

June 5, 1951

E. M. DE ROUVILLE

2,555,844

CARRY BAG

Filed June 26, 1947

3 Sheets-Sheet 1

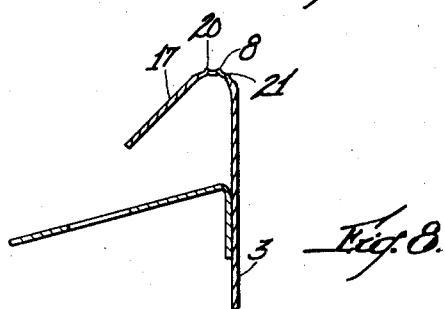
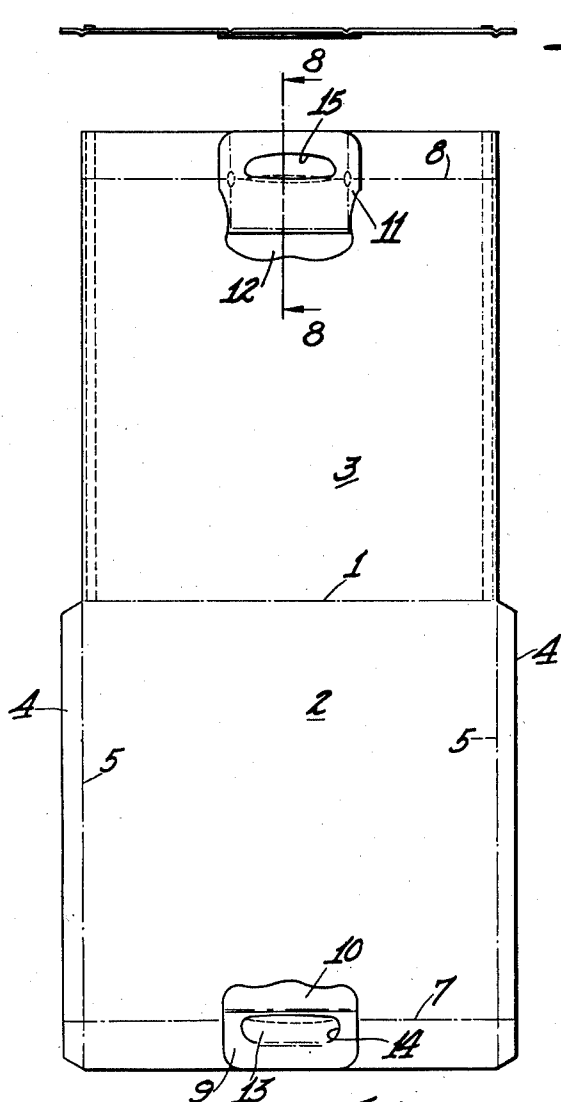
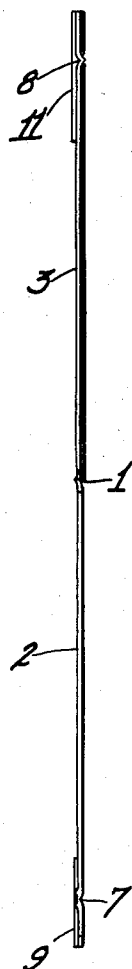


Fig. 3.



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Fig. 4.

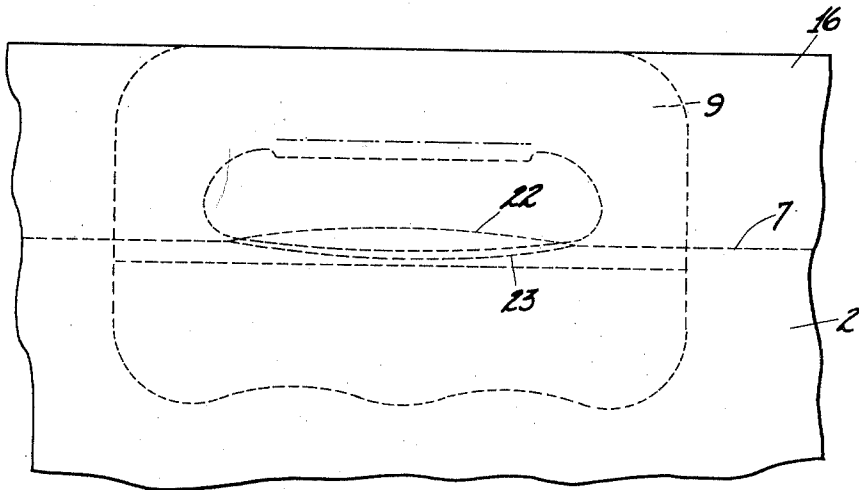
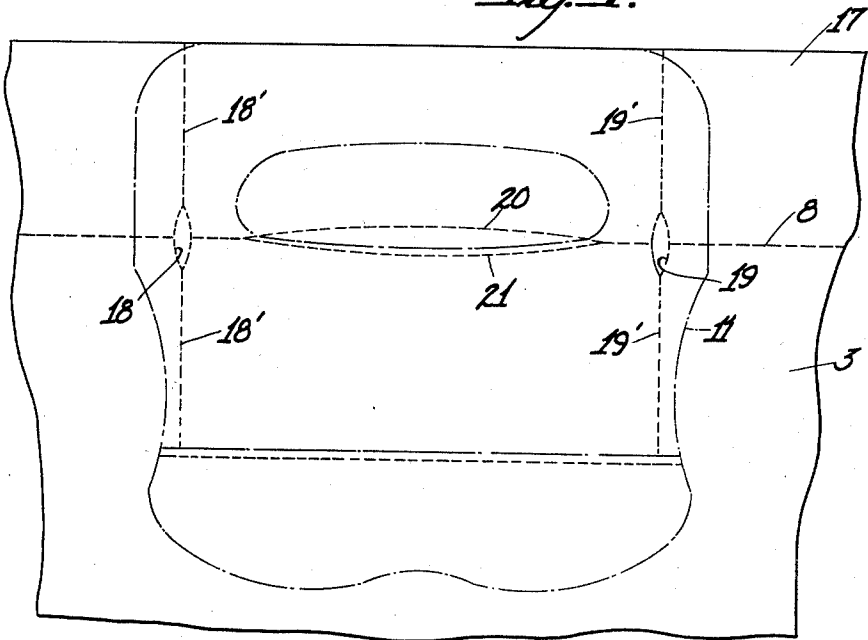


Fig. 5.

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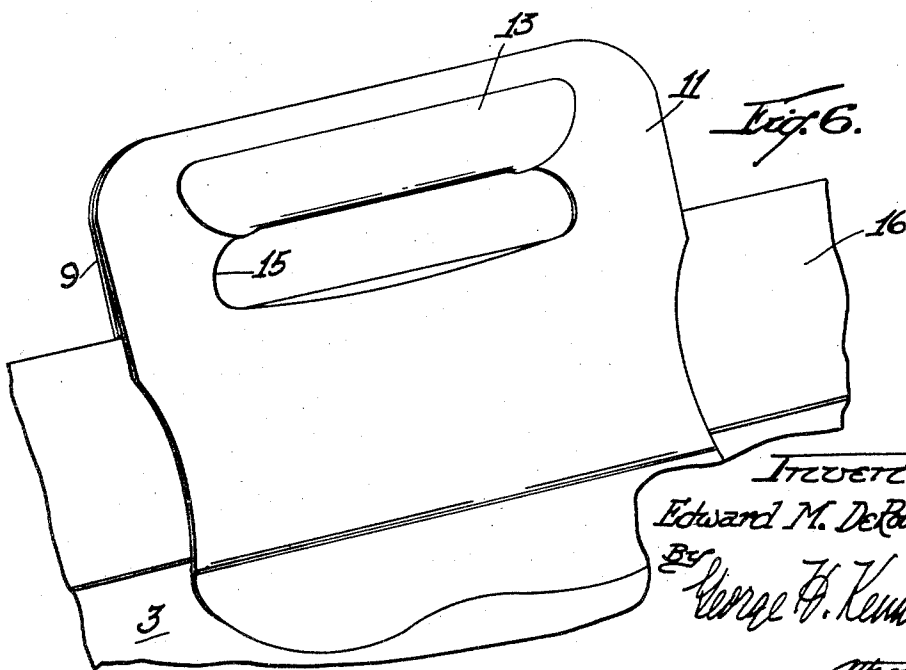
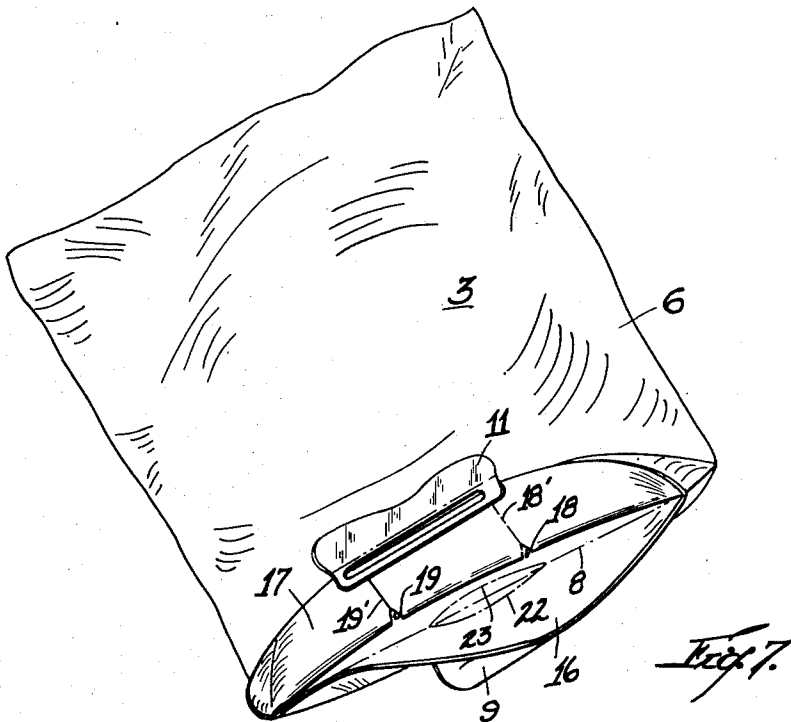
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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

2,555,844

CARRY BAG

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4 Claims. (Cl. 229—52)

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This invention relates to the class of paper bags or envelopes known as carry bags, being paper bags or envelopes of relatively large size, for the reception of bulky articles, and whose walls, at the upper edges, provide extensions of stronger material adapted to form a hand grip by which the bag may be supported and carried.

My invention resides principally in an improved construction for the closure means at the mouth of such a bag, by which to minimize the tendency of the bag material to tear or fracture, in the manipulations of the mouth portion of the bag incidental to the loading and unloading of the bag or envelope pocket.

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

Fig. 1 represents an extended view of a paper blank from which the carry bag of my invention is made, and showing also hand grip reinforcements that are adhesively attached near the ends of said blank.

Fig. 2 represents a side view of the blank disclosed in Fig. 1.

Fig. 3 represents an edge view of the blank disclosed in Fig. 1.

Fig. 4 represents a fragmentary view, on an enlarged scale, showing certain scoring and slitting features of my invention.

Fig. 5 represents a view similar to Fig. 4 illustrating the reverse side of the carry bag.

Fig. 6 represents a perspective view showing the handle-forming members in their operative bag-carrying position.

Fig. 7 represents a perspective view of the bag after the mouth thereof has been opened by an outward pull upon each of the handles.

Fig. 8 represents, on an enlarged scale, a sectional view taken substantially along line 8—8 of Fig. 1, but with the flap in its partially unfolded position.

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

For the manufacture of my improved carry bag, I preferably employ a one-piece paper blank of the generally rectangular form shown in Fig. 1, said blank being scored transversely, as shown at 1, by which to define a fold that forms the bottom of the front and rear walls 2 and 3, when the blank is folded thereon to provide the bottom of the bag's pocket. The front wall 2 has narrow side flaps 4, 4, which, before being folded over on score lines 5, 5, are coated with glue for adhe-

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sion (see broken lines on wall 3) to the subsequently folded rear wall 3, thereby to close the sides of the pocket between the two walls. This pocket, closed at its bottom by the fold on the score line 1, and along its sides by the adhesive overlapped seams 6, 6, is open at the top for the introduction thereto of the bag's contents. At the open mouth portion of the bag, the respective front and rear walls 2 and 3 have transverse scores 7 and 8 that are in register with each other, thereby forming a double thickness closure flap for the bag, adapted to be folded over onto the wall 3, after the bag's contents have been inserted, to close the mouth portion of the bag.

Secured to the exterior of the front wall 2 is a handle-forming member 9 of pasteboard or cardboard whose means of connection may be an adhesive area 10 which lies wholly inward of the transverse score line 7. In other words, that portion of the member 9 which extends beyond said score line 7, is free and unsecured to the material of the wall 2, thus giving opportunity for the underlying wall material to be folded away from said member, in the act of closing the mouth or open upper end of the bag. The exterior of the wall 3 carries, at its central portion, a cooperating handle member 11 of pasteboard or cardboard, whose connection to said wall is by an adhesive area 12 which is spaced inwardly from the score line 8 by a distance in excess of the width of the double thickness closure means of the bag, thereby to permit both thicknesses of said closure means to be folded over the wall 3, in the absence of interference from the attachment to said wall of said member 12. The member 9, in its free or unsecured portion, provides a tongue 13, formed and defined by an arcuate slit 14 of the material, and for reception of the tongue, the member 11 provides an aperture 15 in the manner common to handle-forming members of carry bags. As shown in Fig. 6, after the double thickness closure portion has been folded down against the wall 3, the tongue 13 of the member 9 is inserted through the opening 15 and bent upwardly against the member 11, thereby to lock the handle-forming members together and to form a smooth upper carrying edge for the fingers of the user as inserted through said opening.

Referring particularly to Fig. 7, when the hereinabove described bag is filled with bulky contents and then quickly opened by the user, by means of pulling each handle, the folded-over or flap portion 16 of the front wall 2 usually opens,

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while the folded-over portion or flap 17 of the back wall 3 remains closed. Although the bag may be readily filled and emptied with the flap portions 16 and 17 thus positioned, extensive research indicates that the average user wishes to open the flap 17, and in so doing, it has been found that this action will set up forces which many times rupture and even tear the flap. It has also been found that the flap 16 will sometimes become ruptured or torn when the handles are pulled apart in an attempt to open the bag's mouth.

In order to obviate the hereinabove noted shortcomings of this type of carry bag, the present invention contemplates the provision of means which will cause either or both of the flaps 16 and 17 to hinge about a predetermined portion of the flap to the end that there is no tendency for the flap to rupture or tear as forces are applied thereto in response to the opening of the bag. More specifically, and referring particularly to Figs. 1, 4, and 5, the back wall 3 of the bag is provided with a pair of transversely spaced and vertically disposed slits 18 and 19, each of which slits extend across the transverse score line 8 to provide between said slits a predetermined zone, about which the flap 17 may hinge without tearing, in response to forces which tend to unfold the flap 17 away from the body portion of the wall 3. In other words, these spaced slits 18 and 19 weaken that portion of the wall material therebetween to the extent that this predetermined area or zone functions as a hinge which will permit the flap 17 to be readily pulled away from the body portion of the wall 3 without rupturing or tearing the flap. Without these slits, the flap 17 will tend to remain in a flat position against the wall 3, and when forces are applied to the flap which would tend to lift the same away from the wall portion, it has been found that the score line 8 is insufficient, in and of itself, to provide a proper hinge joint for the flap. Thus, since the flap tends to remain against the wall in a folded over position, those forces which tend to open the flap are effective to rupture and tear the same in the absence of the spaced slits 18 and 19.

In order to make for even a better hinge than that provided by the spaced slits 18 and 19, the present invention also contemplates the provision of one or more score lines 20 and 21, which scores are provided on the exterior of the wall 3 adjacent the transverse score 8 and between the slits 18 and 19. Such auxiliary score lines 20 and 21 function, in conjunction with the slits 18 and 19, to form a predetermined zone about which the flap 17 will hinge in immediate response to any forces which tend to unfold the flap from its closed position. In other words, the slits 18 and 19 define between them a zone of weakened paper material which functions as a hinge to the extent that the flap 17 will always pivot or roll about the transverse scores 8, 20 and 21 in immediate response to those forces which tend to lift the flap 17. By thus providing this hinge, all tendency for the flap to tear is obviated, for once this hinge portion of the flap turns away from the body portion of the wall 3, the remainder of the flap is drawn along therewith.

It has also been found that by extending longitudinal score lines 18' and 19' from opposite ends of the slits 18 and 19, an even more effective hinge area may be afforded. Since a user will invariably grasp the mid-portion of the flap 17, in an attempt to unfold the same, it is to be un-

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derstood that the score lines 18' and 19', along with the slits 18 and 19, being disposed intermediate the end portions of this flap, will function as a hand-grasp area which will readily flex away from the wall 3, thereby to permit the unfolding of the flap about the transverse score line without the usual tearing action.

Referring particularly to Fig. 4, the arcuate score lines 20 and 21 are formed in a pattern of an ellipse, and this ellipse has its major axis coincident with the transverse score line 8. By thus forming auxiliary score lines 20 and 21 in this manner, the hinge portion of the flap will permit the remaining portion of the flap to roll about the transverse score 8 whenever forces tend to lift the flap away from the wall 3. Fig. 8 illustrates how this rolling action is accomplished, and by referring to this particular figure, it may be understood how the score lines 8, 20, and 21 cooperate together in producing a hinge joint.

It is to be further understood that the slits 18 and 19, in conjunction with the score lines 18' and 19', function to restrict the hinging action of these score lines to the center portion of the flap, as best illustrated in Figs. 4 and 7.

Referring particularly to Fig. 5, the interior portion of the front wall 2 is also provided with a pair of arcuately shaped auxiliary score lines 22 and 23 which are formed in the pattern of an ellipse which has its major axis disposed in coincidence with the transverse score 7. Since this flap 16 is not subjected to the severe forces as are applied to the flap 17, it has been found that it is not necessary to provide this wall with the above noted slits. In other words, when the closed bag is initially opened by pulling the handles 9 and 11 apart, it will be understood that the flap 16 will normally be unfolded as a result of the opening of the bag. Furthermore, this unfolding of the flap 16 does not normally result in the rupturing of the flap, for the reason that those forces which tend to unfold the flap are evenly distributed along the undersurface thereof. However, by providing the auxiliary score lines 22 and 23, all possibility of a rupturing of this flap is obviated.

I claim:

1. A carry bag of the class described, comprising front and rear walls substantially coextensive in area and forming between them an open-ended pocket, both of said walls near said open end being scored transversely to provide a double thickness fold of the bag material for the closure of said pocket following insertion therein of the goods to be carried, a handle-forming reinforcement attached exteriorly to each wall and extending upwardly beyond the transverse score line thereof, the reinforcement on said rear wall against which said closure fold is folded being attached to said wall in spaced relation to said score line, thereby to leave room below said line for the folding down of said closure means, and the said rear wall's material being scored and slit at a pair of locations spaced along said transverse score line, said scores and slits being disposed substantially at right angles to said transverse score line to provide between said locations a predetermined zone about which said material may hinge without tearing, in response to forces which tend to unfold the folded over portion of said rear wall material.

2. A carry bag of the class described, comprising front and rear walls substantially coextensive in area and forming between them an open-

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ended pocket, both of said walls near said open end being scored transversely to provide a double thickness fold of the bag material for the closure of said pocket following insertion therein of the goods to be carried, a handle-forming reinforcement attached exteriorly to each wall and extending upwardly beyond the transverse score line thereof, the reinforcement on said rear wall against which the closure fold is folded being attached to said wall in spaced relation to said score line, thereby to leave room below said line for the folding down of said closure means, the said rear wall's material being provided with a pair of transversely spaced and vertically disposed slits, each slit extending across said transverse score line, and that portion of said wall's material between said slits and adjacent said transverse score being provided with a relatively short and substantially transversely disposed score which, together with said slits, forms a predetermined zone about which said material may hinge without tearing, in response to forces which tend to unfold the folded over portion of said rear wall material.

3. A carry bag of the class described, comprising front and rear walls substantially coextensive in area and forming between them an open-ended pocket, both of said walls near said open end being scored transversely to provide a double thickness fold of the bag material for the closure of said pocket following insertion therein of the goods to be carried, a handle-forming reinforcement attached exteriorly to each wall and extending upwardly beyond the transverse score line thereof, the reinforcement on said rear wall against which the closure fold is folded being attached to said wall in spaced relation to said score line, thereby to leave room below said line for the folding down of said closure means, the said rear wall's material adjacent to and on opposite sides of its transverse score line being scored and slit along a pair of transversely spaced lines located substantially at right angles to said transverse score line, and that portion of said wall's material between said spaced lines and adjacent said transverse score being provided with a pair of relatively short and substantially transversely disposed scores which, together with said spaced

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lines of scores and slits, forms a predetermined zone about which said material may hinge without tearing in response to forces which tend to unfold the folded over portion of said rear wall material.

4. A carry bag of the class described, comprising front and rear walls substantially coextensive in area and forming between them an open-ended pocket, both of said walls near said open end being scored transversely to provide a double thickness fold of the bag material for the closure of said pocket following insertion therein of the goods to be carried, a handle-forming reinforcement attached exteriorly to each wall and extending upwardly beyond the transverse score line thereof, the reinforcement on said rear wall against which the closure fold is folded being attached to said wall in spaced relation to said score line, thereby to leave room below said line for the folding down of said closure means, the said rear wall's material adjacent to and on opposite sides of its transverse score line being scored and slit along a pair of transversely spaced lines located substantially at right angles to said transverse score line, and that portion of said wall's material between said spaced lines being scored in a substantially elliptical shaped pattern, the major axis of the ellipse being coextensive with said transverse score to provide, together with said spaced lines of slits and scores, a predetermined zone about which said material may hinge without tearing in response to forces which tend to unfold the folded over portion of said rear wall material.

EDWARD M. DE ROUVILLE.

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