May 12, 1942. R. STOVER 2,282,548

SHIPPING AND STORING METHOD FOR BULK ICE CREAM AND THE LIKE

Filed Aug. 13, 1938

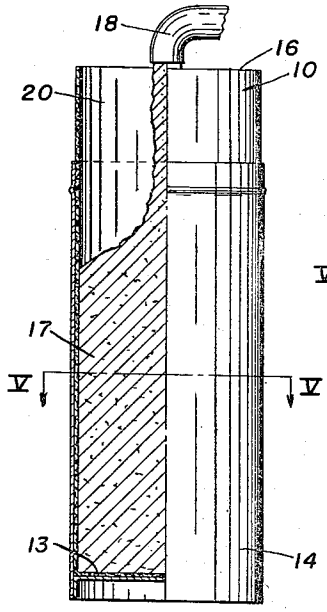


FIG. 1

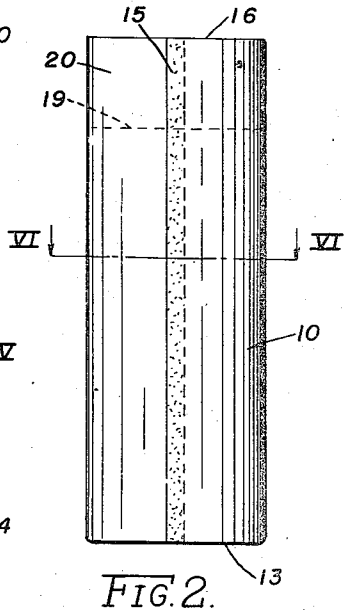


FIG. 2.

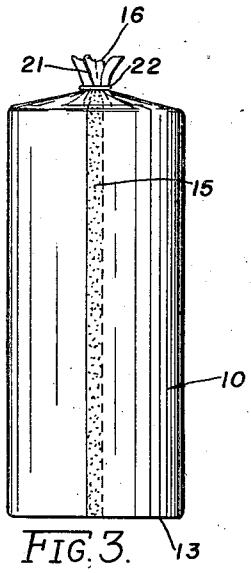


FIG. 3.

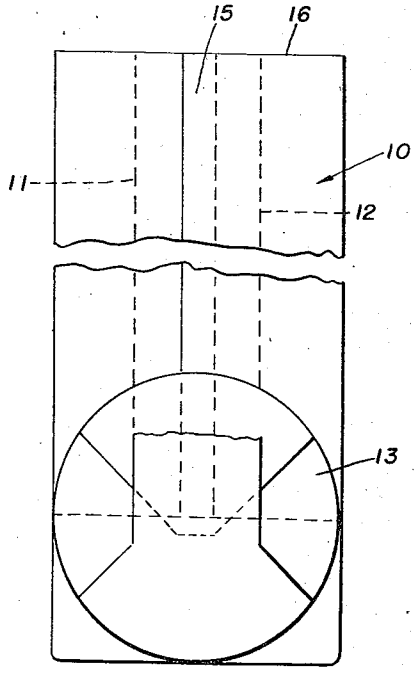


FIG. 4.

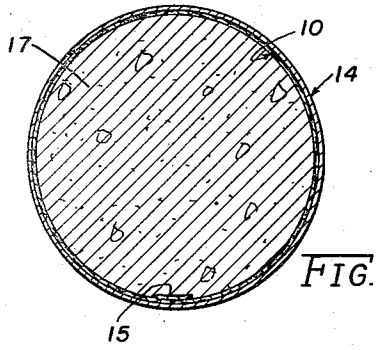


FIG. 5.

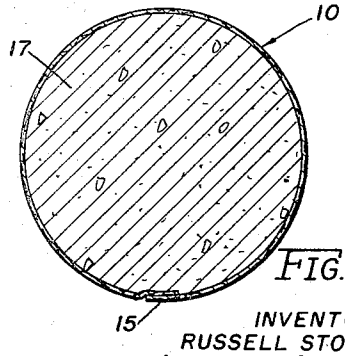


FIG. 6.

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Patented May 12, 1942

2,282,548

UNITED STATES PATENT OFFICE

2,282,548

SHIPPING AND STORING METHOD FOR BULK ICE CREAM AND THE LIKE

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Application August 13, 1938, Serial No. 224,832

6 Claims. (Cl. 62—174)

This invention relates to a method of packaging normally liquid materials frozen to a substantially solid state for confinement in normally collapsible containers, although certain features thereof may be employed with equal advantage for other purposes.

It contemplates more especially the provision of a novel method of packaging normally liquid substances frozen to a substantially solid state for storage and shipment therein.

Numerous methods of and types of containers for confinement of normally liquid substances frozen to a substantially solid state have heretofore been provided in order to effect their storage and shipment. Usually these take the form of or include either a rigid metallic container having a tightly fitting closure or rigid thick paper containers that are self-sustaining and form-retaining without the contents serving as a necessary part thereof in order to serve as a storage and shipping container therefor. These types of containers are comparatively expensive both from a production and handling standpoint. In fact, the metal containers must be returned to the manufacturer for re-use and this constitutes a substantial handling expense in connection therewith. The other type of self-sustaining and form-retaining thick paper containers not only are comparatively expensive, but also involve a handling cost owing to the fact that they require appreciable space to maintain a stock thereof available for the requirements of the ice cream manufacturer and entail some labor in the assembly thereof while the contents are being poured therein. Pressure filling methods have also been used in connection with special collapsible ice cream wrappers for individual servings, but this involves special equipment and is not adaptable to large quantity units such as two and one-half and five gallon units.

One object of the present invention is to provide a more simple and less expensive method of packaging normally liquid materials frozen to a substantially solid state for storage and shipment purposes.

Another object is to provide a novel method of packaging including a collapsible non-rigid container which serves as a confining medium for normally liquid material frozen to a substantially solid state and serving as a necessary element thereof to render the container collapsible for that purpose.

Still another object is to provide a method of packaging including a non-rigid collapsible self-closing paper container that can be readily filled with normally liquid material frozen to a substantially solid state to constitute a self-sustaining and form-retaining unit for storage and shipment purposes.

A further object is to provide a novel method of packaging which utilizes an inexpensive thin non-rigid collapsible container for use as a confining medium for normally liquid material frozen to a substantially solid state.

Still another object is to provide an improved method of packaging which consists in enabling the use of comparatively inexpensive storage and shipping containers for normally liquid substances frozen to a substantially solid state to render the container rigid in conjunction therewith.

Still a further object is to provide an improved packaging method capable of utilizing a thin non-rigid collapsible self-closing container in conjunction with normally liquid material frozen to a substantially solid state to render such self-sustaining and form-retaining for storage and shipment purposes.

Other objects and advantages will appear from the following description of an illustrative embodiment of the present invention.

In the drawing:

Figure 1 is a front elevational view in quarter section showing a method of filling a normally collapsible non-rigid paper container to serve as a storage and shipping container for the contents.

Figure 2 is a front elevational view of a container and contents prior to sealing the top open portion thereof and with the rigid mold or form removed therefrom.

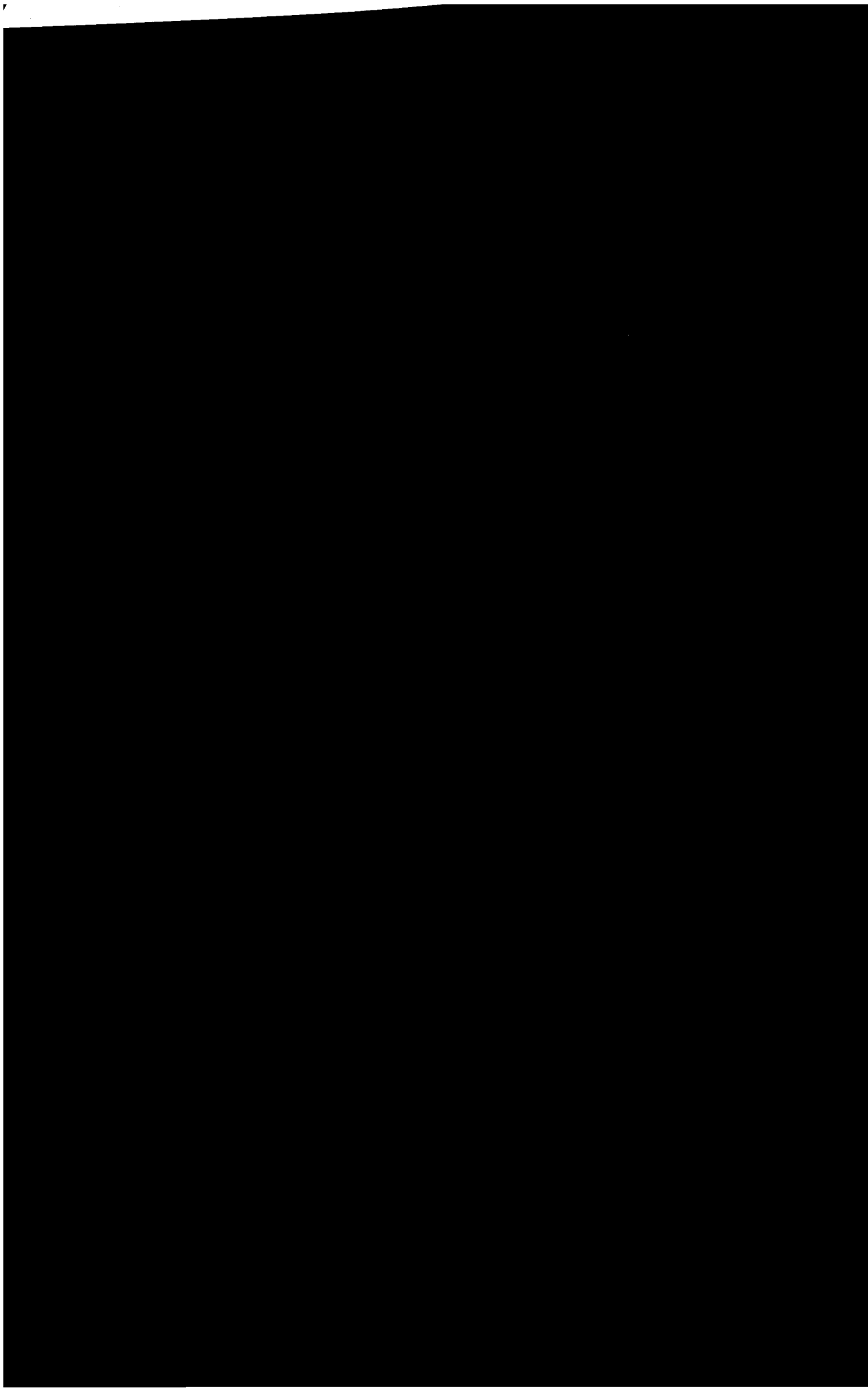
Figure 3 is a front elevational view of the container and contents shown in Figure 2 with a fastening expedient applied to the normally open top to serve as a seal therefor.

Figure 4 is a plan view of a collapsible container for use in conjunction with a normally liquid substance frozen to a substantially solid state.

Figure 5 is a sectional view taken substantially along line V—V of Figure 1.

Figure 6 is a sectional view taken substantially along line VI—VI of Figure 2.

The structure selected for illustration exemplifies a method of filling an improved bulk container for normally liquid material frozen to a substantially solid state. It comprises essentially the provision of a paper container 10 which is creased and folded intermediate the side walls thereof as at 11 and 12 to present a thin non-rigid paper collapsed container sufficient in size to confine either 2½ gallons, 5 gallons, or any multiple quantity of normally liquid material frozen to a



its enclosed plastic contents to refrigeration to render the container and contents self-sustaining and form-retaining for storage and shipping purposes.

2. A method of packaging comparatively large units of normally liquid material frozen to a substantially solid state which consists in first opening a non-rigid collapsible closed-end paper container of such thinness that is normally not self-sustaining nor form-retaining, then gravity filling the container with a normally liquid material frozen to a plastic state, folding the open end of the container to form an enclosure for the contents, and then subjecting the container with its enclosed plastic contents to refrigeration for converting the contents to a substantially frozen solid state to render the container and contents self-sustaining and form-retaining for storage and shipping purposes.

3. A method of packaging comparatively large units of normally liquid material frozen to a substantially solid state which consists in first opening a non-rigid collapsible closed-end paper container of such thinness that is normally not self-sustaining nor form-retaining, then filling the container with a normally liquid material frozen to a plastic state, folding the open end of the container, then tying the folded end of the container to form an enclosure, and then subjecting the container with its enclosed plastic contents to refrigeration to render the container and its contents self-sustaining and form-retaining for storage purposes.

4. A method of packaging comparatively large units of normally liquid material frozen to a substantially solid state which consists in first opening a non-rigid collapsible closed end paper container of such thinness that is normally not self-sustaining nor form-retaining, then placing the collapsible container in a preformed rigid form to serve as a temporary liner therefor, then filling the container with a normally liquid material frozen to a plastic state, folding the open end of the container, then tying the folded end of the container to form an enclosure, and then subjecting the container with its enclosed plastic contents to refrigeration to render the container and its contents self-sustaining and form-retaining for storage and shipping purposes.

5. A method of packaging comparatively large units of normally liquid material frozen to a substantially solid state which consists in first opening a non-rigid collapsible closed-end paper container of such thinness that is normally not self-sustaining nor form-retaining, then placing the collapsible container in a preformed rigid form to serve as a temporary liner therefor, then filling the container with a normally liquid material frozen to a plastic state, folding the open end of the container, then tying the folded end of the container to form an enclosure, then subjecting the container with its enclosed plastic contents to refrigeration to render the container and its contents self-sustaining and form-retaining, and then removing the container with its frozen contents from said rigid form for storage or shipment independent thereof.

6. A method of packaging comparatively large units of normally liquid material frozen to a substantially solid state which consists in first opening a non-rigid collapsible closed-end paper container of such thinness that is not normally self-sustaining nor form-retaining, then placing the collapsible container in a preformed rigid form to serve as a temporary liner therefor, then filling the container with a normally liquid material frozen to a plastic state by passage through a discharge opening that is substantially smaller in diameter than the opening in the container to permit the free escape of air, folding the open end of the container, then tying the folded end of the container to form an enclosure, then subjecting the container with its enclosed plastic contents to refrigeration to render the container and its contents self-sustaining and form-retaining, and then removing the container with its frozen contents from said rigid form for storage or shipment independent thereof.

RUSSELL STOVER.