APPLICATION FOR A STANDARD PATENT OR A STANDARD PATENT OF ADDITION

ALADDIN INDUSTRIES, INC.

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hereby apply for the grant of a Standard Patent for a invention entitled INSULATED PLASTIC FOOD CONTAINER which is described in the accompanying specification.

For a Convention application — details of basic application(s) —

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<th>NUMBER</th>
<th>COUNTRY</th>
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<td>426,769</td>
<td>UNITED STATES OF AMERICA</td>
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Our address for service is ARTHUR S. CAVE & CO., Patent and Trade Mark Attorneys, 1 Alfred Street, Sydney, New South Wales, Australia 2000.

Dated the 27th day of September 1983.

To:
Commissioner of Patents
ARTHUR S. CAVE & CO.
PATENT AND TRADE MARK ATTORNEYS SYDNEY

S. TAYLOR
LEGAL PRACTITIONER

COMMONWEALTH OF AUSTRALIA
PATENTS ACT, 1952
Regulation 13(2)
Claim 1. A plastic container for carrying a dish with food disposed thereon comprising:

(a) a plastic base having spaced apart inner and outer walls connected to each other at the periphery of each wall to enclose a first space therebetween, a thermally insulating material substantially filling said first space,

(b) a plastic lid having spaced apart inner and outer walls connected to each other at the periphery of each wall to define a second space therebetween, a thermally insulating material substantially filling said second space,

(c) a handle mounted to said lid for carrying said container; and

(d) means for latching said lid to said base to airtightly enclose said dish therebetween, said latching means comprising at least one plastic tab integrally molded with said lid, and at least one latching surface molded from said outer wall of said base, said tab and latching surface having a configuration wherein said tab is snap-locked to said latching surface.
12. In combination with a dish for receiving food, a plastic container for carrying said dish comprising:

(a) a plastic base having spaced apart inner and outer walls connected to each other at the periphery of each wall to enclose a first space therebetween, a thermally insulating material substantially filling said first space, said inner wall of the base dimensioned to receive said dish;

(b) a plastic lid having spaced apart inner and outer walls connected to each other at the periphery of each wall to define a second space therebetween, a thermally insulating material substantially filling said second space;

(c) a handle mounted to said lid for carrying said container; and

(a) means for latching said lid to said base to airtightly enclose said dish therebetween, said latching means comprising at least one plastic tab integrally molded with said lid, and at least one latching surface molded from said outer wall of said base, said tab and latching surface having a configuration wherein said tab is snap-locked to said latching surface.
COMMONWEALTH OF AUSTRALIA

PATENTS ACT, 1952

COMPLETE SPECIFICATION

(ORIGINAL)

FOR OFFICE USE

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Complete Specification - Lodged:

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TO BE COMPLETED BY APPLICANT

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Complete Specification for the invention entitled: INSULATED PLASTIC FOOD CONTAINER

The following statement is a full description of this invention, including the best method of performing it known to me:

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ASC 49
INSULATED PLASTIC FOOD CONTAINER

Background of the Invention

This invention relates generally to food-carrying containers and more specifically to plastic food containers for carrying a plate containing food to be eaten.

Food-carrying containers such as so-called "lunch boxes" are well known. Such containers are typically constructed to hold a small thermos bottle containing a beverage and space in which a sandwich, fruit, or other packaged foods can be stored. These containers typically consist of a single-walled shell made of metal or plastic.

In conventional lunch boxes, each food item must be individually packaged since food items must be vertically stacked in the limited area allotted for food storage. Each food item must be wrapped before placing same in a lunch box and unwrapped prior to consumption of the meal. This disadvantage is especially apparent when a plate-type lunch, such as consisting of several vegetables, a meat, and dessert, is desired.

Likewise, prior food containers (with which the applicant is familiar) suitable for use at work places, are not thermally insulated and therefore cannot preserve food items at or near desirable serving temperature.
Therefore, it is an object of this invention to provide a novel, easily transportable food container in which separate food items may be kept separate from each other while being transported and stored, therefore more appetizing to the taste and eye.

It is another object of this invention to provide a novel, transportable food container which is thermally insulated to preserve the temperature of the separate food items.

A still further object of this invention is to provide a novel transportable food container which is relatively economical to manufacture, capable of being designed in a number of different ways, and includes means for securing and carrying it, rendering it simple to carry and use.

SUMMARY OF THE INVENTION

This invention is embodied by a double-walled plastic container including a base dimensioned to receive a plate or tray, a lid for enclosing the plate between the base and lid, and a plastic latch integrally molded with lid or base for securing the lid to the base. The space between the walls of the base and lid is filled with a material to provide thermal insulation and additional strength. The lid preferably includes a recess within which a pivotally mounted handle is attached to facilitate carrying the container.
Brief Description of the Drawings

The invention itself is set forth in the claims appended hereto. An understanding of the embodiments of the invention may be had by reference to the detailed description taken in conjunction with the drawings in which:

Figure 1 is a perspective view of a food-holding container in accordance with this invention;

Figure 2 is a perspective view of the container of Figure 1 in an open position with the base showing a partitioned food-holding dish;

Figure 3 is a top view of the container of Figure 1 shown in the fully opened position;

Figure 4 is a cross-sectional view taken about line 4-4 of Figure 3;

Figure 5 is a cross-sectional view taken about line 5-5 of Figure 1;

Figure 6 is a perspective view of another embodiment of the present invention;
Figure 7 is an exploded view of the embodiment of Figure 6 shown carrying a round partitioned plate; and

Figure 8 is a cross-sectional view taken about line 8-8 of Figure 6.

Detailed Description

A plastic plate- or dish-carrying container in accordance with this invention can be formed in a variety of shaped and sizes depending on the dimensions of the plate and the needs of the user. The particular embodiments described and illustrated herein are merely exemplary of some of the possible shapes.

Referring to Figures 1 and 2, a plastic plate-holding container 10 includes a base 12 for receiving a partitioned plate or tray 13 and a lid 14 mounted by an integral plastic hinge 16 to the base. The lid 14 is provided with a recess 18 in which a handle 20 is pivotally mounted. The relative dimensions of the recess and handle are such that the handle may be positioned within the recess for storage when not in use. A flexible tab 22 integrally formed with the lid extends from an edge of the lid. The tab includes an inwardly facing tooth 24 dimensioned to snap-lock about a latching element 26 formed on the base to secure the lid to the base in a closed position as shown in Figures 1 and 5. The tab and tooth are sufficiently resilient to permit the snap-locking action of the tooth about the latching element.
As illustrated in Figures 3-5, the base includes an outer wall 28 and an inner wall 30 spaced apart from the outer wall to define a space 32 therebetween. A peripheral portion of the inner and outer walls are inclined relative to the center portion of the walls. An upstanding peripheral lip 34 connects the inner and outer walls to enclose space 32 between these walls. The inner wall 30 is generally dish-shaped to receive the dish 13 which is preferably complementary in shape and dimension to the wall 30 so that the dish is contiguously seated within the base.

A central island 36 is formed from the outer wall and defined by an annular recess 38. A plurality of posts 40 formed from the outer wall 28 within island 36 extend generally transverse of the outer wall and connect the inner wall to the outer wall. These posts reinforce the inner wall to minimize any downward deflection of the inner wall due to the weight of a plate placed thereon. These reinforcing posts which are integrally molded from the outer wall are disclosed in applicant's copending U.S. patent application Serial No. 291,165, filed August 10, 1981. The distal ends 41 of the posts are molded to the inner walls as the base is formed. Preferably the posts are dimensioned not to extend beyond the outer surface of inner wall 30 so as not to provide a discontinuity in this surface.

A hole 42 in the outer wall of the island, which may serve as a hole for injecting pressurized air during the blow molding of the base, enables a thermally insulating material 44 in a foam state to be injected into space 32. The foam hardens to provide additional support between the inner and plastic mate surface of is or the hollow
the inner and outer walls as well as thermal insulation. A flat sheet of a plastic material 46 may be bonded by conventional means to the outside surface of island 36 to prevent access by dirt or other soil to the hole 42 or the hollows of the posts 40.

The lid 14 is generally similar in construction to that of base 12 and includes an inner wall 48 and an outer wall 50 connected at its periphery to the inner wall to define an upstanding rim 52 enclosing a space 54 between the walls and encompassing the periphery of the lid. Recess 18 formed in outer wall 50 includes reinforcing posts 56 formed from the outer wall and a hole 58 that provides access to space 54 for filling same with a foam insulating material 60. A cover plate 62 may be bonded to recess 18 by conventional means to prevent access to hole 58 and reinforcing posts 56.

The latching tab 22 is integrally formed as part of the lid during the molding of the container. Similarly, hinge 16, referred to as a "living hinge", can also be formed during the concurrent blow molding of the base and lid. The hinge and latching tab are sufficiently resilient so as to accommodate repeated flexing. The container 10 is preferably constructed from a single tubular sleeve of plastic by utilizing blow molding techniques whereby the base, lid, hinge, and mounting tab are formed as a unitary structure.

As illustrated in Figure 5, lip 34 of the base 12 engages rim 52 of the lid 14 when the lid is closed to enclose the space 64 between the
inner walls of the lid and base. The sealing of a dish with food disposed thereon within space 64 reduces thermal losses and protects the food from the external environment.

Figures 6-8 illustrate another embodiment 70 of a plate-carrying container according to the present invention having a generally circular configuration. Container 10 includes a base 72 dimensioned to receive a circular dish or plate 74, and a cover 76 having a pivotally mounted handle 78 which may be folded into recess 79. Resilient latches 80 are integrally molded with cover 76 and lock the cover to the base as shown in Figures 6 and 8.

As seen in Figure 8, cover 76 and base 72 have a double-walled construction generally similar to that of lid 14 and base 12 of container 10. An insulating foam material 82 is disposed between the double walls of the cover and base of container 70. Reinforcing posts 84 and 86 are formed from the outer walls of the cover and base, respectively, generally similar to posts 56 and 40 of container 10. A peripheral lip 88 of the cover engages a peripheral lip 90 of the base to airtightly seal plate 74 within compartment 92. The inner wall of the base preferably makes contiguous engagement with the plate which may include partitions 94 to divide the plate into various compartments to prevent the intermingling of different foods. The latches 80 each include a generally transverse tooth or flange 96 dimensioned to snaplock within recesses 98 formed from the outer wall of the base.
The present invention provides several advantages when compared with a conventional lunch box. This invention provides a food-carrying container which is easily transported and which can store a meal that can be consumed at a work place directly from the plate upon removing the latter from the container. For example, cold or frozen foods may be arranged in a conventional manner on a plate or dish, and the plate then placed within the container according to the present invention for transportation and storage. The user can remove the plate from the container and enjoy a so-called cold plate type of meal. If desired, the food can be heated, such as by a microwave oven, to provide a hot meal. Thus, the present invention allows a user to conveniently and economically transport a meal which can be consumed without having to first package individual foods and then unpack and assemble them. The reinforcing stakes and insulation filling the space between the double walls of the container provide an exceptionally sturdy structure which has good thermal insulating properties.

Although embodiments of the present invention have been described and illustrated in the drawings, the scope of the invention is defined in the claims appended hereto.
The claims

1. thereon comp. walls cor a first substantial connected second substantial container, enclose at least one latching snap lock...

2. plurality of rel. base that conne...
The claims defining the invention are as follows:

1. A plastic container for carrying a dish with food disposed thereon comprising:

   (a) a plastic base having spaced apart inner and outer walls connected to each other at the periphery of each wall to enclose a first space therebetween, a thermally insulating material substantially filling said first space,

   (b) a plastic lid having spaced apart inner and outer walls connected to each other at the periphery of each wall to define a second space therebetween, a thermally insulating material substantially filling said second space,

   (c) a handle mounted to said lid for carrying said container; and

   (d) means for latching said lid to said base to airtightly enclose said dish therebetween, said latching means comprising at least one plastic tab integrally molded with said lid, and at least one latching surface molded from said outer wall of said base, said tab and latching surface having a configuration wherein said tab is snap-locked to said latching surface.

2. The container according to Claim 1 further comprising a plurality of reinforcing posts integrally molded from said outer wall of the base that connect the inner and outer walls of the base.
3. The container according to Claim 1 further comprising a plurality of reinforcing posts integrally molded from said outer wall of the lid that connect the outer wall and inner wall of the lid.

4. The container according to Claim 1 further comprising a first peripheral lip formed about said base and a peripheral rim formed about said lid, said lip and rim disposed to engage each other when said lid is closed to define an airtightly sealed space between the lid and base.

5. The container according to Claim 1 further comprising a recess defined by said outer wall of said lid, said handle pivotally mounted adjacent said recess and said recess dimensioned to receive said handle for storage when said handle is not in use.

6. The container according to Claim 2 further comprising an island formed from the outer wall of said base, said base reinforcing posts formed from said outer wall of the base lying within said island.

7. The container according to Claim 6 further comprising a sheet of plastic material permanently mounted to said island to enclose said posts formed within said island.

8. The container according to Claim 3 wherein said reinforcing posts formed from the outer wall of said lid lie within said recess.
9. The container according to Claim 8 further comprising a sheet of plastic material mounted to the external surface of said recess to limit access to said reinforcing posts.

10. The container according to Claim 1 further comprising a hinge consisting of a web of plastic connecting said base to said lid, said base, lid, and hinge integrally molded as a unitary structure.

11. The container according to Claim 1 further comprising a partitioned dish received by said base, the inner wall of said base being contoured to contiguously engage said dish.

12. In combination with a dish for receiving food, a plastic container for carrying said dish comprising:

   (a) a plastic base having spaced apart inner and outer walls connected to each other at the periphery of each wall to enclose a first space therebetween, a thermally insulating material substantially filling said first space, said inner wall of the base dimensioned to receive said dish;

   (b) a plastic lid having spaced apart inner and outer walls connected to each other at the periphery of each wall to define a second space therebetween, a thermally insulating material substantially filling said second space;

   (c) a handle mounted to said lid for carrying said container; and
means for latching said lid to said base to airtightly enclose said dish therebetween, said latching means comprising at least one plastic tab integrally molded with said lid, and at least one latching surface molded from said outer wall of said base, said tab and latching surface having a configuration wherein said tab is snap-locked to said latching surface.

13. The container according to Claim 12 further comprising a plurality of reinforcing posts integrally molded from said outer wall of the base that connect the inner wall and outer wall of the base.

14. The container according to Claim 12 further comprising a plurality of reinforcing posts integrally molded from said outer wall of the lid that connect the outer wall and inner wall of the lid.

15. The container according to Claim 12 further comprising a first peripheral lip formed about said base and a second peripheral lip formed about said lid, said first and second lips disposed to engage each other when said lid is closed to define an airtightly sealed space between said lid and said base.

16. The container according to Claim 14 further comprising a recess defined by said outer wall of said lid, said handle pivotally mounted adjacent said recess and said recess dimensioned to receive said handle for storage when said handle is not in use.
17. The container according to Claim 13 further comprising an island formed from the outer wall of said base, said base reinforcing posts formed from said outer wall of the base lying within said island.

18. The container according to Claim 17 further comprising a sheet of plastic material permanently mounted to said island to enclose said posts formed within said island.

19. The container according to Claim 16 wherein said reinforcing posts formed from the outer wall of said lid lie within said recess.

20. The container according to Claim 19 further comprising a sheet of plastic material mounted to the external surface of said recess to limit access to said reinforcing posts.

21. The container according to Claim 12 further comprising a hinge consisting of a web of plastic connecting said base to said lid permitting said lid to be opened and closed with respect to said base, said base, lid, and hinge integrally molded as a unitary structure.

22. The container according to Claim 12 wherein the inner wall of said base is contoured to contiguously engage said dish.

DATED this 27th day of September 1983

ALADDIN INDUSTRIES, INC.

By its Patent Attorneys

ARTHUR S. CAVE & CO.
the container.
enables a thermosy insulating material 44 in a foam state to be injected into space 32. The foam hardens to provide additional support between
As illustrated in Figure 5, lip 34 of the base 12 engages rim 52 of the lid 14 when the lid is closed to enclose the space 64 between the