Dec. 5, 1933. D. BELCHER 1,937,506

METHOD OF CLOSING BAG TOPS

Original Filed Feb. 9, 1931

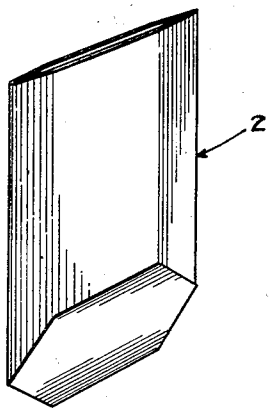


FIG. 1

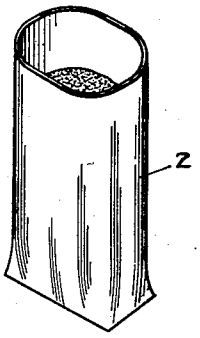


FIG. 2

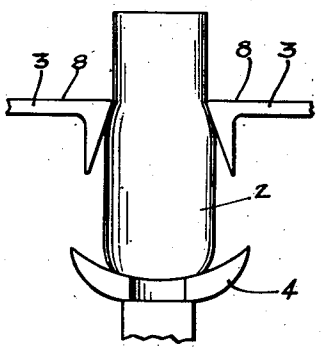


FIG. 3

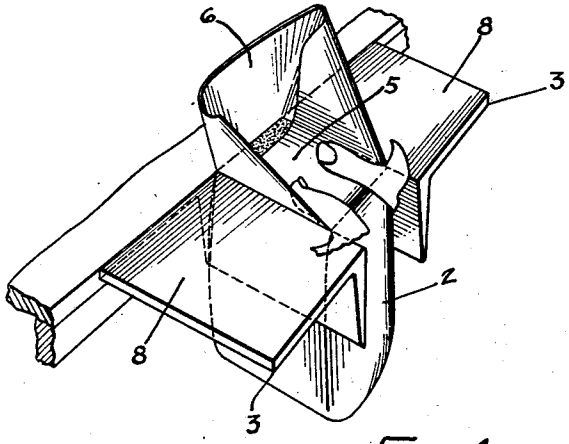


FIG. 4

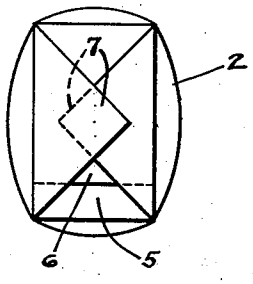


FIG. 6

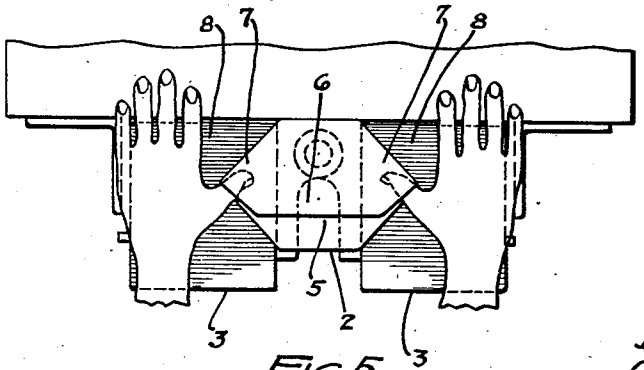


FIG. 5

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METHOD OF CLOSING BAG TOPS

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Original application February 9, 1931, Serial No. 514,540. Divided and this application July 19, 1932. Serial No. 623,319

3 Claims. (Cl. 93—6)

This invention relates to an improved method of closing an open bag top, and is a division of my pending application, Serial No. 514,540, allowed June 13, 1932.

A further object is to provide an improved method of closing an open bag top whose body is substantially cylindrical in cross section which consists in squaring only the upper portion of the bag body so that the side and end walls thereof may be quickly folded into closing relation, one over the other, without disturbing the natural rounded shape of the bag body.

In the operation of closing the open tops of bags whose walls are constructed of flexible material such, for example, as paper, and whose bodies are substantially cylindrical in cross-section, it is often difficult to neatly fold the walls of the open bag top so that all of the bags will be uniform in appearance, and whereby the material will be firmly packed in the bags when the tops thereof have been closed and sealed.

The improved method herein disclosed includes the step of squaring only the upper portion of the bag top adjacent to the level of the material therein before the walls of the bag top is folded into closing relation, and whereby the material will remain firmly packed in the lower rounded portion of the bag body.

The particular object of the invention therefore, is to provide an improved method of closing the open tops of bags which may be made of paper or other similar material so that all of the bags which are closed and sealed will be uniform in appearance, and whereby the bag bodies may retain their normal rounded shapes.

Other objects of the invention will appear from the following description and accompanying drawing, and will be pointed out in the annexed claims.

In the accompanying drawing, there has been disclosed a structure designed to carry out the various objects of the invention, but it is to be understood that the invention is not confined to the exact features shown as various changes may be made within the scope of the claims which follow.

In the drawing:

Figure 1 is a perspective view of an empty bag;

Figure 2 is a view showing the bag filled with material and also showing the substantially round or cylindrical shape assumed by the bag body;

Figure 3 is a view showing a means for supporting the bag and also a means for squaring the upper portion thereof;

Figure 4 is a perspective view showing the first step of folding the bag top walls;

Figure 5 is a view showing the second step in the operation of folding the bag top; and

Figure 6 is a plan view of a bag showing the top thereof folded and sealed.

The bag 2 shown in Figure 1, is of the type commonly known as a "flat bag", whose body walls are folded into flatwise relation for convenience in storage and packing.

When the bag is filled as shown in Figure 2, the walls thereof assume a rounded form cross-sectionally, as best shown in Figure 2, because of the material being firmly packed into the bag by the usual bag filling machine, which usually comprises a suitable auger or packing member adapted to be inserted into the bag for the purpose of packing the flour firmly therein during the filling operation.

In order to close the top of a bag in the manner shown in the drawing, it is desirable to square the upper portion of the bag body substantially on a level with the material therein in order to facilitate folding the bag top walls. To thus square the upper portion of the bag body, there is shown in Figures 3, 4, and 5, a pair of squaring members 3 adapted to engage the opposite side walls of the bag body and compress them therebetween so that said side walls will be substantially parallel to each other. During such squaring of the upper portion of the bag body, the bag may be supported upon a suitable support 4, as shown in Figure 3. The squaring members 3—3 are adapted to be actuated by suitable means, not shown, and the supporting member 4 may be mounted for vertical adjustment to accommodate the apparatus to bags of different size. The operating mechanism of these parts is shown and described in my copending application, hereinbefore mentioned.

After the bags have been placed upon the support 4 between the squaring members 3, the latter are actuated to square the bag top as shown in Figure 4, after which the operator may readily and conveniently fold the bag top walls into closing relation, as shown in Figures 4 and 5.

In the first step of folding the bag top, the end wall 5 is folded inwardly over the bag body by the thumbs of the operator, as shown in Figure 4, and the opposite end wall 6 is then folded over the first folded end wall by sliding the thumbs outwardly from the positions shown in Figure 4, to the positions shown in Figure 5. Such movements of the thumbs of the operator, will cause the end wall 6 to fold over the end wall 5, as

clearly shown in Figure 5. The flaps 7, formed by outwardly spreading portions of the bag top walls, may then be folded inwardly over the bag body, as shown in Figure 6, and firmly united, preferably by a suitable gum, not shown in the drawing, after which the operation of closing the bag top is completed, and the bag will assume the appearance shown in Figure 6.

The squaring members 3 are preferably provided with upper faces 8, upon which the flaps 7 are folded, as shown in Figure 5, before completing the final folding of the bag top walls.

By thus folding the bag top walls, the operation of sealing the bags is greatly simplified, and all the bag tops thus sealed will be alike in appearance so that the bags, when filled and sealed, will present a very neat appearance. It will also be noted that the closed bag top walls will be folded into flatwise and overlapping relation so that the joints provided between said folded wall portions will be substantially leakproof. It is also to be noted that when a bag top is folded and closed, as hereinbefore described, the contents of the bag will remain firmly packed in the bag, because of the fact that the material in the bag is not disturbed by the closing and sealing operation, thereby assuring the operator that all of the bags will be uniform in size and neat in appearance.

I claim as my invention:

1. A method of closing the open top of a bag whose body is substantially cylindrical in cross-section, which consists in shaping only the upper portion of the bag body at the level of the material therein, folding a portion of the bag top wall inwardly and then folding an oppositely disposed wall portion thereof over said first folded portion, extending other portions of the bag top wall outwardly beyond the body of the bag, and subsequently folding said outwardly extended wall portions against the bag body to close the bag top.

2. A method of closing the open top of a bag whose body is substantially cylindrical in cross-section, which consists in applying pressure to the upper portion only of the bag body to shape the same at the level of the material therein and whereby the lower portion of the bag body may retain its natural rounded shape, folding a wall of the open bag top inwardly over the bag body, gumming an oppositely disposed wall portion of the bag top and folding said gummed wall portion over said first folded wall, extending other portions of the bag top wall outwardly beyond the body of the bag, and subsequently inwardly folding said outwardly extended wall portions over and against the bag body in overlapping relation, whereby the bag top is sealed.

3. A method of closing the open top of a bag whose body is substantially cylindrical in cross-section, which consists in applying pressure to opposite sides of the bag body to shape the same only at the level of the material therein and whereby the lower portion of the bag body may retain its natural rounded shape, folding a wall of the open bag top inwardly over the bag body, gumming an inner surface of an oppositely disposed wall portion of the bag top and folding said gummed wall portion over said first folded wall whereby it will become united therewith, extending other wall portions of the bag top outwardly beyond the bag body in a plane substantially coincident with the plane of the top wall of the bag, when the bag top is closed, and subsequently inwardly folding said outwardly extended wall portions against the bag body in overlapping relation, to seal the bag top.

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