Nov. 26, 1963 C. B. LARSON ETAL 3,112,073

FLEXIBLE SPOT RINSING HEAD FOR SHOWER BATHS

Filed Feb. 1, 1963 2 Sheets-Sheet 1

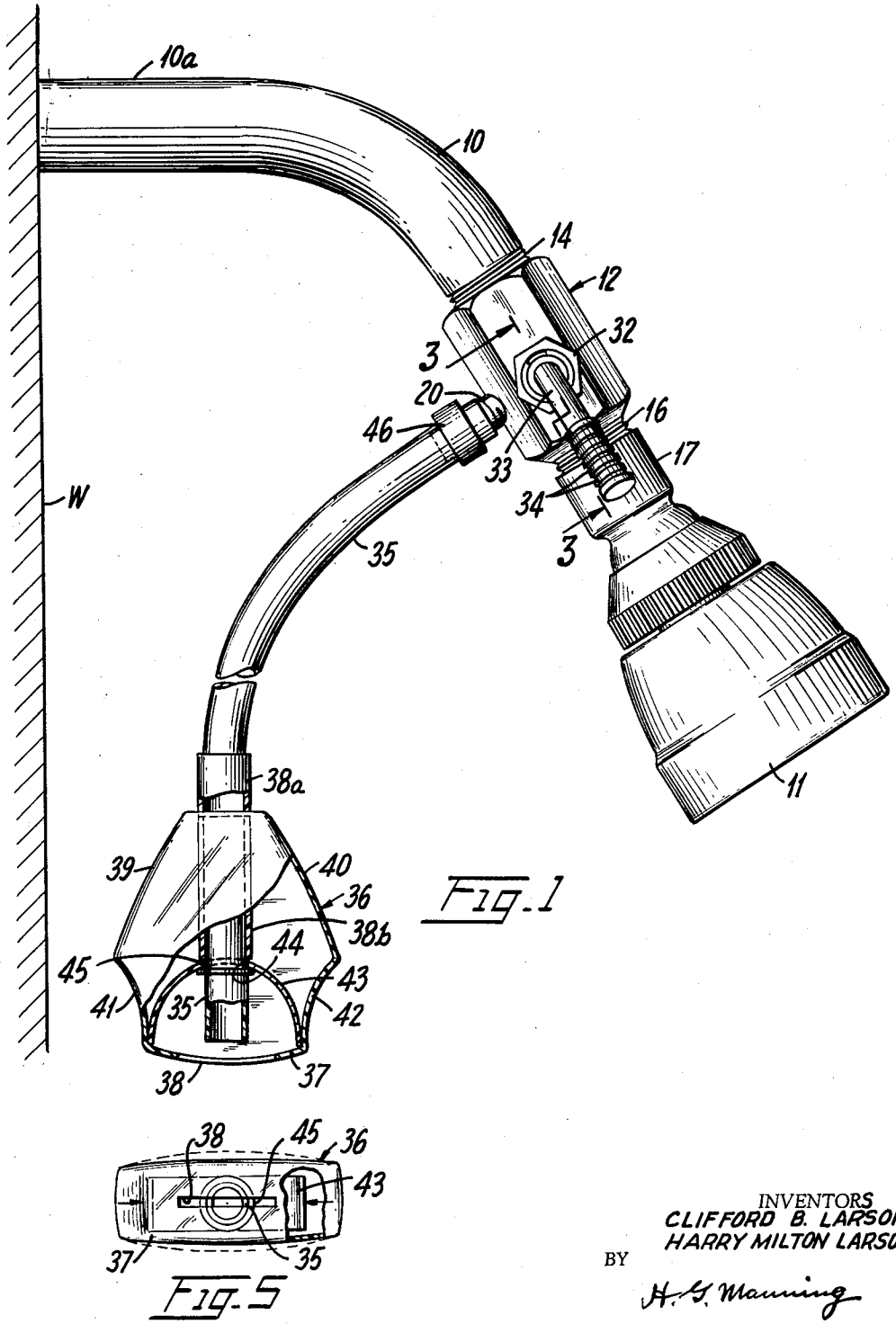


Fig. 1

Fig. 5

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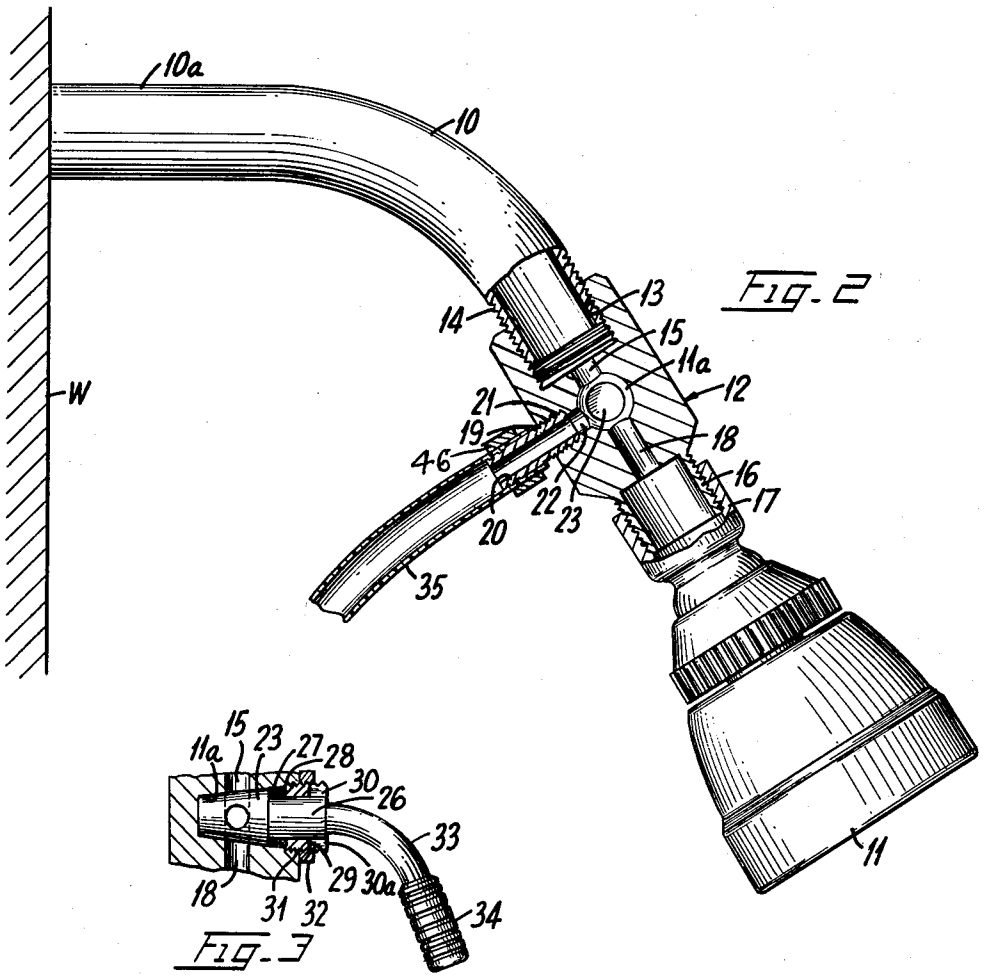


Fig. 2

Fig. 3

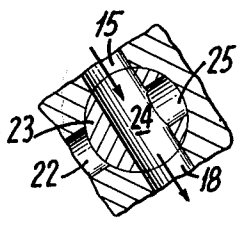


Fig. 4

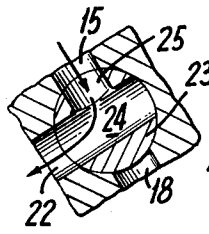


Fig. 4a

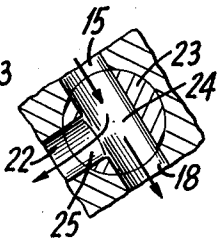


Fig. 4b

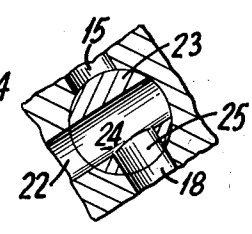


Fig. 4c

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FLEXIBLE SPOT RINSING HEAD FOR SHOWER BATHS

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Filed Feb. 1, 1963, Ser. No. 255,637
1 Claim. (Cl. 239—446)

This invention relates to bathroom fixtures, and more particularly to a 4-way valve attachment for connection between a standard shower arm and shower head, and also connected to a lateral hose leading to a spot rinsing head.

One object of the present invention is to provide a 4-way connecting unit of the above nature, having a conical recess extending part way therethrough, within which recess is rotatably fitted a conical valve having three ports for selectively connecting the shower arm to the shower head and to the lateral passage leading to the rinsing head hose.

A further object is to provide a spot rinsing head which is constructed of flexible material and has an open end slot operative when the shower head is shut off to be spread apart to produce a controlled stream for rinsing soapy water from the body.

A further object is to provide a device of the above nature, which will be simple in construction, inexpensive to manufacture, easy to install and manipulate, compact, ornamental in appearance, and very efficient and durable in use.

The application is a continuation-in-part of our co-pending application Serial No. 155,303, filed November 28, 1961 for "4-Way Shower Head Connector Unit," which is to be abandoned.

In the drawing:

FIG. 1 represents a side view, partly in section, of the complete shower installation, showing how the connector unit is secured to the shower arm, the shower head, and the lateral hose leading to the flexible spot rinsing head.

FIG. 2 is a fragmentary cross-sectional view of the same.

FIG. 3 is a longitudinal sectional view, taken on the line 3—3 of FIG. 1.

FIG. 4 is a cross-sectional view on a larger scale, taken through the control valve as it appears when the handle is set "forward" for a regular shower.

FIG. 4*a* is a similar cross-sectional view, with the handle in its "up" position for spot rinsing.

FIG. 4*b* is a similar cross-sectional view with the handle set "back" for both a regular shower and spot rinsing.

FIG. 4*c* is a similar cross-sectional view with the handle located in "down" position, with the water shut off, during the soaping operation.

FIG. 5 is an end view of the spot rinsing head.

Referring now to the drawings in which like reference numerals denote corresponding parts throughout the several views, the numeral **10** indicates a curved shower arm, having an upper horizontal section **10***a* secured to the wall W of the shower bath enclosure.

The numeral **11** indicates a standard circular shower head, and the numeral **12** indicates a hexagonal connector unit having a conical recess **11***a* extending part way through it. The connector unit **12** is provided with three ports for communication with the three passages of a tapered conical 4-way valve **23** rotatable therein.

The numeral **13** indicates a top internally-threaded socket for receiving a threaded lower end **14** of the curved shower arm **10**. The socket **13** is connected to the conical recess **11***a* of the connector unit **12** by a reduced passage **15**.

The numeral **16** indicates a bottom threaded cylindrical neck of the connector unit **12**, for receiving an upper

tapped neck **17** of the standard shower head **11**, said neck **16** being connected by a reduced passage **18** to the interior conical recess **11***a*.

Provision is also made of a lateral tapped socket **19** in the connector unit **12**, which is adapted to receive a sleeve **20** having a threaded inner end **21** which is screwed into the lateral tapped socket **19**. A reduced side passage **22** is provided in the unit **12** to connect the sleeve **20** with the conical recess **11***a*.

The conical valve **23** which fits in the recess **11***a* has a longitudinal through passageway **24**, and a lateral passageway **25** at right angles thereto. The conical valve **23** has a reduced cylindrical section **26**, which is surrounded by a pair of soft rubber O-rings **27**, **28** for tightly sealing the valve **23** within the recess **11***a* of the connector unit **12**.

In order to prevent longitudinal movement of the valve **23** in the connector unit **12**, provision is made of an exteriorly threaded stuffing box **29** having a pair of outer wrench receiving slots **30**, **30***a*, surrounded by a nut **32** screwed upon the threaded stuffing box **29**, tapped at **31**, and tightly engaging the exterior of the connector unit **12**.

Provision is also made of a curved handle **33** integral with the 4-way conical valve **23** and having a series of gripping rings **34** on its outer end to facilitate the manual rotation thereof.

The numeral **35** indicates a flexible hose, preferably of plastic, connected to the outer end of the sleeve **20**, as by friction, said hose being connected at its other end to a hollow "spot" rinsing head **36**, preferably of flexible soft plastic, and having an elongated curved end bar **37** provided with a central slot **38**. By means of this construction, when the ends of the flat end bar **37** are squeezed inwardly, the slot **38** will be spread apart to form a solid stream of water for rinsing.

The outer end of the hose **35** is surrounded by a plastic tube **38***a* which is integral with the rinsing head **36**. Within said rinsing head is a short spacer tube **38***b* of plastic, which serves to hold the hose **35** securely in position.

The hollow rinsing head **36** has a pair of forwardly diverging sides **39**, **40** which terminate in a pair of curved finger recesses **41**, **42**, between which is a semi-circular reinforcing strip **43**. Strip **43** is relatively stiff with respect to the head material **36** and flexible in the sense of being elastic, so as to yield under the applied pressure and restore the head to its original shape when such pressure is released. Said strip has a central circular aperture **44** embracing the hose **35** and abutting the end of the tube **38***b*. The hose **35** is also provided with an outer rib **45** which engages the forward surface of the reinforcing strip **43** to hold it in position. A plastic ring **46** embraces the inner end of the hose **35** and serves to clamp said hose tightly upon the sleeve **20**.

Operation

In use, there are four operating conditions:

(1) With the handle **33** "forward" (FIG. 4), a regular shower may be obtained.

(2) With handle **33** "up" (FIG. 4*a*), a spot soap rinsing may be accomplished.

(3) With the handle **33** "back" (FIG. 4*b*), both spot rinsing and a regular shower may occur at the same time.

(4) With the handle **33** "down" (FIG. 4*c*), soaping may be accomplished, with the water shut off.

If desired, instead of the rinsing head **36**, a shower head or douche nozzle may be attached to the end of the hose **35** to permit rinsing soap from the body or head after a shampoo.

One advantage of the present invention is that by having the conical valve **23** extend only part way through the connector unit **12**, a more secure positioning of said

valve therein is obtained, eliminating the need for sealing it at the opposite end, and resulting in a more attractive appearance of said unit.

Another advantage of the present invention is that it provides for easily rinsing soap from all of the difficult-to-reach parts of the body.

A further advantage is that a shower may be obtained without spoiling a hair-do, and that the shower valve may be shut off during "soaping," which results in a saving of hot water.

A further advantage is that after "soaping," the original pre-set temperature of the water will be resumed when the shower valve is again turned on.

A further advantage is that the connector unit may be easily installed on an ordinary bathroom shower apparatus by the following simple steps:

(1) Remove the shower head **11** from the curved shower arm **10**.

(2) Screw the connector unit **12** onto the shower arm **10** and connect the hose **35** on the lateral sleeve **20**.

(3) Replace the shower head **11**.

While there has been disclosed in this specification one form in which the invention may be embodied, it is to be understood that this form is shown for the purpose of illustration only, and that the invention is not limited to the specific disclosure, but may be modified and embodied in various other equivalent forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claim.

Having thus fully described the invention what is claimed as new and for which it is desired to secure Letters Patent is:

In a bathroom shower fixture, a shower head connected to an overhead water supply pipe, a connector unit inserted between said shower head and said supply pipe, a flexible hose connected to one side of said connector unit, a hollow flat-sided spot rinsing head of soft flexible material surrounding and connected to the outer end of said hose, said spot rinsing head being provided with an elongated central slot in its outer surface capable of spreading apart when the ends of said rinsing head are manually squeezed toward each other, to permit the size of the spray emerging from said rinsing head to be controlled for rinsing the soap from difficult-to-reach parts of the body, said spot rinsing head being provided with an interior semicircular reinforcing and centering member of relatively stiff, flexible, elastic material surrounding said hose and having its ends engaging the slotted surface of said rinsing head.

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