

Dec. 15, 1959

A. A. ROBBINS

2,916,886

UNIT TYPE CHEMICAL FREEZING PACKAGE

Original Filed June 15, 1956

FIG. 1.

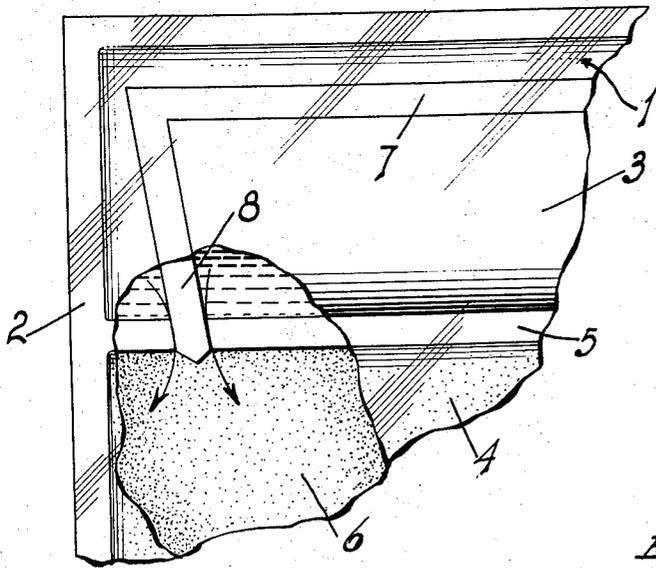
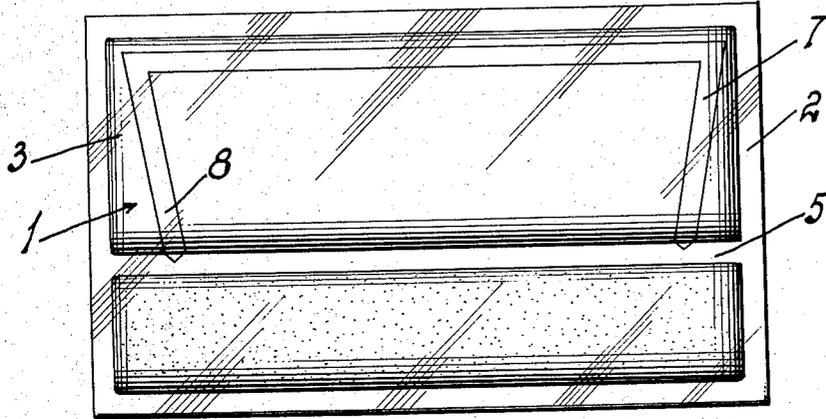


FIG. 2.

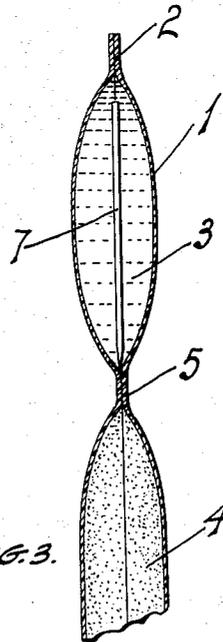


FIG. 3.

INVENTOR.  
ALBERT A. ROBBINS,  
BY

*M. R. Richman*  
ATTORNEY.

1

2,916,886

## UNIT TYPE CHEMICAL FREEZING PACKAGE

Albert A. Robbins, West Covina, Calif., assignor, by mesne assignments, to Kwik-Kold of America, Inc., a corporation of Nevada

Original application June 15, 1956, Serial No. 591,758. Divided and this application November 23, 1956, Serial No. 624,098

2 Claims. (Cl. 62-4)

This invention relates to a chemical freezing package, and particularly to a package in which the chemicals, or the water and a chemical, can be easily and simply mixed when it is desired to reduce the temperature of the package and, consequently, of the surrounding area.

An object of my invention is to provide a novel chemical freezing package of the unit type, consisting of an outer envelope which is divided into compartments, and with a physical means within one of the compartments which perforates or severs the wall or partition between adjacent compartments.

Another object of my invention is to provide a novel chemical freezing package of the unit type which includes an outer integral envelope, the envelope being divided into adjacent compartments, and with a toothed or pointed frame positioned in one compartment to enable the user to perforate or sever the wall or partition between the adjacent compartments of the package.

Still another object of my invention is to provide a novel chemical freezing package of the unit type in which the ingredients positioned in the separated compartments of the package can be intermingled by manually causing the separating wall or partition in the package to be broken or perforated, said perforation or severing of the dividing wall or partition being accomplished manually by the user, the user actuating a pointed frame or article within one of the compartments of the package.

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

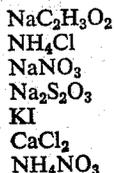
In the drawing:

Figure 1 is a side elevation of my freezing package of the unit type.

Figure 2 is a fragmentary side elevation of my freezing package and illustrating the breaking or perforating of the separating seam strip or partition of the package.

Figure 3 is a fragmentary vertical sectional view of my freezing package.

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



The addition of water to any of these chemicals will cause a marked reduction in temperature in the surround-

2

ing 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 application, Serial No. 591,758, filed June 15, 1956, for "Chemical Freezing Package."

In order that the freezing package may be easily transported and, further, that it may be activated to reduce temperature at any time desired, I provide a chemical freezing package 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 of sufficient thickness so that they will not easily tear or break. Further, the plastic sheet is sufficiently dense so that gases will not readily pass there-through. 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. The envelope 1 is formed into two compartments 3 and 4 by a sealed strip 5, this sealed strip being breakable or may be parted to provide communication between the compartments 3 and 4. The sealing partition or strip 5 has less strength than the outer sealed area 2 so that the envelope 1 will not be ruptured by any manipulation necessary to open, break, or sever the strip 5 in order to provide communication between the compartments 3 and 4. The compartment 4 is filled with a salt 6 which is termed a freezing mixture, as specified above. The sealing strip 5 is formed by a heated iron or some other suitable sealing instrument, or by applying an adhesive so that the compartments 3 and 4 are separate and distinct, except when the strip 5 is severed. The compartment 3 may contain free water, or it may contain a chemical which has an available free water molecule. To permit the intermingling of the water and the freezing mixture 6, I provide a frame 7 which is formed with one or more pointed or sharp comb-like fingers 8, which fingers normally rest on the dividing strip 5 as shown in Figure 1. By applying manual pressure to the top of the frame 7 the fingers 8 are forced through the dividing strip 5, as shown in Figure 2. This provides communication between the compartments 3 and 4 and permitting water to drain into the freezing mixture 6 and mix therewith. If a hydrous chemical is used in one of the compartments, such as sodium carbonate ( $\text{Na}_2\text{CO}_3 \cdot 5-10\text{H}_2\text{O}$ ) then the two chemicals will intermix and the free water in the hydrous chemical will activate the freezing mixture.

Having described my invention, I claim:

1. A chemical freezing package comprising a rectangular envelope formed of a thin flexible plastic material, the peripheral edges of said envelope being all sealed to prevent leakage of material therefrom, a dividing strip extending transversely across the outer envelope, said dividing strip being formed by sealing the walls of the envelope together along said strip whereby said envelope is divided into two separate compartments, a dry freezing chemical mixture in one of said compartments, a quantity of fluid in the other of said compartments, perforating means loosely positioned entirely within one of said compartments, said perforating means having a tooth thereon, the tooth being adapted and arranged to be pushed through the dividing strip to permit intermingling of the fluid and the chemical freezing mixture.

2. A chemical freezing package comprising a rectangular envelope formed of a thin flexible plastic material, the peripheral edges of said envelope being all sealed to prevent leakage of material therefrom, a dividing strip extending transversely across the outer envelope, said di-

3

viding strip being formed by sealing the walls of the envelope together along said strip whereby said envelope is divided into two separate compartments, a dry freezing chemical mixture in one of said compartments, a quantity of fluid in the other of said compartments, a perforating means loosely positioned entirely within one of said compartments, sharpened projections on the perforating means, said sharpened projections being positioned adjacent the dividing strip and extending towards the dividing strip, said projections being adapted and arranged

5

10

4

to be pushed through the dividing strip to permit intermingling of the fluid and the chemical freezing mixture.

References Cited in the file of this patent

UNITED STATES PATENTS

1,897,723	Free -----	Feb. 14, 1933
2,245,738	Taylor -----	June 17, 1941

FOREIGN PATENTS

1,054,170	France -----	Oct. 7, 1953
-----------	--------------	--------------