March 21, 1939. H. H. ORR 2,151,523

BAG

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Fig. 1

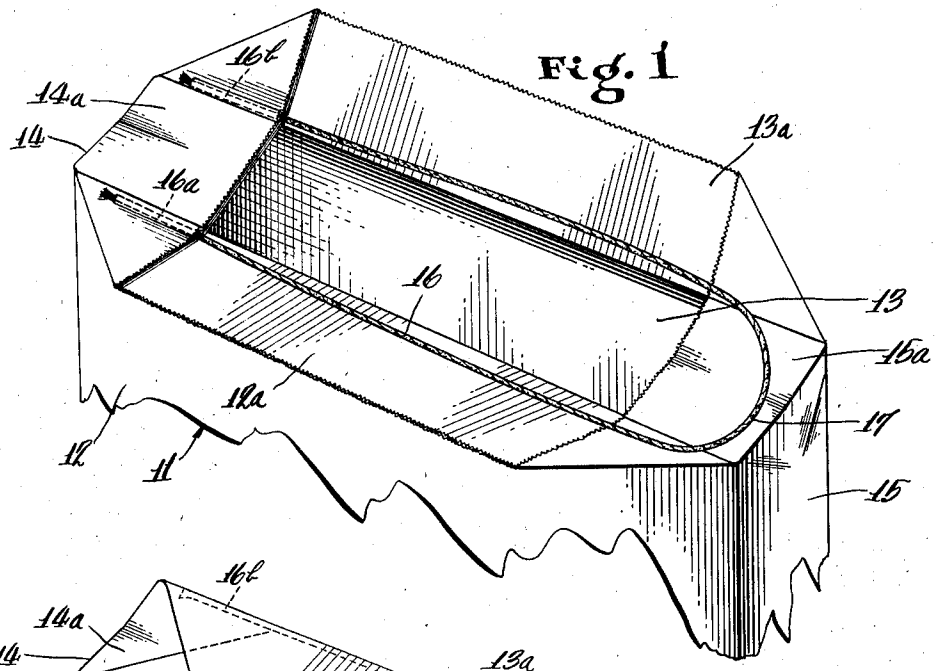


Fig. 2

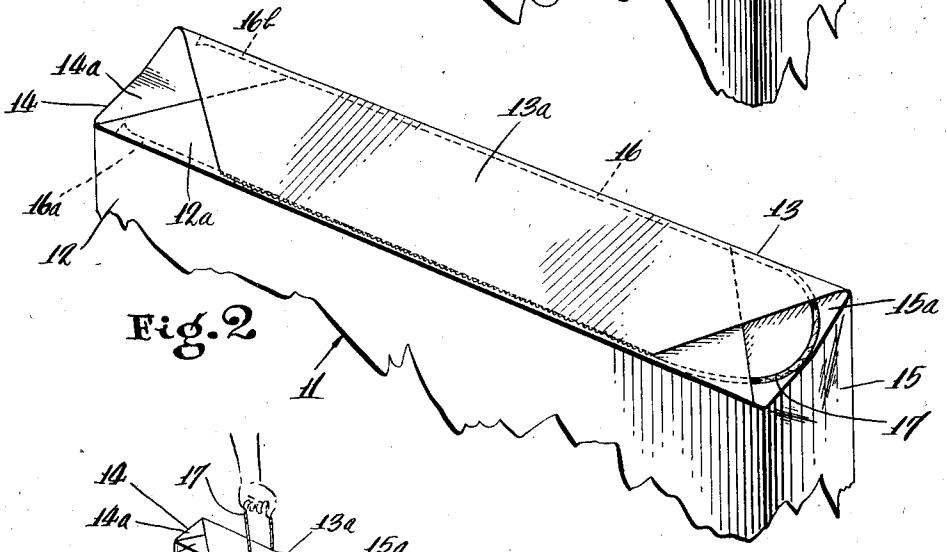
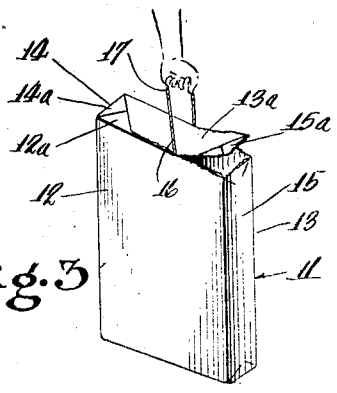


Fig. 3



Howard H. Orr
INVENTOR
By Walter C. Kelsey
ATTORNEY

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Howard H. Orr, Cleveland, Ohio

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9 Claims. (Cl. 229—66)

This invention relates to improvements in containers, envelopes or bags and more particularly, to improvements in means for opening bags.

It is an object of the present invention to provide means for quickly and easily opening a container, envelope or bag, or the like.

Another object of the invention is to provide new and novel means for tearing out a bag end, which can be quickly and easily operated by hand.

Another object is to provide means for tearing out an end of a bag along straight lines, in order that all of the material may be dropped out of the bag, and waste of material thereby prevented.

Still another object is to provide means for tearing open the end of a bag, which are adapted to be used in a wide range of bags, containers, and the like, which may be installed at a relatively low cost.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawing forming a part of this specification:

Fig. 1 is an illustrative embodiment of my invention, as applied to a valve bag of the gusset type, showing a perspective view of the top of the bag in open position, before the flaps are pasted together.

Fig. 2 shows the same bag end after the flaps have been pasted together, and

Fig. 3 is a perspective view of a bag drawn to a smaller scale, illustrating the manner of tearing the top end off.

The invention disclosed herein is adapted to be used on containers, envelopes, bags and the like, of many different sizes, shapes, and dimensions. I have chosen, however, to illustrate my invention as applied to a valve bag of the gusset type as disclosed in United States Letters Patent Number 1,985,326, issued to me on December 25, 1934, which may be made from ordinary placated material, formed by simple folding and pasting operations. This type of bag is adapted to package heavy, finely divided material such as cement, plaster, gypsum, and other heavy materials.

The numeral 11 indicates a bag formed of suitable material of several plies, such as heavy manila or kraft paper, having wide sides 12 and 13, joined by narrow sides, 14 and 15, the upper ends of the wide sides 12 and 13 form respectively horizontal flaps 12*a* and 13*a*, while the upper ends of the narrow sides 14 and 15 form respectively short flaps 14*a* and 15*a*. The means for tearing open the top end of the bag 11 for exposing the contents therein, comprises a string or cord 16, disposed horizontally in a generally U shaped position, having its ends 16*a* and 16*b* secured to the bag at the horizontal line of intersection of the flaps 12*a*, 13*a* and the short flap 14*a* by any suitable means, such as by means of an adhesive or by securing said cord ends between the plies of the flaps or by any other suitable means.

After the cord 16 is suitably secured to the flaps as above described, and flap 12*a* is folded over onto the short flaps 14*a* and 15*a*, and then flap 13*a* is folded over flap 12*a* and adhesively secured thereto, adhesive, however, being omitted from the part of the flaps adjacent to the looped end of string 16, thereby forming a bag valve which is adapted to be closed by the weight of material in a well known manner and permits the introduction of a bag filling machine spout. By this construction, a part of the looped end of the cord 16, indicated by the numeral 17, is left uncovered from the flaps, and permits the same to be grasped by the finger or hand of the user.

After the bag herein illustrated has been filled with heavy material, and it is desirous to empty the contents therefrom, the bag 11 is stood in an upright position as shown in the drawing and the looped exposed end 17 of the cord 16 is grasped by the fingers or hand of the operator, who pulls the cord upwardly and transversely across the bag. The weight of the material in the bag permits the bag to remain stationary in an upright position, while the top of the bag, consisting of folded flaps 12*a* and 13*a* is cleanly torn from the bag along the horizontal fold lines between the top and sides of the bag, as illustrated in Figure 3. By cleanly severing the end of the bag from the sides, all of the contents of the bag, consisting of finely divided material, such as cement and the like, may be removed from the bag by tipping it over and allowing the contents to run out.

It will be seen from the foregoing that there remain no folds, projections, wrinkles, or flaps on the bag which will retain any of the material after the bag is inverted, and that the tearing open of the bag is accomplished by the simple operation of merely grasping the exposed looped end 17 of the cord 16 and pulling upwardly and transversely across the bag. The bag opening device herein disclosed is not limited to use in this particular type of bag, as it is adapted to be used in various types of containers, bags, envelopes, and the like.

It will be apparent to those skilled in the art that the invention herein disclosed, may be variously changed, used or modified, without departing from the spirit of the inventtion or sac-

rificing the advantages thereof, and that the embodiment of the invention herein disclosed is illustrative only and that my invention is not limited thereto.

I claim:

1. A bag adapted to package heavy materials such as cement and the like, comprising, a bag formed of a multi-ply material having a plurality of walls, bag opening means disposed along one of said walls, including a flexible member disposed inwardly of said wall and secured between the plies thereof at one end thereof and having its opposite end available outside said wall, whereby pulling force exerted on the available end of said bag opening means will sever said wall from said bag.

2. A bag adapted to package heavy materials such as cement and the like, comprising, a bag formed of multi-ply material having a plurality of walls, bag opening means including a flexible looped member disposed inwardly of one of said walls and having its legs secured between the plies thereof and extending along the margins thereof and a bight portion available exteriorly of said bag, whereby pulling force exerted on said bight portion will sever said wall from said bag along its margins.

3. A bag adapted to package heavy materials such as cement and the like, comprising, multi-ply side walls folded over to form a top wall, and bag opening means secured between the plies of the top folds adjacent one side thereof and extending towards the opposite side thereof where a portion of said means is available, whereby pulling force applied to the available part of said bag opening means will sever the top from the bag.

4. A bag adapted to package heavy materials such as cement and the like, comprising multi-ply side walls folded over to form a top wall, and bag opening means including a flexible looped member having its legs secured between the top plies adjacent one side thereof and extending towards the opposite side thereof and a bight portion available exteriorly of the bag adjacent said opposite side wall, whereby pulling force applied by the user on said bight portion will sever said top wall from said bag.

5. A bag adapted to package heavy materials such as cement and the like, comprising multi-ply side walls folded over to form a top wall, and bag opening means including a flexible substantially U-shaped member having its legs secured between the top plies adjacent one side thereof and extending towards the opposite side wall where its looped portion is available exteriorly of the bag adjacent said opposite side wall, whereby pulling force exerted by the user on the looped portion will sever the top wall from the bag.

6. A bag adapted to package heavy materials such as cement and the like, comprising, multi-ply side walls having their top portions folded over to form a substantially rectangularly shaped top wall, and bag opening means secured between the plies of the top wall near a narrow side and extending along the margins of the elongated sides to a point near the opposite narrow side where a portion of said bag opening means is exposed, whereby pulling force exerted on said exposed portion against the weight of the filled bag will sever the top wall from the bag along the elongated fold lines.

7. A container of the class described, comprising walls folded over to form a closure wall having a valve opening adapted to receive a filling spout, a looped member disposed interiorly of the closure wall having its legs extending along closure wall fold lines, said member being secured to said wall only at the ends of its legs and having a bight portion projecting through said valve opening permitting the user to grasp it with the hand, whereby a pulling force may be exerted against the weight of the filled bag, thereby severing said closure wall from the container.

8. A bag adapted to package heavy materials such as cement and the like, comprising side walls folded over to form a top wall, and bag opening means including a flexible substantially U-shaped member, having its legs secured to the top wall adjacent one side thereof and extending towards the opposite wall where its looped portion is available exteriorly of the bag adjacent said opposite side wall, whereby pulling force exerted by the user on the looped portion will sever the top wall from the bag.

9. A container of the class described, comprising walls folded over to form a closure wall, a looped member disposed interiorly of the closure wall having its legs extending along the closure wall fold lines, said member being secured to said wall only at the ends of its legs and having a projecting bight portion permitting the user to grasp it with the hand, whereby a pulling force may be exerted against the weight of the filled bag, thereby severing said closure wall from the container.

HOWARD H. ORR.