Dec. 14, 1943. H. W. NICHOLS, JR 2,336,630

LOCKING CLOSURE FOR PAPER BAGS AND OTHER CONTAINERS

Filed March 13, 1940 2 Sheets-Sheet 1

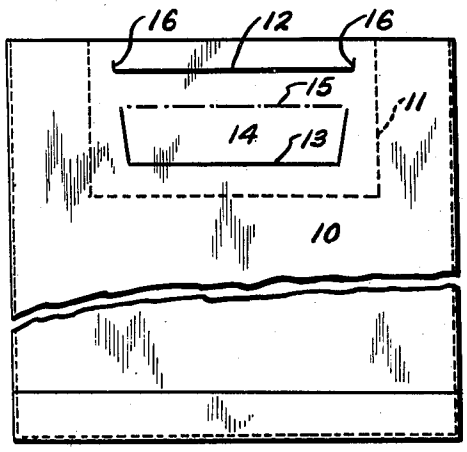


FIG. 1.

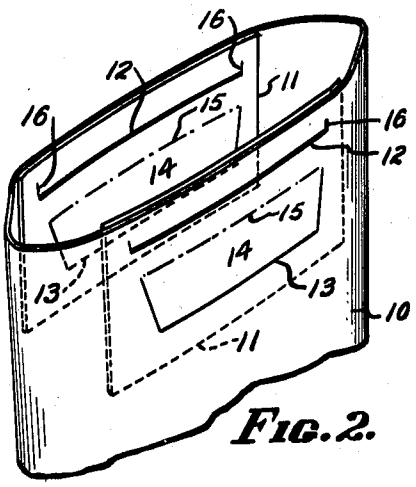


FIG. 2.

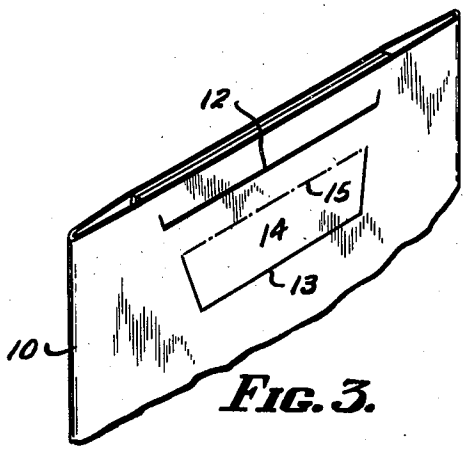


FIG. 3.

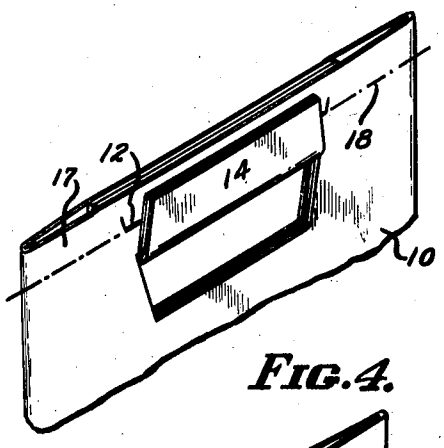


FIG. 4.

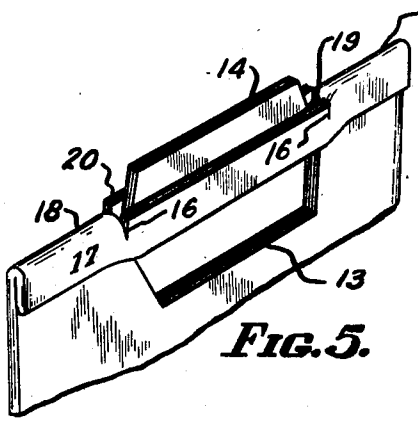


FIG. 5.

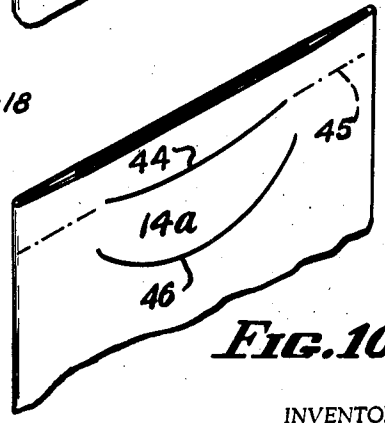


FIG. 10.

INVENTOR.
HAROLD W. NICHOLS, JR.
BY Allen & Allen
ATTORNEYS.

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FIG. 6.

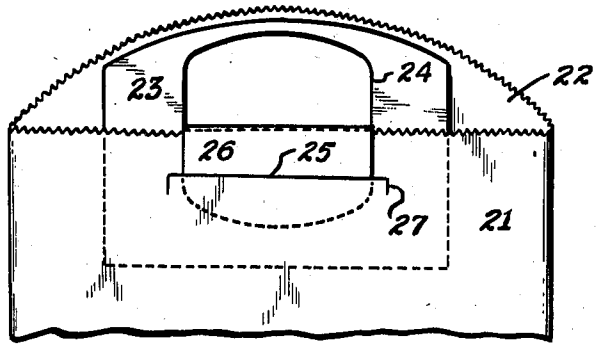


FIG. 7.

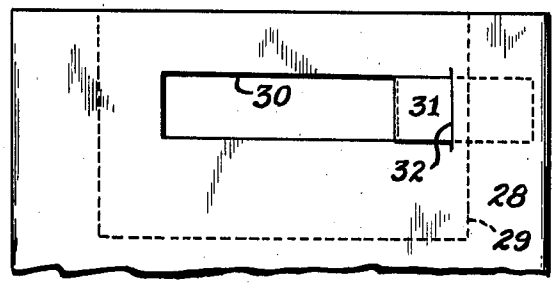


FIG. 8.

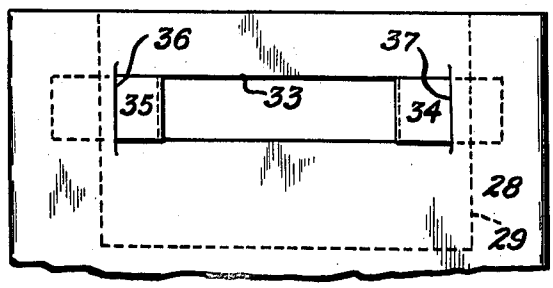
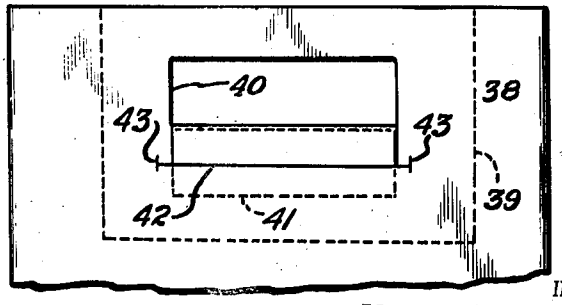


FIG. 9.



INVENTOR.
HAROLD W. NICHOLS, JR.
BY Allen & Allen
ATTORNEYS.

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UNITED STATES PATENT OFFICE

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LOCKING CLOSURE FOR PAPER BAGS AND OTHER CONTAINERS

Harold W. Nichols, Jr., Cincinnati, Ohio, assignor to The Security Bag Company, Lockland, Ohio, a corporation of Ohio

Application March 13, 1940, Serial No. 323,765

5 Claims. (Cl. 229—68)

This invention relates to containers and the like with handy grip and closure combinations and more particularly to containers made from paper, card board or similar material; provided with means for inserting the fingers near the mouth of said container so that the container can easily be carried; and also provided with a closing and/or locking structure so that the mouth of the container does not readily come open after the container has been filled with merchandise.

It is an object of my invention to provide a container as above described which will be extremely simple to manufacture and which may be manufactured at less expense than closures heretofore known. It is another object of my invention to provide an arrangement of the class described which will be extremely simple to operate. Another object of my invention is to provide such an arrangement in which the container may be closed and locked by one continuous operation. A further object of my invention consists in providing an arrangement as above outlined in which the bag will be securely held in closed position so that it will not readily come open and whereby a finger opening is provided for carrying purposes.

These and other objects of my invention which will be apparent to one skilled in the art upon reading this specification, or which will be pointed out in more detail hereinafter, I accomplish by that certain construction and arrangement of parts of which I shall now describe an exemplary embodiment.

Reference is now made to the drawings forming a part hereof and in which:

Figure 1 is an elevational view of a bag embodying a closure and locking arrangement according to my invention.

Figure 2 is a partial perspective view of a bag in its opened condition.

Figure 3 is a view similar to Figure 2 showing the first step in closing the bag.

Figure 4 is a view similar to Figure 2 showing the second step in the closing of the bag.

Figure 5 is a view similar to Figures 2, 3 and 4 showing a somewhat modified bag closed and locked.

Figure 6 is a partial plan view of a bag embodying the invention in a different form in which the hand-hole flap is turned downwardly.

Figure 7 is a partial plan view of still another form in which hand-hole flaps are turned to the side.

Figure 8 is a modification of the form of Figure 7.

Figure 9 shows still another modification in which hand-hole flaps are turned downwardly.

Figure 10 shows a modification of the bag of Figures 1 to 5.

While I shall describe my invention in connection with bags, it will be clear that it is applicable to any type of container with juxtaposed walls, for example, to carriers for bottles, which carriers are in the form of boxes, or bags, or open, frame-like structures with top walls which approach each other and are provided with a hand-hole and grip.

Briefly, in the practice of my invention, I provide hand-hole means by a generally U-shaped cut which leaves one or more hand-hole flaps. The flap or flaps are folded back against the bag, and means are provided to receive the end portions of the flap or flaps so as to form a lock. In the preferred form of the invention a portion of the bag is folded over against the folded hand-hole flaps, and the construction is such, as will hereinafter be explained, as to tend to hold the folded portion in folded position.

In the art there is a distinction between "bags" and "envelopes"; but this distinction is not of consequence as respects my invention, one of its advantages being that it is applicable to containers of both constructions; and hereinafter, and in the appended claims, I use the term "container" to cover both "bags" and "envelopes," as well as any other construction presenting the same problems, e. g. the containers which are used for carrying bottles. My invention, as will be clear, is applicable to any container which presents when closed the aspect of parallel walls at the closure, which walls are to be held together and provided with a hand-hole, and in the claims I use "container" in the non-restricting sense.

In the preferred form of my invention, I form in the side walls of the bag near the upper edge two arcuate or channel shaped or U-shaped cuts, the upper one being relatively shallow and the lower one being relatively deep. In closing the bag the tongues formed by the larger channel shaped cut are folded through the bag to one side or the other, thereby leaving a finger opening; and thereafter the upper edge of the bag is folded down and the tongues first mentioned are slipped through the upper aperture or channel shaped slot, thereby locking the bag in closed position.

Referring now particularly to Figure 1, a paper

bag is generally indicated at 10. The bag may be made of any type of paper or similar material and may be of any size, shape and construction. Adjacent the upper edges of the bag I preferably provide one or more reinforcements 11 of a heavier material, which may be adhesively fastened to the inside walls of the bag. It should be understood that these reinforcing portions are not to be considered as limitations upon my invention since if the bag itself is made of fairly heavy material the members 11 may well be omitted.

I then provide the cuts indicated respectively at 12 and 13. It should be understood that the U-shaped cut indicated at 13 forms the finger opening, and the shape of it may be varied as a matter of convenience. I have found the shape indicated in the drawings to be very satisfactory. In order, however, for the lock to function satisfactorily, the depth of the tongue 14 formed by the cut 13 should be somewhat greater than the distance between the line of articulation indicated at 15 (which may, if desired, be a scored line), and the cut 12. The cut 12, as will be noted, has the relatively short limbs 16 for a purpose which will be described hereinafter. In the particular form illustrated, this cut also is thus channel shaped or U-shaped; but it may be made in the form of a straight cut with short cross-cuts at each end, giving to the cut an elongated H-shape, as will be clear from Figure 5. Again, instead of a cut, I may employ a narrow slot-shaped aperture, by die-ing out a portion of the material. The term "cut" herein is used as inclusive of slit and aperture. The distance between the cut 12 and the top edge of the bag will be determined by the strength of the material whether it is reinforced or not, and need only be such that the material will not tear between the cuts 16 and the edge of the bag. If a portion of the top bag walls is to be folded over, which portion is substantially wider than the distance between the cut 12 and the fold line 15, it is within the spirit of my invention to cut away such portion over the area of the handhole. Also, if desired, score lines may be provided as prolongations of the cut 12 as indicated at 18 in Figure 4.

In use the bag is first filled with merchandise and then the upper edges are closed together as shown in Figure 3. The tongue members 14 are then folded through to one side or the other of the bag, as shown in Figure 4, and concurrently the upper edge of the bag indicated in Figure 4 generally at 17, is folded downwardly as indicated by the arrow about a line of articulation indicated at 18, so that the tongues 14 pass through the cut 12 while the portion 17 is being folded downwardly, so that the parts ultimately obtain the position shown in Figure 5. It will be noted in Figure 5 that the bag is closed by means of the fold 17 and locked by the passage of the tongues 14 through the cut 12. Danger of tearing is eliminated by the cuts 16 which, as will be noticed, from Figure 5, permit the central portion of the fold 17 to extend directly upward parallel to the tongues 14.

The small cross cuts 16 at the ends of the main cut 12 have additional important functions. In the first place, they make the tucking of the flaps 14 through the slit 12 an action which occurs automatically upon the folding over of the portion 17 on the line of articulation 18. To this end, the cuts 16 are preferably carried upwardly substantially the height to which the folded flaps 14 project above the line of cut 12. In the second place, when the portion 17 has been folded over, resulting in the tucking of the flaps 14 through the line of cut 12, one or more edge portions of the bag body parallel the flaps 14 as at 19 and 20. These edge portions effectively extend somewhat above the line of articulation 18, due to the take-up of the material in being folded over, and they thus tend to prevent the unfolding of the portion 17. In fact, the construction has a sort of snap-action which holds the parts in the desired relationship.

A modification of the structure hereinabove described is shown in Figure 10. This modification has the advantage of closing and locking more easily, and of presenting a smoother surface at the top of the grip portion. It dispenses with the cross cuts 16 of Figures 1 to 5, and instead of employing a straight connecting cut 12, employs a slightly curved cut 44, with the convex portion extending downwardly from the line of fold 45. The line of cut 46 defining the hand-hole is well rounded at the corners and is gently arcuate throughout its mid-portion. The hand-hole flap 14a is again of sufficient depth to permit the end of the hand-hole flap to extend through the cut 44. The manner of closing and locking this bag will be clear from the foregoing description.

In the embodiment of Figures 1 to 5, it will be evident to the skilled worker that the bag portion which is folded over as at 17, instead of constituting parts of the side walls of the bag, may be a flap or lip, the line of cut 12 in this instance being the line of articulation of the flap or lip and the bag proper.

It should be understood that the locking of a bag according to my invention may be accomplished without the provision of a finger opening by providing simply an articulated, adhesively secured, separate flap 14 on one of the reinforcing members 11, and that the bag adjacent said flap would not need to be perforated. If desired, the lock may be accomplished by simply thrusting the flaps 14 through one of the slits 12; and it will also be clear that if desired the flap 14 on one face of the bag could be eliminated and the cut 12 on the other face of the bag could be eliminated, so that the one flap 14 could simply pass through the finger opening in the other side of the bag and then be locked by passing through one or two cuts 12.

In Figure 6, I have shown a bag having a body 21 and a flap or lip 22 extending therebeyond. The bag may have the reinforcing means 23. The hand-hole cut 24 is in this instance formed in the flap or lip 22 instead of in the body of the bag; and the body of the bag is provided with the slit 25. The single flap 26 is thus folded downwardly and tucked through the slit 25 which may be in one or both walls of the bag. The cross-cuts 27 facilitate this operation.

In Figure 7 the bag 28 may have the reinforcing means 29. The cut 30 for the hand-hole flaps 31 is made in such a way that these flaps are foldable to the side as shown; and the flaps are tucked through the slit 32 which again may be in one or both walls of the bag.

The showing of Figure 8 differs from that of Figure 7 in this: that the hand-hole cut 33 is made initially of H-shape, providing two sets of flaps 34 and 35 which are folded respectively toward the sides of the bag and are tucked respectively through slits 36 and 37.

In Figure 9 the bag 38 (which may have the reinforcing means 39) has its hand-hole cut 40 so formed that the hand-hole flaps 41 are foldable downwardly. When so folded, they are tucked through a slit 42 in one or both walls of the bag. The cross-cuts 43 at the ends of the slit 42 facilitate this operation.

These and many other modifications which are within the scope of my invention will occur to one skilled in the art, and it is therefore to be understood that I do not intend to limit myself otherwise than as pointed out in the claims which follow.

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

1. In a shopping bag or like container having upstanding walls adapted to be brought into parallelism, a flap formed by a substantially three-sided cut in one of the walls and articulated to the said wall along a line defining the fourth side of the flap, an opening in the other wall opposite said flap and through which said flap may be folded to form a hand hole opening, a cut line extending through one at least of said walls, extending parallel to said line of articulation of the flap and having a length not less than the dimension of said flap in the direction of said cut, said cut line being spaced from the line of articulation of said flap a distance less than the width of said flap, cut lines at the ends of said first mentioned cut lines extending away from said flaps a distance which, added to the distance between said first mentioned cut line and said line of articulation, will substantially equal the width of said flap, so that when said flap is passed through said opening and folded against the opposite wall of said container, a folding of the container wall substantially along said first mentioned cut line will result in the passage of the end portion of said flap through said first mentioned cut line.

2. The structure claimed in claim 1 wherein said line of articulation parallels the ends of said walls, wherein said walls are coterminous, and wherein said first mentioned line of cut is formed through both walls.

3. The structure claimed in claim 1 wherein said line of articulation parallels the ends of said walls, wherein said walls are coterminous, wherein said first mentioned line of cut is formed through both walls, wherein corresponding flaps are formed in both walls, the position of the line of articulation being such as to cause said flaps to fold upwardly toward the mouth of the bag, and wherein the mouth of the bag is folded over as aforesaid through substantially 180° so that a portion of the walls adjacent the mouth of the bag as defined by said line of cut and said transverse cuts at the end thereof lies parallel to the folded flaps to prevent the unfolding of the folded bag mouth portion.

4. The structure claimed in claim 1 wherein said line of articulation parallels the ends of said walls, wherein said walls are coterminous, wherein said first mentioned line of cut is formed through both walls, wherein corresponding flaps are formed in both walls, the position of the line of articulation being such as to cause said flaps to fold upwardly toward the mouth of the bag, and wherein the mouth of the bag is folded over as aforesaid through substantially 180° so that a portion of the walls adjacent the mouth of the bag as defined by said line of cut and said transverse cuts at the end thereof lies parallel to the folded flaps to prevent the unfolding of the folded bag mouth portion, and in which the structure is a shopping bag made of paper with the walls thereof reinforced with attached reinforcements covering the areas of said flaps and the adjacent bag mouth portions.

5. The structure claimed in claim 1 wherein said line of articulation parallels the ends of said walls, wherein said walls are coterminous, wherein said first mentioned line of cut is formed through both walls, wherein corresponding flaps are formed in both walls, the position of the line of articulation being such as to cause said flaps to fold upwardly toward the mouth of the bag, wherein the mouth of the bag is folded over as aforesaid through substantially 180° so that a portion of the walls adjacent the mouth of the bag as defined by said line of cut and said transverse cuts at the end thereof lies parallel to the folded flaps to prevent the unfolding of the folded bag mouth portion, in which the structure is a shopping bag made of paper with the walls thereof reinforced with attached reinforcements covering the areas of said flaps and the adjacent bag mouth portions, and in which said transverse lines of cut at the ends of said first mentioned cut line extend both above and below it.

HAROLD W. NICHOLS, JR.