A beverage container cooling apparatus comprising a compression sleeve and a cooling pad. The compression sleeve having an outer sleeve of a substantially circular configuration. The outer sleeve being of an insulative and a resilient material. The cooling pad comprises a separate material having a plurality of polymer film sheets joined together by a plurality of seals which define a plurality of cavities filled with a fluid that can be cooled. The cooling pad extends about a beverage container and the compression sleeve extends about the cooling pad. In turn, the sleeve maintains the cooling pad against the beverage container. The plurality of seals facilitate the bending of the cooling pad to conform to the beverage container around which the cooling pad extends.
BEVERAGE CONTAINER COOLING APPARATUS

BACKGROUND OF THE DISCLOSURE

[0001] 1. Field of the Disclosure

The disclosure relates in general to an insulating and cooling device, and more particularly, to a beverage container cooling apparatus.

[0002] 2. Background Art

The use of cooling and insulating apparatuses are well known in the art. A number of different apparatuses have been developed in an effort to maintain a beverage container cool. Amongst these solutions are those identified in U.S. Pat. Nos. 4,831,842; 5,361,605; 4,898,418; 4,835,985; 5,564,568; 4,653,290; 5,934,100; and 4,514,993. While these solutions have been beneficial, there have been drawbacks.

[0003] Specifically, some of these solutions have been overly complicated. Others have been too cumbersome and difficult to store and deploy. Still others have been too costly to provide an efficient means by which to cool and insulate containers that are typically between one and fifteen gallons.

[0004] It is an object of the invention to provide for an improved cooling and insulating apparatus.

[0005] This object as well as other objects of the present invention will become apparent in light of the present specification, claims, and drawings.

SUMMARY OF THE DISCLOSURE

[0006] A beverage container cooling apparatus comprising a compression sleeve and a cooling pad. The compression sleeve having an outer sleeve of a substantially circular configuration. The outer sleeve being of an insulative and a resilient material. The cooling pad comprises a separate material having a plurality of polymer film sheets joined together by a plurality of seals which define a plurality of cavities filled with a fluid that can be cooled. The cooling pad extends about a beverage container and the compression sleeve extends about the cooling pad. In turn, the sleeve maintains the cooling pad against the beverage container. The plurality of seals facilitate the bending of the cooling pad to conform to the beverage container around which the cooling pad extends.

[0007] The beverage container cooling apparatus provides both insulation and cooling (wherein both the compression sleeve and the cooling pad are utilized) by compressing the compression sleeve against the container and squeezing the cooling pad therebetween.

[0008] In a preferred embodiment, the compression sleeve includes an inner sleeve within the outer sleeve. The inner and outer sleeves are coupled together along a respective lower end of each of the inner and outer sleeves to form a circular compression sleeve, and defining a pocket, the cooling pad positioned within the pocket.

[0009] In another embodiment, a seam extends substantially vertically between a lower end of the outer and inner sleeves to the upper end of the outer and inner sleeves, to, in turn, additionally couple the inner and the outer sleeve to each other.

[0010] In another embodiment, the outer sleeve is substantially more insulative than the inner sleeve.

[0011] Preferably, the outer sleeve comprises a neoprene sleeve.

[0012] In another embodiment, the cooling pad are spaced apart vertically and horizontally from each other so as to define a plurality of substantially rectangular cavities therebetween.

[0013] In another aspect of the invention, the invention comprises a beverage container cooling apparatus comprising a compression sleeve and a separate cooling pad. The compression sleeve has an outer sleeve of a substantially circular configuration and an inner sleeve. The outer sleeve is of an insulative and a resilient material. The inner sleeve is coupled to the outer sleeve along at least a lower end of each of the outer and inner sleeves. The inner sleeve is of a thinner material than the outer sleeve. The outer and inner sleeves together define a pocket therebetween.

[0014] A separate cooling pad comprising a plurality of polymer film sheets is joined together by a plurality of seals which define a plurality of cavities filled with a fluid that can be cooled. The plurality of seals include a plurality of seals in a first direction and a plurality of seals in a second direction. The first direction and the second direction are substantially perpendicular to each other, to, in turn, define a plurality of substantially similarly shaped cavities.

[0015] The cooling pad extends about a beverage container and the compression sleeve extends about the cooling pad, to in turn, maintain the cooling pad against the beverage container. The plurality of seals facilitates the bending of the cooling pad to conform to the beverage container around which the cooling pad extends, and to substantially evenly distribute the fluid about the outer surface of the beverage container.

[0016] In one embodiment, a seam extends substantially vertically between a lower end of the outer and inner sleeves to the upper end of the outer and inner sleeves, to, in turn, additionally couple the inner and the outer sleeve to each other.

[0017] In another embodiment, the first direction is substantially horizontal and the second direction is substantially vertical, to, in turn, define substantially rectangular cavities.

[0018] Preferably, the upper end and the lower end are tapered.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] The disclosure will now be described with reference to the drawings wherein:

[0020] FIG. 1 is a side elevational view of a kug having the beverage container cooling apparatus;

[0021] FIG. 2 is a side elevational view of a kug configured for use with the present invention (it will be understood that this is not the only kug which is suitable for use with the present apparatus, but that it is used for illustrative purposes only);

[0022] FIG. 3 is a partial perspective view of the compression sleeve of the present invention showing the cooling pad inserted therein;

[0023] FIG. 4 is a partial perspective view of the compression sleeve of the present invention;

[0024] FIG. 5 is a partial perspective view of the compression sleeve of the present invention;

[0025] FIG. 6 is a top plan view of the cooling pad configured for use with the present invention; and
FIG. 7 of the drawings is a graphical representation of the results of testing data on three different configurations of kegs.

**DETAILED DESCRIPTION OF THE DISCLOSURE**

[0029] While this invention is susceptible of embodiment in many different forms, there is shown in the drawings and described herein in detail a specific embodiment with the understanding that the present disclosure is to be considered as an exemplification and is not intended to be limited to the embodiment illustrated.

[0030] It will be understood that like or analogous elements and/or components, referred to herein, may be identified throughout the drawings by like reference characters. In addition, it will be understood that the drawings are merely schematic representations of the invention, and some of the components may have been distorted from actual scale for purposes of pictorial clarity.

[0031] Referring now to the drawings and in particular to FIG. 1, the beverage container cooling apparatus is shown generally at 10. While not particularly limited in size, the beverage containers that are contemplated for use in association with the apparatus comprise containers that are one gallon or larger. With additional reference to FIG. 2, one particular contemplated container is a keg offered by Heineken which is self pressurized and of a five liter size. Home brew containers, either one gallon jugs, larger (3+ liter) kegs, pony kegs and even standard beer kegs are contemplated as the container. Indeed, the invention is particularly well suited to beer containers, but not limited thereto.

[0032] Specifically, and with reference to FIG. 3, the beverage container cooling apparatus includes compression sleeve 12 and cooling pad 14. Continuing to FIGS. 4 and 5, the compression sleeve includes an outer sleeve 20 and an inner sleeve 22. The outer sleeve includes upper end 26a and lower end 28a. The inner sleeve includes upper end 26b and lower end 28b. In the embodiment shown, the upper end 26b of the inner sleeve is spaced apart from the upper end 26a of the outer sleeve so that the inner sleeve is essentially shorter than the outer sleeve. The lower ends 28a, 28b of the two sleeves are stitched together so that the two sleeves form a pocket 24. In the embodiment shown, the outer and inner sleeves are formed from a planar material. As such, when turned into a sleeve, a seam 29 is formed when the ends of the planar material are joined. In such an embodiment, the pocket is defined by the seam 29 and the lower ends of the two sleeves 28a, 28b that are joined together.

[0033] It is contemplated that the beverage cooling apparatus may be substantially circular in configuration, which leads to a substantially cylindrical configuration. In other embodiments, the bottom and top ends may be tapered, such that the cylindrical configuration has a smaller radius at either end. Such a configuration not only follows the contours of the container, but tends to provide a tighter grip on the underlying container at the respective ends, thereby further limiting inadvertent movement of the compression sleeve relative to the underlying container.

[0034] In other embodiments, a number of pockets can be created by providing additional stitching between the two sleeves. In still other embodiments, the two sleeves can be formed from tubular members that are seamless. As such, the pocket can be defined by the lower seam only and can be a continuous substantially circular pocket. Additionally, in the embodiment shown, the inner and outer sleeves are substantially contiguous (other than the inner sleeve is shorter than the outer sleeve). In other embodiments, this can be varied, so that the inner and outer sleeves are not contiguous (i.e., the inner sleeve—or sleeves)—can be smaller than the outer sleeve.

[0035] The inner and outer sleeves are formed from an elastic material. In the embodiment shown, for the outer sleeve, a woven neoprene based material is contemplated for use. The neoprene material has insulative properties, while having a resilience. As will be explained, the resilience allows for the neoprene material to tightly follow the contours of the outer container. While other materials are contemplated (i.e., one or multipart materials), the woven neoprene has been found to have exceptional properties. It is contemplated that the outer sleeve may also comprise a fleece material in place of neoprene, or in addition to the neoprene material. The outer sleeve is typically substantially thicker than the inner sleeve, such that the inner sleeve is more flexible. For example, the inner sleeve may comprise a single ply woven material, such as a nylon or the like.

[0036] The cooling pad 14 is shown in FIG. 6 as comprising two layers of polymer based film, a first layer 30 and a second layer 32. The first and second layers are coupled to each other by way of a plurality of seams 34. The plurality of seams, in the embodiment shown, comprise a number of parallel horizontal seams and a number of parallel vertical seams. Due to the spacing, a plurality of substantially rectangular cavities 36 are formed by the film and the seams. It will be understood that the seams are positioned so as to allow the material to bend and flex therearound. In turn, the cooling pad can follow the contours of the container around which it will be positioned. It will be understood that the spacing and positioning of the seams, as well as the size of the cavities can be determined through experimentation.

[0037] Each of the cavities of the cooling pad 14 are filled with a fluid. A number of different fluids are contemplated for use. The particular cooling fluids must be compatible with the plastic film and should not crack or otherwise compromise the cavities during phase change between solid and liquid. Furthermore, the fluid should not permeate the film material itself. In the embodiment shown, the fluid comprises a clear fluid having a viscosity slightly greater than water. Of course, water, or another suitable substance can also be used.

[0038] In operation, a user first cools the cooling pad 14 and the beverage container 100. Once these have been cooled to the desired temperature, the cooling pad can be positioned within the pocket 24 of the compression sleeve 12. The compression sleeve with the cooling pad can then be provided over the beverage container.

[0039] In other embodiments, the compression sleeve can be utilized without utilizing the cooling pad. In still other embodiments, another material may be positioned between the two sleeves.

[0040] Certain testing was carried out to determine the efficacy of the presently contemplated invention. In particular, the cooling pad (referred to as the ice blanket in FIG. 7) was cooled. The beginning temperature of the beverage container was 41° F. Three different tests were undertaken. In the first test, a plain keg was left outside in ambient conditions of 72° F. In the second test, a keg having only the compression sleeve (referred to as the keglove in FIG. 7) was left outside in ambient conditions of 74° F. Finally, in a third test, a keg having a compression sleeve with the cooling pad was left
outside in ambient conditions of 74°F. Hourly temperatures were recorded and graphically represented in FIG. 7.

[0041] Over a period of three hours, the uninsulated keg increased in temperature over 14 degrees. At the same time, the keg having only the compression sleeve increased in temperature by 9.7 degrees. Finally, the keg having the compression sleeve and the cooling pad increased in temperature only 2.9 degrees. Over the first three hours, the keg having the compression sleeve and cooling pad increased only 1.1 degrees in temperature. Overall, the keg having the apparatus of the invention performed remarkably better than a keg not having any insulation. Furthermore, the keg having the cooling pad of the present invention further exhibited greater cooling performance than the keg with only the compression sleeve.

[0042] The foregoing description merely explains and illustrates the invention and the invention is not limited thereto except insofar as the appended claims are so limited, as those skilled in the art who have the disclosure before them will be able to make modifications without departing from the scope of the invention.

What is claimed is:

1. A beverage container cooling apparatus comprising: a compression sleeve having an outer sleeve of a substantially circular configuration, the outer sleeve being of an insulative and a resilient material; a separate cooling pad comprising a plurality of polymer film sheets joined together by a plurality of seals which define a plurality of cavities filled with a fluid that can be cooled, wherein the cooling pad extends about a beverage container and the compression sleeve extends about the cooling pad, to in turn, maintain the cooling pad against the beverage container, and wherein the plurality of seals facilitates the bending of the cooling pad to conform to the beverage container around which the cooling pad extends.

2. The beverage container cooling apparatus of claim 1 wherein the compression sleeve includes an inner sleeve within the outer sleeve, the inner and outer sleeves are coupled together along a respective lower end of each of the inner and outer sleeves to form a circular compression sleeve, and defining a pocket, the cooling pad positioned within the pocket.

3. The beverage container cooling apparatus of claim 2 wherein a seam extends substantially vertically between a lower end of the outer and inner sleeves to the upper end of the outer and inner sleeves, to, in turn, additionally couple the inner and the outer sleeve to each other.

4. The beverage container cooling apparatus of claim 2 wherein the outer sleeve is substantially more insulative than the inner sleeve.

5. The beverage container cooling apparatus of claim 1 wherein the outer sleeve comprises a neoprene sleeve.

6. The beverage container cooling apparatus of claim 1 wherein the seals of the cooling pad are spaced apart vertically and horizontally from each other so as to define a plurality of substantially rectangular cavities therebetween.

7. A beverage container cooling apparatus comprising: a compression sleeve having an outer sleeve of a substantially circular configuration, the outer sleeve being of an insulative and a resilient material, and an inner sleeve coupled to the outer sleeve along at least a lower end of each of the outer and inner sleeves, the inner sleeve being of a thinner material than the outer sleeve, the outer and inner sleeves defining a pocket therebetween; a separate cooling pad comprising a plurality of polymer film sheets joined together by a plurality of seals which define a plurality of cavities filled with a fluid that can be cooled, the plurality of seals including a plurality of seals in a first direction and a plurality of seals in a second direction wherein the first direction and the second direction are substantially perpendicular to each other, to, in turn, define a plurality of substantially similarly shaped cavities; wherein the cooling pad extends about a beverage container and the compression sleeve extends about the cooling pad, to in turn, maintain the cooling pad against the beverage container, and wherein the plurality of seals facilitates the bending of the cooling pad to conform to the beverage container around which the cooling pad extends, and to substantially evenly distribute the fluid about the outer surface of the beverage container.

8. The beverage container cooling apparatus of claim 7 wherein a seam extends substantially vertically between a lower end of the outer and inner sleeves to the upper end of the outer and inner sleeves, to, in turn, additionally couple the inner and the outer sleeve to each other.

9. The beverage container cooling apparatus of claim 7 wherein the first direction is substantially horizontal and the second direction is substantially vertical, to, in turn, define substantially rectangular cavities.

10. The beverage container cooling apparatus of claim 7 wherein the upper end and the lower end are tapered.

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