May 7, 1968 O. E. SEIFERTH ET AL 3,381,885

SEMIRIGID BAG OR POUCH AND BLANK FOR SAME

Filed July 3, 1967 2 Sheets-Sheet 1

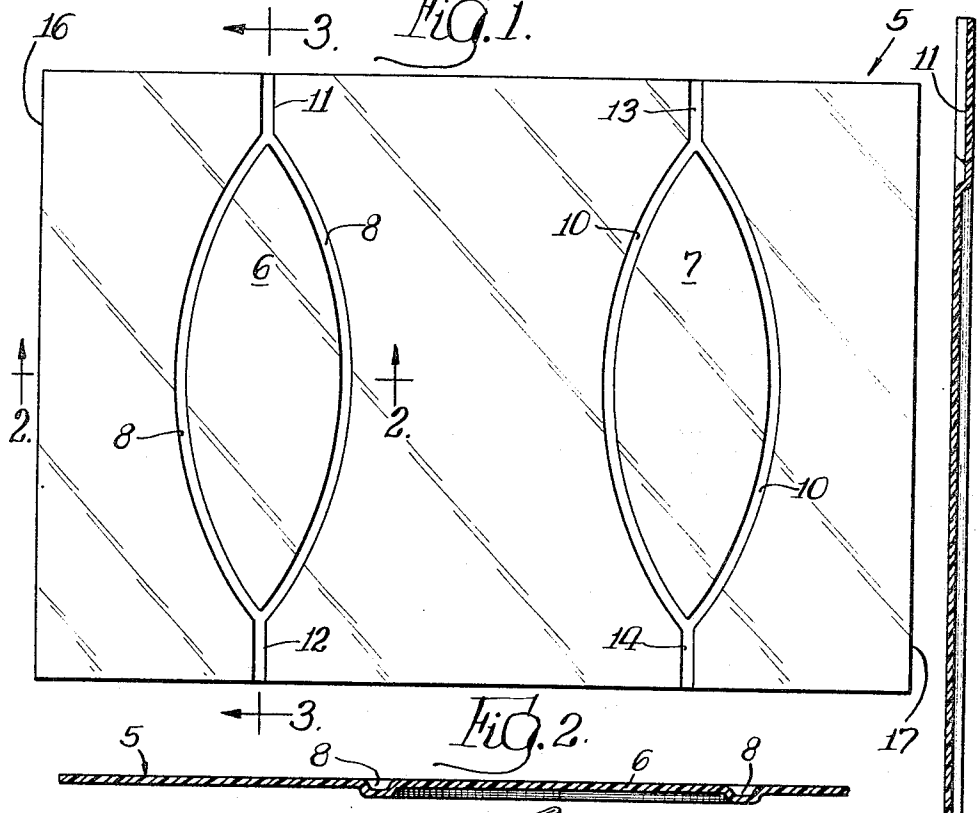


Fig. 1.

Fig. 2.

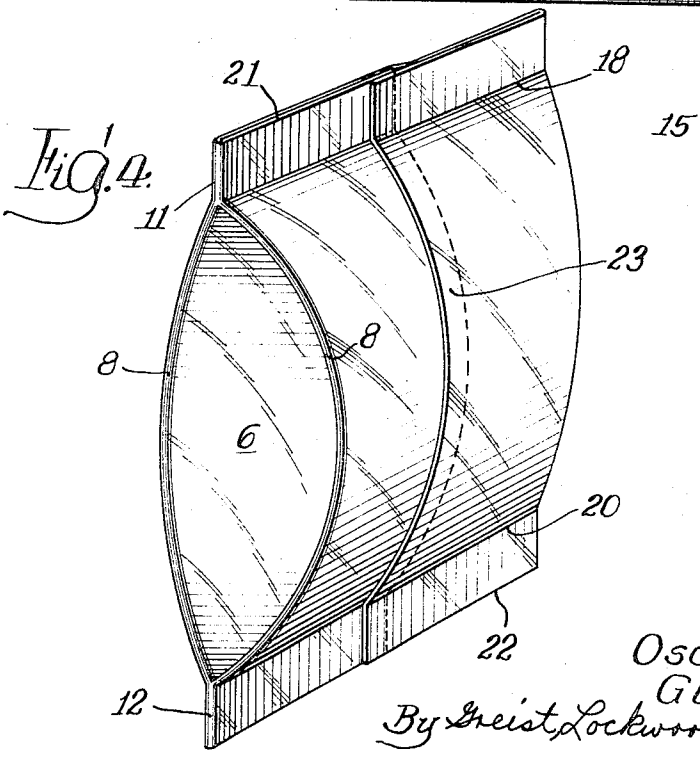


Fig. 4.

Fig. 3.

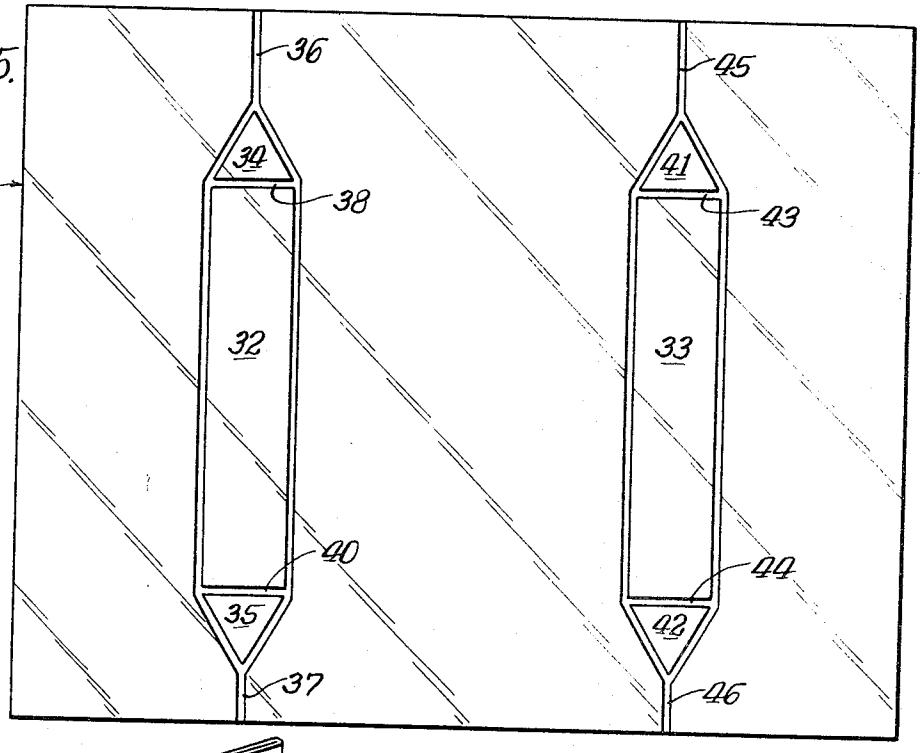
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Fig. 5.



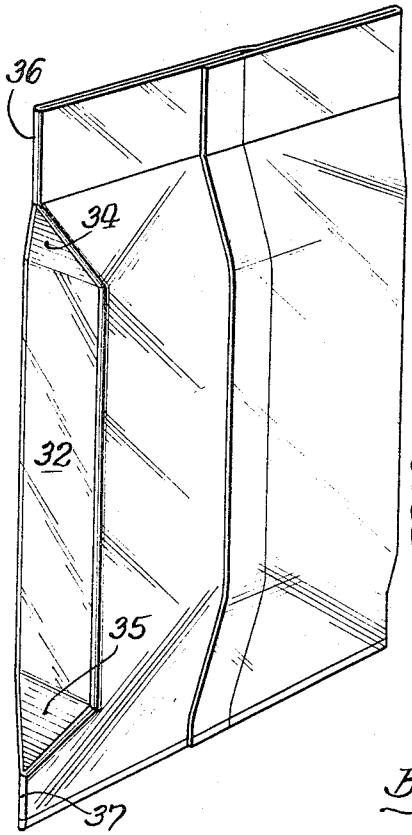


Fig. 6.

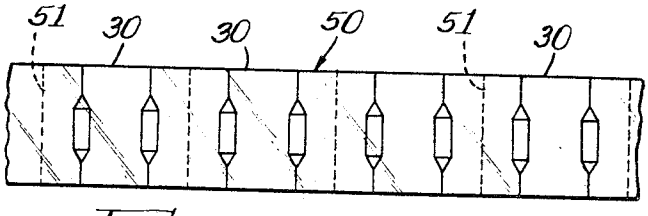


Fig. 7.

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SEMIRIGID BAG OR POUCH AND BLANK FOR SAME

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8 Claims. (Cl. 229—53)

ABSTRACT OF THE DISCLOSURE

Generally flat and rectangular blanks of formable sheet material are scored inwardly from a pair of opposite sides or edges with outlines corresponding to end wall panel portions, the upper and lower extremities of which lies within the borders of the blank. In use each blank is folded so that the scored outline portions become the end wall panel portions of a semirigid self-sustaining container having upper and lower flap portions formed by overlapping the sheet material. In a preferred embodiment, the blanks are formed of relatively stiff heat sealable plastic sheet and aligned vertical fold score lines extend from the top and bottom extremities of each end wall panel-forming portions which are vertically elongated. The semirigid containers formed from the blanks are ideally suited for packaging fragile items such as potato-chips, corsages and the like.

The object of the invention generally stated is the provision of inexpensive blanks which may be mass-produced from foldable or formable sheet material having end wall, panel-forming portions outlined by score lines and disposed within the margins or borders of the blanks and positioned so that when the blanks are properly folded, the end wall portions will fall in place and there will be top and bottom flaps to be sealed with the opposite edges of the blank extending transversely to the flaps at least meeting and preferably overlapping.

Another object of the invention is the provision of blanks of the class described which are formed of relatively stiff heat sealable plastic material.

Certain other objects of the invention will in part be obvious and will in part appear hereinafter.

For a more complete understanding of the nature and scope of the invention, reference may now be had to the following detailed description thereof taken in connection with the accompanying drawings, wherein:

FIG. 1 is a plan view of a blank forming one embodiment of the invention;

FIG. 2 is an enlarged fragmentary vertical section taken on line 2—2 of FIG. 1;

FIG. 3 is a correspondingly enlarged sectional view taken on line 3—3 of FIG. 1;

FIG. 4 is a perspective view of a container formed from the blank of FIG. 1;

FIG. 5 is a plan view of a blank constituting a second embodiment of the invention;

FIG. 6 is a perspective view of a container formed from the blank shown in FIG. 5; and

FIG. 7 is a view showing a portion of a strip of sheet material composed of a series of blanks like the one shown in FIG. 5 detachably joined at line perforations.

Referring to FIGS. 1–3 a blank of formable sheet material is indicated generally at 5 from which a container such as indicated generally at 15 in FIG. 4 may be readily formed. While the blank 5 may be formed of various sheet materials including plastic, paper, metal or various laminations, preferably a relatively stiff sheet material is used so that the containers formed from the blanks will be at least semirigid and offer substantial protection to the contents. A preferred material is transparent heat sealable plastic such as polyvinvy chloride, cellulose acetate, saran, polystyrene, polyethylene, polybutylene. As distinguished from being thin film of the type used for wrapping purposes, these formable plastic blanks 5 should preferably have an appreciable thickness such as in the order of from 3 to 20 mils.

The blank 5 in FIG. 1 is rectangular and has two vertically elongated end wall forming panel portions 6 and 7 outlined and formed therein by integral score lines indicated at 8 and 10 respectively. It will be noted that the panel portions 6 and 7 are located or disposed wholly within the margins or borders of the blank 5. Preferably, folding score lines 11 and 12 extend from the upper and lower ends, respectively, of the panel portion 6, and vertical folding score lines 13 and 14 extend from the top and bottom ends, respectively, of the panel portion 7. As will be seen from FIGS. 1–3 the various score lines 12–8–11 and 14–10–13 are continuous and uninterrupted.

It will be appreciated that the score lines may be formed in the blanks 5 by various methods including embossing between plates having mating recesses and ribs, by suction forming a heated material, or by passing a roll of the sheet material from which the blanks are to form between embossing rollers. When the blanks are formed of plastic sheet material, it is preferably heated to assist in the formation and definition of the score lines and the embraced end panel areas 6 and 7.

When it is desired to form one of the blanks 5 into a container 15 as shown in FIG. 4, the blank is preferably first formed into a sleeve with the longitudinal axes of the sleeve being parallel to the longitudinal axes of the end panel portions 6 and 7. The opposite vertical edges 16 and 17 of the blank are slightly overlapped during the formation of the sleeve and the sheet material is folded or creased along vertical lines corresponding to score lines 11–12 and 13–14. During this manipulation, the material will automatically crease and bend or form around the score lines 8 and 10. Also the material will form generally horizontal creases 18 and 20 between the upper ends and lower ends of the end panel portions 6 and 7 as indicated in FIG. 4. Also during the erection or formation of the container 15, the upper and lower marginal portions of the blank will form themselves, into overlapped top and bottom flaps 21 and 22, respectively, while the side edges 16 and 17 will overlap into a lapped joint as indicated at 23.

After the blank has been thus formed into a container by folding, preferably the bottom flap 22 is firmly secured as by heat sealing. If desired, the blank may be suitably coated with a pressure sensitive or a heat sealable adhesive. The container 15 may now be filled through the unsealed upper flap 21 which is left at least partially open, and after the contents have been introduced into the container 15, then this upper flap 21 may be similarly closed or secured.

It will also be appreciated that the seam 23 formed by the overlapping of the vertical edges 16 and 17 may be secured together in suitable manner such as by forming the blank 5 into a sleeve and slipping the sleeve over a suitable form or mandrel to provide support on the interior for forming the joint 23.

It will be understood and appreciated that after the container 15 has been filled through the open upper flap 21 then that flap 22 may then be secured together or sealed.

In FIGS. 5 and 6 another embodiment of the invention is shown in the form of a blank indicated generally at 30 which can be used to form the container indicated generally at 31 in FIG. 6. The blank 30 may correspond generally to the blank 5 in FIGS. 1–3 but the outline of the end wall panel portions instead of being elliptical will

be in the form of intermediate rectangular portions 32 and 33. The rectangular panel portion 32 has upper and lower triangular end portions 34 and 35 from which extend the aligned vertical fold score lines 36 and 37, respectively. The base of the upper triangular portion 34 and the upper end of the rectangular 32 is defined by a common score line 38 while a corresponding score line 40 is located at the bottom. Similarly, the rectangular panel portion 33 has associated therewith upper and lower triangular areas 41 and 42, respectively, base lines 43 and 44, respectively, and vertical upper and lower fold lines 45 and 46.

It will be seen from FIG. 6 that the blanks 30 may be used to form containers 31 which instead of having arcuate or bowed or semicylindrical sides, have generally parallel flat sides.

A continuous strip 50 is indicated wherein a plurality of blanks corresponding to 30 are detachably secured together along vertical score lines 51—51 so that each blank may be readily detached from the next. In this way the blanks 30 may be supplied in roll form and may be economically formed by running a strip of material between appropriate embossing rollers of known type.

In container 15 it will be seen that the end panel portions 6 and 7 and the top and bottom flaps 21 and 22 impart strength and semirigidity to the container. Similarly, the end panel portions 32 and 33 at the top and bottom flaps impart strength and semirigidity to the containers 31.

We claim:

1. A generally flat and rectangular blank of formable sheet material from which a semirigid container may be formed having generally transverse end wall panel portions and sealed top and bottom flap portions, said blank having top and bottom flap-forming margins and having inwardly disposed from the generally vertical opposite edges a pair of scored outlines corresponding to said end wall panel portions, said blank being formable into said container by folding said blank so that said end wall panel portions are in place opposite each other, said top and bottom flap-forming portions are overlapped and said vertical edges at least meet and preferably overlap.

2. The blank of claim 1 wherein aligned vertical score lines extend to the top and bottom edges of said blank from the top and bottom respectively of each end wall panel portion so as to facilitate the folding of said blank.

3. The blank of claim 2 wherein said end wall panel portions are vertically elongated and terminate in vertically aligned top and bottom apexes and nadirs, respectively, from which said vertical score lines extend.

4. The blank of claim 3 wherein said end wall panel portions have generally rectangular intermediate sections and top and bottom triangular sections with the base of each triangular and the adjacent end of its associated rectangular section being defined by a common horizontal score line.

5. The blank of claim 1 formed from heat sealable plastic whereby said flap-forming portions can be secured by heat sealing and said opposite vertical edges overlap so as to be secured by heat sealing.

6. A container formed from the blank of claim 1 with said bottom flap portion being secured together and with said upper flap portion being at least partially open for filling purposes.

7. A package formed from the container of claim 6 by filling the same and securing said top flap portion together.

8. A roll of blanks wherein a plurality of blanks of claim 1 are detachably joined by perforations.

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