

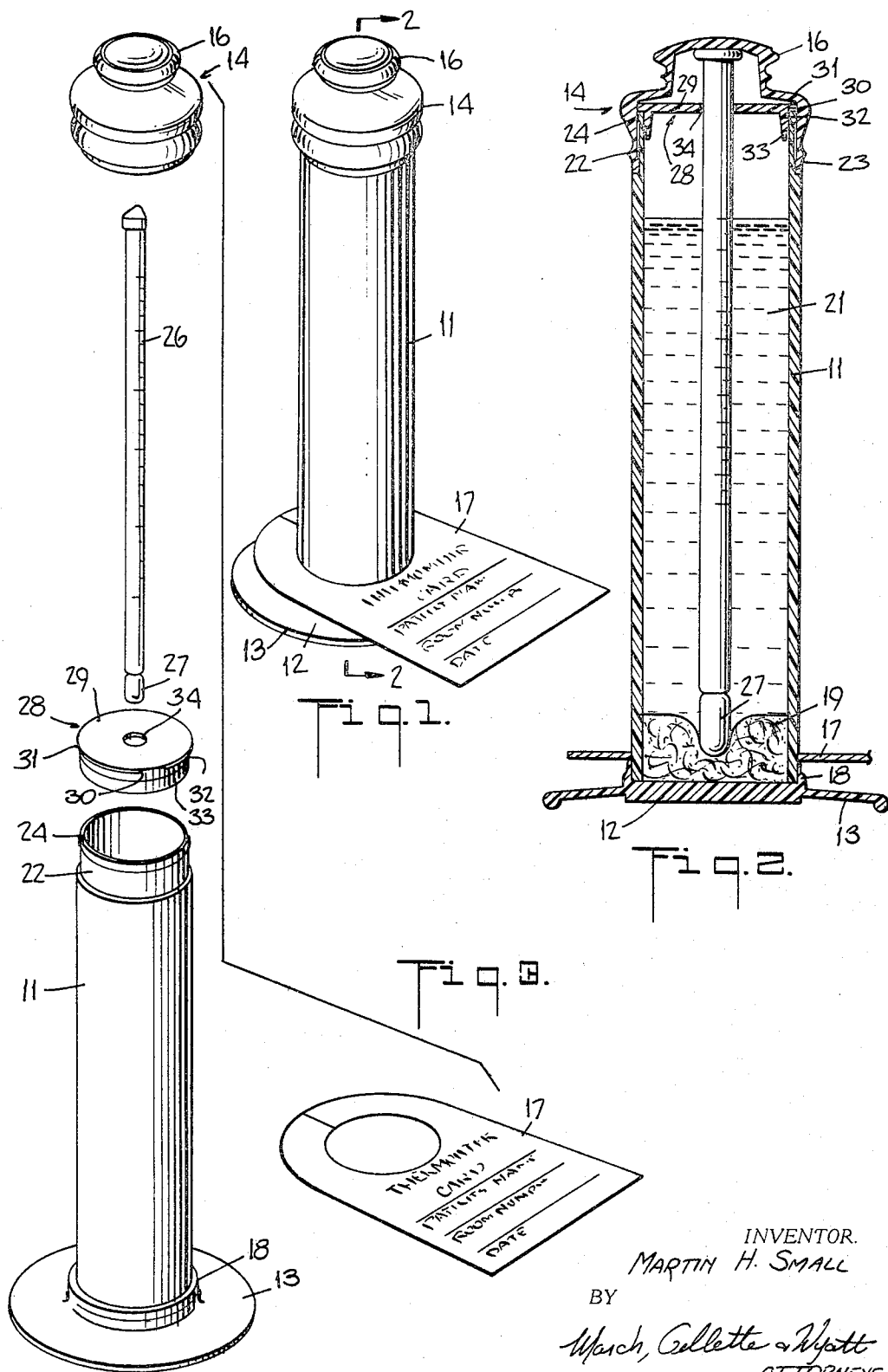
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CONTAINER FOR BEDSIDE THERMOMETER

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CONTAINER FOR BEDSIDE THERMOMETER

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4 Claims

ABSTRACT OF THE DISCLOSURE

A thermometer container to provide resilient restraint of and individual thermometer in an antiseptic medium. The container has a resilient foam internal pad at one end and an inner cap at the other end with a central aperture through which the thermometer extends and an outer cap that frictionally engages the open end of the container adjacent to the inner cap to press the thermometer against the resilient material to hold it firmly in place. The container holds a quantity of antiseptic fluid in which the thermometer is continuously bathed.

This invention relates to a container for an individual bedside thermometer and particularly to a container suitable for use in hospitals where each patient must have his own thermometer easily available for use.

A container for individual thermometers according to the present invention comprises a hollow tube with a closure member that closes an end and provides support for the tube to rest vertically on a bedside table or the like. Within the tube is a quantity of antiseptic fluid and a pad of resilient material that retains its resiliency even when saturated with an antiseptic fluid. A false, or inner, cap is inserted in the other, or open, end of the tube, and has a aperture large enough to permit a thermometer to be easily inserted therein. An outer cap fits over the open end of the tube and has a relieved, or raised, central portion into which the upper end of the thermometer extends to provide proper support of the thermometer. The total distance from the inner surface of the raised portion to the upper surface of the foam material is slightly less than the length of the thermometer so that as the outer cap is placed fully into engagement with the tube, it forces the tip of the thermometer to press into the foam material so as to hold the thermometer in place thereby. Ridges on the outer surface of the inner cap and the open end of the tube provide increased frictional engagement insuring fluid-tight closure of the container and safe support of the thermometer.

The invention will be described in greater detail in the following specification together with the drawing in which:

FIG. 1 is a perspective view of a container constructed according to the present invention;

FIG. 2 is a cross-sectional view of the container of FIG. 2 along the line 2—2; and

FIG. 3 is a perspective exploded view of the container of FIGS. 1 and 2.

The container of FIG. 1 comprises a hollow plastic tube 11 closed by its lower end by a closure member 12 having a radially outwardly extending flange 13 to provide a sufficiently broad base to support the tube 11 in an upright position. The plastic material of which the tube 11 is made is firm and somewhat resilient but preferably not rigid. A cap 14, also of resilient plastic material and having a raised central portion 16, closes the other end of the tube 11. An identification tag 17 may be placed over the tube 11 to provide a convenient place for memoranda concerning the patient.

As shown in FIGS. 2 and 3, the lower end of the tube 11 is covered by the closure member, which, in addition to the flange 13, has a short, upwardly extending ridge 18 that engages the lower end of the tube 11 and is mechanically joined thereto by a suitable adhesive that also forms a fluid-tight seal between the closure member 12 and tube 11. Within the lower end of the tube 11 is a cushion of foam plastic material 19 that extends upwardly a short distance from the inner surface of the closure 12 and above the plastic material 19 is a quantity of antiseptic fluid 21. Preferably the antiseptic fluid 21 also saturates the foam material 19, but the latter has the characteristic of retaining its resiliency even when so saturated.

At the upper end of the tube 11 the tube 11 has a reduced diameter section 22, and the cap 14 has a downwardly extending rim 23 that frictionally engages the reduced diameter portion 22. Near the extreme upper end of the reduced portion 22 is a radially outwardly extending bulge 24 that further increases frictional engagement between the lower surface of the rim 23 and the tube 11. The central portion 16 of the cap 14 is raised to provide a handle by which the cap may be grasped to facilitate its removal from the tube 11. The raised portion 16 is hollow to receive the uppermost part of a thermometer 26.

The total length of the thermometer 26, including its sensitive tip 27, is such that when the cap 14 is fully placed on to the upper end of the tube 11, the inner surface of the raised portion 16 presses against the upper end of the thermometer 26 and causes the tip 27 to press into the foam material 19, thereby limiting any free motion of the thermometer in any direction.

In order to facilitate insertion of the foam material 19 in the first place and subsequent insertion of the antiseptic fluid 21 it is desirable to have the upper end of the tube 11 completely open, and, in fact, the inner wall of the tube 11 is a smooth cylindrical surface having the same diameter all the way down. However, to allow it to remain open except when covered by by cap 14 would increase the danger of spilling the fluid 19 when the cap 14 was removed. Therefore, the container includes an inner cap 28 having a substantially flat radial portion 29 with a rim 31 that extends outwardly to a diameter preferably just slightly less than the outer diameter of the portion 22 of the tube 11, and slightly less than the inner diameter of the rim 23 of the cap 14. The reason for this limitation on the diameter of the radial part 29 is to prevent any frictional engagement with the inner surface of the rim 23 so as to prevent the inner cap 29 from being withdrawn when the outer cap 14 is removed. Having a separate inner cap makes it easy to fill the tube with the fluid 21, before the inner cap is attached. The lower surface of the rim 31 may be provided with a small notch 30 to facilitate removal of the cap 28 to add more fluid 21 later, if necessary.

The inner cap 28 has a first cylindrical portion 32 that extends downwardly into frictional engagement with the inner surface of the upper portion 22 of the tube 11 to hold the cap 28 in place and a second cylindrical portion 33 that extends even farther into the tube 11 and serves as a guide to facilitate insertion of the cap 28 into the open end of the tube 11. In the center of the radial portion 29 of the cap is an aperture 34 which is large enough to permit the thermometer 26 to be inserted and withdrawn easily but yet is small enough to restrict loss of fluid 21 if the container is inadvertently tipped over when the thermometer is withdrawn. The inner perimeter of the aperture 34 serves as a further limiting structure to prevent movement of the thermometer when it is within the container.

While this invention has been described in terms of a specific embodiment, it will be understood by those skilled in the art that modifications may be made therein without departing from the true scope of the invention.

What is claimed is:

1. A personal bedside container for a thermometer having a bulb end and a predetermined overall length and a predetermined cross-section, said container comprising:

(a) an elongated fluid-tight resilient plastic tube closed at one end;

(b) a radially outwardly extending flange at the closed end to form a support to hold the tube upright;

(c) a resilient, plastic, outer cap having a downwardly extending rim having a generally cylindrical inner surface fitting snugly over the open end of said tube and frictionally engaging said open end, said cap comprising a hollow raised central portion;

(d) a piece of resilient foam material filling the end of said tube adjacent said closed end;

(e) a separate inner cap having a downwardly extending generally cylindrical outer surface portion fitting into said open end of said tube and frictionally engaging said tube to force said open end of said tube outwardly to increase the frictional engagement between said outer cap and said open end, said inner cap having a central aperture to permit said thermometer to be inserted through said aperture and against said foam material, the height of the inner surface of said hollow raised central portion of said cap and the length of said tube being so related to the length of said thermometer that when said outer cap is in place on the said tube the inner surface of said raised central portion presses said thermometer into said foam material to prevent free movement of said thermometer; and

(f) a quantity of antiseptic fluid in said tube, said foam material being resilient when saturated with said fluid.

2. The container of claim 1 in which:

said outer surface of said tube adjacent to said open end thereof has a radially outwardly extending bulge to engage said inner cylindrical surface of said outer cap.

3. The container of claim 1 in which:

said inner cap comprises a substantially radial portion containing said central aperture, and said downwardly extending rim comprises a first generally cylindrical portion extending from said radial portion and second generally cylindrical portion and having a smaller outer diameter than said first portion, said first portion frictionally engaging said inner surface of said open end of said tube.

4. The container of claim 3 which:

said radial portion extending radially outward beyond first cylindrical portion to a radial distance less than the diameter of said outer surface of said tube, whereby said inner cylindrical surface of said outer cap does not engage said rim of said inner cap.

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