

Aug. 21, 1956

L. P. PAWLEY
FLEXIBLE SHOWER HEAD

2,759,765

Filed July 19, 1954

2 Sheets-Sheet 1

FIG. 4

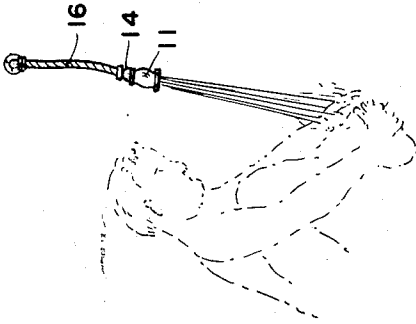


FIG. 3

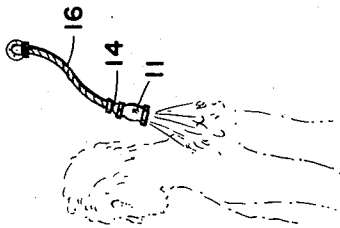


FIG. 1

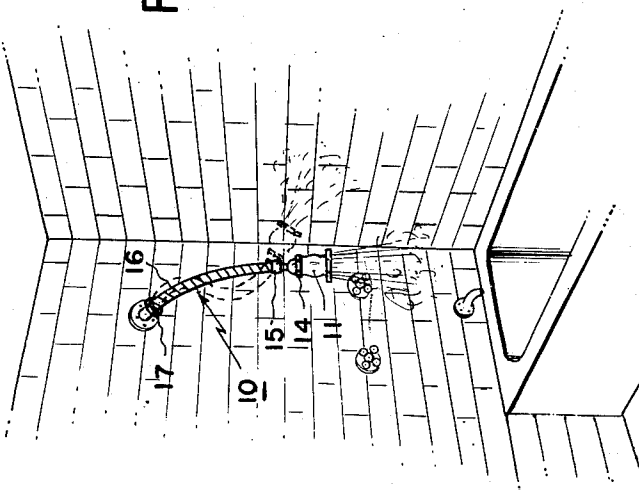
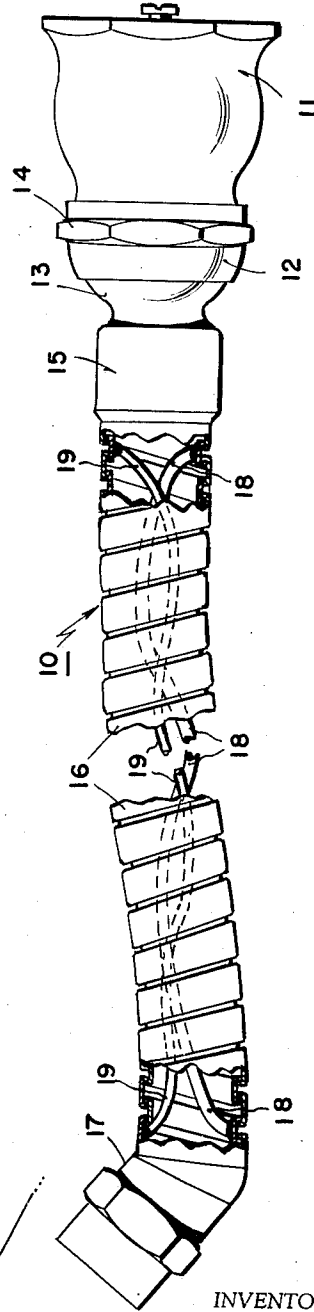


FIG. 2



BY

LEON P. PAWLEY

J. B. Hickman Jr.

ATTORNEY

Aug. 21, 1956

L. P. PAWLEY
FLEXIBLE SHOWER HEAD

2,759,765

Filed July 19, 1954.

2 Sheets-Sheet 2

FIG. 6

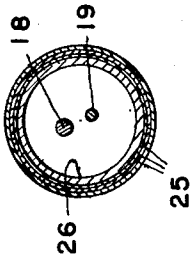


FIG. 8

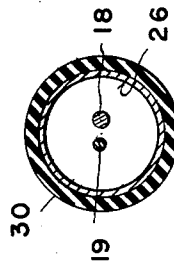


FIG. 5

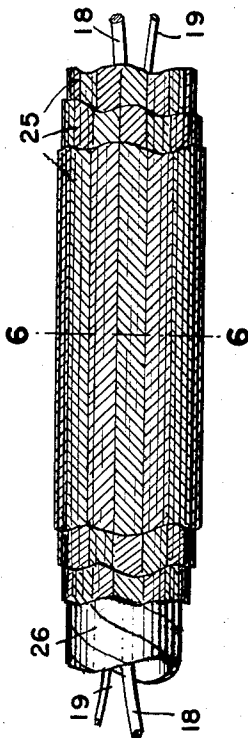
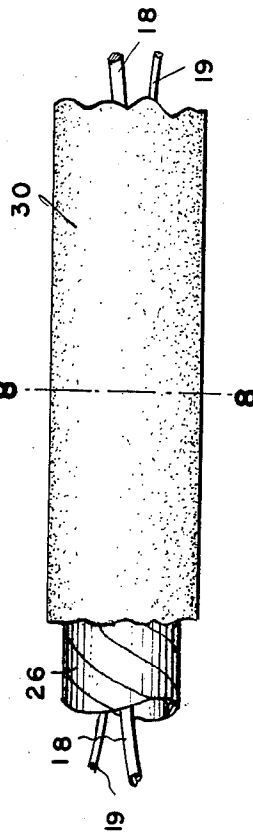


FIG. 7



INVENTOR

LEON P. PAWLEY

BY

J. B. Dickman, Jr.
ATTORNEY

1

2,759,765

FLEXIBLE SHOWER HEAD

Leon P. Pawley, Wilmington, Del.

Application July 19, 1954, Serial No. 444,156

4 Claims. (Cl. 299—72)

This invention relates to shower heads for attachment to the shower outlet pipe of a bath.

The primary object of this invention is to provide a shower head which incorporates a flexible pipe having resilient, flexible, stayput and malleable means therein, the whole being formed into an integral unit.

A further object of my invention is to provide a new and revolutionary form of bathing.

A further object of my invention is to provide a shower head which will allow the user, especially women and persons of short stature to take a shower without wetting the hair.

A further object of my invention is to provide a flexible shower head having the connection that engages the outlet pipe at various angles from 0° to 90° and or adjustable. Normally the connection will screw on to the outlet in place of the conventional shower head; but, where the outlet pipe terminates in a ball socket a suitable adapter of rubber, plastic, nylon or similar material connects the flexible shower head to the ball joint outlet.

A further object of my invention is to provide a shower head which will maintain any position in which it is placed.

A still further object of my invention is to provide a flexible shower head which is leakproof and retains its original resiliency even after much usage.

A further object of my invention is to provide a shower head which will allow a person to wash well with clean water in hard to get at places such as armpits, feet, toes, etc.

A still further object of my invention is to provide a flexible shower head in which the convolutions of the flexible portion are kept in close engagement and prevented from unwinding.

A further object of my invention is to provide a shower head which will allow the stream and/or spray to be placed very close to the body, thus affording more skin stimulation, body toning, better cleansing, etc.

A further object of my invention is to provide a shower head which will allow quicker and better removal of soap from the body thus precluding later itching and scratching.

A further object of my invention is to provide a shower head which will allow a direct, vertical, and a close, finger thick stream of water onto ankles, feet and between toes.

A further object of my invention is to provide turning the shower head away from a bather quicker and more efficiently without splatter than the present conventional type in order to avoid a sudden rush of hot or cold water, to adjust temperature, to soap yourself comfortable or pick up dropped soap without wetting the hair, or to wash the shower wall, ceiling, or bath tub, etc.

A further object of my invention is to provide a higher adjustment for very tall persons.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be

2

had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views and in which:

Fig. 1 represents a view of the device in operation, attached to the shower outlet above a tub, the dotted line showing an S-shape which may be assumed by the device.

Fig. 2 is an enlarged view of the complete unit, broken away in portions to show the flexible stayput torsion resistant means therein.

Fig. 3 is a view showing how the device can be used to wash without wetting the hair.

Fig. 4 is a view showing how the device can be used to wash the toes and feet at close range.

Fig. 5 is a fragmentary view of a modified form of the invention.

Fig. 6 is a sectional view through Fig. 5.

Fig. 7 is a fragmentary view of another modified form of the invention.

Figure 8 is a sectional view through Figure 7.

Referring to the drawings in detail, numeral 10 represents the complete shower head, comprising an outlet member 11 having a socket 12 within which a ball 13 is freely movable. A locking ring or nut 14 holds the outlet in any desired position by impinging the ball 13 in any well known manner. A shank portion 15 on the ball 13 has integral therewith a flexible conduit member 16. 15 and 16 are normally to be integral. Another method of attaching the unit to a shower outlet is to solder or sweat a male adapted to the end of the tubing 16, so that shank 15 or any conventional shower head could be screwed to said male end.

On the other end of the flexible conduit 16 and integral therewith is a connecting member 17 which may be of any angle from 0°-90° for engagement with a wall outlet. Disposed internally of the flexible conduit 16 are one or more copper or other ductile and flexible metal rods or wires 18. Also within said conduits 16 are rods or wires 19 which are preferably made of chrome nickel stainless steel which will resist any torsional or twisting strain. All the wires, both copper and steel are permanently attached to the interior of the fixture at their ends, by any suitable means, such as soldering, brazing, etc. It is imperative, however, that they be permanently attached at their ends otherwise the shower head will lose its stayput qualities and will leak in time due to the unwinding and loosening of the convolutions. The wires or rods 18 and 19 are preferably twisted or entwined about each other throughout their length. Also, they relieve the stress and strain on the flexible tubing by preventing the concentration of these forces at any one point or convolution. The addition of wires and or rods 18 and 19 attached at both ends of the fixture make the shower head practical for everyday usage, permitting long trouble-free service. Without wires and or rods 19 the shower head would lose its resiliency and stayput qualities in a short time and would not be practical.

In use the shower head 10, a complete integral unit, is attached to the shower outlet pipe of a bath, and adjusted to the desired position. The various angles of the connection 17 allow the shower head 10 to project at the best possible angle from the outlet to allow the complete movement and adjustment of the flexible portion and to reduce to a minimum the strain upon the flexible portion 16 at the point nearest the outlet. In the past, flexible tubes formed of convoluted material, have developed leaks after a period of use due to strains being imposed upon certain areas of said conduits when they are turned and twisted frequently to position them. The present invention avoids these stresses and strains upon any particular point, distributing these strains instead throughout the whole length of the flexible conduit. This is accomplished by means of the copper wire 18 and stainless

3

steel wire 19 attached and secured permanently at both ends within said fixture bending with the conduit, so that no matter how many times or in what position the conduit is bent, the stress and strain will be distributed throughout the tubing.

The stainless steel wire 19 flexes with the conduit and remains in any position which the copper wire assumes as it does not have sufficient strength to overcome the resistance of the heavier copper wire. However, if a twisting strain is imposed on said conduit so that the convolutions tend to unwind, the stainless steel wire 19 will resist any such torsional and or twisting action, keeping the convolutions tightly engaged at all times.

In the modified form of the invention illustrated in Figures 5 and 6 there is provided 3 layers of braided metal 25, that covers a helical convoluted conduit 26 of any suitable metal such as copper, bronze or brass. The ends of wires 18 and 19 are fixedly secured to the fittings as shown in Fig. 2, the wires equalizing stress and strain and assist in preventing elongation.

In the modified form of the invention illustrated in Figures 7 and 8 there is provided rubber 30, that covers the helical convoluted conduit 26, the rubber covering providing a flexible conduit. The ends of wires 18 and 19 are fixedly secured to the fittings as illustrated.

It is also contemplated that the flexible portion or the whole unit may be covered with rubber, plastic, or the like to further guarantee against leakage or seepage and to afford a more convenient grip for flexing the appliance while using this covering will also tend to resist elongation of the appliance.

Since certain changes may be made in the above described construction, and different embodiments of the invention may be made without departing from the spirit or scope thereof, it is intended that all the material contained in the above description or shown in the accompanying drawing shall be considered as illustrative and not in a limiting sense except as defined by the scope and spirit of the appended claims.

4

What is claimed is:

1. An integral shower head unit, comprising a spray member, an outlet connection and an intermediate flexible portion, said flexible portion having flexible, ductile, stayput, stress and strain relieving means and torsion resisting means intertwined therein and integral therewith.

2. An integral unit as set forth in claim 1 in which the flexible, ductile, stayput, stress and strain relieving and torsion resisting means are copper wire, and stainless steel wire respectively.

3. A unit comprising flexible, ductile, stayput, elongation resisting tubing, stress and strain relieving means in said tubing, said means comprising a malleable wire and a torsion resisting wire, said wires intertwined throughout their length and integrally secured at their ends to the inside of said tubing means on one end of said tubing for engagement with a shower head, and means on the other end of said tubing for engaging a coupling.

4. An integral connecting unit comprising inlet means, outlet means and an intermediate elongated flexible portion, said flexible portion including a member having flexible, ductile, stayput stress and strain relieving properties analogous to that of copper wire and including a member having torsion resisting properties analogous to that of chrome nickel stainless steel intertwined therein and secured within the elongated portion adjacent both ends thereof.

References Cited in the file of this patent

UNITED STATES PATENTS

480,749	Stanley	Aug. 16, 1892
625,917	Arnold	May 30, 1899
1,327,428	Gregory	Jan. 6, 1920
1,724,147	Russell	Aug. 13, 1929
1,786,459	Simons	Dec. 30, 1930
1,799,815	Hoff	Apr. 7, 1931
1,964,263	Krenke	June 26, 1934