Feb. 2, 1971 A. C. BYINGTON ET AL 3,559,370

BAG DISTENDING MACHINE

Filed Aug. 26, 1968

Fig. 1

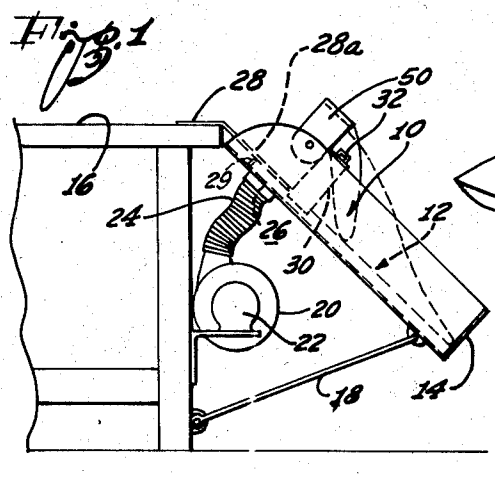


Fig. 2

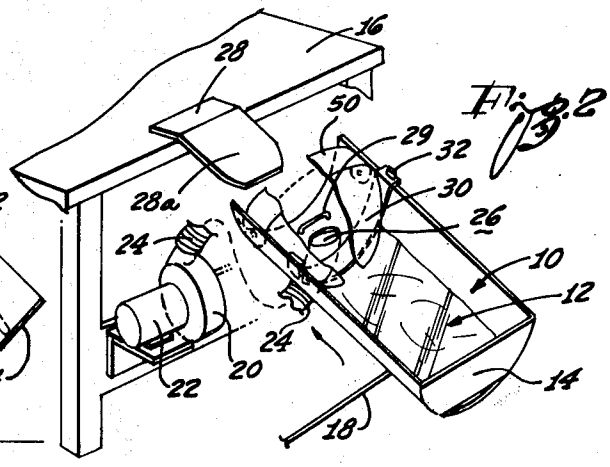
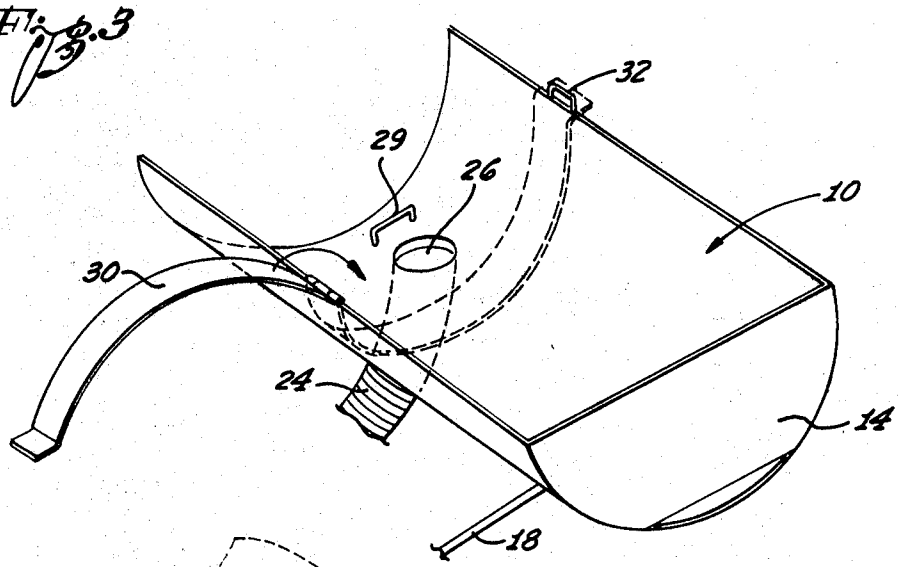


Fig. 3



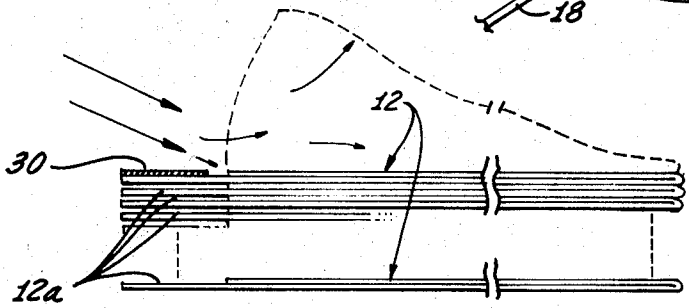


Fig. 4

INVENTOR.
A. C. BYINGTON
ELMER R. RICHARDSON
Jessup and Beecher
By Warren T. Jessup
ATTORNEYS

United States Patent Office 3,559,370 Patented Feb. 2, 1971

3,559,370

BAG DISTENDING MACHINE

A. C. Byington, West Los Angeles, and Elmer R. Richardson, Fountain Valley, Calif., assignors to Quality Poultry Co., Inc., Culver City, Calif., a corporation of California

Filed Aug. 26, 1968, Ser. No. 755,064
Int. Cl. B65b 43/36
U.S. Cl. 53—385 4 Claims

ABSTRACT OF THE DISCLOSURE

An improved bagging machine is provided in which a stack of flat cellophane or polyethylene bags, or the like, are clamped by their lip portions which are provided adjacent the open end of each bag, and in which a stream of pressurized fluid is directed across the lip portion of the uppermost bag in the stack to distend that bag so that it may easily be filled with merchandise. After it is filled, the uppermost bag may conveniently be removed from the stack by tearing it along perforations which are provided across its lip portion, for example, so as to remove the bag from the lip portion thereof which is clamped in the machine.

BACKGROUND OF THE INVENTION

The use of pressurized air streams to distend bags in bagging operations, so that they may more easily be filled with merchandise, is well known. This expedient has been used in the past, for example, in machines for bagging "popsicles," and the like, for packaging men's shirts, bread, and other merchandise; and the expedient has also been used in more elaborate machines for opening, filling and sealing cellophane bags, and the like.

The improved bagging machines of the present invention provides a simple and expeditious means, which avoids the complications of the prior art mechanisms, and by which a stack of flat bags may be conveniently clamped, and individually opened, for individual loading and removal.

The bagging machine of the invention has been used successfully for bagging poultry. However, it will become evident as the description proceeds, that the machine of the invention has general utility in any operation in which merchandise is to be quickly and conveniently loaded into bags, for example, of the cellophane or polyethylene type, which are normally flat and somewhat difficult to open.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevation of one embodiment of the improved bagging machine of the present invention;

FIG. 2 is a perspective view of the bagging machine of FIG. 1 taken from the front and above the machine;

FIG. 3 shows a component of the machine; and

FIG. 4 is a stack of polyethylene bags, of the type which may be used to advantage in conjunction with the machine.

DESCRIPTION OF THE ILLUSTRATED EMBODIMENT

The bagging machine of the present invention includes, for example, a tray **10** which may be formed to have a generally arcuate shape to support a stack of flat polyethylene bags **12**, such as shown in FIG. 4. The tray **10** has a lower end **14**.

The tray **10** may be supported in an inclined position, for example, at one end of a cutting table **16**. The tray is supported in such an inclined position by means, for example, of support brackets **18**. A blower **20** is supported

under the tray **10**, and the blower is driven, for example, by means of an electric motor **22**.

The pressurized fluid from the blower passes through a conduit **24** and through an orifice **26** at the upper end of the tray **10**. A deflector and guide **28** is mounted on the end of the cutting table **16** and it extends into the tray **10**, as shown, across the orifice **26**. The deflector **28** is supported up from the orifice by a wire bracket **29**.

The pressurized fluid from the blower **20**, emerging from the orifice **26** passes into a plenum chamber formed by the bottom of the tray **10** and by the deflector **28**, so that a stream of pressurized air is directed by the deflector down into the tray **10**. The stack of bags **12** is supported in the tray **10** by means, for example, of an arcuate clamping strip **30**. The arcuate strip **30** is pivoted at one of its ends to one side of the tray **10**, as shown in FIG. 3. The strip may be turned down into the tray and across a protruding lip portion **12***a* of the uppermost bag of the stack **12**, and corresponding protruding lip portions of the other bags in the stack, to hold the bags in the tray. The clamping strip **30** may be held in place by an appropriate clasp **32** on the other side of the tray.

The pressurized fluid directed into the tray **10** by the deflector **28** passes across the top of the clamping strip **30** and into the open end of the uppermost bag of the stack **12** so that the uppermost bag becomes distended. The merchandise may then conveniently be loaded into the uppermost bag by sliding it down the deflector **28**. After the uppermost bag has been filled, it may be removed from the stack merely by tearing it from its corresponding protruding lip portion **12***a*. Suitable perforations may be provided across the bag for this purpose. The operaiton may then be repeated for the next bag which then becomes the uppermost bag in the stack.

When all the bags in the stack **12** have been filled, the clamping strip **30** may be opened out to the position shown in FIG. 3, and a new stack of bags placed into the tray **14** and then clamped in place by the clamping strip **30**.

A suitable shield **50** may be mounted across the uppermost end of the tray **10** as shown, for example, in FIG. 2. This shield may serve as a guide in loading merchandise into the uppermost bag in the tray. It may be turned back out of the way, when the strip **30** is opened out to the position shown in FIG. 3.

The invention provides, therefore, a simple mechanism by which a stack of bags may be supported in an inclined position, for convenient gravitational loading. The improved mechanism of the invention provides a simple means for distending the uppermost bag in the stack by a stream of pressurized fluid, such as compressed air, which is directed along the top surface of the uppermost bag. The uppermost bag may be conveniently removed from the stack when it is filled, by tearing it away from the clamping strip **30**, as described. In addition to its simplicity, the improved mechanism of the invention is advantageous in that it can be constructed to be easily disassembled for cleaning purposes. Also, the clamping strip is mounted in a manner such that a new set of bags can quickly and easily be placed in the tray **10** when the existing stack has been used.

While a particular embodiment of the invention has been shown and described, modifications may be made. It is intended by the following claims to cover all modifications which come within the scope of the invention.

What is claimed is:

1. In a bagging machine, the combination of:

a tray configured to hold a stack of bags to be individually loaded, each of said bags having an open end and a protruding lip portion adjacent said open end;

clamping means mounted in said tray and positioned to extend across the protruding lip portions of the

aforesaid bags to hold the bags in a stacked condition in said tray and to permit the uppermost bag in the stack to be torn away from its corresponding lip portion, said clamping means including a strip pivotally mounted at one end to said tray, and fastener means on said tray for releasably engaging the other end of said strip to hold said strip in a clamping position across the aforesaid lip portions of said bag; and

blower means for introducing a stream of pressurized fluid along the top surface of the uppermost bag and into the open end of the uppermost bag of said stack so as to cause the uppermost bag to become distended.

2. The combination defined in claim 1, and which includes deflecting means positioned adjacent said clamping means for directing said stream of pressurized fluid from said blower means across said clamping means and into the open end of the uppermost bag of the stack.

3. The combination defined in claim 1, and which includes support means for said tray for positioning said tray in an inclined position with said clamping means at the uppermost end thereof.

4. The combination defined in claim 1, in which said tray has an arcuate-shaped bottom, and said clamping strip likewise is arcuate-shaped.

References Cited

UNITED STATES PATENTS

3,156,273	11/1964	Piazze	53—189X
3,206,913	9/1965	Fleigher et al.	53—189
3,412,522	11/1968	Schorer	53—189
3,468,102	9/1969	Farrar et al.	53—385

TRAVIS S. McGEHEE, Primary Examiner