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[54] **PORTABLE REFRIGERATOR AND FREEZER**

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[51] **Int. Cl.** **F25d 3/12**

[58] **Field of Search** 62/46, 371, 372, 384, 385, 62/387, 388, 441

[56] **References Cited**

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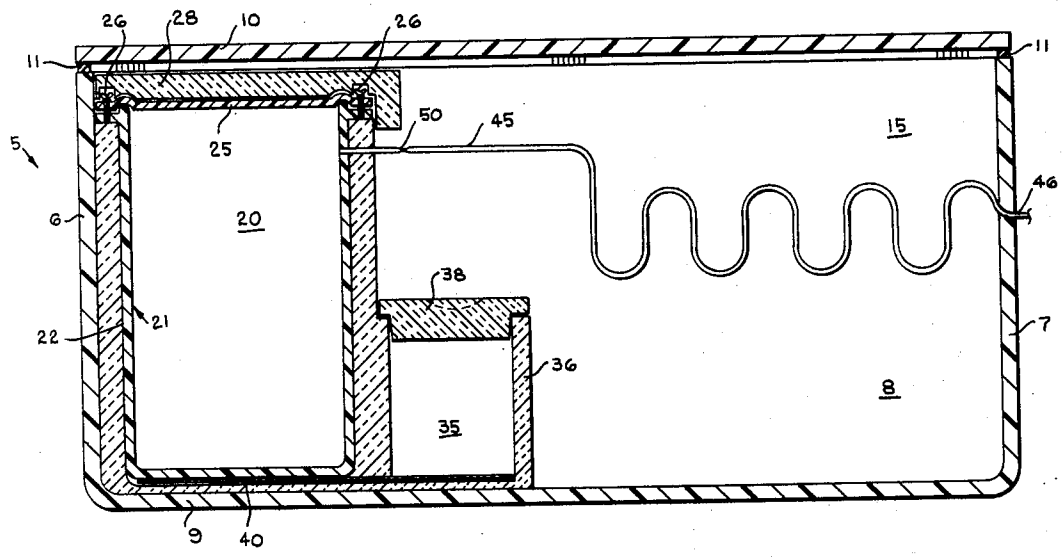
[57] **ABSTRACT**

An insulated container is provided with a first and second insulated compartment, one of which is for receiving solid carbon dioxide. Metal is positioned to communicate the cooling effect of the carbon dioxide as it changes to fluid from the first compartment to the second compartment. Removable closures are provided for each of the compartments as well as the container and a conduit extends from the first compartment and terminates in an opening in the container so that the carbon dioxide as it changes to fluid may be vented to atmosphere. A restriction is provided in the conduit to regulate or control the rate fluid flow of the carbon dioxide.

4 Claims, 1 Drawing Figure



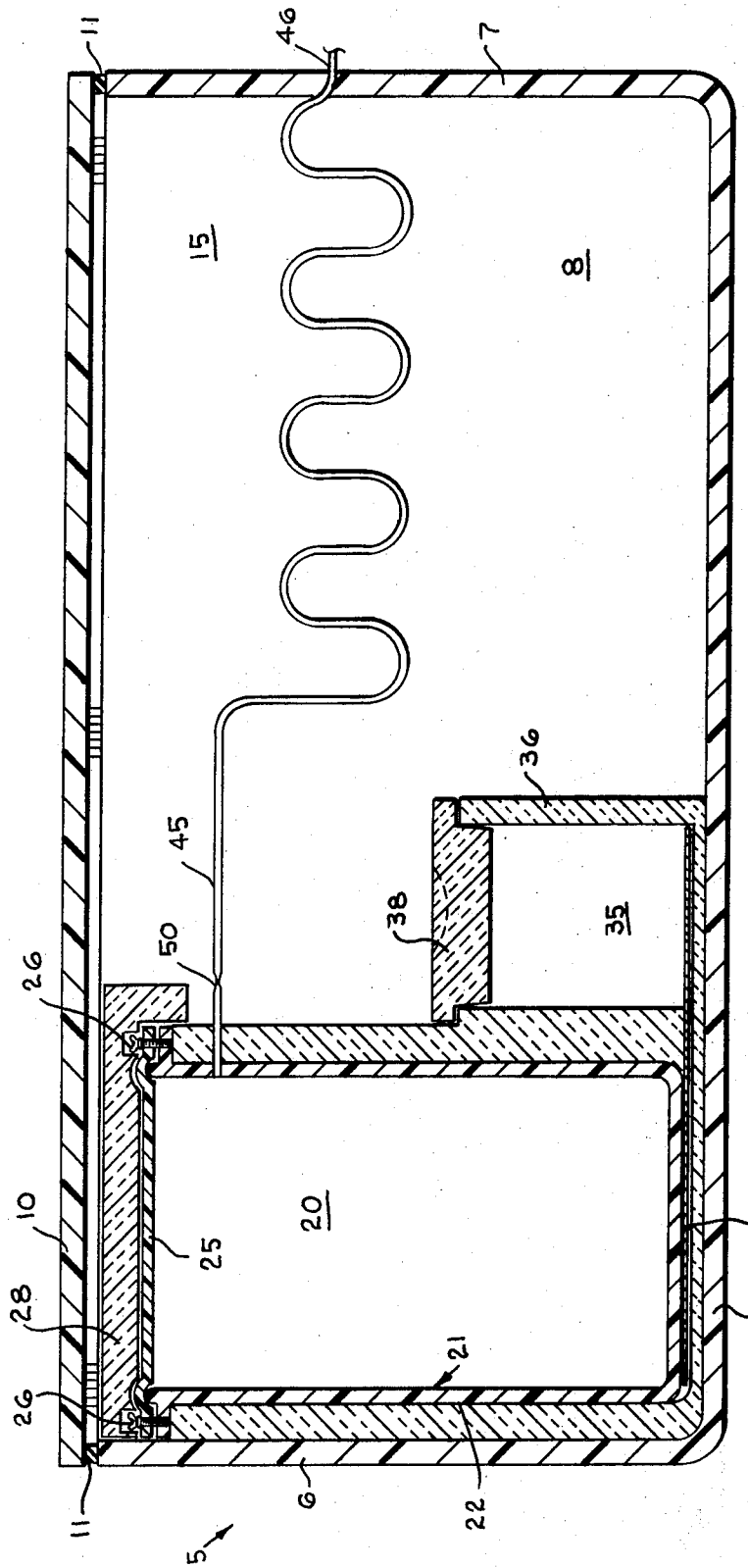


FIG. 1

PORTABLE REFRIGERATOR AND FREEZER

SUMMARY OF THE INVENTION

The present invention relates to a portable combination refrigerator and freezer wherein a container having end, side and bottom walls is provided with two separate compartments, one of which is adapted to receive solid carbon dioxide, and each compartment is provided with a removable closure. Metal means are provided for transfering the cooling effect of the solid carbon dioxide from the one compartment to the second compartment, and a cover is provided for the container so that food or other articles may be placed not only in the container, but in either or both compartments depending upon the temperature at which the substances placed within the invention are to be kept.

BRIEF DESCRIPTION OF THE DRAWING

The single view is a sectional view of the preferred embodiment of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Attention is directed to the drawing wherein the invention is referred to generally by the numeral **5** and is shown as including an insulated container formed of plastic or other suitable material that provides insulation, such container **5** having end walls **6** and **7,** side walls **8** (one of which is not shown) and a bottom wall **9.** A removable cover **10** is provided for the container, and if desired, suitable gasket means as shown at **11** may be also provided to further insulate the interior chamber **15.** A first compartment **20** is provided in the container **5,** such compartment being provided by the enclosure referred to generally at **21** and being insulated as represented at **22** by suitable means such as urethane or other material. The top **25** of the first compartment may be removably secured to the compartment by means of the wing nuts **26,** and the top **25** is also provided with a removable insulation **28** as illustrated.

Immediately adjacent the first compartment **20** is a second compartment **35** formed of suitable insulation referred to at **36** and also having a removable cover **38.** Metal transfer plate means are provided at **40** which extend from the first compartment **20** to the second compartment **35** for transferring the cooling effect of solid carbon dioxide which is to be placed in the first compartment **20.** Thus, the compartment **20,** as well as the compartment **35,** as well as the compartment **15** formed within the container **5,** all are cooled by the carbon dioxide. The temperature in compartment **20** may approach − 109°F.; the temperature in compartment **35** will approach − 50°F.; and the temperature in compartment **15** may be approximately 40°F.

Suitable conduit means **45** extend from the first compartment as illustrated and terminate in any suitable manner in the container to provide a vent opening **46** for venting the carbon dioxide as it changes to gaseous form. Restriction means **50** may be provided in the conduit **45** to restrict the flow of gas from the compartment **20** in a desired manner. If desired, a spring loaded check valve may be employed in lieu of the restriction **50** to regulate the pressure in the first compartment **20** containing the solid carbon dioxide.

From the foregoing, it can be appreciated that articles of food or other substances as desired may be placed either in the second compartment **35** or the larger compartment **15** in the container **5,** depending upon the temperature at which the material is to be kept.

In addition, the present invention may be of any suitable size such as by way of example, that commonly found in a portable ice chest presently in use so that it may be easily transported. A further advantage is that because of the arrangement of the compartments within the container **5,** the temperatures within such container are much less than those ordinarily encountered in a portable ice chest and will be below freezing in certain parts of the container.

The foregoing disclosure and description of the invention are illustrative and explanatory thereof, and various changes in the size, shape, and materials as well as in the details of the illustrated construction may be made without departing from the spirit of the invention.

What is claimed is:

1. A portable refrigerator and freezer comprising:

a. an open top insulated container having side, end and bottom walls;

b. a first insulated compartment within the container for receiving solid carbon dioxide;

c. a second insulated compartment adjacent said first insulated compartment;

d. metal means extending from said first compartment to said second compartment to transfer the cooling effect of the solid carbon dioxide;

e. removable insulated closures for each of said compartments;

f. conduit means extending from said first compartment in heat exchange relation with said container for venting carbon dioxide gas to atmosphere; and

g. restriction means in said conduit to restrict the flow of carbon dioxide gas from said first compartment to the atmosphere.

2. The invention of claim **1** wherein said metal means comprises plate means in the bottom of said first and second compartments.

3. The invention of claim **1** wherein said conduit from said first compartment extends along a side wall of said container.

4. The invention of claim **3** including insulated top means for said container.

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