Sept. 30, 1941. A. S. CHANDLER 2,257,413

ENVELOPE OR CONTAINER

Filed May 16, 1939

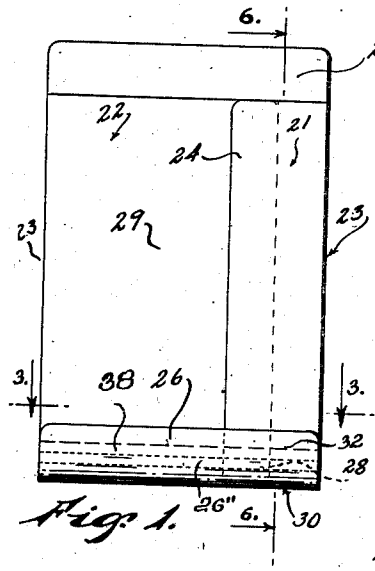


Fig. 1.

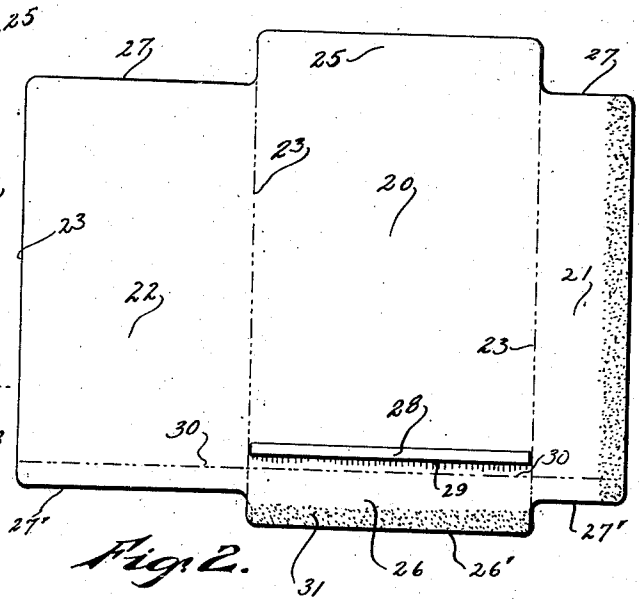


Fig. 2.

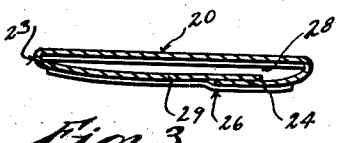


Fig. 3.

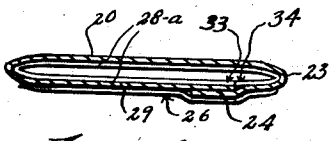


Fig. 5.

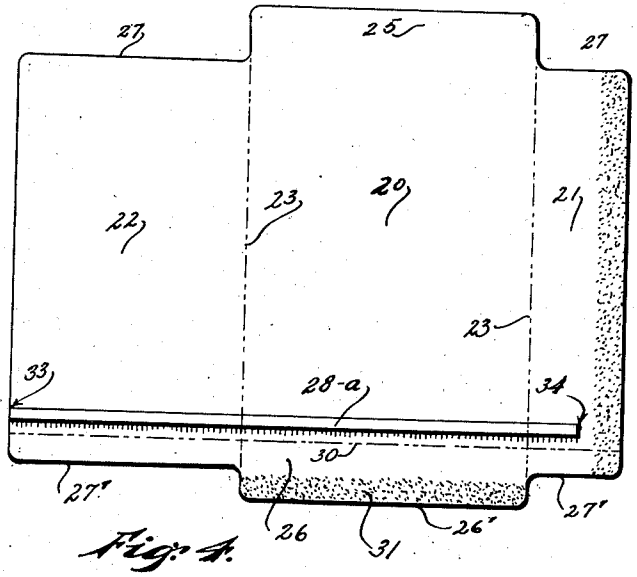


Fig. 4.

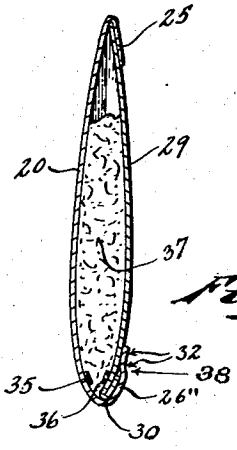


Fig. 6.

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ENVELOPE OR CONTAINER

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Application May 16, 1939, Serial No. 274,062

2 Claims. (Cl. 229—85)

The invention relates to quick-opening means for paper bags and/or containers, sometimes called envelopes, and particularly to what are known in the packaging trade as "flat bags" which are largely used and have a general similarity of blank and fold, in that they include a front wall or panel, two side flaps or back flaps folded into lapping relation and gummed together at their meeting edges, and a closing flap or tongue extended from the top end of the front wall. The opposite end is variously formed by infolding, and the bag is closed in various ways, either by folding down and securing the tongue or by folding both walls toward the back and securing the fold by attaching the tongue to the back wall, or by other means.

It is an object of this invention to enable the provision of an improved rip device for bags of this general type and having special value in flat or envelope bags of the kind first mentioned as used in automatic bag-filling machines, in enabling the filling and closing of the bags with standard machines without alterations.

Another aim is to enable the production of co-acting shearing members on the end of a package as formed so that it may readily be opened at its lower end for discharge of the contents into a cup or otherwise.

It is an object of this invention to obtain the advantage of an inserted rip strip of paper or other material with the use of a minimum of material, and without resultant loss of capacity of the container to hold material such as powder and granular materials or its capability of retaining the pulverulent materials against sifting out or loss by vaporization. I am aware of the patents to Rosenberg, No. 673,224; Fitzsimmons, 1,128,862; and Vandergriff, No. 1,013,909, and it is an aim to attain a still simpler article than these devices, as well as one with greater capabilities of use, especially for pulverulent materials.

An important object of the invention in one form is to present an envelope having a shearing element therein which will have a minimum of inserted material to enable a definite shearing of the end of an envelope, and which at the same time will present a plain appearance having no indication of the nature of the inserted shear element, and not excluding any portion of the envelope from use to hold contents in order to enable the inclusion of the shearing element.

Additional objects, advantages and features of invention reside in the construction, arrangement and combination of parts involved in the embodiment of the invention, as will appear from the following description and accompanying drawing, wherein

Figure 1 is a back view of an ordinary flat bag or envelope commonly used in filling and closing machines for packaging various materials and especially pulverulent and granular materials.

Figure 2 is a plan of the blank for the bag of Figure 1, as it appears with special strip application and ready for folding.

Figure 3 is a cross section of the bag completed with the last mentioned blank.

Figure 4 is a plan of a modification of the strip size and arrangement on the same blank.

Figure 5 is a cross section of the bag completed with the last mentioned modification.

Figure 6 is a longitudinal section through the last mentioned modification.

There is illustrated in Figures 1 to 3 an envelope or bag of a common form, generally known as a flat bag, including a rectangular front face wall **20**, from which are extended side flaps **21** and **22**, respectively, folded in at the side creases **23** and lapped to form the back seam **24**, held by the application of gum in the familiar way. A closing tongue **25** is formed on the top edge of the wall **20** and at its bottom edge a bottom tongue flap **26** is formed. The top edges **27** of the side flaps may conform to usual practice. The lower edges **27'** of the side flaps preferably extend at right angles to the side seams so that when the side flaps are joined these lower edges of the side flaps aline and extend transversely and rectilinearly across the bag at right angles to the longitudinal axis of the bag. But the edges **27** may be inclined, if desired.

As shown in Figure 2, before forming the bag, a strip **28** of thin, tough material, stiffer than the paper of the blank, is provided on the blank. This may be an added piece, corresponding to postal manila paper, secured by adhesive or otherwise, to the inner face of the blank near the bottom, extending the full distance between the creases **23**, with its outer and lower longitudinal edge **29** spaced a distance inwardly of a projection of the lines of the bottom edges **27'** of the side flaps equal to the width of the strip or more. The bottom tongue, in the present instance, is a short one extending the full distance between the creases **23**, and having an outer edge **26'** parallel to the line of the bottom edges **27'** of the side flaps.

In the forming of the bag, one of the side flaps is suitably gummed along its longitudinal edge and the two side flaps folded inward over the

front wall and the applied strip and secured together to form the seam 24, and a back wall 29. The bag at this time is substantially a flattened tube open at both ends. A crease 30 is formed across the lower end of this tube across both the wall 29 and the front wall, immediately adjacent the lower edge of the strip 28. A heavy coat of gum 31 is applied to the bottom tongue 26, and the lower part of the flattened tube, and then the lower part of the flattened tube and the tongue 26 are folded inwardly and upwardly on the crease 30, forming a back flap 26'', after which this flap and tongue 26 are pressed down so as to secure the tongue to the face of the back wall 29 above the strip 28. In this way, after the setting of the gum holding the flap 26'' to the back of the envelope, there is formed above the strip 28 a laminated stiffened portion 32 of the envelope materials

It will be noted in Figure 2 that the upper boundary of the zone in which the gum 31 is applied is approximately rectilinear and parallel to the strip 28, and that this same boundary part is spaced further from the crease 30 than the upper edge of the strip 28. It is also spaced longitudinally of the envelope beyond the edges 27' of the back flaps 21 and 22. In consequence, when the end of the flattened tube is folded on the line 30 as described, the gummed zone 31 falls inwardly of and above the strip 28 on the back wall of the envelope, lying parallel thereto and spaced slightly therefrom as indicated in Figure 1, and affording an unstiffened intervening gum-free area or zone with the advantages as hereinafter referred to. The gummed part of the tongue 26 thus constitutes an added strip attached to the back wall of the envelope and serving functions additional to those of merely sealing the bottom of the envelope, as will appear; the sealing of the bottom of the envelope being attained principally by the gum applied to the back wall on the lower part of the flattened tube as before referred to. At the same time no interruption of surface of the bottom flap is involved and no exceptional projections are involved on the back of the envelope.

This bag may be filled by usual bag filling machines, and the full space within the bag beside and to the lower edge of the strip 28 may be utilized for holding contents. The tongue 25 may be closed in any usual way, so that materials introduced into the bag are securely held therewithin with a minimum liability of loss by sifting or percolating from the corners or from under the gummed flaps. The contents also are held from contact with the glue or other gums for sealing the bottom flap and closing tongue.

To open the bag formed as described, the bag is grasped at one of the lower corners between the thumb and finger of one hand, so that the end of the strip 28 is subjacent and is between these finger ends, while with the other hand the bag is held between the thumb and a finger, disposed close to those gripping the lower corner. The two parts thus grasped are then moved in opposite directions from the medial plane of the bag, the strip 28 and laminated part 32 being used, and functioning as, shear members to sever the material between the strip 28 and secured area of the tongue 26, or cause it to tear on a corresponding line across the end of the bag. The contents 37 may then be discharged through the open end thus formed on the bag.

The strip 28 with the attached wall 10 comprise a laminated portion opposed to the one 32, and in the operation of opening as described, it matters little whether the strip 28 is drawn toward the laminations 32, or oppositely, but the best effect is obtained by drawing the strip end 28 toward the back of the envelope and the lamination 32, while the portion 32 is pressed toward the front of the package and beyond the strip 28. The attachment of the wall 10 to the strip 28 so holds the latter that the portion 32 shears the paper of the front wall immediately adjacent where it is held to the strip 28, while the latter shears through the material of the back wall and bottom flap immediately adjacent where the latter are secured together in the element 32.

In Figures 4, 5, and 6, the form of the bag is very similar to that in Figures 1, 2 and 3, the bag having the same wall and flap elements and creases as in the first described form and also having the same proportions. But the strip 28—*a* corresponding to the strip 28 first mentioned, is extended beyond the creases 23 of the blank, one end lying flush with the longitudinal edge of one side flap 23, as at 33, and at the opposite end stops short of the longitudinal edge of the respective adjacent side flaps, as at 34, a distance corresponding to the extent of lap of the two side flaps. The length of this strip may be more or less, however. The creasing, folding and gumming of this bag are otherwise the same as first described.

In this way, within such a bag, two opposed shear members 35 and 36 are formed on the front wall 26 and the back wall 29, respectively, and the two will coact when the bag is opened as above described, adding to the certainty of a clean shearing of both walls of the bag.

In both forms of the bag thus described there is a gum-free portion of each wall opposed to the mutually adjacent edges of the two laminations, as at 38. Due to this gum-free portion being more readily sheared than a gummed part, positive shearing at this line will occur.

In the filling of the last described form of the bag, the opposed strip portions 28—*a* on the respective walls, will be separated by the opening of the bag, or by the introduction of the material used to fill the bag, and by the material itself that is introduced, so that no material space within the bag is sacrificed by the inclusion of such opening device.

In a place of the strips such as 28 and 28—*a*, other means may be utilized to form corresponding shear elements. One such method consists in applying a coating of a material adapted to dry into a hard element adapted for the use contemplated, and which may include a portion infused into the paper; the element thus formed having approximately the same size, location, and functions as the applied fiber strip, and so constituting a strip of adhesively applied material.

I claim:

1. In an envelope of the character described, a blank shaped to present a front wall and a back wall, the front wall having a bottom flap extended longitudinally therefrom, a shear strip on the inner face of the front wall at least, spaced from the bottom boundary of the walls and united throughout its length with the front wall at least and being a band of sufficient width to be grasped initially by the fingers of a person for the use described, said walls being both folded inward together upon the back wall on a line immediately outward of said strip, and said bottom flap at least extended a distance longitudinally in-

ward on the bag beyond said strip and secured to the back wall to form a laminated reinforced part inwardly of the said strip, for the purposes described.

2. An envelope of the character described having only front and back walls, said walls having a junction at one edge of the envelope, two parallel laminated shearing members adjacent said edge extending entirely across the envelope, said shearing members being formed by adhesively securing a separate strip to each respective wall of the envelope in parallel zones slightly offset from each other longitudinally of the envelope, the mutually adjacent edges of said shearing members being operative as shear members upon the adjacent unattached wall portions when said members are moved in opposite directions substantially normal to the medial plane of the envelope, said zone of the front wall being unattached to the back wall.

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