

July 19, 1949.

W. KRALL

2,476,740

ENVELOPE

Filed April 26, 1947

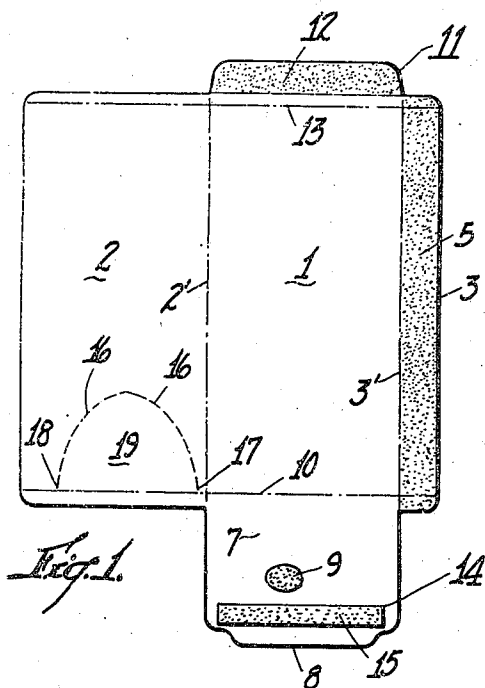


Fig. 1.

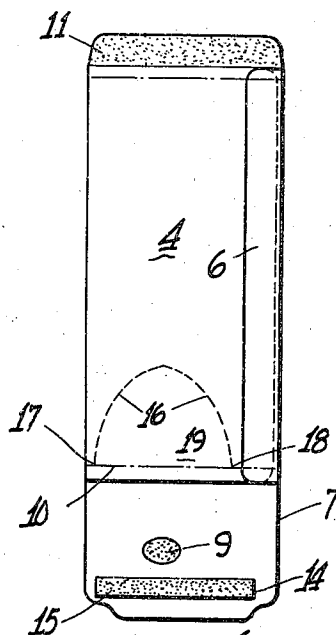


Fig. 2.

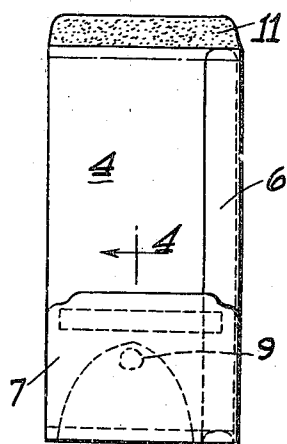


Fig. 3.

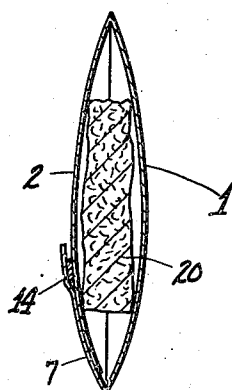


Fig. 4.

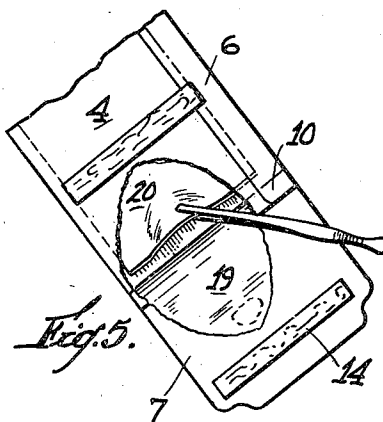


Fig. 5.

Inventor:

Walter Krall

By George H. Kennedy Jr.

Attorney

UNITED STATES PATENT OFFICE

2,476,740

ENVELOPE

Walter Krall, Holyoke, Mass., assignor to United States Envelope Company, Springfield, Mass., a corporation of Maine

Application April 26, 1947, Serial No. 744,119

1 Claim. (Cl. 229—80)

1

This invention relates to envelopes of a type especially adapted to the packaging of various articles, such as surgical or medical bandages and the like, that need to be protected from contamination, and to be handled in a sterile manner.

An object of the invention is to provide such an envelope, in cheap and easily manufactured form, that not only protects its contents from contamination, but is easily and quickly pulled open for the removal of such contents, with assurance that the act of so opening the envelope will completely eliminate, in every case, all manner of obstruction, by portions of the envelope material or otherwise, to the ready seizure and withdrawal of said contents, by means of forceps, tweezers, or other sterilized instruments.

Other and further objects and advantages of my invention will be made apparent by the following detailed description thereof, taken in connection with the accompanying drawings, in which

Fig. 1 is a plan view of the blank from which the envelope of my invention is made.

Fig. 2 is a view showing the initial folding operation performed on said blank in the manufacture of my improved envelope.

Fig. 3 is a rear face view of the completed envelope, made from the blank of Fig. 1, and showing the envelope open in readiness to receive the bandage or other article.

Fig. 4 is a sectional view of said envelope, as closed and sealed after receiving its contents.

Fig. 5 is a perspective view, illustrating the act of withdrawing said contents, after said envelope has been pulled open.

Like reference characters refer to like parts in the different figures.

The envelope blank shown by Fig. 1 comprises a rectangular body portion 1, which provides the envelope's front wall. Said body portion 1 has a wide side flap 2 and an opposite narrow side flap 3, the said two side flaps being folded over consecutively, in the manufacture of my envelope, on the lines 2' and 3' respectively, so as to overlap each other, as shown in Fig. 2, for the formation of the envelope's back wall 4. Prior to such folding the blank is supplied with the several wet adhesive areas indicated by Fig. 1, including an adhesive coating 5 on the narrow side flap 3, so that the folding over of flap 3 upon folded flap 2 produces (see Fig. 2) an adhesive seam 6 along one side edge of the rear wall 4.

The body portion 1 of the blank provides a bottom flap 7 of more than usual depth; this

2

flap 7, preferably by the same operation which applies the adhesive 5, receives at a point well inward from its free or outer edge 8, a limited area or spot of moist adhesive 9, for a purpose to be hereinafter described. The line of fold of bottom flap 7 is indicated at 10 as being slightly above the lower edges of the side flaps 2 and 3, so that, following formation of the side seam 6 by the initial folding operation (Fig. 2), the turning up and over of bottom flap 7 on the line 10 produces a double thickness of safety fold of the blank material across the envelope's bottom, this fold being provided in part by the body portion 1, and in part by the lower portions of side flaps 2 and 3. Such a double or safety fold at the bottom is conventional practice in envelopes of this type, to make their corners substantially leak-proof, for the exclusion of dust and other impurities in the atmosphere. The same type of double or safety fold is preferably employed for my envelope's top closure, the latter being provided by a seal flap 11, having an adhesive coating 12 adapted to be moistened in the usual way for use in sticking down said flap. The latter is foldable on a score line 13 that is spaced slightly below the upper edges of the side flaps 2 and 3.

The sticking down of the relatively deep bottom flap 7 against the envelope's rear wall 4 is here shown as obtained in the manner and by the means described in Irrgang Patent No. 1,972,995, dated September 11, 1934. That is to say, I preferably employ an interposed narrow transverse strip 14 of blotting paper or like loose-fibered material, having one face glued to the flap 7, outwardly of the latter's adhesive area 9 but appreciably inward of its free or outer edge 8, which said edge is left ungummed, so as to serve as a pull tab for quick and easy opening of the envelope. The other face of strip 14 carries wet glue 15 by which to adhere the flap 7, when folded on line 10, Fig. 2, to the rear wall 4, as shown in Fig. 3. Because the internal strength of strip 14 is relatively low, said strip will invariably split apart, in a plane substantially to its faces, under a pull applied to the flap's free edge 8, leaving part of its structure on the flap 7 and the other part on the rear wall 4. Such action insures a quick and easy opening up of the envelope's bottom seam, which always takes place cleanly and without the inevitable shredding and uneven tearing of the envelope material that is bound to occur when an ordinary glued seam is forcibly pulled open.

The wet adhesive spot 9 is preferably offset from the center line of flap 7, by an amount suffi-

cient to aline it with the center of the single-thickness portion of rear wall 4, that is, the portion lying inwardly of side seam 6. Near the bottom of side flap 2 (whose material provides such single-thickness portion) I form a series of slits 16, 16 having a substantially arched or arcuate arrangement, as shown by Fig. 1. That is, said slits extend upwardly and laterally from a point 17 on fold line 10 near its intersection with fold line 2', and then curve downwardly and laterally to meet the fold line 10 again at a point 18 which is far enough in from the free edge of side flap 2 to escape being overlapped by the narrow side flap 3 (see Fig. 2). The height of the upwardly-tapering area 19 bounded by these slits 16, 16 and by that portion of score line 10 which they subtend is slightly in excess of the outside distance of spot 9 from line 10; thus, when flap 7 is folded up and over on line 10 to form, by means of glued strip 14, the envelope's bottom closure seam as above described, the glue 9 when dried causes the flap 7 to have spot adhesion with the peak or apex portion of the partially-severed area 19, just inside the uppermost slits 16, 16, as shown in Fig. 3.

Assuming a bandage 20 or like surgical or medical article to have been placed in my envelope, and the latter closed and sealed by folding over and sticking down of its seal flap 11, it is evident that adequate protection against contamination of said article is assured, because of the aforesaid safety folds at top and bottom and because of the complete coverage of the slits 16, 16 by the firmly stuck-down bottom flap 7. However, this protection involves no obstacle to quick, easy and complete access to said article, when its removal, and its handling, in a safe and sterile manner is desired. It is only necessary to seize the free edge 8 and to give it a light pull; under such pull, the loosely bound fibres of strip 14 give way throughout the entire length of the strip and thus the freeing and lifting of the envelope's bottom flap 7 takes place without any of the usual irregular tearing and shredding of flap and wall material, that would obstruct and hinder the removal of an envelope's contents. But more is required than this clean break afforded by the loose-fibred strip 14, especially when an article of any bulk is to be removed and especially when the envelope, as here shown, has at its bottom a safety fold, that provides material (the lower edge portions of flaps 2 and 3) which substantially stiffens the bottom edge or fold of the envelope, and therefore imposes a resistance at that point against separation or spreading apart of the opposite front and rear walls of the structure; because of this, there would normally be a definite obstacle to insertion between the lower edges of said walls of forceps, tweezers or similar instruments by which to seize and remove in a sterile

manner a bandage or other article contained in the envelope above its bottom safety fold.

However, in my envelope, the opening or flap-lifting operation, obtained by a pull on the free tab 8, has the effect of by-passing this bottom safety fold, because of the adhesion provided between flap 7 and rear wall 4 by the spot gumming 9 at the peak of partially-severed area 19. That is to say the continuance of such lifting of flap 7 by pull on the tab 8 (after the primary attachment by strip 14 has given way) causes the entire area 19 above fold 10 to be stripped loose and drawn away from the rear wall 4, as shown by Fig. 5, the reason for this being that the envelope material, as weakened by the slits 16, 16, offers appreciably less resistance to the lifting or pulling of flap 7 than does the glue 9. Starting at the slits 16, 16 immediately above the glue 9, the tearing progressively spreads on both sides along the divergent lines that said slits take, so that, with the complete lifting of flap 7, an opening up of the envelope's pocket for nearly its entire width is obtained, which exposes for sterile removing and handling (see Fig. 5) a large area of the contained bandage 20.

I claim:

As a new article of manufacture, an envelope made from a one-piece blank, said blank being glued and folded to form opposite front and rear walls having a pocket space between them; the lower end of said pocket space being closed by a transverse double-thickness fold of the material of both of said walls, said blank including beyond said fold an integral extension of the front wall material which overlaps and covers a substantial portion of said rear wall, said covered rear wall portion including a partially-severed area formed by two upwardly convergent lines of slits that start from widely spaced points on said transverse fold, said area being adhesively connected adjacent the convergence of said lines of slits with said extension, and a layer of loose-fibred material adhesively interposed between said extension and said rear wall beyond said convergent lines of slits, said loose-fibred material being inward of the free edge of said extension, to leave the latter as a pull tab for the opening of the lower end of said pocket space.

WALTER KRAHL.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,972,995	Irrgang	Sept. 11, 1934
2,001,340	Bear et al.	May 14, 1935
2,218,670	Bennett	Oct. 22, 1940