United States Patent [19]

Smith

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[54] **ADJUSTABLE SHOWER FIXTURE**

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[21] Appl. No.: **165,417**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 18,931, March 12, 1970, abandoned.

[52] **U.S. Cl.** **239/282,** 4/145, 239/564, 239/567

[51] **Int. Cl.** **B05b 15/06**

[58] **Field of Search**.....239/537, 538, 562, 563, 564, 239/282, 567; 4/145, 151, 152, 153, 154, 155, 156

[56] **References Cited**

UNITED STATES PATENTS

464,550	12/1891	Bowman	239/562 X
2,994,482	8/1961	Valois et al.	239/563 X
3,182,867	5/1965	Barosko et al.	239/563 X
3,353,752	11/1967	Ranhagen et al.	239/538

FOREIGN PATENTS OR APPLICATIONS

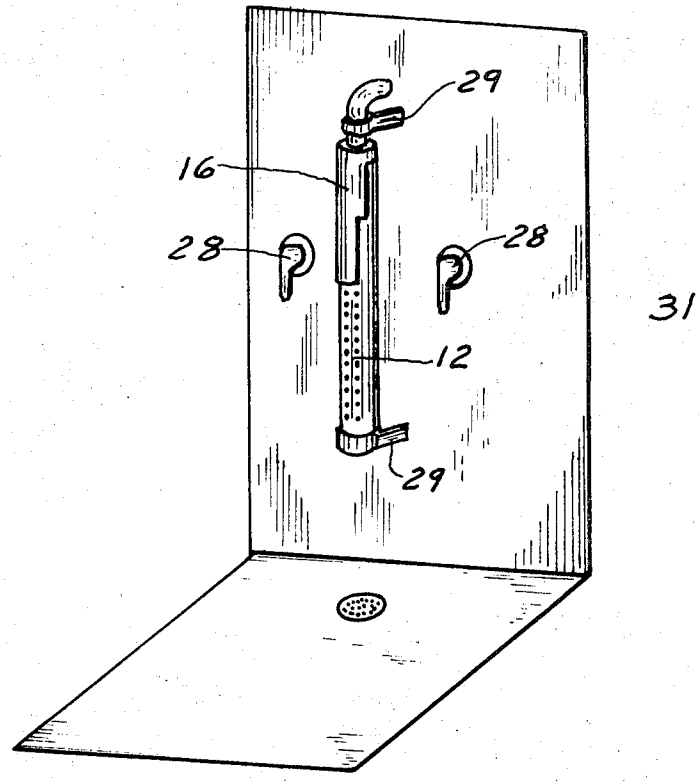
70,395	7/1914	Switzerland	239/564
1,109,997	6/1961	Germany	239/538

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[57] **ABSTRACT**

A water distributing device for use in a shower, bath or the like in which a vertical pipe with spray apertures is surrounded by a moveable, water-tight sleeve having predetermined cut out areas which provide for turning on and off the spray as a function of relative vertical height by rotating the sleeve a predetermined angular distance.

3 Claims, 6 Drawing Figures



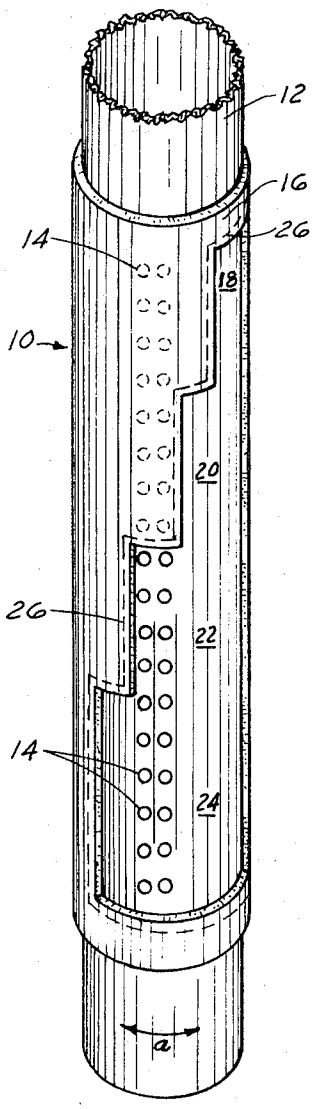


FIG. 1

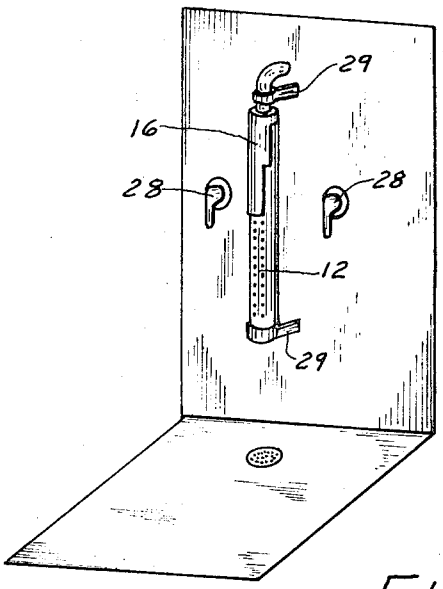


FIG. 2

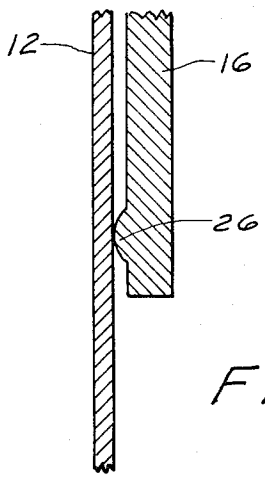


FIG. 3

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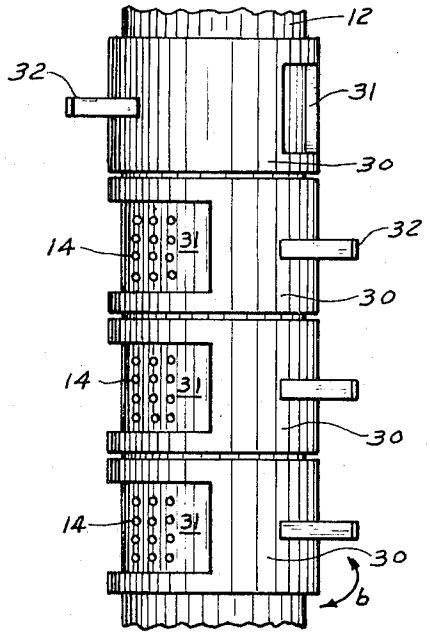


FIG. 4

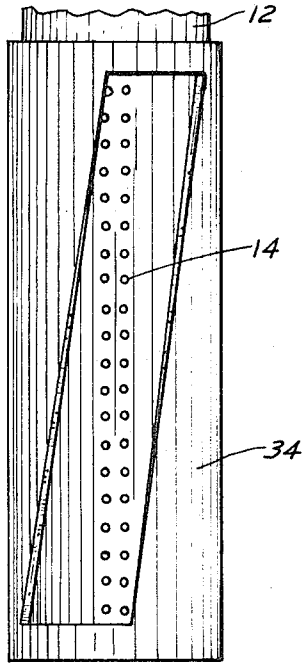


FIG. 5

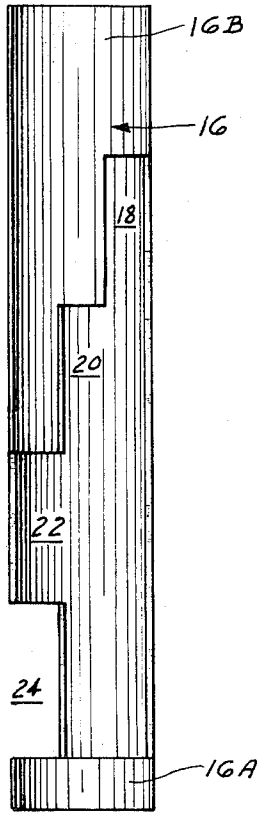


FIG. 6

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ADJUSTABLE SHOWER FIXTURE

This Application is a continuation-in-part of U.S. Pat. application Ser. No. 18,931 filed on Mar. 12, 1970 now abandoned.

BACKGROUND OF THE INVENTION

This invention relates generally to a water spraying device for use as shower or bath fixture to provide vertical spray control.

In the past, the standard shower spray fixture allowed water to spray from essentially one point mounted high up the shower wall. Uniform and complete rinsing of the body is made difficult by such mounting. Also the height of the spray fixture made showering for short people and children difficult to adjust and unsatisfactory for rinsing.

Applicant's invention eliminates these problems by providing a vertically disposed spraying device to insure complete rinsing of the entire human body from head to toe, the spraying action being adjustable to accomodate people of all heights including small children. It also allows a person to shower without getting his hair wet. The device may also provide for controlling the quantity of spray.

BRIEF DESCRIPTION OF THE INVENTION

A liquid spray control device for use as a shower or bath fixture comprising a liquid spraying pipe closed at one end and coupled to a liquid source, said pipe having a plurality of apertures disposed along the axial direction of the pipe, a water-tight sleeve coaxially disposed about the outside of the pipe, said sleeve rotatable relative to said pipe and having cut out areas that are circumferentially, angularly varied in size in increments along the sleeve axial direction whereby all or only a selected portion of the pipe apertures are exposed and uncovered by said sleeve. A sealing flange is provided to reduce or eliminate leakage between the pipe outer surface and the sleeve inner edges.

It is an object of this invention to provide an improved shower spray fixture.

It is another object of this invention to provide a vertically oriented shower spray that is variable in height.

And yet another object of this invention is to provide a variable intensity and height spray device for liquid dispensing.

And still yet another object of this invention is to provide a shower spray adaptable to persons of all heights that is a water saver.

In accordance with these and other objects which will be apparent hereinafter, the instant invention will now be described with particular reference to the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of applicant's invention.

FIG. 2 shows applicant's invention installed in a shower unit.

FIG. 3 is a cross-sectional elevation of the sealing groove in Applicant's invention.

FIG. 4 is an alternate sleeve embodiment of applicant's invention.

FIG. 5 is an alternate sleeve embodiment of applicant's invention.

FIG. 6 shows an alternate sleeve in accordance with applicant's invention.

PREFERRED EMBODIMENT OF THE INVENTION

FIG. 1 shows a shower device in accordance with applicant's invention generally at **10** comprising a sleeve member **16** circumferentially disposed about a shower pipe **12** which is a tube closed at the bottom and having a plurality of apertures **14** (not all marked for clarity). The top portion of pipe **12** is connected to a liquid source. The sleeve **16** has a plurality of cut out sections **18, 20, 22,** and **24** cut along the circumferential and the axial direction of the pipe, each section having a different area removed in size such that section **18** is the smallest while section **24** is the largest cut out area. The cut out portions **18** through **24** are also staggered in size circumferentially about the pipe and arranged so that end portions of the cut out sections do not lie along a common axial line at one end. The sleeve fits snugly about pipe **12** and is provided with a sealing flange **26** (dotted) to prevent leakage from edges adjacent cut out portions caused from water eminating from apertures **14** that are covered by portions of sleeve **16**. The sleeve **16** is rotateably coupled to pipe **12** about the outside circumference of pipe **12** and is moveable circumferentially in the directions shown by arrow A. In the position shown in FIG. **1**, approximately half of the apertures **14** which provide the shower spray are exposed through the cut out portions **22** and **24** of sleeve **16**. The remaining apertures **14** are blocked by the inside surface of sleeve **16**. The appertures are disposed in rows along the axial pipe direction. The number of rows may be of design choice dependent on shower spray volume desired. Rotation of sleeve **16** from right to left will expose the remaining apertures.

The device is positioned in a shower as shown in FIG. **2** to lie in a vertical direction adjacent a shower wall surface. The length of the shower device will be such to encompass the tallest of human beings down to the very shortest. Thus the shower sleeve **16** in FIG. **3** may be rotated to provide a shower spray of a desired heighth beginning from the bottom progressing all the way to the uppermost portion of the shower spray pipe. The pipe **12** is coupled to a normal household water supply under pressure and has a plurality of water valves **28** for regulating temperature and turning the water on and off. The shower is mounted by coupling pipe **12** to wall surface **31** by brackets **29** which may be bolted or made to adhere to surface **31** in a standard manner.

FIG. **3** shows flange portion **26** lying on the inside surface of sleeve **16** which fits against exterior wall of pipe **12** to provide a sealing joint between portions of the sleeve and the outer pipe surface. The flange **26** is placed around the periphery of the cut out areas. A grooved portion in the pipe **12** which could prevent water leakage would also be effective by acting as a drain for escaping water.

FIG. **4** shows an alternate sleeve arrangement in which the sleeve has a plurality of individually rotatable sections **30** each having an individual cut-out portion **31** and a grasping means **32**. Each sleeve section **30** moves independently of the others. Each may be rotated to cover or expose apertures **14**, thus providing total vertical spray control in height. The spray volume may also be controlled by varying the number of apertures covered with respect to each sleeve section **30**.

FIG. **5** shows an alternate sleeve configuration **34** in which the staggered cut out areas are replaced by one large cut out area which has parallel sides that

gradually change in their circumferential position. Again the sleeve **34** is rotatable relative to the pipe **12**. The vertical spray may be adjusted in small increments in either direction to provide a top, total vertical, or bottom spray.

FIG. **6** shows the sleeve **16** of FIG. **1** removed from the pipe to show the circumferential cut out portions. Bottom portion **16A** is a circular band coupled completely about the pipe which helps attach the sleeve **16** to pipe **12**. Top portion **16B** is likewise a complete circular band.

The sleeve **16** may be of any suitable material for use as a shower fixture such as metal, plastic or hard rubber, and would be a matter of design preference.

Applicant's shower may be provided with a flexible coupling member for installation to a standard single spray wall mounted shower pipes having threaded end portions or mounted to a bath tub faucet. The device may be permanently or portably mounted to the adjacent wall surface.

The instant invention has been shown and described herein in what is considered to be the most practical and preferred embodiment. It is recognized, however, that departures may be made therefrom within the scope of the invention and that obvious modifications will occur to a person skilled in the art.

What I claim is:

1. A shower fixture for controlling liquid spray length comprising:

a tube having an open end for receiving liquid and a closed end and a plurality of apertures aligned along the tube axis; and

a plurality of sleeve members, individually rotatable about said tube, disposed circumferentially about said tube, each sleeve member having an aperture portion, moveable to expose a portion of said tube apertures, for controlling the volume of spray.

2. A shower fixture mountable on a wall comprising:

an enclosed tube vertically mounted on said wall, said tubing having a plurality of relatively small apertures disposed in a relatively narrow column longitudinally along said tube, facing substantially **180°** away from said wall surface, said tube having a water inlet coupleable to a source of water under pressure;

a sleeve circumferentially disposed adjacent to said first tube outer surface, said sleeve rotatable circumferentially with respect to said first tube, said sleeve having a longitudinally elongated aperture, said sleeve aperture substantially equal in length to said tube aperture column and varying in width incrementally in the sleeve circumferential direction from a relatively narrow width adjacent one end of said sleeve to a relatively wide width adjacent the opposite end of said sleeve, the narrow sleeve aperture width being substantially the tube aperture column width with one side of said sleeve aperture being parallel to the longitudinal axis of said sleeve.

3. A shower fixture as in claim **2**, wherein: said sleeve aperture width expands from the narrow width to the wide width in a helical pattern.

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