

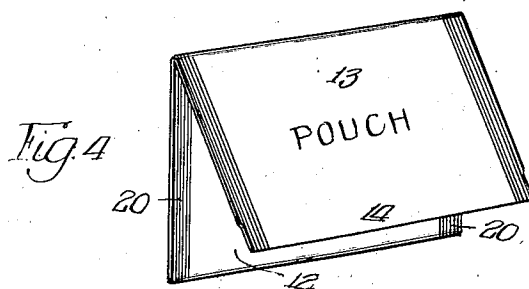
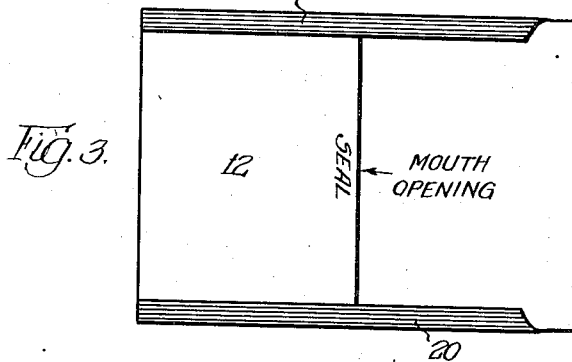
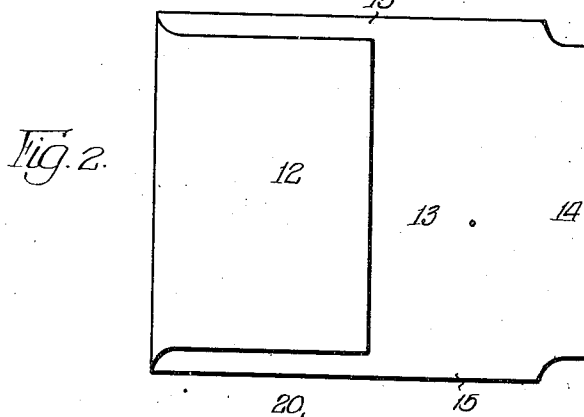
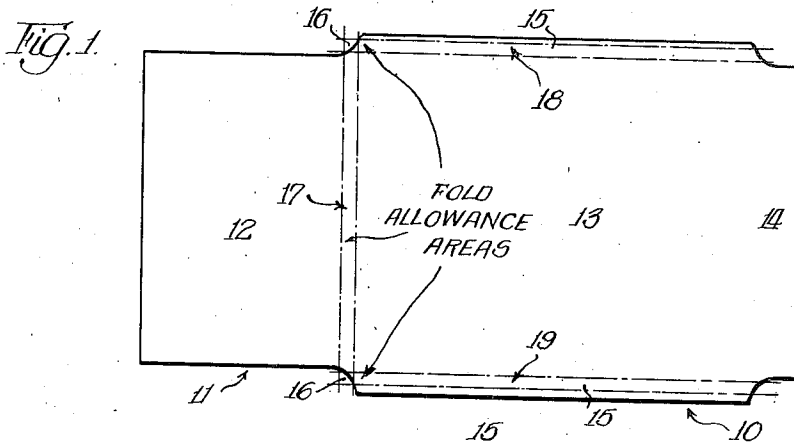
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2,392,848

CONTAINER

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UNITED STATES PATENT OFFICE

2,392,848

CONTAINER

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3 Claims. (Cl. 229—87.5)

The present invention relates to improvements in the manufacture of containers. More particularly, it pertains to improvements in the manufacture of pouch type containers made from die-cut and folded blanks wherein sections are provided for folding purposes which will permit of wide tolerances in the location of the fold lines so as to provide corner lock seals which provide seam structures having protective characteristics against moisture-vapor transmission at least on a par with remaining areas of the container.

Pouch type containers have been made from single blanks of material in which one wall is provided with marginal sealing flap extensions. This particular wall is usually considered the rear wall of the container and these sealing flap extensions remain as the uncut portions of a blank having sharp angular corners defining the front from the rear wall as well as the rear wall from the cover section or flap. Such sharp right angular constructions render it impractical to attempt a fold of the front wall in position against the rear wall in expectation of receiving an hermetic seal in this particular area even after the extension flaps are folded and heat-sealed over the marginal portions of the front wall. It will become apparent that the reason for failure to obtain such an hermetic seam structure is because of the difficulty, particularly while running such blanks through folding machines in high speed production, of obtaining a fold or crease along a line which would habitually extend from the apex of one angle formed by the sealing flap on one side of the container to the apex of the angle formed by the sealing flap on the other side of the container. Any variation from this line of fold results in openings at the bottom corners of the resulting pouch making it substantially impossible to provide a seam having moisture-vapor proof characteristics. Fold lines in such conventional pouches always and of necessity must fall along a given line to obtain such characteristics and while it might be possible by a hand operation successfully to attain a proper fold, it will be recognized that present day production requirements make such a procedure impractical as well as impracticable. It should also be understood that regardless of the protective characteristic against moisture-vapor transmission which any type of container possess in its wall structure, such container in any case is only as good as its seam construction.

Therefore, it is a general object of the present invention to provide a container which will overcome the foregoing disadvantages and other dif-

ficulties and which will be economic of manufacture, sturdy and durable of construction and which will maintain hermetic sealing characteristics within the seam structures which are as efficient as similar characteristics throughout the remainder of such a container.

A principal object of the invention is the provision of a pouch type container formed from a blank of die-cut material having front and rear walls with marginal sealing flap extensions on the latter, the sealing flaps terminating in arcuate portions adjacent the front walls providing folding sections in areas defined by these arcuate portions so that various fold lines can be selected allowing tolerances which will not interfere with the ultimate hermetic sealing characteristics of the ultimate container in these regions.

More specific objects of the invention are the provision of such a foldable pouch type of container wherein the marginal sealing flaps extend beyond the front wall and mouth opening substantially to the edge of the cover flap, to the end that the latter is prevented from curling and wrinkling, substantially eliminating the possibility of edge tearing particularly in the region of the mouth opening and otherwise to provide added strength characteristics to such a pouch.

Another object of the invention is to make such a pouch from a laminated material in which the laminating medium consists of an adhesive wax having gas-impervious characteristics and which is of a consistency which will impart to the material, and particularly the resultant container, a characteristic better known in the industry as "hand."

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

The invention accordingly comprises an article of manufacture possessing the features, properties, and the relation of elements which will be exemplified in the article hereinafter described and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawing, in which:

Fig. 1 is a plan view illustrating a preferred form of blank, die-cut in accordance with the principles of the present invention;

Fig. 2 is a plan view illustrating the blank of Fig. 1 with the front wall folded over through one of the fold allowance areas in developing a pouch formation;

Fig. 3 is a view similar to Fig. 2 depicting sealing flaps marginally folded over and sealed to the front wall and cover along lines within their fold allowance areas; and

Fig. 4 is a perspective view showing a completed pouch with the cover thereof about to be brought in closed position after the pouch has been filled and a seal across the mouth opening effected.

Referring more particularly to the drawing there is indicated generally at 10 a blank of material preferably laminated and in a manner more particularly as set forth in my co-pending application Serial No. 438,616 filed April 11, 1942. Briefly, that application illustrates a preferred method of forming a laminated web of material suitable for use in connection with the present invention in which a non-fibrous material, preferably "glassine," is laminated to a thermoplastic web, such as "Pliofilm," by means of a micro-crystalline wax adhesive. It is also set forth in that application that two webs of glassine may first be laminated together by such an adhesive and the thermoplastic material subsequently applied thereto in a three layer system. In the present invention the latter modification is preferred and while a thermoplastic material, such as "pliofilm," is ideally suitable it is at present contemplated to use a regenerated cellulose which has been treated with a heat-sealing lacquer to provide moistureproof as well as heat-sealing characteristics.

With respect to the micro-crystalline wax adhesive which is used it is contemplated that preferably the composition of such an adhesive should consist of a wax which constitutes 55 to 65 per cent of the composition. In addition to this, rosin of about 20 to 30 per cent can be added which lends a desirable tackiness to the final adhesive as well as hardening qualities. There also may be incorporated petrolatum 5 per cent and butyl stearates 5 per cent and each of these will act as plasticizers for the adhesives.

After the formation of such a laminated web, and after the same has been suitably printed or otherwise decorated, it is run through a cutting, folding and heat-sealing machine. In the cutting operation the web is marginally die-cut as indicated generally at 11 to form a front wall 12 for a container. The remainder of the blank constitutes the rear wall 13, and the cover 14. The uncut portions form marginal sealing flaps 15 which terminate in arcuate portions at their ends as indicated generally at 16 where these portions lie adjacent the edges of the front wall. The present invention is based on the discovery that arcuate portions in these regions provide folding sections which will permit of a substantially infinite number of folds in areas where it is necessary to fold or fold and seal such a blank into pouch formation. The first of these sections, indicated generally at 17, constitutes the area extending across the blank between the arcuate portions 16, 16 while the other sections, indicated generally at 18 and 19 respectively, extend along the marginal flaps perpendicular to the first section 17 and are also defined substantially by the arcuate portions 16, 16.

With an arcuate cut-out portion the front wall section of the blank 12 may rapidly be folded upon the rear wall of the blank along any line which will fall approximately within the section 17 and the marginal flaps 15, 15 folded over upon the front wall along any line which will fall approximately within the areas 18 and 19 respec-

tively. Thereafter the flaps are sealed, preferably by means of the application of heat and pressure, to the front wall to complete the pouch formation. The unsealed portion will leave a mouth opening for filling purposes.

It is immaterial, except perhaps for appearance sake, along which lines of fold in any of the aforesaid areas that these folds occur. If the fold is equalized, the same will appear as shown in the drawing. However, if the lines of fold are not immediately in the center of each section they will not critically affect the ultimate seal as would be the case with respect to the conventional angular cut portion where it was absolutely essential to have the fold lines bisect the angles formed by the cut-out portions defining the sealing flap extensions and walls. It will be appreciated that with such leeway, a folding machine can be speeded up considerably without regard to micrometric placement of fold lines and without danger of interfering with the hermetic sealing characteristics of the ultimate container. It will be understood that there is always a great deal of shifting and slipping of such a web running at high speed but with the tolerances allowed as herein disclosed, ordinary slipping and shifting becomes substantially immaterial inasmuch as the folds always fall within the regions indicated.

It will also be observed that in sealing the marginal flaps in position a crimp seal 20 is preferred since it lends added strength to the ultimate container. It will also be seen that this crimp seal extends throughout the entire sealing flap which runs substantially past the mouth opening of the container and preferably falls short of the end of the cover flap. In permitting these marginal sealing flaps to fold over along the marginal edge of the cover, added strength characteristics have been acquired and this aids in preventing tearing as well as curling in this region. Added strength is also given in the region of the mouth of the container where, when the same has been opened, and it is desired to remove the contents thereof such as, for example, tobacco by inserting a pipe or the hand within the same, there is far less danger of the mouth seam tearing away or separating. Preferably the sealing flaps do not extend to the very edge of the cover but short thereof, thereby materially reducing the danger of catching or loosening the end of the flap from the cover.

After the contents have been placed into the pouch the same is sealed across the mouth opening by any suitable means which may include a crimp seal if desired. With such a sealing arrangement and seam fold construction, an hermetically sealed package is provided which is as efficient in its seam region as in its wall areas which have been rendered moisture-vapor proof resulting in a package which is as good as the materials of which it is constructed.

It will thus be seen that the objects hereinbefore set forth may readily and efficiently be attained and since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described,

and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. An hermetically sealed tobacco pouch comprising a blank of pouch forming material having a heat-sealable surface and being folded upon itself through a predetermined section of fold allowance extending across said blank to provide rectangularly shaped front and rear walls for said pouch leaving a mouth opening and a closure member extending from said rear wall and foldable across said opening, said rear wall having sealing flaps along each side thereof with projections adjacent said area of fold, the width of said folding section being substantially equal to the length of said projections, said flaps being heat-sealed to said front wall and each projection being heat-sealed where it is in face-to-face contact with itself and said sealing flap, said front wall, after said pouch is filled, being heat-sealed across the mouth opening to the rear wall between the sealing flaps and the remaining marginal portions of the front wall underlying said sealing flaps being heat-sealed to the rear wall and held in position by said sealing flaps to provide an hermetically sealed pouch.

2. An hermetically sealed tobacco pouch comprising a blank of pouch forming material having a heat-sealable surface and being folded upon itself through a predetermined section of fold allowance extending across said blank to provide front and rear walls for said pouch leaving a mouth opening and a closure member extending from said rear wall and foldable across said opening, said rear wall having a cover extension and sealing flaps along each side thereof with projections adjacent said area of fold, the width of said folding section being of a length substantially equal to the length of the projections, said flaps each being heat-sealed marginally along adjacent areas of said front wall from bottom to

top, across the marginal top sections of said front wall, and along said cover to reinforce the marginal top sections of said front wall against tearing and said cover against wrinkling and curling, said flaps being heat-sealed marginally to said cover and each projection being heat-sealed in face-to-face contact with itself and said connected sealing flaps, said front wall, after said pouch is filled, being sealed across the mouth opening to the rear wall between the sealing flaps and remaining portions of the front wall underlying said sealing flaps being heat-sealed to the rear wall and held in position by said sealing flaps to provide an hermetically sealed pouch.

3. An hermetically sealed tobacco pouch comprising a laminated blank constituted by a sheet of heat-sealable material and a protective sheet of paper secured thereto by means of an intermediate layer of an adhesive micro-crystalline wax to provide a moisture-vaporproof barrier, said wax layer being of sufficient thickness to impart to said blank a structural characteristic known as "hand" in the art, said blank being folded upon itself through a predetermined section of fold allowance extending across said blank to provide front and rear walls for said pouch leaving a mouth opening and a closure member extending from said rear wall and foldable across said opening, said rear wall having sealing flaps along each side thereof with projections adjacent said area of fold, the width of said folding section being substantially equal to the length of the projections, said flaps being heat-sealed to the front wall and each projection being heat-sealed where it is in face-to-face contact with itself and said sealing flaps, said front wall, after said pouch is filled, being sealed across the mouth opening to the rear wall between the sealing flaps and the remaining marginal portions of the front wall underlying said sealing flaps being heat-sealed to the rear wall and held in position by said sealing flaps to provide an hermetically sealed pouch.

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