheral nozzle orifice that is in fluid communication with said bore, and a secondary diverging surface which includes a plurality of diverging channels that are positioned in fluid communication with said secondary nozzle orifice for receiving a radial outward flow of water therefrom.

8. A shower head having a body member that is concentric about an axis, said body member having a bore

formed therein along said axis, means forming a primary peripheral nozzle orifice adjacent said bore and in fluid communication therewith, said body member having a concentric diverging surface portion which includes a plurality of channels that are positioned in fluid communication with said peripheral nozzle orifice to receive a radially-outward flow of water therefrom and diverge at a first angle with respect to said axis, means forming a secondary peripheral nozzle orifice that is in fluid communication with said bore and is concentric with said body member, and a secondary concentric surface which includes means forming a plurality of channels that diverge from said axis at lesser angles than said first angle, said channel forming means positioned in fluid communication with said secondary peripheral nozzle orifice for receiving a radially-outward flow of water therefrom.

9. A shower head as defined in claim 8 wherein a minor number of channels formed by said channel forming means diverge from said axis at a second angle that is less than said first angle, and a major number of said channels formed by said channel-forming means diverge from said axis at a third angle which is less than said first angle, but greater than said second angle, said major and minor number of channels being symmetrically dispersed about said secondary concentric surface.

10. A shower head having a body member that is concentric about an axis, said body member having a bore formed therein along said axis, said body member having a radially-outwardly extending planar surface that intersects said bore and is substantially normal to said axis, a substantially planar nozzle part that has an outer transverse dimension which is greater than the transverse dimension of said bore, means for mounting said planar nozzle part within said body member such that said nozzle part cooperatively faces said planar surfaces of said body member to form therewith a primary peripheral nozzle orifice, means for positively and accurately positioning said nozzle part in a spaced relation with respect to said planar surface to insure optimal performance of said shower head, said body member further having a concentric diverging surface portion which includes a plurality of diverging channels that are positioned in fluid communication with said primary peripheral nozzle orifice to receive a radially-outward flow of water therefrom, means integral with said substantially planar nozzle part forming a secondary planar surface that is normal to said axis, a substantially planar secondary nozzle part, means securely connecting said secondary nozzle part to said secondary planar surface such that said secondary nozzle part is spaced from and cooperatively faces said secondary planar surface to form a secondary peripheral nozzle orifice therewith, flow passage means forming a fluid communication between said bore and said secondary peripheral nozzle orifice, and a secondary diverging surface which includes a plurality of diverging channels that are positioned in fluid communication with said secondary peripheral nozzle orifice for receiving a radially-outward flow of water therefrom.

11. A shower head having a body member that is concentric about an axis, said body member having a bore formed therein along said axis, said body member having a radially-outwardly extending planar surface that intersects said bore and is substantially normal to said axis, a substantially planar nozzle part that has an outer transverse dimension which is greater than the transverse dimension of said bore, means for mounting said planar nozzle part within said body member such that said nozzle part cooperatively faces said planar surface of said body member to form therewith a primary peripheral nozzle orifice, said mounting means comprising a thumb screw positioned along said axis and having a gripping part that is available for grasping from outside the body member, abutment means securely connected to said nozzle part and cooperatively engaging said body member for positively and accurately positioning said nozzle part in a

spaced relation with respect to said planar surface to insure optimal performance of said shower head, said body member further having a concentric diverging surface portion which includes a plurality of diverging channels that are positioned in fluid communication with said primary peripheral nozzle orifice to receive a radially-outward flow of water therefrom, means integral with said substantially planar nozzle part forming a secondary planar surface that is normal to said axis, a substantially planar secondary nozzle part, means securely connecting said secondary nozzle part to said secondary planar surface such that said secondary nozzle part is spaced from and cooperatively faces said secondary planar surface to form a secondary peripheral nozzle orifice therewith, flow passage means forming a fluid communication between said bore and said secondary peripheral nozzle orifice, and a secondary diverging surface which includes a plurality of diverging channels that are positioned in fluid communication with said secondary peripheral nozzle orifice for receiving a radially-outward flow of water therefrom.

12. A shower head having a body member that is concentric about an axis, said body member having a bore formed therein along said axis, said body member having a radially-outwardly extending planar surface that intersects said bore and is substantially normal to said axis, a substantially planar nozzle part that has an outer transverse dimension which is greater than the transverse dimension of said bore, means for removably mounting said planar nozzle part within said body member such that said nozzle part cooperatively faces said surface of said body member to form therewith a primary peripheral nozzle orifice, a plurality of nozzle gauging pins that are formed integrally with said body member and extend outwardly from said planar surface thereof for engaging said nozzle part to insure an optimal water flow area of said peripheral nozzle orifice, said body member further having a concentric diverging surface portion which includes a plurality of diverging channels that are positioned in fluid communication with said primary peripheral nozzle orifice to receive a radially-outward flow of water therefrom, means integral with said substantially planar nozzle part forming a secondary planar surface that is normal to said axis, a substantially planar secondary nozzle part, means securely connecting said secondary nozzle part to said secondary planar surface such that said secondary nozzle part is spaced accurately and positively from, and cooperatively faces said secondary planar surface to form a secondary peripheral nozzle orifice therewith, flow passage means forming a fluid communication between said bore and said secondary peripheral nozzle orifice, and a secondary diverging surface which includes a plurality of diverging channels that are positioned in fluid communication with said secondary peripheral nozzle orifice for receiving a radially-outward flow of water therefrom.

13. A shower head having a body member that is concentric about an axis, said body member having a bore formed therein along said axis, said body member having a radially-outwardly extending planar surface that intersects said bore and is substantially normal to said axis, a planar nozzle part that has an outer transverse dimension which is greater than the transverse dimension of said bore, means for mounting said planar nozzle part within said body member such that said nozzle part cooperative-

ly faces said planar surface of said body member to form therewith a peripheral nozzle orifice, said mounting means comprising a thumb screw positioned along said axis and having a gripping part that is available for grasping from outside the body member, means for positively and accurately positioning said nozzle part in a spaced relation with respect to said surface to insure optimal performance of said shower head, said body member further having a concentric diverging surface portion which includes a plurality of diverging channels that are positioned in fluid communication with said peripheral nozzle orifice to receive a radially-outward flow of water therefrom, means including at least a portion of said planar nozzle part forming a secondary nozzle having means in fluid communication with said bore for creating a plurality of separate individual streams which are confined centrally of streams formed by said diverging channels.

14. A shower head having a body member that is concentric about an axis, said body member having a bore formed therein along said axis, said body member having an outwardly facing surface that intersects said bore and extends radially outwardly therefrom to define a rapidly diverging flow path, a circular nozzle part having a perimeter that is greater than the perimeter of said bore, means for mounting said nozzle part within said body member such that said nozzle part cooperatively faces said outwardly facing surface of said body member to form therewith a radially outwardly directed peripheral nozzle orifice, said mounting means comprising a thumb screw positioned along said axis and having a gripping part that is available for gripping from outside the body member, means for positively and accurately positioning said nozzle part in a predetermined spaced relation with respect to said outwardly facing surface of said body member to insure optimal performance of said shower head, said body member further having a concentric diverging surface portion which includes a plurality of diverging channels that are positioned in fluid communication with said peripheral nozzle orifice to receive the radial outward flow of water therefrom, means including at least a portion of said nozzle part forming a secondary nozzle having means in fluid communication with said bore for creating a plurality of separate individual streams which are confined centrally of streams formed by said diverging channels.

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