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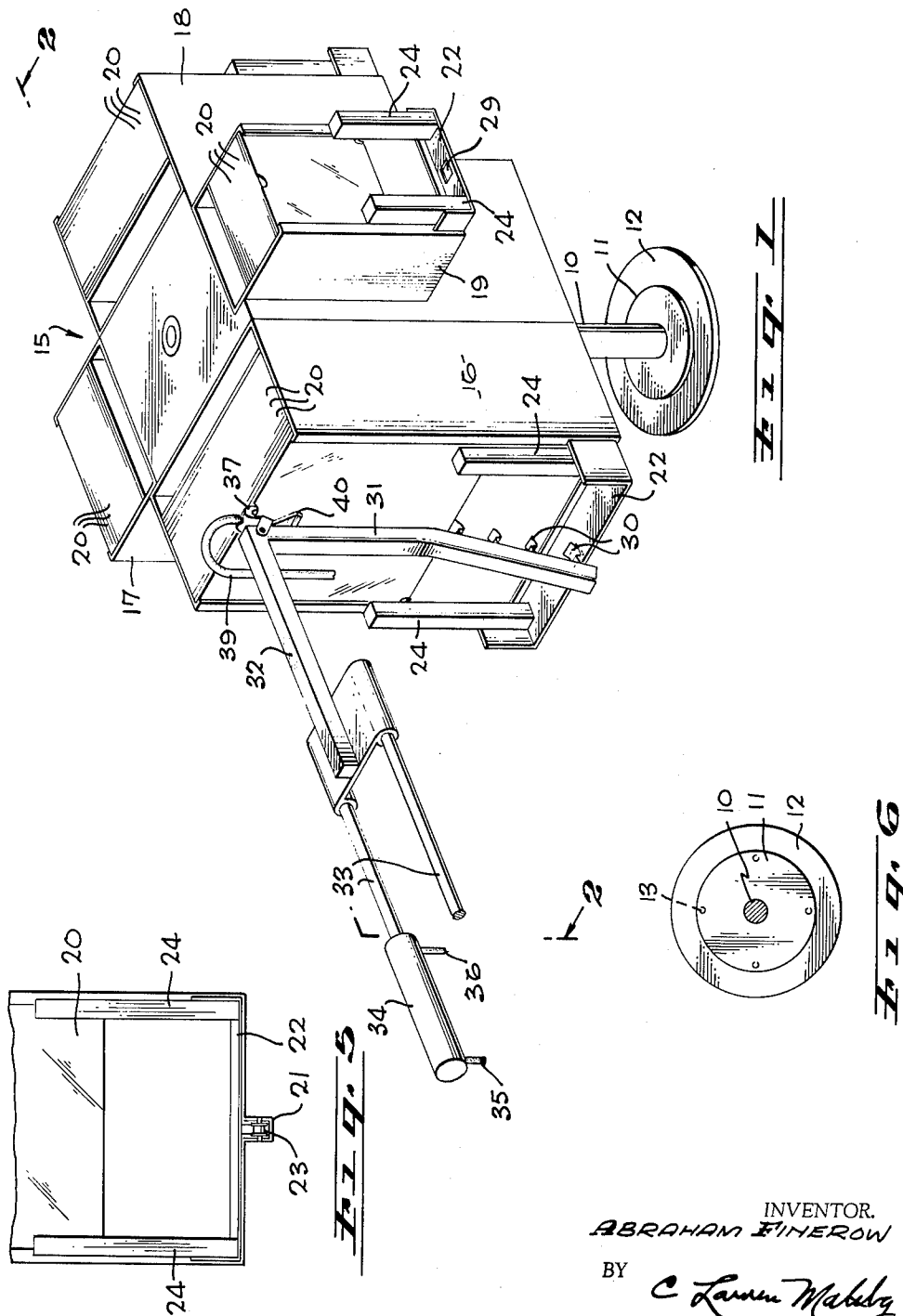
A. FINEROW

3,262,249

BAG OPENING APPARATUS FOR SUPER MARKETS

Filed May 16, 1963

2 Sheets-Sheet 1



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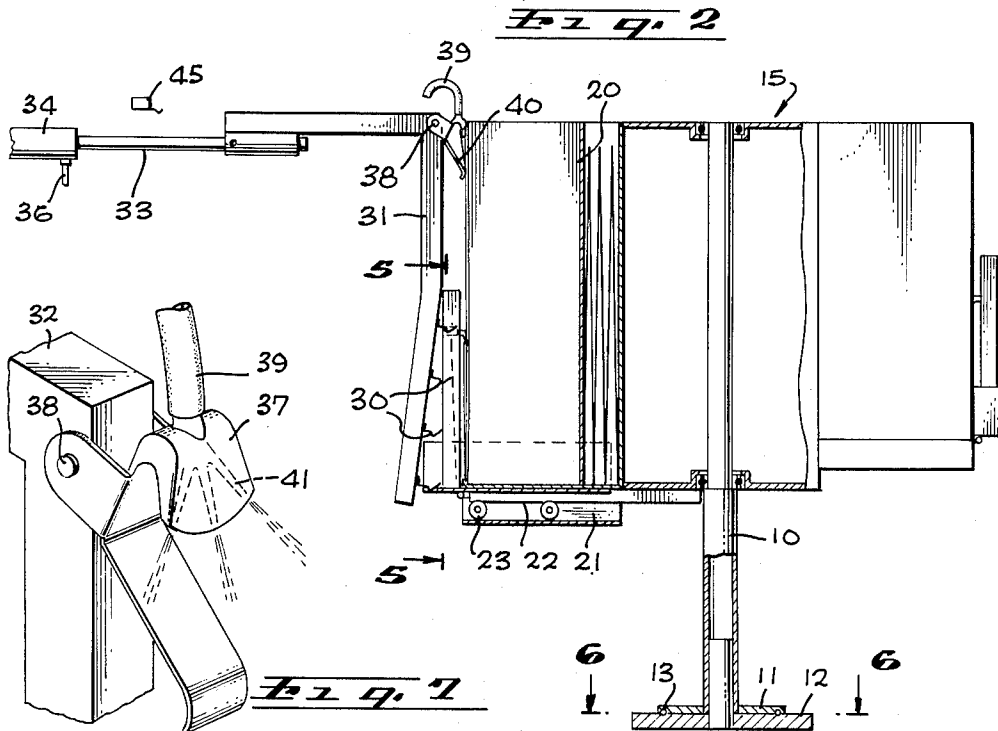
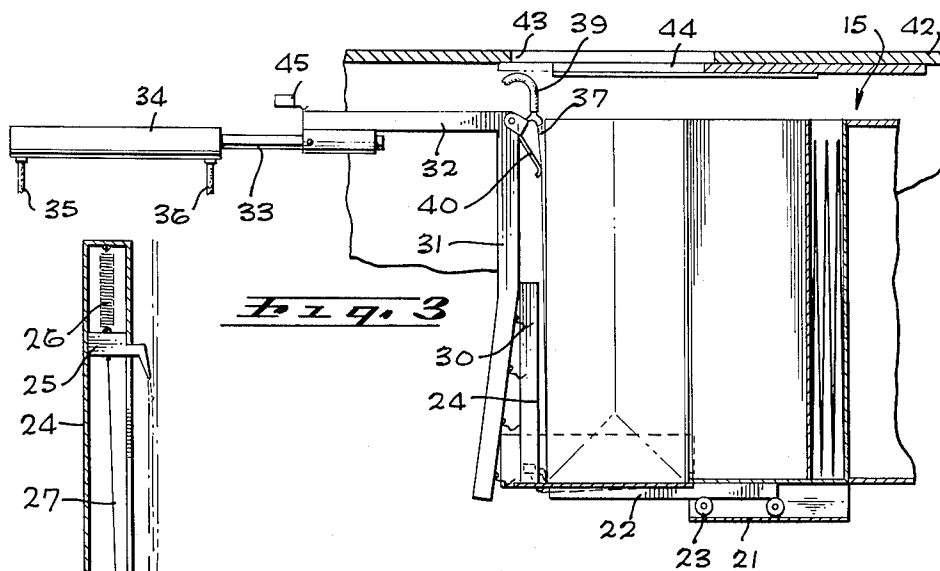
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BAG OPENING APPARATUS FOR SUPER MARKETS

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This invention relates to shopping and packaging and more especially to apparatus for opening bags in super-market check-out stands.

The general purpose and objective of this invention is to provide novel apparatus for dispensing and opening paper bags at super-market check-out counters wherein a supply of bags are supported in upright position and wherein an arm is movable toward the bags in a manner to latch on to the upper edge of one of the bags, the arm being movable away from the stack to open the bag. At the same time a blast of air is directed downwardly into the bag to thereby open it. During this retracting movement the arm structure engages the lower edge of the bag and facilitates the opening movement. The apparatus includes a pedestal rack for holding bags of several sizes.

More particular objects and advantages of the invention will appear and be brought out more fully in the following specification, reference being had to the accompanying drawings.

In the drawings:

FIGURE 1 is a perspective view of a preferred form of bag opening apparatus embodying the invention.

FIGURE 2 is a sectional view taken along the line 2—2 of FIGURE 1.

FIGURE 3 is a view similar to FIGURE 2 showing the apparatus in a partially operated position.

FIGURE 4 is a fragmentary view, in section, showing the rack retracting mechanism.

FIGURE 5 is a sectional view, enlarged, taken along the line 5—5 of FIGURE 2.

FIGURE 6 is a sectional view taken along the line 6—6 of FIGURE 2.

FIGURE 7 is a perspective view, enlarged, showing the bag hook and air jet portions of the invention.

Referring more particularly to the drawings a pedestal 10 has a base plate 11 which is rotatably supported on a base block 12 and restrained in any of four positions by detents 13. A bag rack structure 15 is supported by pedestal 10 and comprises a plurality of bag racks 16, 17, 18 and 19, which, as will be seen in FIGURE 1, are of differing sizes, each rack being open at the front and top and adapted to hold a plurality of paper bags 20 arranged with their upper ends uppermost.

Each bag rack has a channel member 21, and a tray 22 is movable forwardly and rearwardly on channel member 21 by rollers 23. A pair of hollow posts 24 extend upwardly from each tray 22 and each post contains a hook member 25 secured by a spring 26 to the upper end of the post. A cord 27 is secured to the bottom of hook member 25 and is carried over a pulley 28, the other end of the cord being extended under the rack 22 and secured to the rack supporting structure 15.

Trays 22 are each formed with an aperture 29 which is engageable with any one of a plurality of clips 30 carried by a downwardly depending portion 31 of an arm of 32 that is secured to a pair of piston rods 33 actuatable by air cylinders 34 which have an air inlet 35 and an air inlet 36 whereby arm 32 may be caused to move toward

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and away from the bag rack structure 15 and the bags contained in the bag holders.

An air jet spray nozzle 37, best seen in FIGURE 7, has a pivot mounting 38 at the forward end of arm 32 and has an air inlet hose supply 39 connected thereto. The air jet nozzle has a forwardly and downwardly extending rock arm 40 which directs the several jets 41 of the jet 37 downwardly into the bags. The bag rack structure 15 as shown in FIGURE 3 is positioned below the check-out counter 42 of a super-market, the counter having an opening 43 below which the bags are positioned when opened, the opening 43 being closed by a slide cover 44. A switch 45 is engageable by arm 42 for controlling the air supply to nozzle 37 in such manner that the air is only supplied when the nozzle is forwardly and directed into a bag.

The operation of the invention should be clear from the foregoing description. Arm 32 is movable forwardly from the position shown in FIGURE 3 to that shown in FIGURES 1 and 2 by actuation of air cylinder 34. The forward movement of the arm causes the hook portion of air nozzle 37 to hook over the top edge of the bag, this movement being facilitated by the lever arm action of finger 40 when it engages the side of the bag. During this forward movement one of the clips 30 will engage in the aperture 29 of the tray 22 and upon the retraction of the arm 32 the tray will be pulled forwardly causing hook member 25 to move downwardly and engage the exposed edge of the bottom of the bag which is thus pulled away toward opening position as arm 32 is retracted. During this retractive movement the air jets from nozzle 37 will be directed downwardly into the top of the bag, thus opening it for filling from the counter 42.

What is claimed is:

1. A bag opener for super-markets comprising a pedestal, rack means on said pedestal for holding a plurality of folded bags thereon in upright position, retractable tray means mounted below said rack means, an arm movable toward and away from said rack means, self-actuating latch means on said arm for engaging an edge portion of a bag in said rack means, hook means on said arm for retracting said tray means, and air-jet means on said arm directed toward the top of said bag.

2. A bag opener for super-markets comprising a pedestal, a plurality of rack means on and disposed around the axis of said pedestal for holding a plurality of different size folded bags thereon in upright position, an arm movable toward and away from said rack means, self-actuating latch means on said arm for engaging an edge portion of a bag in said rack means, and air-jet means on said arm directed toward the top of said bag.

3. A bag opener for super-markets comprising a pedestal, rack means on said pedestal for holding a plurality of folded bags thereon in upright position, an arm movable toward and away from said rack means, self-actuating latch means on said arm for engaging an edge portion of a bag in said rack means, and air-jet means on said arm directed toward the top of said bag, said last means being self-actuating when said arm is adjacent said rack means.

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