

April 1, 1969

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3,435,736

METHOD OF MAKING A SQUARE BOTTOM BAG

Filed Oct. 11, 1965

Fig. 2

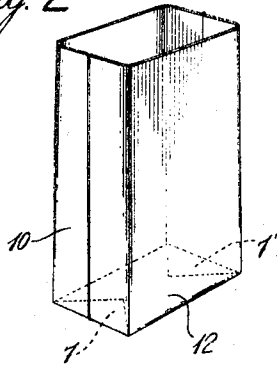


Fig. 3

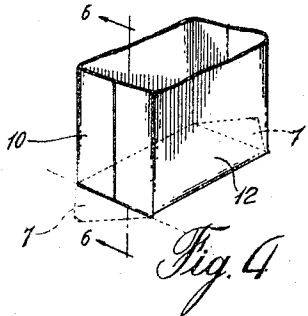
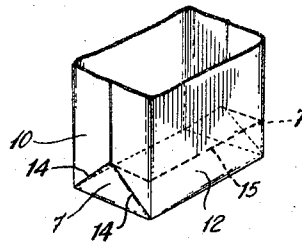


Fig. 4

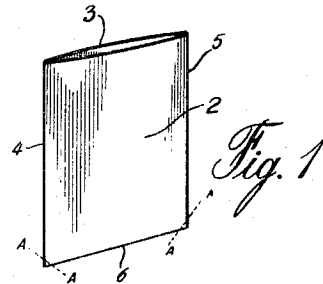


Fig. 1

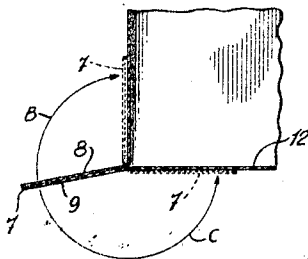


Fig. 5

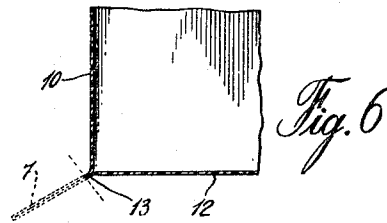


Fig. 6

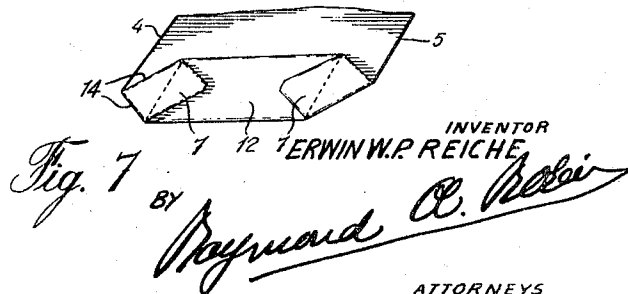


Fig. 7

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1

3,435,736

METHOD OF MAKING A SQUARE BOTTOM BAG

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Filed Oct. 11, 1965, Ser. No. 494,470
Int. Cl. B31b 49/04

U.S. Cl. 93—35

4 Claims

ABSTRACT OF THE DISCLOSURE

A method of making a square bottom bag in which triangular flaps formed at the lower corners have their walls sealed together before the flaps are sealed to the side or bottom of the bag.

The present invention relates to the manufacture of bags and more particularly to the method for the manufacture of bags having a square or rectangular bottom section.

The invention is particularly directed to a folding process of a container having two flat walls, the said container being closed on both side edges and at the bottom edge and opened at the top edge, in order to obtain a bag having a square or rectangular bottom. The walls are spread apart by known technology to flatten the lower corners of the container and to form a triangular flap at 90° from the plane of the original container. The two surfaces of the said flap are heat sealed together in order to prevent the filling material (food or goods) from entering into the corner flap which would tend to deform the rectangular or square shape of the bottom surface.

The said flap may be cut away leaving a small portion, of the sealed flap in order to maintain the bottom of the bag sealed. The flap may also be folded on the side or on the bottom of the bag and sealed thereagainst.

In order to explain the invention in greater details, the following drawings are included wherein:

FIG. 1 shows a container in the original form.

FIGS. 2 and 3 show two bags folded in their final shape.

FIG. 4 shows the part of the bag with a cut-away triangular flap, the flap being shown in dotted lines.

FIGS. 5 and 6 show a section of the lower part of the bag with the triangular flap respectively extended and cut away.

FIG. 7 shows a bag folded for storage.

A flat bag such as shown in FIG. 1 is used as a prefabricated container. The said container comprises two walls 2 and 3 closed on both side edges 4 and 5 and at the bottom edge 6. The top of the bag is open.

It has been found that it is advantageous to cut or puncture the lower corners of the bag along the dotted lines A—A of FIG. 1. These punctured or cut parts allow a better flow of air through the interior of the bag during the process of folding the bag.

The lower corners of the bag are pulled apart to form triangular flaps 7 and 7' such as shown in dotted lines in FIG. 4. The size of the flap is determined by the size and shape of the bag which is folded. The base of the triangular flap corresponds to the width of the bag.

FIG. 5 shows the cross-section of the lower part of a bag after the flap 7 has been formed. The two surfaces 8 and 9 of the flap 7 are heat sealed together to prevent

2

the material in the bag from entering between the two surfaces 8 and 9. If the bag is made of plastic, the two surfaces 8 and 9 may be heat-sealed or glued with an appropriate glue.

The triangular flap 7 may be folded upwardly and sealed against the side 10 of the bag or folded downwardly and sealed against the flat bottom 12. The flap may be heat-sealed or glued to the sides or the bottom as described for the two surfaces 8 and 9 of the flap 7. FIG. 5 shows the arrow B indicating the rotation of the flap 7 when fixed to the side 10. When the flap is rotated in the direction shown by the arrow C, the said flap is sealed against the bottom 12.

It is pointed out that the sealed portions help to rigidify the lower section of the bag. The sealing of the two surfaces 8 and 9 adds therefore to the rigidity of the lower section of the bag.

If the additional rigidity provided by the flap 7 is not needed or if for some other reasons, such as economy of space or weight, the flap 7 is not wanted, the major part of the flap is cut away as shown in FIG. 6. The base 13 of the said flap is not removed. The remaining part 13 of the flap 7 seals the bottom 12 and sides 10 in order to prevent the escapement of the material in the bag.

In order to facilitate the storage of the bags, the latter are folded flat one over the other. Accordingly, the bags are creased along the lines 14 corresponding to the top edges of the flaps 7 and 7' as if the latter are folded upwardly as shown in FIG. 3. At least one of the walls is also creased on line 15 across the full width at the level of the top apexes of the flap as shown in FIG. 3 so that the lower part of the bag may be folded as shown in FIG. 7.

As it may be seen from the above description, a flat bag, such as shown in FIG. 1, which is easily available on the market, may be commonly folded into a bag having a square or rectangular bottom the lower section of the bag being simply sealed. With this process it is possible to obtain from the same original container a plurality of proportions between the sides of the finished bag. The sealed portion of the flaps formed in the lower portion of the bag may be used to reinforce the said portion.

Although a specific embodiment of the invention has just been described, it will be understood that various modifications may be made thereto without departing from the invention, the scope of which is only to be construed from the appended claims.

I claim:

1. In the manufacture of a square or rectangular bottom bag, a process for folding a nonfibrous plastic container having two flat walls, said container being closed on both side edges and at the bottom edge, and opened at the top edge, comprising spreading apart the walls at the lower corners of the container, forming in the lower corners of the container a triangular flap at substantially 90° with the plane of the walls; heat-sealing the walls together inside the said triangular flap, folding and sealing the said flap on the side or on the bottom of the bag.

2. In the manufacture of a bag, as recited in claim 1, wherein the corners of the container are punctured prior to spreading the walls apart.

3. In the manufacture of a bag as recited in claim 1, wherein the walls are creased along the line correspond-

3

ing to the top edges of the flap when the latter is folded upwardly, at least one of the walls being also creased across their full width at the level of the top apex of the flaps.

4. In the manufacture of a square or rectangular bot- 5
tom bag, a process for folding a non-fibrous container
having two flat walls, said container being closed on both
side edges and at the bottom edge, and opened at the
top edge, comprising spreading apart the top walls at the 10
lower corners of the container, forming in the lower
corners of the container a triangular flap at substantial-
ly 90° with the plane of the walls, heat-sealing the walls
together inside the said triangular flap; and cutting off

4

the major portion of the flap leaving a sealed edge along
the base of the triangular flap.

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