

July 27, 1937.

H. ANDERSON

2,087,934

BAG CLOSURE

Filed Feb. 11, 1935

2 Sheets-Sheet 1

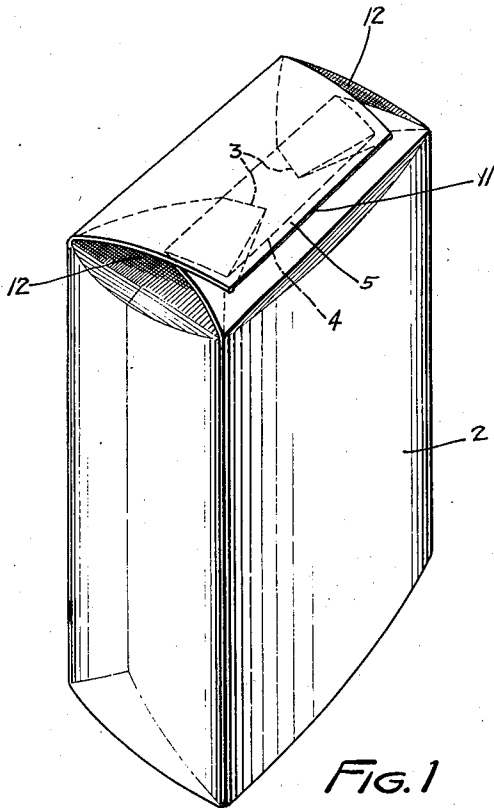


FIG. 1

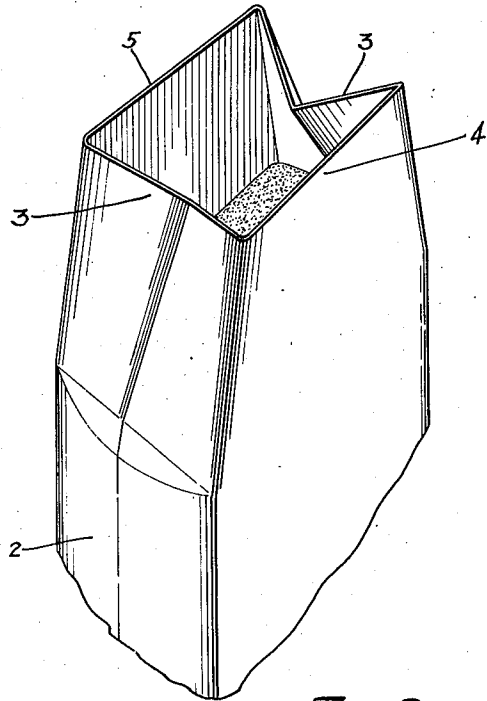


FIG. 2

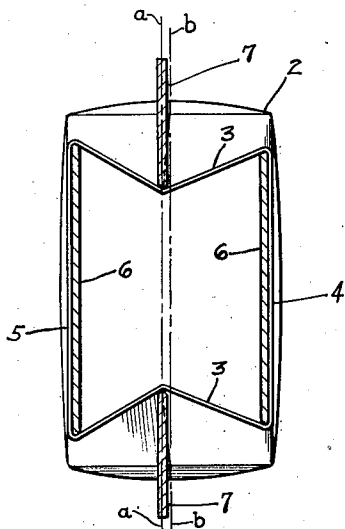


FIG. 3

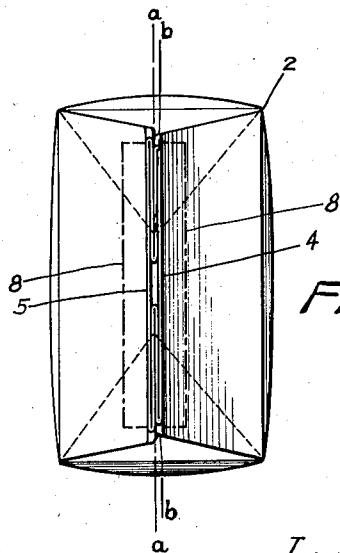


FIG. 4

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2 Sheets-Sheet 2

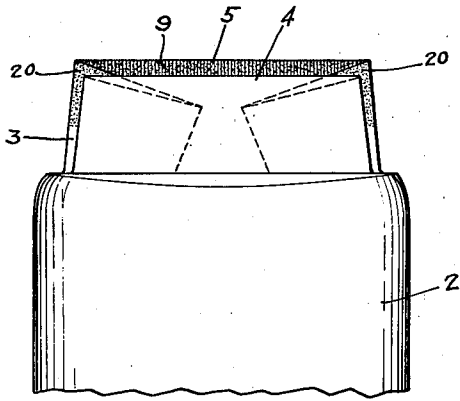


FIG. 5

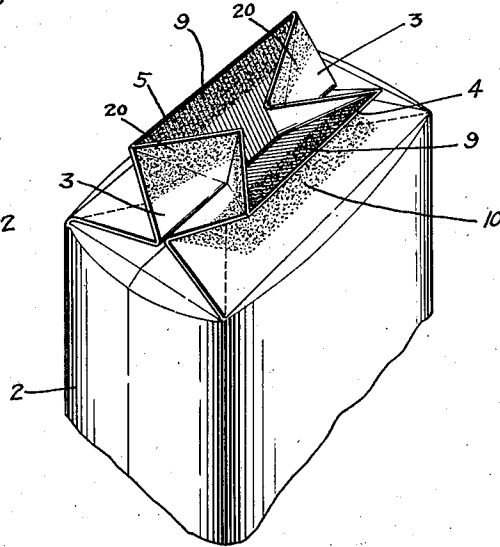


FIG. 6

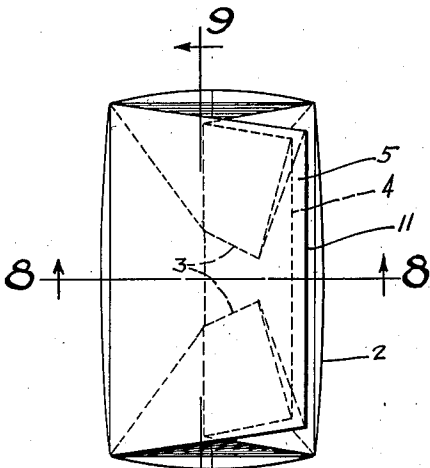


FIG. 7

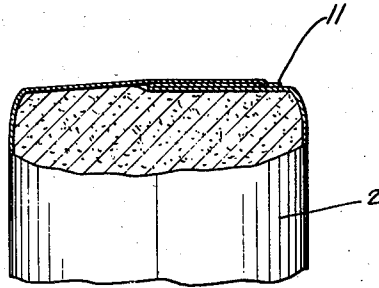


FIG. 8

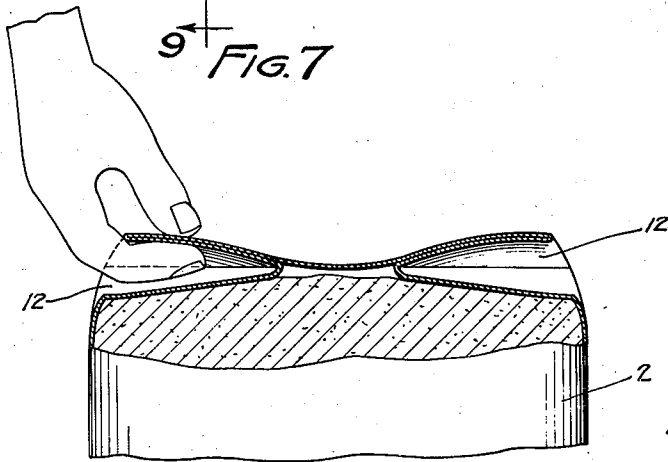


FIG. 9

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# UNITED STATES PATENT OFFICE

2,087,934

## BAG CLOSURE

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Application February 11, 1935, Serial No. 6,029

10 Claims. (Cl. 93-6)

This invention relates to new and useful im-  
provements in bag closures, and more particularly  
to a novel method of folding the walls of an open  
bag top into closing relation, whereby suitable rec-  
esses or pockets are provided in the upper por-  
tion of the bag for receiving the fingers, thereby  
to facilitate moving or handling the bag.

Flour, and many other pulverulent and granu-  
lar materials are now commonly put up or packed  
in paper bags for distribution to the trade. These  
bags usually vary in size from one to fifty pounds.  
The smaller bags, say from one to five pounds,  
have relatively small bodies and may therefore  
be conveniently grasped by the hand without the  
use of added means for receiving the fingers of  
the hand to facilitate handling. The larger bags,  
however, are not so easily grasped by the hand  
because their bodies are of such size as to make it  
practically impossible to obtain a good grip on  
the bag body with one hand, and to overcome this  
difficulty, applicant conceived the idea of so fold-  
ing the bag top walls as to provide oppositely dis-  
posed recesses or pockets in the upper portion of  
the bag body, for receiving the tips of the fingers.  
By inserting the fingers into these recesses, the  
bag may be conveniently grasped and moved  
about from place to place without difficulty.

Some manufacturers, at present close the open  
tops of paper bags by crimping together the walls  
of the bag top to form a neck, which is closed by  
securing a cord or a piece of wire thereto. Bags  
which are so closed, may be conveniently handled  
in transit by grasping the neck of the bag, which  
forms, in effect, a handle, by which they may  
readily be moved about. Bags which have their  
open tops closed by thus crimping the bag top  
walls and applying a piece of string or wire there-  
to, have not proven so satisfactory in the trade,  
because the string or wire has a tendency to  
cut or tear the walls of the bag, causing leakage.  
To eliminate this difficulty, the bag tops are now  
commonly closed by folding the bag top walls,  
first into flatwise relation and then folding them  
against the bag body and suitably securing them  
thereto by an adhesive, whereby the bag top is  
sealed in such a manner as to become substan-  
tially leak-proof. It is to this type of bag closure  
that the invention more particularly appertains.

An object of the present invention, therefore,  
is to so fold the walls of the bag top as to form  
oppositely disposed recesses or pockets in the up-  
per portion of the bag body adapted to receive the  
fingers, whereby a relatively large bag may be  
conveniently grasped and moved about without  
difficulty.

A further object resides in the particular man-  
ner in which the bag top walls are folded, where-  
by the operation of closing and sealing the bag top  
is greatly facilitated.

A further object is to provide a bag closure,  
wherein the end walls of the bag top are first in-  
tucked between the side walls of the bag top,  
after which all of said walls are folded and  
pressed into flatwise relation, and subsequently  
folded over against the bag body in a single fold  
and suitably secured thereto by gumming.

A further object is to provide a bag closure of  
the character described, in which the bag top  
walls are so folded that a marginal edge of one of  
the side walls of the bag top will overhang or  
project beyond the corresponding edge of the  
other side wall, when said walls are folded into  
flatwise relation, whereby when said walls are  
folded into contact with the bag body and se-  
cured thereto, the upper marginal edges of both  
side walls will be secured directly to the body of  
the bag, and the side wall next to the bag body  
will be substantially concealed by the other or  
overlying side wall, whereby there will be but a  
single thickness of paper at the juncture between  
the upper edges of the side walls of the bag top  
and the bag body, which will greatly lessen the  
danger of the bag top walls accidentally being  
torn open along said edges.

Other objects of the invention will appear  
from the following description and accompanying  
drawings and will be pointed out in the annexed  
claims.

In the accompanying drawings there has been  
disclosed a structure designed to carry out the  
various objects of the invention, but it is to be  
understood that the invention is not confined to  
the exact features shown as various changes may  
be made within the scope of the claims which  
follow.

In the drawings:

Figure 1 is a perspective view showing the  
finger-receiving recesses or pockets formed in the  
bag top, when the top walls thereof are folded into  
closing and sealing relation in accordance with  
the invention;

Figure 2 is a perspective view showing the  
initial step in the operation of folding the bag  
top walls into closing relation;

Figure 3 is a top view of Figure 2, showing the  
end walls of the bag top intucked between the  
side walls thereof, and also showing the in-  
tucking members offset from the medial plane of  
the bag body, whereby one of the inwardly folded  
side walls of the bag top will be relatively larger

than the other of said side walls, when said walls are folded into flatwise relation;

Figure 4 is a view showing the bag top walls folded into flatwise relation and offset from the medial plane of the bag;

Figure 5 is a side view of Figure 4, showing the marginal edges of one of the side walls overhanging the corresponding edges of the other side wall;

Figure 6 is a perspective view showing the bag top walls partially open, whereby a suitable gum may be applied to the inner surfaces thereof;

Figure 7 is a plan view of Figure 1, showing the bag top completely closed;

Figure 8 is a detail sectional view on the line 8-8 of Figure 7; and

Figure 9 is a detail sectional view on the line 9-9 of Figure 7, more clearly showing the finger-receiving recesses or pockets formed in the upper portion of the bag body for receiving the fingers.

The open top of the bag body 2 comprises oppositely disposed end walls 3-3 and side walls 4-5 which cooperate to define the mouth of the bag, as best shown in Figure 2. To close the bag top, suitable elements 6-6 are inserted into the bag mouth, after which suitable intucking members 7-7 engage the outer surfaces of the end walls 3-3 and intuck them between the side walls 4 and 5, as shown in Figure 3. The end and side walls are then folded into flatwise relation, by suitable elements 8-8, indicated in dotted lines in Figure 4.

An important feature of the invention resides in so arranging the members 7 and 8 that when the bag top walls are folded and pressed into flatwise relation, one of the side walls of the bag top, in the present instance, the side wall 5, will become relatively larger in size than the side wall 4, whereby the marginal edges of the side wall 5 will overhang or project beyond the corresponding edges of the side wall 4.

To thus cause the side wall 5 to become larger than the side wall 4, when said walls are folded into flatwise relation, the intucking members 7-7 are disposed in a plane *a-a* offset from the medial plane *b-b* of the bag body, as clearly illustrated in Figure 3. By thus offsetting the intucking members 7-7 from the medial plane *b-b* of the bag body, when the bag top walls are folded into flatwise relation, as shown in Figure 4, the medial plane of said folded bag top walls will be offset from the medial plane *b-b* of the bag body, which, as hereinbefore stated, will cause the side wall 5 to become relatively larger than the side wall 4, as a result of a greater portion of the side wall 4 being intucked by the members 7-7. Figure 5 clearly illustrates the comparative sizes of the side walls 4 and 5, as a result of the intucking members 7-7 operating in a plane offset from the medial plane of the bag body.

After the bag top walls have been folded into flatwise relation, as shown in Figures 4 and 5, they are partially opened by suitable means, not shown, as indicated in Figure 6, and a suitable gum applied to the inner surfaces 9 thereof, and preferably to the upper surface 10 of the bag body, as shown in Figure 6. Gum may also be applied to portions of the outer surfaces of the end walls 3-3, as indicated at 20 in the same figure. The bag top walls are then folded firmly into engagement with the bag body, as shown in Figures 7 and 8, whereby the side wall 4 which will be positioned beneath the relatively larger side wall 5, will contact directly with the gummed

surface 10 of the bag body, and the gum applied to the surfaces 9 of the side walls and to the outer surfaces of the end walls will secure together said walls to positively prevent leakage from the interior of the bag to positively prevent leakage from the interior of the bag. In lieu of applying the gum to the surface 10 of the bag body, it may be found desirable to apply the gum to the adjacent or outer surface of the side wall 4, or it may be applied directly to both the wall 4 and surface 10. The gum may be applied by any suitable means applicable for the purpose.

Because of the marginal edges of the side wall 5 projecting beyond the corresponding edges of the side wall 4, said projecting edges will contact directly with the bag body and will be secured thereto, whereby but a single thickness of paper is provided along the edge 11, best shown in Figure 7. This is important in that it minimizes the danger of the bag top accidentally being torn open, and it has also been found to provide a seal, as will readily be understood by reference to Figures 7 and 8.

In closing the bag top walls, it is to be noted that no gum is applied to the outer surfaces of the end walls of the bag top, whereby when all of the bag top walls are folded into closing and sealing relation, as shown in Figure 7, suitable recesses or pockets 12 are formed at the upper portions of the bag body, as best illustrated in Figure 9, into which the fingers may be inserted to thereby facilitate handling the bag.

The novel bag closure herein disclosed is very simple and may readily be performed by automatic machinery at a high rate of speed. When the bag top walls are folded into closing and sealing relation and suitably secured to the bag body, as above described, the fingers may readily be inserted into the recesses or pockets 12, as shown in Figure 9, whereby the bag may be conveniently carried about, as will readily be understood. The particular manner of closing and sealing the bag top, whereby finger receiving recesses or pockets 12 are provided, does not complicate the sealing of the bag top, and it is also to be noted that by folding the bag top walls in such a manner as to cause the marginal edges of one of the side walls to overhang or project beyond the corresponding edges of the other side wall, the bag top walls, when folded into closing and sealing relation and suitably secured to the bag body, as shown in Figure 7, will provide a closure which is leak-proof and through which fine material such as flour, cannot possibly sift, even when the bag is roughly handled.

I claim as my invention:

1. A method of closing and sealing the open top of a paper bag in a manner to provide suitable finger receiving recesses or pockets in the upper portion of the bag body to facilitate handling, which consists in intucking the end walls of the bag top between the side walls thereof and applying gum only to the upper portions thereof, applying gum to the upper inner surfaces of said side walls and to an outer surface of one of said walls, and folding said bag top walls into sealing engagement with the bag body, whereby the ungummed portions of said folded walls at the upper corners of the bag will cooperate to provide suitable finger-receiving recesses or pockets.

2. A method of closing and sealing the open top of a paper bag in a manner to provide suitable finger receiving recesses or pockets in the upper portion of the bag body to facilitate handling, which consists in intucking the end walls

of the bag top between the side walls thereof and applying gum only to the upper portion of said intucked end walls applying gum to surfaces of said side walls, pressing all of said gummed bag top walls into flatwise relation whereby the end walls are disposed between the side walls, and subsequently folding said walls into engagement with the bag body in a single fold and securing them thereto, whereby the ungummed portions of said folded walls will cooperate to form suitable finger-receiving recesses or pockets in the upper portion of the bag body.

3. A method of closing and sealing the open top of a bag which consists in intucking the end walls of the bag top between the side walls thereof and pressing all of said walls into flatwise relation in a plane offset from the medial plane of the bag body, whereby a marginal edge of one of said side walls projects beyond the corresponding edge of the other of said side walls, and applying a suitable gum to said walls and folding them into sealing engagement with the bag body, whereby said projecting edge will be secured directly to the bag body.

4. A method of closing and sealing the open top of a paper bag, which consists in intucking the end walls of the bag top between the side walls thereof and pressing all of said walls into flatwise relation in a plane offset from the medial plane of the bag body, whereby one of said side walls will be relatively larger than the other side wall, thereby to cause the marginal edges of said larger side wall to project beyond the corresponding edges of the smaller side wall, applying a suitable gum to surfaces of said walls, and subsequently folding them into sealing engagement with the bag body, whereby the projecting edges of said larger side wall will contact directly with the bag body.

5. A method of closing and sealing the open top of a paper bag, which consists in intucking the end walls of the bag top between the side walls thereof and pressing all of said walls into flatwise relation in a plane offset from the medial plane of the bag body and parallel thereto, and whereby one of said side walls will be relatively larger than the other side wall, thereby to cause the marginal edges of said larger side wall to project beyond the corresponding edges of the smaller side wall, applying a suitable gum to surfaces of said walls, and subsequently folding them into sealing engagement with the bag body in a single fold, whereby the projecting edges of said larger side wall will contact directly with the bag body.

6. A method of closing and sealing the open top of a paper bag, which consists in intucking the end walls of the bag top between the side walls thereof and pressing all of said walls into flatwise relation in a plane offset from the medial plane of the bag body, whereby one of said side walls will be relatively larger in size than the other side wall, and whereby when said walls are folded into contact with the bag body, the side wall adja-

cent to the bag body will be concealed beneath the other side wall.

7. A method of closing and sealing the open top of a paper bag, which consists in intucking the end walls of the bag top between the side walls thereof and pressing all of said walls into flatwise relation in a plane offset from the medial plane of the bag body, whereby one of said side walls will be relatively larger in size than the other side wall, and folding said walls into contact with the bag body in a single fold, whereby the side wall adjacent to the bag body will be concealed beneath the other side wall, whose marginal edges project beyond the corresponding edges of said adjacent wall and contact with and are secured directly to the walls of the bag body.

8. A method of closing and sealing the open top of a paper bag whereby suitable finger-receiving recesses or pockets are formed in the upper portion of the bag body to facilitate handling, which consists in folding the walls of the bag top into flatwise relation in a plane offset from the medial plane of the bag body and whereby the upper marginal edge of one of said walls will project beyond the corresponding edge of an adjacent wall, applying gum to surfaces of said walls, and folding said walls into engagement with a wall of the bag body, and securing them thereto in sealing relation, and whereby said projecting wall edge is secured directly to the bag body in a single thickness, and whereby suitable finger-receiving recesses or pockets are formed in the upper portion of the bag body.

9. A method of folding the walls of an open bag top into closing and sealing relation, which consists in folding the walls of the bag top into flatwise relation in a plane offset from the medial plane of the bag body whereby the upper edge of one of said walls projects above or beyond the corresponding edge of an adjacent wall, applying gum to surfaces of said folded walls, and subsequently folding said gummed walls into contact with the bag body in a single fold and securing them thereto, to seal the bag top, and whereby said projecting wall edge is secured directly to a wall of the bag body and conceals the corresponding edge of the adjacent wall.

10. A method of closing and sealing the open top of a paper bag, whereby suitable finger-receiving recesses or pockets are formed in the container top to facilitate handling, which consists in intucking the end walls of the container top between the side walls in a plane off-set from the longitudinal centerline of the bag top, whereby an edge of one of the side walls will project beyond the corresponding edge of the other of said side walls and applying gum to surfaces of the side walls, and folding said walls into engagement with the container body whereby they are secured thereto in sealing relation, and whereby the ungummed portions of said folded walls cooperate to form oppositely disposed recesses or pockets, which are symmetrically disposed about the medial plane of the bag body.

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