April 13, 1943. J. F. AMES 2,316,658

REINFORCED BAG

Filed June 14, 1939 2 Sheets-Sheet 1

Fig. 1

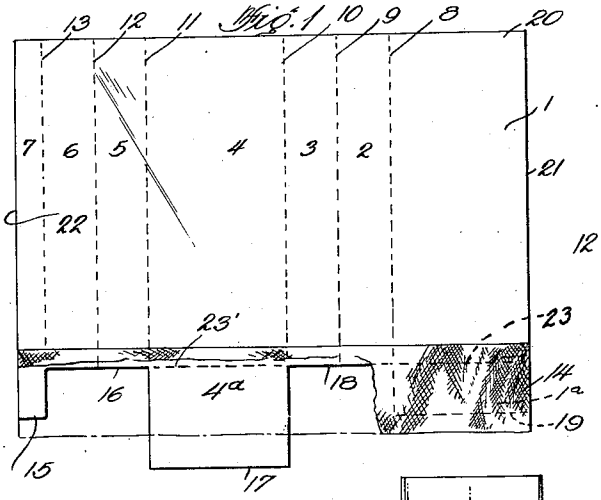


Fig. 2

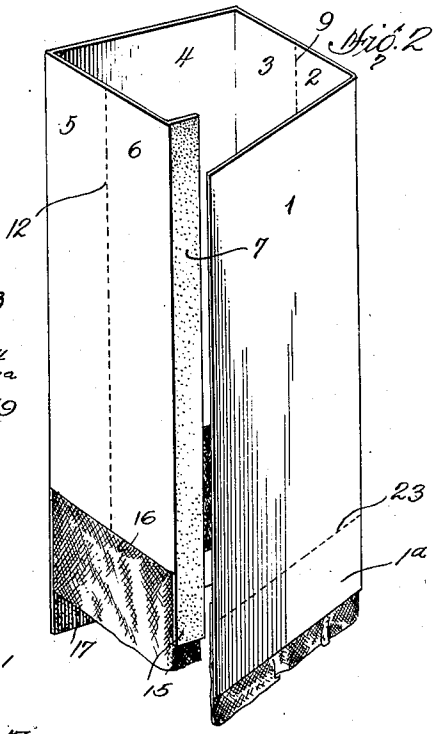


Fig. 3

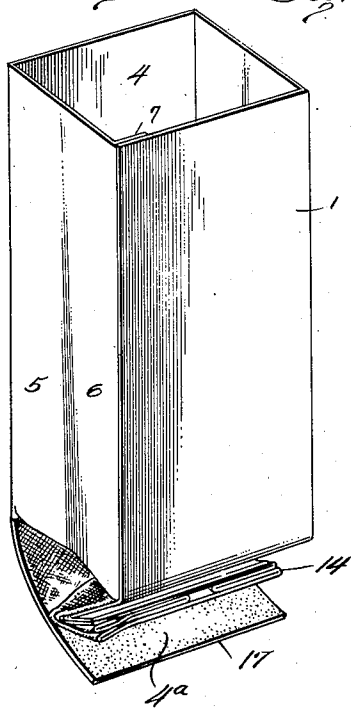


Fig. 4

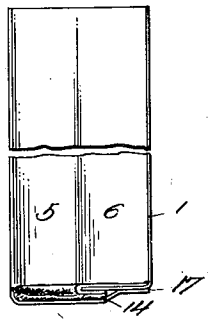
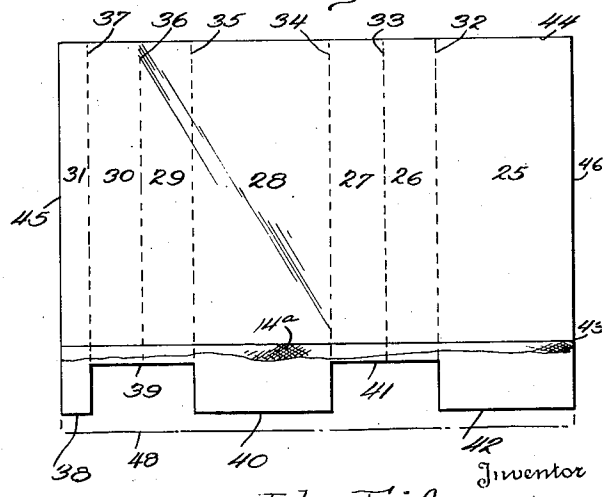


Fig. 5



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REINFORCED BAG

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Fig. 6

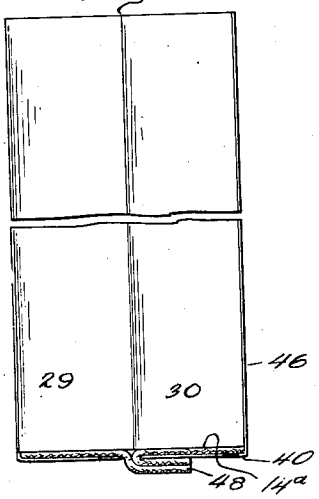


Fig. 7

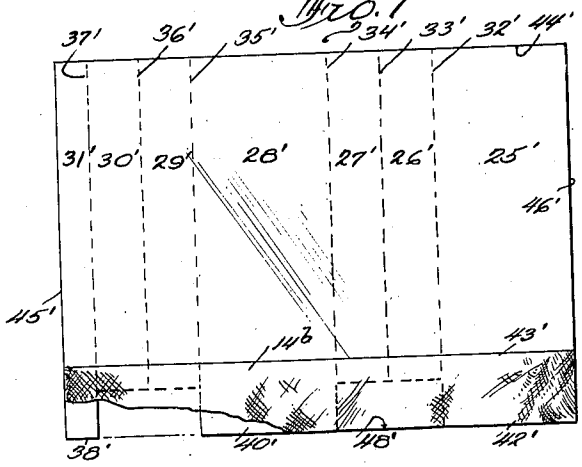


Fig. 8

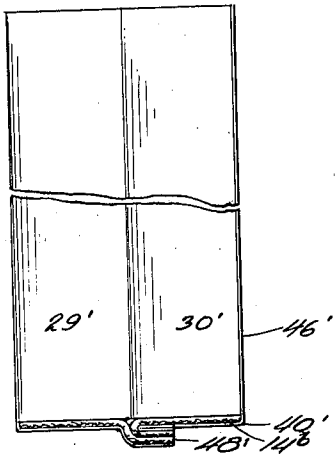


Fig. 9

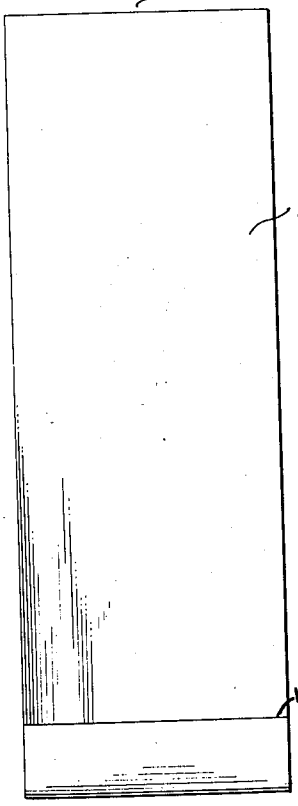


Fig. 10

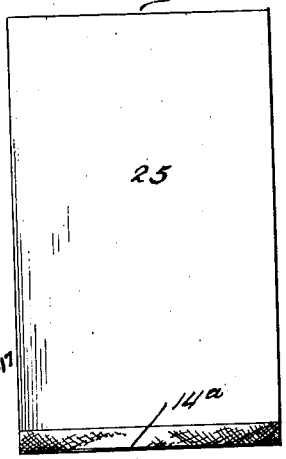
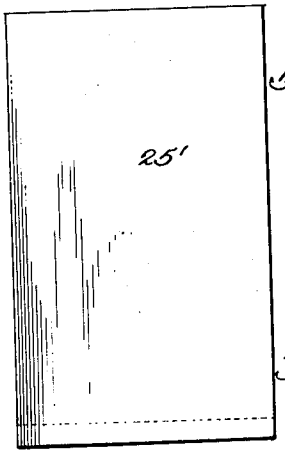


Fig. 11



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UNITED STATES PATENT OFFICE

2,316,658

REINFORCED BAG

John F. Ames, Selma, Ala.; Evelyn H. Ames, executrix of said John F. Ames, deceased

Application June 14, 1939, Serial No. 279,209

13 Claims. (Cl. 229—57)

This invention relating as indicated to a reinforced bag, is more particularly directed to a bag of the bellows type in which the bottom portion is reinforced, thus permitting usage of very thin single ply paper or very heavy single ply paper.

In the past attempts have been made to provide strong bags by making the same out of multiply paper, which, while providing the necessary flexibility for the formation of a square bottom, obviously increases the cost. It has also been necessary to avoid the use of relatively heavy single ply paper because when a square bottom is formed in the conventional square bottom bag the bends between the vertical surfaces and the horizontal bottom are difficult if not impossible to make.

I have attempted to solve this problem by providing a cloth bottom which can be bent without fear of rupture and which can be very easily attached to a blank having my special design. The addition of the cloth bottom entails very slight expense and the resulting bag is neat in appearance and unusually rugged.

This application is a continuation-in-part of my co-pending application entitled "Square bottom bag," Serial No. 178,585, filed December 7, 1937. The present application distinguishes from the above referred to co-pending application in that the bag employed herein has the appearance of an all paper bag while at the same time possessing the strength of a bag having a fabric bottom.

To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims. The annexed drawings and the following description set forth in detail certain structure embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings:

Fig. 1 is a plan view of a blank with parts of the fabric bottom broken away.

Fig. 2 is a perspective view of a partially assembled bag.

Fig. 3 is a perspective view of a bag just prior to final assembly.

Fig. 4 is a side elevation of a bag formed from the blank shown in Fig. 1.

Fig. 5 is a plan view of a modification similar to Fig. 1.

Fig. 6 is a side elevation of a bag formed from the blank shown in Fig. 5.

Fig. 7 is a plan view similar to Figs. 1 and 5 of a further modification.

Fig. 8 is a side elevation of a bag formed from the blank shown in Fig. 7.

Fig. 9 is a plan view of a completed flattened bag formed from the blank shown in Fig. 1.

Fig. 10 is a plan view of a completed flattened bag formed from the blank shown in Fig. 5.

Fig. 11 is a plan view of a completed flattened bag formed from the blank shown in Fig. 7.

Referring now to the drawings, and more particularly to Fig. 1, it will be seen that I have provided a bag blank generally rectangular in shape, such blank being bounded by upper edge 20, side edges 21 and 22 and an irregular lower edge comprising the sections 15, 16, 17, 18 and 19. This blank has a front portion 1 and rear portion 4, which are integrally connected by means of the side portions 2 and 3.

It will be readily understood that the portions 2 and 3 fold inwardly when the bag is in its completed shape and unfilled. A score line 8 defines the line along which the blank is bent to form the separate portions 1 and 2. The score line 9 defines the line of bend between the portions 2 and 3 and it forms the innermost portion of the pleat or gusset. The score line 10 denotes the line of bend between the portions 3 and 4.

Side portions 5 and 6 are formed similar to the portions 2 and 3 and are separated from each other by the score line 12 which extends inwardly toward the line 9 when the bag is flat.

The overlapping portion 7 is adapted to be united to the inner face of the front portion 1 and is separated from the side portion 6 by the score line 13.

A strip of fabric 14 is united to the lower portion of the blank in any desired manner such as pasting, stapling or sewing. The lower edges of the portions 2 and 3 extend in a common edge 18 and this edge is aligned with the edge 16 which forms the lowermost part of the side portions 5 and 6. The edge 19 defines the lowermost part of the front portion 1 and it is aligned with the edge 15 of the overlapping portion 7. The edge 17 extends below the edges 15 and 19 so that when the bag is assembled, such edge abuts the line 23 which defines the line of bend between the vertical front portion 1 and the bottom of the bag.

The bag will be made by first cutting the blank and then applying the strip 14 to that surface of the blank which is adapted to become the interior of the bag. Adhesive may be previously applied to the overlapping portion 7 in

which event the same will be moistened so that such overlapping portion can be attached to the front portion 1. Adhesive can also be previously applied to the tabs 4a, 1a and along the lower edge of the blank wherever the fabric overlaps. After the overlapping portion 7 is united to the inner face of the front portion 1 the bag is bellows folded and then the portion 4a is pressed into engagement with the tab 1a. The bag is now complete and ready for use.

It is, of course, to be understood that the adhesive may be applied during the folding operation and that the invention is not to be limited to pre-application of the adhesive, either as regards portion 7 or portion 4a.

In Fig. 5 the front portion 25 is integrally connected to the rear portion 28 by side portions 26 and 27 and all of such portions are defined by the score lines 32, 33 and 34. The side portions 29 and 30 are connected to the opposite side of the rear portion 28 and such portions are defined by the score lines 35, 36 and 37. An overlapping portion 31 is provided which is similar to the portion 7 in the preceding figures. The blank is generally defined by the upper edge 44, the side edges 45 and 46 and an irregular lower edge comprising the parts 38, 39, 40, 41 and 42. A fabric strip 14a, similar to strip 14, is attached to the lower part of the blank, overlapping a small distance above parts 38, 39, 40, 41 and 42 in any desired manner. This fabric strip corresponds exactly to the strip 14 but the blank is different in that the edges 40 and 42 of the rear and front respectively are in alignment. When this bag is formed there will be a short exposed part of the fabric strip, this part being defined by the area between the lowermost edge 48 of the strip and a line extending through the edges 38, 40 and 42. After the blank has been bellows folded the extending fabric is sewed, pasted or stapled. When the bag is filled it will be practically impossible to observe this small portion of fabric as the same will then lie centrally and beneath the bottom of the bag. This modification differs from the preferred embodiment in that the blank is slightly cheaper to manufacture.

In Fig. 6, a bag formed from the blank shown in Fig. 5 is illustrated and it will be noted that the paper of the front and rear portions does not completely cover the fabric strip 14a as in the preceding embodiment shown in Figs. 1 to 4, inclusive. This bag is slightly cheaper to manufacture inasmuch as less paper is used and since the bag is designed to stand on the shelf as shown in Fig. 6, the protruding portion of fabric is not ordinarily visible.

In Fig. 7 the blank employed is exactly the same as the blank in Fig. 5 as far as the paper body portion is concerned and the fabric strip 14b is exactly the same as fabric strips 14 and 14a. This complete blank differs from the preceding embodiments in that the lower edge 48' of the blank is aligned with the lower edges of the portions 36', 40' and 42'. In this way the fabric is entirely concealed when the bag is assembled. The blanks involved in Fig. 7 comprise a front portion 25' to which side portions 26' and 27' are attached and a rear portion 28' is attached to the side portion 27'. Side portions 29' and 30' extend from the rear portion 28' and an overlapping portion 31' is adapted to be attached to the interior surface of the front portion 25'. The various portions are divided by score or crease lines 32', 33', 34', 35', 36' and 37'. The blank is generally rectangular in shape being bounded by an upper edge 44', parallel side edges 45' and 46' and an irregular lower edge. The irregularity is produced by removing lower portions of the sides 26', 27', 29' and 30'. As stated previously the lower edge of the fabric strip 14b is attached so that it lines up with the lower edges of the portions 38' 40' and 42' and when the bag is assembled the fabric strip 14b is completely hidden from view.

Fig. 8 shows the completed bag formed from the blank in Fig. 7 in side elevation and it will be noted that the lower extensions of the front and rear portions coincide with the lower edge 48' of the fabric strip.

Fig. 9 illustrates a completed bag formed from the blank shown in Fig. 1, such bag being folded in a flattened condition such as it appears prior to use. In this embodiment it will be noted that no fabric is visible.

Fig. 10 is a view similar to Fig. 9 of a completed flattened bag made from the blank shown in Fig. 5. In this figure a relatively small part of the strip 14a is visible prior to filling of the bag.

Fig. 11 is a view similar to Figs. 9 and 10 of a flattened bellows type bag made from the blank shown in Fig. 7. In this figure the fabric is entirely covered by the front and rear portions and altho stitching is shown it is to be understood that any preferred type of closing means may be employed, such as pasting, stapling or sewing.

From the preceding description it will be seen that I have provided a bag which is exceptionally strong since the right angle bend between the vertical surfaces and the horizontal bottom is made in fabric material instead of paper. The front and rear portions of the paper are bent but no strain is placed upon such portions due to the presence of the fabric bottom.

It will also be noted that the resulting bag and especially the embodiments of Figs. 9 and 11, will look similar to a conventional paper bag. It will also be seen that the bag may be formed of relatively stiff paper or of relatively thin paper without danger of rupture, since the bottom is adequately reinforced by the fabric strip.

Paper bags have come into wide usage because they are relatively inexpensive but a severe problem has arisen since folding thin paper causes such paper to tear along the line of fold and since it is not commercially feasible to fold heavy paper.

The bags of my invention solve this problem at very little additional expense and in fact at less cost than that of a multi-ply bag.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regard the structure herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:

1. In a bag having front, rear and side portions, the combination with a strip of fabric, said strip having a part thereof attached to the lower part of each of said portions and each of said portions having a lower edge, the lower edges of said side portions being alined and lying above the lower edges of said front and rear portions, all of said portions being composed of paper.

2. In a bag having front, rear and side portions, the combination with a strip of fabric, said

strip being attached to the lower part of each of said portions and each of said portions having a lower edge, the lower edges of said side portions being alined and lying above the lower edges of said front and rear portions, and the lower edges of said front and rear portions being out of alinement whereby one of such edges lies below the other.

3. In a bag having front, rear and side portions, the combination with a strip of fabric, said strip being attached to the lower part of each of said portions and each of said portions having a lower edge, the lower edges of said side portions being alined and lying above the lower edges of said front and rear portions, one of said side portions having an overlapping portion adapted to be united to said front portion, said overlapping portion having a lower edge alined with the lower edges of said front and rear portions, all of said portions being composed of paper.

4. In a bag having front, rear and side portions, the combination with a strip of fabric, said strip having a part thereof attached to the lower part of each of said portions and each of said portions having a lower edge, the lower edges of said side portions being alined and lying above the lower edges of said front and rear portions, said strip of fabric being attached to the inner surface of said portions, all of said portions being composed of paper.

5. In a bag having front, rear and side portions, the combination with a strip of fabric, said strip being attached to the lower part of each of said portions and each of said portions having a lower edge, the lower edges of said side portions being alined and lying above the lower edges of said front and rear portions, and the lower edges of said front and rear portions being out of alinement whereby one of such edges lies below the other, such last named edge being united to said front portion when said bag is assembled.

6. In a bag having front, rear and side portions, the combination with a strip of fabric, said strip being attached to the lower part of each of said portions and each of said portions having a lower edge, the lower edges of said side portions being alined and lying above the lower edges of said front and rear portions and the lower edges of said front and rear portions being alined, all of said portions being composed of paper.

7. In a bag having front, rear and side portions, the combination with a strip of fabric, said strip being attached to the lower part of each of said portions and each of said portions having a lower edge, the lower edges of said side portions being alined and lying above the lower edges of said front and rear portions and the lower edges of said front and rear portions being alined, one of said side portions having an overlapping portion adapted to be united to said front portion, said overlapping portion having a lower edge alined with the lower edges of said front and rear portions.

8. In a bag having front, rear and side portions, the combination with a strip of fabric, said strip being attached to the lower part of each of said portions and each of said portions having a lower edge, the lower edges of said side portions being alined and lying above the lower edges of said front and rear portions and the lower edges of said front and rear portions being alined, said strip of fabric having a lower edge alined with said lower edges of the front and rear portions.

9. In a bag having front, rear and side portions, the combination with a strip of fabric, said strip being attached to the lower part of each of said portions and each of said portions having a lower edge, the lower edges of said side portions being alined and lying above the lower edges of said front and rear portions and the lower edges of said front and rear portions being alined, one of said side portions having an overlapping portion adapted to be united to said front portion, said overlapping portion having a lower edge alined with the lower edges of said front and rear portions, said strip of fabric having a lower edge alined with said lower edges of the front and rear portions.

10. A bag blank comprising a flat piece of paper, having front and rear portions and side portions and a flat strip of fabric having a part thereof attached to the lower part of said paper, all of said portions having lower edges spaced below the upper edge of said fabric strip, the lower edges of said side portions being spaced above the lower edges of said front and rear portions.

11. A bag blank comprising a flat piece of paper, having front and rear portions and side portions and a flat strip of fabric attached to the lower part of said paper, all of said portions having lower edges spaced below the upper edge of said fabric strip, the lower edges of said side portions being spaced above the lower edges of said front and rear portions, and the lower edge of said front portion being spaced below the lower edge of said rear portion.

12. A bag blank comprising a flat piece of paper, having front and rear portions and side portions and a flat strip of fabric attached to the lower part of said paper, all of said portions having lower edges spaced below the upper edge of said fabric strip, the lower edges of said side portions being spaced above the lower edges of said front and rear portions, the lower edges of said front and rear portions being alined.

13. A bag blank comprising a flat piece of paper, having front and rear portions and side portions and a flat strip of fabric attached to the lower part of said paper, all of said portions having lower edges spaced below the upper edge of said fabric strip, the lower edges of said side portions being spaced above the lower edges of said front and rear portions, the lower edges of said front and rear portions being alined with each other and with the lower edge of said fabric strip.

JOHN F. AMES.