Aug. 13, 1968 W. E. KILGORE 3,396,902

REFUSE SACK

Filed July 17, 1967 2 Sheets-Sheet 1

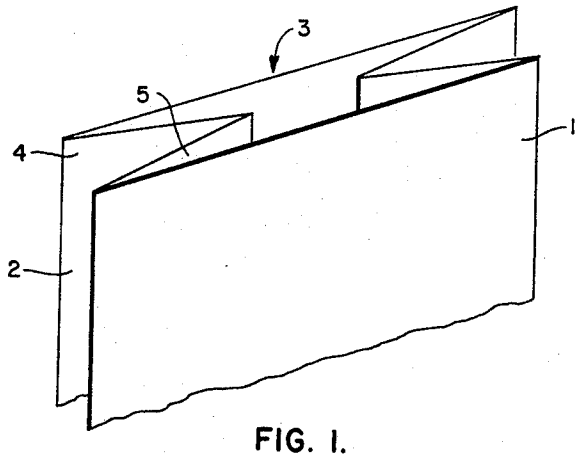


FIG. 1.

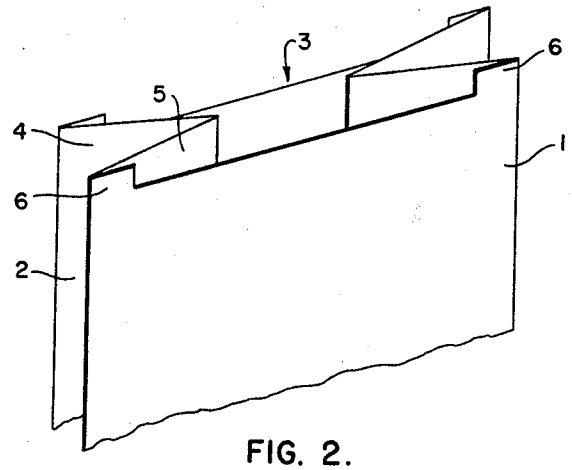


FIG. 2.

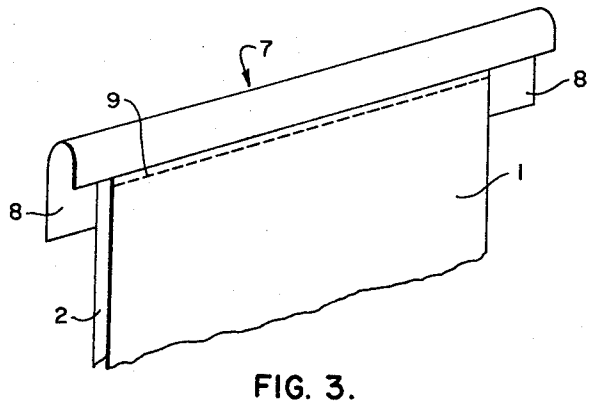


FIG. 3.

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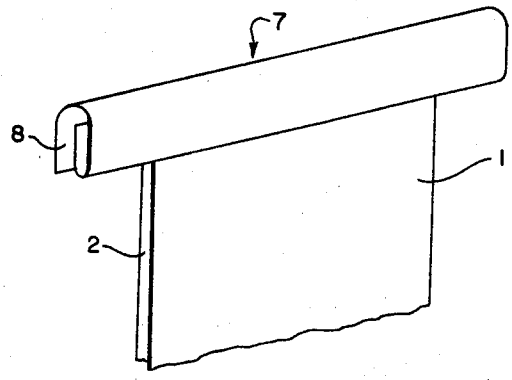


FIG. 4.

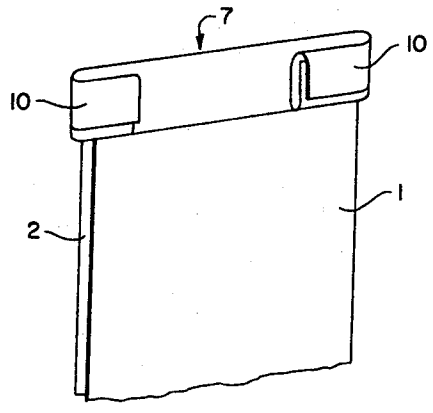


FIG. 5.

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3,396,902

REFUSE SACK

William E. Kilgore, Richmond, Va., assignor to Albemarle Paper Company, Richmond, Va., a corporation of Virginia

Filed July 17, 1967, Ser. No. 653,911
3 Claims. (Cl. 229—62)

ABSTRACT OF THE DISCLOSURE

A leakproof gusseted refuse sack and method for manufacture thereof whereby part of the faces of the sack are stepped back from the gussets and a tape is folded lengthwise over the end of the sack and secured to the exposed inner sides of the gussets and to adjacent parts of the faces of the sack.

Background of the invention

For some time it has been a problem in the art to provide a gusseted refuse sack with a closure which could prevent liquid penetration either into or out of the sack. The problem is at least partially due to the fact that a tape closure secured over the end of a gusseted refuse sack does not directly contact the sides of the gussets since these sides are concealed by the faces of the sack from the adhesive sides of the tape. Hence, the unsecured edges of the gussets frequently provide routes whereby liquid may either seep out of or into the sack.

Therefore it is an object of the present invention to overcome the above noted problems of the prior art.

It is further an object of this invention to provide an economical and efficient method whereby a gusseted refuse sack may be provided with a leakproof closure for at least one end.

Summary

The present invention provides a method for manufacturing a sack with a leakproof closure comprising in combination the steps of providing a partially finished sack having two faces, two gussets and two ends; partially stepping back said two faces a relatively small distance from one end to expose at least part of both inner sides of each of said two gussets; folding a tape lengthwise over said one end; and securing said tape to the exposed sides of each of said two gussets and to adjacent parts of each of said two faces.

The present invention also provides a sack with a leakproof closure comprising two faces partially stepped back a relatively small distance from one end of said sack to expose at least part of both inner sides of each of two gussets; and a tape folded lengthwise over said one end and secured to the exposed sides of each of said two gussets and to adjacent parts of each of said two faces.

Description of the drawings

FIGURES 1–5 show perspective views demonstrating the method of manufacture and product of the present invention.

Description of the preferred embodiment

FIG. 1 shows a perspective view of a gusseted unsealed refuse sack of the present invention. This sack is provided with two faces **1**, two gussets **2**, and two ends **3**, only one end being shown in FIG. 1. Gussets **2** are composed of outer sides **4** and inner sides **5**.

FIG. 2 shows the first step of the process of the present invention. Faces **1** are at least partially stepped back a relatively small distance from the end of the sack to expose part of the inner side **5** of the gussets **2**. Tabs **6** are portions of faces **1** which are not cut out. It has been found that these tabs result in reduced likelihood of leakage when the refuse sack of this invention is subjected to rough treatment, as for example when dropped. Of course, this invention is not limited to sacks having tabs **6** since all of the end portion of faces **1** may be stepped back to provide a sack still relatively leakproof.

FIG. 3 is a perspective view showing a second step of the present invention. Tape **7** is folded lengthwise over end **3** of the sack and secured, preferably with a hot melt, water-proof adhesive. Thus, the tape contacts both inner side **5** of both gussets **2** and an adjacent part of faces **1** and tabs **6** of the sack. Hence, it will be seen that tape **7** is in contact with part of the sides of the gussets unlike other tape-sealed refuse sacks of the prior art. In the present invention, since the tape does contact the sides of the gussets, substantially all routes for the escape of a liquid are sealed.

As may be noted, one section of tape **7** is wider than the other section. The wider section is secured to the sack only about as far as the width of the shorter section, thus leaving an unsecured flap **8** integral with the wider section. The function of flap **8** will be described hereinafter.

The sack is also scored along a line **9**. Such scoring may be effected before or after applying tape **7**. Ideally, score line **9** is closely adjacent to the end of the more narrow section of tape **7**. The function of score line **9** will become apparent hereinafter. It will also be noted in FIG. 3 that the tape laterally extends beyond both gussets. The purpose for this extension will also be described hereinafter.

FIG. 4 shows a perspective view of a further refinement of the invention. Accordingly, tape **7** is folded over 180° to place the narrow section of the tape adjacent or abutting to one face of the sack. If desired, tape **7** may be adhesively secured to the abutting side of the sack. The unsecured flap **8** integral with the wider side is folded around or over the fold in sack **1**, or remains stationary during the folding of tape **7**, and is secured, preferably by adhesive, to the other face of the sack.

FIG. 5 discloses a perspective view of an added refinement of the present invention. Accordingly, extensions **10** of tape **7** are folded or bent 180° around gussets **2** and secured to one or both sides of the folded tape. If desired, the adhesive securing of the tape in the positions as shown in FIG. **4** may be dispensed with in favor of the securing shown in FIG. 5. In any event it is possible to provide the refuse sack of the present invention with three distinct securing operations as shown respectively in FIGS. 3, 4 and 5. However, the securing operation of FIG. 3 alone provides a refuse sack of highly superior quality with an ability to prevent liquid penetration beyond any possessed in the prior art.

It is to be understood that the invention is not limited by the specific embodiments described hereinabove, but includes such changes and modifications as may be apparent to one skilled in the art upon reading the appended claims.

I claim:

1. A sack with a leakproof closure comprising:
   (A) two faces partially stepped back a relatively small distance from one end of said sack to expose adjacent portions of both inner sides of each of two gussets except for relatively small areas at the lateral extremities of said adjacent portions of said two gussets, and
   (B) a tape folded lengthwise over said one end and secured to said two faces and said adjacent portions of said two gussets.
2. The sack of claim **1** wherein:
   (A) the lengthwise folded tape has two sections of unequal width, and

(B) said sack is folded along a line adjacent to a lateral edge of the narrower section of said lengthwise folded tape, whereby both sides of said narrower section abut the same face of said sack.

3. The sack of claim 2 wherein:

(A) at least one end of said tape is of sufficient length to extend beyond one gusset of said sack, and

(B) said one end is folded back and secured so that substantially none of said tape laterally extends beyond the gussets of said sack.

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DAVID M. BOCKENEK, *Primary Examiner.*