Feb. 26, 1963 M. W. KUCHENBECKER 3,078,768

METHOD OF PRODUCING A CONTAINER BODY HAVING A SIDE SEAM

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Fig. 1

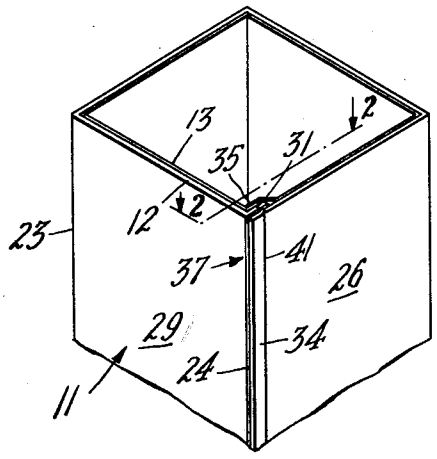


Fig. 2

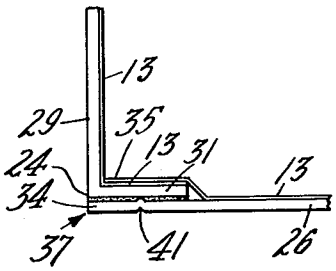


Fig. 3

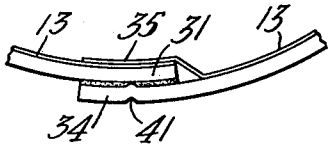


Fig. 4

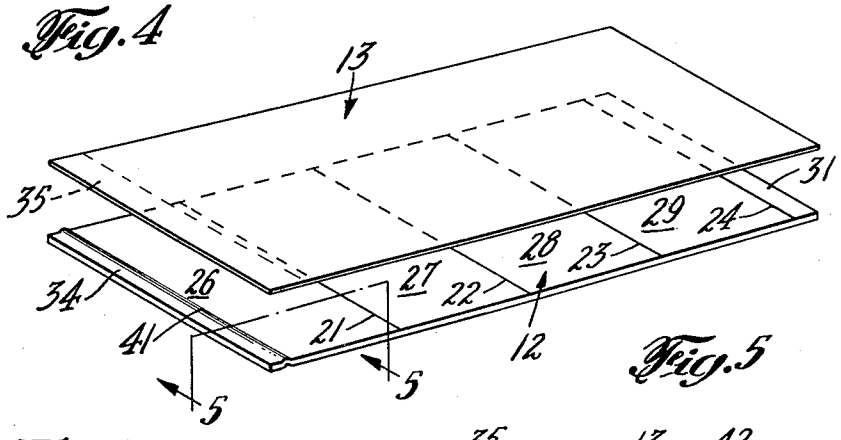


Fig. 5

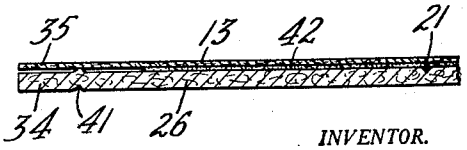
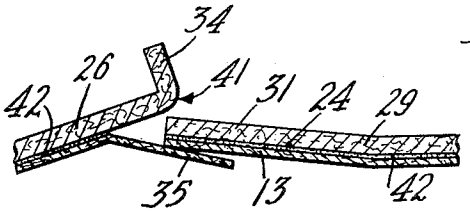


Fig. 6



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METHOD OF PRODUCING A CONTAINER BODY HAVING A SIDE SEAM

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Original application Nov. 16, 1959, Ser. No. 853,143. Divided and this application July 17, 1961, Ser. No. 124,424

1 Claim. (Cl. 93—36.6)

The present invention relates to a body and a unitary blank therefor for a self-sustaining container having a protective lining and has particular reference to a side seam of the body and the method of producing the same.

The invention contemplates the production of a fibre sheet material body having a protective liner for a container adapted to hold liquid products such as milk, fruit juices, etc. This application is a division of original application Serial No. 853,143 filed November 16, 1959, by Morris W. Kuchenbecker and entitled "Container Body Having a Side Seam and Method of Producing Same."

An object of the invention is to provide a container body having a side seam which encloses and protects the inner raw edge of the body against contamination and wicking.

Another object is to provide a method of producing the side seam of the body.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings:

FIG. 1 is a perspective view of a container body embodying the instant invention;

FIG. 2 is an enlarged top plan view of the side seam corner of a rectangular body as taken substantially along a plane indicated by the lines 2—2 in FIG. 1, with parts broken away;

FIG. 3 is a view similar to FIG. 2 showing a modified form of the invention as adapted to a cylindrical body;

FIG. 4 is a perspective exploded view showing a unitary blank and a liner before assembly to produce the container body shown in FIG. 1;

FIG. 5 is an enlarged sectional view of the blank and the liner after assembly as taken substantially along a plane indicated by the lines 5—5 in FIG. 4; and

FIG. 6 is a schematic sectional view similar to FIG. 5 showing how the side seam of the body is produced.

As a preferred and exemplary embodiment of the instant invention, the drawings illustrate a substantially rectangular lined container body 11 (FIG. 1) made from a unitary blank 12 (FIG. 4) of generally rectangular configuration and a corresponding liner 13 attached to the blank. The blank 12 preferably is made from a relatively heavy, self-sustaining paper board, while the liner 13 preferably is made from a relatively thin moisture-proofed paper material, although the invention is equally well adapted to bodies and liners made of other material, such as metallic, sheet metal, plastics, etc.

The blank 12 (FIG. 4) is suitably scored or creased along transverse lines 21, 22, 23, 24 to divide it into four integral and hingedly connected side walls 26, 27, 28, 29 to produce the body 11 shown in FIG. 1. A glue flap 31 is provided along one edge of the side wall 29 and is hingedly connected thereto along the crease line 24.

The liner 13 preferably covers the entire inner face of the blank 12 including the glue flap 31 and preferably is adhesively secured to the entire face of the blank, including the glue flap 31 but excluding a side seam marginal edge portion 34 of the side wall 26, thus providing a liner flap 35 having a width slightly greater than the width of the glue flap 31, free from the side wall 26.

The container body 11 (FIG. 1) produced from such a lined blank 12, includes the four side walls 26, 27, 28, 29 and a novel side seam 37 which holds the body together. In the side seam 37, the glue flap 31 and the adjacent portion of the liner 13 adhesively secured thereto are sandwiched or interposed between the marginal edge portion 34 of the body side wall 26 and the adjacent free liner flap 35 as best shown in FIG. 2. In this sandwiched relation the side seam marginal edge portion 34 of the body side wall 26 overlaps and is adhesively secured to the outer face of the glue flap 31 and the liner flap 35 of the body side wall 26 overlaps and is adhesively secured to the inner face of the portion of the liner 13 adhesively secured to the glue flap 31.

Thus there is provided a strong lap side seam for the body, in which the side seam marginal edge portions of the blank are secured together in overlapping relation and in which the side seam marginal edge portions of the liner are in overlapping relation in the same seam. Such a side seam results in the raw inner edge of the body glue flap 31 being enclosed in a pocket between the outer body wall 26 and its liner flap 35 and thereby protects this edge of the body from exposure to the contents of a container which includes such a body.

In container bodies made from paper or other fibrous materials, the protection of this inner side seam edge of the material is important to overcome wicking and thus failure of the body, when such a body is used in a container for liquid products and the like.

In metallic, sheet metal or other material bodies, the protection of the inner raw edge of the body thus prevents corrosion and other contamination of this portion of the body, with the resultant protection of the container contents.

Where cylindrical bodies are to be produced as shown in FIG. 3, the side seam construction is substantially the same as in the rectangular shaped bodies. The only difference is that the crease lines for folding the body are dispensed with.

In the method of producing such a body 11 and its side seam 37, the blank 12, where necessary, is first provided with its transverse crease lines 21, 22, 23, 24 to provide for folding the blank into body form. Where the blank is to be used for a cylindrical body, this creasing of the blank is eliminated. In any event for rectangular or for cylindrical bodies, a crease line 41 is provided in the body wall in the side seam outer lap marginal edge portion 34 of the body blank. This crease line 41 preferably is parallel with the terminal edge of side seam edge portion 34 and is spaced inwardly from this edge a distance less than the width of the glue flap 31.

Following this formation of the crease line 41, the liner sheet 13 is provided and it secured to the inner face of the body blank 12 preferably by a suitable adhesive 42. The adhesive 42 may cover the entire blank 12 except the outer lap marginal edge portion 34 or may be spot tacked if desired. In any event the liner flap 35 is left free from or unsecured to the blank outer lap portion 34 as best shown in FIG. 5.

With the body blank 12 in this lined condition, the blank is formed into body shape and the outer lap portion 34 and the inner lap portion or glue flap 31 are brought together to form the side seam 37. As shown in FIG. 6 the formation of the side seam 37 is first effected by bending the outer lap portion 34 outwardly along the crease line 41 to separate the portion 34 from the liner flap 35. The lined glue flap 31 is then inserted into position between the liner flap 35 and the bent back outer lap portion 34. When the lined glue flap 31 is in fully inserted

position, the bent out lap portion 34 is bent back into place and pressed tightly against the glue flap to bond adhesively the liner flap 35, the lined glue flap 31 and the outer lap portion 34 together to produce the side seam 37 with the lined glue flap 31 interposed or sandwiched between the liner flap 35 and the outer lap portion 34. Suitable adhesive to effect this bonding action may be applied to the lined glue flap 31 or to the liner flap 35 and the outer lap portion 34 prior to the sandwiching of these parts.

The resulting side seam 37 thus includes the crease line 41, with the crease line backed up by the glue flap 31 and spaced away from the enclosed edge of the glue flap in the seam as shown in FIGS. 2 and 3. In this position, the crease line 41 is separated from the edge of the glue flap so as to eliminate any weakening of the body side wall through bending of the outer lap portion 34 along the crease line 41. This preserves the original strength of the body side wall adjacent the edge of the seam and thus insures the provision of a strong body.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts and that changes may be made in the steps of the method described and their order of accomplishment without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

A method of forming a leakproof lapped side seam extending longitudinally of a lined tubular container body

comprising the steps of, securing one marginal edge portion of a thin moisture impervious liner sheet to one side seam marginal edge portion of a flat fibrous body blank constituting the inner lap of said seam while leaving the opposite marginal edge portion of said liner sheet free of attachment to the opposite side seam marginal edge portion of said body blank constituting the outer lap of said seam, providing a continuous crease line extending longitudinally completely along said opposite side seam marginal edge portion of said body blank, bending said body blank opposite marginal edge portion away from said free liner sheet marginal edge portion along said crease line thereby forming a space therebetween, interposing said one body blank marginal edge portion and its secured liner sheet marginal edge portion into said space with said free liner sheet marginal edge portion overlapping said liner sheet marginal edge portion secured to said one body blank marginal edge portion, unbending said opposite marginal edge portion of said blank into overlapping relation with said one marginal edge portion of said blank and with said crease line positioned between the terminal edges of said body blank marginal edge portions, and adhesively securing said overlapping marginal edge portions of said blank and liner sheet to form said side seam on the container body.

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