

[54] **INSULATING JACKET FOR DRINKING UTENSILS**

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[58] Field of Search 215/12 R, 12 A, 13 R; 150/52 R; 229/1.5 R

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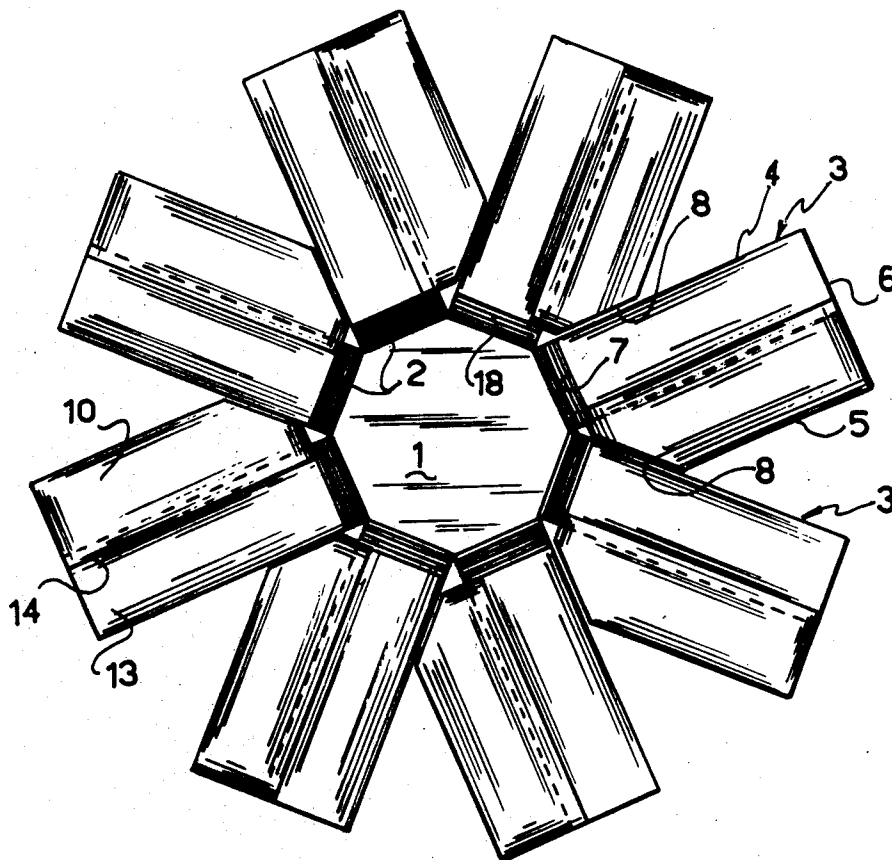
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Primary Examiner—Herbert F. Ross

[57] **ABSTRACT**

A jacket of heat insulating material, such as expanded polystyrene foam, for use with drinking utensils, such as glasses, cans, bottles or the like, of various shapes and sizes. The jacket is composed of a bottom having the shape of a regular polygon with a plurality of side wall elements, each pivotally connected to a straight edge of the polygonal bottom by a flexible membrane capable of folding along anyone of several fold lines parallel to the associated bottom edge, each side wall element being independent from and overlapping an adjacent side wall element. Thus, the side wall elements can fit drinking utensils of various sizes and shapes and there is no solution of continuity at the surface of the jacket.

9 Claims, 9 Drawing Figures



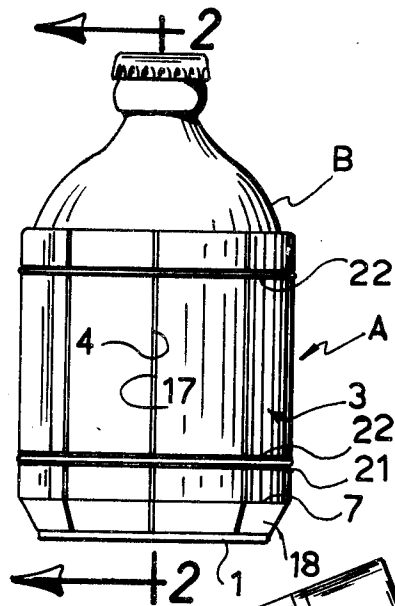


FIG. 1

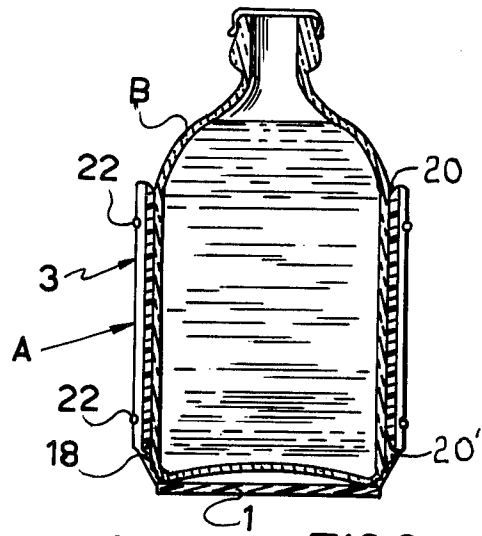


FIG. 2

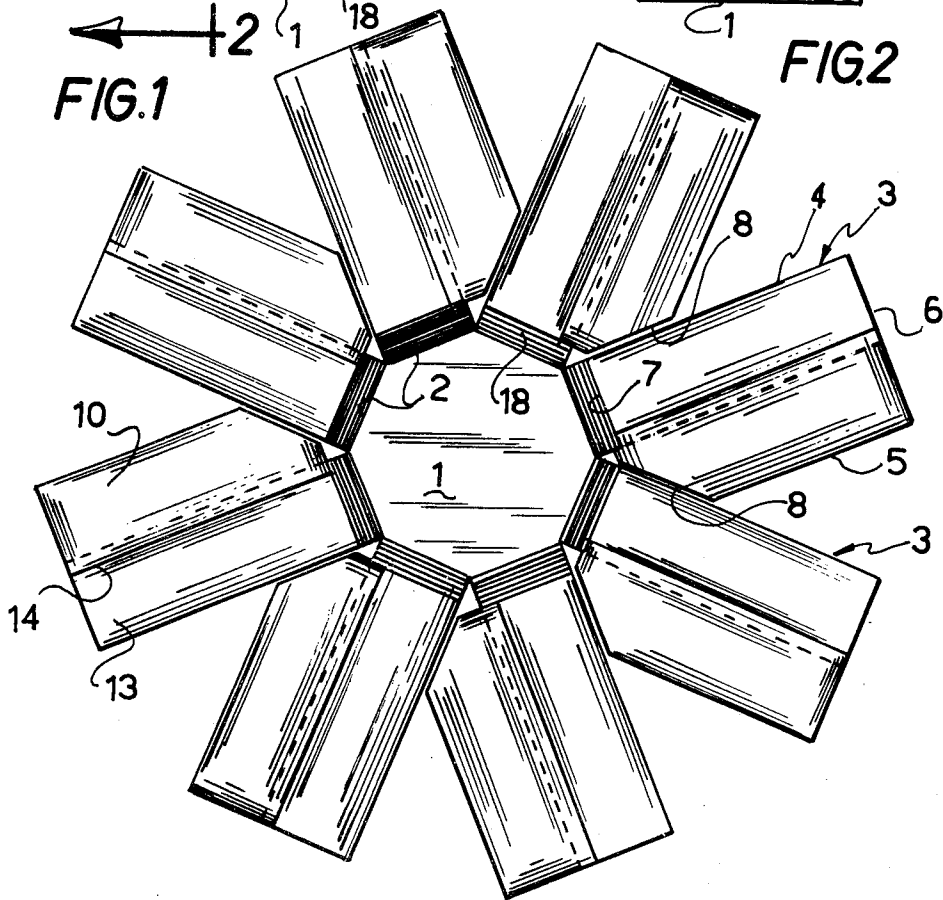
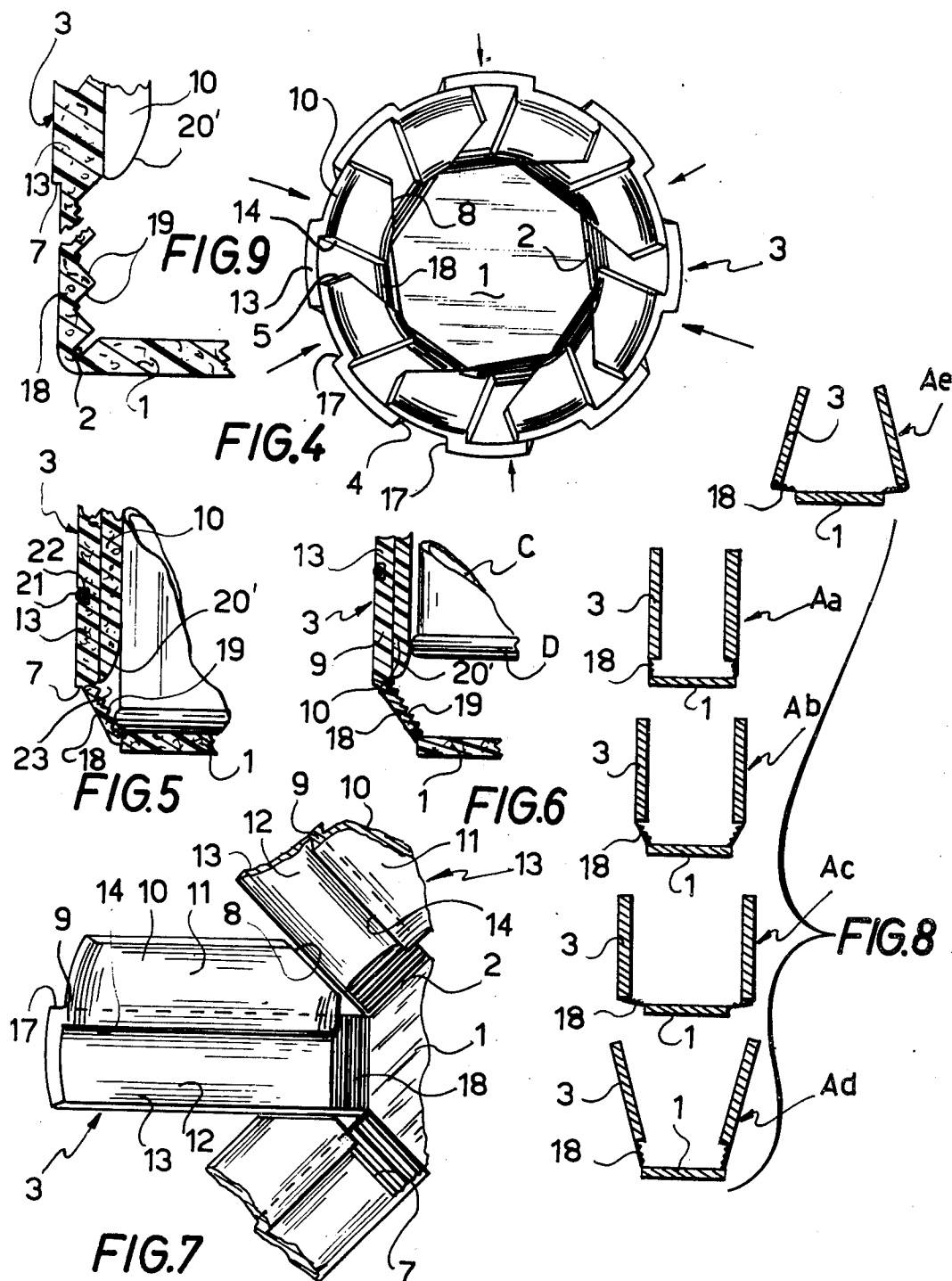


FIG. 3



INSULATING JACKET FOR DRINKING UTENSILS

The present invention relates to a drinking utensil jacket or coaster made of insulating material, such as expanded polystyrene foam, to isolate the contents of the drinking utensil from the surrounding ambient temperature conditions, such as to keep cold drink or a hot drink in cold or hot condition respectively for a much longer time than would be normal without insulation and which also prevents the user's hand from contacting the water of condensation forming on a drinking utensil containing a cold drink and which prevents dripping of said water condensation on a table or the like support surface.

It is a general object of the present invention to provide a jacket of the character described, which is so arranged as to fit drinking utensils of various shapes and sizes.

Another object of the invention is to provide a jacket of the character described, which normally covers the drinking utensils without solution of continuity at the jacket surface, despite the fact that said jacket is arranged to fit various sizes and shapes of drinking utensils.

Another object of the invention is to provide an insulating jacket of the character described, which substantially closely fits the surface of the drinking utensil, thus providing good heat insulation and which will not slip off the drinking utensil, because the pressure exerted by the user's hand on the jacket causes the jacket to be pressed against the utensil surface.

Another object of the present invention resides in the provision of an insulating jacket of the character described, which can be stored in flat condition to take up a minimum of room when not used and which can be stacked in nested condition one jacket within the other.

Another object of the invention resides in the provision of an insulating jacket of the character described, which is arranged to be easily fitted over and removed from drinking utensils of various sizes and shapes, including beaded cans.

Yet another object of the invention is to provide an insulating jacket of the character described, which can be molded in a one piece in a shallow mold.

The foregoing and other objects of the present invention will become more apparent during the following disclosure and by referring to the drawings, in which:

FIG. 1 is a side elevation of a beer bottle provided with the jacket in accordance with the invention;

FIG. 2 is a vertical section taken along line 2—2 of FIG. 1;

FIG. 3 is a plan view of the jacket in flattened condition;

FIG. 4 is a top plan view of the jacket in which the side wall leaves or elements are partially overlapped, so that if the jacket in this condition was seen in vertical section, it would be flaring upwardly;

FIGS. 5 and 6 are partial vertical sections, on an enlarged scale, showing a bottom corner of the jacket in two different positions taken when a can is completely fitted within the jacket and upon removal of the can;

FIG. 7 is a partial plan view of the jacket in partially flattened condition;

FIG. 8 shows the jacket in schematic vertical section assuming various shapes in accordance with various diameters and shapes of the drinking utensil used therewith; and

FIG. 9 is a partial vertical section, on an enlarged scale, of a bottom corner of the jacket showing the hinge membrane.

The jacket in accordance with the invention is generally indicated at A and is adapted to fit and surround a drinking utensil, such as a beer bottle B. The jacket is made of heat insulating material, such as closed cell polystyrene foam, having, for instance, a density of 4 to 10 pounds per cubic foot, such foam normally having an insulating property measured by an insulating factor K equal to about 0.24. The jacket is therefore made of a substantially rigid material. It is composed of a bottom 1 which has the shape of a regular polygon, for instance an octagon, as shown in FIG. 3, with straight side edges 2 equally inclined with respect to one another.

A plurality of side wall elements 3, which are separate from each other, are adapted to form the side wall of the jacket. Each side wall element 3, which is substantially rigid, has a generally rectangular shape defined by straight longitudinal side edges 4, 5, an outer transverse edge 6 and an inner transverse edge 7. One inner corner of each side wall element may be cut off to define a bevelled edge 8 joining the inner end of side edge 5 with inner transverse edge 7. The side wall element 3 is composed of two longitudinal sections, of equal thickness, which are offset with respect to each other across the thickness of the element. These two sections are preferably integrally formed, being connected by an integral bridge 9. Section 10, which is provided with the bevelled edge 8, has an inner surface 11 which is raised with respect to inner surface 12 of the other longitudinal section 13 to an extent equal to the thickness of the sections. The two inner surfaces 11 and 12 form a radial stop 14. Similarly, the outer surface of section 10 is recessed with respect to outer surface of section 13, there being defined a step 17 between these outer surfaces. All of the side wall elements 3 are of similar shape and construction and they all have a partially cylindrical shape so as to define a cylindrical sleeve when the longitudinal side edges 4 and 5 are parallel to one another.

Each side wall element 3 is hinged to the bottom 1 by a thin highly flexible hinge membrane 18. Each membrane is transversely flat and connects along a straight edge to the straight side edge 2 of bottom 1 and also along a straight edge to the inner transverse edge 7 at the portion thereof corresponding to radially outer section 13 of the side wall element 3. Each hinge membrane has an appreciable length and is provided at its inner surface with a plurality of spaced parallel V-shaped grooves 19, also parallel to the side edge 2. Thus, the hinge membrane can be folded along anyone of the grooves 19 or along its junction with bottom 1 or with side wall element 3. The inner transverse upper and lower edge portions of side wall element inner section 10 are rounded, as shown at 20 and 20' in FIGS. 2, 5, 6, and 9. The outer surface of section 13 is provided with a pair of transverse grooves 21 longitudinally spaced from each other and adapted to receive elastic bands 22, the grooves 21 being in register from section to section when the elements 3 are in upright position. Bands 22 completely surround jacket A.

The jacket can take a substantially flat position, as shown in FIG. 3, with all the side wall elements 3 completely opened and lying in a substantially common plane, which is also the plane of the bottom 1. Thus, the

jacket can be easily molded in a substantially flat shallow mold. The cut-out portions defining the bevelled edge 8 separate one element from an adjacent one. The extent of the bevel will vary in accordance with the length of the hinge membrane 18 and will entirely disappear if hinge membrane 18 is sufficiently long. Several jackets can be stacked and shipped in flattened condition to take up a minimum of room. To set up a jacket, the side wall elements 3 are pivoted about their respective hinge membrane 18 with section 10 overlapping the inside surface of the section 13 of an adjacent side wall element 3, as clearly shown in FIG. 4. Once the side wall elements are in upright position, elastic bands 22 are inserted within the registering grooves 21, all around the jacket, whereby the side edge 5 of one side wall element will abut against the step 14 of an adjacent side wall element and, similarly, the side edge 4 of the same side wall element will abut against the step 17 of the other adjacent element 3. In this condition, the jacket is of tubular cylindrical shape and has a minimum of diameter, as shown at Aa in FIG. 8.

It will be noted that all of the elements 3 overlap each other and that the bevelled edges 8 are normally hidden from view by the outer section 13 of the adjacent side wall element.

A drinking utensil, such as a beer bottle B, is easily inserted within the set-up jacket. The bottom of the beer bottle B is simply pressed against the top rounded edge of the side wall elements 3 which simply open up against the action of elastic bands 22 and automatically take the diameter of the bottle B or other drinking utensils. The jacket can fit drinking utensils of various diameters within a wide range, as shown at Aa, Ab, and Ac in FIG. 8. The hinge membrane 18 simply folds along one or the other of grooves 19 or at the junction between the membrane and the side element for the largest diameter, as shown at Ac, and along the junction of the hinge membrane with the bottom for a minimum diameter.

The transverse curvature of the inner surface of inner section 10 is preferably chosen to fit a cylindrical drinking utensil having a diameter corresponding to the mean diameter of the jacket A, mid-way between its minimum and maximum diameters.

Obviously, the jacket can fit drinking utensils having a downwardly tapering shape, such as a drinking glass, or an upwardly tapering shape, as shown at Ad and Ae respectively in FIG. 8. For drinking utensils of larger diameter, it is easy to spread the side walls 3 apart at their top portion to insert the drinking utensil therein.

When the drinking utensil has a lower bead, such as a can, as shown at C in FIGS. 5 and 6, the bottom of the can, when pressed against the jacket bottom 1, has its bead D freely extending within the space 23 defined by the thin hinge membrane 18, whereby the inner surface of section 10 can still contact the side surface of the can. When inserting and removing the can, the bead D simply moves along the rounded edge 20' 20 and respectively of the inner section 10.

It will be noted that the jacket presents no solution continuity at its outer surface, that it completely covers the drinking utensil in the area of the jacket for most sizes of drinking utensils, except those in the maximum diameter range, because of the overlapping condition of the side wall elements 3. In the maximum range of diameters, only small triangularly shaped windows may appear due to the presence of bevelled edge 8, if any.

This bevelled edge is necessary when the jacket is molded in flat shape, as shown in FIG. 3. The jackets, when taking the shape Ad of FIG. 8, can be nested one within the other. The jacket cannot slip off the drinking utensil due to the presence of the elastic bands 22 pressing the side wall elements 3 against the drinking utensil surface. The user's hand, while holding the jacket also presses the jacket against the drinking utensil. Because the user's hand cannot touch the drinking utensil surface while grasping the jacket, he will not burn himself or get his hand wet due to the presence of condensation water on the cold bottle surface.

What I claim is:

1. A jacket for use with drinking utensils and made of heat insulating material comprising a bottom having the shape of a regular polygon, a side wall composed of a plurality of separate side wall elements, each independently hinged to a straight side edge of said polygonal bottom, each side wall element of an elongated shape, said side wall elements capable of taking an inclined as well as a perpendicular position with respect to the bottom to substantially fit tapered as well as non-tapered drinking utensils, each side wall element further being of generally rectangular shape and formed of two longitudinal sections disposed side by side and offset one with respect to the other across their thickness, one section only being hinged to the bottom and the other section laterally extending from said hinged section, said side wall elements overlapping each other in their upright condition.

2. A jacket as claimed in claim 1, wherein the outer section is hinged to said bottom.

3. A jacket as claimed in claim 2, wherein the inner corner of the inner section is bevelled, so as to separate said inner section from an adjacent outer section in flattened condition of the jacket with the side wall elements lying in substantially flat plane containing said bottom.

4. A jacket as claimed in claim 1, wherein said side wall elements are hinged to the respective straight side edges of said bottom by means of a hinge membrane, which is thin and flexible and capable of folding along different fold lines parallel to the associated bottom side edge and increasingly spaced therefrom.

5. A jacket as claimed in claim 4, wherein said hinge membrane is thinner than said bottom and said side wall elements and is provided at its inside surface with a plurality of grooves parallel to said bottom side edge and spaced from one another end defining said fold lines.

6. A jacket as claimed in claim 1, wherein the upper and lower transverse edges of said inner section are rounded and said hinge membrane is attached to the lower edge of the outer section of the side wall element.

7. A jacket as claimed in claim 2, made of a single molded piece of plastic foam.

8. A jacket as claimed in claim 1, wherein said side wall elements are provided each with at least one groove adapted to register with the groove of adjacent side wall elements and an elastic band fitting within said groove and surrounding the jacket to press said side wall elements radially inwardly towards the center of the jacket.

9. A jacket as claimed in claim 2, wherein said side wall elements are provided each with at least one groove adapted to register with the groove of adjacent side wall elements and an elastic band fitting within said groove and surrounding the jacket to press said side wall elements radially inwardly towards the center of the jacket.

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