April 21, 1959 A. A. ROBBINS 2,882,692

FOLDING TYPE CHEMICAL FREEZING PACKAGE

Filed Nov. 23, 1956

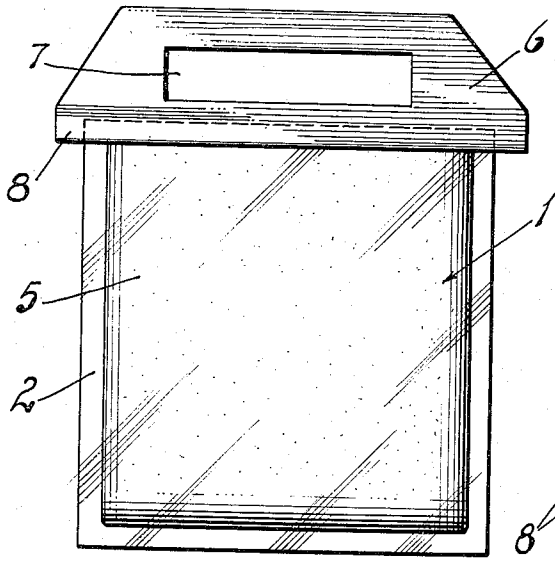


FIG. 1.

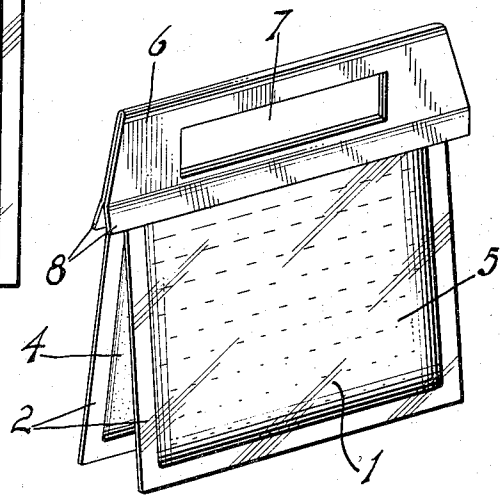


FIG. 2.

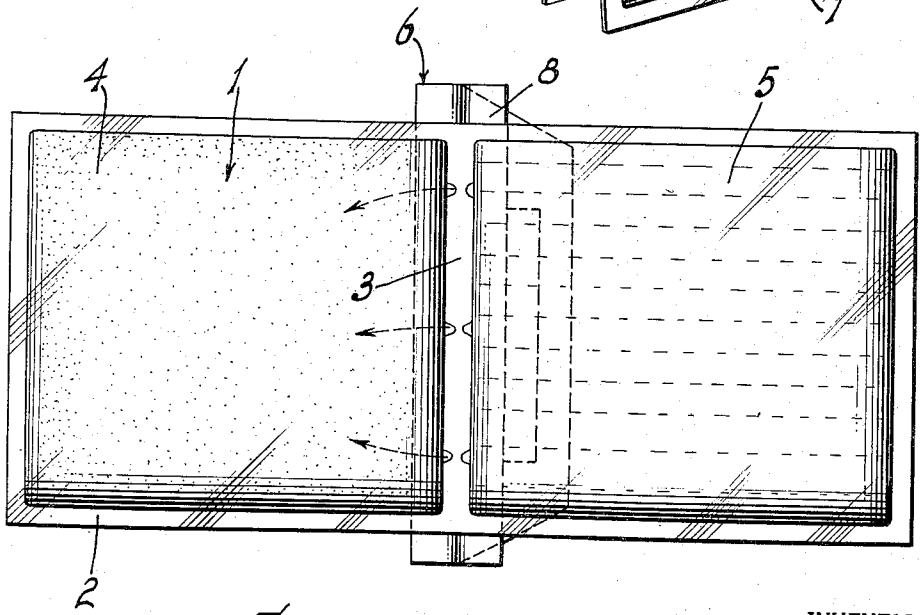


FIG. 3.

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FOLDING TYPE CHEMICAL FREEZING PACKAGE

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3 Claims. (Cl. 62—4)

This invention relates to a chemical freezing package, and particularly to a package in which the chemicals can be easily and simply mixed when desired to reduce the temperature of the package, and also the package is so arranged that it may be easily carried from place to place as desired.

Another object of my invention is to provide a novel chemical freezing package which is so constructed that it may be folded in one position thereof, and may be carried in this folded position and then may be unfolded to a straight or flat position when the chemicals therein are intermixed for the purpose of reducing the temperature of the package.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description and the appended claims.

In the drawing:

Figure 1 is a perspective view of my folding type chemical freezing package.

Figure 2 is a side elevation of the same in folded position.

Figure 3 is a bottom plan view of the same in unfolded position.

It is well known in the chemical art that certain chemicals absorb heat when water is added thereto. The absorbed heat is obtained from adjacent bodies by means of conduction, convection or radiation, or possibly all three. The freezing mixtures will be thus termed in the following specification and may include any of the following chemicals, or any one of many others having the same properties. Some of these freezing mixtures have the following formulae:

$NaC_2H_3O_2$
NH_4Cl
$NaNO_3$
$Na_2S_2O_3$
KI
$CaCl_2$
NH_4NO_3

The addition of water to any of these chemicals will cause a marked reduction in temperature in the surrounding air or to adjacent articles. Consequently, a package containing any of the freezing mixtures when enclosed in a box, carton, hamper, or container will lower the temperature therein and will maintain a low temperature in foods, liquids, cans, bottles, etc., which are placed within the containers, etc.

This application is a division of my previously filed application , Serial No. 591,758, filed June 15, 1956, for Chemical Freezing Package.

In order that the freezing package may be easily carried from place to place and, further, that it may be actuated to reduce temperature at any time desired, I

provide a chemical freezing package of the folding type as follows: An outer envelope or housing **1** is preferably formed of a plastic sheet material, such as polyethylene, vinyl or acetate. This plastic sheet material is usual and well known in the industry, and the sheets are formed with sufficient thickness so that they will not readily tear or break. Furthermore, the plastic sheet is sufficiently dense so that gases will not readily pass therethrough. By gases is meant ammonia, chlorine, etc. The envelope **1** is preferably formed by heat sealing the edges **2**, or by means of a suitable adhesive so that a completely enclosed envelope is provided. A sealed partition strip **3** divides the envelope **1** into two compartments **4** and **5**. The sealed partition strip **3** is preferably formed by placing a release type coating on the inside of the plastic sheet which forms the envelope and subsequent heat and pressure will seal the strip **3**, thus forming the two compartments **4** and **5**. The compartment **4** is filled with a freezing mixture of a type such as specified above, and the compartment **5** is either filled with water or with a chemical containing free water molecules such as sodium carbonate ($Na_2CO_3+5-10H_2O$). The partition strip **3**, which is of the release type as previously described, may be broken, separated or fractured by exerting pressure on either side of the envelope **1**, or upon either of the compartments **4** or **5**.

In order that a transportable package may be provided I fold the envelope **1** along the sealed strip **3** and with the sealed strip at the top of the fold, as shown in Figure 1. A paper strip or handle **6** is attached to the outside of the envelope **1** and along the sealed strip **3**, thus tending to hold the envelope **1** in its folded position, as shown in Figure 1. The handle **6** may also be formed with a slot **7** to facilitate carrying the envelope. The lower edges **8—8** of the handle **6** are glued or otherwise attached to the outer surface of the envelope **1** and parallel to the sealed strip **3**, so that when carried the envelope tends to drop into a folded position. The envelope, however, can be flattened or placed in a horizontal position, as shown in Figure 3, and in this flat position the sealing strip **3** may be separated, fractured, or broken for the purpose of intermingling the water or the hydrous chemical with the freezing mixture.

Having described my invention, I claim:

1. A chemical freezing package comprising an outer sealed envelope, said envelope having a plurality of compartments therein, one of said compartments containing a dry freezing chemical mixture, another of said compartments containing a quantity of water, a separable sealing strip dividing said compartments, a handle secured to said envelope adjacent the sealing strip, said envelope being folded over said sealing strip.

2. A chemical freezing package comprising a sealed envelope, the peripheral edges of said envelope being entirely sealed, a pair of compartments in said envelope, a release type sealing strip dividing said envelope into two compartments, one of said compartments containing a dry freezing chemical mixture, the second of said compartments containing a quantity of water, said envelope being sealed along said release type strip, a paper handle, and means attaching said handle to the envelope adjacent said release type strip, whereby the envelope is retained in a folded position over said release type strip.

3. A chemical freezing package comprising an elongated rectangular envelope sealed on the outer four edges

thereof, a release type sealing strip extending transversely across the envelope and dividing said envelope into two compartments, said sealing strip extending from one peripheral edge of the envelope to another peripheral edge thereof, one of said compartments containing a dry freezing chemical mixture, the second of said compartments containing a quantity of water, said compartments being sealed from each other along said release type strip, a handle extending parallel to the release type strip, and means securing said handle to the outer surface of the envelope parallel to the release type strip and immediately adjacent thereto, said envelope being folded over the release type strip when supported by the handle and said envelope being extendable to a flat elongated position when unsupported by the handle so that the water and the freezing chemical mixture may be intermingled by separating the release type sealing strip.

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