Nov. 4, 1958 J. F. BARNES ET AL 2,858,970

PACKAGING AND COOKING CONTAINER

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Fig. 1

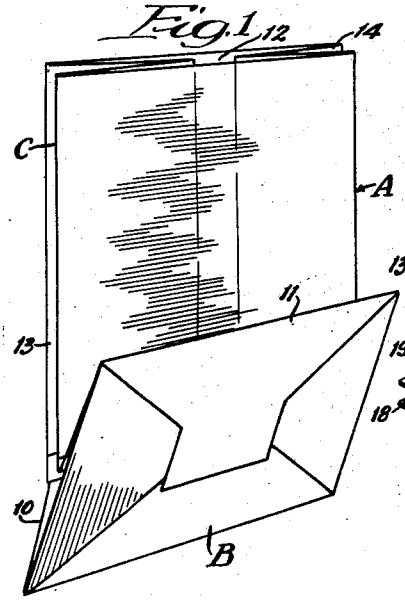


Fig. 2

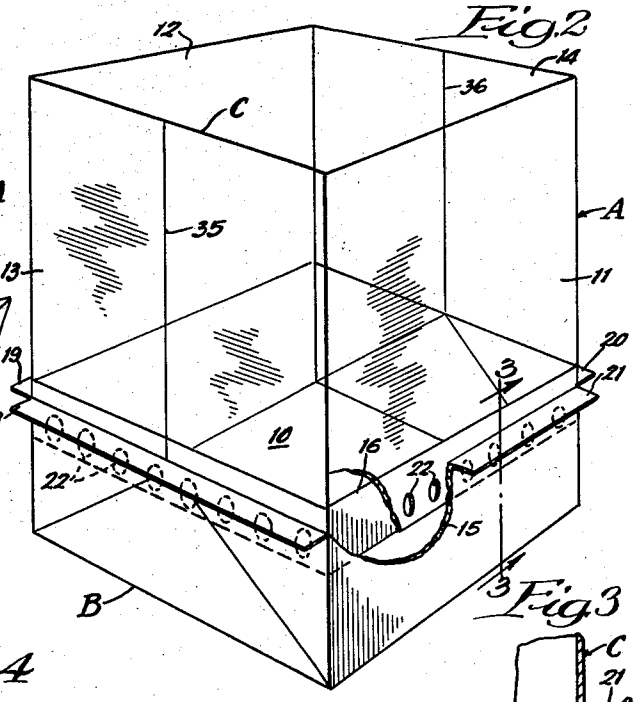


Fig. 3

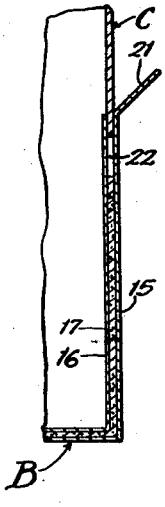
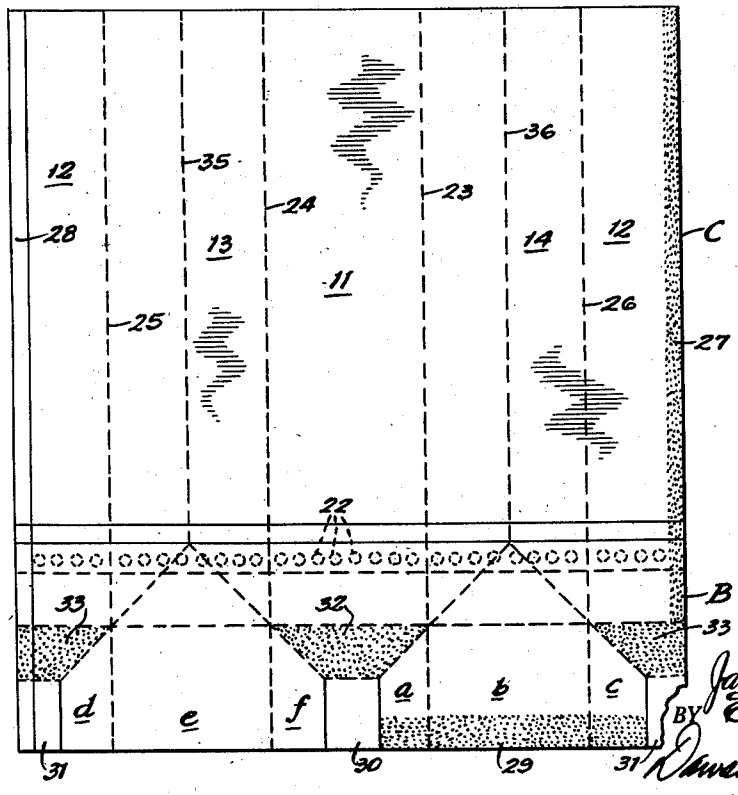


Fig. 4



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PACKAGING AND COOKING CONTAINER

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5 Claims. (Cl. 229—55)

This invention relates to a packaging and cooking container, and more particularly to a container which is adapted to the packaging, preparing, and serving of popcorn.

We have heretofore proposed to package unpopped popcorn in a container wherein the popcorn can be popped. The design of such containers, however, has presented a number of problems which the present invention is intended to overcome. For example, so that the popcorn can be viewed while it is being popped, it is desirable to form the container of a transparent material such as a transparent plastic film, but most plastic films are not sufficiently heat resistant to allow them to be placed in heat-transferring relation with the burners of an electric or gas stove. Further, plastic films are poor conductors of heat, and therefore are poorly adapted for transferring heat from the stove burners to the popcorn as it is being popped.

It is therefore a general object of this invention to provide a packaging and cooking container which is particularly adapted for the popping of popcorn therein, and which in this application substantially overcomes the problems discussed above and heretofore associated with containers which have been employed for this purpose. More specifically, it is an object to provide a container of the character described which provides for the rapid and efficient transfer of heat from a stove burner to the popcorn as it is being popped, while at the same time permitting the popping operation to be viewed. Further objects and advantages will become apparent as the specification proceeds.

This invention is shown in an illustrative embodiment in the accompanying drawing, in which—

Fig. 1 is a perspective view of a packaging and cooking container constructed in accordance with this invention, showing the container in a substantially collapsed condition; Fig. 2, another perspective view of the container in its fully expanded condition, and part of the bag has been broken away to show the construction more clearly; Fig. 3, a sectional view of the container taken on line 3—3 of Fig. 2; and Fig. 4, a plan view of a cut, scored, and adhesively coated blank from which the container of Figs. 1 and 2 can be formed.

The packaging and cooking container of this invention preferably comprises a bag formed of flexible sheet material and having a flat bottom adapted to support the body of the bag in an upright position on a horizontal heating surface. Further, the bottom and lower portion of the bag should be formed of a metal foil laminate composed of two thin sheets of metal foil bonded together with a heat-resistant adhesive. In addition, the upper portion of the bag should be formed of a transparent plastic film which is relatively non-heat-resistant compared to the metal foil laminate. Preferably, the plastic film portion of the bag comprises over half of the body portion. This description will now be clarified by reference to the specific embodiment shown in the drawing.

As shown more clearly in Figs. 1 and 2, bag A is provided with a bottom 10 for supporting the body of the bag in an upright position. In the illustration given, the body of bag A comprises front panel 11, rear panel 12, and side panels 13 and 14. Side panels 13 and 14 are pleated so that they can be folded inwardly, as shown in Fig. 1, to permit front panel 11 and rear panel 12 to lie against each other.

The bottom portion B of bag A is formed of a metal foil laminate which is preferably constructed as shown more clearly in Figs. 2 and 3. An outer sheet of metal foil 15 is bonded to an inner sheet of metal foil 16 with a heat-resistant adhesive material 17. Preferably, sheets 16 and 17 are of thin aluminum foil, and a thermosetting resin adhesive is used to bond the sheets together. Suitable aluminum foil laminates of this character are described more fully in co-pending application U. S. Serial No. 462,010, filed October 13, 1954 and now abandoned, and entitled "Aluminum Foil Laminate and Method of Producing the Same."

To continue with the description, the upper body portion C of bag A is formed of a transparent plastic film which is relatively non-heat-resistant compared to the metal foil laminate just described. For example, body portion C can be formed of cellulose film of the type which is sold under the trade name "Cellophane." Various other plastic films can also be used, such as polyethylene films, vinylidene chloride films, vinyl chloride-acetate copolymer films, etc. Usually, plastic films of the type described will contain a volatile plasticizer or other material, but this will not make the films unuseable for the purpose of the present invention. In fact, as will subsequently be explained, the plastic film portion of the bag is protected from the heat applied to the foil laminate bottom portion.

Although aluminum foil is an excellent conductor of heat, it is also an excellent radiator of heat. This fact may explain in part why it is possible to adequately protect the plastic film forming the upper portion of the bag from the heat applied to the bottom of the bag. At any rate, it has been definitely established that there is a sharp temperature drop from the bottom of the bag to the top of the foil laminate portion where it joins the plastic portion. This desirable temperature differential can be further enhanced by providing at least one outwardly-extending heat radiator fin integrally connected to the outer sheet of the laminate near the top of the foil laminate portion. Preferably, as shown in the drawing, such fins are provided on each side of the bag, that is, fins 18, 19, 20, and 21. These heat radiation fins can also be used as pull tabs for opening the bag from collapsed to expanded condition. It will be noted that the outer foil sheet 15 is longer and in an upward direction than inner foil sheet 16 for the purpose of providing the heat radiator fins just described.

Another desirable feature to minimize heat damage to the plastic bag portion C is to provide a plurality of apertures around the lower edge portions of the plastic film. More specifically, it is preferred to have the lower edge portions of plastic bag portion C sandwiched between the upper edge portions of foil sheets 16 and 17, as shown more clearly in Figs. 2 and 3, and to provide a plurality of apertures in the sandwiched portion of the plastic film. In the illustration given, a row of apertures 22 is provided along each side of the bag in the sandwiched film portion. This construction reduces the extent of contact between the foil sheets and the plastic without unduly weakening the bag.

In the practice of this invention, the bag of Figs. 1 and 2 can be constructed from the scored, cut, and adhesively coated blank shown in Fig. 4. The end portions of the bag are folded downwardly about lines 23 and 24, and the

end portions are again folded inwardly on lines **25** and **26** to form a tubular container of rectangular cross section. Glue-equipped flap **27** is then secured to the opposite margin **28**.

The bottom of the bag is then formed by folding panel portions *a* to *c* inwardly to partially close the bottom, and then folding panel portions *d* to *f* inwardly into edge-overlapping relation with panel portions *a* to *c*. The overlapping edges of the bottom portions are then glued together with the glue provided on glue flap **29**. The projecting flaps **30** and **31** are then folded inwardly into overlapping relation and glued with the glue provided on portions **32** and **33**, thus completing the closing of the bottom of the bag. The appearance of the bag will then be similar to that shown in Fig. 2. If desired, the bag can be collapsed along side fold lines **35** and **36** with the bag bottom turned upwardly, so that the bag will appear as illustrated in Fig. 1.

While in the foregoing specification this invention has been described in relation to a specific embodiment thereof and a number of details have been set forth for purpose of illustration, it will be apparent to those skilled in the art that the invention is susceptible to other embodiments and that several of the details set forth can be varied without departing from the basic concepts of the invention.

We claim:

1. A packaging and cooking container, comprising a bag formed of flexible sheet material and having a bottom adapted to support the body of said bag in an upright position, the bottom and lower portion of said bag being formed of a metal foil laminate composed of two thin sheets of metal foil bonded together with a heat-resistant adhesive material, the upper portion of said bag being formed of a transparent plastic film, said film being relatively non-heat-resistant as compared to said metal foil laminate, and at least one outwardly-extending heat radiation fin integrally connected to the outer sheet of said foil laminate near the top of said lower body portion.

2. The packaging and cooking container of claim 1 in which one of said heat radiation fins are integrally connected to the outer sheet of said foil laminate near the top of said body portion on each side of said bag.

3. The packaging and cooking container of claim 2 in which the lower edges of said plastic bag portion are sandwiched between the upper edge portions of said metal foil sheets.

4. The packaging and cooking container of claim 3 in which the sandwich portion of said plastic bag is provided with a plurality of apertures spaced along each side of said bag.

5. A packaging and cooking container, comprising a bag formed of flexible sheet material and having a bottom adapted to support the body of said bag in an upright position, the bottom and lower portion of said bag being formed of a metal foil laminate composed of two thin sheets of metal foil bonded together with a heat-resistant adhesive material, and the upper portion of said bag being formed of a transparent plastic film, said film being relatively non-heat-resistant as compared to said metal foil laminate, the lower edges of said film being sandwiched between the upper edge portions of said metal foil sheets and the sandwiched portion of said film being provided with a plurality of apertures spaced along each side of said bag.

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