

Oct. 13, 1942.

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2,298,545

COFFEE PACKAGE

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Fig. 1.

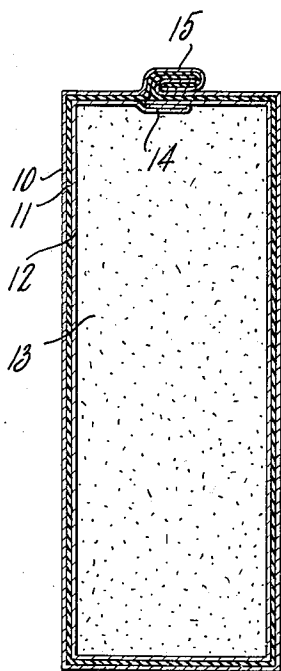


Fig. 2.

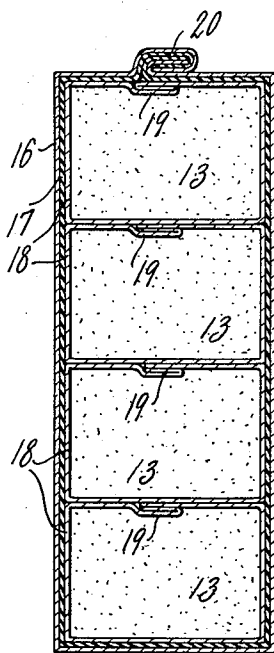
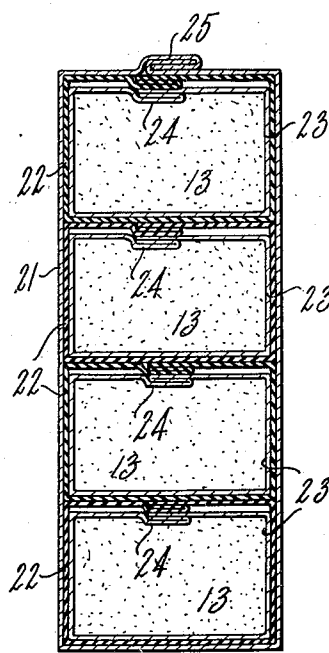


Fig. 3.



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COFFEE PACKAGE

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2 Claims. (Cl. 99-171)

My present invention relates to improvements in the manufacture of bags and the like and more particularly to the manufacture of bags for the packaging of coffee and similar commodities which give off gases on standing and which tend to deteriorate rapidly when exposed to air. This invention relates specifically to the packaging of food commodities which evolve carbon dioxide gas.

Although my invention will hereinafter be described with relation to the packaging of coffee, it is to be understood that the principles of the invention may be applied to the packaging of other products.

As will hereinafter be more particularly described, one of the principal objects of my present invention is to provide, in a package of the type above described, means whereby carbon dioxide gas evolved by the packaged commodity may be dispersed into the air at a rate sufficient to prevent the commodity from creating an internal pressure within the package sufficient to cause it to become distorted or ruptured.

Another object of my present invention is to provide, in a package of the type above described, means whereby carbon dioxide gas evolved by the packaged commodity may be dispersed into the air at a rate sufficient to prevent the commodity from creating an internal pressure within the package sufficient to cause it to become distorted, distended, or ruptured, said means also having the characteristic of preventing flow of air therethrough. It will be appreciated that although the said means will not absolutely prevent the passage of air, it will reduce the rate of flow thereof to a point where it becomes negligible insofar as its effect on the packaged commodity is concerned.

A still further object of my present invention is to provide, in a package of the type above described, a bag made of rubber or analogous material in which the commodity is packaged so that the carbon dioxide liberated by said commodity may be dispersed into the air at a rate sufficient to prevent the formation of an internal pressure which will distort, distend or rupture the package. The use of a rubber bag will also prevent air from adversely affecting the packaged commodity.

These and other objects of the present invention will become more apparent from a study of the following description and by reference to the accompanying drawing in which:

Fig. 1 is a schematic vertical sectional view of a package embodying the principles of the present invention;

Fig. 2 is a view similar to Fig. 1 but showing a modified form of the invention; and

Fig. 3 is a view similar to Fig. 1 but showing another modification of the present invention.

Referring now to the drawing in which like numerals indicate like parts, and, more particularly to the modification disclosed in Fig. 1, I have shown schematically a bag or package comprising a plurality of nested tubes each provided with a suitably formed bottom of any of the conventional types. The outer ply 10 is preferably made of paper, the intermediate ply 11 of rubber, and the inner ply 12 of glassine or other suitable grease resisting material. After the coffee 13 has been packaged the closure 14 of the inner ply is closed but is not sealed, while the intermediate and outer plies are sealed to provide an air-tight closure 15.

The particular type of top closure used is not essential to the present invention. However, in the case of a coffee package the bottom is of the automatic opening or ABC type. It will be noted that the top closure is formed by sealing rubber surfaces together as, for example, by the use of heat and/or pressure. Preferably the top closure used by me is that disclosed and claimed in my copending application Serial No. 294,576, filed September 13, 1939.

The package which I have just described affords many advantages in the packaging of those materials which give off gases on standing and which deteriorate rapidly when exposed to air as, for example, coffee. The rubber used in making the intermediate ply 11 may be uncured and provided with a talc surface in order to prevent "blocking." It may be partially cured or it may be given a quick surface dip to provide a non-blocking surface. Rubber, however, which has been so cured as to remove substantially all "stretch" does not permit the passage of carbon dioxide gas therethrough at a rate to make its use commercially practicable. Rubber compounds such as halogenated rubber, rubber hydrochloride, etc. have an internal structure such as to prevent its use in the packaging of coffee in accordance with the principles of my present invention for the same reason, namely, that carbon dioxide gas evolved by the coffee will not pass through the material at a sufficiently rapid rate. Another advantage in the use of rubber in the packaging of coffee is the fact that although carbon dioxide gas will pass therethrough at a fairly rapid rate air will not pass through so as to contact with the coffee. As is well known in the packaging of coffee, coffee contains many volatile and

aromatic oils which become rancid when exposed to the oxygen of the air.

Thus by the use of a rubber ply sealing or undue distortion of the package will not take place since at no time can the carbon dioxide gas create any appreciable internal pressure and at the same time air will not contact with the coffee.

The use of the inner glassine or other grease resisting material as the inner ply is likewise advantageous since the volatile oils would otherwise tend to strike through and spoil and deteriorate the rubber. This inner ply in reality constitutes merely a liner or protecting medium for the rubber and of course need not be sealed and preferably is not sealed.

In some cases it is desirable to package the coffee in a plurality of small units contained within a large package. For example, assuming that the package disclosed in Fig. 2 is a one pound coffee package, each individual unit will contain one quarter pound coffee. The package of Fig. 2 is of the same general construction as that disclosed in Fig. 1. The outer ply 16 is made from paper, the intermediate ply 17 from rubber. In order to form the individual units each one quarter pound is placed within an inner bag formed from glassine or some other suitable grease resisting material. As in the case of Fig. 1 the closure 19 of each individual unit is not sealed. The closure 20 for the package proper is formed in the same manner as the closure 15 disclosed in Fig. 1.

Referring now to Fig. 3 I have shown an alternate method of making the package and it will be noted that although the outer ply 21 is made from paper, each individual unit is encased first in a container 22 formed from rubber within which is a container 23 formed from glassine or other suitable grease-resisting material. The closures of the glassine container again are not sealed; whereas the closures for the rubber containers are sealed. The package is provided with a conventional form of closure 25.

It will be noted that in each form of the invention the ply formed from glassine or other grease-resisting material is not sealed, first, because there is no need for sealing and, second, because it permits a ready escape of the carbon dioxide gas through the closure so as to preclude any possibility of distention or distortion of the package through the creation of internal pressure within the coffee package.

Although my present invention has been described with respect to three forms thereof it will be appreciated that the package may be constructed in a number of ways, depending upon the desire of the particular manufacturer and purchaser. The essential feature of the invention is to encase the coffee in a rubber container which will permit carbon dioxide gas evolved by the coffee to pass therefrom at a rate sufficient to prevent distortion of the package and at the same time block the ingress of air into the package. By maintaining the coffee out of contact with the air the coffee will not become rancid.

Having now described my invention as required by the patent statutes, what I claim as new is:

1. A package particularly adapted for coffee which evolves a gas upon standing and which is subject to deterioration upon exposure to air, including a container made from flexible, partially cured sheet rubber, coffee disposed within said container, and a closure formed in said container, said closure being substantially impervious to air, and said rubber being so partially cured as to be substantially impervious to air and relatively pervious to the gas evolved by said coffee whereby said container will substantially exclude air from said package and will permit the gas evolved by said coffee to escape at a rate sufficiently rapid to avoid creation of substantial gaseous pressure within said container and to prevent bursting thereof.

2. A package particularly adapted for coffee which evolves a gas upon standing and which is subject to deterioration upon exposure to air, including a container having an outer ply of paper, an intermediate ply of partially cured sheet rubber, an inner ply of greaseproof sheet material, coffee disposed within said container, the mouth of said inner ply being closed but unsealed and the mouth of said intermediate ply being closed substantially impervious to air and the rubber of said intermediate ply being so partially cured as to be substantially impervious to air and relatively pervious to the gas evolved by said coffee whereby said container will substantially exclude air from said package and will permit the gas evolved by said coffee to escape at a rate sufficiently rapid to avoid creation of substantial gaseous pressure within said container and to prevent bursting thereof.

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