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(54) EXPANDABLE BEVERAGE CUP INSULATOR

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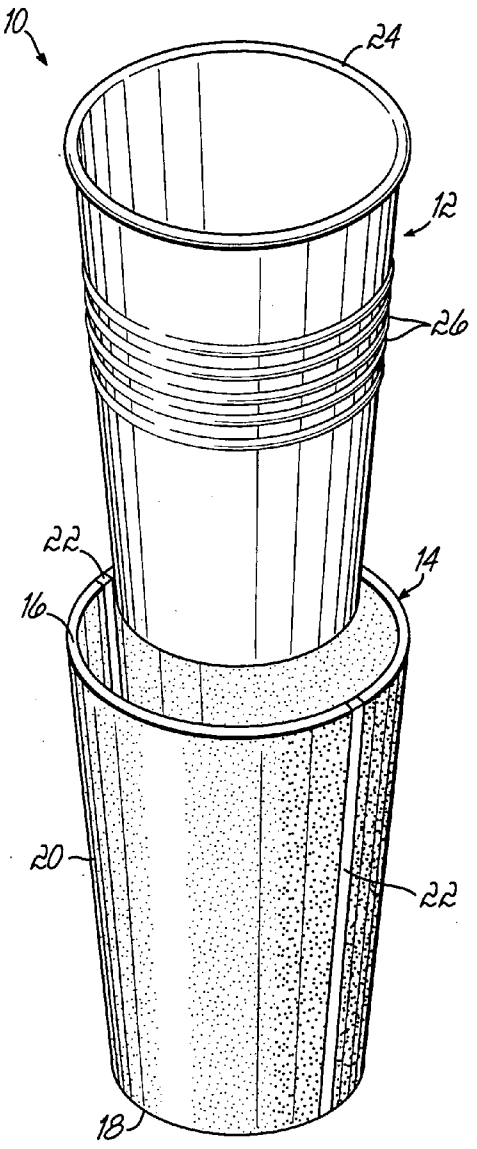
(57) **ABSTRACT**

An insulator for beverage container includes flexible, insulating panels held together by elastic strips. The panels are held together to form a generally conical shape with an opening for receiving and supporting the beverage container. The elastic strips stretch to allow the insulator to expand to accept beverage containers of different sizes and shapes.



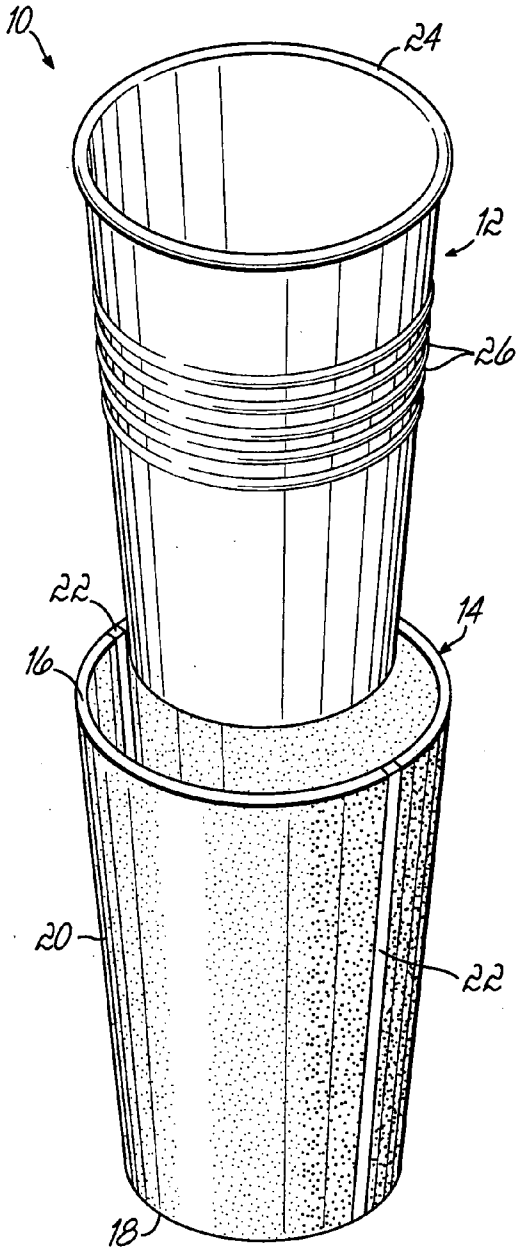


FIG. 1

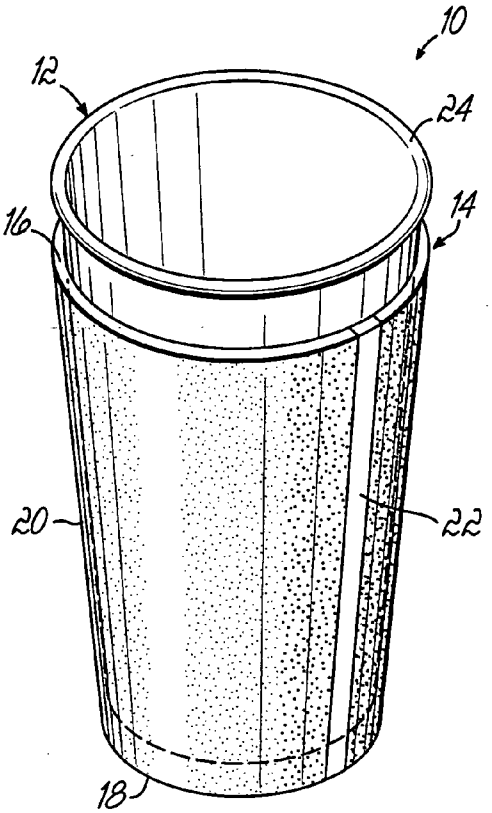


FIG. 2

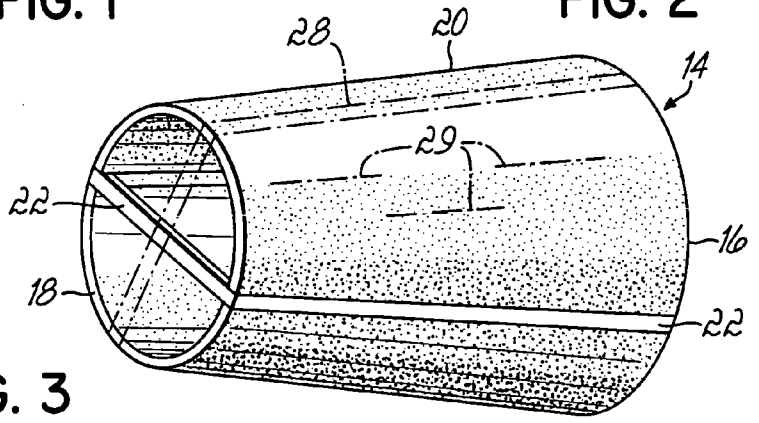


FIG. 3

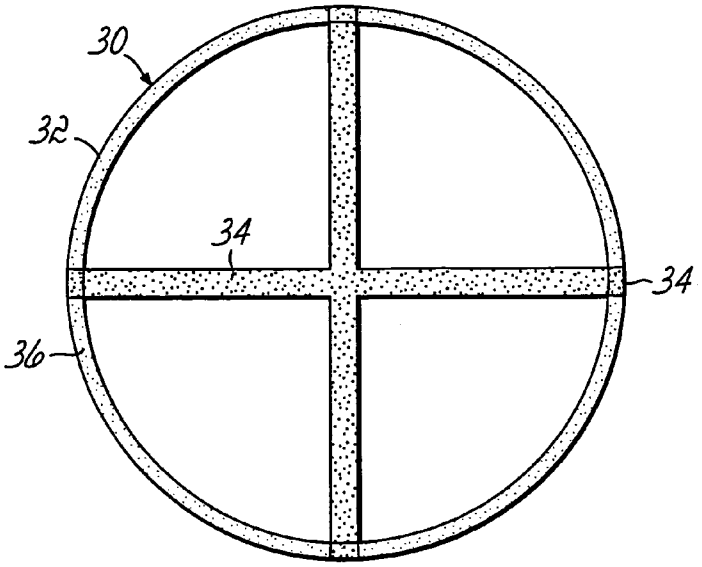


FIG. 4A

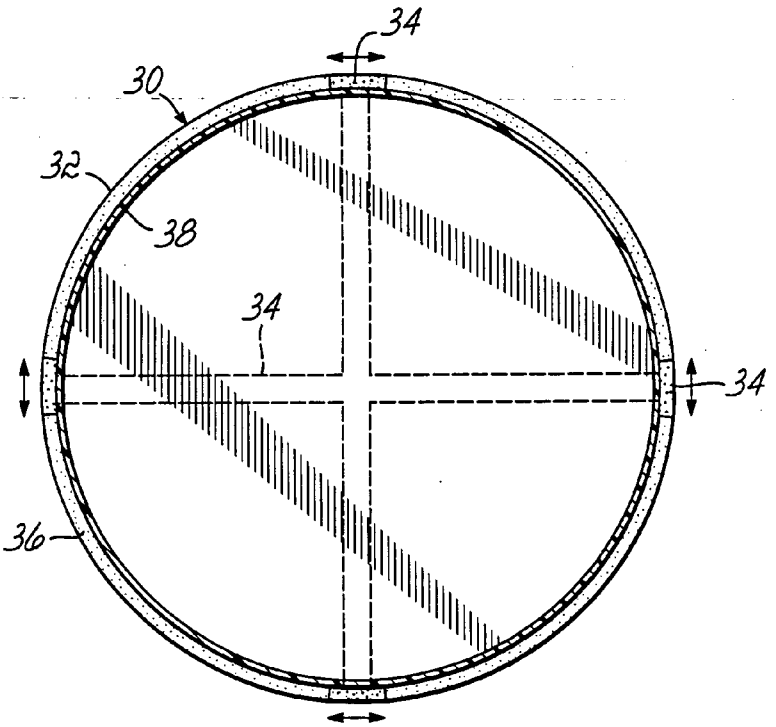


FIG. 4B

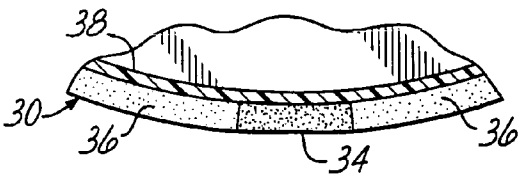


FIG. 4C

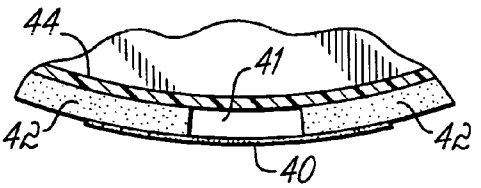


FIG. 4D

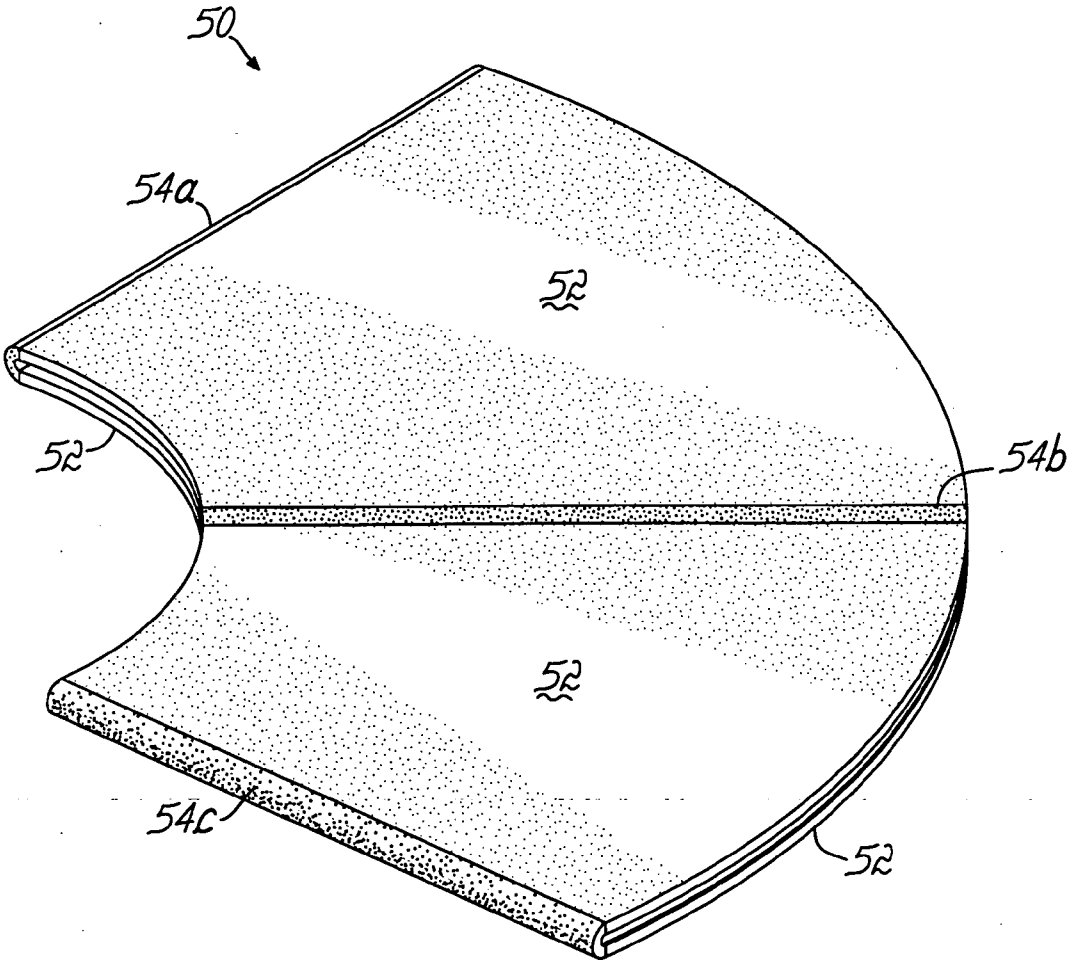


FIG. 5

EXPANDABLE BEVERAGE CUP INSULATOR

RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Application No. 60/562,805 filed on Apr. 16, 2004, the entire disclosure of which is hereby incorporated by reference herein.

FIELD OF THE INVENTION

[0002] The present invention relates generally to a holder for a beverage, and more particularly, to a thermal insulator for a beverage container.

BACKGROUND OF THE INVENTION

[0003] Known cup insulators thermally insulate cold or hot beverages and allow consumers to comfortably handle the cup or other container. To this end, such insulators commonly include insulating sidewalls joined together to form a tube into which a beverage container slides. For instance, a foam, rectangular sidewall may be glued together at its two, opposite edges to form an insulating tube. In some instances, the sidewalls are constructed from an expandable material, such as neoprene, that allows the dimensions of the insulator to stretch along the sidewalls to accommodate slightly different cup sizes.

[0004] Although such conventional insulators generally succeed in insulating cups having sizes and shapes for which the insulators were designed, the range of sizes and types of cups accommodated by such conventional insulators remains relatively limited. For instance, conventional foam insulators expand very little to accommodate different container sizes. Moreover, conventional insulators have straight edges that are not shaped to fit conically shaped beverage cups that taper down from their rims. That is, conventional insulators are generally designed to fit only containers that have straight edges, such as a soda can.

[0005] Conventional insulators may also not be used effectively with other beverage container types, such as "stadium cups." Because such cups are meant to be disposable, they are constructed from relatively inexpensive and flimsy plastic. This plastic material can be crushed or deformed by forces communicated by conventional insulator walls that must be stretched to fit the container.

[0006] There is consequently a need for a beverage cup insulator that can adapt to a wider range of beverage container sizes and shapes.

SUMMARY OF THE INVENTION

[0007] The above stated problems of the prior art are addressed by an improved beverage container insulator that includes an insulating panel made of an insulating material. A connecting end of the insulating panel is attached to an elastic strip. The material comprising the elastic strip is typically more stretchable and supple than the insulating material comprising the panel. The elastic strip attaches to the connecting end of the insulating panel so as to form a generally cylindrical holder that has an opening for receiving a beverage container.

[0008] The specific shape of the generally cylindrical holder may vary from precisely cylindrical to more conical, or tapered. In one preferred embodiment, the insulating panel is made from neoprene, and the elastic strip comprises spandex fibers. The thermal insulator may be collapsible for easy transport and stowage, and reversible for aesthetic considerations. Where desired, the insulator may include a base and/or a lid.

[0009] Various additional advantages, objects and features of the invention will become more readily apparent to those of ordinary skill in the art upon consideration of the following detailed description of embodiments taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate embodiments of the invention and, together with a general description of the invention given above, and the detailed description of the embodiments given below, serve to explain the principles of the invention.

[0011] **FIG. 1** shows a cup apart from an insulator having elastic strips that are consistent with the principles of the present invention.

[0012] **FIG. 2** shows the cup of **FIG. 1** fitted inside the insulator with the elastic strips stretched to accommodate the dimensions of the cup.

[0013] **FIG. 3** shows the insulator of **FIG. 1** taken from the perspective of its base and side.

[0014] **FIG. 4A** shows a top view of an insulator that is consistent with the principles of the present invention.

[0015] **FIG. 4B** shows a top view of the insulator of **FIG. 4A** stretched to fit a cup.

[0016] **FIG. 4C** shows an exploded view of an elastic strip of **FIG. 4C**.

[0017] **FIG. 4D** shows an exploded view of another embodiment of an elastic strip of an insulator that is consistent with the principles of the present invention.

[0018] **FIG. 5** shows an insulator that has been reversibly collapsed in a manner that is consistent with the principles of the present invention for storage and/or transport.

DETAILED DESCRIPTION OF THE INVENTION

[0019] The various embodiments of the present invention include an insulator having flexible, insulating panels held together by elastic strips. In one embodiment, the panels are held together to form a generally conical shape with an opening for receiving a beverage container. The elastic strips stretch to allow the insulator to expand to accept beverage containers of different sizes and shapes. For instance, the same insulator may be used to fit either a twenty or thirty-two ounce cup.

[0020] **FIG. 1** shows a cup **12** and an insulator **14** having elastic strips **22** that are consistent with the principles of the present invention. The insulator **14** includes insulating panels **20** held together by the elastic strips **22** to form a generally conical shape having top and bottom portions **16** and **18**, respectively. The elastic strips **22** and panels **20** cooperate to form, expand, and/or compress to conform to an appropriate size for holding a beverage container.

[0021] An elastic strip **22** for purposes of this specification comprises an elastic material configured to stretch and to be attached to a panel. An exemplary elastic strip may comprise spandex fibers, such as INVISTA Corporation's Lycra® or Elaspan®, but other expandable materials may be additionally or alternatively used. In most cases, the elastic strips **22** are more elastic and/or supple than the panels **20**, which may otherwise also be stretchable and flexible. Neoprene material may be used to construct the panels **20** of one preferred embodiment of the invention. One skilled in the art will appreciate that other materials, including foam, may alternatively or additionally be used. Where desired, panels **20** and/or elastic strips **22** may include colors and graphics. Moreover, the insulator **14** may be reversible, i.e., turned inside out to display different colors and graphics.

[0022] The cup **12** shown in **FIG. 1** is a typical stadium cup having a lip **24** and grooves **26**, as are commonly known. Where so configured, the lip **24** may rest on the upper surface **16** of the insulator **14**, and/or the sides of the cup **12** may be supported by the panels **20** of the insulator **14**. The insulator **14** generally tapers down from the top surface **15** in a manner that is similar to that of the cup **12**. In this manner, the insulator **14** may conform to different sizes and shapes of beverage containers that are generally tapered. Moreover, the top portion **16** of the insulator **14** may be folded or rolled down to better fit shorter beverage containers. In this manner, the insulator **14** may adapt vertically and horizontally to fit different beverage containers.

[0023] The elasticity of the elastic strips **22** may allow relatively more rigid material to be used for the panels, translating into greater structural support provided by the panels for the cup. For instance, panels reduce the strain on thin-walled cups, as compared to conventional insulator sidewalls that have no elastic strips. When not stretched, the width of an exemplary elastic strip may be greater than about one millimeter. The width and length of the elastic strip may expand as necessary, e.g., several centimeters, to accommodate cups of different sizes and shapes.

[0024] **FIG. 2** shows the cup **12** of **FIG. 1** fitted inside the insulator **14** with the elastic strips **22** stretched to accommodate the dimensions of the cup **12**. The elastic strips **22** may be attached to a panel **20** by any known means, not limited to adhesives, heat bonding or stitching.

[0025] **FIG. 3** shows the insulator **14** of **FIG. 1** from the perspective of its base and side. As shown in **FIG. 3**, a base **18** includes a strap comprising an elastic strip **22**. The strip **22** provides additional support for a beverage container seated within the insulator **14**. The base **18** may be expandable to accommodate different container bottoms. In another embodiment, panel material may comprise part or all of the base to provide additional insulation. Dashed lines **28** shown in **FIG. 3** denote where an additional elastic strip may be used to provide additional stretching and/or support. In another embodiment, the bottom portion of the insulator may be left open, i.e., not having a bottom panel and/or an elastic strap.

[0026] Dashed lines **29** shown in **FIG. 3** represent slits or other apertures that may be made into the surface of the panel **20**. The apertures would allow the insulator **14** to further expand by virtue of the panel **20** having greater give. In another embodiment, the apertures could be used without the elastic strips **22**, e.g., where the insulator is made of a single material with a sewn or glued seam.

[0027] **FIG. 4A** shows a top view of an insulator **30** that is consistent with the principles of the present invention. The insulator **30** includes panels **32** attached using elastic strips **34**. The elastic strips **34** cross at the bottom of the insulator **30** for additional container support and insulator stretching. The insulator **30** shown in **FIG. 4A** does not taper down from its top surface **36**. As such, the insulator **30** may have particular application for a can or straight edged bottle.

[0028] **FIG. 4B** shows the insulator **30** of **FIG. 4A** stretched to fit an inserted cup **38**. For purposes of this specification, "cup" may be used interchangeably with "beverage container" where appropriate. Moreover, a beverage container may include any container having at least a base and sidewalls to contain a fluid. As shown in **FIG. 4B**, the elastic strips **34** have expanded to conform to the dimensions of the inserted cup **38**. **FIG. 4C** shows an exploded view of an elastic strip of **FIG. 4C**.

[0029] **FIG. 4D** shows an exploded view of another embodiment of an elastic strip of an insulator that is consistent with the principles of the present invention. An elastic strip **40** is attached to and hold together two panel ends **42**. The elastic strip **40** overlaps the panel ends **42** on a side of the panels opposite the inserted beverage container **44**, forming space **41**.

[0030] **FIG. 5** shows an insulator **50** that has been reversibly collapsed in a manner that is consistent with the principles of the present invention for storage and/or transport. That is, the panel construction of the insulator **50** allows it to collapse and lay flat. More particularly, the panels **52** cooperate with the elasticity of the elastic strips **54***a*, **54***b* and **54***c* to fold flatly for convenient transport and stowage.

[0031] While the present invention has been illustrated by a description of various embodiments and while these embodiments have been described in considerable detail, it is not intended to restrict or in any way limit the scope of the appended claims to such detail. For instance, though shown primarily in the context of stadium cups, one skilled in the art will appreciate insulators that are consistent with the invention may additionally be configured to accommodate cans and bottles. Additional advantages and modifications will readily appear to those skilled in the art.

[0032] The invention in its broader aspects is therefore not limited to the specific details, representative apparatus and method, and illustrative example shown and described. For example, while an elastic strip typically connects multiple panels, an elastic strip of another embodiment may connect a single panel or may attach to an adjacent elastic strip. Though not shown, another embodiment may incorporate a lid that may include a panel and/or elastic strip for securing and/or insulating the beverage. Accordingly, departures may be made from such details without departing from the spirit or scope of the general inventive concept.

What is claimed is:

1. A thermal insulator comprising:

an insulating panel comprising an insulating material and having a connecting end; and

an elastic strip comprising an elastic material that is more elastic than the insulating material and is configured to attach to the connecting end so as to form a generally cylindrical holder having an opening for receiving a beverage container.

2. The thermal insulator of claim 1, wherein the generally cylindrical holder tapers down from the opening.

3. The thermal insulator of claim 1, wherein the insulating panel comprises a neoprene material.

4. The thermal insulator of claim 1, wherein the elastic strip comprises spandex fibers.

5. The thermal insulator of claim 1, wherein the panel and the elastic strip are configured to be reversible.

6. The thermal insulator of claim 1, wherein the elastic strip has a width greater than about one millimeter when relaxed.

7. The thermal insulator of claim 1, wherein the elastic strip is configured to stretch to a width of over about two millimeters.

8. The thermal insulator of claim 1, further comprising a base.

9. The thermal insulator of claim 8, wherein the base comprises a strap.

10. The thermal insulator of claim 9, wherein the strap comprises at least one of the elastic strip or a second elastic strip.

11. The thermal insulator of claim 8, wherein the base is constructed from an expandable material.

12. The thermal insulator of claim 1, further comprising a lid configured to fit over the opening.

13. The thermal insulator of claim 1, wherein the elastic strip overlaps a portion of the connecting end of the insulating panel.

14. The thermal insulator of claim 1, wherein the elastic strip abuts the connecting end of the insulating panel.

15. The thermal insulator of claim 1, wherein the insulating panel comprises a neoprene material.

16. The thermal insulator of claim 1, wherein the insulating panel comprises a an aperture that increases an ability of the insulating panel to stretch to accommodate the beverage container.

17. The thermal insulator of claim 1, wherein the thermal insulator is collapsible.

18. A thermal insulator comprising:

an insulating panel comprising an insulating material, wherein the insulating panel is configured to be formed into a generally cylindrical holder having an opening for receiving a beverage container, and wherein the insulating panel includes an aperture that increases an ability of the insulating panel to stretch to accommodate a beverage container.

* * * * *