April 24, 1934. W. REILLY ET AL 1,956,159

FIVE PANEL LINED CARTON

Filed March 25, 1932 2 Sheets-Sheet 1

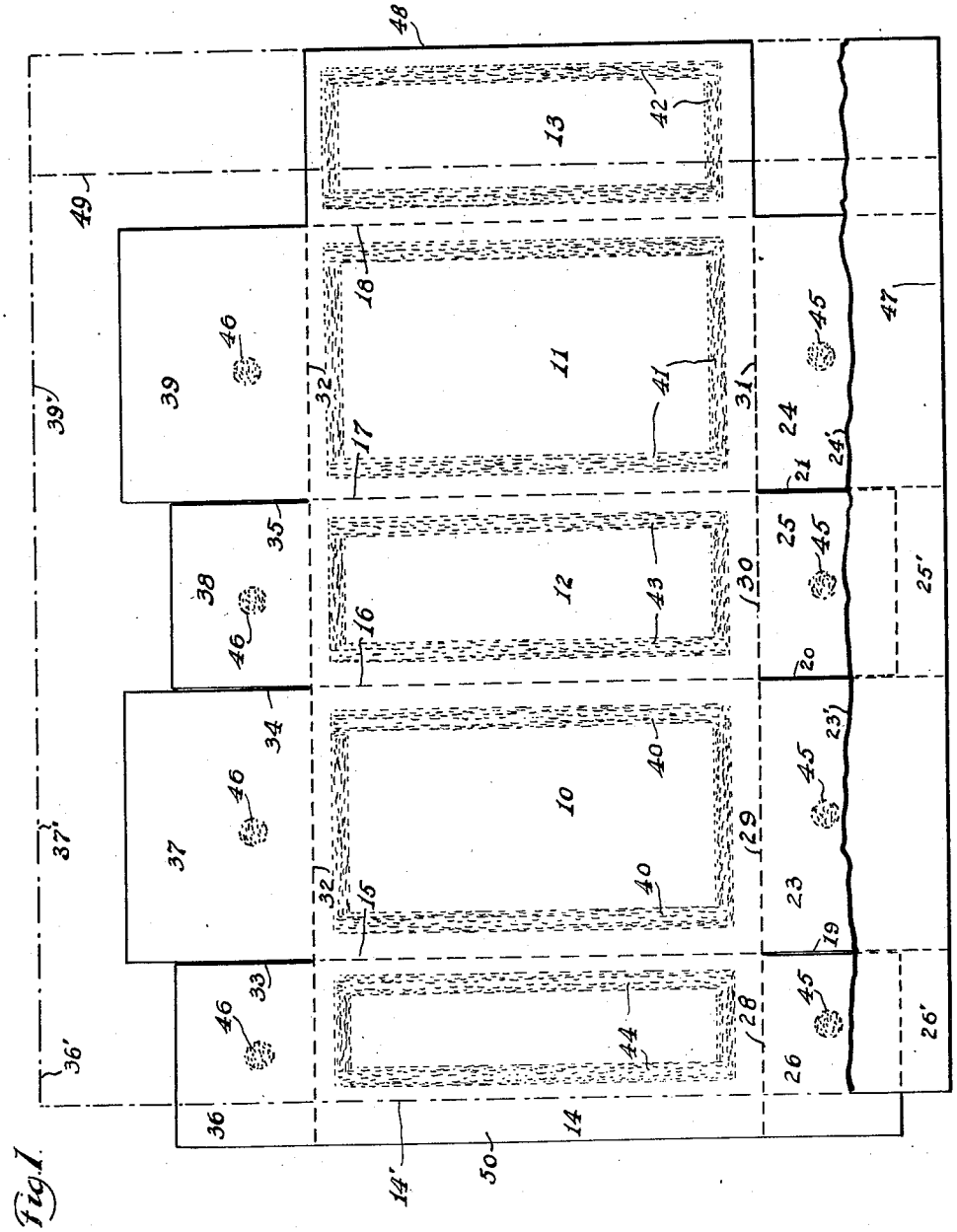


Fig. 1

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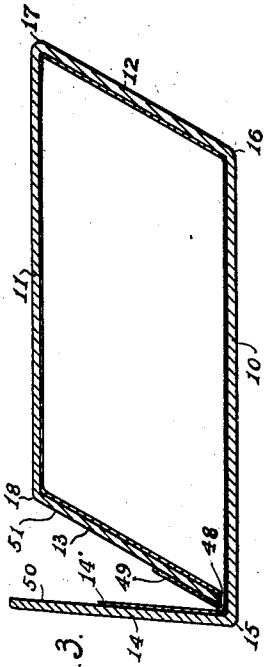


Fig. 3.

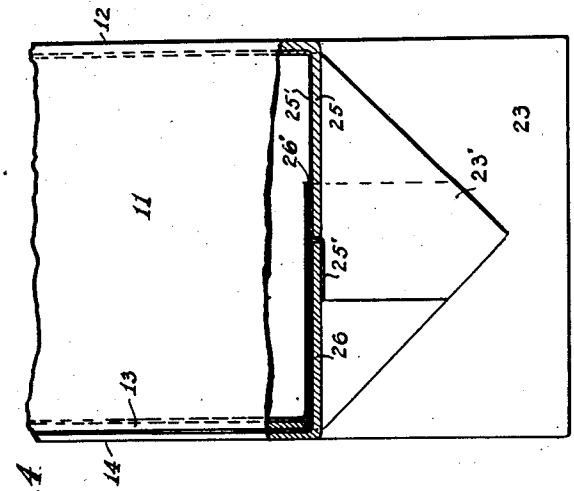


Fig. 4.

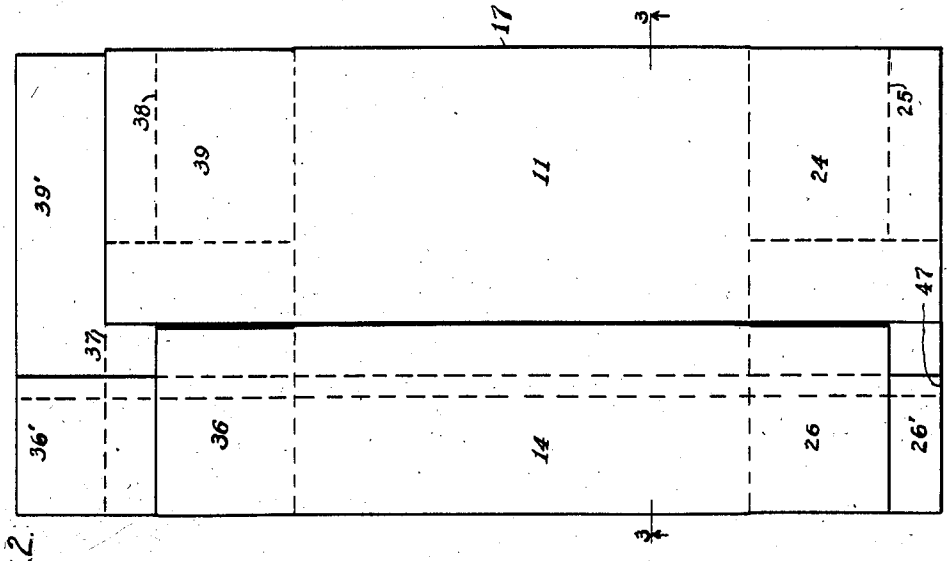


Fig. 2.

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UNITED STATES PATENT OFFICE

1,956,159

FIVE PANEL LINED CARTON

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Application March 25, 1932, Serial No. 601,162

19 Claims. (Cl. 229—14)

This invention relates to containers or carriers and has particular reference to a foldably erectable lined carton of the waterproof type.

More particularly stated, and in order to secure one of its objects, the invention is directed to a carton in which an outer cover, including five body panels or sections, is substantially protected, by a waterproof or "Cellophane" lining, from engaging or coming into contact with the contents of the container, either at any body portion, the fold lines, or the boundary edges of the said cover.

Connected with the foregoing, since cartons have heretofore been provided with separately foldable or erectable inner carriers and outer covers or containers, another object of this invention is the provision of a carton in which the separately positioned or isolated outer cover and the waterproof lining, as aforesaid, are foldably erectable substantially simultaneously.

One of the panels of the container or outer cover cooperates in attaching relation with another, which is identified as an attaching flap, and while one marginal portion or flap of the lining cooperates in attached relation with the first flap, a feature of the invention is a mating or opposite flap or marginal portion of said lining.

This latter portion is folded to cover the marginal edge of the attaching panel, and as the inner periphery of the attaching flap is brought into contact or proximity with the outer face of the attaching panel, the result is, to secure a further object of the invention, that the marginal portions are embraced in flat or waterproof contacting condition.

These marginal portions of the lining do not engage the whole of the cooperating faces of the outer cover, there being also on the latter coacting attaching strips, and as at least one of these portions is provided with an adhesive the result is that as the outer and lining sheets of material are passed through the gluing and folding machine, said lining is glued or attached to the outer cover and the panels are folded to engage the said strips.

The device is then folded in flat double condition, one pair of lateral and side walls or panels being opposite another. Opposed end or top and base flaps cooperate with said panels, so that on taking one of the folded devices, as from a stack or package, it is only necessary to urge opposite edges of the folded device inwardly to form the carton, of rectangular cross-section, as at present shown, after which the bottom, and then the top flaps are folded or turned into position, as shall hereinafter appear.

In applying the adhesive material or glue to the face of the outer cover or lining, for attaching the same, we find it advantageous and economical to form thin or narrow intersecting or criss-cross lines with the adhesive, thereby securing a complete result with a minimum of material. For instance, a thin line of the glue around the border or margin of a panel secures the lining in flat conditions against the whole of the panel.

Also, since it is desirable in some cases to hold liquid or semi-liquid material, such as food stuff, butter, or fruit in a carton, while the lining could get accidentally punctured at a single point, then the moisture would be retained locally in the outer cover, at the puncture, since the lined or cross lined adhesive or waterproof material forms restricting pockets.

According to another aspect of the invention the material to be held in the cartons may be of the cereal or powder nature, in which case moisture is effectively prevented from penetrating the compound wall, said material being also kept in a sanitary and airtight manner.

With the above indicated objects in view, and others which will hereinafter appear, the embodiment of the invention now disclosed is herein clearly described and fully illustrated in the accompanying drawings, in which:

Fig. 1 is a plan view of the inner face of the outer cardboard material or blank, on which the waterproof lining is disposed, the latter being fragmental, and represented in outline by dot and dash lines.

Fig. 2 is a plan view of the blanks in double folded condition, this being subsequent to passage of the blanks through the gluing machine.

Fig. 3 is a sectional view taken transversely of the carton and showing the structure in partly erect condition; and

Fig. 4 is a fragmental view in which the bottom end of the carton is shown folded.

Similar characters of reference are applied to corresponding parts throughout the several views.

The blank of material or cardboard out of which the outer member is struck or otherwise formed includes front and rear body panels 10, 11, between which a panel 12 forms one lateral face of the carton, while the opposite lateral face includes an attaching panel 13 and a cooperating attaching flap 14, which is continuous with said panel 10 over a crease or fold line 15. Fold lines 16, 17 and 18 between the other panels render the latter foldable thereat.

Extending from the lines 15—17 at one end of the blank are cuts 19, 20, 21, so that flaps 23, 24,

continuous with the front and rear panels, a flap 25, continuous with the panel 12 and a flap 26 continuous with the attaching flap 14, form the base end of the carton, when folded, there being also fold lines 28, 29, 30 and 31 between the respective end flaps and adjoining portions, opposite the fold lines 28—31 is a fold line generally numbered 32, and extending from the fold lines 15—17, at the opposite end of the blank, are cuts 33, 34, 35, so that the flaps 36, 37, 38 and 39 are foldable inwardly to form the top of the carton.

The waterproof lining, disposed on the inner face of the outer member as seen in Fig. 1, readily conforms, owing to its pliability, with movement of the several panels and flaps, as identified; and to render this movement accurate and reliable said lining is attached to the outer cover by endless lines of glue or adhesive material, preferably waterproof, one of which, on the panel 10, is represented by dotted lines 40.

On the panel 11, cooperating with the lining, is an endless band of adhesive material 41, and on the panel 13, a band 42. The band of the panel 12 is shown at 43, and that of the flap 14 at 44. We find that a single spot of adhesive material, as 45, gives good results on the bottom flaps 23—26; and a spot, as 46, on the top flaps.

The boundary edge of the lining, as at 47, corresponds generally with the line of the bottom flaps 23—26, but the portions of the lining, as 36', 37', 39', which corresponds with the top flaps extend therebeyond, to form a guide or spout for material being inserted in or removed from the carton.

Folded backwardly over the panel 13, and therefore covering its edge 48, is a marginal portion or flap 49 of the lining; and extending only part of the way over the attaching flap 14 is a marginal portion or opposite flap 14' of said lining. Cooperating with this structure is a strip 50 on the inner face of said flap 14, and a strip 51 on the outer face of the panel 13. One or both of these strips receives adhesive material in the gluing and folding operation, so that the device comes out of the machine as seen in Fig. 2.

To then erect the carton when required for use, according to this aspect of the invention, the folded device is urged as from opposite lines or edges 15, 17 into the rectangular sectional form, partly seen in Fig. 3, but the strips 50, 51 being joined, of course. Turning the bottom upwardly, Fig. 4, the flap 26, with its mating lining flap 26', is bent inwardly, and then the flap 25 is also turned in. In this way said flap 26' engages the lining flap 25', so that the material of the outer cover is completely protected by the waterproof lining. Inward movement of the flaps 25, 26, with the corresponding flaps or portions of the lining, partly folds the interposed flap 23' of the lining, as shown in Fig. 4; and also the lining flap or portion 24'. The flap 23 is then turned in, with said partly folded portion 23' and afterwards the flap 24, with its lining 24', which completes the bottom, and additional adhesive material may be used on the last-mentioned flaps.

The method of folding and closing the top flaps is identical with that described for the bottom, and any printing or decoration, not shown, may be used on the material of the carton.

As the hereinbefore described construction admits of considerable modification, without departing from the invention, the particular arrangements shown should be taken as illustrative, and not in a limiting sense. Therefore, the scope of the protection contemplated is to be taken solely from the appended claims, interpreted as broadly as is consistent with the prior art.

What we claim is:

1. In combination, a carton comprising a sheet of cardboard having body panels and including an attaching panel, said latter panel having an adhesive strip, an attaching flap continuous with one of said first panels and having a strip engaging said first strip, and a sheet of lining material covering the inner periphery of said panels and having marginal portions disposed in embracing relation between said attaching flap and said attaching panel, one of said portions being folded backwardly over the edge of the last mentioned panel.

2. A foldably erectable carton comprising in combination with an outer cardboard member having an attaching panel and an attaching flap, said panel and said flap having coacting adhesive strips thereon, cooperating bottom flaps, and a waterproof lining completely covering the inner periphery of said member and foldable substantially therewith, said lining having longitudinal marginal portions disposed in engaging relation between said panel and said attaching flap.

3. A foldably erectable carton comprising in combination a sheet of cardboard having body panels and including an attaching panel, an attaching flap, cooperating bottom and top flaps continuous with said body panels and with said flap, and a sheet of waterproof lining completely covering the inner periphery of said first sheet and foldable therewith, said lining having marginal portions disposed in engaging relation between said attaching panel and said attaching flap.

4. A carton comprising in combination an outer cardboard member having an attaching panel, an attaching flap, said panel and said flap having coacting adhesive strips, coacting bottom and top end flaps, and a sheet of waterproof lining completely covering the inner periphery of said outer member, said lining having marginal portions disposed in engaging relation between said panel and said attaching flap.

5. A carton comprising in combination a cardboard body which includes opposed front and rear panels, a lateral panel integral with the first-mentioned panels and disposed therebetween, a second lateral panel continuous with said rear panel and having an edge disposed adjacent the inner face of said front panel to provide a limited space thereat, said last-mentioned panel having an outer adhesive attaching strip adjacent said rear panel, lining engaging said panels within the carton and having a pair of marginal portions projecting through said opening, and an attaching flap continuous with said front panel and having an inner attaching strip for cooperating with the first-mentioned strip, whereby to tightly engage said portions between said flap and the second-mentioned lateral panel.

6. In a carton comprising a body having an inner panel, and a lining, said panel having a terminal edge, and including an attaching strip which is disposed distant from said edge, an outer flap having a strip cooperating with the first-mentioned strip, and a pair of marginal portions extending from said lining and disposed in engaged relation between said panel and said flap throughout the entire length of the carton at said edge.

7. A carton comprising in combination a body having an attached panel and a cooperating attached flap, a lining, said panel having a termi-

nal edge, marginal portions extending from said lining and folded backwardly over a portion of the outer periphery of said panel throughout the entire length of the carton, whereby to substantially cover said edge, said portions being disposed in engaged relation between the inner periphery of said flap and the outer face of said panel adjacent said edge, and said panel and said flap being engaged distant from said portions.

8. A method of folding a lined carton having body panels and including an attaching panel and an attaching flap, comprising disposing the body of the lining over the inner periphery of said panels, disposing one margin of the lining on the inner periphery of said flap, folding an opposite margin of the lining backwardly over the outer periphery of said attaching panel, and folding said flap to embrace said margins between its inner periphery and said outer periphery.

9. A method of gluing and folding a lined carton having body panels and including an attaching panel and an attaching flap, said latter panel having an inner attaching strip and said flap having an outer attaching strip, consisting in attaching the lining to the inner periphery of said panels, one margin of said lining being attached to said flap, disposing adhesive material or glue on said strips, folding the opposite margin of said lining backwardly over the outer periphery of said attaching panel, and moving said strips into engagement.

10. A carton comprising in combination an outer sheet of material having body panels and including a sheet of pliable lining having panels cooperating with the first-mentioned panels, an end closure flap extending from one of the panels of said outer sheet, a flap extending from one of the panels of said pliable sheet and lining the first-mentioned flap, an oppositely disposed end closure flap extending from another of the panels of said outer sheet and terminating adjacent the first-mentioned flap, a flap extending from another of the panels of said pliable sheet and lining said oppositely disposed flap, and an extension projecting from the first-mentioned lining flap and engaging the inner periphery of the second-mentioned lining flap in sealing relation.

11. A carton comprising in combination an outer sheet of cardboard having body panels and including a sheet of pliable waterproof lining having panels cooperating with the first mentioned panels, an end closure flap extending from one of the panels of said outer sheet, a flap extending from one of said pliable panels and lining the first-mentioned flap, an oppositely disposed closure flap extending from another of the panels of said outer sheet and terminating adjacent the first-mentioned flap whereby to leave a limited space therebetween, a flap extending from another of the panels of said pliable sheet and lining said oppositely disposed flap, an extension projecting from the first-mentioned lining flap and engaging the inner periphery of the second-mentioned lining flap, and an extension projecting from the second-mentioned lining flap and passing through said space and engaging the outer periphery of the first-mentioned closure flap.

12. A carton incuding in combination an outer attaching panel, a cooperating inner panel, said latter panel having an inwardly disposed edge, means attaching said panels distant from said edge, there being free portions of said panels adjacent said edge, and a lining having a pair of flaps engaged in sealed relation between said portions.

13. The combination with a carton having an outer panel and a cooperating inner panel, said latter panel having an inwardly disposed edge and both of said panels having attached portions distant from said edge, of a water-proof lining having a flap covering said edge, said flap having one face engaged against a portion of said inner panel at said edge, and another flap of said lining having one face engaged against a portion of said outer panel, said flaps having their opposite faces mutually engaged.

14. A carton including in combination a body comprising a sheet of material having attaching panels which include mutually sealed portions and adjacent free portions, a lining engaging the inner periphery of said body and having flaps disposed between said free portions, said flaps extending throughout the length of said free portions and sealed thereby.

15. A carton including in combination with top and bottom members, a body cooperating with said members and having at one side thereof attaching panels, said panels having mutually sealed longitudinally disposed portions and parallel adjacent free portions, a lining engaging the inner periphery of said body and having flaps disposed between said free portions and sealed thereby, said flaps extending completely from top to bottom of the carton.

16. A carton comprising in combination a body including an outer sheet of material having a pair of flaps for closing one end of said body, said flaps having adjoining edges, lining covering the inner periphery of said body and said flaps, and an extension projecting from the lining of one of said flaps whereby to cover the juncture of said edges.

17. A carton comprising in combination a body including an outer sheet of cardboard having opposed flaps for closing one end of said body, said flaps having adjoining edges extending across said end, lining covering the inner periphery of said body and said flaps, and an extension projecting from the lining of one of said flaps and partly overlapping the lining of the other flap in sealed relation, said extension being also disposed over the juncture of said edges.

18. A carton comprising in combination a body which includes a sheet of cardboard having front and rear panels, lateral panels, a lining having portions for said panels, a closure for one end of said body including a pair of flaps which extend from said lateral panels partly across said end, said flaps having adjoining edges, lining portions for said flaps, and an extension projecting from the lining of one of said flaps and partly overlapping the lining of the other flap, and a flap carried by at least one of the first-mentioned panels and completely covering the first-mentioned flaps.

19. A carton comprising in combination a body of rectangular cross-section which includes a sheet of cardboard having front and rear panels, lateral panels, a closure for one end of said body including a pair of flaps which extend from said lateral panels partly across said end, said flaps having adjoining edges and being disposed on the same plane, a flap extending from said front panel and completely covering the first-mentioned flaps, and adhesive material holding the second-mentioned flap in position.

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