

Sept. 8, 1959

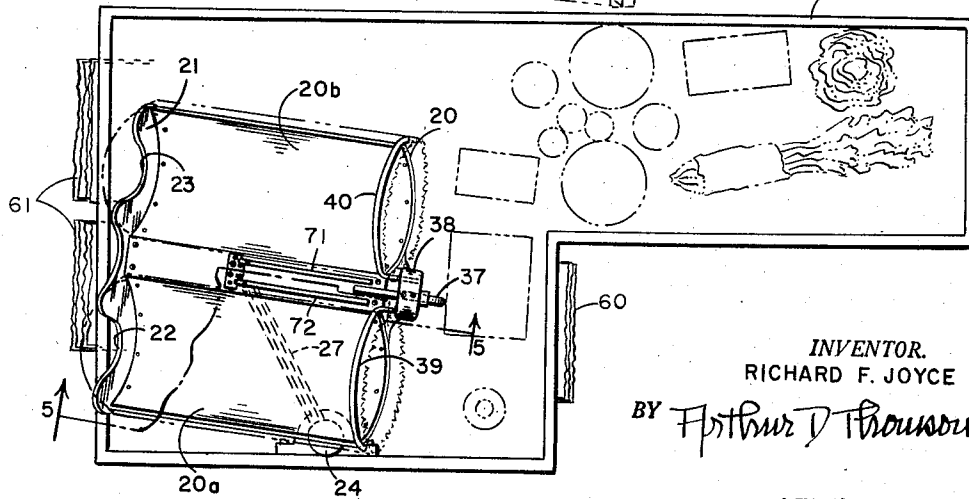
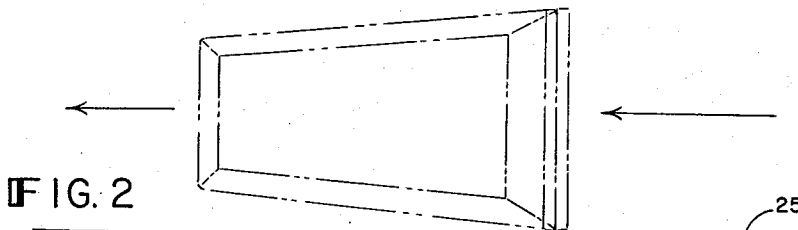
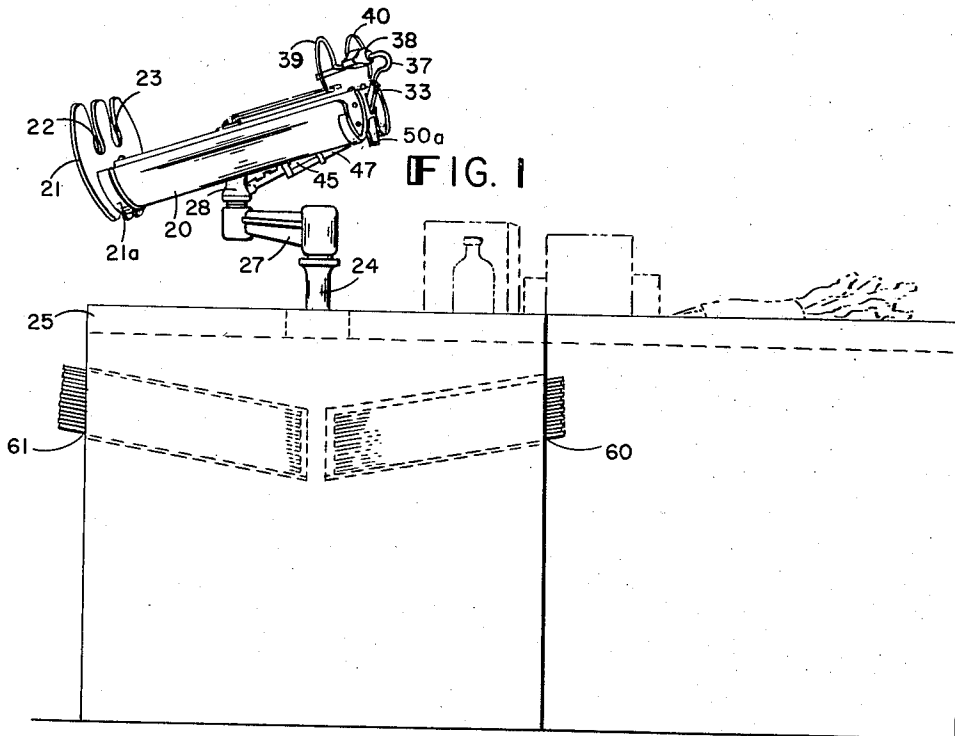
R. F. JOYCE

2,902,811

DEVICE FOR LOADING PAPER BAGS AND CARTONS

Filed Sept. 26, 1957

5 Sheets-Sheet 1



INVENTOR.
RICHARD F. JOYCE

BY *Arthur D. Thomson*

ATTORNEY.

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R. F. JOYCE

2,902,811

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5 Sheets-Sheet 2

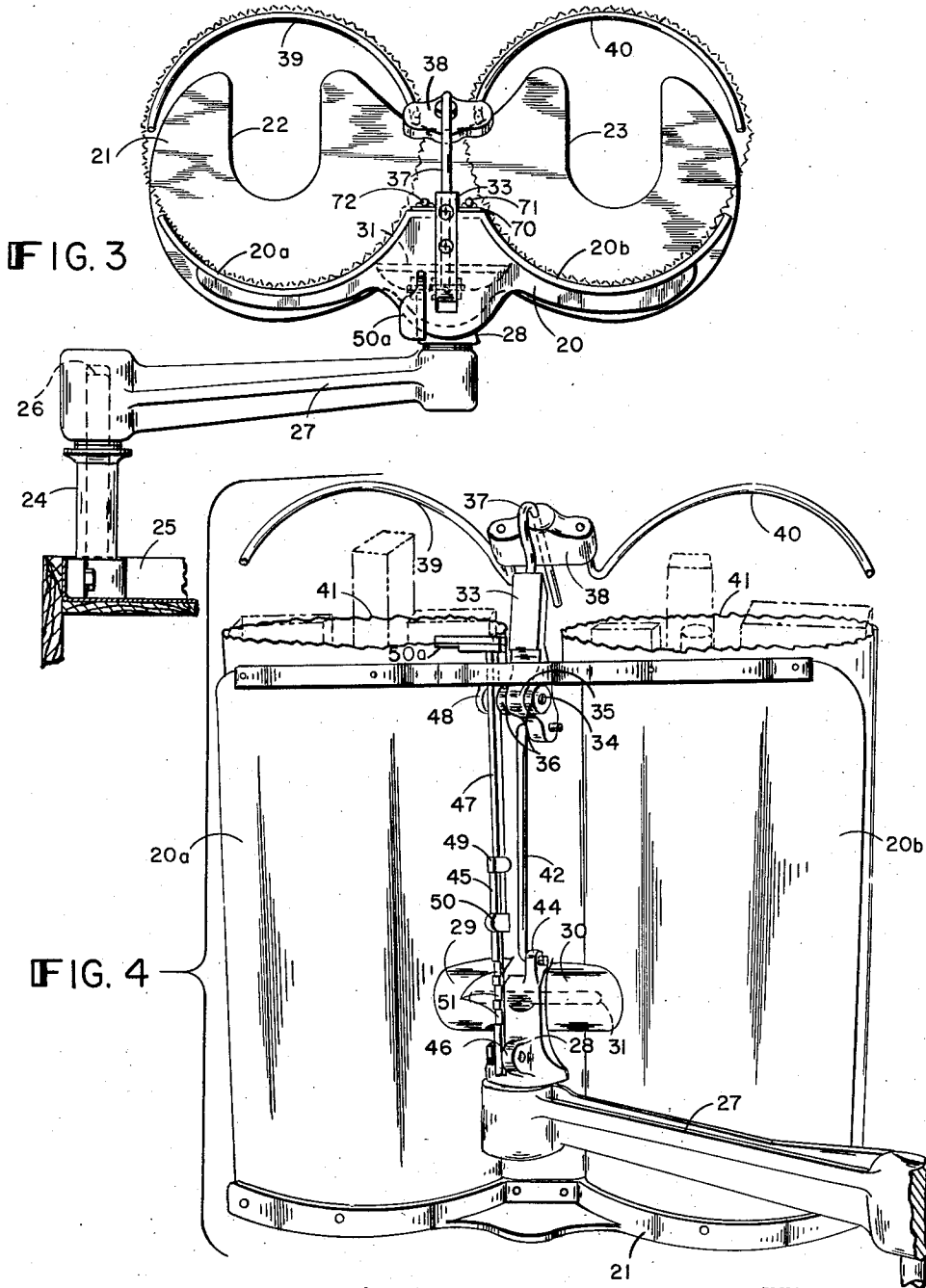


FIG. 4

INVENTOR.
RICHARD F. JOYCE

BY *Arthur D. Thomson*

ATTORNEY.

Sept. 8, 1959

R. F. JOYCE

2,902,811

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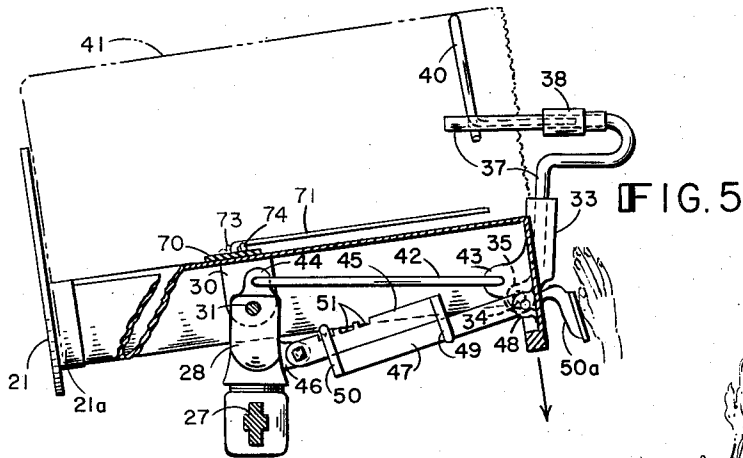


FIG. 5

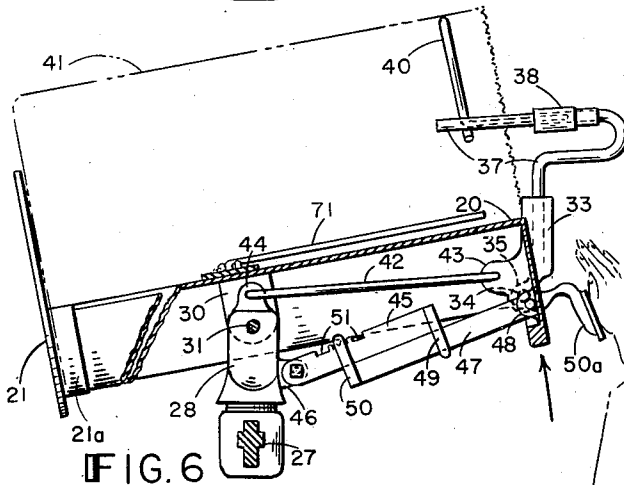


FIG. 6

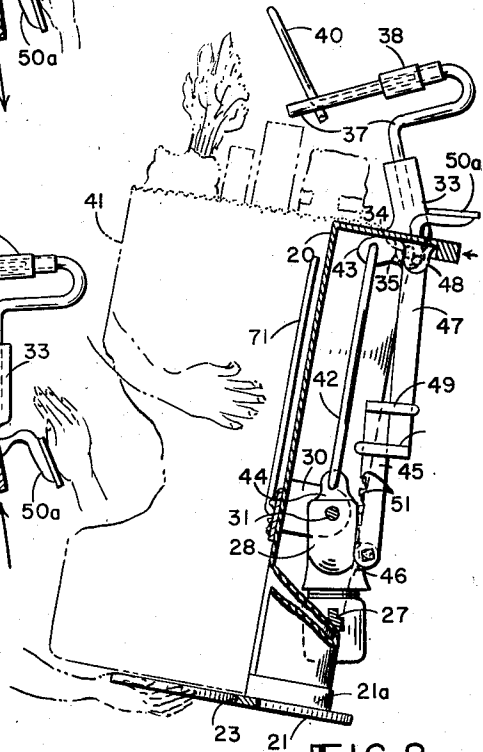


FIG. 8

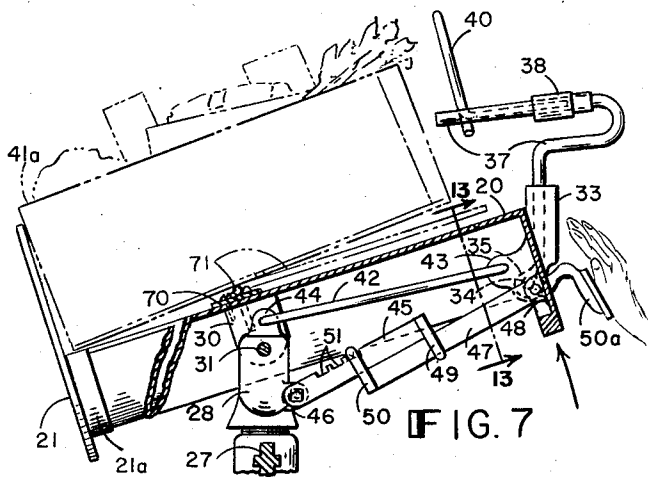


FIG. 7

INVENTOR:
RICHARD F. JOYCE

BY *Arthur D. Thomson*

ATTORNEY.

Sept. 8, 1959

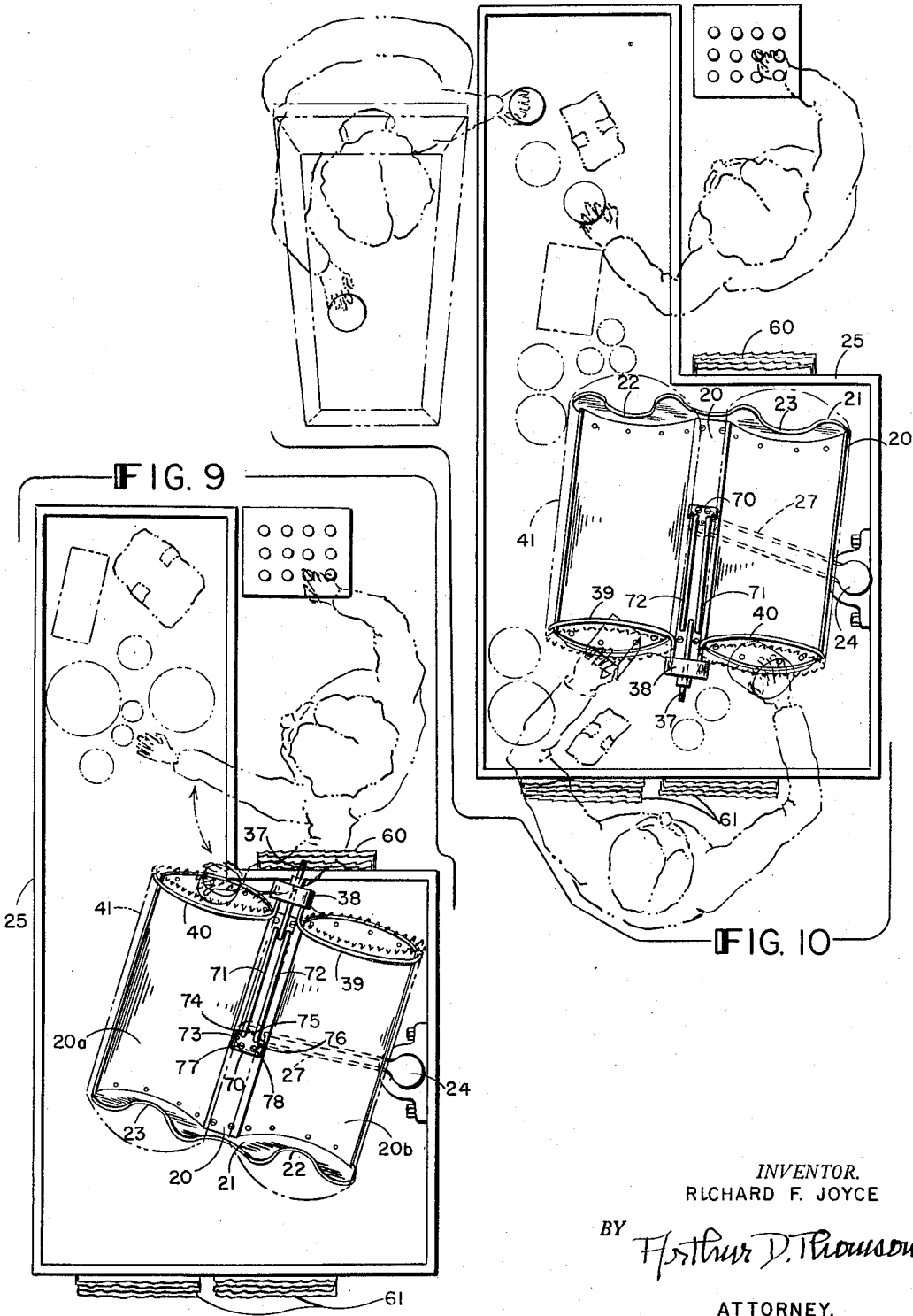
R. F. JOYCE

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DEVICE FOR LOADING PAPER BAGS AND CARTONS

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5 Sheets-Sheet 4



INVENTOR.
RICHARD F. JOYCE

BY *Arthur D. Thomson*

ATTORNEY.

Sept. 8, 1959

R. F. JOYCE

2,902,811

DEVICE FOR LOADING PAPER BAGS AND CARTONS

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5 Sheets-Sheet 5

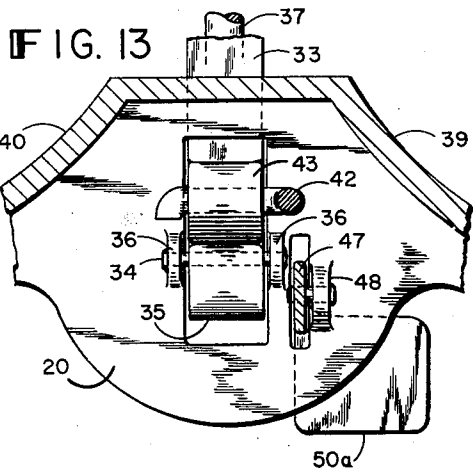


FIG. 13

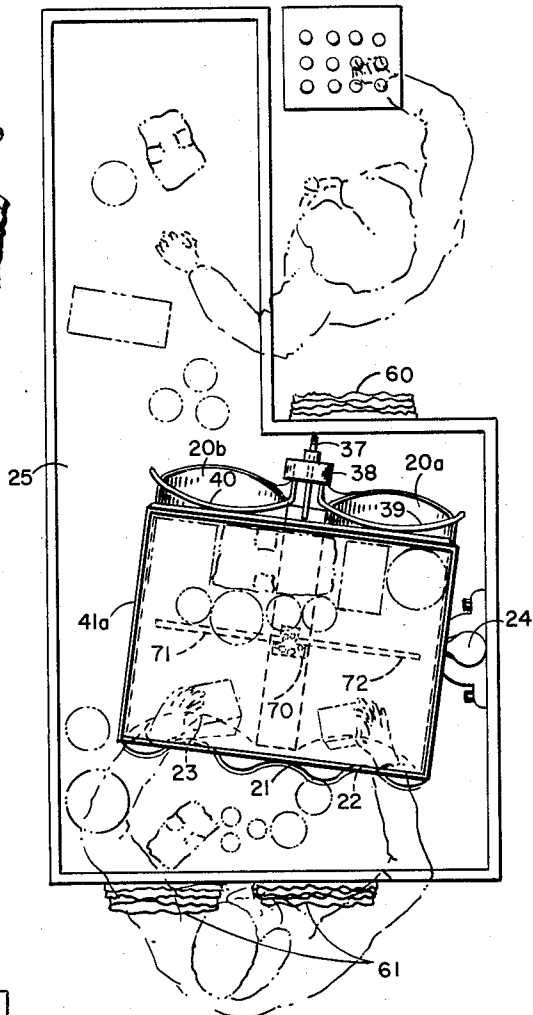


FIG. 12

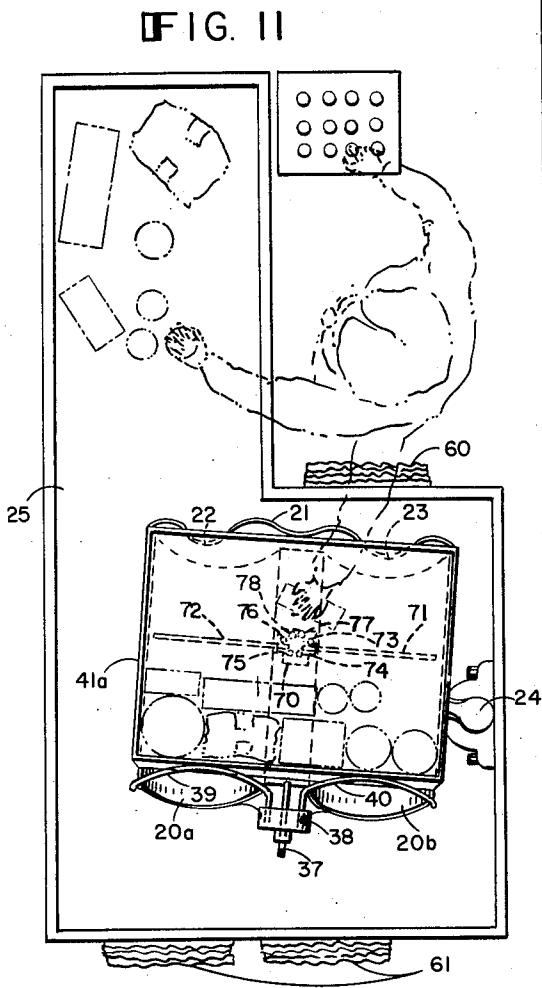


FIG. 11

INVENTOR.
RICHARD F. JOYCE
BY *Arthur D. Thomson*

ATTORNEY.

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2,902,811

**DEVICE FOR LOADING PAPER BAGS AND
CARTONS**

Richard F. Joyce, Bradford, Mass.

Application September 26, 1957, Serial No. 686,326

7 Claims. (Cl. 53—384)

This invention relates to devices for holding paper bags in open position while they are being packed, the device here disclosed being particularly adapted for use in grocery stores.

One of the major problems in self-service markets is the time required to check and pack a customer's groceries. Ordinarily the groceries are packed in large paper bags which are first opened up and set upright on the counter. If the cashier is working alone he has to ring in the charges for the various items on the cash register, and then stop and pack the articles, as he needs to use both hands, one to steady the bag and the other to pack the articles. Likewise, if an assistant is doing the packing, he frequently needs to use one hand to steady the bag.

The principal object of this invention is to provide a holder which will hold one or several paper bags open and support them in a convenient position for loading, which can be readily moved to various positions on a counter for use either by the cashier or by one or more assistants, which can be tilted to various positions for easier loading and which, after loading, will release the bags in upright position for delivery to the customer. Another object is to provide a holder which is adaptable for loading cartons as well as bags. Other advantages and novel features of the invention will be apparent from the following description.

In the drawings illustrating the invention:

Fig. 1 is a side elevation of a check-out counter equipped with a bag loading device constructed according to the invention;

Fig. 2 is a plan view of the counter and loading device;

Fig. 3 is an end elevation, somewhat enlarged, of the loading device from the loading end;

Fig. 4 is an end elevation of the loading device from the opposite end showing the holder in position to discharge the filled bags;

Fig. 5 is an enlarged cross-section of the holder taken along line 5—5 of Fig. 2;

Figs. 6 and 7 are views similar to Fig. 5, showing the holder adjusted to various angles for convenient loading;

Fig. 8 is a cross-section in the same plane as Fig. 5 but showing the holder in position to discharge the filled bags;

Fig. 9 is a plan view of the check-out counter and holder, with the holder in position for loading by the cashier;

Fig. 10 is a plan view of the check-out counter and holder with the holder in position for loading by an assistant at the end of the counter;

Fig. 11 is a plan view of a check-out counter on which the holder is being used by the cashier to pack a carton;

Fig. 12 is a plan view similar to Fig. 11 but showing the carton being packed by an assistant at the end of the counter; and

Fig. 13 is an enlarged fragmentary cross-section taken along line 13—13 of Fig. 7.

The holder here illustrated is suitable for supporting

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two bags at once and has a shell 20 with two curved sections 20a and 20b on which the bags rest sidewise. Disposed across one end of the shell is an end plate 21 which is attached to the shell in any convenient manner, for example, by riveting a flange 21a attached to or cast integral with the plate. The bottoms of the bags rest against the end plate and the plate has access openings 22 and 23 to facilitate removal of the bags.

To support the shell, a post 24 is mounted in any convenient manner on the check-out counter 25. Projecting from the upper end of the post is a shaft 26 on which an arm 27 is journaled to swing in a horizontal plane. A bracket 28 is mounted on the opposite end of the arm, and the shell carries a pair of similar lugs 29 (not shown) and 30 which are journaled on a hinge pin 31 (Figs. 5-8) so that the shell may swing about a horizontal axis with respect to the arm. Bracket 28 is mounted to rotate freely about a vertical axis on arm 27.

The forward end of the shell, the right-hand as viewed in Figs. 5 through 7, is slotted to receive an arm 33 which is hinged to the shell by means of a pin 34 passing through a lug 35 on the arm and a pair of lugs 36 on the shell, as best shown in Fig. 13. A bent rod 37, mounted on arm 33, supports a yoke 38 on which a pair of curved rods 39 and 40 are mounted. Each of the latter is adapted to be inserted in the mouth of one of the paper bags 41 to hold the bags open, as shown in Fig. 5 for example.

A link 42 of fixed length is connected to a lug 43 on arm 33 and to a lug 44 on bracket 28. A first latch bar 45 is connected to another lug 46 on bracket 28, and a second latch bar 47 is connected to a lug 48 on shell 20. Bar 45 carries a strap 49 which passes around bar 47, the bars being slidable with respect to one another and pivoted to the shell and bracket 28, respectively, to form a link of adjustable length. A latch 50 connected to bar 47, engages any one of a number of notches 51 in the upper edge of bar 45 to lock the bars in various selected respective positions. By means of this adjustable linkage, shell 20 can be tilted about bracket 28 and locked in various positions. A hand pedal 50a, attached to bar 47 may be pushed to rotate bars 45 and 47 with respect to one another to free latch 50 for adjusting the position of the latch, and the parts will fall back to locked position under gravity. For example, in Figs. 5 through 7 the holder is positioned for loading the bags but tilted at different angles to bring the bags or cartons to various heights according to the preference of the user.

In Fig. 8 the shell is shown in nearly upright position, in which position the filled bags may be readily removed. The fixed link 42 causes arm 33 to rotate clockwise about pin 34 as the shell rotates about pin 31. Thus, when the shell is in discharge position, as shown in Fig. 8, the rods 39 and 40 have moved out of the mouths of the bags, leaving the bags free for removal from the holder.

The device for loading bags is used in the following manner:

The post 24 is mounted on a counter in the general position shown in Figs. 2, 9 and 10. The counter is preferably provided with bins 60 facing the cashier, and bins 61 facing outward from the end for holding empty bags.

When a cashier is working alone at the check-out counter, the shell 20 is swung around so that the mouths of the bags will face the cashier. A pair of bags are opened and placed in the holder with their bottoms against plate 21, and their mouths engage over rods 39 and 40. The cashier may load items into the bags with one hand while she rings them in on the cash register with the other. The packing and checking operations are thus completed simultaneously. Even if the cashier prefers to ring in the items first and then load the bags, this device saves considerable time, because she can use both

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hands for loading instead of having to steady the bag or hold it open with one hand. The compound horizontal movement of the shell 20 provided by rotation about post 24 and about bracket 28 allows the shell to be readily pushed to a position to bring the mouth of each bag within easy reach. When the bags have been loaded the cashier, by pressing latch 50a, can tilt the shell to discharge position, and the shell can be readily swung to face the customer who then takes the filled bags off. It is understood that arm 27 is mounted high enough above the counter to permit free horizontal swinging of the holder when the shell is in discharge position.

When a bundle boy is assisting the cashier during busy periods, the shell 20 is swung around so that the mouths of the bags face the end of the counter. The boy places bags on the holder and loads them with both hands, the items being pushed along the counter or carried to him by a conveyor belt of a type commonly employed in self-service markets. When the bags are filled, the shell is tilted to discharge position and turned toward the customer or the assistant, as desired, to permit removal of the bags.

As the bags are supported along their entire length during loading, they are less likely to tear than when they are unsupported. Also, the bags are easier to load when tilted sidewise than when upright. In the discharge position, the holder remains tilted enough so that the bags rest against the shell and will not fall off, but can, nevertheless, be readily slid off. The user can get his hand under the bottom of the bags through one of the hand holes 22, 23, instead of having to lift the bags by the sides. The filled bags can thus be removed with a minimum of effort and without danger of tearing.

To facilitate loading cartons, this device has a pair of rods 71 and 72 which are mounted to swing in a plate 70 centrally secured to shell 20 by means of screws 77 and 78. The plate 70 also carries a number of projections 73, 74, 75 and 76 which serve as stops. When rods 71 and 72 are swung against stops 74 and 75, the rods are out of the way for loading a pair of bags. When swung out against stops 73 and 76, rods 71 and 72 are in position to support the bottom of a carton. Preferably the holder is placed in an intermediate tilted position, as shown in Fig. 7, for example, and one side of the carton rests against plate 21. When the carton is to be loaded by the cashier, the holder is disposed with end plate 21 toward the cashier's position so that the open top of the carton is disposed in a position sloping downward toward the cashier for convenient loading. When the carton is to be loaded by someone at the end of the counter, the holder is swung so that plate 21 faces the end position. As the bottom of the carton is raised somewhat above the curved portions 20a and 20b by rods 71 and 72, the packer may readily insert his hands under the carton to lift it off when it has been packed.

This holder and the supporting parts can be made in various proportions to suit particular installations and lends itself readily to a variety of counter lay-outs and methods of operation.

What is claimed is:

1. A bag loading device comprising an arm, means for supporting said arm to swing in a substantially horizontal plane, a bag holder adapted to engage one side and the bottom of a bag, said holder being mounted on said arm and tiltable with respect thereto between a bag loading position and a bag discharge position, a bag opener member disposed to engage the mouth of a bag disposed on said holder when the holder is in said loading position, and a linkage connected to said opener member and adapted to move the opener out of the mouth of the bag when the holder is tilted to said discharge position.

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2. A bag loading device comprising an arm, means for supporting said arm to swing in a substantially horizontal plane, a bracket mounted on said arm, a bag holder having an arcuate portion adapted to engage the side of a bag and an end plate adapted to engage the bottom of a bag, said holder being mounted on said bracket and tiltable with respect thereto about a substantially horizontal axis, a pair of link members, one connected to said bracket and the other to said holder, said members being longitudinally slidable with respect to each other to tilt said holder to various positions, and a latch member mounted on one of said link members and engageable with the other link member to lock said holder in a plurality of selected positions.

3. A bag loading device as described in claim 2, said bracket being rotatable with respect to said arm about a substantially vertical axis.

4. A bag loading device comprising an arm, means for supporting said arm to swing in a substantially horizontal plane, a bracket mounted on said arm, a bag holder having an arcuate portion adapted to engage the side of a bag and an end plate adapted to engage the bottom of a bag, said holder being mounted on said bracket and tiltable with respect thereto about a substantially horizontal axis, a bag opener member hinged to said holder and adapted to engage the mouth of a bag disposed in said holder, a first link of fixed length connected to said opener member and to said bracket, a second link connected to said holder and to said bracket, and means for varying the length of said second link so as to tilt said holder from a bag loading to a bag discharging position, said first link being adapted to move said opener member out of the mouth of the bag when said holder is tilted to said discharge position.

5. A bag loading device comprising a vertical post, an arm having a first end mounted on said post and a second end, the arm being horizontally swingable about said post, a bracket mounted on said second end and swingable with respect to said arm about a substantially vertical axis, a bag holder having a pair of arcuate sections, each adapted to engage the side of a bag and an end plate adapted to engage the bottoms of bags disposed in said sections, a yoke hinged centrally on said holder opposite said end plates, a pair of curved rods extending from said yoke and each adapted to engage the mouth of a bag disposed in one of said sections, a first link of fixed length connected to said yoke and to said bracket, a second link connected to said holder and to said bracket, and means for varying the length of said second link so as to tilt said holder from a bag loading to a bag discharging position, said first link being adapted to move said rods out of the mouth of the bags when said holder is tilted to said discharge position.

6. A bag loading device as described in claim 4, said second link including a latch member adapted to lock the link, and thereby the holder, in various selected positions.

7. A bag and carton loading device comprising an arm, means for supporting said arm to swing in a substantially horizontal plane, a bag holder tiltable mounted on said arm and having a pair of arcuate portions disposed to hold two bags side by side, and a pair of carton supporting members mounted on said holder and swingable thereon to a position to overlie said arcuate portions.

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Champ

Nov. 16, 1909