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J. M. MUNSON

2,114,855

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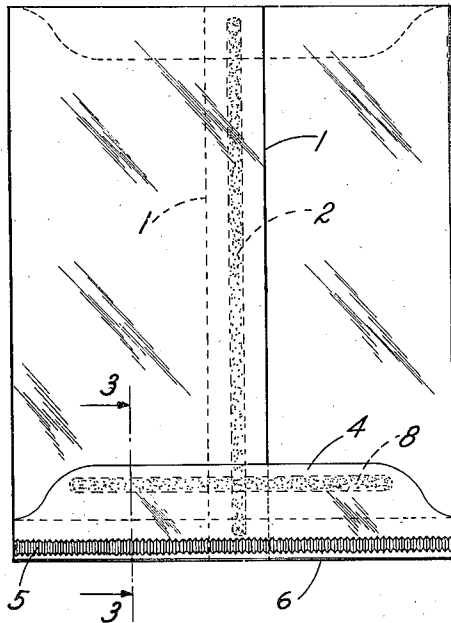


Fig. 1

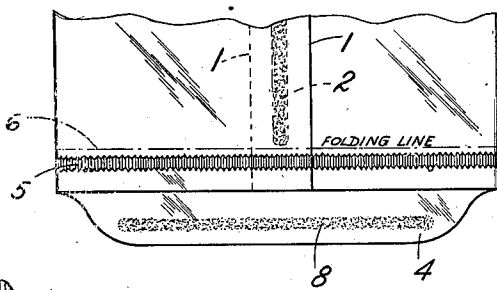


Fig. 2

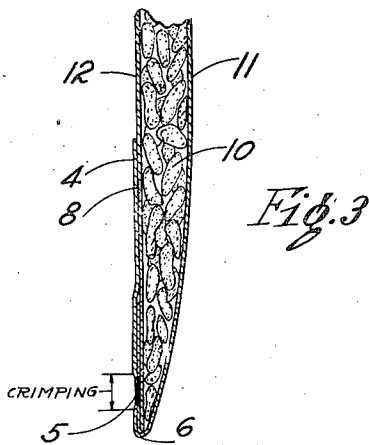


Fig. 3

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2 Claims. (Cl. 229—57)

My invention relates to improvements in bags, and more particularly to an improved seal for the bottoms of moisture-proof bags such as those of cellulosic or other transparent or semi-transparent composition.

In manufacturing bags of the character to which my invention pertains they are usually made with great rapidity by a machine into which is fed a continuous web of material. Because of the nature of the material the seams must be cemented by a cement which does not have sufficient time to dry before the bags are piled in stacks. The result is that the seams cannot have the cement extend to the edges but the cement line must stop spaced from the edge, otherwise some of the cement would creep from under the seams and cement the bags to each other. This is particularly true where the bags are immediately placed in closely packed packages. The result therefore is that a portion of the bag, usually the corners, is not sealed, and when the bag is filled with a finely comminuted material, it sifts through the openings at the corners and is lost. The mere loss of contents is not only undesirable, but the sifting of the contents over the other bags is extremely undesirable. Furthermore these openings permit atmospheric moisture to enter the bags, often impairing the apparent freshness of the contents, if not resulting in the entire ruination of the same.

In my co-pending application, Serial No. 99,443, filed September 4th, 1936, I described one manner of overcoming this undesirable situation. The present invention is a still further improvement over that of said application. By my present invention I am able to overcome the difficulties and deficiencies of the prior bags without materially increasing the cost, and am able to provide a moisture-proof seal for bags which protects the contents of the bag against atmospheric conditions, and from which powdered materials will not sift and which bags may even be filled with fluids without loss of contents.

Still other advantages of the invention as well as the invention itself, will become more apparent after reference to the following description of an embodiment thereof, which description is illustrated by the accompanying drawing.

In the drawing:

Fig. 1 is an elevational view of a bag showing an embodiment of my invention;

Fig. 2 is a fragmentary view of the bottom end of the bag in an unfolded position; and

Fig. 3 is a section taken along the line 3—3

of Fig. 1 and showing the position taken by the component parts of the bag during use.

Referring now to the drawing throughout which like parts have been designated by like reference characters:

The bags may be formed by a machine wherein a reel containing a quantity of strip material is used to feed the strip material into the machine. The strip first has a cement applied spaced from one edge of the same and is then folded over into tubular form with the edges overlapping and with the cement between the overlapping portions. The tube is flattened and the longitudinal seam, comprising the overlapping edges 1, cemented as shown at 2, comes at, or approximately at, the center of the bag. It will be noted, by reference to Fig. 1, that the longitudinal cement in the seam starts spaced from the open end of the bag and stops spaced from the bottom, and is also spaced from the overlapping edges so that there is no chance for the cement to be squeezed out from under the seam.

The tube, after cementing and folding, is severed into the desired lengths, the point of severance being such that a tab 4 is left protruding from the front side of the bag, which tab is later cemented to the back side of the bag, the seam side of the bag being considered as the back side.

After the tube is severed the bag is crimped under heat and pressure by a continuous line of crimping 5 which extends entirely across the bag (Fig. 2) at a point below the folding line 6 where the bag will later be folded. Inasmuch as the moisture-proof coating for the bag (if the bag is cellulosic material) is on the inner surface, the heat and pressure causes the moisture-proof coating on the bag sides to be welded together effectively sealing the bag at its bottom end. In some instances where the bag is made from materials different from "Cellophane" such as "Kodopak" or "Pliofilm", the actual walls of the bag itself are welded together. Obviously this invention is not limited to the particular material described since the description is for the purpose of illustration.

The crimping may also vary in conformation from that shown, and in some instances the mere application of heat and pressure, without the crimping, may be sufficient to provide an effective seal; the type of crimping shown being for the purpose of illustration only, and is not intended as a limitation to the invention.

The aforesaid seal having been accomplished, the end of the bag is then folded along the line

5-6 of Fig. 2 so that the flap or tab 4 extends up along the back of the bag, cement having first been applied to the tab along the zone 8 as indicated in Figs. 1 and 2, and the tab 4 secured to the back of the bag. This operation having been completed, the bag is ejected into a rack where the bags are accumulated and placed in packages.

The finished bag therefore has a moisture-proof end seal upon which the filling of the package can have no deleterious or damaging effect. As a matter of fact, filling the bag, as best shown in Fig. 3, actually strengthens this seal. That is, the material with which the bag is filled, designated at 10, and which may be granular in form, pushes the front wall 11 away from the back wall 12 and pushes the back wall 12 against the folded-over portion. The cement zone 8 provides the required strength for holding the folded-over end in position, and the crimped or welded zone 5 provides the moisture-proof qualities, at the same time no strain is applied to the moisture-proof seal.

This differentiates from the bag of my pending application in that the heat seal in that application extended entirely through the folded-over portion and the front and back of the bag. Although I have shown my invention as applied to the ordinary flat type bag, it will be obvious to those versed in the art that the invention is applicable to other types of bags; for example the square or bellows type bags and the die cut envelope type, and that the scope of this invention is not limited to the particular type shown other than as set forth in the appended claims.

Having thus described my invention, I am aware that numerous and extensive departures may be made therefrom without departing from the scope of the invention such as applied to

square or bellows type constructed bags and die cut envelopes.

I claim:

1. A moisture-proof bag of the class described including a tubular body having front and rear sides, a longitudinal seam comprising overlapping portions in one of said sides secured together, a moisture-proof seal for the end of the body comprising a zone extending transversely across the entire body wherein all parts of the front and rear faces including the overlapping portions of the bag in said zone are intimately crimped and fused together, a continuation of one of the sides of the bag forming a tab extending beyond the body of the bag, the bottom of the bag being folded back on a line above said zone and adhesively secured by said tab to the body of the bag, said zone lying in the folded-over portion.

2. A moisture-proof bag of the class described including a tubular body having front and rear sides, a longitudinal seam comprising overlapping portions in one of said sides adhesively secured together by a line of cement spaced from the edges, a moisture-proof seal for the end of the body comprising a zone extending transversely across the entire body wherein all parts of the front and rear faces including the overlapping portions of the bag in said zone are intimately crimped and fused together, a continuation on the side of the bag opposite to the overlapping portions forming a tab extending beyond the body of the bag the bottom of the bag being folded back on a line above said zone and adhesively secured by a line of cement spaced from the edges of said tab to cement said tab to the body of the bag, said zone lying in the folded-over portion.

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