

Aug. 1, 1933.

J. A. ROSMAIT

1,920,322

PAPER BAG

Original Filed June 5, 1931

2 Sheets-Sheet 1

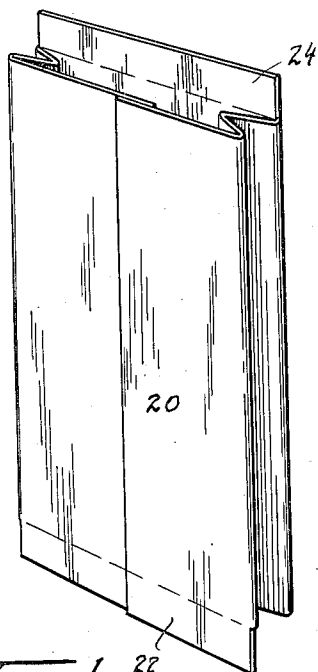


Fig. 1

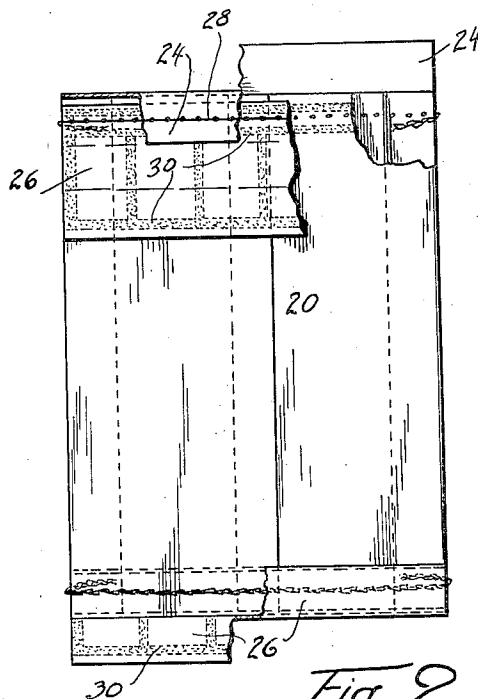


Fig. 2

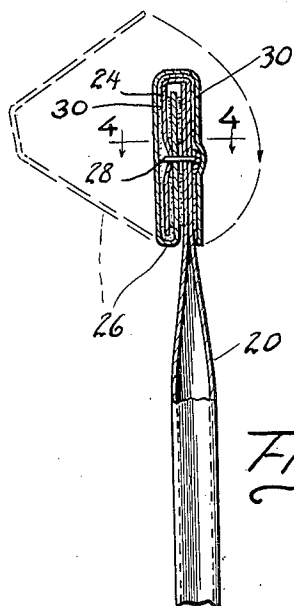


Fig. 3

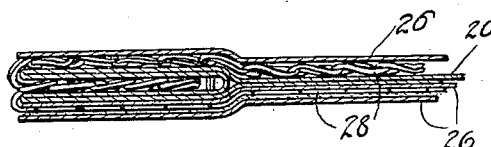


Fig. 4

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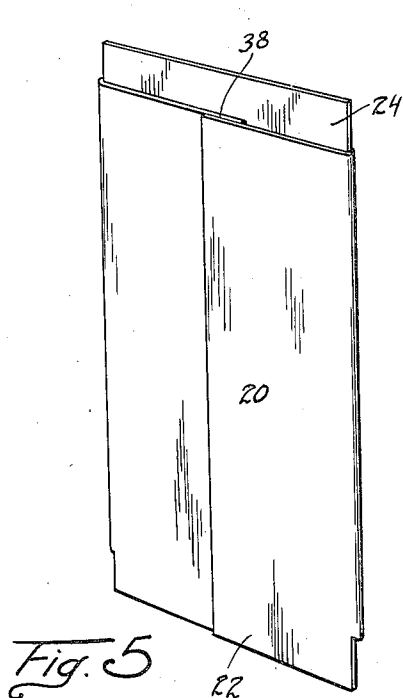
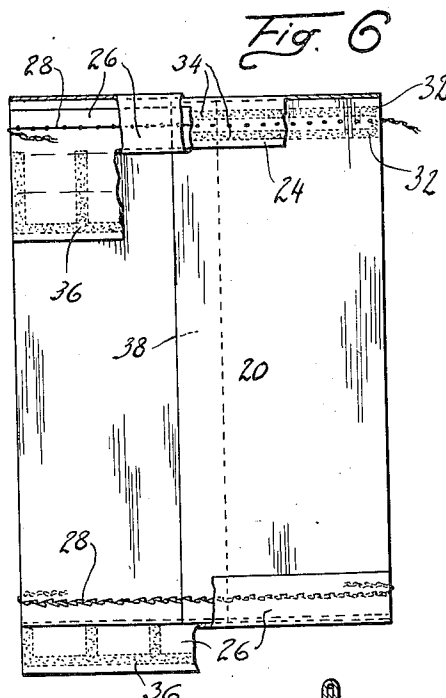
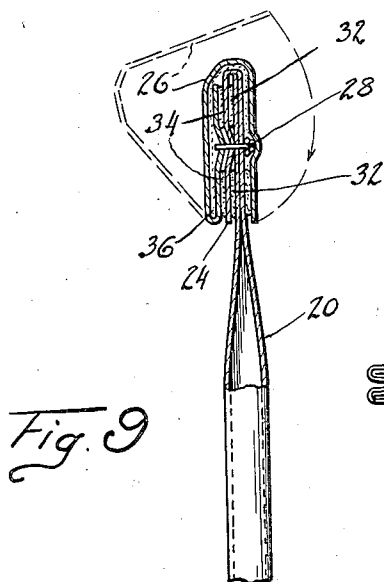
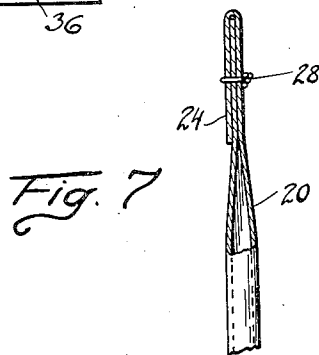
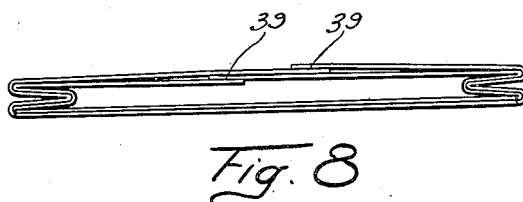
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Application June 5, 1931, Serial No. 542,223
Renewed October 3, 1932

8 Claims. (Cl. 229—62)

My invention relates to improvements in paper bags and their closures and their method of manufacture.

An object is to provide an inexpensive paper bag capable of being sealed at both ends so that the bag may serve as a container for powdered materials.

Another object is to provide such a bag having a closure at each end which employs a line of stitching to secure the side walls of the bag together and a sealer strip adapted to seal the end of the bag and to also seal the perforations produced by the stitching.

A meritorious feature resides in the provision of such a bag wherein one side wall extends beyond the other at each end and is folded over such end and onto the opposite side wall and is employed in combination with a sealer strip arranged with respect thereto so as to seal the end of the bag, to serve as a reinforcement for the stitching, and to seal the perforations produced by the stitching.

Another object of my invention is to provide a paper bag formed of a tubular blank wherein there is practically no waste of paper in cutting the bag lengths and yet wherein the bag structure is of such a character that the closure at each end is effective to permit the use of the bag as a container for powdered material.

A further object is the provision of an improved process adaptable for use in the manufacture of paper bags according to the embodiment of my invention.

Other objects and advantages of my invention will more fully appear from the following specification, appended claims, and accompanying drawings, wherein:

Fig. 1 is a perspective of a gusseted tube bag blank.

Fig. 2 is a side elevation of a bag structure embodying my invention.

Fig. 3 is a fragmentary sectional elevation of the bag structure shown in Fig. 2.

Fig. 4 is a horizontal sectional view through the bag structure shown in Figs. 2 and 3 taken along the line of the seam.

Fig. 5 is a perspective of a bag tube blank of the modified form as compared with Fig. 1.

Fig. 6 is an elevation of the bag embodying my invention of a modified form as compared with Fig. 2.

Fig. 7 is a fragmentary end view, partly in section, of a single wall bag being of a modified form.

Fig. 8 is an end view of a double wall gusseted bag blank.

Fig. 9 is an elevation of an end fragment of a bag structure similar to that shown in Fig. 6.

This particular invention is preferably embodied in a single wall bag or, at most, a double wall bag. It is not readily adaptable to a multiple wall bag having many plies and wherein gusseted portions are used. This is because one side wall is folded over the other at the end, and if the bag were of the many ply type gusseted it would furnish too many plies to be satisfactorily sewed through.

Figs. 1-4 inclusive illustrate a preferred form of my invention. In this form of the invention the bag illustrated is a single wall bag provided with gussets. Side wall 20 is extended at one end beyond the opposite wall of the bag. This opposite side wall is extended at the opposite end as at 24 beyond side wall 20. These end extensions are adapted to be folded over the adjacent mouth of the bag onto the opposite side walls and there secured in place. It will be noted that in this construction the extensions 22 and 24 are of a width equal to the exposed side walls not including the gussets.

If the bag is of the open end form one end is completely finished and the bag is filled and then the opposite end is finished. In either event, if the bag is of the open end form or of the valve type, the two ends of the bag are finished alike. In the construction shown in Figs. 1-4 the extensions 22 and 24 are folded over the ends of the bags as illustrated in Fig. 3. There is provided, however, a sealer strip 26. This sealer strip is inserted underneath the folded over end adjacent the side wall it overlies and is secured in place by the stitching 28 which secures the side walls of the bag together at the end. This sealer strip is provided with lines of adhesive 30 on opposite sides adjacent each longitudinal margin so that it is adhered both to the adjacent side wall of the bag and to the folded over portion of the opposite side wall on both sides of the stitching 28, but the adhesive does not extend over the stitched portion of the sealer strip. This sealer strip is of a width which permits it, as shown in Figs. 2 and 3, to be folded over upon itself and over the end of the bag and secured to the opposite side wall of the bag by adhesive below the line of stitching on such opposite side wall.

The arrangement of the adhesive on the sealer strip is shown in Fig. 2 where it will be seen that the portion of the sealer strip which is adapted to be folded over is provided with a line of adhesive adjacent its linear margin and with the parallel spaced apart lines of adhesive extended

transversely of the strip from said linear line of adhesive to the line of adhesive adjacent the line on which the strip is stitched down. When the sealer strip is folded over as shown in Fig. 3 it will appear that it is adhesively secured on both sides of the bag to both side walls thereof and also to both sides of the folded portion of the one side wall and that the adhesive material is so arranged that any powdered material contents of the bag which might leak out of the apertures formed by the stitching will be prevented from escaping and will be held within bulkhead portions formed by the blocks of adhesive carried by the sealer strip.

It is also apparent that the adhesive strip serves as a reinforcement strip to take the strain of the stitching. It will be noted that the stitching is of a chain stitch type on one side of the bag and is plain stitching on the opposite side of the bag and that the sealer strip serves as a reinforcement on the plain stitch side of the bag.

The sealer strip is of a length equal to the width of the bag wall but the stitching extends in a thread end beyond the edge of the bag wall and this projecting end of the thread is sealed against unravelling by being turned into the gussets at the opposite edges of the bag, as shown in Fig. 4, and adhesively secured in place therein as described in a copending application of even date.

In Fig. 5 I have shown a bag blank which is not of the gusseted form but wherein the side walls project as described in connection with Fig. 1.

In Figs. 6 and 9 a modified form of my invention is shown wherein the sealer strip, instead of being inserted underneath the folded over end of one bag wall and adhesively secured between said folded over end and the adjacent wall of the bag, is secured to the outer surface of the folded over end of the bag wall as shown in Fig. 9. In this construction the folded over end of the bag is provided with two lines of adhesive 32 arranged in parallel spaced apart relationship to be disposed on opposite sides of the line of stitching. The sealer strip is then folded upon itself and over the end of the bag and down the opposite side wall and it is provided with lines of adhesive 36 arranged, as has been heretofore described, in linear lines and in transverse lines and which secure the same in its folded over relationship. This is shown particularly in Fig. 6. The ends of the thread are disposed in a manner similar to that hitherto shown, or in the absence of gusseted structure, the end of the thread may be molded against the bag wall underneath the sealer strip and the sealer strip adhesively secured thereover so as to hold such end in place.

In Fig. 7 I have shown the simple form of my invention wherein the projecting side walls at each end are folded over and stitched down by a line of stitching 28 but wherein no sealer strip is provided and adhesive is not used. In this construction the chain stitch side is on the single wall side and the plain stitching is reinforced by the folded over side wall of the bag.

It will be seen that in the forms of bags embodying my invention a tubular bag blank is first formed. The edges may be glued together as indicated at 38 to form this tubular blank. In the case of a double wall bag these glued longitudinal seams are shown at 39.

These tubular bag blanks have opposite side walls projecting at opposite ends beyond the opposed side walls as shown in Figs. 1 and 5 and by

cutting the blank in this fashion from a paper tube it is apparent that there is practically no wastage of paper. In the construction shown in Fig. 5 there would not be any wastage of paper. In the construction shown in Fig. 1 the only wastage would be one-half of the gusset at each side.

This method of manufacture is inexpensive in the saving of paper and provides an inexpensive bag which will be effectively sealed against leakage.

Whenever the word stitching is used herein it is intended to include stapling or other securing means employed to fasten the bag walls together, and used alternately in place of the stitching and is to be so considered.

What I claim:

1. A paper bag having side walls secured together at one end by a line of stitching, one of said side walls being longer than the other and folded over the end of the bag onto the opposite side wall and secured thereto by said line of stitching, a sealer strip extending across said end of the bag and secured to one side wall thereof by said line of stitching, and by a line of adhesive extending parallel to the line of stitching, said sealer strip folded upon itself and over the end of the bag and adhesively secured to the opposite side wall of the bag along a line extending parallel to said line of stitching and below said line of stitching, and further adhesively secured in place by spaced apart parallel lines of adhesive extending transversely of said strip over the end of the bag between said parallel lines of adhesive forming a succession of completely enclosed bulkhead portions across the end of the bag wherein the stitching is free from adhesive.
2. A paper bag having side walls secured together at one end by a line of stitching, one of said side walls being longer than the other and folded over the end of the bag onto the opposite side wall and secured thereto by said line of stitching, a sealer strip extending across said end of the bag and secured to one side wall thereof by said line of stitching, underneath the folded over end of the one side wall, said sealer strip folded upon itself over said folded over end and over the end of the bag and adhesively secured to both side walls of the bag and by a line of adhesive extending across the bag underneath and spaced from the line of stitching and further adhesively secured in place over the end of the bag by narrow spaced apart transverse lines of adhesive forming a plurality of completely enclosed bulkhead portions along the line of stitching wherein the stitching is free from adhesive.
3. A paper bag having side walls secured together at one end by a line of stitching, one of said side walls being longer than the other and folded over the end of the bag onto the opposite side wall and secured thereto by said line of stitching, a sealer strip extending across said end of the bag and secured to one side wall thereof by said line of stitching underneath the folded over end of the one side wall, said sealer strip folded upon itself over said folded over end and over the end of the bag and adhesively secured to both side walls of the bag and to the folded over end of the one side wall by a line of adhesive extending across the bag underneath and spaced from the line of stitching and by a plurality of spaced apart lines of adhesive extending transversely across the strip from one parallel line of adhesive to the other over the end of the bag and the stitching on both sides of the bag.

4. A paper bag having side walls secured together at one end by a line of stitching, one of said side walls being longer than the other and folded over the end of the bag onto the opposite side wall and secured thereto by said line of stitching, a sealer strip extending across said end of the bag and secured to one side wall thereof by said line of stitching, said sealer strip further secured in place by adhesion to both side walls of the bag along a line underneath and spaced from the line of stitching and to both sides of the folded over end of the one side wall and to the opposite side wall of the bag by narrow lines of adhesive extending transversely across the strip between said lines of adhesive below the stitching on both sides of the strip.
5. A paper bag having side walls one of which is longer than the other and folded over the end of the bag and down along the opposite side wall and a line of stitching securing said side walls together and securing the folded over end of the one side wall in its folded over relationship against the opposite side wall and a reinforcing sealing strip arranged between said folded over end of the one side wall and the adjacent side wall of the bag and secured thereto by said stitching and adhesively secured to the side wall and to the folded over end of the opposite side wall by a narrow line of adhesive spaced above and below said line of stitching and further adhesively secured in place by a plurality of spaced apart lines of adhesive extending transversely across the strip between lines of adhesive on opposite sides of the bag and over the stitching on both sides of the bag.
6. A paper bag having side walls secured together at one end by a line of stitching, an end closure strip secured to one side wall by said line of stitching and folded upon itself over said line of stitching and thence over the end of the bag and down over the opposite side wall and secured thereto by a line of adhesive extending parallel to and below the line of stitching on said side wall, said strip further secured in place by a line of adhesive extending transversely across each end of the strip from the line of adhesive on one side to the line of adhesive on the opposite side.
7. A paper bag having side walls secured together at one end by a line of stitching, an end closure strip extending across the end of the bag down along each side wall over the line of stitching and secured to each side wall by a line of adhesive extending parallel to and below said line of stitching by a narrow line of adhesive extending transversely across each end of the strip connecting said parallel lines of adhesive and by additional spaced apart lines of adhesive connecting said parallel lines and arranged between said two end lines of adhesive.
8. A paper bag having side walls secured together at one end by a line of stitching, one of said side walls being longer than the other and folded over the end of the bag onto the opposite side wall and secured thereto by said line of stitching, a sealer strip extending across said end of the bag and secured to one side wall thereof by said line of stitching underneath the folded over end of the one side wall, said sealer strip folded upon itself over said folded-over end and over the end of the bag and adhesively secured to both side walls of the bag and by a line of adhesive extending across the bag underneath and spaced from the line of stitching.

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45	120
50	125
55	130
60	135
65	140
70	145
75	150