

Aug. 3, 1965

J. WHITE

3,198,325

BAG PACKAGE

Original Filed Aug. 12, 1960

3 Sheets-Sheet 1

FIG. 1.

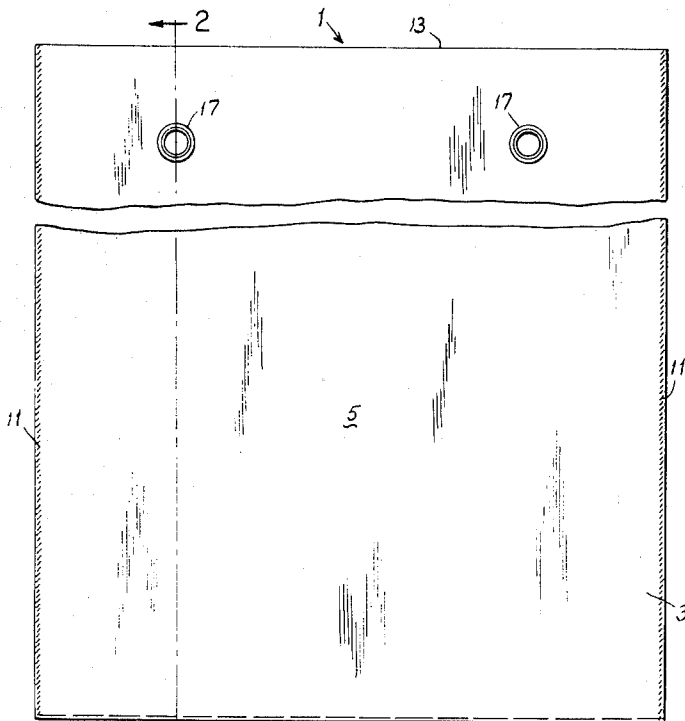


FIG. 2.

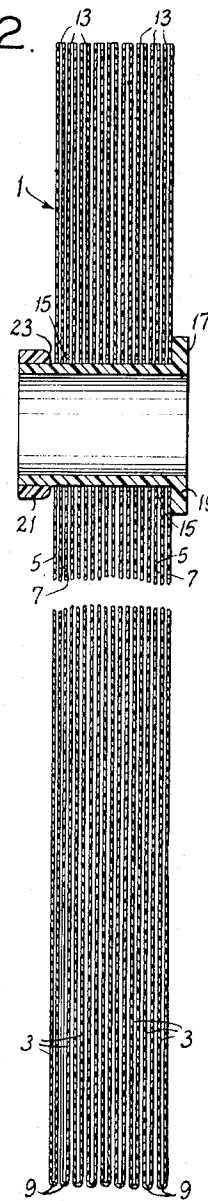


FIG. 3.

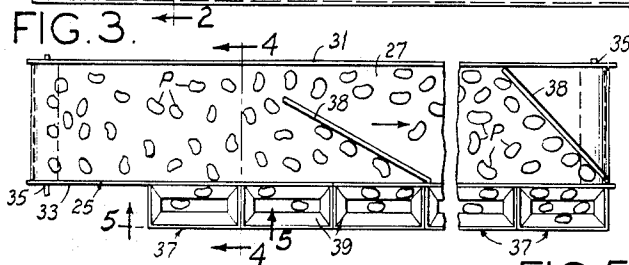


FIG. 4.

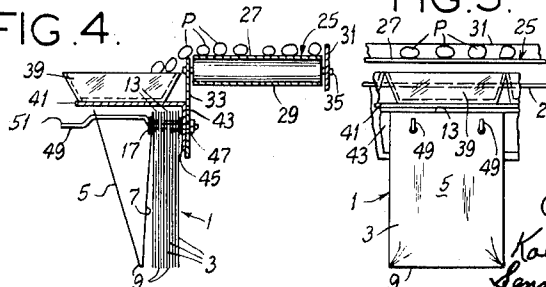
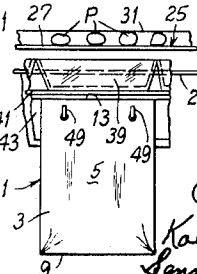


FIG. 5.



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Aug. 3, 1965

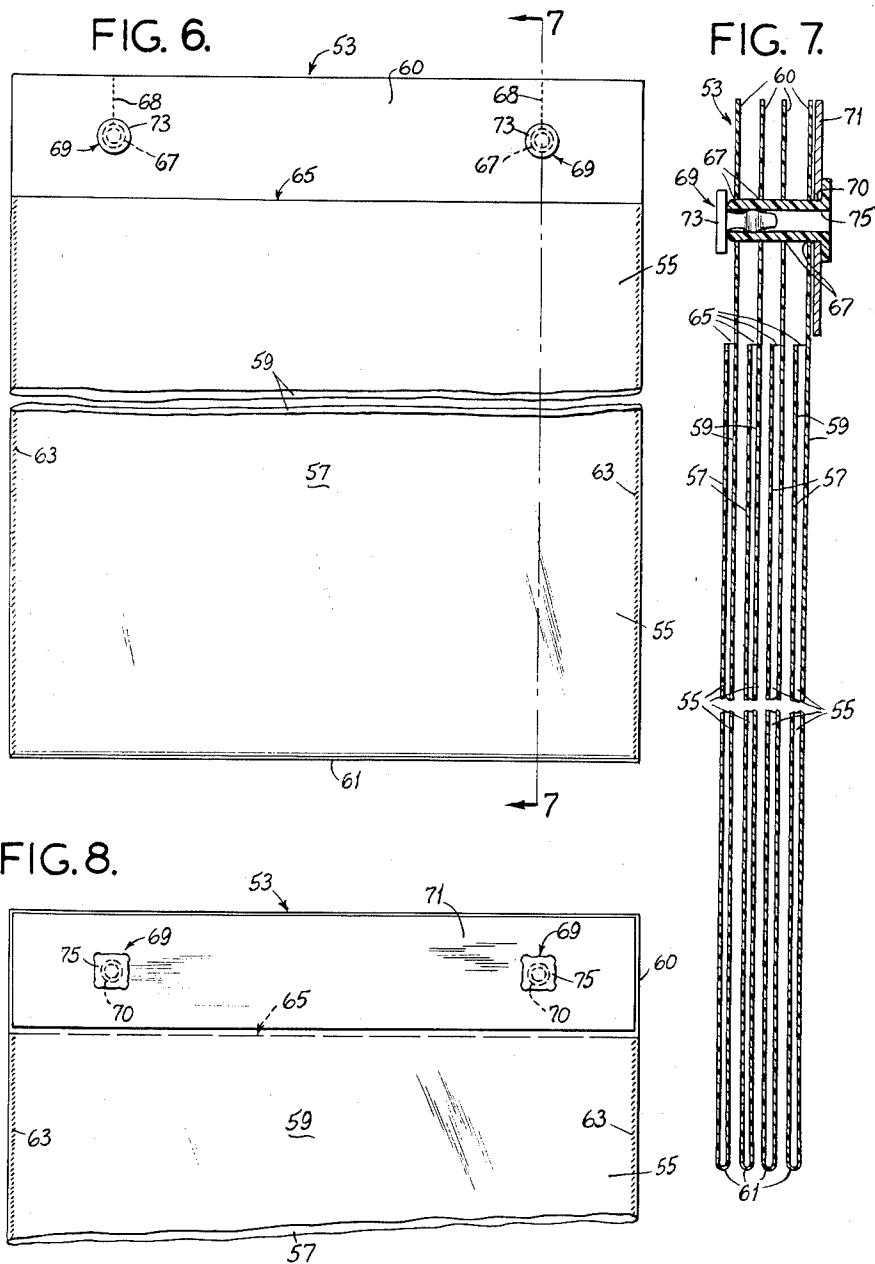
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FIG. 9.

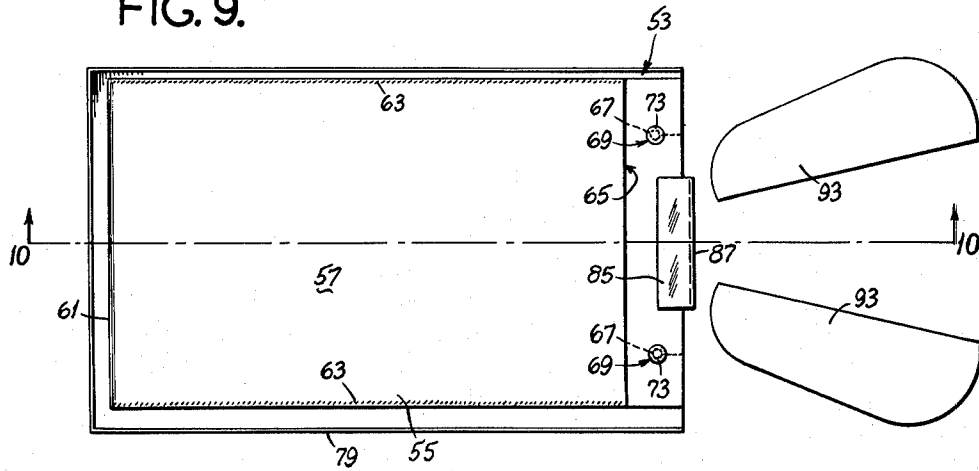


FIG. 10.

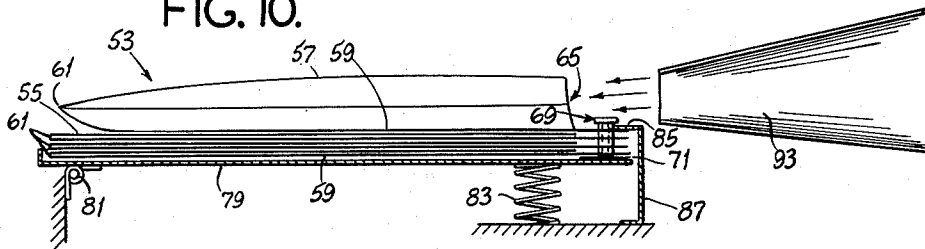
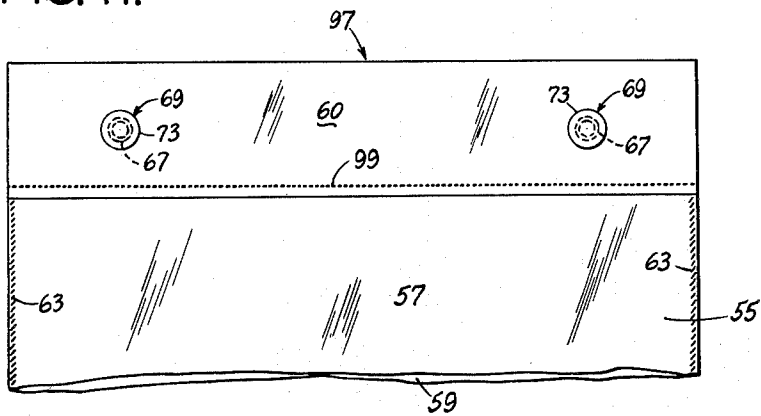


FIG. 11.



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BAG PACKAGE

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Original application Aug. 12, 1960, Ser. No. 49,188. Divided and this application Apr. 24, 1963, Ser. No. 275,255

1 Claim. (Cl. 206—57)

This invention relates to packaging, and more particularly to novel packets of bags.

This application is a division of my copending application Serial No. 49,188, filed August 12, 1960, entitled Bag Package, issued as U.S. Patent No. 3,100,569 August 13, 1963.

Among the several objects of the invention may be noted the provision of novel packets of bags which enable successive bags to be conveniently filled and withdrawn from the packet one-by-one; the provision of such packets which are useful in improved filling systems for packaging merchandise such as potatoes, buns and the like; the provision of packets of this character which accelerate the filling of bags and minimize the necessity for manual operations; and the provision of packets of the type described which are simple and economical. Other objects and features will be in part apparent and in part pointed out hereinafter.

The invention accordingly comprises the constructions hereinafter described, the scope of the invention being indicated in the following claim.

In the accompanying drawings, in which several of various possible embodiments of the invention are illustrated,

FIG. 1 is a view in elevation, with parts broken away, of a packet;

FIG. 2 is an enlarged vertical section taken on line 2—2 of FIG. 1;

FIG. 3 is a plan view, with parts broken away, illustrating a filling system;

FIG. 4 is a section taken on line 4—4 of FIG. 3;

FIG. 5 is a section taken on line 5—5 of FIG. 3;

FIG. 6 is a view in elevation, with parts broken away, of another form of packet;

FIG. 7 is an enlarged vertical section taken on line 7—7 of FIG. 6;

FIG. 8 is a fragmentary rear view of the packet of FIG. 6;

FIG. 9 is a plan view illustrating another filling system utilizing the packet of FIG. 6;

FIG. 10 is a section taken on line 10—10 of FIG. 9; and

FIG. 11 is a fragmentary view in elevation illustrating a packet of the invention.

Corresponding reference characters indicate corresponding parts throughout the several views of the drawings.

Referring now to the drawings, a packet generally designated 1 is shown to comprise a plurality or stack of individual bags each designated 3. Bags 3 may be made of any suitable material such as a heat-sealable plastic material. As shown, each bag 3 has a front wall 5 and a back wall 7 joined along the bottom thereof by fold 9, seamed together at the sides by heat seals 11 and free of one another at the top thereby forming a mouth 13. Each bag has a pair of openings 15 laterally spaced from one another and from the sides of the bag and located adjacent the corners of the bag at the mouth 13 of the bag. Openings 15 are of relatively small diameter and

extend through the front wall 5 and the back wall 7 of each bag 3.

Fasteners 17 extend through openings 15 of the bags to hold them in packeted assembly. Each fastener is tubular comprising a sleeve composed of any suitable material such as a rigid plastic material. Each sleeve has a head 19 at the inner end thereof and a second head 21 at the outer end thereof, these heads serving to retain the bags 3 on the sleeves. As shown, head 19 is substantially larger in diameter than openings 15 of bags 3 and head 21 is only slightly larger in diameter than the openings 15 of bag 3. In addition, head 21 is smoothly rounded as indicated at 23 so that openings 15 of the bags 3 may be readily slipped thereover in removing the bags from the fasteners or sleeves 17. The bags 3 are thus held in packeted assembly on fasteners 17, each bag being adapted to be removed from the fasteners one-by-one in a filling operation described hereinafter.

FIGS. 3—5 illustrate a packet such as above described used in a filling system in which potatoes designated P are packaged in the bags 3. At 25 is generally designated an endless conveyor having an upper reach 27 and a lower reach 29. The conveyor 25 is supported by a frame having side members 31 and 33 in which the conveyor rolls are journaled as indicated at 35. The conveyor 25 travels in the direction indicated by the arrow in FIG. 3 (toward the right) and thus carries the potatoes P past a number of stations 37, a quantity of potatoes being diverted to each station by boards 38. Each station 37 includes a hopper 39 supported by the horizontal leg 41 of an angle bracket generally designated 43. The vertical leg 45 of angle bracket 43 is fastened to side member 33 as indicated at 47. A pair of cantilever rods 49 is carried by the vertical leg 45 of angle bracket 43 with free ends 51 thereof extending out under the hopper. A packet 1 of bags 3 is suspended on rods 49 under each hopper 39, the rods 49 being received in and extending through the sleeves 17 of the packet 1.

In the filling operation, the front wall 5 of the outermost bag 3 of packet 1 is pulled out under hopper 39 by the operator so as to open wide the mouth 13 of the bag 3 (see FIG. 4). In thus pulling out the front wall 5, front wall 5 of the bag 3 is slipped over the rounded heads 21 from sleeves 17 and onto rods 49, the back wall 7 of the bag 3 being retained on sleeves 17 behind the heads 21 thereof. With the bag 3 in this position, potatoes are fed into the hopper 39 and fall into the bag 3 through the bag mouth 13 to fill the bag. The filled bag is then removed from the packet 1 and rods 49 for further operations by pulling out the back wall 7 of the bag from sleeves 17 over rounded heads 21 onto rods 49 and pulling front and back walls 5 and 7 of the bag off the rods 49 at the outer or free end of the rods. This operation is repeated to fill each individual bag 3 and remove the filled bags from the packet one-by-one.

FIGS. 6—8 illustrate a packet generally designated 53 shown to comprise a plurality of individual bags each designated 55. These bags may be made of any suitable material such as a heat-sealable plastic material. As shown, each bag 55 has a front wall 57 and a back wall 59 extending beyond the upper edge of the front wall 57 to form a flap 60. Front wall 57 and back wall 59 are joined along the bottom thereof by fold 61, seamed together at the sides by heat seals 63 and free of one another at their upper ends to form a mouth 65. Intermediate the mouth 65 and the upper edge of flap 60, back wall 59 has a pair of opening 67 therein laterally spaced from one another and from the sides of the bag. These openings 67 are of relatively small diameter. Ex-

tending from each of the opening 67 to the upper edge of flap 60 of the back wall 59 of each bag 55 is a line of perforations 68. These provide lines of weakness from openings 67 to the upper edge of flap 60.

Received in and extending through openings 67 of bags 55 are a pair of fasteners 69 composed, for example, of a rigid plastic material. Fasteners 69 also extend through a pair of opening 70 in a backing member 71 which backs the flap 60 of the back wall 59 of the last bag in the packet 53. Backing member 71 is of generally rectangular shape corresponding to that of flap 60 and may be composed of any suitable rigid or semirigid material such as, for example, fiberboard. As shown, each fastener 69 is a two-piece gripper-type fastener, comprising headed male and female elements 73 and 75 which snap together to hold the bags (and backing member 71) in packeted assembly, with successive bags being adapted to be removed from the packet 53 one-by-one in the filling operation hereafter described.

FIGS. 9 and 10 illustrate the packet 53 of FIGS. 6-8 used in a filling system for packaging merchandise such as hamburger buns, for example, in the bags 55. As shown, packet 53 is positioned on a tray 79 of a bag-distending apparatus such as that shown in U.S. Patent 2,673,016, dated March 23, 1954, for example, with backing member 71 on the bottom. Tray 79 is pivoted at its left end, as indicated at 81, and is biased to swing upward by a spring 83. The right end of the packet engages a tongue 85 constituted by the upper flange of a channel member 87. Funnels 93 are provided for guiding items, such as buns, into the bags. As will be apparent from U.S. Patent 2,673,016, the distending apparatus includes means for blowing air into each bag for opening it.

In the filling operation, the front wall 57 of the upper bag 55 of packet 53 is separated from the back wall 59 to open the mouth 65 by blowing air into the bag (see FIG. 10). Next a quantity of buns travelling along a conveyor (not shown) is guided by funnels 93 into the opened bag 55. After the uppermost bag 55 has been filled, it is removed from the packet 53 by pulling it off tray 79 to the left. Flap 60 tears on lines of perforations 68 for separation of the bag from fasteners 69. The operation is then repeated successively to fill and remove bags 55 from the packet 53 one-by-one. It will be understood that the filled bags may then be placed on another conveyor for travel to a closing station.

The packet 53 and filling system described above may be utilized to package various items of merchandise such as various types of merchandise including shirts, sheets and the like as well as other types of goods.

FIG. 11 illustrates a packet of the invention generally designated 97. Packet 97 corresponds generally to packet 53 except that instead of having lines of perforation 68, each bag 55 of packet 97 has a line of perforations 99 extending transversely across flap 60 adjacent the upper edge of the front wall 57. Packet 97 may be utilized in the same manner as packet 53 except that in removing each bag from the packet after filling, the bag is separated from flap 60 along line 99 and flap 60 of each bag is thus retained on fasteners 69.

In view of the above, it will be seen that the several objects of the invention are achieved and other advantageous results attained.

As various changes could be made in the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

A packet comprising a stack of open-mouth plastic bags, each bag having a front wall and a back wall, the back wall of each bag having an upper end portion extending beyond the front wall at the mouth of the bag, said upper end portion of the back wall having an upper edge extending straight across the bag and the front wall of each bag having an upper edge extending straight across the bag for the full width of the bag below and parallel to the upper edge of said upper end portion of the back wall, the upper edge of the front wall being wholly free of the back wall between the sides of the bag, each bag having a pair of openings in said upper end portion of its back wall adjacent the upper corners thereof and above the upper edge of the front wall, said bags being stacked with their edges substantially in register and with said openings substantially in register, a relatively rigid backing member backing the back wall of the last bag of the stack and having a width greater than the distance between said openings, a pair of fasteners extending from said backing member through said openings and having heads at their forward ends larger than said openings for holding the bags in packeted assembly on said fasteners and on the backing member, the front wall of each bag being free of the fasteners and each bag in the packet being free of the other bags in the packet apart from said fasteners, and each bag having a line of weakness in said back wall extending across the back wall adjacent the upper edge of the front wall and below said fasteners.

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