

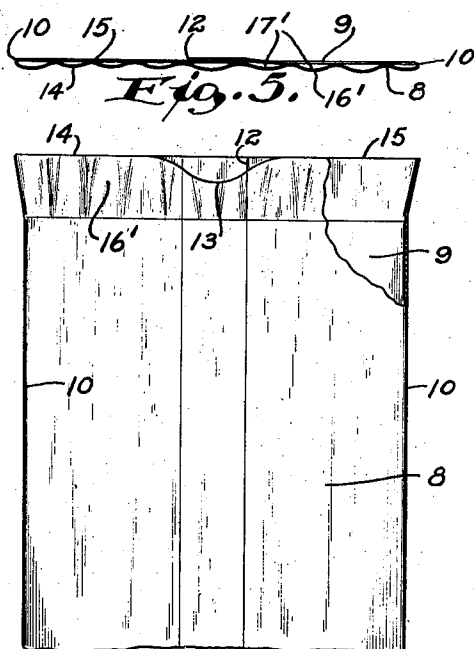
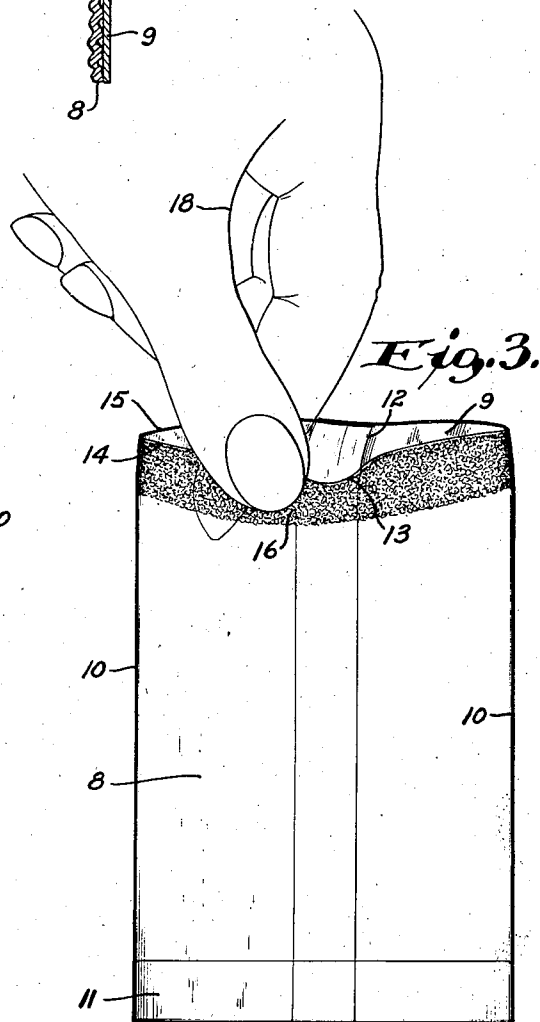
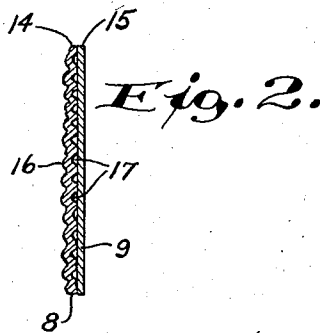
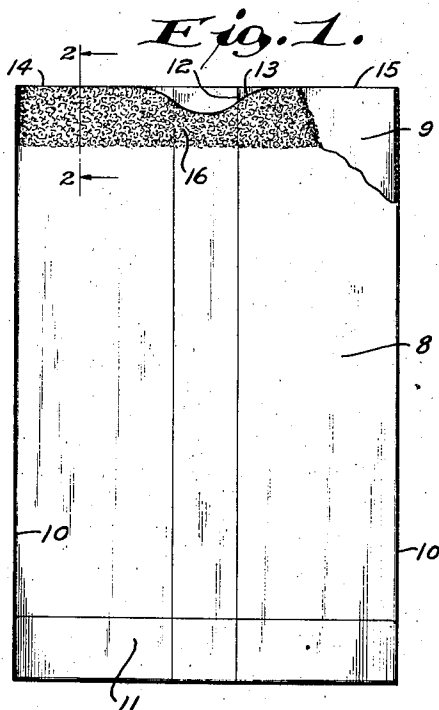
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2,197,113

BAG ASSEMBLAGE

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BAG ASSEMBLAGE

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3 Claims. (Cl. 229—53)

The present invention relates in general to improvements in the manufacture of bag structures for confining batches of diverse commodities, and relates more specifically to improvements in the construction of bags formed of relatively thin and smooth sheet material such as cellulose film.

An object of my present invention is to provide a collapsible bag formed of cellulose film or the like, which may be readily opened or distended.

As indicated in my prior application Serial No. 199,369 filed April 1st, 1938, it has heretofore been common practice to utilize transparent bags formed of relatively thin and flexible sheet material such as cellulose film for the purpose of packing batches of diverse commodities to facilitate merchandizing thereof. These bags are ordinarily formed of sheets of the glossy material which are folded into tubular formation and have one end sealed, and the finished bags are adapted to be collapsed into flat condition in order to permit compact stacking thereof during handling, storage and shipment, prior to being filled with the commodity. Because of the thin and glossy characteristics of the cellulose film, the front and rear walls or panels of these bags, especially when the structures are sharply creased along the opposite sides, tend to cohere or stick together particularly at the mouths or open bag ends, thus making it difficult to open the bag structures for the introduction of material. This sticking tendency not only retards the opening and filling operations, but also frequently results in tearing of the bags during the opening or distending thereof, thereby entailing considerable waste.

It is therefore a more specific object of my present invention to provide simple and effective means for facilitating opening or spreading of a bag formed of cellulose film or other sheet material having similar characteristics, and for substantially eliminating tearing of the bags while the same are being distended for filling.

In accordance with this invention, I merely emboss or distort the portion of one wall of a collapsible bag adjacent to the inlet opening or mouth of the bag, so that the bag panels cannot come into uninterrupted surface contact adjacent to the filling opening. The embossing or distortion is preferably so performed, that collapsing of the bag will cause small air pockets to form between the bag walls at and near the open end, and actual separation of these portions of the walls can thereafter be quickly and readi-

ly effected by gripping the open bag end between the fingers and by rubbing the walls at the free edges so as to distort and relatively displace these wall portions and to freely admit air to the bag interior. Aside from greatly facilitating the opening of bags formed of cellulose film, my present improvement has also proven highly beneficial in eliminating tearing of the bags during the initial opening and distending operation, and the embossing of the bag ends can be accomplished by various ways at but slight additional expense.

A clear conception of several embodiments of my present invention, and of the mode of manufacturing and of utilizing bags built in accordance with the improvement, may be had by referring to the drawing accompanying and forming a part of this specification wherein like reference characters designate the same or similar parts in the various views.

Fig. 1 is a plan view of one of my improved bags in flatly folded condition and having a portion thereof broken away to reveal the back wall;

Fig. 2 is a greatly enlarged transverse section through the mouth or open end of the bag of Fig. 1, the section being taken along the line 2—2;

Fig. 3 is a plan perspective view of the bag of Fig. 1, with a human hand applied thereto in the act of opening the bag mouth;

Fig. 4 is a plan view of another of the improved bags in folded condition, and having a modified mouth or open end and a portion thereof broken away; and

Fig. 5 is a top view of the bag of Fig. 4.

While the invention has been illustrated and described herein as being applied to plain bags formed of cellulose film and each having but a single edge crease on each side, it is not the intent to thereby unnecessarily restrict the scope, since the improved features are more generally applicable to other types of bags formed of material having characteristics like those of cellulose film, and to bags of the type shown in my prior application, above referred to.

Referring specifically to Figs. 1 to 3 inclusive, the improved bag shown therein is preferably formed of a single sheet of thin cellulose film and comprises a front wall or panel 1 formed integral with and foldably connected to a rear panel or wall 2 by means of sharp opposite side creases 3, and a bottom closure 4 at the lower ends of the panels 1, 2 formed in any suitable manner. The rear wall or panel 2 is provided with a splice or joint 5 formed by the overlapping

edges of the sheet, and the upper portion of the front wall or panel 8 is provided with a thumb notch 13 of well known formation. The front and rear walls 8, 9 have upper edges 14, 15 respectively at the mouth of the bag, and these edges except for the thumb notch 13 are disposed in approximately the same transverse plane. The bag structure thus far described is of old and well known construction, but in accordance with my present invention I provide a zone or area 16 at the upper portion of one or both of the wall panels 8, 9, which is indented, corrugated, embossed or roughened to provide numerous air confining pockets 17 facing the adjacent portion of the other panel when the bag is collapsed as shown in Figs. 1 and 2. These air pockets 17 will obviously prevent the inner surface of the front panel area 16 from coming into continuous surface contact with the adjacent surface of the other panel when the bag is collapsed, and will therefore eliminate cohesive action between these surfaces. In the bag of Figs. 1 and 2, the front panel 8 has been embossed or distorted, and the rear panel 9 is plane.

When it is desired to open a bag thus provided with an embossed area 16, it is only necessary to grip the mouth portion with the hand 18 as illustrated in Fig. 3, and to thereafter relatively laterally shift or move the gripping fingers. The air pockets 17 formed at the area 16 of the front panel 8, and the air confined within these pockets, will then cause the bag mouth to quickly open and will freely admit other air into the bag between the walls 8, 9. The bag may thus be rapidly and conveniently opened for the admission of material, and may subsequently be supplied with commodity and sealed either by applying adhesive to the inner surface of the embossed area 16, or by folding this area together with the corresponding area of the rear wall 9 downwardly over the body of the bag and by finally stapling or gluing.

While the general construction of the modified bag of Figs. 4 and 5 is quite similar to that of Figs. 1 to 3 inclusive, the mouth portion of this modified assemblage is somewhat different. In the bag of Figs. 4 and 5, the area 16' of the front panel 8 has been somewhat stretched to form air confining corrugations 17', and the corresponding area of the rear wall 9 may or may not be stretched but should preferably be flat or uncorrugated. The corrugating or distortion of the area 16' may be produced by embossing or otherwise, and the air confining corrugations 17' will also function to prevent cohesion or sticking of the mouth portions of this modified bag, to each other. The modified bag assemblage may obviously be conveniently and quickly opened in the manner shown in Fig. 3 with the aid of a hand 18, and may be loaded and sealed the same as described in connection with the bag of Fig. 3.

The distortion of the bag areas 16, 16' may be accomplished in any convenient manner as by embossing the sheet with rolls or otherwise, during construction of the bags, and need not assume the precise forms shown and described herein. It is desirable, however, in order to eliminate detrimental cohesion or sticking of the con-

tacting areas at the bag mouth portions, to prevent continuous contact of the adjacent surfaces of these areas when the bags are collapsed. The simplest mode of preventing such continuous surface contact is to provide air confining pockets which will naturally confine the air when the bag is collapsed, and it has been found that only very small pockets will accomplish the desired result. It has also been found that the provision of means for effecting such convenient and rapid opening of the bags, aside from saving considerable time in loading, also materially reduces waste of bags by tearing at the edges 14, 15; and the roughened areas may obviously be applied either to the front, rear or both walls of the bag. The cost of producing these embossed or roughened areas is very slight considering the advantages thereof, and the invention has proven highly successful as applied to thin, flexible and glossy sheet material such as cellulose film.

It should be understood that it is not intended to limit the present invention to the exact forms of embossing or distortion herein shown and described, for various modifications within the scope of the claims may occur to persons skilled in the art.

I claim:

1. A bag formed of cellulose film and including front and rear walls which contact each other when the bag is collapsed, one of said walls being substantially flat and the other of said walls adjacent the bag mouth having a zone which is indented out of its plane at a plurality of points extending substantially along the mouth of the bag to form spaced air confining pockets which are closed by contact of the indentations with the adjacent portion of said substantially flat bag wall, whereby to prevent cohering and adhesion of said walls at the bag mouth and to facilitate separation thereof.

2. A bag formed of cellulose film and including front and rear walls which contact each other when the bag is collapsed, one of said walls being substantially flat and the other of said walls adjacent the bag mouth having a corrugated zone with the corrugations extending substantially parallel to and substantially throughout the area of the mouth of the bag to form spaced air confining pockets which are closed by contact of said corrugations with the adjacent portion of said substantially flat bag wall, whereby to prevent cohering and sticking of said cellulose walls at the bag mouth and to facilitate separation thereof for the purpose of filling.

3. A bag formed of cellulose film and including front and rear walls which contact each other when the bag is collapsed, one of said walls being substantially flat and the other of said walls adjacent the bag mouth being corrugated substantially at right angles to and substantially along the entire area of the bag mouth to form spaced air confining pockets which are closed by contact of said corrugations with the adjacent portion of said substantially flat bag wall, whereby to prevent cohering and sticking of said walls at the bag mouth and to facilitate separation thereof for the introduction of materials.

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