

April 3, 1956

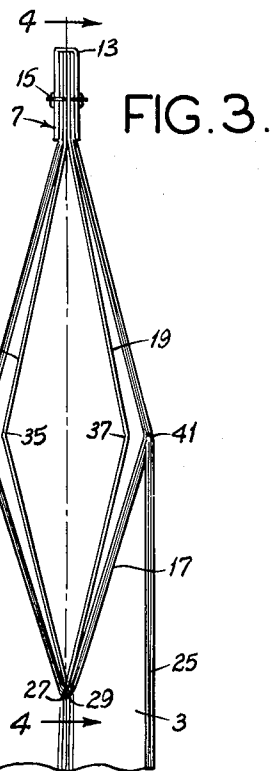
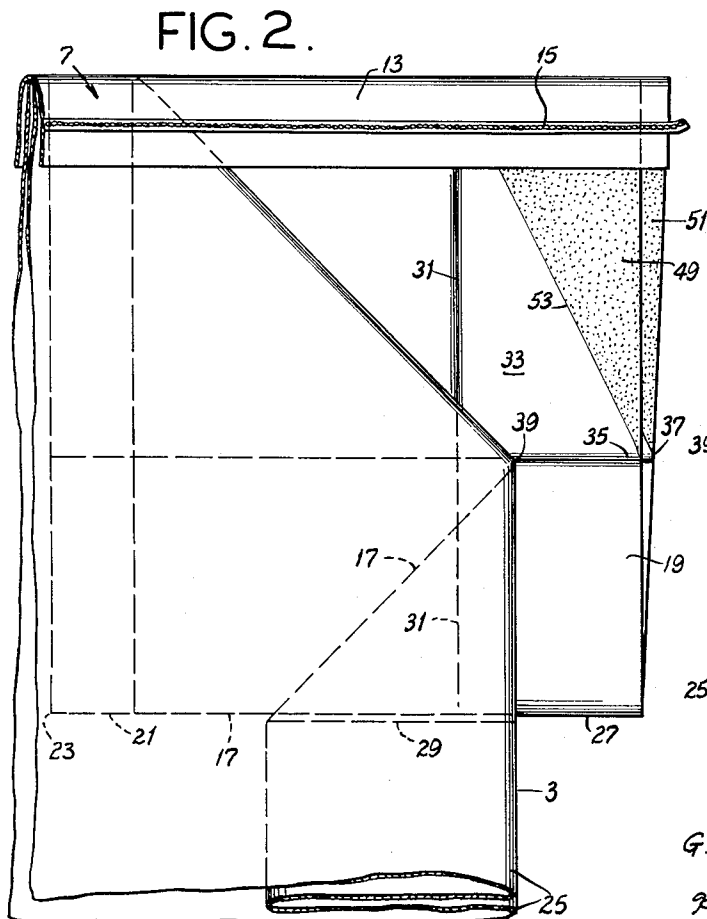
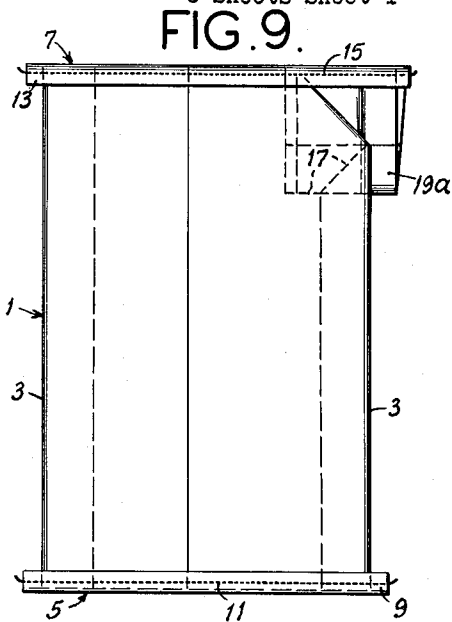
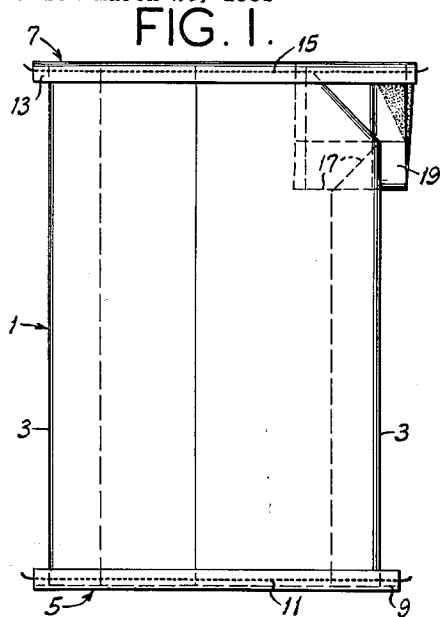
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BAG

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FIG. 4.

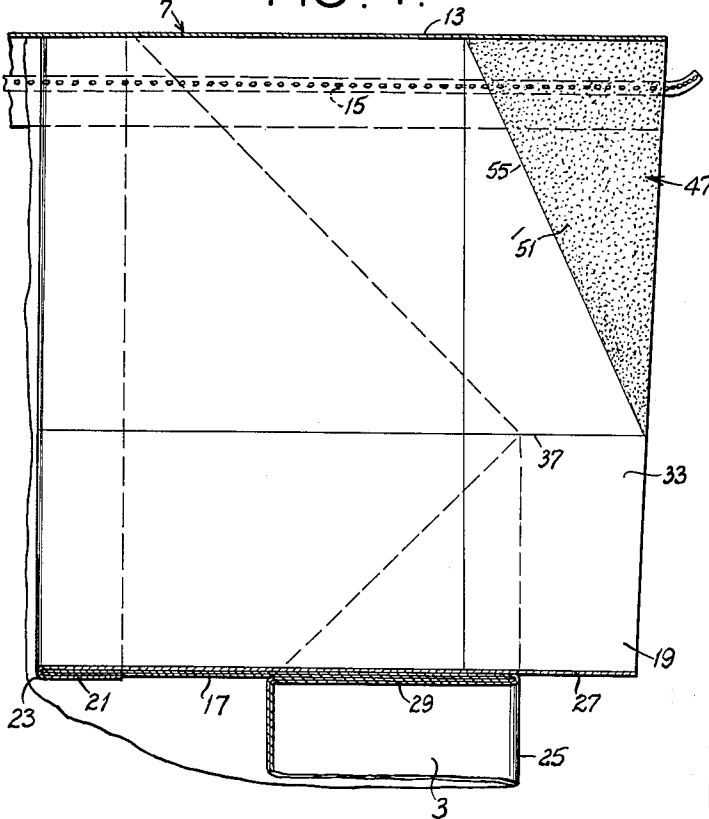


FIG. 5.

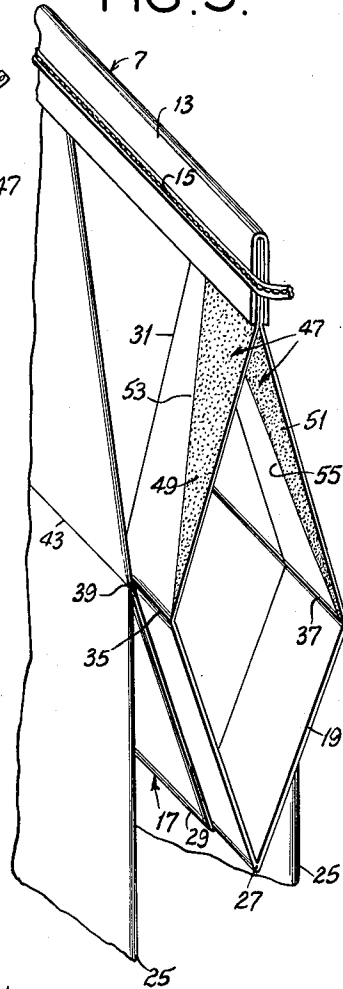
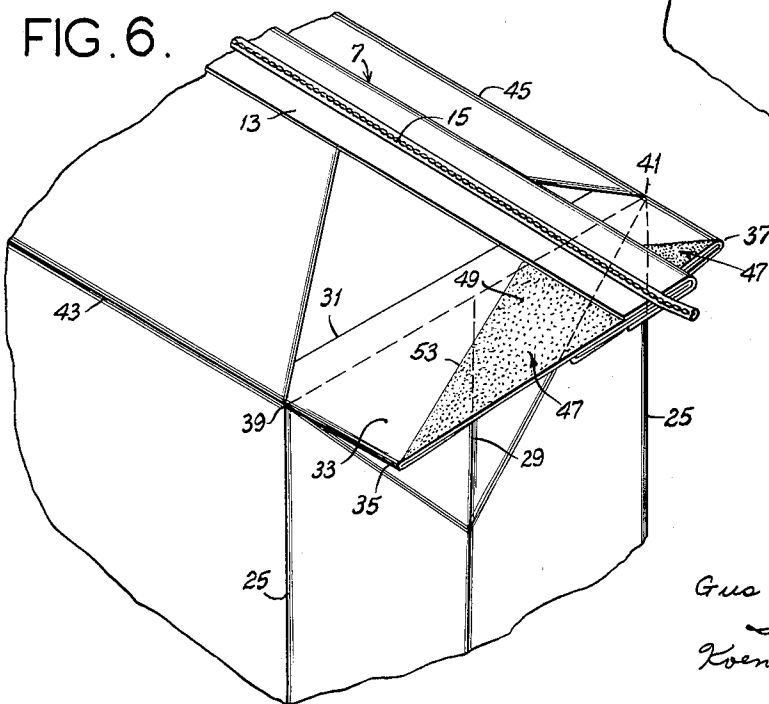


FIG. 6.



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FIG. 7.

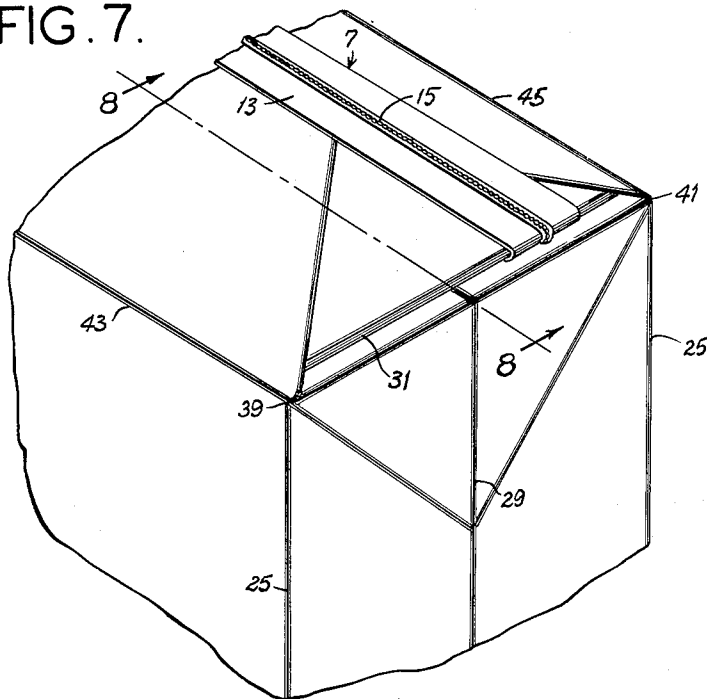
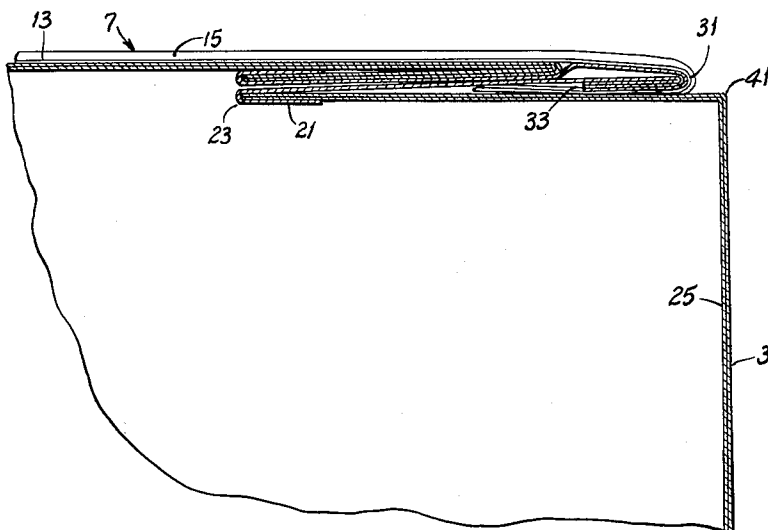


FIG. 8.



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8 Claims. (Cl. 229—62.5)

This invention relates to bags, and more particularly to valve bags of the type having a so-called "extended" or "tuck-in" sleeve.

Among the several objects of the invention may be noted the provision of improved sleeve valve bags of the type having a sleeve extending outward from the bag, which, after the bag has been filled, is tucked into the valve opening to seal the opening; the provision of sleeve valve bags of this class in which the sleeve is so formed that the bag filling machine operator, in tucking in the sleeve after filling the bag, inherently tucks in the sleeve in proper manner to effect a sealed closure; and the provision of sleeve valve bags of this class which are economical to manufacture. Other objects and features will be in part apparent and in part pointed out hereinafter.

The invention accordingly comprises the constructions hereinafter described, the scope of the invention being indicated in the following claims.

In the accompanying drawings, in which several of various possible embodiments of the invention are illustrated,

Fig. 1 is a view in elevation of a bag made in accordance with this invention;

Fig. 2 is an enlarged fragment of Fig. 1, showing the valve corner of the bag;

Fig. 3 is an end elevation of Fig. 2 as viewed from the right, with the valve somewhat spread open;

Fig. 4 is a cross-section taken on line 4—4 of Fig. 3, the valve being shown in the flat condition of the bag;

Fig. 5 is a fragmentary perspective showing the valve spread open as for the insertion of a filling spout;

Fig. 6 is a fragmentary perspective showing the appearance of the valve corner of the bag after filling and before tucking in of the valve sleeve;

Fig. 7 is a fragmentary perspective showing the appearance of the valve corner of the bag after tucking in of the valve sleeve;

Fig. 8 is an enlarged cross-section taken on line 8—8 of Fig. 7; and,

Fig. 9 is a view similar to Fig. 1 illustrating a modification.

Corresponding reference characters indicate corresponding parts throughout the several views of the drawings.

Referring to the drawings, the invention is shown as applied to a multi-ply paper bag 1 having gusset sides 3 and bottom and top closures generally designated 5 and 7. The bottom closure comprises a folded tape 9 and stitching 11. The top closure comprises a folded tape 13 and stitching 15. At one top corner of the bag is a tucked-in valve flap 17. Adhesively secured to the valve flap at its inner end is a valve sleeve 19. In the form of the invention shown in Figs. 1—8, the sleeve comprises a generally rectangular piece of creped kraft paper. The sleeve might be made of other suitable flexible material. The inner end of the sleeve is adhesively secured to the inside or bottom of the end of the valve flap, as indicated at 21, and the sleeve is folded around the edge

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of the valve flap as indicated at 23 and extends outward through the valve opening defined by the valve flap beyond the side of the flat bag defined by the outer gusset folds 25. The sleeve is longitudinally folded in half on a fold line 27 which coincides with the longitudinal central fold 29 of the valve flap. The upper margins of the folded sleeve are caught in the top closure 7.

In accordance with this invention, the sleeve is scored to be precreased on a line 31 transverse to the length of the sleeve and located approximately at the side of the bag. The portion of the sleeve outward of this increase line 31 is designated 33. The sleeve is also shown as scored to be precreased on lines 35 and 37 extending lengthwise of the sleeve substantially coinciding with the intersections 39 and 41 of the valve flap and the outer gusset folds 25. It will be understood that when the bag is filled the front and back walls of the bag break approximately on lines 43 and 45 which end at the intersections 39 and 41 (see Figs. 6 and 7), and that the sleeve will become horizontally flattened by folding on lines 35 and 37 coincident with lines 43 and 45 (and unfolding at line 27 and the top closure 7). The showing in Figs. 6 and 7 is somewhat idealized, as the break at lines 43 and 45 will usually be more rounded than illustrated.

Further in accordance with this invention, the portion 33 of the sleeve outward of the crease line 31 is stiffened by a coating of wax or plastic, generally designated 47, or any other suitable stiffening coating material. As shown, it is preferred that this coating be applied on two triangular areas 49 and 51 outward of the diagonals 53 and 55 extending between the ends of the longitudinal sleeve creases 35 and 37 and the ends of the transverse sleeve crease 31. However, other wax patterns may be suitable.

It will be understood that the bag 1 is filled by inserting a filling spout into the bag through the spread-open valve sleeve 19 (see Fig. 5). When the bag is filled, and the spout withdrawn, the sleeve 19 is spread horizontally flat by folding at lines 35 and 37 (see Fig. 6), these lines being in extension of the break lines 43 and 45 of the front and back walls of the bag (see Fig. 6). The bag filling machine operator then takes hold of the outer portion 33 of the horizontally flattened sleeve, folds it down on the crease line 31, and tucks it underneath the portion of the sleeve inward of the crease line 31 (see Figs. 7 and 8). This makes a sealed closure. By reason of the stiffness of the outer portion 33 of the sleeve resulting from the wax or plastic coating, the filling machine operator is precluded from making an improper closure such as by crinkling the sleeve and wadding it into the valve opening. The stiffness of the outer portion of the sleeve inherently leads to proper closure in the manner shown in Figs. 7 and 8, and, in effect, compels the filling machine operator to make a proper closure.

Fig. 9 illustrates a modification in all respects like that of Figs. 1—8 except that instead of using a creped paper sleeve and stiffening it with wax, the sleeve, here designated 19a, is made of a heavy stiff material, for example 120 weight kraft paper. In this case, the sleeve is precreased in the same manner as in Figs. 1—8, and the stiffness of the outer portion of the sleeve compels tucking in by folding on crease line 31.

In view of the above, it will be seen that the several objects of the invention are achieved and other advantageous results attained.

As various changes could be made in the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. A bag having gusset sides and a stitched top closure, a tucked-in valve flap at one top corner defining a valve opening, said flap having a longitudinal central fold, and a sleeve extending from the inner end of the valve flap outward through the valve opening and projecting beyond the side of the bag, the sleeve being longitudinally folded in half on a bottom fold line coincident with the longitudinal central fold of the flap and having its top margins caught in the stitched top closure, and being creased for being folded on lines transverse to the length of the sleeve extending from the bottom fold of the sleeve to its top margins and located inward of the outer end of the sleeve and approximately at the side of the bag and also creased on lines extending lengthwise of the sleeve between the bottom fold line and the top margins of the sleeve substantially coincident with the intersections of the flap and the other gusset folds at said top corner for flattening of the sleeve by folding on said lengthwise lines, at least a portion of the sleeve outward of the transverse crease being sufficiently stiff to facilitate folding it on the transverse crease after flattening.

2. A bag as set forth in claim 1, wherein the sleeve is made of flexible material and is stiffened in the portion outward of the transverse crease by a coating of stiffening material.

3. A bag as set forth in claim 1, wherein the sleeve is made of flexible creped paper and is stiffened in the portion outward of the transverse crease by a coating of wax.

4. A bag as set forth in claim 1, wherein the sleeve is made of flexible material and is stiffened by a coating of stiffening material on two triangular areas outward of the diagonals extending between the ends of the lengthwise creases and the ends of the transverse crease.

5. A bag as set forth in claim 4, wherein the sleeve is made of creped paper and the stiffening material is plastic.

6. A bag having gusset sides and a stitched top closure, a tucked-in valve flap at one top corner defining a valve opening, said flap having a longitudinal central fold, and a sleeve extending from the inner end of the valve flap outward through the valve opening and projecting beyond the side of the bag, the sleeve being longitudinally folded in half on a bottom fold line coincident with the longitudinal central fold of the flap and having its top margins

caught in the stitched top closure, and being creased for being folded on lines transverse to the length of the sleeve extending from the bottom fold of the sleeve to its top margins and located inward of the outer end of the sleeve and approximately at the side of the bag and also creased on lines extending lengthwise of the sleeve between the bottom fold line and the top margins of the sleeve substantially coincident with the intersections of the flap and the outer gusset folds at said top corner for flattening of the sleeve by folding on said lengthwise lines, the sleeve being made of material of such stiffness that the portion thereof outward of the transverse crease is sufficiently stiff to facilitate folding the sleeve on the transverse crease after flattening.

7. A bag as set forth in claim 6, wherein the sleeve is made of stiff paper.

8. A bag having gusset sides and a stitched top closure, a tucked-in valve flap at one top corner defining a valve opening, said flap having a longitudinal central fold, and a sleeve extending from the inner end of the valve flap outward through the valve opening projecting beyond the side of the bag, the sleeve being longitudinally folded in half on a bottom fold line coincident with the longitudinal central fold of the flap and having its top margins caught in the stitched top closure, said sleeve having creases in the opposite sides thereof extending lengthwise of the sleeve between the bottom fold line and the top margins of the sleeve substantially coincident with the intersections of the flap and the outer gusset folds at said top corner for flattening of the sleeve by folding on said lengthwise lines, the sleeve also being formed so that when flattened it may be readily folded on a line extending transverse to the length of the sleeve and located approximately at the side of the bag.

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