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B. L. McNULTY

1,993,377

BAG CLOSURE VALVE

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Fig. 2

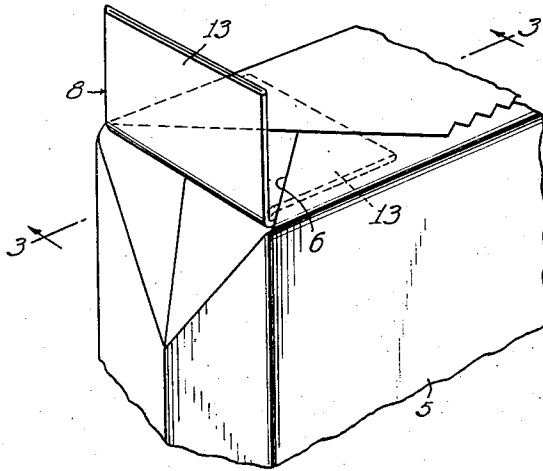


Fig. 1

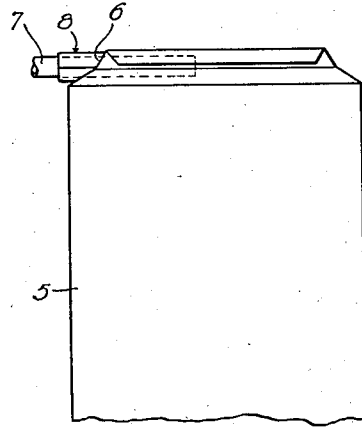


Fig. 3

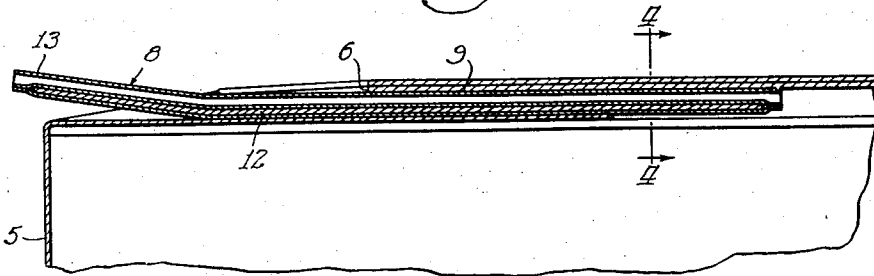
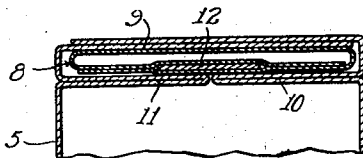


Fig. 4



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UNITED STATES PATENT OFFICE

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BAG CLOSURE VALVE

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4 Claims. (Cl. 150-9)

My invention relates to closures for bags, and is particularly adapted to closing bags where the material such as lime, cement, and the like is blown into the bag through a small opening left at the one end thereof.

It is the principal purpose of my invention to provide a device of this character in which the closure has a valve that may be quickly sealed to prevent escape of the bag contents without any particular effort on the part of the person filling the bag.

I will describe the preferred form of my invention by reference to the accompanying drawing wherein—

Fig. 1 shows the top of a bag in the process of being filled;

Fig. 2 is an enlarged perspective of the corner of the bag at which the filling takes place;

Fig. 3 is a section on the line 3—3 of Fig. 2; and

Fig. 4 is a section on the line 4—4 of Fig. 3.

Referring now in detail to the drawing, the bag 5 is sealed at the top end so as to leave an opening at 6 for the insertion of a filling tube 7. In order to protect this outlet opening, the tubular insert 8 is utilized, this insert consisting of a paper tube which is glued or otherwise suitably secured to the top wall portion 9 and to the folded in lower wall portions such as 10 and 11 (see Figs. 3 and 4). This fastening holding the tube in position and the tube preferably extend a substantial distance in from the corner of the bag at 6.

Now when the bag is to be filled, the filling tube 7 is merely inserted in the paper tube 8, and the material blown into the bag. When the bag is filled, the material in the bag will press upon the tube 8 and flatten it after the filling tube 7 is withdrawn.

The operation of the tube 8 serves as a partial sealing of the bag, but in the handling this tube 8 is liable to have a certain amount of material work out through it, and for this reason it is quite unsatisfactory in the handling of such powdery material such as lime and the like. In order to form a perfect seal that will be fastened by the operators filling the bags, I have found it necessary to have something that will require a very simple operation on their part as otherwise they will not make the seal and will leave the bags just with the tube 8 flattened out which presents the difficulties I have heretofore mentioned.

To accomplish the desired seal, I insert in the tube 8 along one wall thereof a strip 12 of metal which runs from the outer end of the tube inwardly a substantial distance beyond the opening into the bag. Preferably I make it just about

the full length of the tube 8. This metal strip is constructed so as to bend by the application of force thereto, but is not resilient to any appreciable degree so that when bent it retains the bent position. Now, when the filling operation is completed, all the operator needs to do is to take the free end 13 of the tube 8 and bend it upwardly and over upon itself into the dotted line position shown in Fig. 2. This effectively seals the bag and requires almost no effort on the part of the operator.

From the above description, it is believed that the construction and advantages of my invention will be clear to those skilled in this art.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A bag closure insert comprising a tube of collapsible material open for the passage of filler material therethrough said tube being provided with a metal strip running lengthwise thereof and fixed to the wall of the tube so as not to obstruct the passage of the tube which strip is substantially non-resilient so that when the tube is collapsed and folded upon itself, the metal strip will hold the fold in position.

2. A bag closure insert comprising a tube of collapsible material open for the passage of filler material therethrough said tube being provided with a bendable strip running lengthwise thereof and fixed to the wall of the tube so as not to obstruct the passage of the tube which strip is substantially non-resilient and stiff enough to hold the tube in the folded over position when the tube is collapsed and folded upon itself.

3. Means for sealing a bag comprising in combination overlapping folds at the open end of the bag which folds are sealed together, a tubular member inserted from one corner beneath the overlapping folds and secured to the overlapping folds, said bag having a portion secured beneath the tubular member, and said tubular member having a bendable non-resilient reinforcing member extending inwardly from the outer end thereof beyond the point where the tubular member meets the bag, said reinforcing member being non-resilient but bendable to hold the tubular member in folded over position.

4. A bag closure insert comprising a tubular paper member open for the passage of filler material therethrough said tube having a reinforcing element embedded in the wall of said tube and running lengthwise thereof, said reinforcing element consisting of a non-resilient easily bent metal sufficiently heavy to oppose the natural tendency of the tube to straighten when it is folded.

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