Aug. 16, 1949. W. H. ARTHUR 2,479,456

CARTON

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Fig. 1.

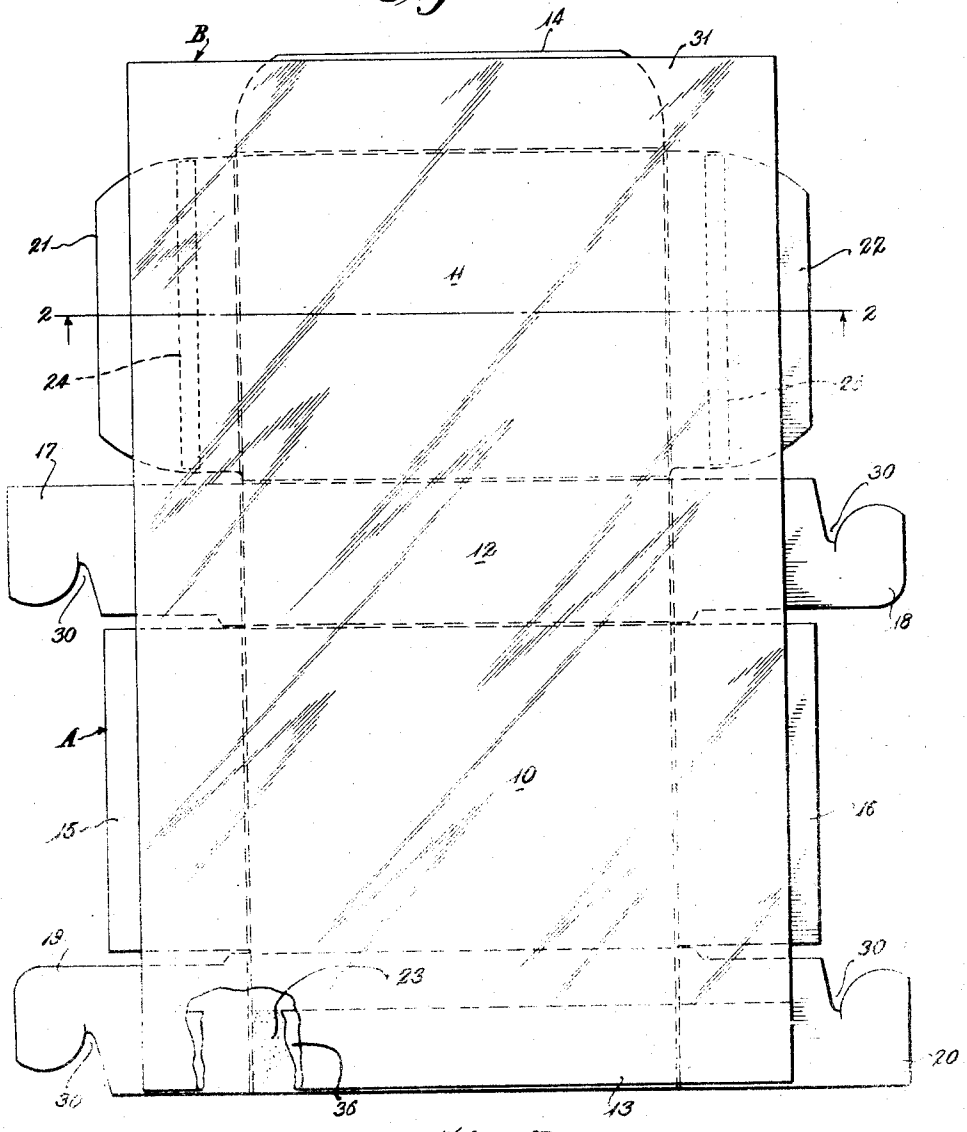


Fig. 2.



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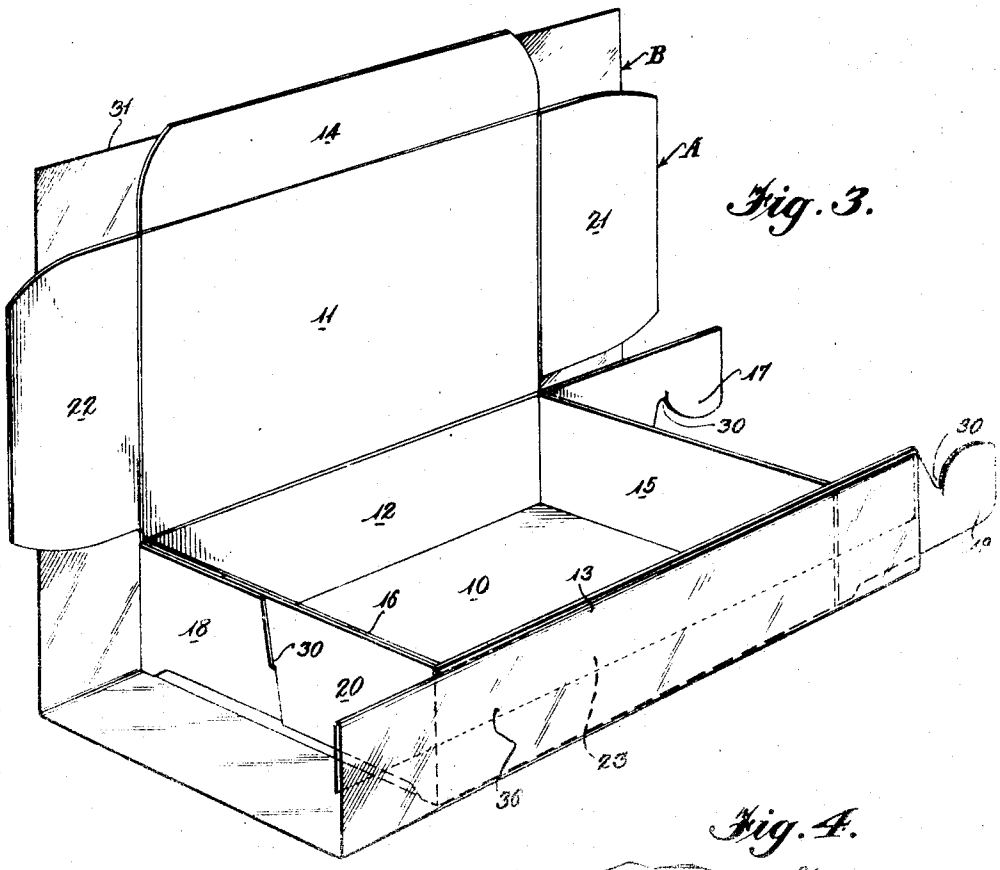


Fig. 3.

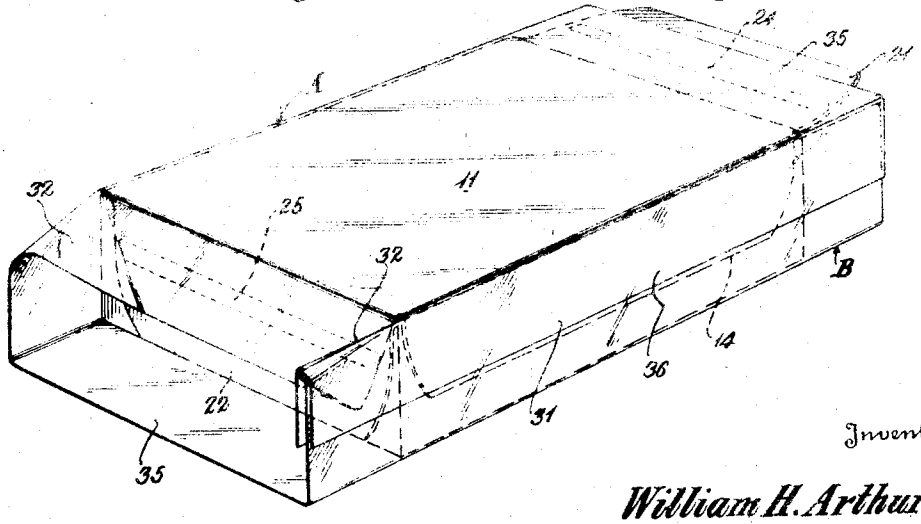


Fig. 4.

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Fig. 6.

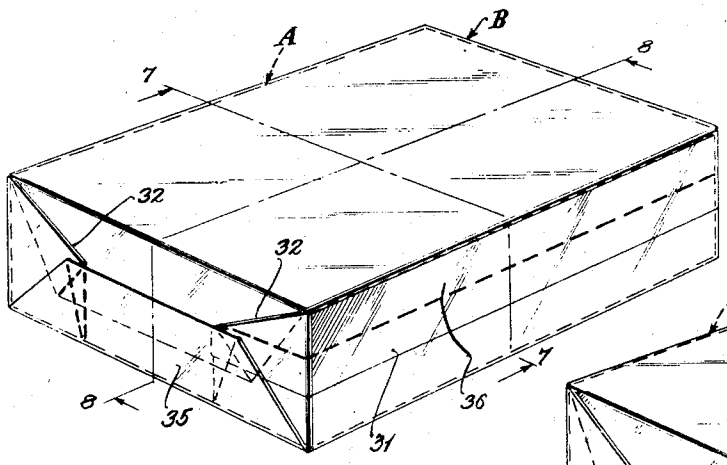


Fig. 5.

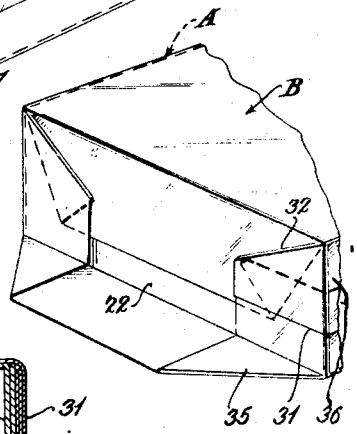


Fig. 7.

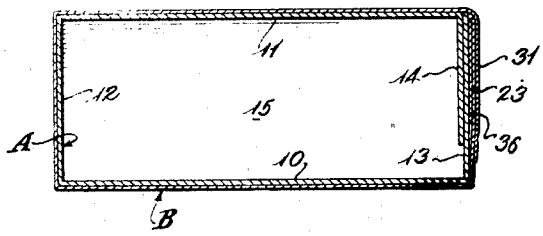
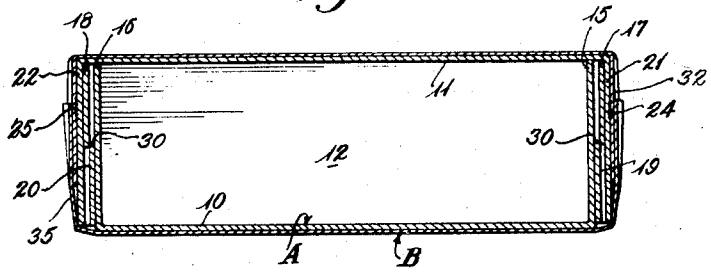


Fig. 8.



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UNITED STATES PATENT OFFICE

2,479,456

CARTON

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Application August 24, 1944, Serial No. 550,934

3 Claims. (Cl. 229—14)

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The invention relates to cartons, and more particularly to a wrapped carton formed by initially securing a sheet of wrapping material to a carton blank and then folding the carton blank with the attached wrapping material into its final form, in which the wrapper completely encloses the carton. It is contemplated that the carton may be used in cases where an automatic overwrapping machine is not justified commercially, but where on the contrary, the carton may be set up, wrapped and sealed by hand.

In accordance with the preferred embodiment of the invention the carton blank includes a body portion which is adapted to be folded into tubular form, and two end flaps adapted to close the ends of the tubular carton. The sheet of overwrapping material may be suitably secured in one or more places to the main body portion, and is also secured to the end flaps. In assembling, the carton body portion with the wrapper secured thereto is first folded to tubular form and sealed, leaving the end flaps and tubular extensions of the wrapper projecting laterally beyond the edges of the carton. The flaps are then bent downwardly, carrying with them portions of the wrapper and forming lateral "ears" in said wrapping material, after which the laterally projecting portions of the wrapping material are suitably folded and sealed either by means of an adhesive or by heat-sealing.

The invention will be more readily understood by reference to the accompanying drawings, in which is set forth by way of illustration a specific embodiment of the inventive thought.

In the drawings:

Fig. 1 is a plan view of a carton blank showing the overwrapping material attached thereto;

Fig. 2 is a sectional view on the line 2—2 of Fig. 1;

Fig. 3 is a perspective view showing the carton with the attached wrapping material, partially set up;

Fig. 4 is a perspective view showing the carton set up and the wrapping material in process of being folded down with the end flaps to form ears in the wrapping material;

Figs. 5 and 6 are perspective views showing subsequent steps in the folding and sealing of the wrapper;

Fig. 7 is a sectional view on the line 7–7 of Fig. 6; and

Fig. 8 is a sectional view on the line 8—8 of Fig. 6, the wrapping and sealing steps being assumed as completed in Figs. 6 and 7.

As shown the reference numeral A denotes in

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general the carton or blank therefor, and the reference numeral B denotes a sheet of overwrapping material which is adapted to be suitably secured thereto so as to facilitate setting up and sealing of the carton. The carton may be formed of any suitable material, such as paperboard or the like, and the overwrapping material is preferably transparent material, such as cellophane or the like, although in its broadest aspects a wrapper of other than transparent material may be employed. Preferably the wrapping material is adapted for heat-sealing, and as such may be the so-called "heat-sealing cellophane," but other heat-sealing film, such as Pliofilm, may be employed. Where non-heat-sealing material is employed the sealing may be performed by means of adhesives.

The carton blank A comprises a body portion including essentially a bottom, cover, rear panel and front panel, and may include also suitable locking and closure flaps, to which body portion the overwrapping material is adapted to be secured. The said carton also includes, in addition to the main body portion, a pair of end flaps extending laterally from the body portion, to which flaps the wrapping material B is likewise secured.

As shown the body portion of the carton comprises a bottom panel 10, a cover panel 11, a rear panel 12 and a front panel 13. Secured to the cover panel 11 there may be provided a front tuck flap 14 which is adapted to fit inside of the front panel 13 when the box is assembled. Extending laterally from the bottom panel 10 there may be provided a pair of end panels 15 and 16 which are adapted to be turned up and secured in position by means of a plurality of locking flaps carried on the ends of the rear panel 12 and front panel 13, respectively. As shown locking flaps 17 and 18 project laterally from the rear panel 12, and like flaps 19 and 20 project laterally from the front panel 13. It will be observed that the locking flaps 17 and 19 projecting from one side of the blank are provided with suitable locking slots 30 which face downwardly, whereas the flaps 18 and 20 projecting from the other side of the blank have similar slots 30 which face upwardly. This construction assists in preventing the carton from collapsing accidentally by disengagement of the slots 30. Flaps 21 and 22 project laterally from the cover panel 11.

It will be noted from an inspection of Figs. 1 and 2 that the sheet of overwrapping material B is of approximately the same size as the carton blank including the projecting flaps and panels.

As shown, however, the wrapper is of slightly less width than the combined carton and terminates a short distance from the outer edge of the front panel 13. While the exact dimensions of the respective members A and B may be varied as desired, it is desirable that the carton blank and wrapper should be approximately the same over-all dimensions, and the wrapping sheet should preferably extend beyond the main or body portion of the carton blank, and should preferably not extend materially beyond the margins of the extension panels but should rather terminate somewhat short of the extremities of such extension flaps and panels. This construction is illustrated in Fig. 1.

The wrapping or cover sheet B may be suitably secured to the carton blank in any desired manner. Desirably, however, the wrapper is secured to the body of the carton along a longitudinal strip 23 adjacent one end of the cover sheet and parallel to the outer extremity of the front panel 13. If desired the strip 23 may be a glue line, or the cover sheet may be secured to the panel 13 by heat-sealing along the line 23.

In the preferred embodiment of the invention the marginal portion 36 of the cover sheet B is turned under and secured to the panel 13 by means of glue strip or the like 23 as best shown in Figs. 1 and 3. This arrangement has the advantage that strain on the sheet B which may result from shrinkage thereof in storage or from other causes will be relieved without causing separation of the sheet B from more than the extreme marginal portion of the glue strip 23, and the utility of the package will be unimpaired.

In addition to securing the cover sheet to the body portion of the carton such sheet should likewise be secured in any suitable manner to the laterally projecting flaps 21 and 22. As shown the cover sheet is secured to the said flaps 21 and 22 along parallel strips 24 and 25, respectively. As shown these strips are located along the mid portion of the flaps 21 and 22 and should preferably be spaced from the outer edges of said flaps. The strips 24 and 25 and the strip 23 may either be glue lines or may be formed by heat-sealing.

It has been found that the three adhesive strip lines 23, 24 and 25 are sufficient for the purposes of the present invention. Although more adhesive lines may be used the present arrangement is most desirable because no undue stress is placed upon the wrapper material.

In setting up the box the blank is placed on a flat surface with the wrapper B face down, whereupon the end panels 15 and 16 are folded upwardly at right angles to the bottom panel 10. The locking flaps 17 and 18, and 19 and 20 formed on the ends of the rear and front panels 12 and 13, respectively, are then folded inwardly parallel to the panels 15 and 16, and are secured in place by interlocking the flaps 17 and 19 and 18 and 20, respectively, by means of the locking slots 30. This operation is illustrated in Fig. 3.

The cover panel 11 is then folded down to the position shown in Fig. 4 and the front tuck flap 14 is inserted behind the upstanding front panel 13. The end flaps 21 and 22, carrying with them portions of the wrapper, extend laterally beyond the margin of the carton as indicated at the right hand portion of Fig. 4. It will be noted that the carton is now in tubular form, with laterally extending tubular portions 35, 35 of the wrapper projecting beyond the ends of the carton and sustained by the end flaps 21, 22 to which the wrapper is secured. An unattached flap or surplus portion 31 of the wrapper projects beyond the margin of the cover 11 and remains outside of the package. This loose flap 31 overlies the sealing line 23 by means of which the marginal portion 36 of the wrapper is secured to the front panel 13 of the carton, and may be sealed in place either by heat-sealing or by means of an adhesive. If heat-sealing is employed this may be accomplished by means of a hot iron, with which the carton may be engaged, and if desired the top of the wrapper may also be secured to the carton.

The end flaps 21 and 22 are then depressed, as indicated at the left hand portion of Fig. 4, to provide "ears" 32, 32 in the tubular extensions 35 of the wrapper portion, and the said ears and the margins of the wrapper portion are then brought together as indicated in Figs. 5 and 6 and may be secured either by heat-sealing or by means of a suitable adhesive. It will be noted that when so secured in place the wrapper holds the end flaps 21 and 22 downwardly, thus completely closing the ends of the tubular carton and providing a vapor-tight package.

The carton is especially suitable for packaging fruits or vegetables, and is ideal for use with dehydrated foods.

A preferred embodiment of the invention has been described in detail for the purpose of illustration, but it will be apparent that the invention in its broadest aspects may be modified within the scope of the accompanying claims. Thus while the carton as shown is provided with end panels 15 and 16 and locking flaps 17, 18, 19 and 20, and while these elements are desirable in order to permit top filling of the carton, they may be omitted where end filling of the carton is resorted to, and in such case the carton may be closed simply by means of the wrapper supporting flaps 21 and 22 and the folded and sealed ends of the wrapper. Similarly, while the tucking flap 14 is desirable in order to provide rigidity for the package, such tucking flap may be omitted if desired and the front of the carton may be closed and sealed simply by securing the free end 31 of the wrapper against the front of the carton, thus completely overlapping the meeting portions of the tubular body member and providing a vapor-tight seal.

Other modifications and variations will be apparent to those skilled in the art.

I claim:

1. In the combination comprising a carton blank having a front wall, a bottom panel, a back wall and a cover panel consecutively arranged, at least some of said walls and panels having end closure flaps thereon, and a sheet of overwrapping material secured to said blank only within areas on said front wall and remote from said front wall, the improvement wherein one marginal portion of said sheet is folded under and the underlying portion thereof is secured to the outer surface of said front wall, said underlying portion constituting the only part of said sheet secured to said front wall.

2. The improved combination which comprises a sheet of foldable paperboard cut and scored to form a front wall, a bottom panel, a back wall, and a cover panel integrally joined in that order, end closure means including integral end flaps on said cover panel, and a sheet of overwrapping material secured to said paperboard sheet substantially only within areas on said end flaps and on said front wall adjacent the outer margin thereof, one marginal portion of said overwrap-

ping material being folded under and the underlying portion thereof being secured to the outer surface of said front wall, said underlying portion constituting the only part of said overwrapping sheet secured to said front wall.

3. The improved combination which comprises a sheet of foldable paperboard cut and scored to form a front wall, a bottom panel, a back wall and a cover panel integrally joined in that order, end closure means on said walls and panels, and a sheet of overwrapping material having a tendency to shrink in storage secured to said paperboard sheet substantially only within areas on said front wall adjacent the outer margin thereof and remote from said front wall, one marginal portion of said overwrapping material being folded under and the underlying portion thereof being secured to the outer surface of said front wall, whereby strain on said overwrapping material caused by shrinkage is relieved by slight peeling of said marginal portion, said underlying portion constituting the only part of said overwrapping sheet secured to said front wall.

WILLIAM H. ARTHUR.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,789,699	Durham	Jan. 20, 1931
1,816,085	Langhammer	July 28, 1931
2,294,690	Perry	Sept. 1, 1942
2,296,830	Beals	Sept. 29, 1942

FOREIGN PATENTS

Number	Country	Date
19,750	Great Britain	Sept. 1, 1913
24,546	Great Britain	Nov. 21, 1898