A portable thermally insulated bag for maintaining contents thereof in a desired thermal state comprises an enclosure having a plurality of interconnected panels including a top, a bottom, front, back, and sides. The enclosure defines an interior volume for storing items to be kept in a desired thermal state and includes a flexible outer shell, an inner insulative layer, a zipper for at least partially separating one of the panels from the enclosure, and a handle. The bag also has a speaker for communicative connection to a personal playback device and a pocket external to one of the panels and proximate to the speaker. The pocket is sized to receive a personal playback device therein.
BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to thermally insulated bags in general, and more particularly to a portable insulated bag incorporating an integral speaker connectable to a personal music playing device.

[0003] 2. Discussion of the Related Art

[0004] Leisure time for many individuals includes enjoyment of open air and outdoors environments. For some, this may include hikes through a forest or landscaping the back yard. For others, a round of golf or a sightseeing trip is the preferred activity. Frequently, these activities also include the enjoyment of eating snacks or entire meals outdoors. Alternatively, individuals may prepare lunches to be taken to their place of employment as a cost saving measure precluding the expense of daily purchasing a restaurant or cafeteria prepared meal. In other leisure time instances, an individual may desire to bring one or more beverages to a location for use and enjoyment throughout a given time period. In these instances, the beverages are often desired to be kept at a preferred thermal state, either cool or hot. To facilitate maintaining either food or beverage at a desired thermal state, these items are transported and temporarily stored in a portable enclosure that exhibits thermal insulative properties.

[0005] In recent years, personal music playing devices have become increasingly popular. The players permitted the user to privately play pre-recorded selections while listening with headphones or ear buds electronically connected to the player. Initially, these playing devices took the form of magnetic tape players using exchangeable pre-recorded cassettes. As technology evolved, the players were centered on playing pre-recorded compact discs. The latest evolution of personal music players are commonly referred to as "MP3" players or iPods®, generally referring to the recorded format of the individual musical compositions. Instead of receiving pre-recorded tapes or discs, these players have integral electronic memory. The musical compositions for these players are typically electronically transferred to the device's internal memory and may then be selectively played back in any desired sequence or even erased as the user desire. Again, the selections are typically listened by the user over personal headphones or ear buds. As the popularity of these players has expanded, electronic units have also been developed that include amplifiers and stereo type speakers to which the player can be electronically connected so that multiple individuals can listen to the recordings being played.

[0006] However, when an individual wishes to engage in activities wherein the use of both an insulated enclosure for maintaining food or drink in a desired thermal state and also listen to recordings are desired, they must carry both the insulated container and the portable amplification system in addition to other items they may be transporting for a particular activity. In such instances, the exercise becomes cumbersome at best and may require multiple trips of carrying items to the site where they are to be enjoyed. Thus what is desired is a way to minimize the number of items needed to be carried for an outing, and to provide convenience, portability; and ease of use to insulatorively maintain food and drink at a desired thermal state while also providing entertainment for the activity. Specifically, a combination of a thermally insulated enclosure and a means of providing entertainment in a single unit is desired.

SUMMARY OF THE INVENTION

[0007] The present invention is directed to a portable thermally insulated bag that satisfies the need for maintaining contents thereof in a desired thermal state and aids to provide entertainment in a single unit. The portable thermally insulated bag comprises an enclosure having a plurality of interconnected panels including a top, a bottom, front, back, and sides. The enclosure defines an interior volume for storing items to be kept in a desired thermal state and includes a flexible outer shell, an inner insulative layer, a zipper for at least partially detaching one of the panels from the enclosure, and a handle. The bag also has a speaker for communicative connection to a personal playback device and a pocket external to one of the panels and proximate to the speaker. The pocket is sized to receive a personal playback device therein.

[0008] Another aspect of the present invention is a portable thermally insulated bag for maintaining contents thereof in a desired thermal state. The insulated bag includes an enclosure having a flexible outer shell formed of a non-woven material, an inner insulative layer and at least one partially separable panel to access an interior volume defined by the enclosure. Affixed to the enclosure is a handle and a speaker for communicative connection to a personal playback device. A pocket is affixed to the outer shell wherein the pocket is proximate to the speaker and sized to receive a personal playback device therein.

[0009] These and other features, aspects, and advantages of the invention will be further understood and appreciated by those skilled in the art by reference to the following written specification, claims and appended drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] For a fuller understanding of the nature of the present invention, reference should be made to the following detailed description taken in conjunction with the accompanying drawings in which:

[0011] FIG. 1 is a perspective view of portable thermally insulated bag embodying the present invention, wherein the bag includes a speaker and a pocket for a personal playback device;

[0012] FIG. 2 is a perspective view of the portable thermally insulated bag illustrating a cover opened to permit access to an interior;

[0013] FIG. 3 is a cross-sectional view of the portable thermally insulated bag shown in FIG. 2 illustrating the layered construction of the enclosure and the installation of the pocket and speaker;

[0014] FIG. 4A is a perspective view of the portable thermally insulated bag illustrating a cover opened to permit access to an interior and further illustrating pre-defined pleats to aid in collapsing the bag to a folded state;

[0015] FIG. 4B is a perspective view of the portable thermally insulated bag in a partially folded state;

[0016] FIG. 4C is a perspective view of the portable thermally insulated bag in a folded state for convenient storage.
Like reference numerals refer to like parts throughout the several views of the drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

For purposes of description herein, the terms “upper”, “lower”, “left”, “rear”, “right”, “front”, “vertical”, “horizontal”, and derivatives thereof shall relate to the invention as oriented in FIG. 1. However, one will understand that the invention may assume various alternative orientations and step sequences, except where expressly specified to the contrary. While the present invention has been shown and described in accordance with preferred and practical embodiments thereof, one will also recognize that departures from the instant disclosure are fully contemplated within the spirit and scope of the invention. Hence, specific dimensions and other physical characteristics relating to the embodiments disclosed herein are not to be considered as limiting, unless the claims expressly state otherwise.

Turning to the drawings, FIG. 1 shows a portable thermally insulated bag 20 which is one of the preferred embodiments of the present invention and illustrates its various components. Insulated bag 20 generally has an enclosure 22 which is formed of a number of panels typically including a top 24, a bottom 26, a front 28, a back 30, and left and right sides 32 and 34 respectively. Panels 24, 26, 28, 30, 32, 34 are arranged in a rectilinear form thereby defining an interior volume 23 (FIG. 2) although different numbers of panels and geometrical configurations are contemplated herein. A handle 36 is attached to enclosure 22 by straps 38 to aid the user in carrying insulated bag 20. Specifically, the geometry of enclosure 22 can correspond to convenient housing of beverages in 6-pack, 12-pack, 24-pack, or 36-pack sizes common and known within the beverage industry.

Referring now to FIGS. 1-3, additional details of insulated bag 20 are illustrated. Enclosure 22 has an outer shell 44 that is formed of a non-woven material. Non-woven materials such as, but not limited to, felts are well known in the material arts and are neither woven nor knitted. Non-woven material is a fabric-like material made from long fibers extruded from dies. The fibers are randomly accumulated and intertwined in a non-woven manner forming a web-like structure which is then bonded together by chemical, mechanical, heat or solvent treatments. The non-woven fibers being collected from the fiber forming dies are heated by a hot air stream and the material is then further formed by stretching as the fibers are cooled. The resultant non-woven web is collected into rolls for conversion to finished products. The non-woven material of outer shell 44 typically lacks sufficient strength to support the weight of the contents of insulated bag 20. Consequently, straps 38 of handle 36, here shown on front 28, can extend into an interior of enclosure 22 and around bottom 26 to an opposite side, such as back 30, to provide additional support for the carried contents of insulated bag 20. An inner insulative layer 26 is affixed to an interior surface of outer shell 44. Insulative layer 26 generally exhibits properties whereby the transfer of thermal energy is resisted. In this manner, warm or hot items that are of an elevated temperature relative to external ambient conditions are maintained at the elevated temperature longer than if the items were directly exposed to the exterior ambient conditions. Insulative layer 26 resists the transfer of thermal energy from the items through insulated bag 20 to the external ambient conditions. In like manner, items that are cooler than external ambient conditions are maintained at lower temperatures by insulative layer 26 resisting the transfer of thermal energy from the external ambient conditions through insulated bag 20 to the items stored therein. Some common materials used for insulative layer 26 can be bubble foil forming a plurality of trapped air bubbles, or a series of gel packs wherein the enclosed gel layer of the gel pack can be either heated or cooled to assist in maintaining the desired interior thermal conditions. Also, insulative layer 26 can be formed of materials known to be resistive to the transfer of thermal energy such as aluminum foil, polyethylene vinyl acetate (PEVA), polyvinyl chloride (PVC), or other similar materials. Insulative layer 26 also functions to render insulated bag 20 waterproof to prevent items spilled within interior 23 of insulated bag 20 from leaking to the exterior.

Referring again to FIGS. 1-3, one of the panels such as top 24 can be partially separable from enclosure 22 so that a user can access interior volume 23 to place items into or remove items from insulated bag 20. Top 24 can be integrally affixed to or be part of a panel forming top 24 and back 30 and rotates about a crease 42 which functions as a hinge-like area for top 24. Further, top 24 can be selectively fastened to the remainder of enclosure 22 with a zipper 40 extending about a periphery of top 24. Alternatively, zipper 40 can be positioned on front 28 and on sides 32 and 34 near top 24. Zipper 40 can be either a one-way zipper, or a two-way zipper for ease of access.

Insulated bag also has mounted thereto, preferably front 28, a speaker 50, although speaker 50 can be mounted to any of panels 24, 26, 28, 30, 32, 34 as desired by the manufacturer. Specifically, speaker 50 is a low power speaker of any quality that is compatible with being electrically driven by the output of a personal playback device 12 (FIG. 1) such as those generally referred to as an MP3 player or as an iPod®. These players store pre-recorded pieces of entertainment such as musical compositions on internal electronic memory devices for subsequent playback for the enjoyment of the listener. Often the player 12 is listened to with headphones or ear buds, however, the player 12 can also be listened to via a speaker such as speaker 50 so that multiple individuals close to speaker 50 can listen simultaneously. Speaker 50 is permanently affixed to enclosure 22 and is preferably attached to the non-woven outer shell 44 from the interior of enclosure 22. Speaker 50 includes a conductive cable 52 extending therefrom and terminates at a plug 54. Plug 54 is of a known configuration that is compatible to being received in a speaker jack or headphone jack of the personal playback device 12. A pocket 60 is affixed to an exterior of insulated bag 20 proximate to speaker 50 such that the personal playback device 12 can be inserted into slot 62 defined by pocket 60 when attached to speaker 50 with cable 52. In such manner, a user can carry beverages or food or a combination of both in insulated bag 20 and also have a convenient means of listening to personal playing device 12 without being tethered by headphones or ear buds.

Referring now to FIGS. 4A-4C, insulated bag 20 can be folded for convenient packing or storage when not in use to thermally insulate items contained therein. To facilitate the folding of insulated bag 20, left and right sides 32 and 24 respectively include preformed pleats 70, here shown as being in an inverted “Y” configuration. Such a pleat 70 is commonly used in paper “grocery” bags. Also, front 28 includes a horizontal preformed crease 72 close to bottom 26.
[0025] As shown in FIG. 4A, when a user wishes to collapse insulated bag 20 for storage or for ease of empty transport, zipper 40 can be opened and top 24 rotated away from front 28. Left and right sides 32, 34 are then pushed toward one another in an opposing manner to begin collapsing insulated bag 20 with front 28 translating toward back 30 and bottom 26 rotating upwardly at front 28.

[0026] Referring now to FIG. 4B, as insulated bag 20 continues to collapse, preformed pleat 70 folds along crease 74 and bottom 26 continues to rotate upwardly toward top 24 as preformed crease 72 in front 28 folds. This collapsing action continues until bottom 26 is substantially parallel to back 30 as illustrated in FIG. 4C wherein insulated bag 20 is completely collapsed and folded upon itself. Top 24 can be tucked into preformed crease 72 as illustrated or alternatively, top 24 can be lapped over bottom 26. A fastening mechanism such as a hook and loop fastener (not shown) can be used to fasten top 24 to bottom 26 to maintain insulated bag 20 in a folded state until use of bag 20 is again desired. When insulated bag 20 is again desired to be used, bag 20 is unfolded in reverse of the above steps and is again ready to receive items for thermal insulation.

[0027] The above description is considered that of the preferred embodiments only. Modifications of the invention will occur to those skilled in the art and to those who make or use the invention. Therefore, it is understood that the embodiments shown in the drawings and described above are merely for illustrative purposes and are not intended to limit the scope of the invention, which is defined by the following claims as interpreted according to the principles of patent law, including the doctrine of equivalents.

We/I claim:

1. A portable thermally insulated bag for maintaining contents thereof in a desired thermal state, said insulated bag comprising:
   - an enclosure having a plurality of interconnected panels, said panels including a top, a bottom, front, back, left side and right side, said enclosure defining an interior volume for storing items to be kept in a desired thermal state; said enclosure further including:
     - a flexible outer shell;
     - an inner insulative layer;
     - a zipper for at least partially separating one of said panels from said enclosure; and
     - a handle;
     - a speaker for communicative connection to a personal playback device; and
     - a pocket external to one of said panels, said pocket proximate to said speaker and sized to receive a personal playback device therein.

2. A portable thermally insulated bag according to claim 1 wherein said outer shell is formed of a non-woven material.

3. A portable thermally insulated bag according to claim 2 wherein said non-woven shell is reinforced by a backing layer.

4. A portable thermally insulated bag according to claim 1 wherein said enclosure is collapsible for convenient packing and storage.

5. A portable thermally insulated bag according to claim 4 wherein said left side panel and said right side panel each includes a folding pleat to facilitate folding said enclosure to said collapsed state.

6. A portable thermally insulated bag according to claim 1 wherein said insulative layer is a bubble foil.

7. A portable thermally insulated bag according to claim 1 wherein said insulative layer is a gel pack.

8. A portable thermally insulated bag according to claim 1 wherein said insulative layer is formed from at least one of the group consisting of aluminum foil, polyvinylchloride, and polyethylene vinyl acetate.

9. A portable thermally insulated bag according to claim 1 wherein speaker includes an electrical cable and a plug extending to said pocket for interconnection with a personal playback device.

10. A portable thermally insulated bag according to claim 1 wherein said speaker is affixed to said outer shell.

11. A portable thermally insulated bag according to claim 1 wherein said handle extends from one panel around said bottom to an opposing panel for supporting contents of said bag.

12. A portable thermally insulated bag according to claim 1 wherein said handle extends to an inner surface of said outer shell.

13. A portable thermally insulated bag according to claim 1 wherein said handle extends from one panel around said bottom to an opposing panel for supporting contents of said bag.

14. A portable thermally insulated bag according to claim 1 wherein said non-woven shell is reinforced by a backing layer.

15. A portable thermally insulated bag according to claim 1 wherein said enclosure includes opposing folding pleats to facilitate folding said enclosure to said collapsed state.

16. A portable thermally insulated bag according to claim 1 wherein said insulative layer is a bubble foil.

17. A portable thermally insulated bag according to claim 1 wherein said insulative layer is a gel pack.

18. A portable thermally insulated bag according to claim 1 wherein said speaker is affixed to an inner surface of said outer shell and includes an electrical cable and a plug extending to said pocket for interconnection with a personal playback device.

19. A portable thermally insulated bag according to claim 1 wherein said handle extends around a bottom to an opposing side for supporting contents of said bag.

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