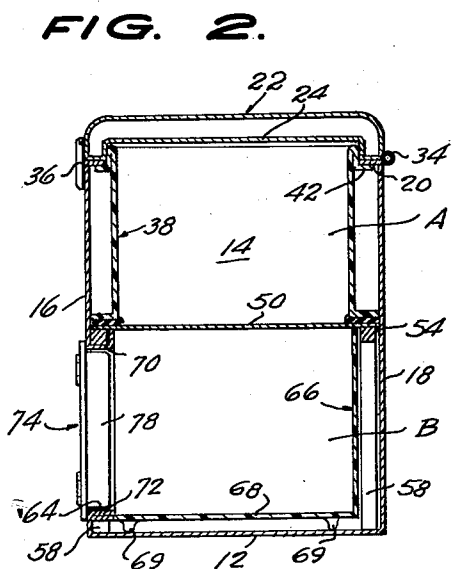
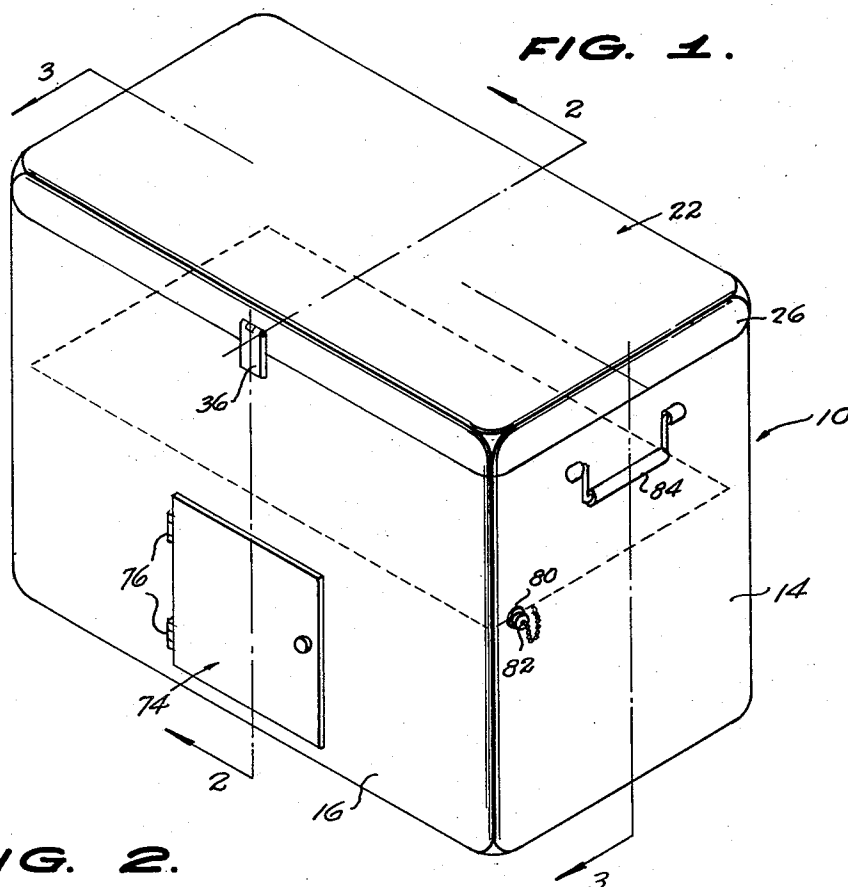


**3,106,074**

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PORTABLE ICE CHEST

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2 Sheets-Sheet 2

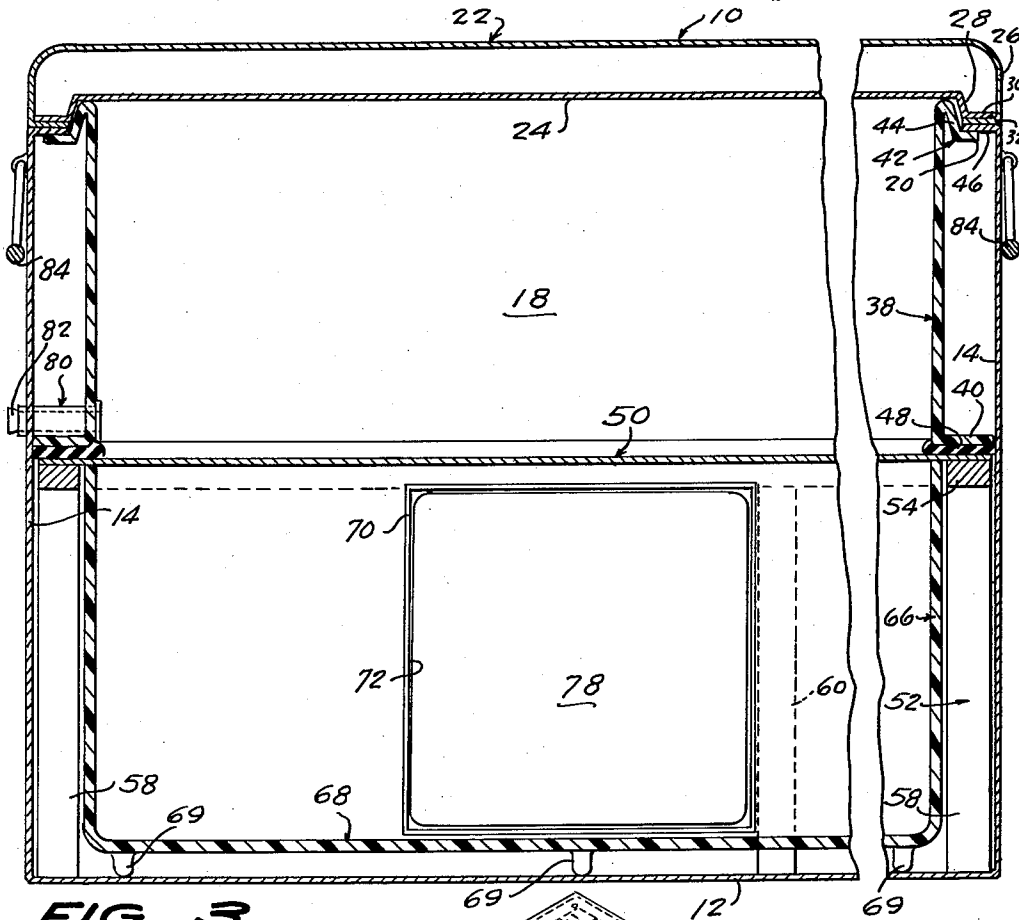
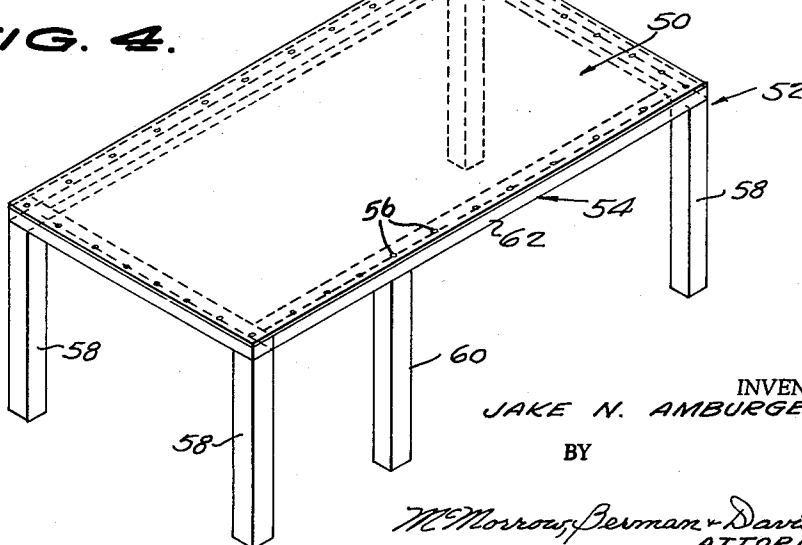


FIG. 3.

FIG. 4.



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3,106,074

## PORTABLE ICE CHEST

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This invention relates to a novel portable ice chest.

The primary object of the invention is the provision of a generally superior chest of the kind indicated, which has an upper ice and beverage container compartment accessible from the top of the chest, and a lower food compartment, sealed from the ice compartment, to which access is provided by a door-equipped opening, thereby eliminating exposure of the ice present in the chest to warming outside air when placing or removing food from the food compartment, and substantially enhancing the overall cooling efficiency of the chest.

Another object of the invention is the provision of a chest of the character indicated above, wherein the side walls and the top wall or cover of the ice compartment are insulated but its bottom wall is highly conductive, so that transfer of cold from the ice in the ice compartment to the food compartment is more efficient, despite the fact that the volumetric capacity of the food compartment is substantially larger than the food compartments of present portable ice chests, wherein the food compartments are located within the ice compartments and are necessarily smaller in volumetric capacity because of the presence of ice in the ice compartments.

A further object of the invention is the provision of a chest of the character indicated above, which is not limited as to size, but wherein the ice and beverage compartment occupies substantially 40% of the volumetric capacity of the chest, and the food compartment substantially 60%, whereby greater food capacity in the food compartment is obtained, along with greater cooling efficiency therefor.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

In the drawings:

FIGURE 1 is a perspective view of a portable ice chest of the present invention, showing the doors of the ice and food compartment closed;

FIGURE 2 is a vertical transverse section taken on the line 2—2 of FIGURE 1;

FIGURE 3 is an enlarged and fragmentary vertical longitudinal section taken on the line 3—3 of FIGURE 1; and

FIGURE 4 is a perspective view, on a reduced scale, of the internal support frame for the ice compartment.

Referring in detail to the drawings, wherein like numerals designate like parts throughout the several views, the illustrated chest is of horizontally elongated rectangular form, and comprises an open top casing 10, of metal or other suitable material, having a flat bottom wall 12, end walls 14, first and second side walls 16 and 18, respectively. On the upper edges of the end and side walls is a continuously laterally inwardly extending horizontal top flange 20, upon which an insulated top cover or door 22 rests removably.

As shown in FIGURES 2 and 3, the cover 22 is hollow and can contain suitable insulating material (not shown). The cover has an upwardly offset bottom wall 24 which is joined to the lower edge of the peripheral wall 26 by a downwardly and laterally outwardly angled flange 28 which terminates in a horizontal flange 30. A gasket 32, attached optionally to the cover flange 30 or the top flange 20 of the casing 10, seals the contact of the cover with the casing 10. The cover can be hinged, as indicated at 34, at one side on the upper end of the second side wall

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18 of the casing, and have a hinged hasp 36 on its other side to engage a detent (not shown) on the first side wall 16, or the cover can be loose and not hinged to the casing.

The upper ice compartment A of the casing 10 has hollow end and side walls defined by the end and side walls of the casing and a continuous plastic inner wall 38, spaced from the end and side walls, an outwardly extending bottom wall 40 on the inner wall 38, a top wall 42 on the inner wall 38, and the top flange 20 of the casing 10. The inner wall reaches above the parts of the casing end and side walls extending above the inner wall bottom wall 40 and can be contacted by the offset bottom wall 24 of the cover 22, as shown in FIGURE 3. The top wall 42 of the inner wall comprises a downwardly and laterally outwardly angled flange 44 which merges into a laterally outwardly extending horizontal flange 46 which is engaged with the underside of the top flange 20 of the casing 10, whereby the inner wall 38 is held forcibly down in place.

The bottom wall 40 of the inner wall 38 bears deformably and sealingly upon a continuous deformably sealing gasket 48, which extends around the casing, and rests upon the bottom wall 50 of the ice compartment A, which is spaced above the bottom wall 12 of the casing 10. The ice compartment bottom wall 50 serves as the top wall of the food compartment B located in the casing 10 therebelow.

The bottom wall 50 is of relatively thin rigid aluminum or other suitable highly cold conductive material, and is securely and rigidly supported by a table shaped frame 52. The frame 52 can be made of any suitable material, preferably wood, and as shown in FIGURE 4, comprises an open rectangular horizontal form 54, upon which the bottom wall 50 is suitably secured, as by means of non-rusting nails 56. Fixed to the underside of the form 54, at its corners, are corner legs 58, and a single intermediate leg 60 extends downwardly from the first side member 62 of the form 54, at a location adjacent to a relatively small access door opening 64, formed in the first side wall 16 of the casing 10 and spaced upwardly from the casing bottom wall 12, for stiffening the first side wall 16, in the region of the opening 64. The frame legs 58 and 60 rest upon the casing bottom wall 12, at locations close to the end and side walls of the casing 10.

An inner wall 66, preferably of plastic, extends in spaced relation along the parts of the casing end walls 14 and its first and second side walls 16 and 18, respectively, and at the inner sides of the frame legs, below the ice compartment bottom wall 50, with its upper edge engaged with the underside of this bottom wall. On the lower edges of the inner wall 66 is fixed a flat horizontal bottom wall 68 which is spaced upwardly from the casing bottom wall 12 by means of widely spaced feet 69. The spaces between the casing bottom wall 12 and the bottom wall 68, and between the inner wall 66 and the casing end walls and side walls can be filled with suitable insulating material (not shown).

As shown in FIGURE 2, the food compartment access opening 64 is surrounded by a continuous laterally inwardly extending flange 70, which bounds a conformably shaped opening 72 in the inner wall 66, and to whose inner edge related portions of the inner wall are suitably secured. An insulated door 74, larger in area than the opening 64, is externally hinged, as indicated at 76, on the first casing side wall 16, at one side of the opening 64, and has an inwardly extending gasketed portion 78, spaced from the peripheral edge of the door, which enters and seals the openings 64 and 72, in the closed portion of the door.

In operation, ice being present in the ice compartment A, the large areal contact of the ice with the conductive bottom wall 50 and the thermal descent of cold air to the bottom 50, produces, through the wall 50, a very

efficient transfer, both as to speed and low temperature, of cold to the food compartment B. While some loss of cold and exposure of ice in the ice compartment A accompanies removal of the cover, the food compartment remains sealed and unexposed when the ice compartment is open. Insertion or removal of food from the food compartment B, through the opening 64, is not only a substantial convenience, but the opening 64, being relatively small, does not produce substantial exposure of the food, or substantial loss of cold from the food compartment.

A horizontal drain tube 80 extends through one casing end wall 14 and the inner wall of the ice compartment A, and having a removable plug 82 in its outer end, for draining ice water from the ice compartment. Carrying handles 84 can be hinged externally on the casing end walls 14.

Although there has been shown and described a preferred form of the invention, it is to be understood that the invention is not necessarily confined thereto, and that any change or changes in the structure of and in the relative arrangements of components thereof are contemplated as being within the scope of the invention as defined by the claims appended hereto.

What is claimed is:

1. A portable ice chest comprising an elongated open top casing, a removable insulated cover for closing the open top of the casing, said casing having a bottom wall, end walls, and first and second side walls, a temperature conductive bottom wall disposed within said casing and spaced above the casing bottom wall and dividing the interior of the casing into an upper ice compartment and a lower food compartment, said cover having an upwardly-offset bottom wall terminating in a horizontal flange, an inner wall in said ice compartment extending in spaced relation around the parts of the end and side walls of the ice compartment and having a lower end of said inner wall sealingly secured to said conductive bottom wall, said inner wall having on the upper end a horizontal top wall sealingly supporting the horizontal flange of said cover, a part of the wall of the casing being formed with an access opening for the food compartment, and a removable closure for the access opening.

2. The ice chest according to claim 1 which includes in addition an inner wall in said food compartment extending in spaced relation around the parts of the end and side walls of the food compartment and engaged at its upper end with the underside of the conductive bottom wall.

3. A portable ice chest comprising a horizontally elongated open top casing having a bottom wall, end walls, and first and second side walls, a removable insulated cover for the open top of the casing, an inner wall extending in spaced relation around the upper parts of the end and side walls of the casing, said inner wall having a laterally outwardly extending bottom wall on its lower end and a top wall on its upper end, said outwardly-extending bottom wall of said inner wall being engaged with the end and side walls of said casing, the casing end and side walls having a continuous laterally inwardly extending top flange on their upper edges, said top flange being spaced below the upper edge of the inner wall, the top wall of the inner wall comprising a downwardly and outwardly angled flange terminating in a horizontal flange engaged with the underside of the top flange, a temperature conductive bottom wall beneath the inner wall bottom wall and in supporting relation thereto, a compressed sealing gasket being compressively engaged between the conductive bottom wall and the inner wall bottom wall, means supporting the conductive bottom wall, said conductive bottom wall being spaced above the casing bottom wall and dividing the interior of the casing into an upper ice compartment and a lower food compartment, a wall of the casing being formed with an ac-

cess opening for the food compartment, a removable closure for the access opening.

4. A portable ice chest comprising a horizontally elongated open top casing having a bottom wall, end walls, and first and second side walls, a removable insulated cover for the open top of the casing, an inner wall extending in spaced relation around the upper parts of the end and side walls of the casing, said inner wall having a laterally outwardly extending bottom wall on its lower end and a top wall on its upper end, said outwardly-extending bottom wall of said inner wall being engaged with the end and side walls of said casing, the casing end and side walls having a continuous laterally inwardly extending top flange on their upper edges, said top flange being spaced below the upper edge of the inner wall, the top wall of the inner wall comprising a downwardly and outwardly angled flange terminating in a horizontal flange engaged with the underside of the top flange, a temperature conductive bottom wall beneath the inner wall bottom wall and in supporting relation thereto, a compressed sealing gasket being compressively engaged between the conductive bottom wall and the inner wall bottom wall, means supporting the conductive bottom wall, said conductive bottom wall being spaced above the casing bottom wall and dividing the interior of the casing into an upper ice compartment and a lower food compartment, a wall of the casing being formed with an access opening for the food compartment, a removable closure for the access opening, an inner wall in said food compartment extending in spaced relation around the end and side walls of the casing and engaged at its upper end with the underside of the conductive bottom wall, the inner wall of the food compartment having an opening registered with said access opening.

5. A portable ice chest comprising a horizontally elongated open top casing having a bottom wall, end walls, and first and second side walls, a removable insulated cover for the open top of the casing, an inner wall extending in spaced relation around the upper parts of the end and side walls of the casing, said inner wall having a laterally outwardly extending bottom wall on its lower end and a top wall on its upper end, said outwardly-extending bottom wall of said inner wall being engaged with the end and side walls of said casing, the casing end and side walls having a continuous laterally inwardly extending top flange on their upper edges, said top flange being spaced below the upper edge of the inner wall, the top wall of the inner wall comprising a downwardly and outwardly angled flange terminating in a horizontal flange engaged with the underside of the top flange, a temperature conductive bottom wall beneath the inner wall bottom wall and in supporting relation thereto, a compressed sealing gasket being compressively engaged between the conductive bottom wall and the inner wall bottom wall, means supporting the conductive bottom wall, said conductive bottom wall being spaced above the casing bottom wall and dividing the interior of the casing into an upper ice compartment and a lower food compartment, a wall of the casing being formed with an access opening for the food compartment, a removable closure for the access opening, an inner wall in said food compartment extending in spaced relation around the end and side walls of the casing and engaged at its upper end with the underside of the conductive bottom wall, the inner wall of the food compartment having an opening registered with said access opening, the inner wall of the food compartment having a bottom wall on its lower edge and spaced upwardly from the casing bottom wall.

6. A portable ice chest comprising a horizontally elongated open top casing having a bottom wall, end walls, and first and second side walls, a removable insulated cover for the open top of the casing, an inner wall extending in spaced relation around the upper parts of the end and side walls of the casing, said inner wall having

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a laterally outwardly extending bottom wall on its lower end and a top wall on its upper end, said outwardly-extending bottom wall of said inner wall being engaged with the end and side walls of said casing, the casing end and side walls having a continuous laterally inwardly extending top flange on their upper edges, said top flange being spaced below the upper edge of the inner wall, the top wall of the inner wall comprising a downwardly and outwardly angled flange terminating in a horizontal flange engaged with the underside of the top flange, a temperature conductive bottom wall beneath the inner wall bottom wall and in supporting relation thereto, a compressed sealing gasket being compressively engaged between the conductive bottom wall and the inner wall bottom wall, means supporting the conductive bottom wall, said conductive bottom wall being spaced above the casing bottom wall and dividing the interior of the casing into an upper ice compartment and a lower food compartment, a wall of the casing being formed with an access opening for the access opening, a removable closure for the access opening, an inner wall in said food compartment extending in spaced relation around the end and side walls of the casing and engaged at its upper end with the underside of the conductive bottom wall, the inner wall of the food compartment having an opening registered with said access opening, the inner wall of the food compartment having a bottom wall on its lower edge and spaced upwardly from the casing bottom wall, said supporting means comprising a table frame having an open rectangular form located in the spaces between the food compartment inner wall and the end and side walls of the casing, corner legs on said form extending downwardly therefrom and resting upon the casing bottom wall.

7. A portable ice chest comprising a horizontally elongated open top casing having a bottom wall, end walls, and first and second side walls, a removable insulated cover for the open top of the casing, an inner wall extending in spaced relation around the upper parts of the end and side walls of the casing, said inner wall having a laterally outwardly extending bottom wall on its lower end and a top wall on its upper end, said outwardly-extending bottom wall of said inner wall being engaged with the end and side walls of said casing, said casing end

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and side walls having a continuous laterally inwardly extending top flange on their upper edges, said top flange being spaced below the upper edge of the inner wall, the top wall of the inner wall comprising a downwardly and outwardly angled flange terminating in a horizontal flange engaged with the underside of the top flange, a temperature conductive bottom wall beneath the inner wall bottom wall and in supporting relation thereto, a compressed sealing gasket being compressively engaged between the conductive bottom wall and the inner wall bottom wall, means supporting the conductive bottom wall, said conductive bottom wall being spaced above the casing bottom wall and dividing the interior of the casing into an upper ice compartment and a lower food compartment, a wall of the casing being formed with an access opening for the food compartment, a removable closure for the access opening, an inner wall in said food compartment extending in spaced relation around the end and side walls of the casing and engaged at its upper end with the underside of the conductive bottom wall, the inner wall of the food compartment having an opening registered with said access opening, the inner wall of the food compartment having a bottom wall on its lower edge and spaced upwardly from the casing bottom wall, said supporting means comprising a table frame having an open rectangular form located in the spaces between the food compartment inner wall and the end and side walls of the casing, corner legs on said form extending downwardly therefrom and resting upon the casing bottom wall, and an intermediate leg extending downwardly from said form and resting upon the casing bottom wall, said intermediate leg being located at one side of the access opening.

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