

Aug. 27, 1957

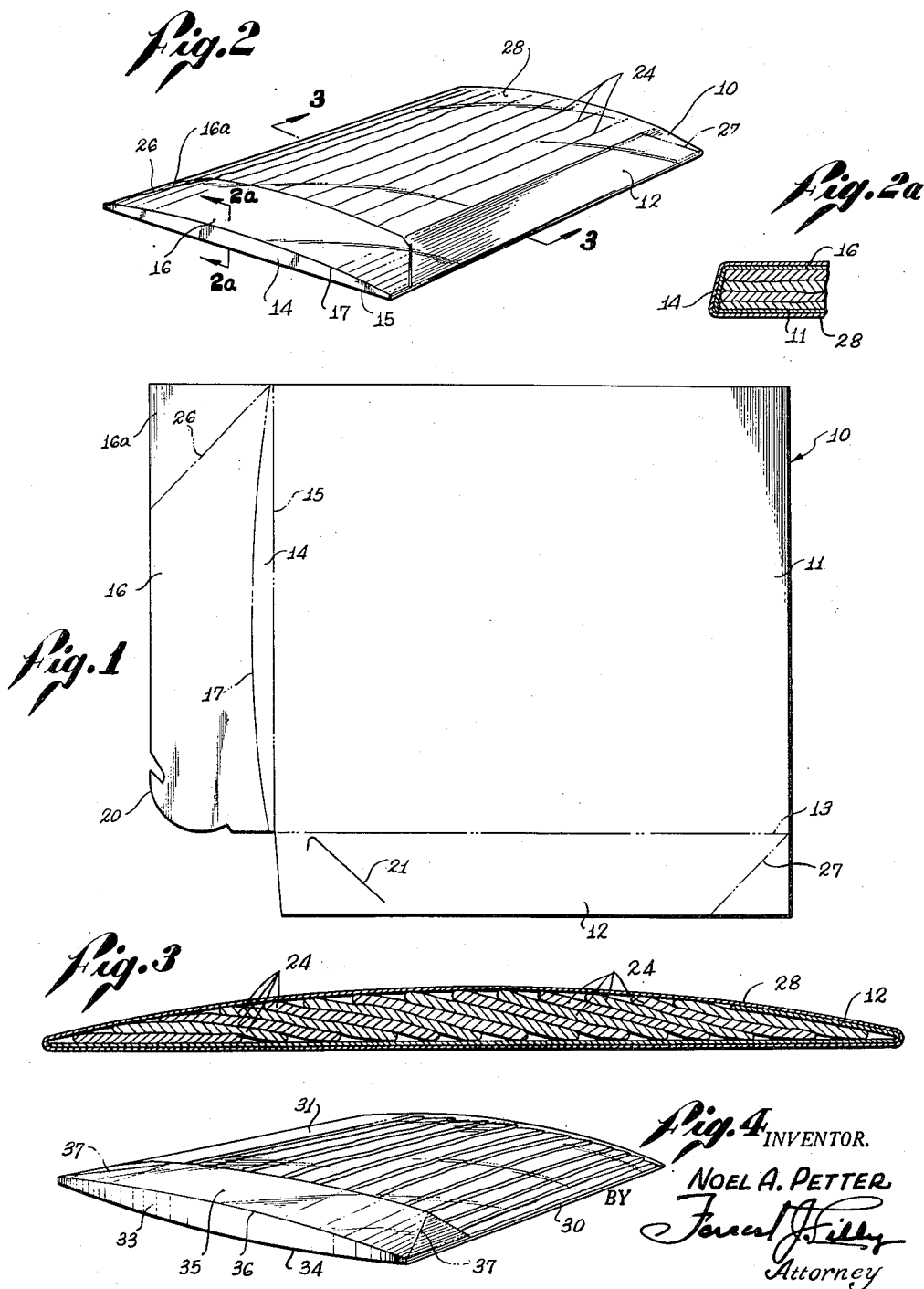
N. A. PETTER

2,804,258

CONTAINER FOR SLICED FOOD PRODUCT

Filed Dec. 3, 1956

3 Sheets-Sheet 1



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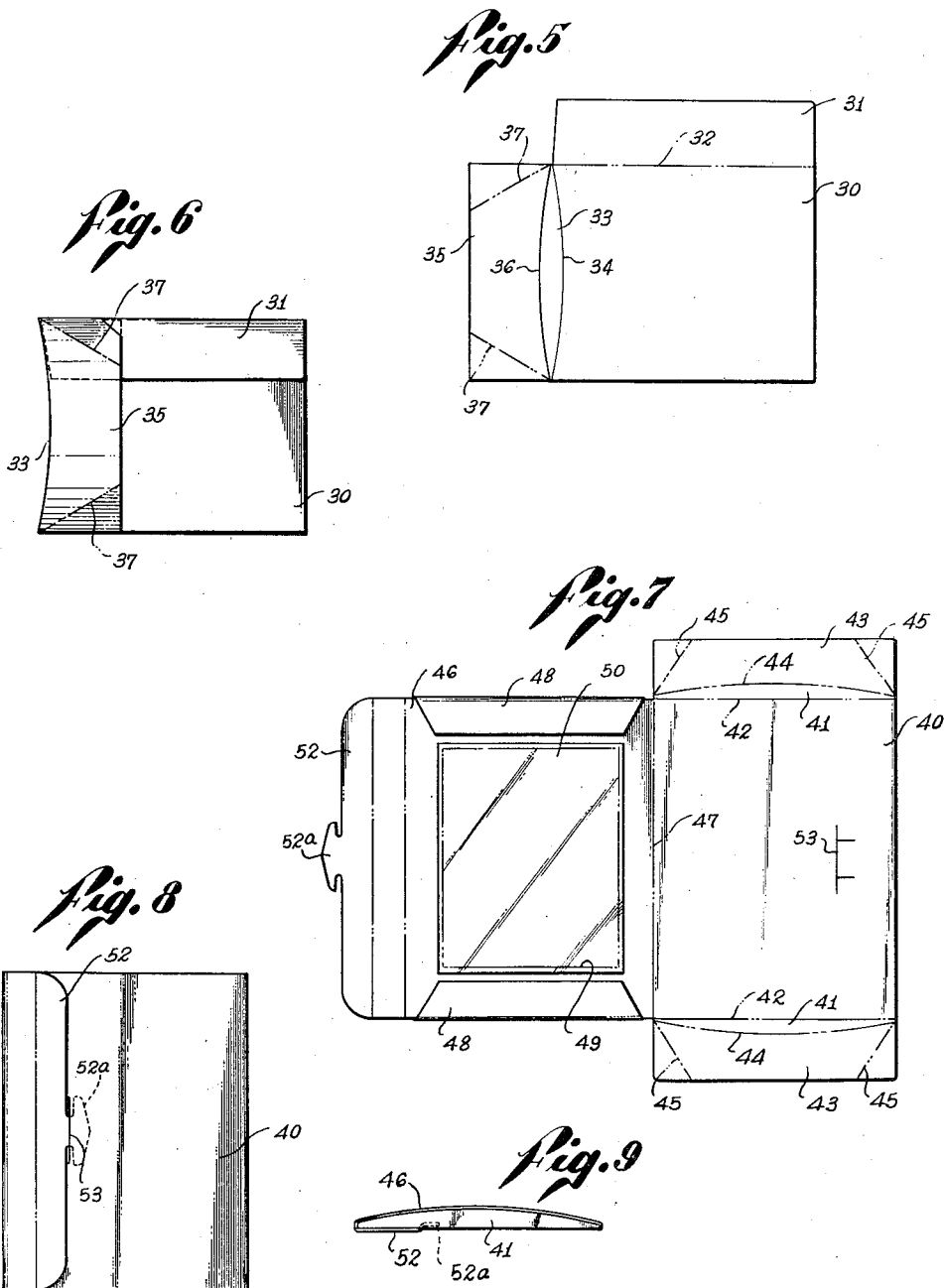
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3 Sheets-Sheet 2



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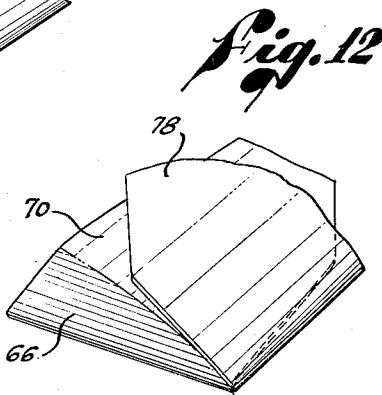
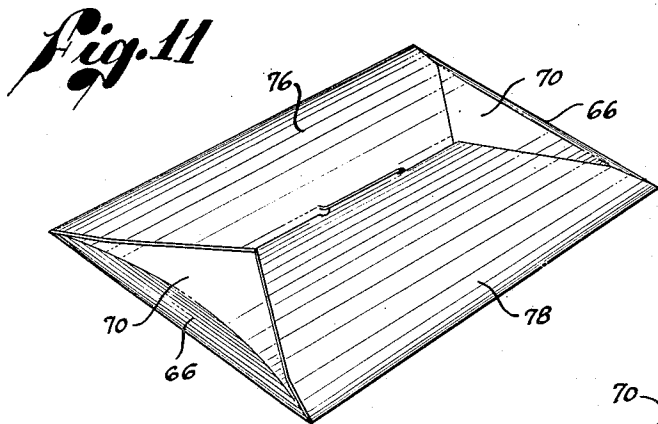
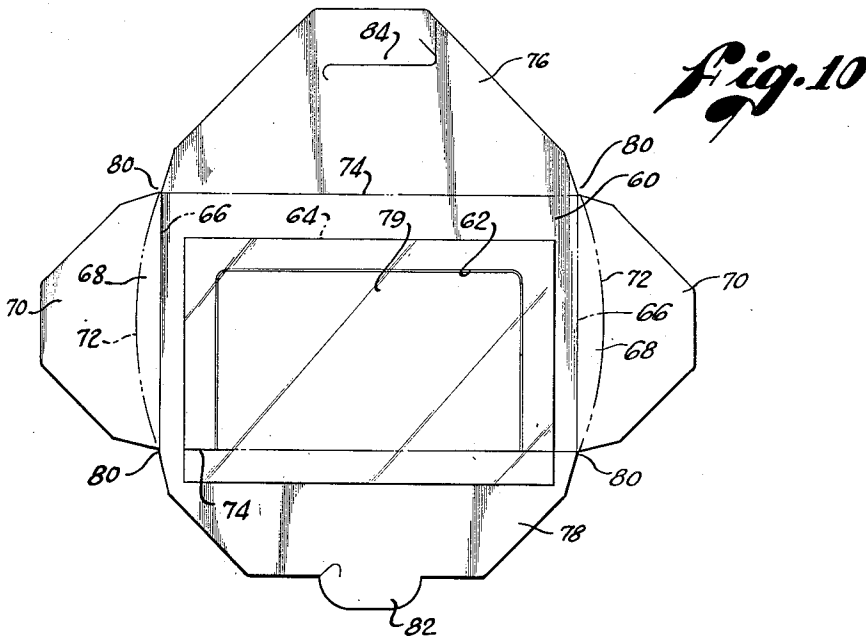
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CONTAINER FOR SLICED FOOD PRODUCT

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Application December 3, 1956, Serial No. 625,785

6 Claims. (Cl. 229—87)

This invention relates generally to packages for sliced bacon, particularly packages of the type in which pound and half-pound units of sliced bacon are marketed in retail trade.

The application may be regarded as dealing with improvements in the bacon package disclosed in Patent No. 2,565,976 to Mayer et al., and is a continuation-in-part of my co-pending application, Serial No. 358,309, filed May 29, 1953, and entitled, Package for Sliced Bacon, now abandoned.

Sliced bacon is commonly displayed with a plurality of the slices laid in overlapping relation, forming a mass of generally rectangular outline, thickest in the center, and tapering to a thin edge along the longitudinal edges. Theoretically, the mass as formed has the cross-sectional form of a relatively flat trapezoid, with a flat top, and tapering ends. The package of the aforementioned patent is designed to conform precisely to this theoretical shape. Bacon, however, is a soft, plastic substance, and tends, when packaged, to depart from the theoretical trapezoidal form and to assume a humped form more closely resembling an arc of a circle.

An object of the invention is, accordingly, to provide a bacon package having an arcuate shape to conform with the shape of the bacon mass in the package.

Bacon packages are often overwrapped with thin transparent paper in automatic wrapping machinery. It is necessary that the packages be of uniform dimensions if trouble is to be avoided in this wrapping operation. Unfortunately, bacon is a difficult substance to package with a high degree of uniformity. Also, the "trapezoidal" packages as heretofore known have been provided with that characteristic shape by use of certain notches in the end wall, which notches weaken the package and permit it considerable latitude within which distortion may take place in wrapping and handling. Thus, the package, prior to overwrapping, may vary in some of its dimensions by as much as $\frac{1}{16}$ to $\frac{1}{8}$ inch. This is due primarily to the fact that because of their lack of inherent stability and rigidity, the prior packages tend to conform to their enclosed bacon mass. Since the latter varies slightly in size and shape from one package to another, owing to the semi-fluid consistency of bacon, a corresponding variance is produced in the packages.

A further and very important object of the invention is, therefore, to provide an improved bacon package having greater rigidity and stability, resulting in conformance of the bacon mass to the package, rather than vice versa, to the end that the filled packages will be highly uniform dimensionally and can be run through conventional automatic wrapping machinery without liability of fouling.

Overwrapping, of course, adds appreciably to the cost of the package. It is preferable, therefore, that the transparent overwrap be eliminated. The reason for overwrapping is primarily to comply with the Food and Drug laws which require the package to be so tightly closed as to preclude the entrance of dirt and insects. Existing bacon packages have relatively large openings at their

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corners, owing to their rectangular end wall construction, so that overwrapping is necessary to close these openings.

Yet a further object of the invention is to provide an improved bacon package possessing an insect-tight construction which meets the standards of the Food and Drug laws without the necessity of overwrapping.

A related object is to provide an improved bacon package which has increased simplicity of construction and is more economical to produce.

The invention will be more fully understood from the following detailed description of several illustrative embodiments thereof, reference for this purpose being had to the accompanying drawings, in which:

Figure 1 is a plan view of the package in unfolded position, or, in other words, of the "blank" from which the package is folded;

Figure 2 is a perspective view showing the package filled with bacon strips, folded, and overwrapped with transparent sheeting;

Figure 2a is a detailed section taken on line 2a—2a of Figure 2;

Figure 3 is a transverse section taken on line 3—3 of Figure 2;

Figure 4 is a perspective view of another embodiment of the invention;

Figure 5 is a plan view of the blank of the form of Figure 4;

Figure 6 shows the form of Figures 4 and 5 in folded position in top plan view;

Figure 7 shows another embodiment of the invention, in unfolded position;

Figure 8 shows the embodiment of Figure 7 in bottom plan view, after folding;

Figure 9 is an end view of the embodiment of Figures 7 and 8;

Figure 10 shows still another embodiment of the invention in unfolded condition;

Figure 11 shows the embodiment of Figure 10 in perspective after folding; and

Figure 12 is an enlarged detail showing the closed corner construction of the package of Figure 11.

In Figure 1 is shown a paperboard blank 10 in unfolded position, having a generally rectangular backing member 11, a side flap or panel 12 foldable over member 11 about a longitudinal score line 13, an arcuate end wall 14 foldable at right angles about the transverse score line 15, and a cover or end flap 16 foldable on an arcuate score line 17. The score line 17 may intersect the end edges of end flap 16 near or at the score line 15, but preferably spaced from the latter by substantially the thickness of an average bacon slice.

The corner of the end flap 16 adjacent the side flap 12 is shaped as at 20 to enter and be locked in a locking slit 21 in side flap 12 when the side flap has been folded over backing member 11, arcuate end wall 14 has been folded up, and the end flap 16 then folded over the side flap 12, as shown in Figure 2.

The bacon strips 24 are laid in overlapping relation to one another as indicated in the drawings, and the flaps 12 and 16 are then folded and interlocked as indicated. It will be observed that the arcuate score line 17 constrains the flap 16 to assume an outwardly convex curvature in the folded package, as shown in Figure 2. The end wall 14, on the other hand, is subjected to two opposing tendencies.

Thus, folding of the flap 16 about the arcuate score line 17 tends to bend the end wall toward a concave form, as viewed toward the rear end of the package in Figure 2. The straight line hinge junction, defined by the straight score line 15, of the end wall 14 with the flat bottom or side panel 11 strongly resists this flexing or bending of the end wall to concave form.

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In other words, two opposing forces act on the end wall 14 when the package is in its folded condition of Figure 2. One of these forces acts to bend the end wall into a concave curve and the other force acts to resist this bending of the end wall and retain the latter in planar form, i. e., in a plane intersecting the score line 15. The consequence is that the end wall, thus subjected to mutually resisting forces, is placed under an unrelieved set of internal stresses which resist further flexing of the end wall in all directions. The folded package is, therefore, constrained to predetermined shape and dimensions with an unusual degree of uniformity, rigidity and stability.

By reason of this newly contrived added stability, and resistance to deformation, the relatively fluid bacon mass tends to conform to the predetermined shape of the package, rather than the package adjusting itself to conform to the irregular bacon mass. The result is that the completed package, filled with bacon, has substantially improved uniformity of dimensions, and can be overwrapped in automatic wrapping machinery without encountering the difficulties resulting from inevitable dimensional variances from package to package.

An additional advantage resulting from the present package construction is that substantial resistance is presented to further folding of the flap 16 about the arcuate score line 17 beyond the position of Figure 2a to place the flap more nearly perpendicular to the end wall 14, as viewed in Figure 2a. Such further folding of the flap 16 occurs, of course, when the latter is moved in its plane to the left, as seen in Figure 2a, to disengage the locking tab 20 from the slit 21 in the flap 12. Accidental disengagement of the tab from the slit and unfolding of the package is, accordingly, effectively prevented.

The convexly curved flap 16 forms an arch which conforms quite closely to the low, humped form of the bacon mass. At the one end, the flap 16 is so interlocked to the flap 12 as to conform closely to the tapering edge of the bacon mass, the flap 12 assuming a small acute angle with reference to bottom panel 11, as shown. At the other end, a triangular portion 16a of the end flap is bent down about a 45° angle score line 26, giving good conformity to the bacon mass in that region. If desired, a diagonal score line 27 may be formed on the end of flap 12 remote from the end flap 16, permitting the corner of the flap 12 to be pressed down to facilitate smooth wrapping.

Attention is especially drawn to the fact that the end wall 14 is joined for its full length to both the bottom panel 11 and to end flap 16. Observe also the arch shape of the score line 17, and therefore of the flap 16 when in folded position. These features also make for a comparatively rigid, stable package, conforming closely to the natural shape of the bacon mass. By virtue of the natural fluidity of the bacon mass and the stable form of the package, the bacon mass adjusts itself slightly to the form of the present package, instead of the reverse taking place, as with prior packages.

In result, a stable package of bacon, of greater uniformity of dimension, has been achieved by the invention, and the package can be overwrapped in automatic wrapping machinery without the difficulties heretofore encountered.

The completed package is shown in Figure 2, with its transparent overwrap indicated at 28.

In Figures 4-6 is disclosed another embodiment of the invention, generally similar to that of Figures 1-3, excepting that the end wall of the package is arcuate-shaped at both longitudinal edges. Thus, referring to Figure 5, there is a backing member 30, formed along one edge with a side flap 31, which is hinged to backing member 30 at score line 32. At one end of backing member 30 is an end wall 33, separated from backing member 30 by an arcuate score line 34, end wall 33 being separated from end flap 35 by means of an arcuate score line 36. The two ends of the flap 35 may have diagonal score lines

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such as 37 to permit the corner portions of the end flap to be bent down slightly.

Thus the end wall 33 is thickest in the middle, and tapers on two arcs to each of its ends. The package has substantially the same advantages as that first described, but in this case, the bottom panel 30 is also constrained to take an arch-shape, so that the entirety of the package has great inherent strength and stability.

A further embodiment is shown in Figures 7-9. In this instance, the package has a backing member 40, two arcuate end walls 41, joined to backing member 40 by score lines 42, and end flaps 43 joined to arcuate end walls 41 by arcuate score lines 44. The two corner portions of each end flap are capable of being bent downwardly about diagonal score lines 45. In place of the side flap of the earlier embodiments, a top panel 46 is joined to bottom panel 40 at score line 47. This top 46 is of the same length as the bottom panel 40, but as here shown, is formed originally with end flaps 48 which have been turned over and glued in the position shown in Figure 7. Also, as here shown, the top panel 46 has been formed with a window 49 covered with transparent sheeting 50. Top 46 is provided with a flap 52, adapted to be wrapped around the underside of the bottom panel 40 and is furnished with a locking tab 52a adapted to be lockingly engaged with slit 53, as shown in Figure 8. In this version of my bacon package, the end flaps 43 are folded over first, and the cover or top panel 46 is then folded down on top of end flaps 43, as will be readily understood.

It will be seen that the package of Figures 7-9 embodies the same inventive feature of an arcuate-shaped package conforming to the natural arcuate shape of a bacon mass laid out in the conventional manner, and that the package possesses, by virtue of the arcuate or arch-like formation, increased rigidity and stability. By reason of the provision of the arcuate end walls 41 and arch-shaped end flaps 43 at both ends of the package, rigidity and strength are improved to a substantial extent over the earlier described embodiments. This follows, of course, simply from the fact that the inventive features of the package are used at both ends thereof rather than at the single end as in the first described embodiment.

The further modified embodiment of my invention shown in Figures 10-12 is generally similar to that of Figures 7-9 in that it has a rectangular top panel 60 formed with a window 62 covered with transparent sheeting 64. Joined to and coextensive with the end edges of this top panel along straight score lines 66 are a pair of end walls 68. A pair of covering end flaps 70 are joined to the end walls 68 along arcuate score lines 72, as in the previous forms of the invention. Joined to and coextensive with the remaining, longer sides of the top panel 60 along straight score lines 74 are covering side panels or flaps 76 and 78.

For convenience of manufacture, one edge of the window 62 lies along one of the score lines 74. This permits the latter score line to serve as a hinge junction of a window flap 79, formed by the portion of the top panel 60 which is cut away to provide the window 62, with the covering side flap 78. The provision of window flap 79 to normally close the window 62 is desirable to avoid exposure of the bacon to ultraviolet radiation from the fluorescent lighting of meat counters. Such exposure causes discoloration of the bacon.

It will be observed from Figure 10 that the blank from which the package under discussion is folded conforms generally to a square. Three corners of the square are cut off parallel to the score lines 66 and 74. Also, the sides of the square are formed with triangular notches 80, the edges of which intersect at the intersections of the adjacent score lines 66 and 74, as shown. The covering end flaps and side flaps or panels 76 and 78 are thereby provided with a generally triangular configuration.

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The remaining corner of the square is cut to form on the side flap 78 a locking tab 82 receivable in a slit 84 in the flap 76, when the package is folded. This form of the blank enables a maximum number of blanks to be cut from a rectangular sheet of a paper board with minimum waste.

In folding the package, the end walls and flaps 68 and 70 are first folded about the straight and arcuate score lines 66 and 72, respectively, to overlie the ends of the panel 60. The covering side panel or flap 76 is then folded about its score line 74 to overlie the end flaps and the panel 60. Finally, the side panel or flap 78 is folded about its score line 74 to overlie the folded flaps and panel 60, the tab 82 being inserted in the slit 84 to retain the package in its folded condition of Figure 11. The packaged bacon mass, not shown, will thus be completely enclosed in the package.

It will be apparent that the folding of the end flaps 70 about the arcuate score lines 72 imparts to the package the same highly desirable features of rigidity, arch shape, etc., previously discussed with reference to the other forms of the invention. The features will not be reiterated here, therefore.

The arcuate configuration of the end walls 68 and the side and end flap configuration of Figures 10-12, however, results in an additional highly desirable advantage. That is, at each corner of the folded package, the convergent end portions of the end walls 68, the overlying corner portions of the side flaps 76 and 78, and corner portions of the panel 60, coact to form substantially completely closed corners (see Figure 12) which are sufficiently insect-tight to meet the standards of the Food and Drug laws without the necessity of overwrapping. The cost and complexity of production of the completed package is thereby appreciably reduced.

The resistance, previously discussed, presented against outward movement of the folded end flaps 70 in their planes, tending to place these flaps more nearly perpendicular to the concave end walls 68, is especially desirable and important here. This is so, of course, because if such outward movement of the flaps were not resisted, as is the case in conventional bacon packages, they must be made longer to prevent accidental disengagement thereof from beneath the covering side panels or flaps 76 and 78. More important, however, is the fact that any outward movement of the end flaps tends to create or enlarge the openings at the corners of the package, which openings are undesirable for the reasons just stated.

It will be apparent that in all forms of the invention disclosed herein, the hinging of the end walls 14, 33, 41 and 68 to the main panels 11, 30, 40 and 60, respectively, and the connection of the flaps 16, 35, 43 and 70 to said end walls 14, 33, 41 and 68, respectively, along the full length of the arcuate score lines 17, 36, 44 and 72, respectively, causes said flaps to assume a curved or convex shape when folded over into confronting relation with the main panels, with the concave sides of the flaps facing said main panels, as is obvious from Figures 2, 4, 6 and 11. The internal stresses developed in and between the panels, end walls and arched flaps also cause the end walls to assume an externally concave configuration and thus, when the end flaps are maintained in folded or covering position, inherently restrain the end walls against movement about their hinged connection with the main panels in an outward direction away from the main panels. In this way, the end wall of the container is rendered quite rigid, thus imparting stability in shape and dimension to the container.

There has thus been disclosed a bacon package which is fully capable of attaining the objects and advantages preliminarily set forth. While certain embodiments of the invention have been described and illustrated, they are meant to be illustrative in nature, and the invention is intended to be limited only by the scope of the following claims.

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It should also be appreciated that while some features of the invention adapt it peculiarly to the packaging of bacon, the unique container of the invention may also be used to advantage in the packaging of sliced food products other than bacon.

I claim:

1. A container for an assembly of thin food slices in overlapped relation, comprising: a foldable member of paperboard including a flat rectangular side panel having a straight end edge, a relatively low end wall having one straight edge hinged to said end edge of said side panel along a straight score line, and having an arcuate opposite edge defined by an arcuate score line which extends between points located closely adjacent opposite ends of said straight score line, and a covering flap hinged to said arcuate edge of said end wall along said arcuate score line, said end wall being bendable from the plane of said side panel about said straight score line, and said flap being bendable from the plane of said end wall about said arcuate score line into a position in which it confronts said side panel and is adapted to cover at least portions of said slices, said flap when bent about said arcuate score line being caused to assume a convex curvature with the concave side of said flap facing said side panel, and said end wall tending simultaneously toward an externally concave curvature, but being substantially restrained therefrom by its straight line hinge attachment to said straight end edge of said side panel, whereby internal stresses are developed in and between said end wall, flap and side panel which, when said flap is maintained in covering position, restrain said end wall from movement about its straight edge in a direction away from said side panel and tend toward stabilization of the shape and dimensions of the container.

2. The subject matter of claim 1, including also a side flap hinged along a side edge of the panel and foldable into partially overlapping relation with said end flap, the overlapped portions of said end and side flaps having interengageable interlocking elements for connection of said flaps.

3. A container for an assembly of thin food slices in overlapped relation, comprising: a foldable member of paperboard including a flat rectangular panel having straight opposite end edges, a relatively low end wall having a straight edge hinged to each of said panel end edges along a straight score line and extending the full length of said end edges of said panel, said end walls having, opposite to said straight edges, arcuate edges defined by arcuate score lines which extend between points located closely adjacent opposite ends of said straight score lines, a covering flap hinged to the arcuate edges of each of said end walls at said arcuate score lines along the full lengths of said arcuate edges, said end walls being bendable from the plane of said side panel about said straight score lines, and said flaps being bendable from the plane of said end walls about said arcuate score lines into a position in which they confront said panel and are adapted to cover at least portions of said slices, said flaps when bent about said arcuate score lines being caused to assume a convex curvature with the concave side of said flaps facing said panel, and covering wall means hinged along at least one side edge of said panel and extending the full length thereof, said covering wall means being foldable to overlap with at least portions of said end flaps and, when so folded, coacting with said end walls and flaps to maintain said end walls and flaps in said bent positions and to develop internal stresses to restrain said end walls from movement about their straight edges in a direction away from said panel and to tightly close the corners of the container at the intersections of the covering wall means and side edges of said panel.

4. The subject matter of claim 3, wherein said covering wall means comprise side flaps hinged along the two opposite side edges of the panel, extending along the

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full length thereof, and being foldable to overlap with at least portions of said end flaps, and partially with each other, and when so folded, completely and tightly closing the container, including the four corners thereof at the intersections of the side flaps and the side edges of the panel.

5. A container for an assembly of thin food slices in overlapped relation, comprising: a foldable paperboard member including a generally rectangular panel having end edges, at least one relatively low end wall having an edge hinged to an end edge of said panel along a fold line, and having an arcuate opposite edge defined by an arcuate score line which extends between points located closely adjacent opposite ends of said fold line, and a covering flap hinged to said arcuate edge of said end wall along said arcuate score line, said end wall being bendable from the plane of said panel about said fold line, and said flap being bendable from the plane of said end wall about said arcuate score line into a position in which it confronts said panel and is adapted to cover at least portions of said slices, said flap when bent about said arcuate score line being caused to assume a convex curvature with the concave side of said flap facing said panel, whereby internal stresses are developed in and

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between said end wall, flap and panel which, when said flap is maintained in covering position, restrain said end wall against movement about said fold line in a direction outwardly away from said panel and tend toward stabilization of the shape and dimensions of the container.

6. The subject matter of claim 5, wherein said relatively low end wall is upwardly convex along its edge to which said covering flap is hinged and downwardly convex along its edge hinged to said panel.

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