

Jan. 27, 1959

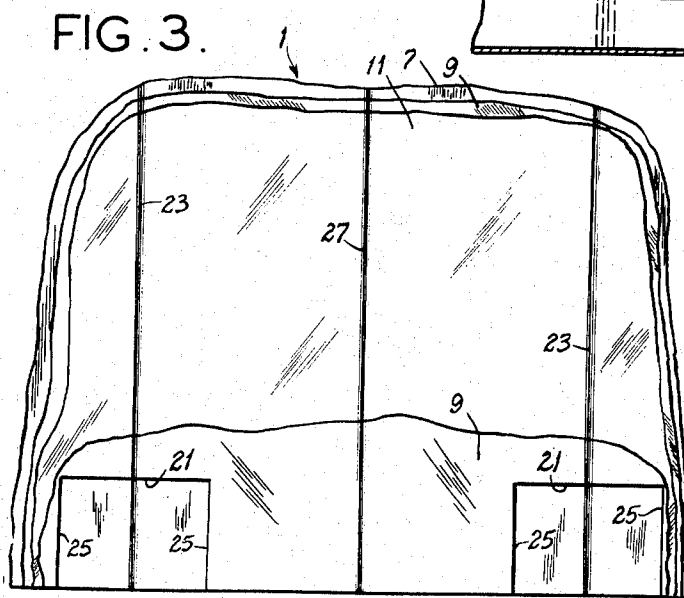
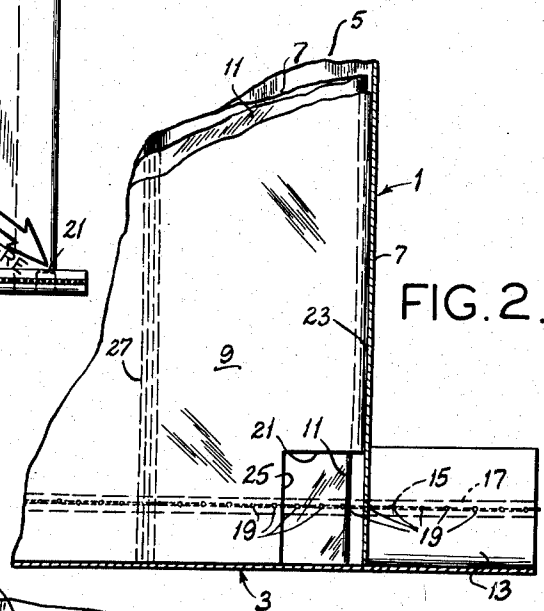
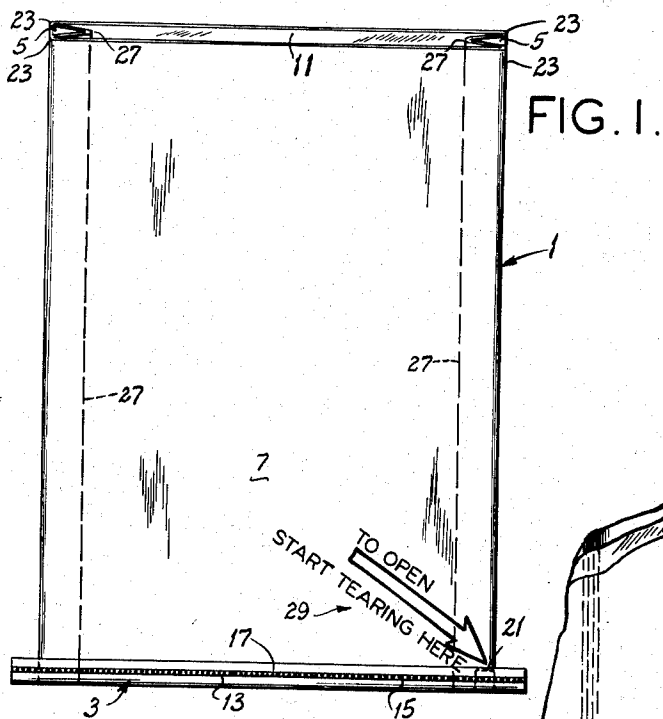
C. V. BRADY ET AL

2,870,955

BAG

Filed July 5, 1955

2 Sheets-Sheet 1



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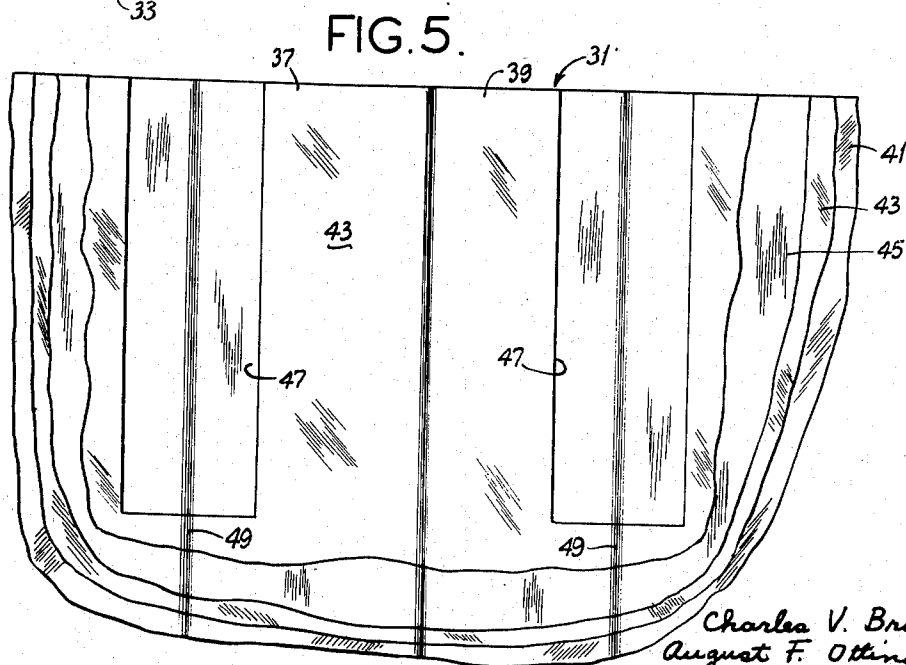
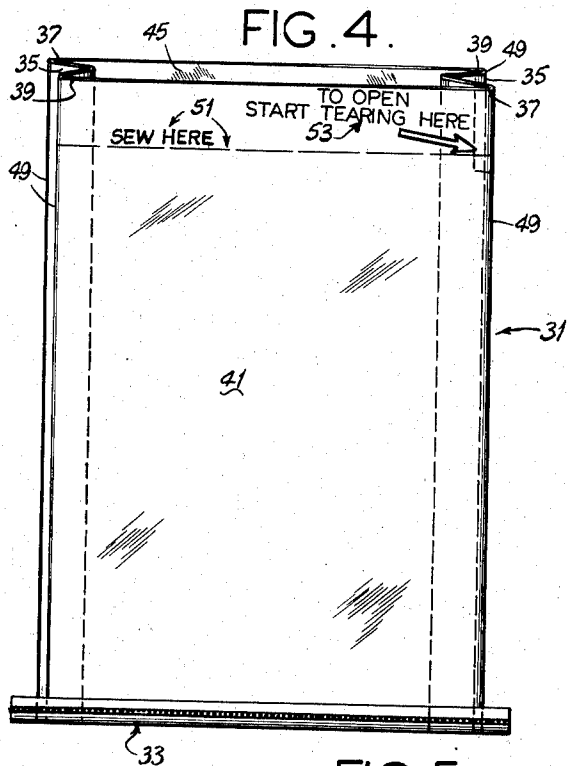
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Application July 5, 1955, Serial No. 519,736

2 Claims. (Cl. 229—66)

This invention relates to bags, and more particularly to multi-ply paper bags having a stitched end closure.

Among the several objects of the invention may be noted the provision of a paper bag comprising a multi-ply gusseted paper tube having a stitched end closure, the bag being adapted to be torn open along the line of the needle holes made by the stitching, and being formed to facilitate starting the tearing along the line of the needle holes. In general, in the case of a bag wherein the line of stitching along which the bag is ultimately to be torn is sewn at the bag factory, the bag tube is prepared to facilitate starting the tearing at one end of the line of stitching by having a cut-out in at least one ply but in less than all the plies of the tube at one side of the tube in line with at least one of the outer folds of the gusset at said side of the tube and located on the line of stitching, the bag having means thereon indicating that tearing is to be started at said end of the line of stitching. In the case of a bag wherein the line of stitching along which the bag is ultimately to be torn open is sewn after the filling of the bag at the plant where the bag is packed, the bag tube is provided with means indicating where the stitching is to be applied, and is prepared with a cut-out in at least one ply but in less than all the plies of the tube at one side of the tube in line with at least one of the outer folds of the gusset at said side of the tube and located on the line on which the stitching is indicated for application, the bag having means thereon indicating that tearing is to be started at said end of the line of stitching. 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 perspective view of a bag of this invention of the type that is provided at the bag factory with the line of stitching on which the bag is ultimately to be torn open;

Fig. 2 is an enlarged view of the lower right corner of Fig. 1 with parts broken away and shown in section;

Fig. 3 is a view of the lower right corner of the Fig. 1 bag as it appears when spread open flat, and prior to formation of the end closure, parts being broken away;

Fig. 4 is a perspective view of a bag of this invention of the type wherein the line of stitching on which the bag is ultimately to be torn open is applied after the filling of the bag at the bag packing plant; and,

Fig. 5 is an enlarged view of the upper right corner of the Fig. 4 bag as it appears when spread open flat, and with parts broken away.

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

Referring to the drawings, Figs. 1-3 illustrate a bag 1 having a bottom closure generally designated 3 which

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is provided at the bag factory. The upper end of the bag is shown open, to be closed after the bag is filled at the bag packing plant. The bag comprises a multi-ply paper tube formed with gussets 5 at the sides. Three plies are shown for the tube, the outer ply being designated 7, the intermediate ply 9 and the inner ply 11. The bottom closure comprises a paper tape 13 folded around the end of the tube and a line of stitching 15. The closure may include a textile cord 17 (see Fig. 1) through which the stitching is driven. The needle holes made by the stitching are indicated at 19 in Fig. 2. The tape and stitching extend beyond the corners of the tube.

To permit the portion of the tube outward of the line of stitching 15 readily to be utilized as a rip strip for ripping the bag open along the line of needle holes 19 made by the stitching, the bag tube is prepared with notches 21 in the intermediate ply 9 at one side of the tube. These notches 21 are located in line with and at the ends of the outer folds 23 of the gusset 5 at the said one side of the tube, and extend inward (upward) from the bottom end of the tube beyond the line of stitching 15. Each notch is shown as centered in respect to the respective outer gusset fold 23 and the side margins of the notches, indicated at 25 in Figs. 2 and 3, are spaced laterally outward of the inner fold 27 of the gusset. Suitable means such as indicated at 29 may be printed on the bag to indicate that tearing is to be started at the end of the line of stitching where the notches are located.

The provision of the notches reduces the number of thicknesses of paper at the bag corner from twelve (in the case of the three-ply gusseted bag shown) to eight. This makes it comparatively easy to start tearing the bag open along the line of the needle holes. The notches enable a corner portion of the bag at the location of the notches to be readily separated from the remainder of the bag and to be grasped and pulled for utilizing the portion of the tube outward of the line of stitching as a rip strip for ripping the bag open along the line of holes made by the stitching. Since the notches are in the intermediate ply, they are concealed from outside the bag and present no openings for leakage of the contents of the bag or sifting of the contents of the bag between plies. It will be understood that the principles of the invention are applicable to bags having more than three plies of paper, and that more than one ply may be provided with notches for making it easier to start tearing the bag open. It is also possible that only a single notch may be provided.

Figs. 4 and 5 illustrate a bag 31 having a conventional bottom closure generally designated 33 which is provided at the bag factory. The upper end of the bag is shown open, to be closed after the bag is filled at the bag packing plant. Like the bag 1, this bag comprises a multi-ply paper tube formed with gussets 35 at the sides. These gussets, however, are shown as staggered gussets. That is, the face and back of the bag are offset with the result that one portion 37 of each gusset protrudes sideways beyond the other portion 39 of the gusset. Three plies are shown for the tube, the outer ply being designated 41, the intermediate ply 43 and the inner ply 45. The closure 33, as shown, comprises a paper tape folded around the end of the tube and a line of stitching driven through a textile cord like the bottom closure shown for the bag in Fig. 1. However, in this case, there is no notching out of either of the bottom corners of the bag. Instead, the bag tube is prepared with notches 47 in the intermediate ply 43 at one side of the tube and at the upper end of the tube. These notches are located at the upper ends of the outer folds 49 of the gusset 35 at said side of the tube and extend inward (downward) from the upper end of the tube beyond the line on which the upper end of the bag is to be stitched closed after filling. The bag

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is provided with means 51 printed thereon for indicating where the upper closure stitching is to be applied, and the notches 47 extend downward beyond this line. Suitable means such as indicated at 53 is printed on the bag to indicate that the tearing is to be started at the end of the line of stitching where the notches are located.

After the bag shown in Figs. 4 and 5 is filled and stitched closed along the line indicated at 51, it is then akin to the bag shown in Figs. 1-3, except that the tearing open is accomplished along the top of the bag instead of the bottom of the bag. The same possibilities of modification as above mentioned in regard to the Figs. 1-3 bag are also applicable to the bag illustrated in Figs. 4 and 5. Another possible modification in the case of the bag shown in Figs. 4 and 5 is that only one notch 47 might be provided in line with only one of the outer folds of the gusset, this being particularly feasible because the bag has staggered gussets. In this case, the notch would be provided in line with the outer fold 49 of the protruding portion 37 of the gusset.

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.

We claim:

1. A paper bag comprising a multi-ply paper tube having at least three plies and formed with gussets at the sides, a closure at one end of the tube comprising a paper tape folded around the end of the tube and a line of stitching traversing said tape and tube, said tube being prepared to facilitate starting the tearing at one end of the line of stitching by having a cut-out in at least one of the intermediate plies of the tube at one side of the tube in line with and extending transversely across at least one of the outer folds of the gusset at said side of the tube and extending inward from said end of the tube beyond the line of stitching at said side of the tube, said tape extending out from the bag at the side where said cut-out is located and constituting a rip strip which may be grasped

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and pulled to separate a corner portion of the bag at the location of the cut-out from the remainder of the bag and to rip the bag open along the line of holes made by the stitching, and said bag having means thereon indicating that tearing is to be started at said end of the line of stitching.

2. A paper bag comprising a multi-ply tube having at least three plies and formed with gussets at the sides, a closure at one end of the tube comprising a paper tape folded around the end of the tube and a line of stitching traversing said tape and tube, said tube being prepared to facilitate starting the tearing at one end of the line of stitching by having two notches only in an intermediate ply of the tube at one side of the tube, said notches being at the ends of the outer folds of the gusset at the respective side of the tube, the notches extending transversely across said folds and extending inward from said end of the tube beyond the line of stitching at said side of the tube, said tape extending out from the bag at the side where said notches are located and constituting a rip strip which may be grasped and pulled to separate a corner portion of the bag at the location of the notches from the remainder of the bag and to rip the bag open along the line of holes made by the stitching, and said bag having means thereon indicating that tearing is to be started at said end of the line of stitching.

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