March 24, 1964 D. V. BONSOR 3,126,146

CARRIER BAGS

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FIG. 1.

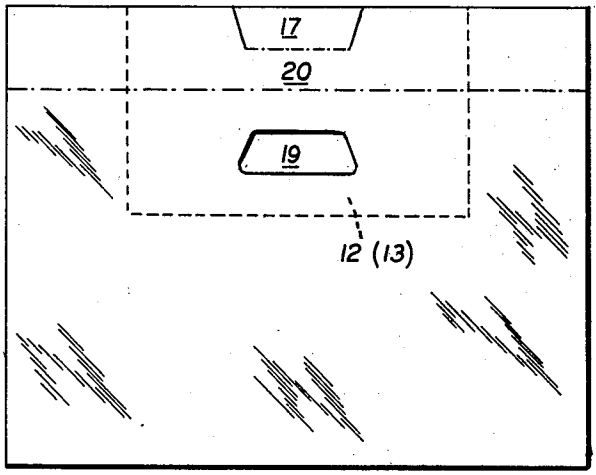
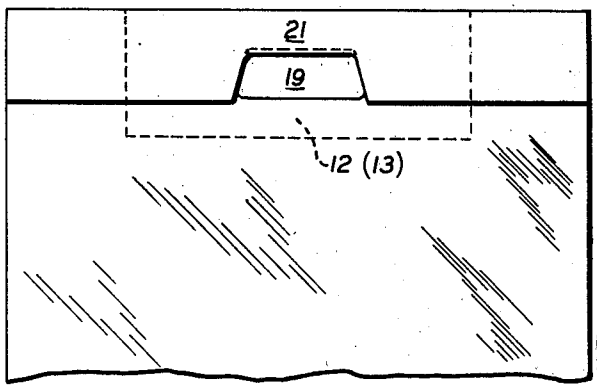
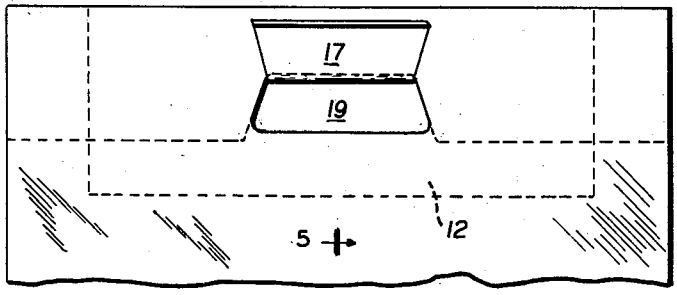


FIG. 2.



5 FIG. 4.



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FIG. 5.

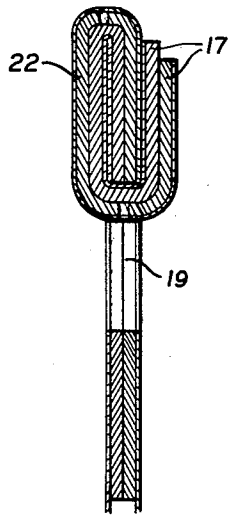


FIG. 6.

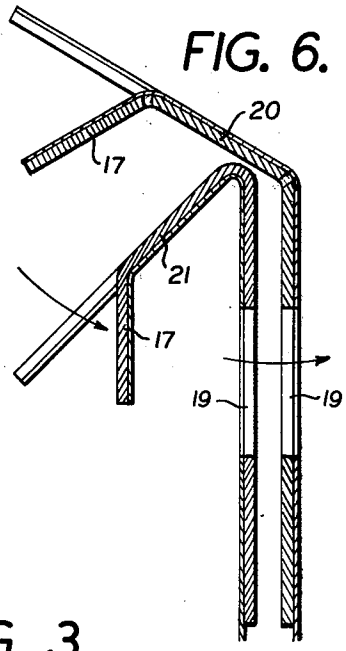


FIG. 3.

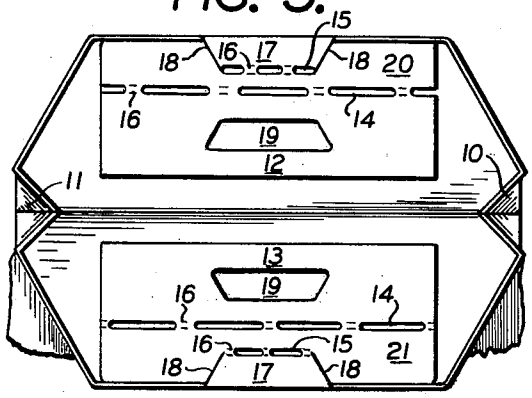
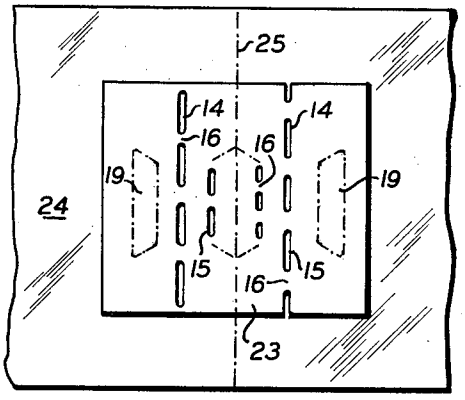


FIG. 7.



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CARRIER BAGS

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This invention relates to carrier bags of the kind provided on at least one side with a reinforced foldover closure flap to close the top of the bag when it is being carried, and to methods of making same.

In carrier bags of the above kind the foldover closure flap or flaps is or are reinforced by a patch or patches of cardboard or the like, but by reason of the heavy pressures needed to impress mechanically into the reinforcing material creases of adequate depth to facilitate the folding of the closure flaps, it has hitherto been necessary to use only comparatively thin reinforcing material.

The object of the present invention is to provide a bag of the kind referred to in which the patches of reinforcing material can be made thicker than hitherto.

With the foregoing object in view in a bag of the kind referred to, made in accordance with the invention, the or each closure flap is foldable around a fold line consisting of a line of perforations or slits.

The means for carrying the bag may comprise aligned hand apertures in the sides of the bag and a locking flap cut out of the or each closure flap and arranged to engage in the hand apertures and retain the folded top of the bag in the closed position and to cooperate with the folded top of the bag to form a handle grip and according to another feature of the invention, each locking flap may be foldable around a fold line consisting of a line of perforations or slits.

The number of fold lines in each reinforcing patch may vary in accordance with the desired number of folds, but in bags with a single top fold and locking flap device each reinforcing patch will have one line of perforations or slits defining the fold line of the closure flap, and a shorter line of perforations or slits to define the fold line of the locking flap.

The invention also includes the steps in the manufacture of the bags, of adhesively securing to a continuous web reinforcing strips having spaced parallel lines of perforations or slits at spaced intervals corresponding to the length of the bag blanks, one or more lines of perforations or slits on each strip being on one side, and the other line or lines of perforations or slits in each strip being on the other side, of the transverse center line of the strip, and severing the web and reinforcing strip along the said transverse center line to provide bag blanks having a reinforcing strip at each end.

In the accompanying drawings which illustrate one embodiment of my invention,

FIG. 1 is a side view of the bag in the open or unfolded condition;

FIG. 2 is a side view of the bag in the closed or folded condition;

FIG. 3 is a view of the open top of the bag;

FIG. 4 is an enlarged detail side view showing the top of the bag in the folded position;

FIG. 5 is a section taken on line 5—5 FIG. 4;

FIG. 6 is a detail sectional view illustrating the closing of the top of the bag, and

FIG. 7 illustrates foldover closure flaps applied to a continuous web during the manufacture of the bags.

The bag shown in the drawings is provided with side gussets 10, 11 (FIG. 3), the inner sides of the open top of the bag being reinforced by patches 12, 13 of reinforcing material, such as relatively thick cardboard, adhesively applied during the course of manufacture. Each reinforcing patch is formed with a line of slits 14 extending along substantially the whole length of the reinforcing patch and with a second line of slits 15 extending only partly across, and centrally of the length of the patch. The slits 14 in one patch are staggered relatively to the slits 14 in the other patch, and the slits 15 in one patch are similarly staggered relatively to the slits 15 in the other patch, so that the connecting webs 16 between the slits in one patch can engage when the top of the bag is closed in the corresponding slits in the other patch, thus minimising the displacement of the flaps which would otherwise be caused by the double thickness of the reinforcing patches.

The line of slits 14 define fold lines around which the top of the bag can be folded to close the bag, and the lines of slits 15 define fold lines about which locking flaps 17 formed by cutting along the side edges 18 can be folded and passed through hand apertures 19 cut out of the reinforcing patches and bag material.

The hand apertures 19 and locking flaps 17 may be cut before or after the reinforcing patches have been secured to the bag length.

The parts 20, 21 of the sides of the bag above the slits 14 constitute closure flaps for the bag. In order to close the bag and lock it in the closed position the parts 20, 21 are folded down onto the side of the bag (see FIG. 6) around the fold lines constituted by the lines of slits 14 and the locking flaps are passed through the hand apertures 19 and turned up around the fold lines constituted by the lines of slits 15 against the opposite side of the bag as shown in FIG. 5. The hand grips 22 (FIG. 5) formed by the locking flaps and the double thicknesses of the parts on which the locking flaps are superposed then form a strong handle for carrying the bag.

FIG. 7 illustrates how, in the manufacture of bags according to the invention, the reinforcing patches may be applied to a continuous web of bag making material. As shown in FIG. 7, double sized patches 23 are applied to the web 24 so as to lie equally above and below the line of severance 25 of a bag length. The line of severance 25 extends centrally of the strip 23 and one line of slots 14 and one line of slots 15 are disposed respectively on each side of this center line. When the web is severed along the line 25 the patch is also severed, so that one part of the patch is secured to the trailing end of one bag blank, and the other part is secured to the leading end of the next bag blank. The severed bag lengths may then be folded transversely and medially of their length to form the two opposed sides of the bag.

It is to be understood that FIG. 7 only illustrates, by way of example, one way of securing the reinforcing patches to the web, and that the patches may be secured separately to the web if desired.

In all cases the line or lines of slots 15 can be omitted.

In the embodiment above described and illustrated in the drawings, a similar reinforcing patch is provided on each side of the bag. It is, however, to be understood that the patch on one side may be omitted and replaced by a reinforcing board provided with a slot similar to the slot 19 to receive the locking flap 17 of the reinforcing patch on the other side of the bag.

I claim:

1. In a carrier bag construction in which each side wall is foldable on a fold line (*a*) adjacent the mouth of the bag to constitute a foldover closure flap, said closure flaps each enclosing a locking flap cut out of the same which is foldable on fold line (*b*) to engage in aligned hand apertures in the adjacent sides of the bag and thus to keep the folded top of the bag in the closed position

and to cooperate with the folded top of the bag to form a hand grip, the improvement which consists in making at least one of the pairs of the superimposed paired fold lines (*a*) and (*b*) of a series of perforations or slits which are staggered with respect to one another, whereby to reduce the radii of curvature of the folds and to facilitate bending.

2. The bag according to claim 1 in which the perforations or slits of both superimposed paired fold lines (*a*) and (*b*) are so staggered.

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