H. L. JOHNSON.

METHOD OF MAKING CARTON LININGS.

APPLICATION FILED APR. 5, 1918.

1,368,633.

Patented Feb. 15, 1921.

Fig. 1.

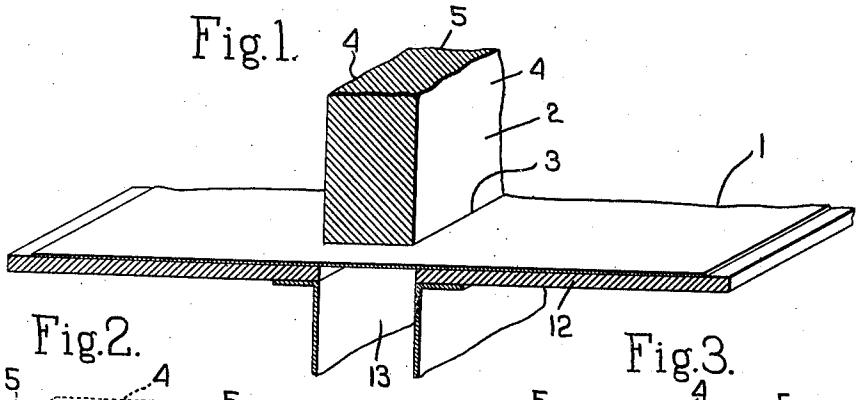


Fig. 2.

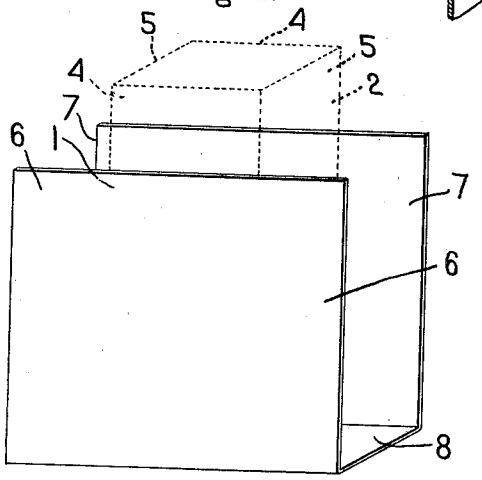


Fig. 3.

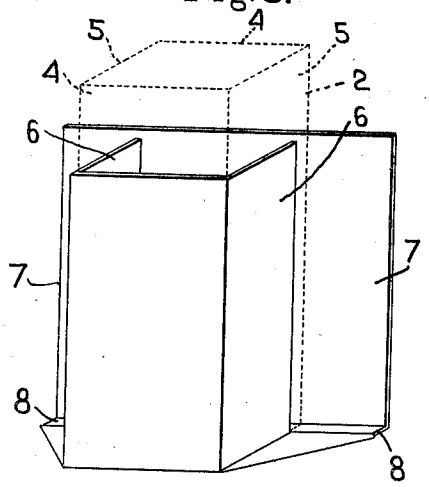


Fig. 4.

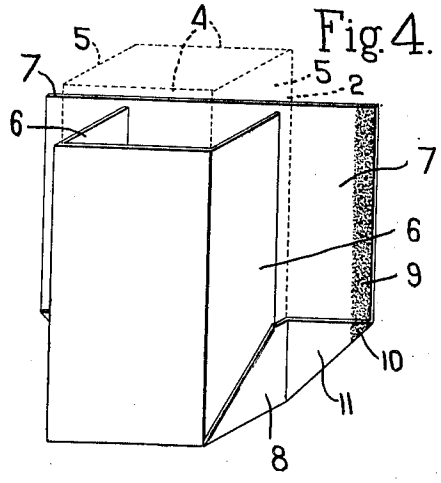
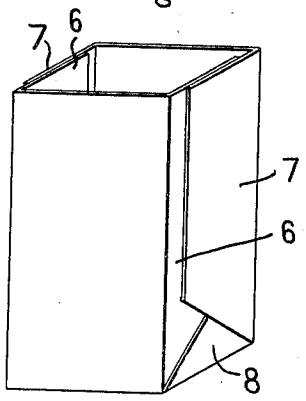


Fig. 5.



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METHOD OF MAKING CARTON-LININGS.

1,368,633. Specification of Letters Patent. Patented Feb. 15, 1921.

Application filed April 5, 1918. Serial No. 226,935.

To all whom it may concern:

Be it known that I, HARRY L. JOHNSON, a citizen of the United States, residing at Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Methods of Making Carton-Linings, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

In the packaging of granular and powdered material, such, for instance, as breakfast foods, sugar, ground coffee, etc., it is customary to employ a lining for the carton in the form of a paper bag, and it is also customary to make these linings by means of mechanism constructed to fold a sheet of paper of the proper size about a core or shape-giving element which has the size and shape of the desired lining. According to one known method the lining is formed by first folding the sheet of paper around the end and against the opposite sides of the shape-giving element, the latter having a dimension transversely of the sheet less than that of the sheet so that when the sheet is thus folded into U-shape about the shape-giving element the edges of the sheet which extend at right angles to the bend therein project beyond the sides of the element to form on each side two side flaps and a bottom flap, and then folding first one and then the other side flap at each side of the sheet against the side of the shape-giving element, and, lastly, folding the bottom flap over against the folded side flaps, the folded side flaps and the bottom flap being united by suitable adhesive. By this method the folding of the bottom flap produces an outside pocket at the bottom of the bag or lining.

Another method which has sometimes been used is to first fold the sheet of paper into U-shape about the end and against the opposite sides of the shape-giving element, as above described, and then to fold first the bottom flap at each side against the adjacent side of the shape-giving element, and afterward to fold the two side flaps at each side over the bottom flap, these side and bottom flaps being secured together by suitable adhesive.

The last-described method differs from the first method in that the bottom flap is folded inside of the side flaps instead of outside thereof, and an inside pocket, instead of an outside pocket is thus formed at the bottom of the bag or lining.

It is a desideratum that the lining should be a "non-sifting" lining, that is, a lining which is so formed that it has no passages at the bottom where the bottom flap is folded through which the contents of the package can sift because any material which does thus sift out of the lining into the space between the lining and the carton is usually wasted.

It is the object of my present invention to provide a novel method of folding a sheet of paper to form a bag-like lining which is non-sifting, and I accomplish this by the order in which the side and bottom flaps of the sheet of paper are folded against the sides of the shape-giving element. In accordance with my invention, I first fold a sheet of paper about the end and against the sides of a shape-giving element, as above referred to, and then I fold one side flap against the shape-giving element, and then fold the bottom flap, and subsequently fold the other side flap, the two side flaps being securely fastened by means of adhesive. According to this method, the bottom flap is folded between the two side flaps, and by so doing a tight non-sifting joint will be provided.

In order to give an understanding of my invention, I have illustrated in the drawings a selected embodiment thereof which will now be described, after which the novel features thereof will be pointed out in the appended claim.

Figure 1 is a perspective view showing the sheet of paper in position to be acted upon by the shape-giving element;

Fig. 2 is a view showing the first step in the process during which the sheet of paper is folded about the ends and against the sides of the shape-giving element;

Figs. 3 and 4 are views showing succeeding steps in the process;

Fig. 5 is a perspective view of the completed lining.

The sheet of paper from which the lining is made is indicated at 1, and 2 indicates the shape-giving element which has the shape of the finished lining. In carrying out my improved method, the sheet of paper 1 is first folded about the end 3 and up against the two opposite sides 4 of the shape-giving element, as shown in Fig. 2, the paper at this time having a U-shape.

The sheet of paper which is used has a transverse dimension greater than the distance between the other two opposed sides 5 of the shape-giving element so that when the paper is folded into its U-shape about the bottom and two opposite sides 4 of the shape-giving element, as shown in Fig. 2, said sheet of paper will project beyond each of the sides 5 thereby to form the two side flaps 6 and 7 and the bottom flap 8 at each edge. After the paper is thus folded into U-shape, as shown in Fig. 2, then one of the side flaps at each edge of the paper is folded against the corresponding side 5 of the shape-giving element, as shown in Fig. 3. I have herein shown the side flaps 6 as the ones which are thus first folded against the sides 5, but so far as the invention is concerned, either side flap might be folded first.

The folding of the side flaps 6 results in folding one corner of the bottom flap 8, as shown in Fig. 3. After the side flaps 6 are folded, the bottom flap 8 is folded up against the folded side flaps 6, as shown in Fig. 4. The operation of folding the bottom flap 8 results in turning in or folding the lower portion 11 of the side flaps 7 against the body thereof. After the side flaps 6 and bottom flap 8 are thus folded, then the side flaps 7 are folded over against the folded bottom flaps 8 and folded side flaps 6. Before each flap 7 is folded, however, I will preferably apply to the edge thereof a coating of adhesive material, as shown at 9, such coating being also applied to the corner portion 10 of the lower folded-in part 11 of the side flap. When the side flap 7 is finally folded, the adhesive will cause it to stick to the folded flap 6, thus completing the lining. I have found that by folding the bottom flaps 8 in between the side flaps 6 and 7 a tight non-sifting joint will be provided. The folding of the sheet in the manner above described may be performed by any suitable instrumentalities. I have herein illustrated a support 12 on which the sheet 1 may be placed and which is provided with an opening or passage 13 beneath the shape-giving element 2 so that when the shape-giving element 2 is depressed into said passage, the sheet of paper 1 will be folded, as shown in Fig. 2. The folding of the side and bottom flaps may be done by any appropriate folding elements which it is not necessary to illustrate herein.

I claim:

The method of making a carton lining from a sheet of paper which consists in bending said sheet around one end of and against two opposite sides of a shape-giving element, the dimension of which in a direction transversely of the sheet is less than that of the sheet so that the edges which extend at right angles to the line on which the sheet is bent project beyond said element thereby forming side and bottom flaps, folding one side flap at each edge of the sheet against said element, folding the bottom flap at each edge of the sheet against the folded side flap and at the same time folding the lower portion of each of the other side flaps inwardly against the inner face of said flaps, applying adhesive to the edges of said other side flaps and to the corner of the folded-in part of said flaps and then folding said other side flaps against the folded bottom and side flaps so that each folded bottom flap is interposed between the folded side flaps.

In testimony whereof, I have signed my name to this specification.

HARRY L. JOHNSON.