

Feb. 28, 1939.

G. A. GERARD

2,148,454

CONTAINER

Filed June 19, 1935

2 Sheets-Sheet 1

Fig. 1

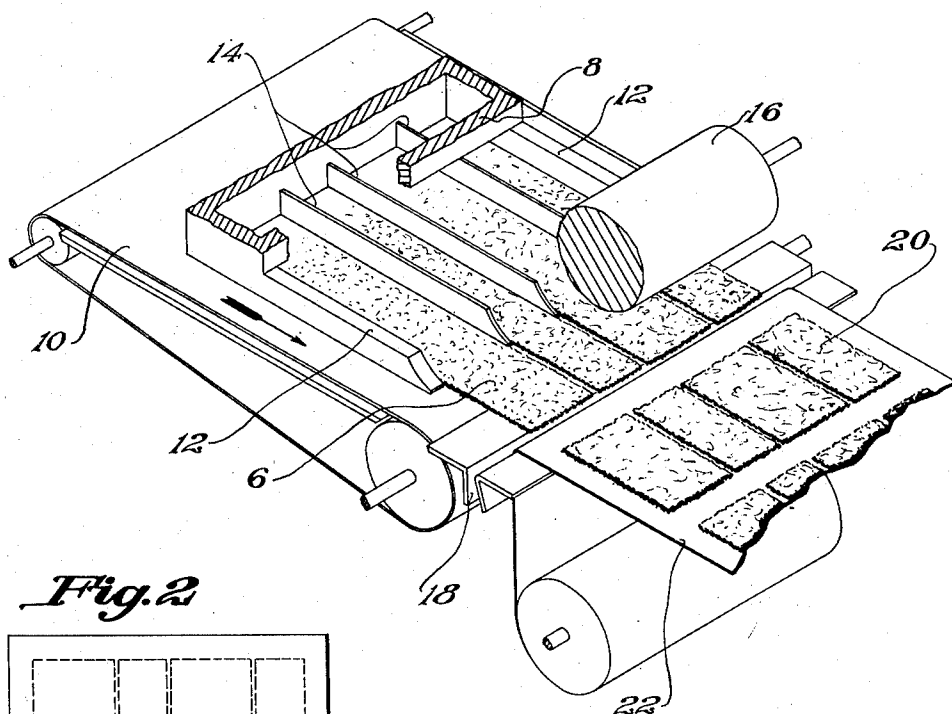


Fig. 2

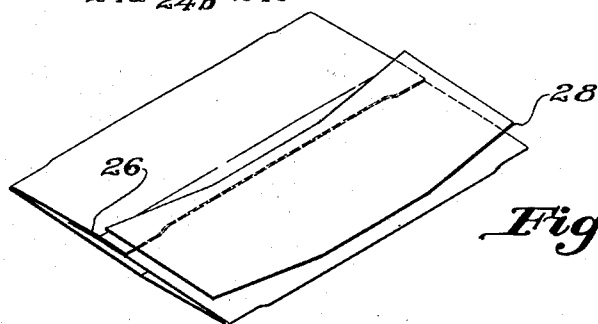
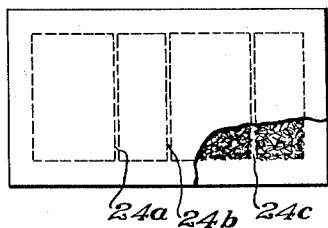


Fig. 3

Witness

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2 Sheets-Sheet 2

Fig. 4

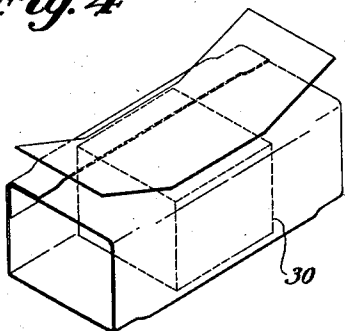


Fig. 5

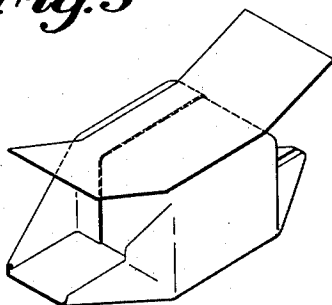


Fig. 6

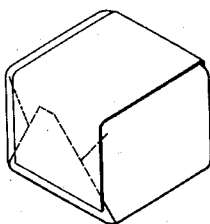


Fig. 7

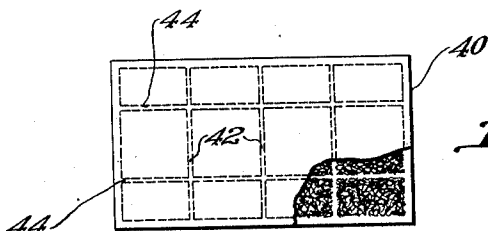
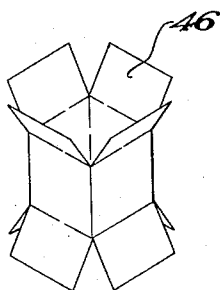


Fig. 8



Witness

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UNITED STATES PATENT OFFICE

2,148,454

CONTAINER

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Application June 19, 1935, Serial No. 27,357

5 Claims. (Cl. 229—3.5)

The present invention relates to containers and is more particularly concerned with heat insulating containers or bags of the general type disclosed in the d'Este and Tower Patent No. 1,899,892 for enclosing and protecting ice cream or other products which differ considerably in temperature from the atmospheric temperature.

The principal object of the present invention is to provide a container which has desirable heat insulating properties, which is arranged for convenient handling and which is constructed to permit ready insertion and packaging of the ice cream or other foodstuffs.

Another object of the invention is to provide a simple and inexpensive method of manufacturing such containers in quantities.

With these objects in view, the principal feature of the present invention comprises a pad-like bag of the general form of said patent, including inner and outer fabric sheets with a layer of fibrous insulating material, the layer of material being formed, however, with breaks or portions of diminished thickness to permit folding of the bag on definite lines. The container, when completed, is in the form of a flat double sheet which may be immediately opened into a tube of the proper size and cross-section to receive a box of foodstuffs.

Containers according to the present invention may be manufactured in quantities by a modification of the method and machine disclosed in the Gerard Patent No. 2,004,657, granted June 11, 1935, whereby the breaks in the fibrous material are automatically formed.

In the accompanying drawings, Fig. 1 is a fragmentary view of a machine for making the pads of the present invention; Fig. 2 is a plan view, on a reduced scale, of a completed pad ready to be folded into the containers; Fig. 3 is a perspective view of a container for a small package of ice cream; Figs. 4, 5 and 6 are perspective views showing the manner of using the container to receive a box of ice cream; Fig. 7 is a plan view of a pad to make a box liner or package of considerable size; and Fig. 8 is a perspective view of the completed package.

The construction of the container will best be understood by reference to Fig. 1 showing in sufficient detail the method of manufacture. As in the machine of the Gerard application above referred to, a layer of fibrous material 6 is continuously deposited from a hopper 8 on a traveling apron 10. The layer 6 may comprise any fibrous material, but preferably consists of loose particles of partially and completely disintegrated

waste paper, as described in the Gerard and Weisman Patent No. 1,837,261, dated December 22, 1931. The width of the fibrous material is determined by strips 12 adjacent to the edges of the apron. A plurality of thin separator strips 14 are disposed longitudinally of the apron between the strips 12. Immediately in front of the strips 12 and 14 is a compressor roll 16 which compresses the fibrous material into a substantially continuous bat. The bat is continuously fed by the apron over a ledge 18, at which point it is severed into individual bats of predetermined length by any suitable means, such as by the application of air jets as disclosed in the above-mentioned Gerard patent. The individual bats indicated at 20 are continuously fed to a lower layer of paper 22 to which a suitable adhesive is applied. An upper sheet of paper is also applied over and caused to adhere to the bats and both layers of paper are sealed in the margins around the four sides of each bat. The sheets are then severed in the transverse spaces between the bats to form the pads illustrated in Fig. 2.

As shown in Fig. 2, each pad comprises the upper and lower paper sheets with the bat of fibrous material between them. The layer of material is characterized by the longitudinal breaks 24 which, in the illustrated pad, are three in number. The breaks 24 are the portions of diminished thickness of material formed by the separators 14. It will be understood that in the manufacture of the pad, the separators prevent uniform deposit of material over the entire surface of the apron. However, the breaks 24 do not necessarily represent complete absence of fibrous material, since some of the material will necessarily close into the open spaces and thus leave narrow longitudinal portions of diminished thickness with respect to the rest of the bat. The breaks 24 define lines of folding for a rectangular container.

To form a container, the pad of Fig. 2 is folded on the two outside breaks 24a and 24c and the edge margins are overlapped and sealed together, as indicated at 26 in Fig. 3. The pad, after being thus sealed, lies flat, and a number of such pads may be conveniently stacked for shipment and storage. A piece of gummed tape 28 is attached at its center to the container, the ends being free to permit end sealing of the package. The tape is preferably of the same length as the package, since this permits automatic attachment of the tape from a continuous strip and simultaneous cutting of the pad and tape. When ready for

use, the pad may be quickly opened into the tubular container shown in Fig. 4, merely by pressing lightly on the two outside edges. The breaks 24 form three of the longitudinal edges, and the seal 26 forms the fourth. The container

always opens into the form shown in Fig. 4 and if released, immediately collapses into its flat position.

Assuming that the container is to be used for covering a box of ice cream, the merchant simply opens the container into its tubular form, and slides the box 30 into the middle of the tube, as indicated in Fig. 4. Afterwards, the ends of the container may be folded over, as shown in Figs. 5 and 6, and the whole package is sealed by the overlying ends of the gummed tape.

The containers may be made in sizes to conform fairly closely to the boxes which are to be packed. When a container of the proper size is used, all sides and ends of the box are completely protected by the insulating container.

The container shown in Fig. 8 is similar to that previously described but adapted to hold a considerable quantity of material, say, a number of quart boxes of ice cream. The container is made from a pad 40, as shown in Fig. 7, in which the fibrous material is provided with longitudinal breaks 42 and also transverse breaks 44 near the ends. The longitudinal breaks are formed in the manner previously described, except that the separators are of sufficient thickness to provide for substantially complete absence of fibrous material in the breaks so that cuts in the pad may be made to form the end flaps of the box. The transverse breaks 44 are made over the ledge 18 in the same manner as the successive pads are separated, the separation being only sufficient, however, to define folding lines. The sheets are sealed together around the margins and also in the breaks. Since a large container requires a pad of considerable width, the pad of Fig. 7 may be made of two pads of half width attached together.

The sheets are cut inwardly in the longitudinal breaks 42 as far as the transverse breaks 44 in order to form the end flaps 46 shown in Fig. 8. The pad is then folded in the same manner as that of Fig. 3, the side edges being sealed together. When ready for use, the container may be opened into tubular form and is finally closed by turning the flaps inwardly and sealing them in any suitable manner.

The large container may be used as a box liner for protecting shipments of ice cream and similar material. If desired, the container may be made as a self-sustaining package by using chip-board or thin pasteboard for the outer layer of the pad.

Although the invention has been described as employing disintegrated waste paper as the insulating layer, it will be understood that the invention is applicable to other types of material, and is not limited to the embodiment shown and described, except as required by the appended claims.

Having thus described the invention, what is claimed is:

1. An insulating container comprising a flexible tubular pad having inner and outer sheets sealed at the margins, and a layer of loose fibrous material between the sheets, the side edges being sealed together to form a tubular container, and a strip of gummed tape of the same length as the container and attached thereto only in the middle to permit sealing of the ends of the container when folded inwardly.
2. An insulating container comprising a flexible tubular pad having inner and outer sheets sealed at the margins, a layer of loose fibrous material between the sheets, the layer having longitudinal breaks, the edges being sealed together to form a container which may be opened at the breaks into tubular form, and a strip of gummed tape of the same length as the container and attached thereto only in the middle to permit sealing of the ends of the container when folded inwardly.
3. An insulating container comprising a flexible tubular pad having inner and outer sheets sealed at the margins, and a layer of loose fibrous material between the sheets, the layer being formed with longitudinal and transverse breaks, and the sheets being cut at the longitudinal breaks to form end flaps.
4. An insulating container comprising inner and outer walls, a flexible layer of loose fibrous material between the walls, the fibrous material having longitudinal and transverse breaks defining folding lines, and the walls being cut at the longitudinal breaks as far inwardly as the transverse breaks to form end flaps.
5. An insulating container comprising two layers of sheet material forming inner and outer walls and a flexible layer of loose fibrous material enclosed between the layers of sheet material and having longitudinal portions of diminished thickness along predetermined lines, the layers of sheet material being sealed together around the edges of the fibrous material and the edge margins being attached together to form a tube which is normally collapsed in a flat pad but is adapted to be opened into tubular form at folding lines determined by the portions of diminished thickness.

GEORGE A. GERARD.