

United States Patent [19]

[11] 3,830,432

Grohe

[45] Aug. 20, 1974

[54] **SHOWER CONSTRUCTION**

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[22] Filed: **Mar. 23, 1973**
[21] Appl. No.: **344,225**

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[30] **Foreign Application Priority Data**

Mar. 29, 1972 Germany 2215344

[52] U.S. Cl. 239/394, 239/587
[51] Int. Cl. B05b 1/16
[58] Field of Search 239/390, 394, 587

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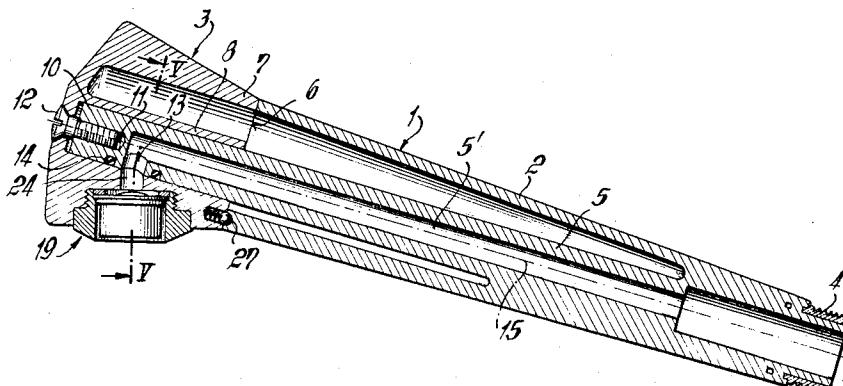
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[57] **ABSTRACT**

A shower construction, comprises a water supply pipe having a longitudinally extending water delivery bore which is closed at its outer end and which includes a transversely extending bore discharge passage connecting the delivery bore adjacent the closed end and a shower head which is provided with a receiving bore so as to receive the closed end of the water supply pipe and to cover the discharge passage. The shower head is rotatable in respect to the supply pipe, and it has a plurality of angularly spaced radially extending water discharge conduits which terminate in a distinctive discharge fitting at their outer ends. The water head is rotatable to align a selective discharge conduit and fitting with the water supply pipe water delivery bore.

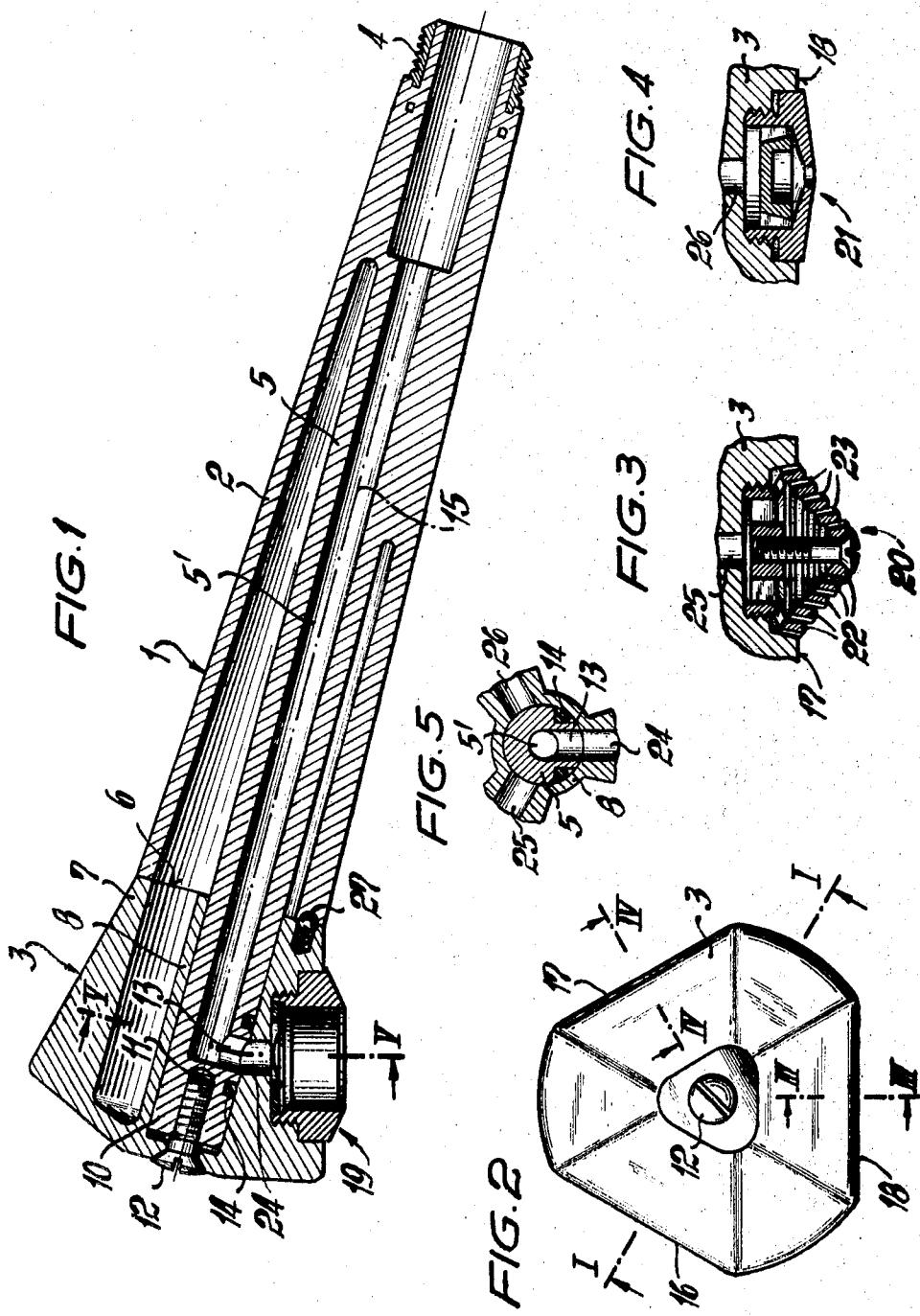
4 Claims, 7 Drawing Figures



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SHEET 1 OF 2



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SHEET 2 OF 2

FIG. 6

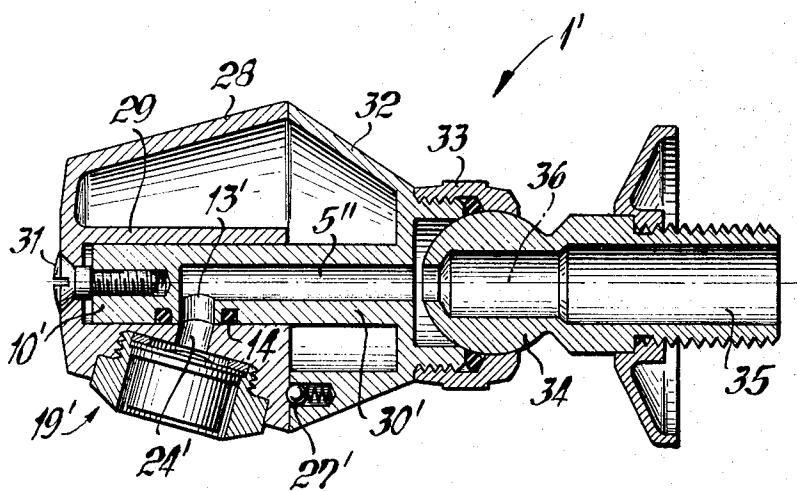
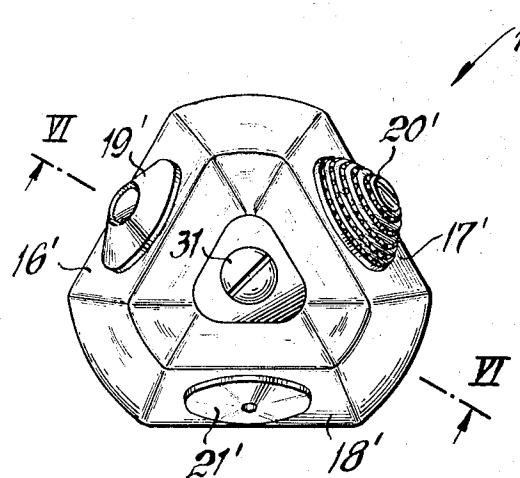


FIG. 7



SHOWER CONSTRUCTION

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates in general to the construction of shower fittings and, in particular, to a new and useful shower construction for a shower or bath fixture which includes a head portion which is rotatable around a supply pipe and which is provided with one or more distinctive heads which are selectively connectable to the supply pipe for the discharge of water therethrough.

2. Description of the Prior Art

In addition to the well-known sieve or screen-type shower heads whose discharge includes a plurality of jet orifices arranged around a circular surface, there are many other types of shower head constructions, such as showers with nozzle jet heads and froth sprayers. Among the nozzle jet heads, there are those which produce a single highly concentrated hard water jet and those which have a regulatable spray effect. The froth sprayer has the property that it is provided with means for greatly aerating the water jet before it leaves the head thus making it very soft and imparting a bubbling or frothing effect to the water as it impinges on the skin. Showers of this nature are finding increased use in such devices as cosmetic treatment devices and particularly for therapeutic treatment of various diseases and, in such cases, certain jet properties are preferred, depending on the disease to be treated, or the skin sensitivity of the respective person. A disadvantage of the known showers is that they have only one sprayer head with one spray discharge fitting so that the discharging water stream can be adapted to only one specific skin sensitivity or one specific therapy. In order to remedy this disadvantage, it has been considered possible to install several different shower heads, for example in a shower booth, or in a bathroom, but for cost reasons, this has usually not been feasible.

SUMMARY OF THE INVENTION

In accordance with the present invention, there is provided a shower which includes a single shower head which is regulatable in order to produce distinctive water discharge streams. The invention provides a shower head which is rotatable around its associated water supply pipe and it is provided with one or more passages which may be aligned with a discharge bore of the supply pipe in order to provide flow of the fluid through a selected head fitting which produces a distinctive water stream discharge. The invention provides an inexpensive shower construction in which the installation cost, as well as the cost of the parts, are very low. The head includes fittings which are capable of producing several different jet characteristics of the water stream which is discharged and which will correspond to the individual's wishes or to the therapy instructions which are desirable. In the preferred arrangement, the shower head is rotatably mounted on the supply pipe or any extension thereof. The head may be directly rotatable on a fixed end of the delivery pipe or on an extension thereof which may be pivoted to the main supply pipe.

In a preferred form of the invention, the shower head is designed as a truncated pyramid shaped hollow body which is rotatably mounted by means of a hub portion thereof on the closed end of a supply pipe. The supply

pipe is advantageously provided with a radial bore which is surrounded by a ring of packing which abuts against the interior surface of the hollow head and the head may be rotated to align a selective discharge conduit with the transverse bore of the water delivery conduit. In end elevation, the shower head is advantageously polygonal, such as of triangular form, and its sides are each provided with a separate shower head fitting. Each fitting produces a distinctive water spray for jet discharge and the three separate fittings may advantageously comprise, for example, a sieve sprayer, a nozzle sprayer, and a froth sprayer.

Accordingly, it is an object of the invention to provide an improved shower construction which includes a head which is rotatable in respect to a supply pipe and which carries a plurality of different shower fittings which are each separately communicable with the supply bore of the supply conduit so that the liquid may be discharged selectively through a particular type of shower head fitting.

A further object of the invention is to provide a shower with a head fitting of generally triangular configuration having side walls which contain separate shower head fittings and which are separately connectable through internal passages to the supply conduit.

A further object of the invention is to provide a shower which is simple in design, rugged in construction, and economical to manufacture.

The various features of novelty which characterize the invention are pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the invention, its operating advantages and specific objects attained by its uses, reference should be had to the accompanying drawings and descriptive matter in which there are illustrated preferred embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

40 In the Drawings:

FIG. 1 is a longitudinal sectional view through a shower constructed in accordance with the invention;

FIG. 2 is a front end elevational view of the shower head shown in FIG. 1;

FIG. 3 is a section taken along the line III-III of FIG. 2;

FIG. 4 is a section taken along the line IV-IV of FIG. 2;

FIG. 5 is a section taken along the line V-V of FIG. 1;

FIG. 6 is a view similar to FIG. 1 of another embodiment of the invention; and

FIG. 7 is an end elevational view of the shower shown in FIG. 6.

GENERAL DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to the drawings in particular, the invention embodied therein in FIGS. 1 to 5, comprises a hand shower, generally designated 1, which includes a shower handle portion 2 and a shower head portion, generally designated 3, both of which are designed as hollow bodies. The rear end of the hand shower 1 includes a threaded shoulder 4 for the attachment of the shower to a water supply, such as a flexible hose, as is customary for hand showers.

In accordance with the invention, the interior of the handle portion 2 includes a water supply pipe 5 having a longitudinally extending bore 5' for the passage of water therethrough. The outer shell portion of handle 2 ends at an end face 6 against which the outer shell 7 of the shower head 3 applies. The pipe 5 extends into a receiving hub 8 of the shower head 3. The pipe 5 includes a closed end 10 which extends into the hub 8 and this end has a threaded bore 11 which receives a holding screw 12 which extends through the head 3. The screw 12 holds the shower head 3 on the water supply pipe 5 so that the shower head 3 is rotatable about the axis 15 of the pipe 5. The pipe 5 also includes a radially extending bore 13 which communicates with the bore 5' at the outer end thereof and which defines a transverse bore discharge for the water. A ring packing 14 seals the inner wall of the hub 8 from the outer wall of the pipe end 10 which extends into it.

It is thus seen in FIG. 2, that the shower head 3 has a triangular form in end elevation and approximately resembles a truncated pyramid. The head 3 includes three side walls 16, 17 and 18, which extend obliquely to the longitudinal axis and which carry a different or distinctive water discharge fitting 19, 20 or 21. In the embodiment shown, the jet body 19 is a froth sprayer which produces a highly aerated soft full water jet. The jet body 20 is a sieve sprayer, and comprises several rings 22 which are nested together, and which present fluted jet orifices 23 on their circumference. The jet body 21 is a nozzle sprayer, and this produces a highly concentrated thin water jet. Each of the jet bodies 19, 20 and 21 connects to a respective water discharge conduit 24, 25 and 26. The head 3 is constructed so that it may be rotated to cause a selected water discharge conduit 24, 25 or 26 to align with the radial bore 13 at a certain angle of position of the shower head 3 while the other two openings become cutoff from the water supply, as indicated in FIG. 5.

In order to secure the shower head 3 against inadvertent rotation, the device includes a ball detent 27 which is carried on the rear end of the shower head 3 and engages into a groove at each angular setting of the particular shower fittings 19, 20 and 21.

In the embodiment indicated in FIGS. 6 and 7, there is provided a shower, generally designated 1', which includes a head 28 in the form of a truncated pyramid as in the other embodiment. The head 28 is rotatably mounted by its hub portion 29 on a pipe section 30 which forms an extension of a water supply pipe 35. The head 28 is secured by means of a screw 31 which is threaded into the closed end of the pipe section 30. The pipe section 30 is part of a housing body 32 which is pivotally secured on a spherical head 34 of the water supply pipe 35 by means of a cap nut 33. The shower head construction shown in FIGS. 6 and 7 differs from the shower head 3 of the other embodiment essentially in respect to the fact that its side walls 16', 17' and 18' are inclined in an opposite sense in respect to the central axis 36. The head includes shower fittings 19', 20' and 21' which are similar to the fittings shown in the other embodiment, for example.

In order to adjust the showers of both embodiments, it is only necessary to rotate the shower head 3 or the

shower head 28 by 120° to a new detent position.

Instead of providing the rotary shower head 3 or 28 with three different jet fittings, any number may be provided, such as two, or more than three, with a correspondingly shaped form of shower head.

While specific embodiments of the invention have been shown and described in detail to illustrate the application of the principles of the invention, it will be understood that the invention may be embodied otherwise without departing from such principles.

What is claimed is:

1. A shower construction comprising a water supply pipe having a longitudinally extending water delivery bore closed at its outer end and a transverse bore for the discharge passage connecting the delivery bore adjacent the closed outer end terminating in a planar end face, said water supply pipe having an elongated central tubular pipe portion with said water delivery bore and a surrounding outer hollow supply pipe housing surrounding said central tubular pipe portion being substantially shorter in longitudinal dimension and terminating in a parting plane spaced longitudinally inwardly from the closed outer end of said supply pipe, a shower head having a central hub portion rotatable on the closed end of said water supply pipe and an outer surrounding hollow head housing with an outer surface flush with the outer surface of said hollow supply pipe housing, said hub portion having a supply pipe bore into which the closed end planar end face of said water supply pipe extends, a pivot bolt engaged through said planar end face, said head having a plurality of angularly spaced radially extending water discharge conduits each terminating in a distinctive discharge fitting, said head being rotatable about said bolt relative to said water supply pipe to selectively align a water discharge conduit with the transverse bore discharge of said water supply pipe in different angular positions of said head relative to said supply pipe, said head being of a polygonal form and having a plurality of sides each with a separate discharge conduit having a distinct discharge fitting thereon.

2. A shower construction, according to claim 1, wherein the hollow head housing is threaded at its end opposite to said closed outer end and tapers outwardly from said threaded end to said closed outer end, said head tapering outwardly from the juncture of the outer housing portion of said head with the outer housing portion of said water supply pipe.

3. A shower construction according to claim 1, including a ring packing surrounding said transverse bore discharge passage between said water supply pipe and said head, said angularly spaced water discharge conduits of said head being selectively alignable within the ring packing.

4. A shower construction according to claim 1, wherein said head and said supply pipe have abutting wall surfaces with detent means defined therebetween impeding rotation of said head relative to said supply pipe when said transverse bore discharge passage is aligned with a selective one of said water discharge conduits.

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