Dec. 18, 1951 R. LEOPOLD ET AL 2,579,150

THERMOMETER COMBINED WITH SPRAY HEAD

Filed June 4, 1948

FIG. 1

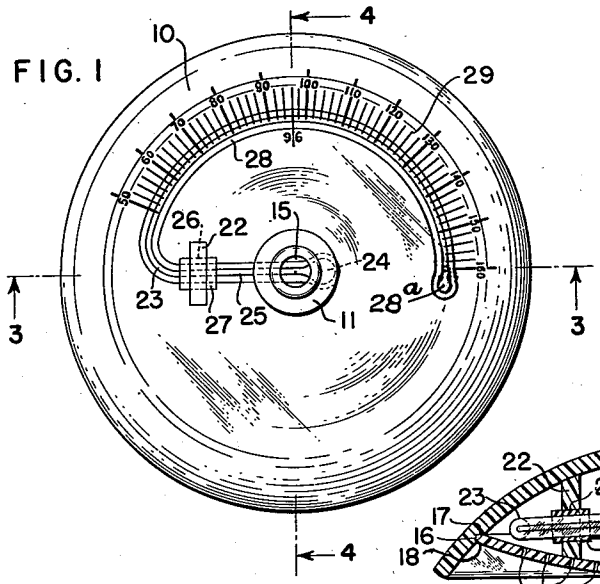


FIG. 3

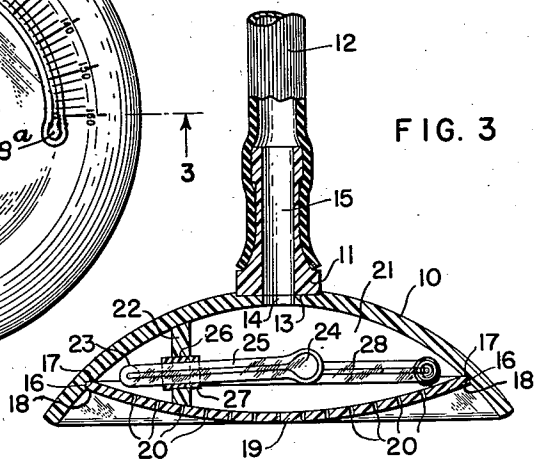


FIG. 2

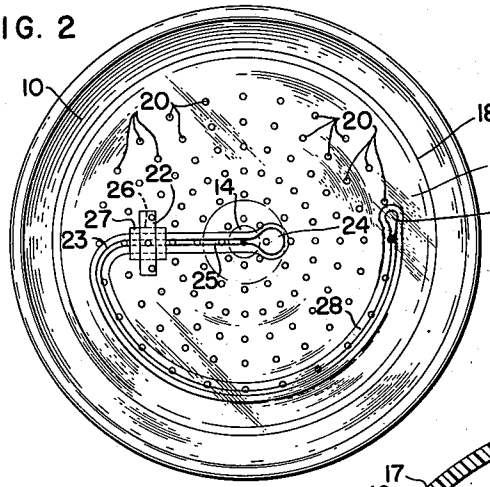
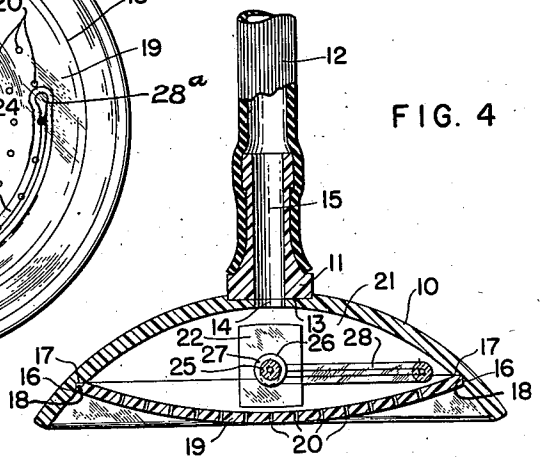


FIG. 4



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THERMOMETER COMBINED WITH SPRAY HEAD

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7 Claims. (Cl. 73—343)

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This invention relates to spray heads and more particularly to a spray head having a temperature indicator incorporated therein.

The testing of the temperature of water from spray heads by the reaction of the temperature on the skin is wholly unreliable as the estimate of water temperature varies greatly among different people. Serious difficulties can arise, particularly in spray apparatus used for bathing infants where resort is had merely to skin reaction temperature tests on the part of the mother. Difficulties also arise in other uses of spray heads, such as in beauty parlors, for shampooing and the like.

It is the principal object of the present invention, therefore, to provide a spray head in which the temperature of the fluid being delivered in the form of a spray is indicated to the user so that the proper adjustment may be made of the water supply to bring the temperature to the desired level.

It is a further object of the present invention to provide a spray head which may be readily constructed from transparent synthetic resinous plastic material and having a temperature indicator combined therewith.

It is a further object of the present invention to provide a spray head having a thermometer combined therewith and in which the thermometer is mounted in a manner so as to be protected from shocks and the like.

It is a further object of the present invention to provide a spray head constructed in an improved manner so as to be light in weight while retaining adequate strength and rigidity.

Other objects and advantageous features of the invention will be apparent from the specification and claims.

The nature and characteristic features of the invention will be more readily understood from the following description, taken in connection with the accompanying drawings forming part hereof, in which:

Figure 1 is a top plan view of a spray head in accordance with the present invention;

Fig. 2 is an underneath plan view thereof;

Fig. 3 is a central sectional view taken approximately on the line 3—3 of Fig. 1; and

Fig. 4 is a transverse sectional view taken approximately on the line 4—4 of Fig. 1.

It should, of course, be understood that the description and drawings herein are illustrative merely, and that various modifications and changes may be made in the structure disclosed without departing from the spirit of the invention.

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Like numerals refer to like parts throughout the several views.

Referring now more particularly to the drawings, the spray head, in accordance with the present invention, preferably includes a body portion 10 having a nipple 11 formed thereon or connected thereto for the attachment of a flexible hose 12 through which the liquid for the spray is supplied. The body portion 10 is preferably dished or hood shaped and has, on the exterior thereof, a flattened portion 13 for the mounting of the nipple 12 by suitable cement. The body portion 10 is preferably of transparent synthetic resinous material, acrylic resins being suitable for this purpose. The body portion has an opening 14 in communication with the central opening 15 in the nipple 11. The interior of the body portion 10 above the lower rim portion thereof is preferably provided with a circular groove or slot having a well portion 16 parallel to the central longitudinal axis of the body portion 10 and the nipple 11, and a wall portion 17 perpendicular to the wall portion 16 and accordingly normal to the central longitudinal axis. The groove or slot defined by the walls 16 and 17 is adapted for the reception of the complemental peripheral edge 18 of a spray plate 19. The spray plate 19 may be dished oppositely to the body portion 10 and is provided with a plurality of spray openings 20 for the delivery of the liquid in spray form. The spray plate 19 is preferably of the same material as the body portion 10 and is secured in position in the slot defined by the walls 16 and 17 by suitable cement. A liquid chamber 21 is thus provided in the interior of the body portion 10 and inside the spray plate 19.

In the interior chamber 21, a mounting block 22 is provided, for the support of a thermometer 23. The block 22 is preferably secured to the interior of the body portion 10 and may also, if desired, be secured to the spray plate 19 at the time of assembly.

The thermometer 23 is preferably of the expansible liquid type with a bulb 24 from which a straight stem portion 25 extends. The straight stem portion 25 preferably extends through an opening 26 in the mounting block 22, the portion of the stem at the block 22 being enclosed within a short tubular sleeve 27 of resilient material resistant to the temperatures encountered. One suitable material for the sleeve 27 is synthetic rubber of the type sold under the name of Neoprene.

The thermometer 23 has, extending from the straight stem portion 25, a curved indicating stem portion 28 which is in substantial aline-

ment with the slot defined by the walls 16 and 17. The stem portion 28, at its terminal end, has an expansion chamber 28a to accommodate excessive temperatures. The bulb 24 of the thermometer 23 is preferably disposed substantially in alinement with the central opening 15 in the nipple 11.

The body portion 10, on the exterior thereof contiguous to the indicating portion 27 of the stem of the thermometer, is preferably provided with suitable temperature indicia 29, preferably in the range from 50° F. to 160° F., and if desired, special temperature levels may be marked.

The temperature of the water delivered through the hose 12 to the chamber 21 effective on the thermometer 24 may be readily observed and the supply adjusted to provide the desired temperature level of the water delivered through the spray openings 20.

The likelihood of breakage is reduced and low thermal conductivity is provided by the use of acrylic resinous material.

We claim:

1. A spray head comprising a body portion of transparent material and a perforate spray plate secured thereto to provide an interior liquid chamber, an expanding liquid thermometer having a bulb portion mounted in said chamber and having an arcuate stem portion visible through the body, and temperature indicia arcuately disposed on said body contiguous to said arcuate stem portion.

2. A spray head comprising a transparent dished body portion having a groove in the interior spaced from the peripheral edge, a perforate spray plate having complemental edge portions in engagement in said groove and providing with said body portion an interior liquid chamber, a fluid inlet member in communication with said chamber, a supporting block mounted in said chamber, a thermometer having a stem mounted in said supporting block, said stem having an indicating portion visible through the wall of said body, and the body portion having indicia thereon alined with said indicating stem portion.

3. A spray head comprising a transparent dished body member, a spray plate member oppositely dished with respect to said body member and having edge portions in engagement with said body member and providing with said body member an interior liquid chamber, a fluid inlet member in communication with said chamber, a support mounted in said chamber and secured to one of said members, a thermometer having a stem mounted in said support, and said stem having an arcuate visible indicating portion.

4. A spray head comprising a dished body portion of transparent synthetic plastic material having a groove in the interior spaced from the peripheral edge, a spray plate having complemental edge portions in engagement in said groove and providing with said body an interior liquid chamber, a fluid inlet member in communication with said chamber, a supporting block mounted in said chamber, and a thermometer having a stem resiliently mounted in said supporting block, said stem having an indicating portion visible through the wall of said body.

5. A spray head comprising a dished body portion of transparent synthetic plastic material having a groove in the interior spaced from the peripheral edge, a perforate spray plate having complemental edge portions in engagement in said groove and providing with said body an interior liquid chamber, a fluid inlet member in communication with said chamber, a supporting block mounted in said chamber, a thermometer having a stem mounted in said supporting block, said stem having an indicating portion visible through the wall of said body, and the body portion having indicia thereon alined with said indicating portion.

6. A spray head comprising a body member of transparent material and a transparent perforate spray plate member secured thereto to provide an interior liquid chamber, an expanding liquid thermometer secured to one of said members having a bulb portion mounted in said chamber and having an arcuate stem portion in said chamber visible through at least one of said members and temperature indicia arcuately disposed on one of said members contiguous to said arcuate stem portion.

7. A spray head comprising a transparent dished body member having a fluid inlet, a perforate spray plate member having edge portions in engagement with and providing with said body member an interior liquid chamber, a support in said chamber carried by one of said members, and a thermometer interposed between said members and disposed wholly within said chamber, said thermometer having an arcuate indicating portion visible through the wall of said body.

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