Aug. 14, 1951 P. M. FARMER 2,563,928

PACKAGE HOLDER

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Fig. 1

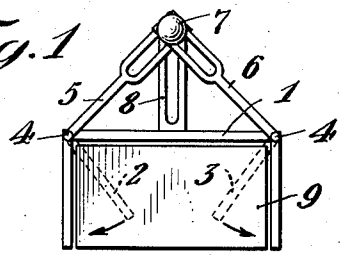


Fig. 4

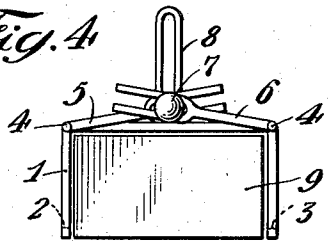


Fig. 2

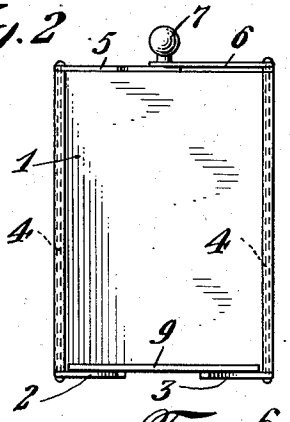


Fig. 3

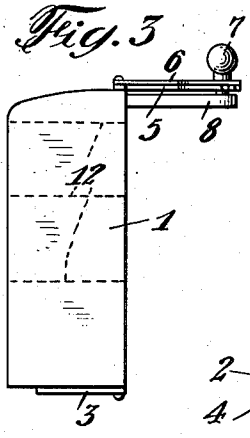


Fig. 5

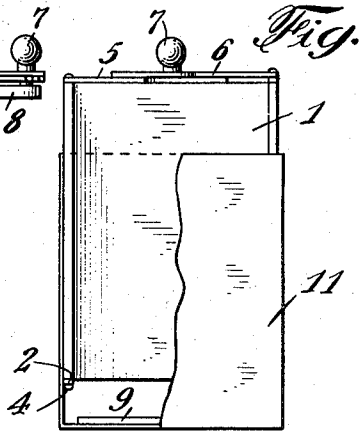


Fig. 6

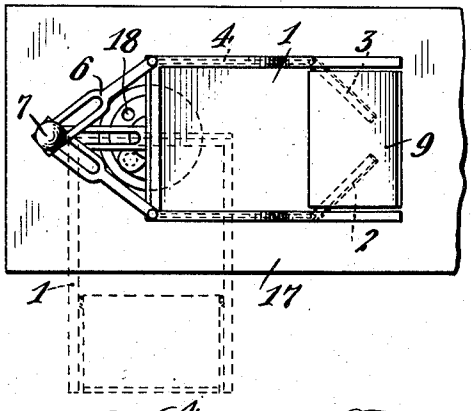


Fig. 8

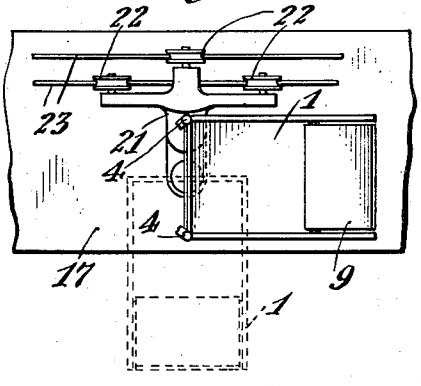
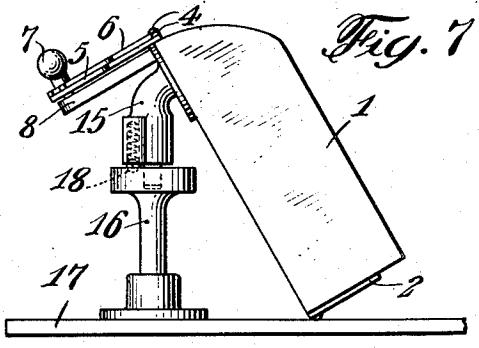


Fig. 7



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Fig. 9

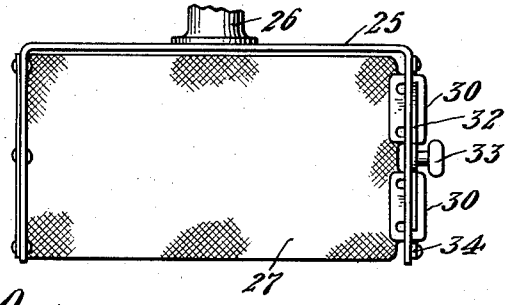


Fig. 10

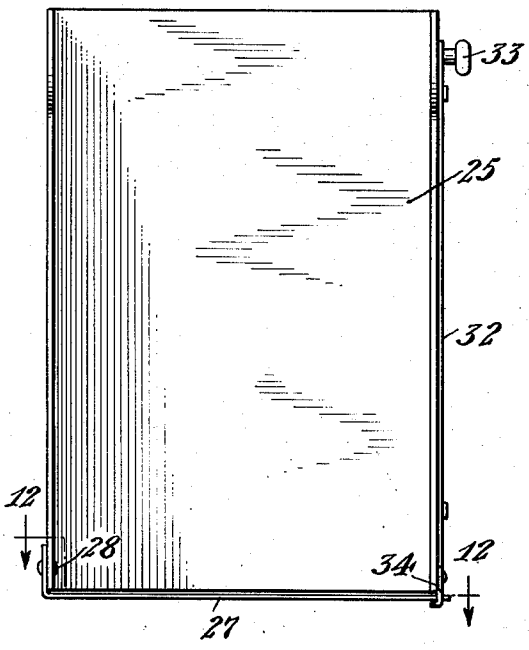


Fig. 11

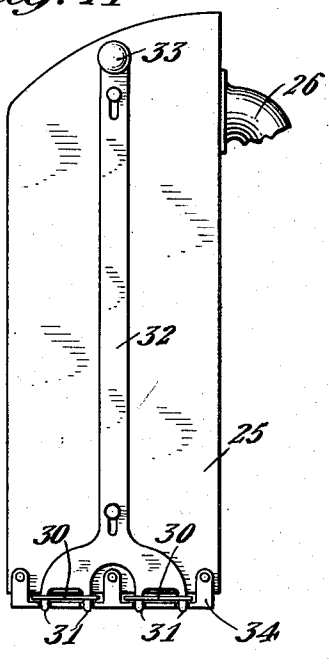
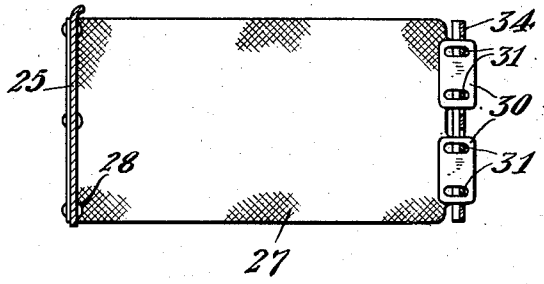


Fig. 12



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Fig. 13

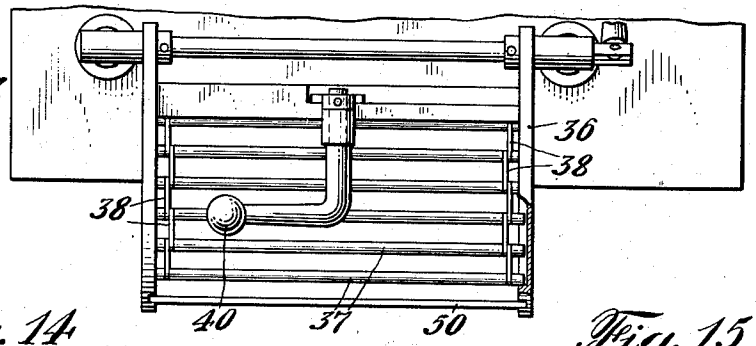


Fig. 14

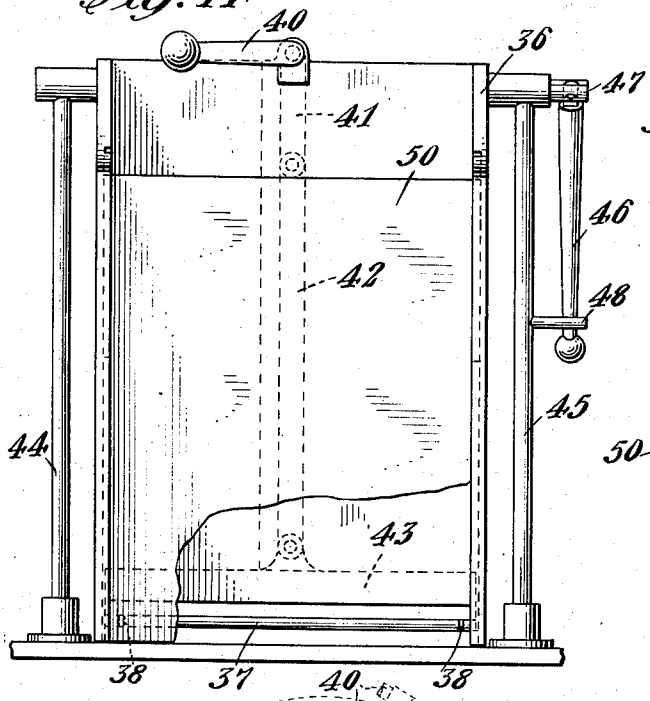


Fig. 15

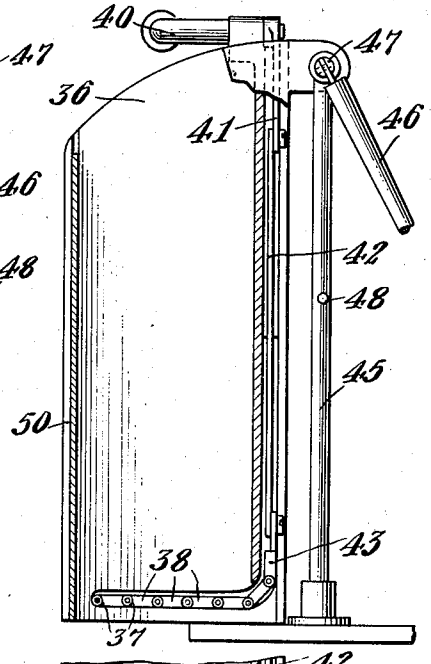


Fig. 17

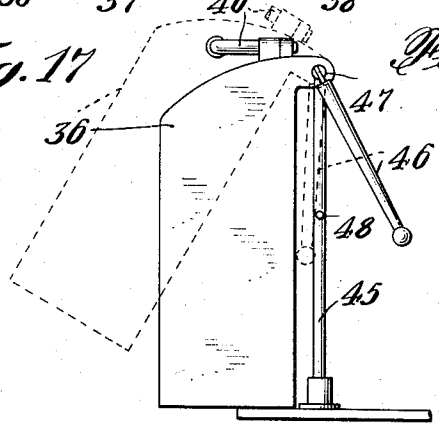
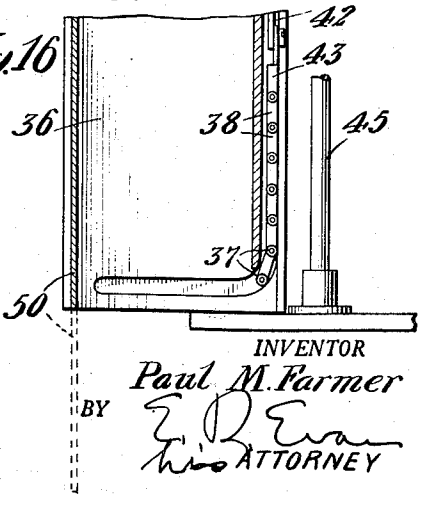


Fig. 16



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UNITED STATES PATENT OFFICE

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PACKAGE HOLDER

Paul M. Farmer, West Orange, N. J.

Application June 25, 1945, Serial No. 601,535

7 Claims. (Cl. 226—14)

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This invention relates to a package holder designed to facilitate the loading of packages, boxes and the like in a bag or carton.

In retail stores, the items of each order are often placed in one or more bags or cartons for delivery to the customer or for his convenience in carrying away the merchandise. When an order consists of more than a few articles, this task requires considerable skill and manual dexterity, if properly done, and consumes time which could be employed by the cashier in checking other orders. The same drawbacks are inherent in other packaging operations, such as those carried on in the shipping rooms of factories and mail order establishments. The object of the present invention, in general terms, is to simplify packaging operations of this character and secure the proper package arrangement in the bag or carton without the exercise of exceptional skill.

Another object of the invention is to provide a package holder in which the packages of an order are loaded or packed, and from which the packages may be released into a bag or carton which is slipped over the bottom of the holder.

In accordance with the invention, a hollow chute-like frame is provided to receive the packages of an order, said frame being supported in such manner that a snugly fitting bag or carton may be slipped over the lower end of the frame after the packages have been loaded therein. The hollow frame, in the preferred form of the invention, is provided with a releasable or temporary bottom on which the packages are stacked. After the loading of the order in the package holder is completed, the bag is slipped over the holder around the packages and the bottom released or withdrawn to permit the packages to drop into the bag as it is lowered from the holder. In packing a carton, the same procedure may be followed and, if desired, cushioning strips or pads may be inserted around or between the packages in the holder. Then the order, when dropped into the carton or shipping case, will be ready for shipment when a preformed pad is placed on the top of the packages and the case sealed. If desired, the cross-section of the carton may be larger than the cross-section of the holder to permit pads or cushions to form a liner for the sides of the carton, these pads being positioned in the carton before it is slipped over the package holder. A tightly packed case ready for shipment is thus secured.

The temporary bottom for the package holder may take the form of a releasable fiber-board

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or plywood plate which drops into the bottom of the bag or carton. In another embodiment of the invention, the bottom of the holder may be withdrawn from underneath the packages after the bag is slipped over the holder. In a third embodiment, a bottom of canvas or other flexible material is releasably attached to one side of the bottom of the holder so that it can be withdrawn from the bag as the bag is lowered with its contents from the holder.

Since the holder may be so constructed and mounted that it can be packed more expeditiously than an open-top bag or carton, as explained more fully hereinafter, and the packages are more accessible for rearrangement, if desired, considerable time and effort are saved. Furthermore, its use makes it possible to readily determine and use the most appropriate size of bag or carton for orders of varying sizes.

Other advantages of the invention will appear from the following description of the preferred embodiments thereof shown in the accompanying drawings, wherein

Fig. 1 is a plan view of one form of package holder provided with a releasable bottom;

Figs. 2 and 3 are front and side elevations, respectively, of the holder shown in Fig. 1;

Fig. 4 is a view similar to Fig. 1, with the temporary bottom disengaged from its supports;

Fig. 5 is a front elevation of Fig. 4, showing the bag being lowered from the holder;

Figs. 6 and 7 are plan and side elevations showing a preferred mounting for the package holder shown in Figs. 1 to 5;

Fig. 8 illustrates another mounting which may be employed for the holder;

Figs. 9, 10 and 11 are plan, front and side elevations of another embodiment of the invention employing a semi-releasable bottom of canvas or the like;

Fig. 12 is a cross-sectional view taken on the line 12—12 of Fig. 10;

Figs. 13, 14 and 15 are plan, front and side elevations of a third embodiment of the invention employing a flexible grill-like bottom which may be withdrawn from underneath the packages in the holder; and

Figs. 16 and 17 are detail views of the holder shown in Figs. 13 to 15.

Referring to Figs. 1 to 5 of the drawings, a typical form of package holder comprises a hollow frame 1 of substantially uniform cross-section, and constructed with one side, the top and bottom open. The arrangement and proportions of the frame 1 may be altered without depart-

ing from the scope of the invention, the frame being designed to accommodate the packages and the containers with which it is to be used.

In this form of the invention, two movable arms 2 and 3 are pivotally mounted on opposite sides at the bottom of the frame 1. Each of the arms is connected by means of rods 4, which are channelled in the side walls of the frame 1, to one of the levers 5, 6 at the top of the package holder. A reciprocable knob or handle 7, carried by a bracket 8, engages the bifurcated ends of the levers 5 and 6. With this construction, it will be evident that movement of the knob 7 forward swings the arms 2 and 3 outwardly, as shown in Figs. 1 and 4. In use, a false bottom or plate 9, of plywood, cardboard, fiber-board or other suitable material, is placed on the arms 2 and 3 before the packages are placed in the holder. Then when loading is completed and a bag or carton 11 slipped over the bottom of the holder, the arms 2 and 3 are moved, as shown in Figs. 4 and 5, by the knob 7 to release the bottom 9 which together with the packages drops into the container 11 as the latter is lowered to remove it from around the package holder. In this manner the stacked packages are transferred to a container, bag or carton without disarranging the packages and without any possibility of damaging them. Different sizes of bags may be used, the most suitable heights of the bags being indicated by way of example by the dotted lines 12 in Fig. 3.

The package holder may be supported in various ways for greater convenience in loading the packages and subsequently transferring the order to the bag or carton. A preferred construction embodying another feature of the invention is shown in Figs. 6 and 7. Referring to these figures, the package holder 1 is attached to a bracket 15 at a point near the upper rear edge of the holder, the latter preferably being held at a convenient angle to facilitate the stacking of articles therein. The bracket 15 is swivelled in an upright post 16 mounted on a table or counter 17. As shown in Fig. 6, the holder 1 is positioned for most efficient loading after which it may be swung into the position shown in dotted lines, where the bottom of the holder is clear of the table and the bag may be readily slipped in place. A detent comprising a spring-pressed ball adapted to engage depressions 18 in the upper face of the post 16 may be provided to hold the holder 1 in either extreme position, if desired. Obviously any type of package holder may be movably supported, as shown in Fig. 6.

Instead of mounting the holder at a fixed location on the counter, it may be supported for movement along the length of the counter, if desired. This construction is shown in Fig. 8 wherein the package holder 1 is pivoted on a slidable carriage 21 above the table or counter 17. The carriage 21 is supported for movement back and forth along the table in any desired manner, as for example by rollers 22 and parallel track members 23. The track members are preferably disposed at different heights above the surface of the table to provide a substantial support for the overhanging weight of the package holder and its contents, when loaded. The loading position of the package holder 1 is indicated in full lines; the unloading position in dotted lines.

A modified form of package holder which has the advantage that the expendable false bottom is not required is illustrated in Figs. 9 to 12. Referring to these figures, the holder as shown includes a hollow open-sided frame 25 similar to that shown in Figs. 1 to 5 and mounted upon a supporting bracket 26, as described above. The frame 25 is provided with a bottom 27 of canvas or other strong, pliant material. The bottom 27 is attached to the bottom of one side of the frame 25, as indicated at 28. The opposite end or side of the bottom member 27 is releasably attached to the opposite side of the frame 25 while the holder is being filled, and adapted to be released at will. In the embodiment shown for purposes of explanation, the flexible or fabric bottom carries metallic reinforcing plates or eyelets 30 (see Figs. 9 and 12) through which project the points 31 of a reciprocable locking bar 32. The bar 32 is slidably mounted on one side of the frame 25 and is provided with a knob 33 to enable the attendant to release the bottom after the bag or carton has been slipped over the loaded package holder. A crossbar 34, the center of which is spaced from the sidewall of the holder to receive the eyelets 30, extends underneath the bottom thereof when the member 27 is secured in position. When the bottom 27 is released by raising the bar 32, the packages in the holder 25 drop into the bag (which would be slipped over holder 25 after all of the packages had been placed therein) and, as the bag is lowered, the bottom 27 slips underneath the packages and along the side of the bag. After the bag is removed, the eyelets 30 are pushed back between the bottom edge of the frame and the crossbar 34, and the locking bar 32 is lowered to the position shown in Fig. 11 to lock the bottom 27 in place for handling the next order.

Another form of flexible bottom, which may be withdrawn to release the contents of the package holder into a bag or carton, is shown in Figs. 13 to 16. Referring to these figures, the hollow frame 36 of the holder, generally similar to those shown in the preceding figures, is provided with a removable or retractable bottom comprising a series of stiff parallel bars 37 extending across the width of the frame and connected at their ends by pivoted links 38. While the holder is being loaded, the bars 37 occupy the positions shown in Figs. 13 and 15 in which they obstruct or close the bottom of the holder. However, when the package holder is loaded, a lever 40 is rocked to withdraw the bars 37 from underneath the packages and permit them to drop into a bag or carton previously slipped over the holder. As shown, the lever 40 is connected through a crank arm 41 and actuator link 42 to an operating bar 43 so connected to the bars 37 that when the bar 43 is raised, the bottom is withdrawn to the position within the recess in the sidewall as shown in Fig. 16. When the lever 40 is returned to its initial position, the removable bottom formed by the bars 37 is returned to the position shown in Fig. 15, ready for handling the next order.

This holder may be mounted as described above in connection with Figs. 6 to 8. As shown however, it is journalled in supports at the upper ends of upright posts 44 and 45, so that it may be adjusted to a desired position for loading after which it may be swung out to the position shown in dotted lines in Fig. 17 to facilitate the placement of the bag or carton over the holder. A handle 46 is pivoted on the end of the holder shaft 47 so that it may be positioned in latching engagement with a pin 48 on the post 45 to hold the package holder 36 in the elevated position. An adjustable front cover 50 may be provided,

as shown, with any of the various forms of package holders. Its function is to facilitate the use of packing material between separate packages and the making of a more solid assembly of the whole, for insertion into stiff cartons or containers for shipment. Cover 50 may be fully inserted to form a fourth side for frame 36 in which case packages and packing material would be inserted through the open top of frame 36. Alternatively, cover 50 may be partially inserted from the bottom and as packages and packing material are progressively inserted from the open portion of the front, cover 50 would be gradually raised to hold the tightly packed contents of the holder in condition for later releasing solidly into the shipping carton.

The embodiments which have been shown and described in detail are merely illustrative and may be varied without departing from the scope of the invention.

I claim:

1. A package holder comprising a hollow frame with sidewalls adapted to hold a plurality of packages, a support for said frame attached thereto in a position that will permit a bag or carton to be slipped over the bottom of the frame, a movable actuator in a recess in one sidewall of said hollow package-holding frame, a removable bottom member for said hollow frame and means including said movable actuator for holding said bottom member in place while the package holder is loaded and then withdrawing the bottom member from beneath the packages in said frame.

2. A package holder comprising a hollow frame adapted to hold a plurality of packages and having parallel sidewalls, a support for said frame attached thereto in a position that will permit a bag or carton to be slipped over the bottom of the frame, a flexible bottom member for said frame to support the packages therein and means in said sidewalls of the package-holding frame for slidably supporting the sides of said bottom member, said member being constructed and arranged to permit the packages in said holder to drop into the bag or carton by withdrawal of the bottom member from underneath said packages.

3. A package holder comprising a frame with sidewalls adapted to be enclosed by a bag or carton, a flexible bottom for said frame constructed of bars and lateral pivoted links to support packages therein and means for withdrawing said bottom from beneath the packages up the surface of one sidewall of the frame after the bag or carton has been slipped over said frame.

4. A package holder comprising a hollow frame with parallel sidewalls to fit inside a straight-sided bag or box, a flexible bottom for said frame and means including a handle at the top of the frame for withdrawing said bottom substantially within the confines of said hollow frame from its normal position across the bottom of the frame, while the frame is enclosed by said bag or box.

5. A package holder having sides and a bottom end provided with a bottom comprising a series of bars and links connecting said bars to form a flexible grill, means forming a guide channel along the bottom end and one side of the package holder for said bars and means for withdrawing said bottom to a position substantially coinciding with one side of the package holder.

6. In a package holder, a top-supported chute-like member adapted to be enclosed on the sides and bottom by an open-top bag or box, a movable bottom at the lower end of said chute-like member on which articles may be stacked, said bottom comprising pivotally connected bars, and means for withdrawing said bottom to deposit stacked articles in the enveloping bag or box without disturbing the stacked arrangement thereof.

7. In a package holder, a top-supported chute-like member having sides and a bottom adapted to be enclosed by an open-top bag or box, means for temporarily rigidly supporting a stack of articles in said chute-like member for transfer to said bag or box and means for rendering said rigid supporting means ineffective and thereby dropping stacked articles in the enveloping bag or box without disturbing the stacked arrangement thereof, including actuating means comprising a reciprocable pull-bar member extending from the top downwards along one side of said chute-like member.

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