

May 26, 1959

J. E. VOEGE ET AL

2,888,187

BAG

Filed July 22, 1953

FIG. 1.

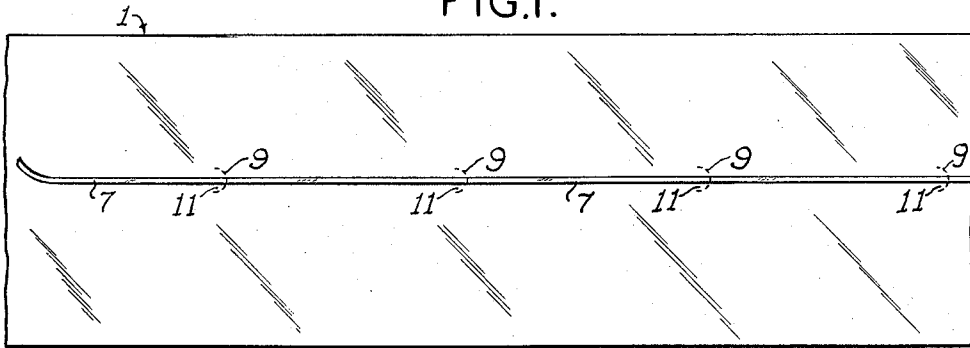


FIG. 2.

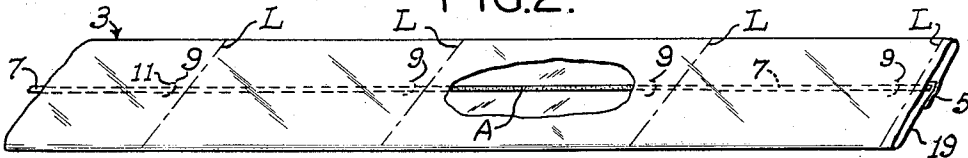


FIG. 3.

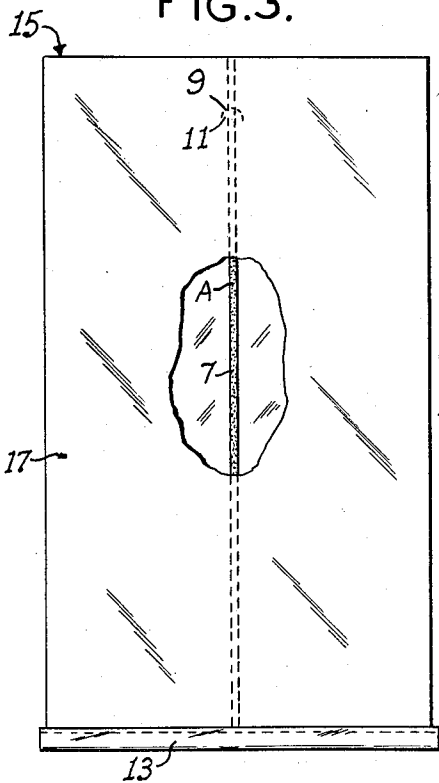


FIG. 4.

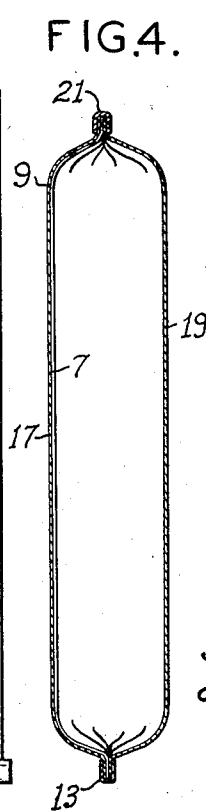


FIG. 5.

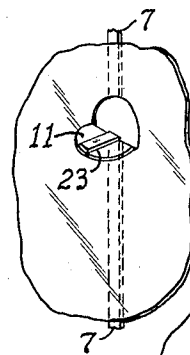
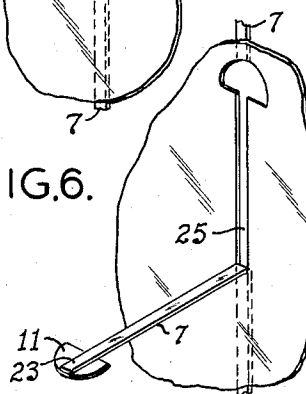


FIG. 6.



James E. Voege,
Leonard C. Thomas,
Inventors.
Koenig and Pope,
Attorneys.

1

2,888,187

BAG

James E. Voegel, Alton, Ill., and Leonard C. Thomas, Jennings, Mo., assignors to Bemis Bro. Bag Company, St. Louis, Mo., a corporation of Missouri

Application July 22, 1953, Serial No. 369,664

2 Claims. (Cl. 229-66)

This invention relates to bags, and more particularly to a bag made of paper or the like with means for tearing an opening in the bag.

Among the several objects of the invention may be noted the provision of a bag made of paper or the like with means for readily tearing an opening in the bag to empty the bag content; the provision of a bag of the class described wherein said means comprises a tearing member, such as a strip or a cord, for tearing an opening in one of the walls of the bag; and the provision of a bag of the class described wherein the tearing member is wholly on the inside of the bag, and wherein the bag has means whereby the user may readily obtain a grasp on an end of the tearing member to pull it to tear an opening in one of the walls of the bag. 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 one of various possible embodiments of the invention is illustrated,

Fig. 1 is a plan illustrating initial steps in the method of manufacturing bags of this invention, more particularly showing a portion of the length of a paper web with a tearing member secured thereto;

Fig. 2 is a perspective showing a continuous tube made from the web illustrated in Fig. 1 which is subsequently segmented to form bags of this invention;

Fig. 3 is a plan of a bag made in accordance with this invention before a top closure is applied thereto;

Fig. 4 is a cross section illustrating the Fig. 3 bag as it appears when filled and with a top closure applied thereto, the contents of the bag being omitted;

Fig. 5 is a fragmentary perspective illustrating an initial step in tearing an opening in the bag; and,

Fig. 6 is a view similar to Fig. 5 illustrating the tearing of the bag.

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

Referring to the drawings, there is shown at 1 in Fig. 1 a portion of the length of a continuous web of paper, such as kraft paper. This may be a single-ply or multi-ply web, as desired. A single-ply web is shown, to simplify the description. The web 1 is continuously fed to a tuber (not shown) in which the web is formed into the tube 3 shown in Fig. 2 with a pasted longitudinal seam 5 in one wall of the tube. This follows conventional practice in the art of bag manufacture, utilizing well-known standard equipment for forming bag tubing.

In accordance with this invention, a continuous length of tearing member material 7 is combined with the web 1 to extend longitudinally of the web generally along the longitudinal center line of the web as the web travels toward the tuber. Material 7 is illustrated as a strip, but may be a cord. In either case it is preferably adhesively secured to the paper web. The adhesive is indicated at A.

2

Any suitable strip material, such as a narrow fabric tape or a cellophane tape, may be used.

The web 1 with strip 7 thereon travels through a perforating device (not shown) before it reaches the tuber, the perforating device being designed to form a line of perforations 9 traversing the strip 7 and defining a thumb tab 11, the lines of perforations recurring at bag length intervals. As shown, the line of perforations is generally of U-shape, the strip 7 extending between the sides of the U and across the base of the U. The perforations partly sever the thumb tab 11 from the paper and also partly sever the strip 7 so that the tab 11 may be readily broken away from the paper on the line of perforations, with concurrent breaking of the strip 7 at the line of perforations.

In the tuber, the web 1 with strip 7 thereon, and prepared as described with the lines of perforations 9 recurring at bag length intervals, is continuously formed into the continuous tube 3 shown in Fig. 2 with the strip 7 on the inside. Then the tube is segmented into individual bag lengths by cutting along lines such as illustrated at L in Fig. 2, these cut lines being located adjacent to but spaced from the base ends of the U-shaped lines of perforations 9. One of these bag lengths is shown in Fig. 3 provided at its end opposite the line of perforations 9 with a conventional closure indicated at 13, such as a taped and stitched closure, to form a bag 15. It will be observed that the bag 15 has the U-shaped line of perforations 9 defining the thumb tab 11 adjacent its upper end (which is open in Fig. 3). The tear strip 7 extends from the top to the bottom ends of the bag on the inside of the front wall 17 of the bag, being adhesively secured thereto. The strip traverses the tab 11, extending across the base of the U (which is directed toward the upper end of the bag). The strip is perforated by the line of perforations 9 and hence partly severed where it crosses the base of the U. The lower end of the strip is caught in the bottom closure 13. The back wall of the bag, which includes the longitudinal tube seam, is designated 19.

Fig. 4 shows the bag in section as it appears after filling and after a top closure 21, such as a conventional taped and stitched closure, is formed. The bag contents are purposely omitted from Fig. 4. It will be seen that the upper end of the strip 7 is caught in the top closure.

To open the bag to empty its contents, the thumb tab 11 is broken away from the front wall of the bag at the line of perforations 9, strip 7 being concurrently broken on the line of perforations to provide a strip end indicated at 23 in Fig. 5 secured to the thumb tab 11. The tab 11 with the strip end 23 is manipulated to the outside of the bag, as illustrated in Fig. 5, and the tab and strip end are grasped between the thumb and forefinger and pulled down to tear the front wall of the bag along the side edges of the strip, as shown in Fig. 6. This provides a narrow slit 25 in the front wall of the bag which may be readily spread to form a large opening for emptying the contents of the bag. It will be observed that with the line of perforations 9 adjacent the top of the bag, and with the strip 7 extending all the way to the bottom of the bag, the slit 25 may extend substantially the full height of the bag.

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 drawing shall be interpreted as illustrative and not in a limiting sense.

We claim:

1. A bag comprising a length of paper tubing having a pasted longitudinal seam in one wall, closures at both

3

ends of said length of tubing, a line of perforations in the other wall of the bag adjacent one end closure and spaced inward from said one end closure and defining a thumb tab, and a tearing member separate from the bag proper extending from the top to the bottom end of the length of tubing on the inside of said other wall and secured to said other wall generally throughout its length and having its ends caught in said closures, said tearing member traversing the line of perforations and being at least partly severed where it crosses the line of perforations so that when the tab is broken away on the line of perforations the tearing member is concurrently broken on the line of perforations to provide an end for grasping and pulling with the tab to tear the bag along the side edges of the tearing member.

2. A bag comprising a length of paper tubing having a pasted longitudinal seam in one wall, closures at both ends of said length of tubing, a generally U-shaped line of perforations in the other wall of the bag adjacent one end closure and spaced inward from said one end closure and defining a thumb tab, the base of the U being directed toward said one end closure, and a tearing member consisting of a strip separate from the bag proper

4

extending from the top to the bottom end of the length of tubing on the inside of said other wall and adhesively secured to said other wall generally throughout its length and having its ends caught in said closures, said strip traversing the line of perforations and being at least partly severed where it crosses the line of perforations so that when the tab is broken away on the line of perforations the strip is concurrently broken on the line of perforations to provide an end for grasping and pulling with the tab to tear the bag along the side edges of the strip.

References Cited in the file of this patent

UNITED STATES PATENTS

15	1,939,794	Seybold et al. -----	Dec. 19, 1933
	1,949,121	Herder -----	Feb. 27, 1934
	2,106,475	Brandwein -----	Jan. 25, 1938
	2,151,523	Orr -----	Mar. 21, 1939
	2,306,335	Feigenbutz -----	Dec. 22, 1942
20	2,315,116	Flizikowski -----	Mar. 30, 1943
	2,370,079	Schmidt -----	Feb. 20, 1945
	2,412,501	Gardner -----	Dec. 10, 1946
	2,679,349	Mullinix -----	May 25, 1954