

Sept. 21, 1937.

J. A. FARMER

2,093,976

CLOSURE FOR BAGS

Filed Aug. 15, 1935

FIG. 1.

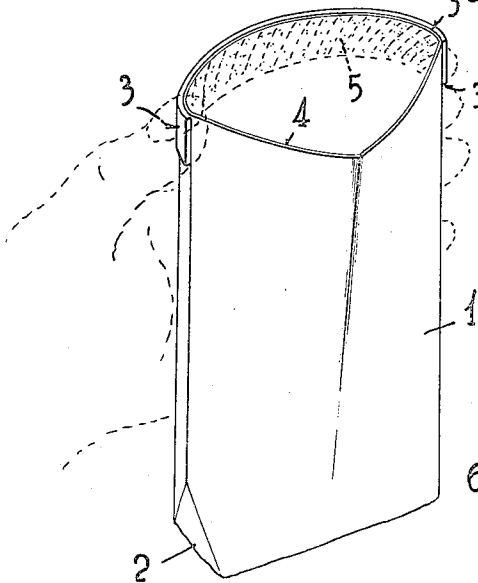


FIG. 2.

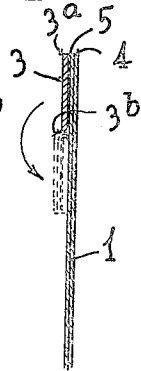


FIG. 3.

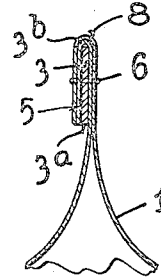


FIG. 4.

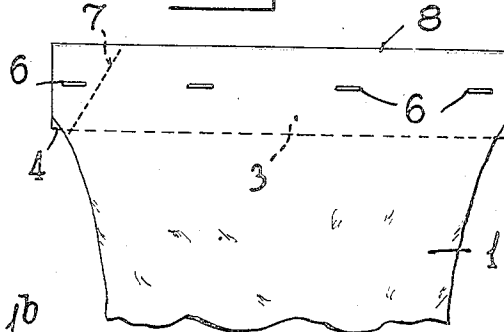


FIG. 5.

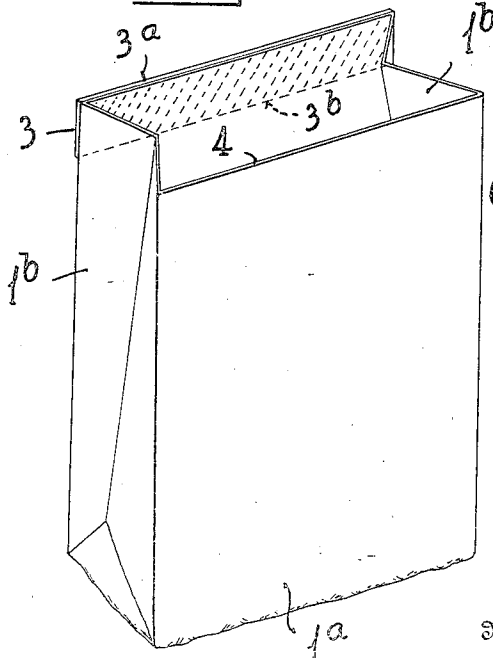
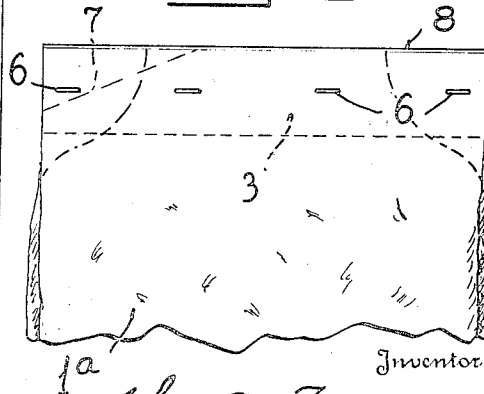


FIG. 6.



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# UNITED STATES PATENT OFFICE

2,093,976

## CLOSURE FOR BAGS

John A. Farmer, Lancaster, Pa.

Application August 15, 1935, Serial No. 36,397

2 Claims. (Cl. 229-62)

This invention relates to containers or packages for fluent material, and more particularly to an improved closure for flexible bags.

In my prior co-pending applications Serial No. 745,121, filed September 22, 1934, Serial No. 30,005, filed July 5, 1935, and Serial No. 32,422, filed July 20, 1935, I have shown combined reinforcing means and closures for the mouths of bags comprising a piece or tab of sheet material adapted to be either folded over the end portions of the bag to embrace or enclose the same, or applied to such end portions after the latter have themselves been brought together and/or folded over.

In all of said prior copending applications, the reinforcing piece of sheet material is outside of the folded over or end portions of the bag, and in most cases is relatively long or deep, lengthwise of the bag, the lower edges being usually curved or rounded.

I now find that, under certain conditions, the desired degree of reinforcing or stiffening can be obtained by using a relatively short or shallow piece or strip of sheet material associated with the bag end. This has the advantage of being cheaper, as less material is required.

I also find that by making this strip with a straight lower edge, the end portions of the bag may be folded over along this straight edge, and then secured in position, thus providing a construction of maximum simplicity and efficiency. By folding as described, there is produced a structure in which the reinforcing strip is located inside of the folded-over end portions of the bag, instead of outside thereof, as in my said prior applications, but the sealing effect is in most cases satisfactory.

In order that the invention may be readily understood, reference is had to the accompanying drawing, forming part of this specification, and in which:

Fig. 1 is a perspective view of a satchel-bottom bag having my improved reinforcing strip applied thereto;

Fig. 2 is a fragmentary vertical section showing the relation of the strip to the walls of the bag;

Fig. 3 is a view similar to Fig. 2 but showing the relation of the parts after the end of the bag has been folded over and stapled;

Fig. 4 is a fragmentary front elevation of the closed bag as viewed from the right-hand side of Fig. 3;

Fig. 5 is a perspective view of a bellows-sided bag having my improved reinforcing strip applied thereto; and

Fig. 6 is a view similar to Fig. 4 but showing

the appearance of the bag illustrated in Fig. 5, after having been sealed.

Referring to the drawing in detail, and more particularly first to Figs. 1 to 4 inclusive, the bag is indicated at 1 and is shown as formed with a satchel-bottom 2.

My improved reinforcing strip is designated in its entirety by the reference numeral 3, and, as clearly shown in Fig. 1, is of relatively shallow or narrow form, being of a length substantially equal to the width of the bag and extending to the crease or fold at each side of the bag.

Preferably and as shown, the upper edge 3<sup>a</sup> of the strip substantially coincides with the upper edge 4 of the bag. The strip 3 is attached or secured to the outer surface of one side or wall of the bag, by means of an adhesive, as illustrated at 5 in Fig. 1 and as shown and described in my prior copending application Serial No. 30,005, above referred to.

While in said application, however, the lower edge of the strip or tab is shown as of curved form, it will be particularly noted that in the present application the lower edge 3<sup>b</sup> of the strip 3 is straight. The upper edge 3<sup>a</sup> is also shown as straight, the strip being in the form of a rectangle, but the invention is not limited to a strip having an upper straight edge since, if desired, the upper edge may be made of curved or other form. Preferably, however, the upper edge of the strip conforms with the upper edge of the end portions of the bag, when these portions are brought together in flat relation.

As in my said prior application, Serial No. 30,005, the mouth of the bag may be opened by pressing or flexing the strip transversely, as illustrated in Fig. 1. This facilitates filling.

After the bag has been filled with the desired material, the strip 3 and the adjacent end portions of the bag are folded into the position shown in Fig. 3, and the parts secured in this position by means of a row of fastening means such as staples 6, passing through the strip 3 and through the adjacent end portions of the bag.

While in my said prior copending application Serial No. 30,005, the tab is folded over forwardly so as to enclose the end portions of the bag, it will be particularly noted by reference to Figs. 2 and 3 that in the present case the folding is done rearwardly, as indicated by the arrow in Fig. 2, so that, as a result of the folding operation, the strip 3 is enclosed by and lies on the inside of the folded-over end portions of the bag. In other words, the strip lies between the folded-over end portion and the body of the bag, as

clearly shown in full lines in Fig. 3 and in dotted lines in Fig. 2. It will be observed that this folding over of the end portions of the bag takes place along the straight lower edge 3<sup>b</sup> of the strip, so that both walls of the bag are sharply bent around this edge of the strip, as illustrated at 8 in Fig. 3, and are thus drawn closely together, so as to provide an effective seal. It will be further observed that the lower edge of the strip in Fig. 3 preferably coincides with the edge of the end portions of the bag, whether these be straight or of some other form, and that the strip 3 is practically concealed within the fold of the bag.

The bag may be made of any suitable flexible material, such as cellulose film, paper, metal foil, or combinations of these materials. Where transparent film is employed, the upper portions of the bag may be colored or so treated as to render them substantially opaque and when this is done, or when the material of the bag itself is opaque, the reinforcing strip is substantially invisible. The strip may be made of heavy paper, cardboard, fiber board, or other suitable material, preferably of a relatively stiff nature.

As in my prior copending applications above referred to, one of the objects of the present invention is to provide a construction in which the corner of the sealed bag may be cut off to provide a pouring opening. The preferred place to cut is indicated by a diagonal line such as 7 in Fig. 4, which is here defined by a mark formed on the material of the bag. It is obvious that by cutting along this line of severance, through the reinforcing strip and both of the associated end portions of the bag, a convenient pouring opening is provided, as in my prior copending applications above mentioned.

My improved reinforcing strip also lends itself readily for use in connection with bellows-sided or gusset type bags such as disclosed in my prior copending application Serial No. 32,422.

A bag of this type is illustrated at 1<sup>a</sup> in Fig. 5, and my improved reinforcing strip 3 is shown as applied to the outer surface of one wall thereof by means of adhesive in the same manner as the tab is applied in my said prior application. As illustrated in Fig. 5, however, just as in Fig. 1, the upper edge 3<sup>a</sup> of the strip coincides with the upper edge of the bag and the lower edge 3<sup>b</sup> of the strip is straight.

After the bag has been filled, the upper end portions are brought together in flat relation, by

collapsing the upper ends of the infolded gussets 1<sup>b</sup>, and then the entire end of the bag, including the gussets, is folded over rearwardly in a direction away from the observer, as viewed in Fig. 5, around the lower straight edge 3<sup>b</sup> of the reinforcing strip, and the parts are then secured in this position by means of staples 6 or other fastening means, some of which preferably pass through the gussets at each side of the bag, all as shown in Fig. 6.

As in my prior copending application Serial No. 32,422, a pouring opening may be provided by cutting off the corner of the folded bag and reinforcing strip along the diagonal line 7 and pulling out the upper portion of the gusset to constitute a spout. In the present case, however, as in Fig. 4, this line is formed on the bag itself.

With either type of bag illustrated in the present drawing, the reinforcing strip provides a firm anchorage for the staples or fastening devices 6 and also stiffens the folded-over portions of the bag so as not only to improve the appearance of the package, but to provide a strong, non-deformable end by which the bag may be grasped and lifted. At the same time, bags having closures formed in accordance with the present invention constitute packages which readily lend themselves to assembling or packing in cartons or boxes for shipment or storage, since the end portions of the closed bags may be easily folded down into flat position, as shown and described in my said prior copending application Serial No. 32,422.

What I claim is:

1. As an article of manufacture, a flexible bag having secured to the outer surface only of one side of its open end a relatively stiff transversely extending reinforcing strip of non-metallic resilient sheet material of a length no greater than the width of the bag and having straight upper and lower edges, the upper edge coinciding substantially with the end of the bag.

2. A package comprising a flexible bag having the end portions of its walls brought together at the top in flat relation and folded over, a reinforcing strip of sheet material enclosed between said folded-over portions and the body of the bag, and a row of fastening means extending through said strip and folded-over portions of the bag.

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