April 23, 1963 J. M. TINDALL 3,086,264

SLICED FOOD PACKAGE AND CLIP THEREFOR

Filed April 28, 1960

Fig. 1

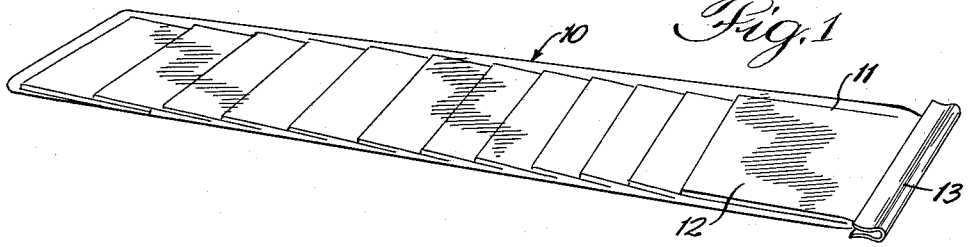


Fig. 2



Fig. 3

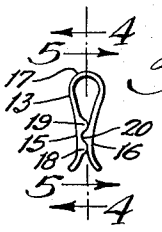


Fig. 4

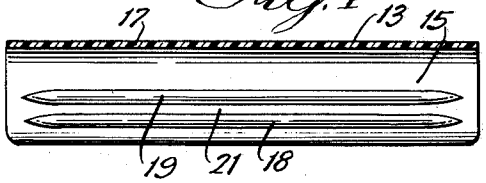


Fig. 5

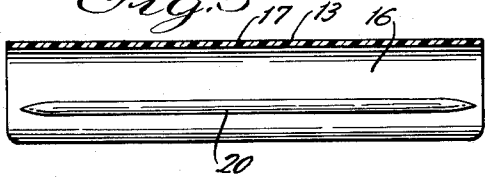
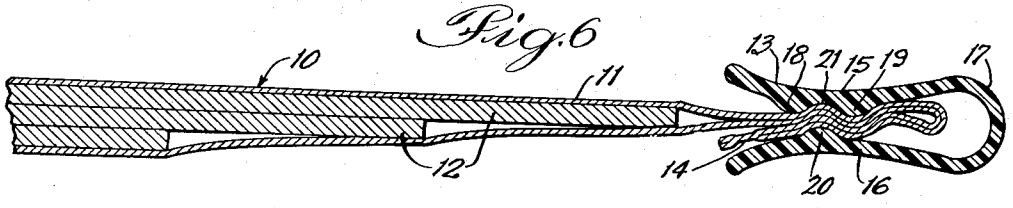


Fig. 6



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SLICED FOOD PACKAGE AND CLIP THEREFOR

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1 Claim. (Cl. 24—30.5)

This invention relates to a package particularly suited for the marketing and storing of food products such as sliced cheese, bread or meat, and to a highly effective closure means for maintaining such a package in sealed condition and for resealing the package after a portion of its contents have been removed.

As is well known, sliced cheeses and other sliced food products are frequently packaged for display and sale in flexible transparent wrappers. Such wrappers are relatively inexpensive and, because of their transparency, permit shoppers to inspect the food slices contained therein. Also, the moisture and air impermeability of the plastic material from which the wrappers are formed maintains the food in fresh and flavorful condition, at least until the heat-sealed wrappers are broken or opened.

A problem, largely offsetting the aforementioned advantages of flexible food wrappings mentioned above, arises in resealing the package after it has been opened by a purchaser and part of its contents have been removed. The cut end of the package may sometimes be folded closed but the resiliency and toughness of the wrapper usually resists such deformation and, as a result, the package tends to unfold and expose the food to moisture and flavor loss. Cheese quickly losses its moisture and flavor when exposed to air, even the cool air in a refrigerator storage compartment. Furthermore, the delicate flavor of cheese may be quickly lost or modified by the odors of other foods within a storage space unless some means is provided for tightly resealing the package.

Accordingly, it is an object of the present invention to provide a sliced food package equipped with a flexible wrapper and with means for maintaining that wrapper in tightly sealed condition even after it has been opened to remove a portion of the package's contents. Another object is to provide closure means which is highly effective in maintaining a plastic wrapper of a food package in sealed condition and which may be easily manipulated by a user to reseal a package after part of its contents have been withdrawn. A still further object is to provide a food package closure element equipped with means for guiding its movement into sealing position and for tightly sealing the wrapper of a food package when the closure element is fully attached. A still further object is to provide an inexpensive and attractive device for sealing and resealing the flexible transparent wrapper of a sliced food package.

Other objects will appear from the specification and drawings in which:

FIGURE 1 is a perspective view of a food package embodying the present invention;

FIGURE 2 is an enlarged plan view of a clip element of the food package;

FIGURE 3 is an end view of the clip illustrated in FIGURE 2;

FIGURE 4 is a longitudinal sectional view taken along line 4—4 of FIGURE 3;

FIGURE 5 is a longitudinal sectional view taken along line 5—5 of FIGURE 3;

FIGURE 6 is a still further enlarged and broken longitudinal sectional view of the package showing details of the closure means therefor.

In the embodiment of the invention illustrated in the drawings, the numeral **10** generally designates a sliced food package comprising a flexible transparent wrapper or bag **11**, a sliced food product **12** contained therein,

and a removable closure element **13** for the wrapper. In the illustration given, the food product constitutes a plurality of shingle-stacked cheese slices. It is to be understood, however, that other sliced food products, such as sliced meat, might also be packaged within the flexible wrapper.

Wrapper **11** is formed from a plastic film which is substantially odorless and which is relatively impermeable to moisture vapor and oxygen. "Pliofilm," a chlorinated rubber sheet material, has been found highly effective as a wrapping material. Other materials having similar properties, such as vinylidene chloride polymers or polyethylene, particularly polyethylene having a vinylidene chloride coating or compounded with waxes, might also be used. Since such materials and the wrappers in which they are used are entirely conventional, further description of the composition and properties of such materials is believed unnecessary herein.

Wrapper **11** constitutes a flat and elongated rectangular bag. One end of the bag extends well beyond the series of food slices contained therein and may be folded backwardly upon itself as shown in FIGURE 6. Preferably, the extended end of the bag is heat sealed along transverse line **14**. Since all other side edges of the bag are heat sealed or formed continuously and since the walls of the bag are imperforate and impermeable to air and moisture, the sliced cheese **12** is hermetically sealed within the wrapper.

The closure element or clip **13** extends transversely of the package and is generally U-shaped in cross section, having opposing side walls **15** and **16** joined by an integrally-formed curved connecting portion **17**. The clip is preferably formed from a tough and flexible plastic material such as polystyrene. Polyethylene has also been found to be highly effective, particularly because of its toughness and smooth wax-like surfaces.

As shown in FIGURE 1, the clip is wider than wrapper **11** and therefore projects laterally beyond the side edges of that wrapper. Referring to FIGURES 3 and 6, it will be observed that the inner surfaces of the arms or side walls **15** and **16** of the clip are provided with parallel ribs **18**, **19** and **20**. Ribs **18** and **19** extend along the inside surface of arms **15** while rib **20** extends along the inner surface of arm **16**. Ribs **18** and **19** are spaced apart and define a recess **21** therebetween. The recess or groove **21** is in direct oppositon to rib **20** and snugly receives that rib when the normal tension of spring arms **15** and **16** urges those arms into mutual engagement with each other (FIGURE 3).

As shown most clearly in FIGURES 4 and 5, the parallel ribs **18**, **19** and **20** do not extend the full width of the clip but instead terminate short of the side edges thereof. Furthermore, the ends of the ribs are tapered with the surfaces thereof gradually merging with the remaining inner surface portions of the clips's side walls.

Clip **13** is formed so that in its normal state rib **20** tends to seat or nest within the recess **21** of the opposing arm. When the folded end of bag **11** is disposed between the arms of the clip (FIGURE 6), the arms tightly clamp against the smooth layers of plastic material of the bag. The ribs of the clip tend to kink or corrugate the bag's folded end portion, thereby preventing sliding movement of the clip off the end of the bag in a direction longitudinally of the package.

FIGURE 1 illustrates the package as it might be presented for purchase by consumers. Later, when a purchaser desires to remove a portion of the contents thereof, clip **13** is simply slid laterally off of the end of the bag, the end portion of the bag is unfolded and the extreme end of the bag is cut to permit removal of one or more slices **12**. Thereafter, the user folds the end of the bag

transversely and replaces the clip, sliding it laterally with reference to the elonagted bag. The side edge portions of the folded sheet material may be readily inserted between the arms or jaws of the clip because the inner surfaces of the arms are spaced apart adjacent the side edges thereof by reason of the protruding and mutually engaging ribs (FIGURE 3). After an edge portion of the folded bag is urged between the arms or jaws at either side of the clip, further lateral movement of the clip brings the folded material into contact with the tapered ends of the ribs. Because of the taper of these ribs, the arms or jaws of the clip are pried or cammed apart by the folded end of the bag and the clip may be easily slipped (in the direction of the ribs) into the fully attached position shown in FIGURES 1 and 6 of the drawings.

When the clip as attached, the double curvatures imposed in the folded end portion of the bag result in a tight seal between the plastic surfaces of the wrapper material. Air is thereby restrained from entering or leaving the bag and the packaged food product is maintained in a substantially hermetically sealed condition.

The plastic material of the bag is readily foldable but, like most non-elastic materials, will tend to resist being curved or flexed in two directions at the same time. Since wrinkles extending longitudinally of the wrapper might result in air leaks, it is important to remove such wrinkles or present their formation. This is accomplished effectively by the parallel ribs of the clip. As the clip is slid on to the end of the bag, the longitudinally moving ribs tend to iron out wrinkles in the walls of the bag. At the same time, the ribs bend the folded end of the bag to form the transverse corrugations illustrated in FIGURE 6. Since the sheet material of which the bag is formed will tend to resist the formation of folds extending at right angles to each other, any wrinkles running longitudinally of the bag adjacent the end thereof tend to be removed as the clip is slid into place.

While in the foregoing I have disclosed an embodiment of the present invention in considerable detail for purposes of illustration, it will be understood by those skilled in the art that many of these details may be varied without departing from the spirit and scope of the invention.

I claim:

A device for sealing a flexible wrapper comprising an elongated clip formed from flexible plastic material and having a pair of clamping arms joined together along one side thereof by an integral connecting portion, one of said arms having a pair of straight elongated ribs extending along the inner surface thereof in generally parallel relation with said connecting portion and with the free longitudinal edges of said arms, said ribs being spaced apart to define a longitudinally-extending recess therebetween, the other of said arms being provided along its inner surface with a straight elongated longitudinally-extending rib seated under spring tension of said clip within said recess of said one of said arms and firmly contacting said first-mentioned ribs along substantially the entire longitudinal extent thereof, the opposing inner surfaces of said arms being spaced apart about said ribs, said ribs being shorter in length than said arms and having tapered ends merging smoothly with the inner surfaces of the arms, whereby, the arms of said clip are spaced apart at their ends for receiving multiple layers of flexible wrapping material as the same is slid longitudinally therebetween and into contact with said ribs.

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