July 4, 1967 W. R. MEDLEYCOTT 3,329,260

STACKED BAGS

Filed June 6, 1966

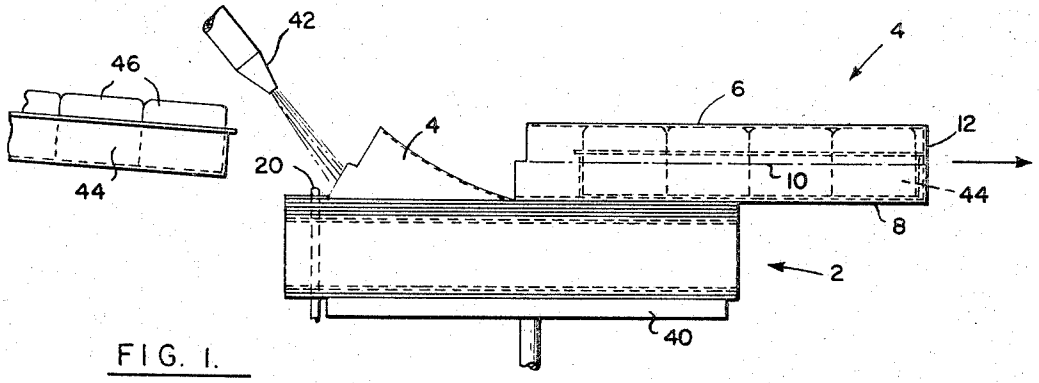


FIG. 1.

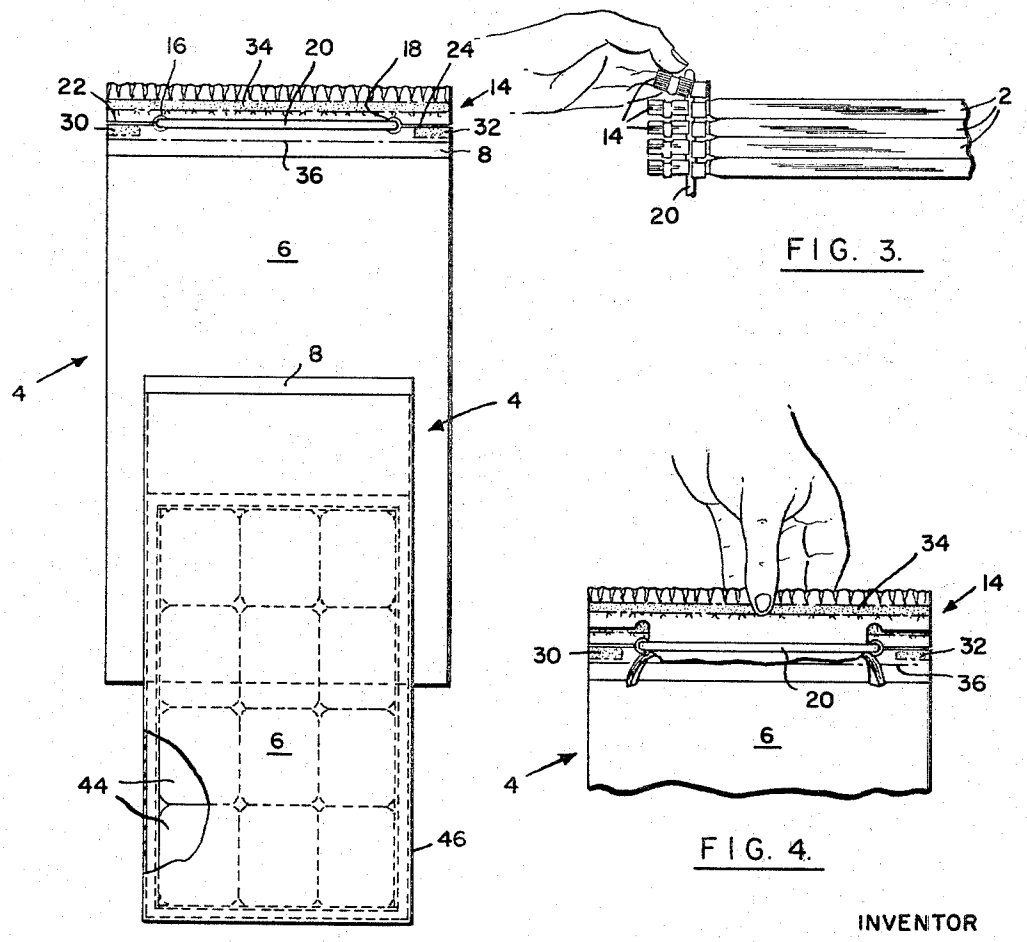


FIG. 2.

FIG. 3.

FIG. 4.

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STACKED BAGS

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This invention relates to stacked bags and more particularly relates to a stack of bags suitable for use in automatic bag loading operations.

It is well known to employ a stack of bags in an automatic loading operation wherein each bag is automatically opened by, for example, an air jet, the merchandise to be bagged is conveyed into the bag and the bag is severed from the remaining bags in the stack. Conventionally the bags in the stack are held together by means of staples. Such an arrangement has a number of disadvantages with the primary one being in connection with food products where there is a danger that a staple will come loose and be included with the packaged food products. It is therefore an object of this invention to improve on the conventionally employed bag stack and particularly to eliminate the possibility of a staple being included with the packaged material by eliminating the use of staples.

The invention will be clarified on reading the following description in conjunction with the drawings in which:

FIGURE 1 is a partially diagrammatic side elevation of bag loading apparatus employing a bag stack in accordance with the invention;

FIGURE 2 is a plan view of the bag stack and the loaded bag shown in FIGURE 1;

FIGURE 3 is an enlarged front elevation, partially broken away, of the bag stack of FIGURE 1 showing the bound portion of a bag stack being removed after all of the bags have been employed; and

FIGURE 4 is a plan view, partially broken away, of the operation shown in FIGURE 3.

As shown in the drawings each bag stack **2** in accordance with the invention comprises a plurality of sealable plastic bags **4** of, for example, a thermoplastic film which can be heat sealed using a heated tool, ultrasonics or high frequency electric sealing such as a polyolefin, for example, polyethylene or polypropylene or a vinyl resin such as polyvinyl chloride. Each bag **4** has a top panel **6** and a bottom panel **8** formed from a single sheet and each sealed together along one side as indicated by the line **10** and along the opposite side (not shown). Bag **4** is provided with a gusseted bottom **12** which is not shown in detail. As thus described, the bags are well known to the art.

Rear panel **8** is provided with a binder portion **14** which extends substantially beyond the open end of the bag. Binder portion **14** is provided with a pair of substantially circular openings **16** and **18** to accommodate a U-shaped retaining wicket **20**. Openings **16** and **18** communicate with narrow slots **22** and **24** respectively which extend to the side edges of binder portion **14**.

The bottom panels **8** in each stack **2** are each sealed together adjacent openings **22** and **24** and toward the bag body as indicated at **30** and **32** respectively in order to facilitate the opening and loading of the bags. Additionally, the back panels **8** are heat sealed together between openings **16** and **18** and the outer end of panel **8** along a strip indicated at **34**. A weakened tear line **36** which, for example, may be perforated separates the

binder portion **14** of bottom panel **8** from the remainder thereof.

Operation

Referring now particularly to FIGURE 1, the use of bag stacks **2** in accordance with the invention is illustrated. The bag stacks are mounted on an upwardly biased platform **40** which urges the stacks **2** upwardly on wicket **20**. A nozzle **42** directs a jet of air against the uppermost bag **4** in such a manner as to permit the air to inflate and open up this bag. A tray **44** containing, for example, dinner rolls **46** is advanced into the open end of bag **4** until it is abutting against the bottom **12**. The entry of tray **44** into bag **4** is greatly facilitated by the holding down of panel **8** by the heat sealed areas **30** and **32** which insure that the width of the open end is sufficient to receive tray **44**.

After the tray **44** abuts against bottom **12** it is further advanced in a direction away from binder portion **14** which causes the severance of bag **4** from binder portion **14** along the weakened line **36**.

After all of the bags in the uppermost stack **2** have been employed, it is important to remove the binder portion **14** otherwise succeeding stack **2** will be malpositioned with respect to nozzle **42** at the line of introduction of tray **44**. As shown in FIGURES 3 and 4 the binder portion **14** is easily removed by simply moving it outwardly away from wicket **20** by virtue of the presence of the slit openings **22** and **24** which permit the folding of the binder portion as it is withdrawing as best seen in FIGURE 4.

It will be understood that the above described embodiment is merely by way of illustration and is not intended to be limiting.

What is claimed is:

1. A bag stack of heat sealing plastic bags having open ends comprising:

a plurality of stacked bags having their open ends aligned,

each bag having a front panel,

and a rear panel having a portion extending beyond the front panel adjacent the open end of the bag,

said portion of each rear panel having a pair of wicket openings for the receipt of a holding wicket and a tear line between said openings and the open end of the bag,

said portions of the rear panels being heat sealed together along a line between said wicket openings and the outer end of the rear panel, and

each rear panel having a narrow opening extending respectively to the adjacent side thereof from each opening.

2. The bag stack of claim **1** in which the openings extending to the sides are slots.

3. The bag stack of claim **1** in which the said portions of the rear panels are heat sealed between said tear line and said narrow openings.

4. The bag stack of claim **2** in which the said portions of the rear panels are heat sealed between said tear line and said slot openings.

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