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J. W. THOMSON, JR

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SEALING MEANS FOR EMPTY GLASS CONTAINERS

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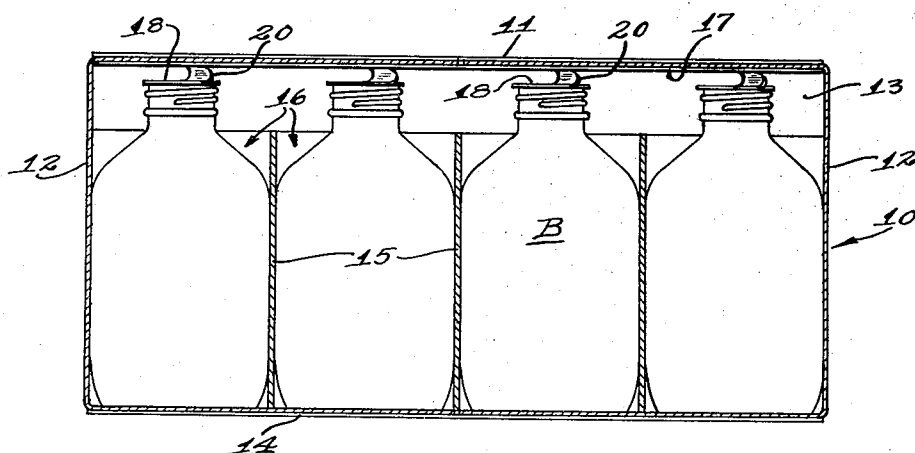


Fig. 1.

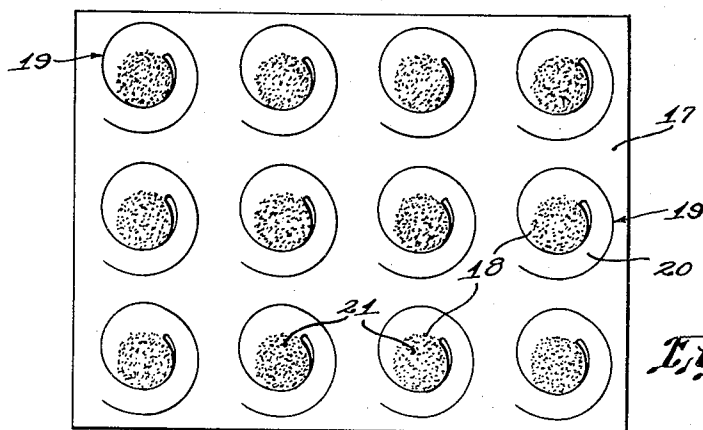


Fig. 2.

Fig. 3.

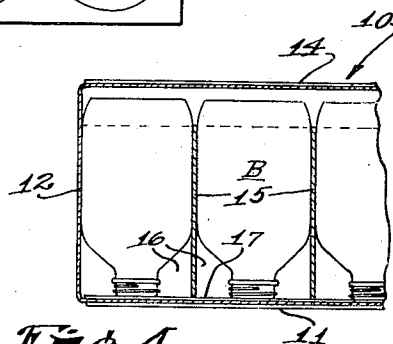
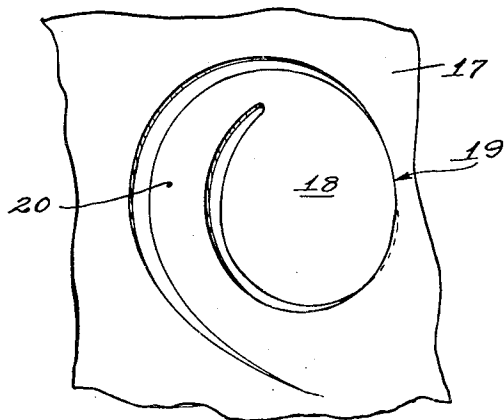


Fig. 4.

INVENTOR
JOHN W. THOMSON JR.

BY
Rule & Stogge
ATTORNEYS

1

2,950,814

SEALING MEANS FOR EMPTY GLASS CONTAINERS

John W. Thomson, Jr., Menlo Park, Calif., assignor to Owens-Illinois Glass Company, a corporation of Ohio

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4 Claims. (Cl. 206—65)

The present invention relates to improvements in means for temporarily sealing empty bottles against entry thereinto of dust and other foreign matter from the time they are annealed in the plant in which they are produced until they reach the customer packer and are placed upon his filling and closing line.

In patent to Barnby, No. 2,018,005, issued October 22, 1935, there is disclosed means intended to perform the basic function of my invention. The patented structure however is relatively deficient since it is possible, during handling and shipment of cartons incorporating such structure, that the containers may shift sufficiently relative to the sealing sheet or cover as to break the seal and as a consequence permit entry of dust, etc. into the containers.

An important object of my invention is the provision of means insuring maintenance of the desired temporary seal irrespective of any normally expected shift in position of the sealed containers relative to each other or as a group within the shipping carton.

Another object of my invention is the provision of a relatively fixed cover sheet which carries sealing disks separably securable upon the mouths of bottles and jars and capable of multi-directional movement with the bottles relative to the main sheet and the enclosing carton.

Other objects will be in part apparent and in part pointed out hereinafter.

In the drawings:

Fig. 1 is a vertical sectional elevational view illustrating my invention in conjunction with an inverted shipping carton filled with empty glass bottles.

Fig. 2 is a bottom plan view of the sealing means and carrier sheet.

Fig. 3 is a perspective view showing in some detail the specific form of each sealing element and the connecting means which provides for independent multi-directional movement of each such element.

Fig. 4 is a fragmentary sectional elevational view showing the empty bottles temporarily sealed and occupying inverted positions in keeping with one widely used method of cartoning containers.

My invention is shown incorporated in a package comprising a conventional paper-board shipping carton 10 having bottom, side and end walls 11, 12 and 13, respectively, and the usual cover flaps 14. The carton also is provided with the usual dividers or partitions 15 which form cells 16 to accommodate bottles B or the like containers and hold them spaced apart.

It is common practice to pack annealed glass bottles and jars in shipping cartons by placing them neck down in such cartons with their neck ends in contact with the carton bottom 11 as shown in Fig. 4. Such procedure permits ready removal of the bottles and jars in that opening the cover flaps 14 and inverting the carton over a so-called unscrambler (not shown) and positioning it and the bottles as in Fig. 1, empties the carton and places the bottles upright on the unscrambler preparatory to

2

delivery of the bottles to a filling machine (not shown). With the bottles neck down in the carton, the normally open neck ends obviously are exposed to any dust, dirt, etc., that might tend to accumulate on the carton bottom 11. This, however, is no problem where my invention is used, for the reason that it effectively seals the necks against entry of any foreign matter and maintains such seal irrespective of normally expected changes in the positions of the bottles.

This invention comprises a paper sheet 17 which is die cut to form a plurality of tabs or disks 18 corresponding in number and location to the number and positions of the bottles or jars. This sheet 17 is of such dimensions that it will more or less snugly fit into the carton and preferably remain therein as the bottles or jars are dumped onto the unscrambler or table (not shown). Thus as the carton is inverted, any foreign matter that has collected on the bottom 11 will fall by gravity past the necks and thereafter the bottles break away from the sealing tabs.

Each of these tabs or disks 18 is produced by a generally spirally formed slit 19 in the sheet 17, such slit extending completely through the sheet and providing a substantially centrally disposed tab. Thus the connection between the tab and sheet is a flexible spiral strip or neck 20 which functionally permits the tab to assume a variety of positions as may be necessitated by shifting of the bottles or jars within the carton. To one face of each of these tabs is applied an adhesive 21 of any preferred character but more preferably one of the well-known heat activated pressure sensitive materials, capable of satisfactory bonding to glass by reason of tackiness resulting from application of low temperature heat. Many thermoplastic or resin type adhesives have the above characteristics and function quite satisfactorily, as is quite well known in the trade.

In Fig. 4, I have indicated the normal positions of the bottles and sealing tabs. Should the cartons become inverted during handling as in Fig. 1 the tabs will move downwardly with the bottles relative to the sheet 17 and carton proper but continue to effectively seal the containers. Lateral shifting of the bottles in the carton will have no detrimental effect upon the seal because the spiral strips or necks 20 permit independent movement of the tabs or disks 18.

Modifications may be resorted to within the spirit and scope of the appended claims.

I claim:

1. In combination a shipping carton comprising side and end walls, a bottom and top forming cover flaps, a cell-type filler in the carton, empty open bottles or jars in the cells of the filler positioned with their open ends facing in the same direction, the open ends generally being in a common plane, a sealing tab carrying sheet at the open ends of the bottles or jars substantially corresponding in area and outline with the interior of the carton bottom, tabs individual to and removably adhesively secured to the bottles to close their open ends and elongated flexible connectors between the tabs and sheet whereby the bottles may shift laterally and axially independently relative to the sheet and carton without separating the tabs from the bottles.

2. In combination a carton comprising end and side walls, a bottom and cover forming flaps, a sealing tab carrying sheet corresponding in dimensions substantially to the area defined by the end and side walls and positioned at one end of and within the confines of said walls, a multiplicity of adhesive carrying sealing tabs on the sheet in registry with and for closing the adjacent open end of empty bottles or jars in said carton, each sealing

3

tab being an integral part of the sheet and an elongated flexible connector between each tab and the sheet.

3. The combination defined in claim 2, the connector being of generally spiral form and initially lying in a common plane with the sheet.

4. A package comprising a paperboard shipping carton including end and side walls, a bottom, cover forming flaps, cell forming partitions in the carton, hollow empty glass containers in the cells, said containers each having an open end in proximity to but spaced from the cover forming flaps, a dust cover for temporarily closing said open ends comprising a paper sheet interposed between the cover flaps and containers, said sheet being die-cut to provide sealing tabs individual to and in registry with

4

the containers, each such tab having an adhesive on one face for sealing contact with the open end of a container and an elongated, flexible neck connecting each tab to the sheet proper, the tabs and necks being integral parts of the sheet and initially lying in a common plane with the latter.

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