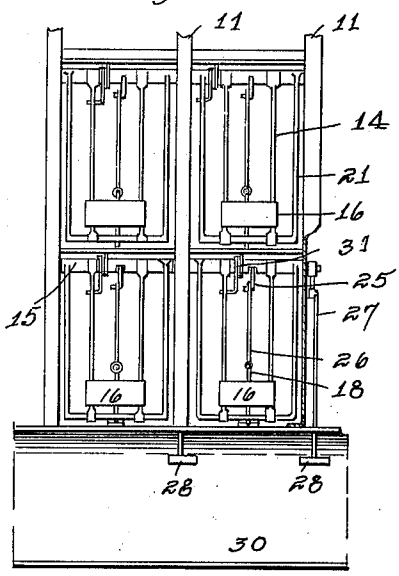
Feb. 15, 1938. E. BARRETT 2,108,302

PACKAGE DELIVERING APPARATUS

Filed Nov. 16, 1936

Fig. 1.



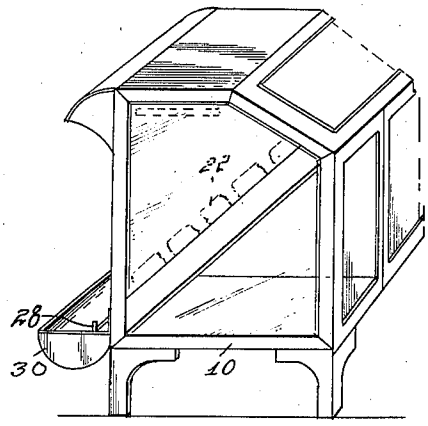


Fig. 4.

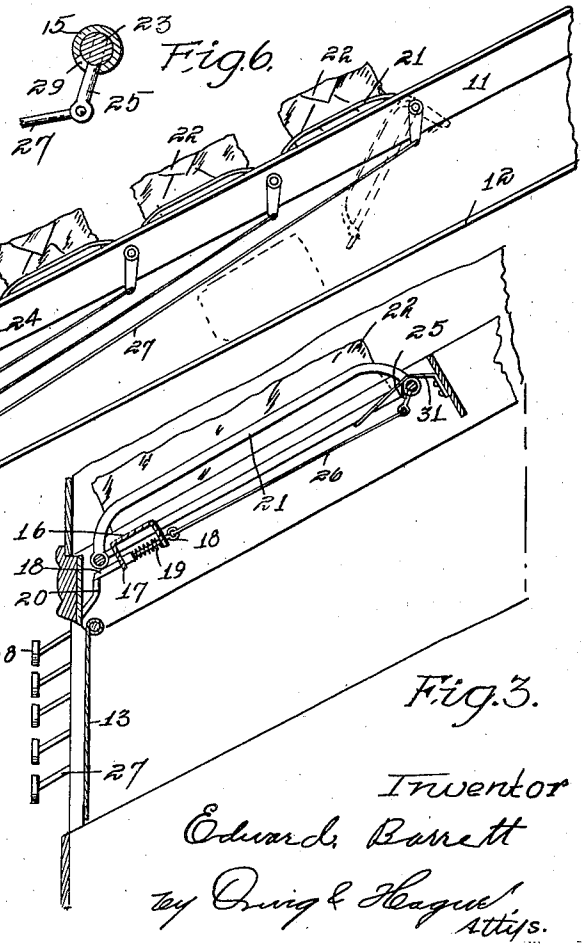


Fig. 6.

Fig. 2.

Fig. 5.

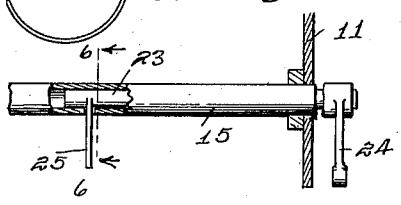


Fig. 3.

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UNITED STATES PATENT OFFICE

2,108,302

PACKAGE DELIVERING APPARATUS

Edward Barrett, Des Moines, Iowa

Application November 16, 1936, Serial No. 111,025

6 Claims. (Cl. 312—94)

My invention relates to the art of so-called self-serving sales apparatus, and is especially adapted for use in the display and sale of perishable food such as meat, which must be kept under refrigeration.

My object is to provide an apparatus of this character of simple, durable and inexpensive construction; more specifically it is my object to provide for the visible display to customers of a large assortment of meats enclosed in transparent wrappers and contained in a refrigerator and clearly visible to customers.

A further object is to provide means of simple and inexpensive construction whereby a customer may, after selecting any one of the packages desired, press a button and have the selected purchase delivered to the exterior of the refrigerator without harm to the wrapper of the package and without disturbing any of the remaining packages on display within the refrigerator, and further to reduce to a minimum the amount of warm air that may enter the refrigerator during the withdrawal of a selected package therefrom.

In the accompanying drawing—

Figure 1 shows a front elevation of a portion of my improved apparatus.

Figure 2 shows a side elevation of a portion of my improved apparatus, the dotted lines showing the position of one of the package supporting platforms in position for discharging a package.

Figure 3 shows a vertical sectional view of a part of my improved apparatus illustrating one of the package supporting platforms and its trip latch device.

Figure 4 shows a perspective view of a refrigerator having my improved apparatus installed therein.

Figure 5 shows a detail view partly in section, and illustrates the means for withdrawing the latch device; and

Figure 6 shows a sectional view on the line 6—6 of Figure 5.

Referring to the accompanying drawing I have used the reference numeral 10 to indicate generally a glass paneled display cabinet and refrigerator of ordinary construction. Mounted within the display cabinet is a metal frame 11 inclined upwardly and rearwardly from the lower front side of the display cabinet at an angle of about 45°. Supported in this frame is a series of chutes having smooth metal bottom portions 12. At the lower end of each of these chutes is a pivoted door 13 to swing outwardly and to automatically close by gravity. Mounted between the sides of the frame 11 is a series of package supporting platforms 14. The rear upper end of each of these platforms is fixed to a sleeve 15 rotatably mounted in the adjacent frame members 11. Near the lower end of each of said platforms is a plate 16 having downwardly extended edge portions 17, and mounted in said edge portions 17 is a slide bolt 18 normally held in an extended position by a spring 19. As shown in Figure 3, the upper edge of the plate 16 projects above the adjacent top surface of the rods 14. This is sufficient to hold packages from sliding off the platform by gravity when the platform is at the angle shown by solid lines in said figure, but when the platform is tilted to the position shown by dotted lines at the right end of said figure, the packages will slide off by gravity and will slide down the smooth bottom of the chute 12. When the platform is in its normal position, as shown in Figure 3, this slide bolt engages and rests upon a support 20 fixed to the main frame.

At the sides of the platform I provide upwardly extended guide members 21 to receive and hold the packages 22 against lateral movement.

To provide for releasing the platforms I have mounted in the sleeve 15 a shaft 23 having an arm 24 at its outer end and an arm 25 at its inner end. This arm 25 is connected by a rod 26 with a latch bolt 18, and the arm 24 is connected by a rod 27 with a push button 28 projected to the front of the apparatus. In order to permit a relative rotary movement of the arm 25 to the sleeve 15 I have formed a slot 29 in the sleeve as shown in Figure 6.

Connected with the main frame is a receiving trough 30 which extends below the chute 12 to receive packages which slide down the chute and through the opening at the front covered by the door 13. I preferably arrange a number of rows of these package receiving platforms side by side within the cabinet 10.

For each platform 14 I have provided a spring 31 attached to the main frame and engaging the under surface of the platform. This spring is of such degree of resilience that when the platform is empty the spring will automatically raise it, but when there is a weight on the platform and the latch bolt is released, the platform will move downwardly. However, the movement of the platform downwardly to discharging position is effected by a movement of the crank 24 and the corresponding movement of the sleeve 15 to which the platform is attached, after the arm 25 has reached the limit of the slot 29, as shown in Figure 6, thereby rocking the sleeve 15 and moving the platform to discharge position.

In practical use, the operator places packages of merchandise on each of the platforms. This merchandise is preferably wrapped in transparent covers, such, for instance, as cellophane, so that purchasers on the outside of the cabinet may readily see the contents of each and every package. When the purchaser desires to remove any of the packages from the cabinet he simply presses upon the knob 28 corresponding to the particular platform on which the desired package is resting. As soon as this is done, the latch bolt 18 is released and the platform moved downwardly by gravity or by an additional pressure upon the knob 28, so that the package slides off of the platform into the chute 17. It then slides by gravity along said chute until it reaches the door 13, and the impact of the package against the door causes it to open and deliver the package into the receiving trough 30. The door 13 is automatically closed by gravity as soon as the package has passed through it, so that a minimum amount of heated air is admitted into the refrigerating chamber of the cabinet due to this passage of the package from the cabinet. As soon as the package slides off of the platform the spring 31 normally returns the platform to its normal position, and the latch bolt 18 secures it in that position.

I have found in practical use that with my improvement the packages may readily be seen and inspected through the glass front of the cabinet and that unskilled operators can readily, quickly and accurately select any desired package and press the button 28 corresponding to the selected package and deliver the selected package to the receiving trough at the front without any injury or damage to the cellophane or other wrapper in which the merchandise is contained.

I claim as my invention:

1. A package delivering apparatus, comprising an inclined chute, a series of packages supporting platforms arranged in line above the chute and substantially parallel therewith, each being pivotally supported at its upper rear end, a latch device for holding the lower front end of the platform in its normal position for supporting a package, and a manually operated means for each platform extended beyond the lower front platform for tripping the latch device of the selected platform.

2. A package delivering apparatus, comprising an inclined chute, a series of package supporting platforms arranged in line above the chute and substantially parallel therewith, each being pivotally supported at its upper rear end, a latch device for holding the lower front end of the platform in its normal position for supporting a package, a manually operated means for each platform extended beyond the lower front platform for tripping the latch device of the selected platform, and a spring device for automatically returning each platform to normal position.

3. A package delivering apparatus, comprising a frame, a series of package supporting platforms, a sleeve for each platform pivotally mounted in the frame and having the adjacent platform fixed thereto, a shaft rotatably mounted in each sleeve, a latch device for holding each platform in normal position, an arm fixed to said shaft and connected to said latch device for releasing it when the shaft is rocked in one direction, and means operated by said arm for moving the sleeve and platform to package releasing position when said arm is moved in the direction required for releasing the latch device.

4. A package delivering apparatus, comprising a frame, a series of package supporting platforms, a sleeve for each platform pivotally mounted in the frame and having the adjacent platform fixed thereto, a shaft rotatably mounted in each sleeve, a latch device for holding each platform in normal position, an arm fixed to said shaft and connected to said latch device for rereleasing it when the shaft is rocked in one direction, means operated by said arm for moving the sleeve and platform to package releasing position when said arm is moved in the direction required for releasing the latch device, a spring for automatically returning the platform to its package display position, and a spring for operating said latch for securing the platform in said position.

5. A package delivering apparatus, comprising a frame inclined upwardly from its front, a series of package supporting platforms mounted on said frame and arranged in longitudinal alignment, a sleeve for each platform rotatably mounted in the frame at the rear of each platform and having a slot near its center, said platforms being fixed to said sleeves, a spring actuated latch device for automatically securing each platform in normal position, a shaft rotatably mounted in each of said sleeves and having an arm fixed thereto and projected through said slot, a rod connecting said arm with said latch device, said parts being so arranged that the initial movement of the arm will release the latch and further rotation will tilt the front of the platform downwardly by the pressure of said arm upon the sleeve at the end of said slot, a spring for each platform to return it to normal position when released, a second arm fixed to each of said shafts, a rod connected therewith and extended to a point in front of the frame.

6. A package delivering apparatus, comprising a frame inclined upwardly from its front, a series of package supporting platforms mounted on said frame and arranged in longitudinal alignment, a sleeve for each platform rotatably mounted in the frame at the rear of each platform and having a slot near its center, said platforms being fixed to said sleeves, a spring actuated latch device for automatically securing each platform in normal position, a shaft rotatably mounted in each of said sleeves and having an arm fixed thereto and projected through said slot, a rod connecting said arm with said latch device, said parts being so arranged that the initial movement of the arm will release the latch and further rotation will tilt the front of the platform downwardly by the pressure of said arm upon the sleeve at the end of said slot, a spring for each platform to return it to normal position when released, a second arm fixed to each of said shafts, a rod connected therewith and extended to a point in front of the frame, a package delivery chute below the platforms and inclined at such angle as to cause packages thereon to slide downwardly toward the front of the frame, and a door at the front of said chute arranged to be automatically opened by the impact of a package and to automatically close after the package has passed beyond it.

EDWARD BARRETT.