

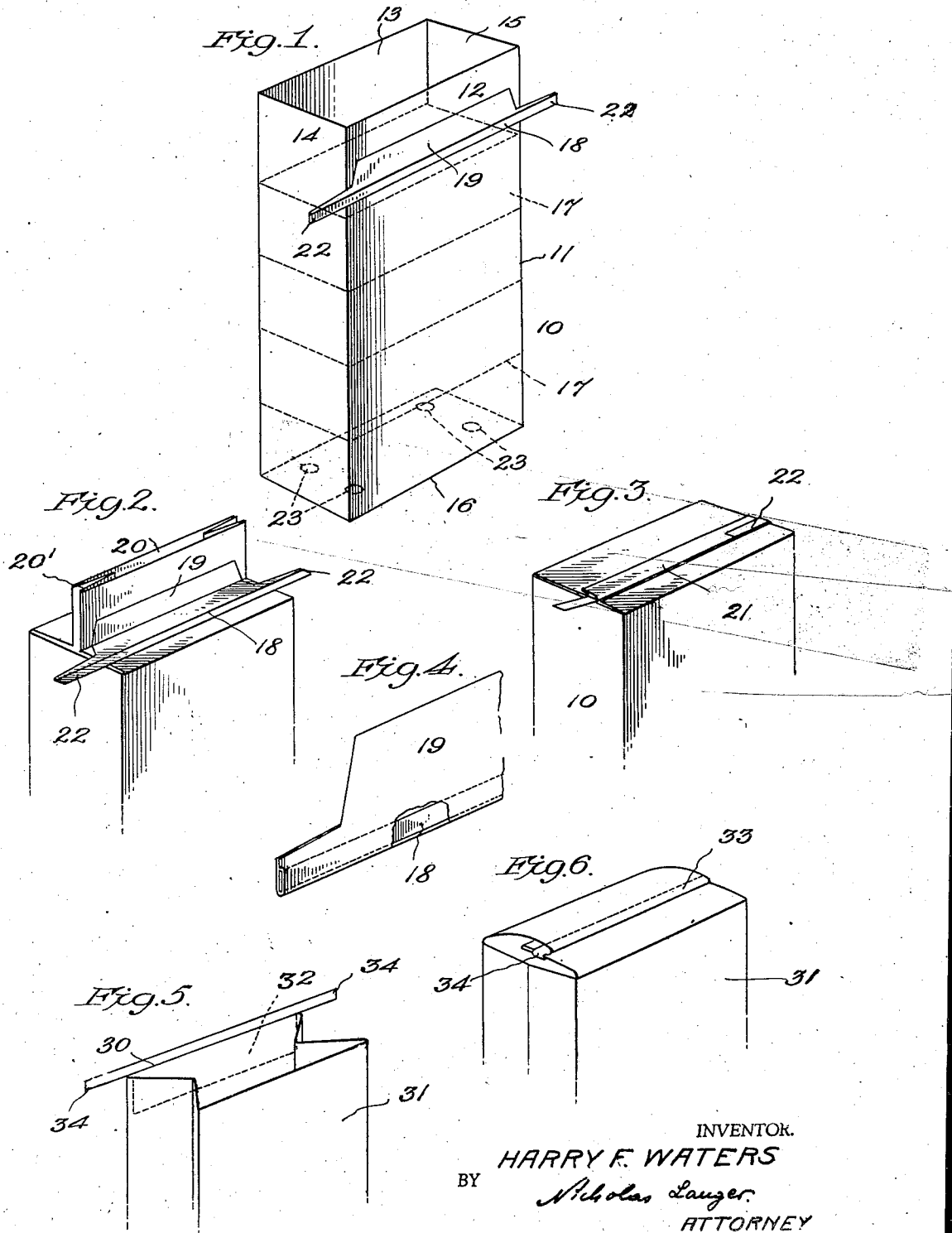
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H. F. WATERS

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PACKAGE AND CLOSURE THEREFOR

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INVENTOR.

HARRY F. WATERS

BY

Nicholas Langer.

ATTORNEY

UNITED STATES PATENT OFFICE

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PACKAGE AND CLOSURE THEREFOR

Harry F. Waters, New York, N. Y.

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The present invention relates to packages, and, more particularly, to packages of the type in which a plurality of unitary containers is confined, and to a closure for such packages.

In the distribution of various commodities, particularly foodstuffs, including coffee and similar perishable materials, various types of fluid-tight containers were used to an increasing extent in the recent past. Particularly in packaging coffee in its roasted and comminuted form, it was desirable to hermetically seal the package in order to prevent oxidation of the valuable volatile ingredients of the coffee by the atmospheric oxygen and to prevent escape of such essential and volatile ingredients into the air. It was found that the best results are obtained by confining the ground coffee in a container of duplex or composite character comprising an inner fluid-tight bag or liner and an outer reinforcing carton. To prevent the detrimental action of air on the coffee, it was preferred to withdraw most or all of the air from the inner bag or liner to cause collapsing thereof around the coffee granules and hereafter to hermetically seal said inner bag. Containers of the described character are disclosed for example, in my co-pending application Serial No. 329,254, filed April 12, 1940.

In order to fully benefit by the advantage of vacuum packaging as disclosed in the said co-pending application, I found it to be desirable to use unit containers of relatively small size sufficient to hold, for example, a quarter-pound of coffee. In this manner, the small amount of coffee in one unit container would be used within a relatively short time so that all of the coffee remained in its original and fresh condition. Of course, since coffee is generally sold in larger quantities such as one or two pounds even in the retail trade, it was desirable to combine a number of such small unitary and vacuum-packed containers into a bigger retailing unit containing four, eight, or more of such unitary containers.

Generally speaking, a paper wrapper secured around a number of unitary containers and sealed or adhesively secured thereto was satisfactory for the purpose. Considerable difficulty was, however, experienced in carrying out this packaging procedure on a practical and commercial scale due to the fact that the so-called tight-wrapping machines are rather complicated and expensive pieces of machinery which were prohibitive in cost for the average small distributor. Although various attempts were made to provide a solution of the outstanding problem and to provide the art with a simple and inexpensive packaging

medium and method of the character described, none of these suggestions and proposals was completely satisfactory and successful on a practical scale.

It is an object of the present invention to provide a novel package particularly for the purpose of distributing a plurality of individually sealed units of packaged merchandise in a single and inexpensive merchandising or retailing unit.

It is another object of the present invention to provide a package of novel and improved character comprising a plurality of individually sealed unitary containers and an improved container or packaging unit for holding these unitary containers within a small and confined space.

It is a further object of the present invention to provide a novel package for the retail distribution of coffee and similar commodities including a bag squared-up from collapsed form and a plurality of individual hermetically-sealed containers within said bag in superposed position.

Still another object of the invention is the provision of a bag of the automatically opening bottom type having air vents or discharge openings incorporated therein to facilitate the introduction of a plurality of snugly fitting unitary containers therein.

It is also within the contemplation of the invention to provide a novel closure device for packages of the described character adapted to maintain the mouth portions of the package or bag in a sealed or closed condition and capable of being opened and closed a plurality of times for the individual withdrawal of unitary packages therefrom.

The invention also contemplates a package of the described character which is simple in construction, inexpensive to make and to use and which may be readily manufactured at a low cost on a practical scale without requiring any expensive machinery.

Other and further objects and advantages of the invention will become apparent from the following description taken in conjunction with the accompanying drawing in which—

Fig. 1 illustrates a perspective view of a preferred embodiment of the present invention into a package containing a plurality of individually sealed unitary containers;

Fig. 2 depicts the container shown in Fig. 1 in its partially closed form prior to applying the closure device of the invention thereto;

Fig. 3 shows a similar view of the upper portion of the package after it has been closed by the closure means of the invention;

Fig. 4 is an enlarged and fragmentary perspective view of the closure device;

Fig. 5 illustrates a perspective view, also fragmentary, of the upper portion of a conventional closure device in combination with a bag; and

Fig. 6 depicts the conventional closure device shown in Fig. 5 in its operative position.

Referring now more particularly to Fig. 1 of the drawing, reference character 10 generally denotes a package embodying the principles of the present invention. This package comprises a bag 11 of generally rectangular character having main panels 12 and 13 and end panels 14 and 15. A bottom panel 16 defines the lower end of the packaging space provided by the main and end walls or panels. Although bag 11 may take a number of different shapes or forms, I prefer to use a bag of the automatically opening bottom type such as an ABC or satchel-type bag due to the facility with which such bags may be manufactured with conventional machinery and may be squared-up from collapsed form prior to filling them with the contents. Within bag 11, I provide a plurality of individual or unit containers 17 which are of such character and shape as to snugly fit the inner space of the bag in its completely squared-up condition. I prefer to have these individual containers of a rectangular shape and individually comprising an outer carton and in inner vacuum-packed and sealed bag, or liner such as are disclosed in my aforesaid co-pending application, Serial No. 329,254. While in the drawing I have shown only four of these unitary containers, obviously any desired number of unitary packages may be employed according to the type of merchandise packaged.

On the upper portion of main panel 12, I secure a tie strip which essentially comprises a foldable and form-retaining metallic strip 18 and a mounting strip 19 of paper. Mounting strip 19 has its lower and wider portion wrapped around metal strip 18 and is adhesively secured thereto while its upper tapering end is glued or otherwise secured to the outer face of main panel 12. As it will be best observed in Fig. 2 of the drawing, the tie strip is secured to bag 11 in such a region that in the completed, filled and erected position of the bag, the tie strip will assume a substantially horizontal position together with at least a portion of mounting strip 19. It will be likewise observed that the tie strip protrudes beyond the end walls or panels 14 and 15 at each end thereof. The construction of the tie strip will be best understood from Fig. 4 which clearly indicates the manner in which mounting strip 19 is connected to the metallic strip 18 forming the operative and deformable element of the tie strip.

From the foregoing description, the operation of my novel package and closure will be readily understood by those skilled in the art. First of all, bag 11 is squared-up from the collapsed form in which it is shipped and stored by means of a suitable device or manually by gripping one of the main panels at the upper end thereof and shaking the bag. Hereafter, the desired number of unitary containers 17 may be introduced into the inner space of this squared-up bag either manually or by means of a suitable filling device. The next step consists in collapsing the upper terminal portions 20 in order to bring the upper ends of main panels 12 and 13 into a face to face position. This folding or collapsing operation is facilitated by means of gussets 20' provided in end panels 14 and 15. Collapsing of mouth por-

tions 20 will bring tie strip 18 and the lower portion of mounting strip 19 into a horizontal position while the upper portion of mounting strip 19 will extend vertically upwards. (Fig. 2).

The collapsed walls of the mouth portions of the bag may be adhesively secured to each other either by means of a suitable adhesive or by means of the application of heat and pressure to a transverse strip thereof, provided there is a thermoplastic coating or layer on the surfaces facing each other. The collapsed and sealed mouth portions may be folded a plurality of times so that a reinforcing fold 21 is obtained which is resting substantially in superposed position upon tie strip 18. This fold may be retained in its folded and closed position by folding the two extremities 22 of tie strip 19 above fold 21, as this is indicated in Fig. 3 which illustrates one end of the tie strip already folded while the other still extends in a substantially horizontal direction. In this position, the tie strip is capable of permanently holding fold 21 and thereby bag 11 in its closed position. When it is desired to withdraw one or several of the unit containers from the bag, the ends of the tie strip may be folded back into their horizontal position to permit opening of the mouth of the bag. This procedure may be repeated several times until all of the contents has been removed and consumed. To facilitate the introduction of the unit containers into the bag, a plurality of small openings or vents 23 may be provided in the bottom wall of the bag to provide a channel through which the air may escape during the introduction of the snugly fitting unitary containers. Of course, these openings or air vents may be provided in some other portion of the bag, such as in the end walls in proximity to the bottom wall, with equal or similar results.

It will be noted that the package and the closure device of the invention provide various important advantages. Thus, first of all, the package of the invention makes it possible to merchandise and to sell a plurality of unit containers of an individually packed and sealed character as a single merchandising unit. Thus, for example, four unit containers, each containing a quarter-pound of vacuum-packed coffee, may be sold in a single one-pound coffee package.

It is also to be observed that the package of the invention does not require any expensive wrapping machinery but may be advantageously carried out on a relatively small scale, the manual or automatic filling of the packages with unit containers being greatly facilitated by the provision of the air channels or vents in the package. Of course, if desired, the bag in itself may be made fluid-tight and may be hermetically sealed for example, by means of providing thereon an inner layer or coating of a suitable fluid-tight thermoplastic material or by integrally forming a bag of such material. Examples of such thermoplastic materials are chlorinated rubber products including Pliofilm, vinyl resins and the like. Obviously, if it is desired to hermetically seal and possibly to vacuum the bag, the air holes or vents are omitted.

Furthermore, the closure device of the invention has the advantage of extreme simplicity of structure and operation. Due to the fact that the tie strip is mounted at a substantial distance from the top opening of the package, the sealed transverse strip at the top opening of the bag may be removed by cutting or tearing off the

same and the tie strip will remain attached to the bag and is capable of being used for repeated closure of the package. In addition, as it will be best observed in Fig. 3, due to the foregoing novel intermediate arrangement of the tie strip, the associated mounting strip 19 is substantially covered by the upper closing fold 21 of the package. Thus, mounting strip is masked or covered by fold 21 and may be constituted of plain, unprinted paper without interfering with the attractive appearance of the finished package. Of course, this permits dispensing with one of the printing operations heretofore necessary in manufacturing a saleable and attractive package.

To further facilitate the appreciation of the present invention, in Figs. 5 and 6 is shown a type of prior and conventional tie strip which is at present employed on a large scale in packaging various commodities. It will be readily seen that the tie strip 30 is mounted above the top end of a bag 31 by means of a suitable downwardly directed mounting strip 32 which is adhesively secured to the bag. In the closed position of the bag depicted in Fig. 6, the mouth walls of the bag are collapsed and the resulting collapsed portions are folded to a fold 33. The bag is retained in this folded and closed position by folding the outer extremities 34 of tie strip 30 downwardly and tucking them into the space resulting between the top fold of the bag and the top surface of the merchandise confined in the package. Of course, this procedure is feasible in packaging slightly compressible commodities, such as loose, granular coffee, but can not be carried out when relatively hard, form-retaining and rectangular individual containers are to be packaged.

Moreover, as it will be likewise observed in Fig. 6, in the completed form of the package, the top portion of tie strip 30 and of mounting strip 32 will be exposed to view thereby necessitating the provision of a suitable print thereon which has to harmonize with the general color scheme of the package. Of course, this entails additional expense which is now eliminated by the present invention.

Although the present invention has been described in connection with a preferred embodiment thereof, variations and modifications may be resorted to by those skilled in the art without departing from the principles of the present invention. I consider all of these variations and modifications as within the true spirit and scope of the present invention, as disclosed in the foregoing description and defined by the appended claims.

I claim:

1. A package for holding units of merchandise substantially conforming to the cross section thereof which comprises a bag adapted to hold a plurality of such units, and at least one air outlet port in the lower portion of said bag to facilitate the escape of air therefrom during filling.

2. A packaging medium for holding snugly fitting units of merchandise which comprises a bag having opposed pairs of panels and adapted to hold a plurality of such snugly fitting units in superposed position, and air vents in proximity to the lower extremity of said bag to permit the escape of air from said bag during the introduction of said units.

3. A packaging medium for holding a plurality of units of merchandise which comprises a bag adapted to be squared-up from collapsed form and to hold a plurality of such units of a generally rectangular shape in superposed snugly fitting position, and a plurality of holes in the bottom wall of said bag to permit the escape of air therefrom and to facilitate the introduction of snugly fitting units therein.

4. A package for holding a plurality of normally non-compressible individually packaged units of merchandise which comprises a bag of the automatically opening bottom type adapted to be squared up from collapsed form and to hold a plurality of such units of rectangular shape in superposed snugly fitting position, a plurality of holes in the bottom wall of said bag to permit the escape of air therefrom and thereby to facilitate the introduction of snugly fitting units therein, and means for holding the mouth portions of said bag in the closed position.

5. A package for holding a relatively large merchandising unit of a commodity comprising in combination a bag of the automatically opening bottom type squared up from collapsed form to a substantially rectangular cross section, a plurality of rectangular-shaped normally non-compressible individually sealed containers within said bag in superposed position and closely conforming to the inner walls thereof, each of said containers holding a submultiple of said large merchandising unit, a plurality of holes in the bottom wall of said bag, and means including a transverse tie strip in the upper terminal region of said bag but at a substantial distance from the top end thereof to hold the mouth portions of the bag in the closed position.

6. A package for holding a relatively large merchandising unit of a commodity comprising in combination a bag of the automatically opening bottom type squared up from collapsed form to a substantially rectangular cross section, a plurality of rectangular-shaped individually vacuum-packed normally non-compressible containers within said bag in superposed position and closely conforming to the inner walls thereof, each of said containers holding a submultiple of said large merchandising unit, a transverse seal bonding the mouth walls of said bag together, and a tie strip for holding the upper terminal portions of said bag in a folded and flat position.

7. A package for holding a relatively large merchandising unit of a commodity comprising in combination a bag of the automatically opening bottom type fluid-tight and fusible at least on the inner face thereof squared up from collapsed form to a substantially rectangular cross-section, a plurality of rectangular-shaped individually vacuum-packed normally non-compressible containers within said bag in superposed position and closely conforming to the inner walls thereof, each of said containers holding a submultiple of said large merchandising unit, a transverse heat sealed seam hermetically sealing the mouth opening of said bag, and a transverse tie strip remote from the top extremity of said bag to hold the upper terminal portions of said bag in a folded and flat position.

HARRY F. WATERS.