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EXPENDABLE STORING AND CARRYING CASE

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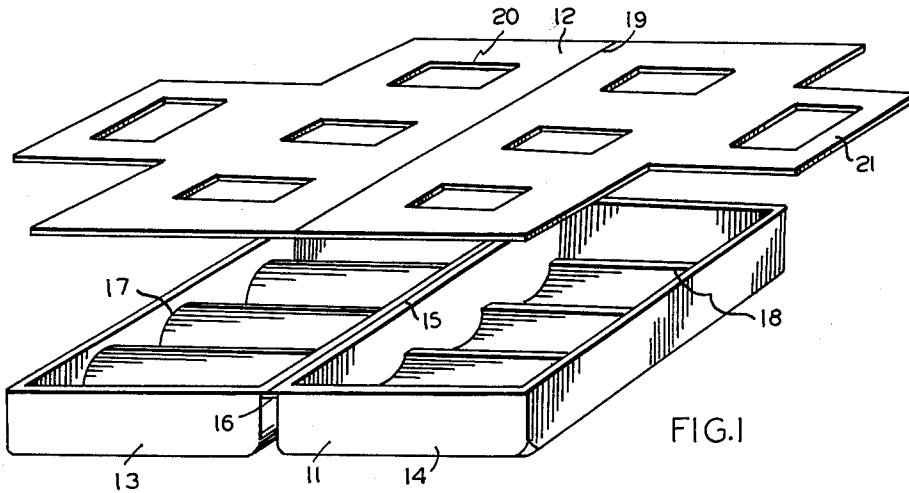


FIG. 1

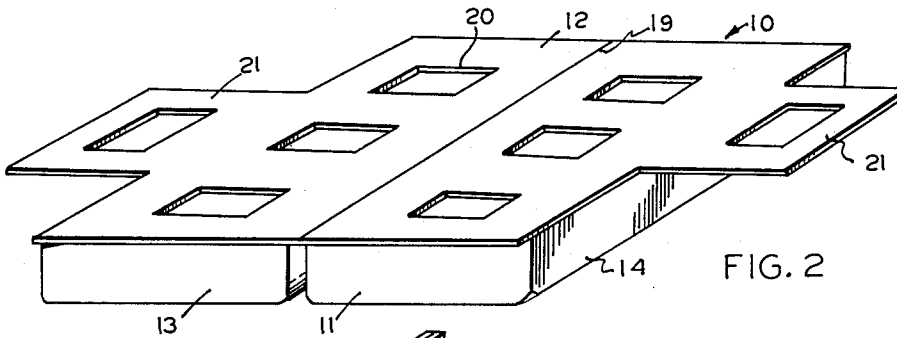


FIG. 2

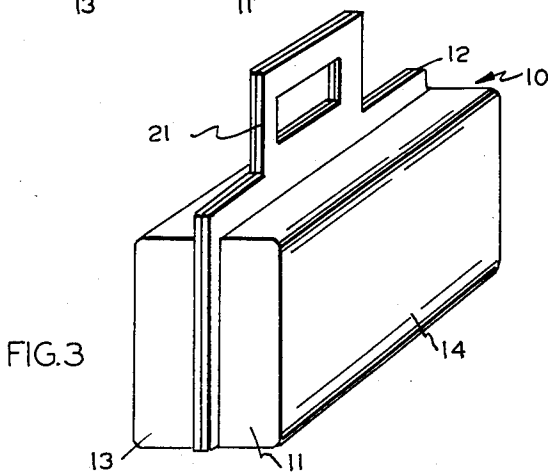


FIG. 3

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EXPENDABLE STORING AND CARRYING CASE
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This invention relates to a storing and carrying case, and more particularly to an insulated case having an outer shell of low heat conductive material so that when the case is in an open position items packaged therewithin may be exposed for thermal conditioning consistent with the ambient conditions to which they are subjected, and when in a closed position retains the such items in the thermally conditioned state for an extended period of time.

In the past consumable goods have been dispensed in various forms of carrying devices. Although these known packaging media were primarily designed for the consumer's convenience in handling and carrying the consumable item, they were also intended to eliminate the necessity of the consumer returning any of the paraphernalia required to transport the consumable item to and enjoy it at the point of consumption. However, one very important factor was overlooked. Foods and beverages, for example, are generally sold and dispensed at temperatures which would not necessarily be the most pleasing to the palate at the time of consumption, and accordingly, they must be thermally conditioned before consumption. Frozen foods, as an illustration, must be maintained in the frozen condition until they are ready to be prepared for consumption, or spoilage will occur. In a like manner, most beverages dispensed in disposable containers must first be cooled and retained in such cooled state while being transported to the point of consumption.

The known types of carrying cases for consumable items are, therefore, not completely satisfactory since no provision is made for thermally insulating the containers carried thereby. Accordingly, it was previously necessary to prematurely discard the carrying case and utilize a rather expensive and bulky insulated chamber or case of permanent reusable construction, to maintain the disposable containers at a conditioned temperature during transportation to and retention at a point of consumption. Such a point of consumption for instance, could be a picnic area, or other recreational, entertainment or game area, which of course would be remote from the conditioning conveniences of the consumer's kitchen. As a result, the intended purpose and convenience of complete disposability for which the presently known containers were designed, has in reality been defeated due to the present requirement of having to utilize an extra reusable insulated chamber for maintaining the consumable goods at a conditioned temperature when they are consumed at a point remote from the conditioning means.

It thus has been an object of my invention to provide an improved storage and carrying case which not only facilitates convenience in handling but also thermally insulates the contents carried thereby.

A further object of my invention has been to provide an improved storage and carrying case which when in an opened position permits the thermal conditioning of a plurality of containers carried thereby without requiring the removal of such containers therefrom, and which when in a closed position maintains the containers in their thermally conditioned state for an extended period of time.

A further object of my invention has been to provide an improved expendable or disposable carrying case for packaging a plurality of containers or the like in a thermally insulated closure and in such a manner as to require the

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destruction of the case for the removal of the containers therefrom.

These and other objects of my invention will be apparent to those skilled in the art from the following specification and accompanying drawings in which:

FIGURE 1 is a perspective assembly drawing of a carrying case embodying my invention;

FIGURE 2 is a perspective view of an assembled carrying case in an opened or thermal conditioning position; and

FIGURE 3 is a perspective view of the carrying case shown in FIGURE 2 in a closed or thermally insulated carrying position.

Referring now to the drawings, and particularly FIGURES 1 and 2, the carrying case 10 embodying my invention is shown comprising an outer containing shell 11 and an inner partition member 12. The outer shell 11 has two identical or mirror image recessed portions 13 and 14. The recessed portions may either be integrally formed and folded along a crease or score line 15 formed in a connecting band or flange 16, or the portions may be formed separately and hinged together by any suitable means. The outer shell 11 may be formed by molding, vacuum forming, press forming, stamping and folding, or any other of the known forming methods. The outer shell 11 is made of an insulating material having a low thermal conductivity. I prefer to manufacture the outer shell out of expanded or foamed polystyrene, however, any material having a low thermal conductivity, such as papier mache, corrugated board, foil-lined board, or chip-board may be utilized.

Although my insulated carrying case is adapted for packaging a plurality of edible or consumable items of various sizes and shapes, such as foods, beverages, and drugs which may require the retention of thermal conditioning prior to usage, for the purposes of illustration, I have shown the packaging of a plurality of cylindrical-shaped containers 17 which are representative of a form of disposable beverage containers. If desired, the interior of the recessed portions 13 and 14 of outer case 11 may be provided with preformed grooves or dividers 18 to cradle and snugly retain the packaged containers 17. Such dividers, however, are not essential and if utilized could either be formed integral with the outer shell 11 or supplied as a separate part therefor.

The inner partition member 12, is punched, pierced, or otherwise perforated to form passageways 20 so as to permit the easy passage of heat or cold through the inner partition to the containers or packages retained within the shell 11 while the case is in its opened position and without necessitating the removal of such containers from the case. After the containers to be packaged are positioned within the outer shell 11, the inner partition 12 is positioned over the opened surface of the recessed portions 13 and 14 and secured in a semi-permanent manner to the edge portions thereof by any suitable means such as adhesive, staples, heat sealing, and the like, to form the composite case 10. The perforated partition 12 may be provided with a suitable score line 19 to facilitate the folding of the case into the closed position.

The inner partition member 12 is shown having a pair of handle portions 21 formed integral therewith. Such handle portions, however, may if desired, be formed integrally with the outer shell 11 rather than with the partition 12. The handle not only provides a convenient means for carrying the case, but also may be utilized as a method of closure by merely providing overlapping or interlocking flaps on the handle portion.

In operation, the outer shell 11 is preformed to the desired configuration and forwarded to a packer with a separate preformed perforated partition member 12. The

packer inserts the containers to be packaged within the outer shell 11 and then affixes the partition member 12 to the outer shell 11. A plurality of such cases may be packaged in a single carton either in the open position shown in FIGURE 2 or the closed position shown in FIGURE 3 and shipped to a retailer for distribution to the public. The consumer would utilize the handle portions 21 to transport and carry the case in the closed position to his home.

Before consuming the contents of the containers packaged within the carrying case, the consumer would place the open case in a suitable conditioning medium. In the case of a beverage, for instance, where cooling is desired, the case could merely be laid open within a refrigerator. Due to the fact that the inner member 12 is perforated, the containers and contents packaged within the case are exposed and subjected to the temperature of the conditioning media and in due time are conditioned to that temperature. The case is then removed from the conditioning media and folded along the creases or score lines 15, 19 of the outer shell 11 and inner partition member 12, respectively to the closed position shown in FIGURE 3.

When in the closed position, the case 10 forms a thermally insulated sealed compartment bounded by wall portions of low heat conductive material. Accordingly containers packaged within the carrying case which have been thermally conditioned, will be retained in such thermally conditioned state within the closed case for an extended period of time after the case has been removed from the conditioning media, due to the low rate of heat exchange through the insulated outer shell.

The perforated inner partition member is a multifunction member and not only facilitates the thermal conditioning of the containers packaged within the case when in an opened position, but also functions to retain the containers snugly in position within the case so that the containers cannot fall out of the case or randomly move about therewithin. In addition, when the handle is formed integral with the inner partition member, it also functions as a convenient carrying means for the case.

Inasmuch as the device is designed as an expendable carrying case, the inner partition member 12 is semi-permanently attached to the outer shell 11 in such a manner so that when the contents are to be removed from the case it is necessary to destructively tear the partition 12 from the shell 11. It will be of course understood, however, that when it is desired to remove only a limited portion of the containers from the case, the case may be opened and only that portion of the inner partition member overlying those containers to be removed need be destroyed. The remainder of the inner partition retains the rest of the containers in position within the closed case in their thermally conditioned state. When the last container is removed from the case, the expendable case may then be disposed of at the point of consumption, thus eliminating the necessity of returning the normal type of reusable insulating chamber.

Although I have disclosed a preferred embodiment of my invention it will be apparent to those skilled in the art that various changes and modifications may be made thereto without departing from the spirit and scope of the invention as defined in the accompanying claims.

I claim:

1. An expendable carrying case for facilitating the thermal conditioning of containers packaged therewithin and the retention of their conditioned temperature for an extended period of time comprising, an outer shell member of expanded polystyrene, a pair of opened recessed portions formed in said outer shell member foldable upon one another to form a closed insulated compartment with the recessed portions in open communication with each other, an inner partition member extending across said opened recessed portions and permanently fastened to said shell member for retaining a plurality of containers and the like within each of said recessed portions irrespective of the position of said outer shell, a plurality of openings extending through said inner partition member and communicating with each of said recessed portions to expose the containers retained therewithin to thermal conditioning media when the case is in an open position, means for facilitating the foldability of said case into a closed thermally insulating position for maintaining the containers in their conditioned state for an extended period of time, and means formed integrally with said case for facilitating the portability thereof.

2. An expendable package for storing and transporting a plurality of cylindrical-like beverage containers in a thermally conditioned state for an extended period of time comprising, an outer shell composed solely of low thermally conductive cellular material, a pair of open faced recessed portions formed in said outer shell foldable along a line intermediate said recessed portions into a closed insulated compartment with edge portions surrounding the open faces in abutment, a plurality of cylindrical-like containers positioned within each of said recessed portions, an inner partition member positioned over the open face of each said recessed portion and substantially permanently secured to said outer shell to retain the cylindrical-like containers in position within said shell regardless of the position of the package, a plurality of passageways formed through each said inner partition member in communication with each said recessed portion to expose and subject the containers while retained within the package to a thermal conditioning media when the outer shell is in an open position, and handle means secured to said package for carrying the package when the outer shell is in a closed position wherein said insulated compartment retains the thermally conditioned cylindrical-like containers in their conditioned state for an extended period of time.

References Cited in the file of this patent

UNITED STATES PATENTS

2,499,254	Parker	Feb. 28, 1950
2,529,675	Brulin	Nov. 14, 1950
2,731,776	Currie	Jan. 24, 1956
2,858,224	Darrah	Oct. 28, 1958
2,961,123	Boydak et al.	Nov. 22, 1960
2,979,227	Norton et al.	Apr. 11, 1961
2,998,899	Telesca	Sept. 5, 1961
3,025,947	Hammer	Mar. 20, 1962
3,027,286	Kurhan	Mar. 27, 1962