April 29, 1941. G. W. POPPE 2,239,856

REINFORCED CARRY BAG

Filed Dec. 9, 1938 2 Sheets-Sheet 1

Fig. 1.

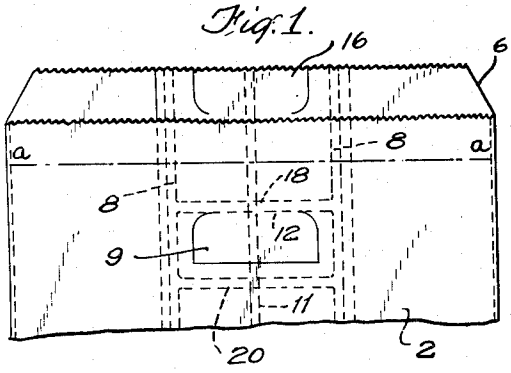


Fig. 2

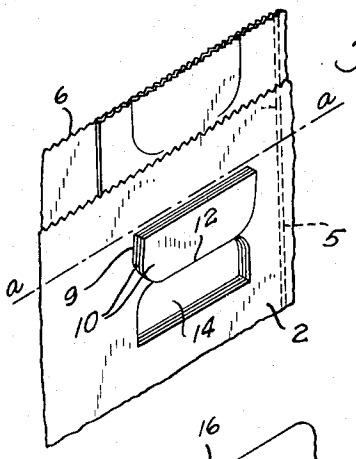
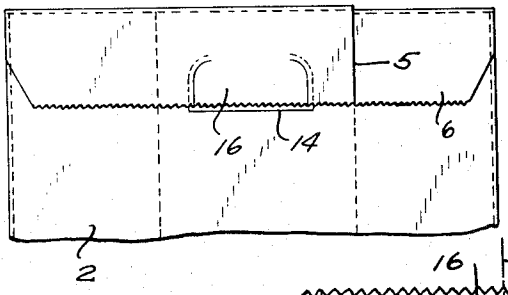


Fig. 3.



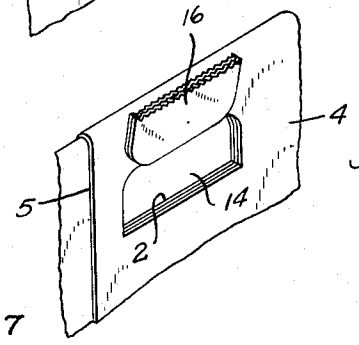


Fig. 4.

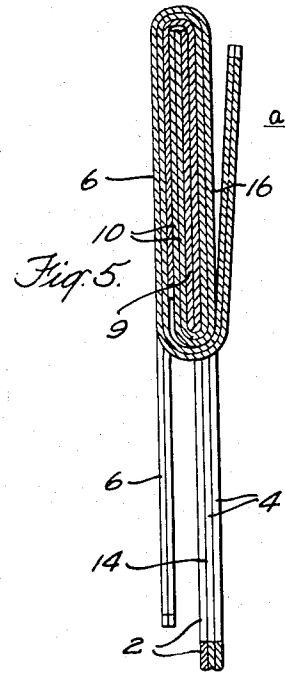


Fig. 5.

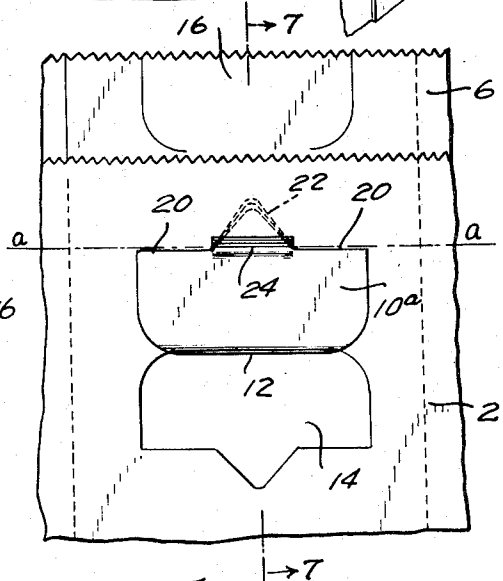


Fig. 6.

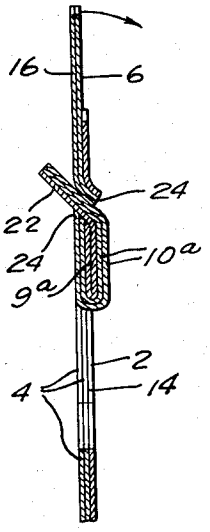


Fig. 7.

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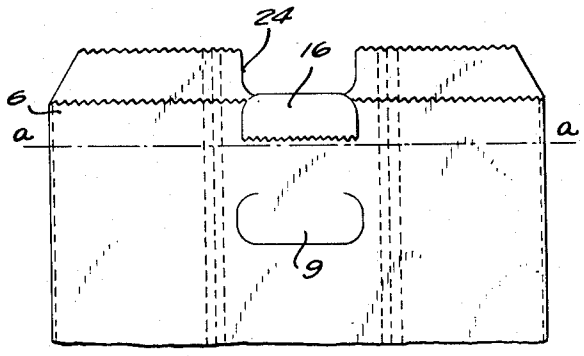


Fig. 8.

Fig. 9.

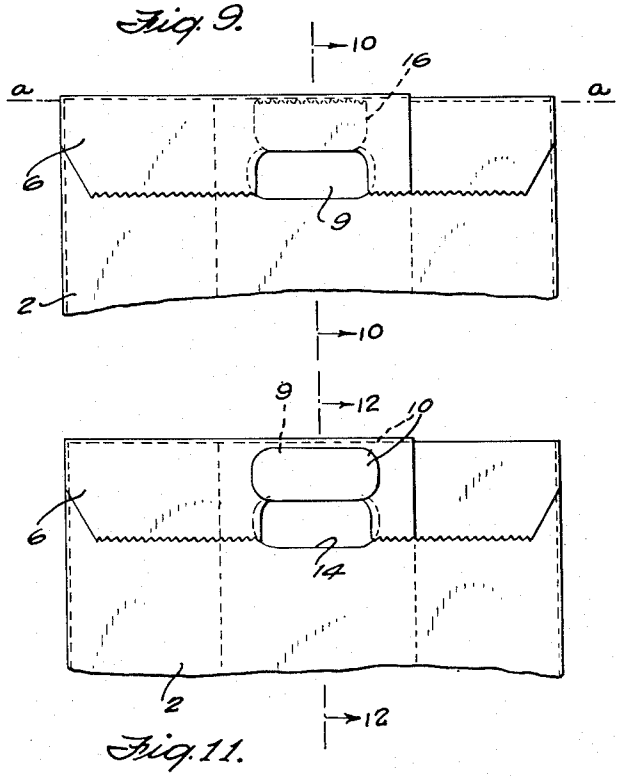
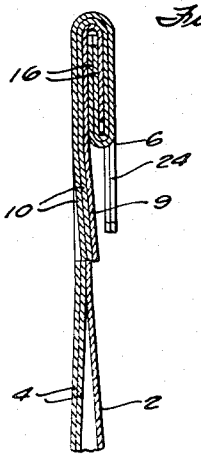


Fig. 11.

Fig. 10.



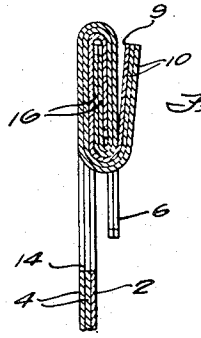


Fig. 12.

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2,239,856

REINFORCED CARRY BAG

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Application December 9, 1938, Serial No. 244,827

1 Claim. (Cl. 229—53)

This invention relates to carry bags and more particularly to bags of this character in which provision is made for reinforcement at portions thereof which are subjected to the strain of articles contained within the bag.

An object of the invention is the production of a bag of this character in which separate reinforcing means are not required.

A further object of the invention is the production of a bag of this character which may be made on an ordinary bag machine and at substantially the same speed as an ordinary bag is made.

Various features and advantages whereby the objects of the invention are accomplished will be better understood from the following description and claim when taken in connection with the accompanying drawings in which:

Fig. 1 is an elevational view of the upper portion of a bag showing one form which the invention may take;

Fig. 2 is a perspective view of the central upper portion of the bag shown in Fig. 1 but with the reinforcing tongues folded upwardly;

Fig. 3 is an elevational view of the upper portion of a bag but showing the closing flap in folded over position after the reinforcing tongues have been folded upwardly to the position shown in Figure 2;

Fig. 4 is a perspective of the upper central portion of the reverse side of the bag as shown in Figs. 1, 2 and 3 but with the tongue of the closing flap passed through the openings in the bag walls and folded back;

Fig. 5 is a section on the line 5—5 of Fig. 4, but with the thickness very much exaggerated in order to show the various plies of paper included in the tongues and flap;

Fig. 6 is an elevational view of the central upper portion of a somewhat modified form which the invention may take;

Fig. 7 is a section, exaggerated in thickness, on the line 7—7 of Fig. 6;

Fig. 8 is an elevational view showing the first stage in folding when the flap tongue is utilized as a reinforcing element;

Fig. 9 is a similar view with the bag flap folded down;

Fig. 10 is a section on the line 10—10 of Fig. 9;

Fig. 11 is an elevational view showing the bag wall tongues folded upwardly against the bag flap and locking the same; and

Fig. 12 is a section on the line 12—12 of Fig. 11.

In my Patent #1,865,267, granted January 24, 1933, I have shown a carry bag in which the bag walls are provided with registering openings and the flap is provided with a tongue adapted to be passed through the openings in the bag walls enabling the bag to be readily carried. The openings or finger holes in said bag are shown as circular and of such size that they will accommodate only one finger. Such bags are suitable for light articles. When, however, it is desired to provide a carry bag of larger size, with openings large enough to accommodate two or three fingers, the problem of reinforcement becomes of considerable importance.

It has been proposed to provide carry bags with one or more reinforcing pieces which are pasted to one or both of the bag walls. Such reinforcement however entail additional cost in manufacture due to the extra operations of pasting on of one or more reinforcing pieces.

In the bag of the present invention, not only are separate reinforcing pieces rendered unnecessary but the bag may be made on an ordinary bag machine by well known methods and at a speed substantially that of an ordinary bag.

Referring to the drawings, Fig. 1 shows a top portion only of a bag embodying the improved features. Such a bag is formed by folding over a web of paper to form a bag tube which tube is then severed into bag sections and suitably bottomed. One method of making such a bag is disclosed in my Patent #1,798,168.

In its finished form the bag contains a front wall 2, Figs. 1, 2 and 3, and a rear wall 4, Fig. 4. In these figures, the web of paper is overlapped to form a wide seam indicated by the vertical dotted lines in Fig. 1, the edge of the overlapped seam being indicated by the reference character 5 in Fig. 4. The flap 6 which closes the mouth of the bag, is a prolongation of the seam wall. Two lines of paste 8 are provided, one near each edge of the seam and a center line of paste 11, may also be applied. Preferably also the bag is scored along the line *a—a*, Fig. 1, which scored line constitutes the line of fold of the flap, which fold may also include a small portion of the front wall of the bag, although, of course, the score line may be at the top of the wall 2. Superimposed tongues 9 and 10 are cut from the bag walls, the tongue 9 being cut from the front wall 2 while the tongue 10 is cut from the rear wall 4 as clearly indicated in Fig. 2. Since the rear wall contains the seam, it will be obvious that the tongue 10 contains two plies of paper, while the tongue 9 contains but one ply. The tongues are hinged at their upper portion along the line 12, Figs. 1 and 2, so that they may be folded up-

wardly to the position shown in Fig. 2. The tongues are considerably wider than they are long in order that the registering openings 14 in the bag walls may be of sufficient width to accommodate two or more fingers.

These registering tongues 9 and 10 may constitute reinforcing members or locking members as will be hereinafter pointed out. In order that they may do so most effectively, the hinge line 12 is spaced from the line of fold or score line *a—a*, a distance substantially equal to the length of the tongues so that when they are folded upwardly to the position shown in Fig. 2, edges opposite the hinge line will substantially coincide with the line of fold of the flap. The flap 6 is provided with a tongue 16 cut from the edge of the flap and is hinged at 7. This hinge line is also spaced from the line of fold of the flap a distance substantially equal to the length of the tongue 16.

Either the tongues 9 and 10 or the tongue 16 may act as reinforcing members according to the way the tongues are folded in relation to each other and in relation to the flap 6.

In Figs. 1 to 5 the folding is such that the tongues 9 and 10 constitute reinforcing members and after they have been folded up to the position shown in Fig. 2, the flap 6 is folded over along the line *a—a* and the tongue 16 is passed through the openings 14 in the bag walls and folded upwardly to the position shown in Fig. 4, this figure, it being understood, showing the opposite side of the bag from that shown in Figs. 1 and 2. Fig. 3 shows the flap 6 folded over with its tongue 16 almost completely covering the openings 14 in the bag wall but being of such dimensions that it may pass freely through said openings and be folded upwardly on the opposite side of the bag from that shown in Fig. 3 and to the position shown in Fig. 4. Since the tongue 16 in the flap is situated between the edges of the seam, said tongue includes two plies of paper and adds to the reinforcement provided by the tongues 9 and 10 in the bag walls. The degree of reinforcement provided is well illustrated in Fig. 5 which is a section taken along the line 5—5 of Fig. 4 after the flap has been folded over the upturned tongues of the bag walls and the bag tongue 16 has been passed through the openings 14 and folded up.

I have found by tests that the tendency of a carry bag to tear, due to excess weight in the bag, is reduced when the finger openings in the bag walls are circular or have their upper corners rounded and I have therefore rounded the upper corners of openings 14. As an additional reinforcement means which may be employed in some cases, I provide a line of paste 18, Fig. 1, which extends across the seam adjacent the line of fold 12, of the tongues. A line of paste 20 may also be provided if desired, but greater reinforcing qualities are possessed by the paste line 18.

It will be understood that one or the other of the tongues 9 or 10 may be completely cut off so that only one tongue remains attached to a bag wall. Such a construction provides considerable reinforcement and may be desirable in some cases.

A modified form of the invention is illustrated in Figs. 6 and 7 in which the same reference characters are used except where there has been a change in construction. In such case the part designated, bears the same reference numeral as the corresponding part in Figs. 1 to 5 but with an exponent.

As in the first described form, the bag is provided with a front wall 2 and seam wall 4, Fig. 7. The flap 6 is provided with a tongue 16 and the walls of the bag are provided with tongues 9*a* and 10*a*. Fig. 7 shows these tongues in folded up position similar to that illustrated in Fig. 2 with the edges 20 opposite the hinge portion 12 substantially coincident with the score line *a—a* along which the flap is folded. The construction shown in Figures 6 and 7 differs from the construction previously described in the provision of a projection 22 extending from each of the bag wall tongues which projections are adapted to be passed through slits 24 in the bag walls as shown most clearly in Fig. 7 thereby effectively locking the walls together. The flap 16 as shown in Fig. 7 has not yet been folded over, but when folded over, its tongue 16 is passed through the openings 14 in the bag walls and folded up on the opposite side of the bag as previously described.

After the bag is made in accordance with either of the methods set forth in my aforesaid patent, #1,798,168, it may be passed between suitable dies which cut the tongues, as will be understood by those skilled in the art.

Instead of relying in the construction shown in Figs. 6 and 7 to effect a locking action, such result may also be accomplished by the construction shown in Figs. 1 to 5 by a different method of folding. In Figs. 8 to 12 this method of folding is illustrated.

Instead of the tongues 9 and 10 acting primarily as reinforcing tongues, the tongue 16 performs this office while the tongues 9 and 10, or either of them perform a locking function in addition to providing reinforcement.

In Fig. 9 the tongue 16 is shown as folded down.

Fig. 9 shows the next step in which the flap 6 has been folded over onto the wall 2, the edge of the tongue 16 being then substantially in line with the fold line of the flap, or in other words against the flap fold thereby reinforcing the bag at the finger hold portions thereof. The relative positions of the parts at this stage is clearly shown in Fig. 10.

The tongues 9 and 10, which now primarily act as locking members, are next folded into the opening 24 which the tongue 16 previously occupied.

This opening is preferably made somewhat narrower than the width of the tongues 9 and 10 so that when the tongues are bent up to the position shown in Figs. 11 and 12, the flap 6 is locked by the tongues 9 and 10.

It is obvious that either tongue 9 or 10 may be omitted and the remaining tongue would perform the locking function just described.

It is also obvious that the tongue 16 may be made wider than the openings 14 in the bag walls and therefore perform a locking function when the folding is done according to the showing in Figs. 1 to 5. Likewise the seam, instead of being a wide center seam, may be a side seam or a narrow offset seam. Although the invention has been described as applied to a bag, it is to be understood that it is applicable to envelopes and like receptacles as well.

I therefore do not wish to be limited to the precise constructions shown since variations may be resorted to within the scope of the invention without departing from the spirit thereof, and

some of the features may be used without others.

What I claim is:

A carry bag having front and back walls and a closing flap at the mouth of the bag foldable downwardly along a definite fold line, superimposed tongues cut from the bag walls, said tongues hinged at their upper edges adapting them to be folded upwardly, the hinge lines of the wall tongues being spaced from the line of fold of the flap a distance at least equal to the length of a tongue so that when said tongues are folded upwardly, edges opposite the hinge will substantially meet the line of fold of the flap, a tongue formed in the closing flap extending in an opposite direction from the wall tongues in the unfolded condition of the flap, said tongue, upon folding over of the flap, adapted to be passed through the openings of the bag walls and folded back when wall tongues have been folded forwardly and upwardly, the hinge line of the flap tongues and the hinge lines of the wall tongues being spaced an equal distance from the fold line of the flap, whereby the hinge portion of the flap tongue substantially coincides with the hinge portions of the wall tongues in the folded back position of the flap tongue.

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