Jan. 14, 1941. P. M. GILFILLAN 2,228,451

METHOD OF PACKAGING

Filed April 9, 1938

Fig. 1.

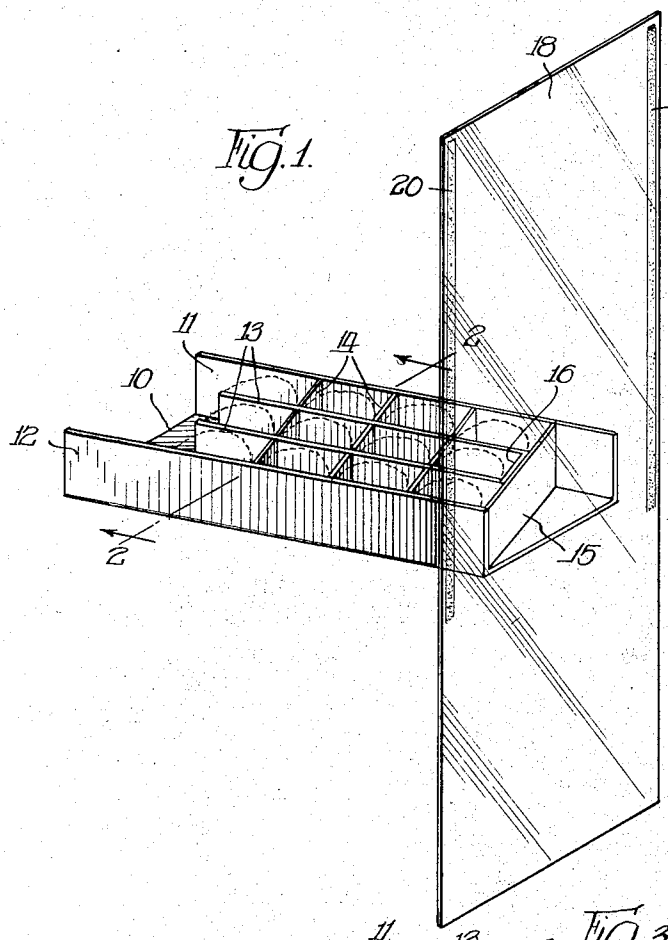


Fig. 2.

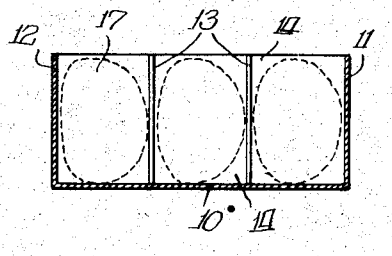


Fig. 3.

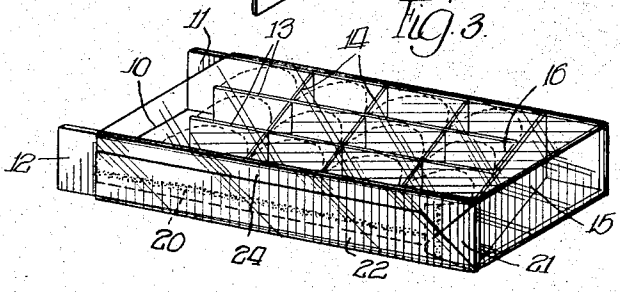
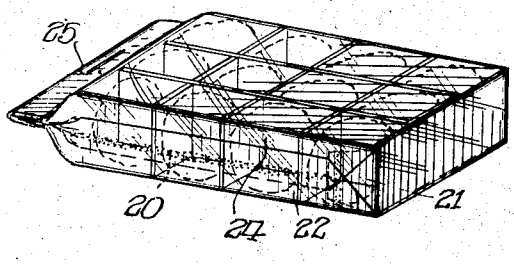


Fig. 4.



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METHOD OF PACKAGING

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Application April 9, 1938, Serial No. 201,176

3 Claims. (Cl. 93—3)

The present invention relates to an improved type of container or package and to the method of forming and loading the package with articles to be merchandised therein.

A principal object of the invention is the provision of an improved method of loading containers of the type described in my prior Patent No. 2,100,739, issued November 30, 1937.

An additional object of the invention is the combination with containers of the type described of an internal filler for holding cookies and other articles, the filler being compressible or capable of being distorted to provide different widths during the loading operation and afterwards.

Still another object of the invention is the formation of packages by the use of an open tray mandrel which is loaded with the articles to be packaged, preferably including a filler construction, prior to formation of a container about the mandrel by the use of a pre-applied line of thermoplastic adhesive.

These and other objects will be observed upon a consideration of the following description of a preferred embodiment of the invention and by reference to the accompanying drawing, in which

Fig. 1 is a perspective view showing an open topped tray carrying a filler and being positioned adjacent a transparent container blank;

Fig. 2 is a cross-sectional view taken along line 2—2 of Fig. 1;

Fig. 3 is a view showing the tray having the container folded about it in encompassing relation with respect to the contents of the tray; and

Fig. 4 shows the final package formed by removing the tray and sealing the top of the container.

As shown in my prior Patent No. 2,100,739, a container which has met with great favor in the packaging industry may be formed by applying to marginal edges of a web of Cellophane lines of thermoplastic adhesive, the container blank then being folded about a hollow mandrel to provide continuous front, bottom and rear walls, and overlapped sealed edge sections forming the side walls of the container. The contents to be packaged in the container of my prior patent were disclosed as preferably being inserted through the open end of the hollow mandrel before the mandrel is withdrawn from the container. Thereafter when the mandrel is withdrawn the contents are left in the container, which is sealed in any desirable manner to complete the packaging process. In accordance with the present invention there is provided an improved method of forming and loading the container and a filler type of supporting construction for maintaining the container in the desired form.

As shown in Fig. 1, there is provided a tray member 10 having the upwardly extending side walls 11 and 12. It will be noted the tray does not have end sections nor does it have a top. In the packaging of articles such as cookies, candy and the like it is desirable that the articles be retained in the container in orderly arrangement. Filler constructions have been used in many types of packages for this purpose. A filler of this general type is indicated as being positioned in the tray 10. This filler consists of the longitudinal strips 13 and the transverse strips 14 interlocked with the longitudinal strips in the usual manner. The filler is provided with a transverse end section 15 which may be interlocked with the longitudinal sections or strips 13 in any suitable manner. In the drawing the end strip is shown as being spot-glued to an end connection 16 joining the two longitudinal strips. The parallel connection of the transverse filler strips and the longitudinal filler strips allows the filler to be collapsed into flattened condition in which the various filler strips lie in adjacent relation.

The outside width of the filler 10 is substantially that which it is desired to impart to the finished package. As the walls of the side sections 12 have some material width and as it is desired to employ transverse filler strips 14 in the container with such a width that there is a reasonably tight fit of the filler within the container, it will be seen that the filler strip 14 must have a width substantially the same as the outside width of the tray 10. As the interior space within the open tray 10 is not sufficient to provide the necessary width, the tray is assembled with the filler in such a manner that the transverse sections 14 of the filler are in diagonal or angular position within the tray, as shown in Fig. 1. This angular placement provides ample room for the relatively wide transverse strips 14 and after placement in the tray in this manner the articles to be packaged in the final container are placed in the filler, as shown in the drawing. These articles, indicated at 17, may be nested cookies or candy or each of the cells of the filler may contain a single article.

After assembly of the open tray, filler, and contents for the filler, the tray has formed about it

a container in the manner described in my aforesaid patent. That is, a container blank 18, preferably composed of a transparent material such as Cellophane, is provided with marginal lines of a preapplied thermoplastic adhesive. These lines indicated at 19 and 20 are on the outside of the blank and extend along the edges for the length of one of the sides of the container and the bottom of the container. The end of the tray 10 adjacent the end 15 of the filler strip is contacted with the approximate center of the container blank and the latter is folded about the open tray to form continuous front, side and bottom walls. The blank 18 is somewhat wider than the tray and when so folded about the tray the blank has marginal extensions along its sides and bottom. The exterior portions of the marginal extensions of one of the sides and the bottom carry the glue lines 19 and 20. The marginal extensions of the bottom are folded over against the side walls 11 and 12 of the tray 10, one of these folded-over extensions being shown in Figs. 3 and 4 at 21. Thereafter the marginal extensions of the front of the blank carrying the lines 19 and 20 are folded over in overlapped relation with respect to the slats 21 and against the sides of the tray, thereby leaving the glue lines in exposed position. The extensions on the rear side of the container blank then are folded over in overlapped relation with respect to the bottom extensions 21 and the front extensions 22, the rear side extensions being indicated at 24. The completed folding operation provides a continuous thermoplastic glue line between the folded-over extensions, and the container is completed by applying heat and pressure to the sides 11 and 12 of the open tray, whereby the thermoplastic adhesive is melted sufficiently to seal the extensions on the sides and bottom of the container blank.

The tray is preferably formed of a rigid material such as aluminum so that the sides 11 and 12 will be sufficiently rigid to withstand the folding and heating and sealing operation. It further is preferred that a material which will offer protection against the heat of the sealing operation be employed.

The assembled container and tray produced in the manner described is indicated in Fig. 3. It will be seen that the container is completed about the open tray and that the filler and its contents still are retained in the tray. The tray then is pulled out of the container without removing the filler and its contents. When the tray is removed the transverse filler strips 14 then are provided with more room and the filler strips assume the position within the container shown in Fig. 4. That is, the bottom strip 15 is positioned adjacent and parallel to the bottom of the container and the other strips are also parallel to the bottom of the container and perpendicular to the side walls thereof. In assuming this changed position, the filler expands to provide a close fit with the walls of the container.

After completion of the container-forming and loading process as described, the finished container may be closed as by folding over and sealing the top edges, as shown at 25 in Fig. 4.

It will be evident that many changes may be made in the invention as described herein for purposes of explanation, and such changes are intended to be included in the appended claims.

I claim:

1. The method of forming packages, which comprises providing an open topped tray having a bottom and side walls, placing in said open topped tray a filler having transverse and longitudinal strips, the transverse strips being wider than the interior of the tray and being placed in angular relation with respect to the side walls of the tray, loading said filler with articles to be packaged, forming a container about said tray, and withdrawing said tray without withdrawing said filler and articles.

2. The method of forming packages, which comprises providing an open topped tray having a bottom and side walls, positioning in said tray a filler of greater width than the interior of said tray, folding a container blank about said tray in such a manner as to provide continuous front, bottom and rear walls, folding extensions on said blank against the sides of said tray, sealing said extensions, and withdrawing said tray without withdrawing said filler.

3. The method of forming packages, which comprises providing an open faced tray having only a bottom and side walls, positioning in said tray a retaining member for articles to be packaged, inserting the articles to be packaged in said retaining member through the open face of the tray after the retaining member has been positioned in the tray, folding a container blank about said tray in such a manner as to provide a continuous front, bottom and rear wall, folding extensions on said blank against the sides of said tray, sealing said extensions, and withdrawing said tray without withdrawing said retaining member.

PAUL M. GILFILLAN.