J. H. BLYTHE.

BREAD DELIVERING MACHINE.

APPLICATION FILED MAR. 25, 1914.

1,123,075.

Patented Dec. 29, 1914.

2 SHEETS—SHEET 1.

Fig 1

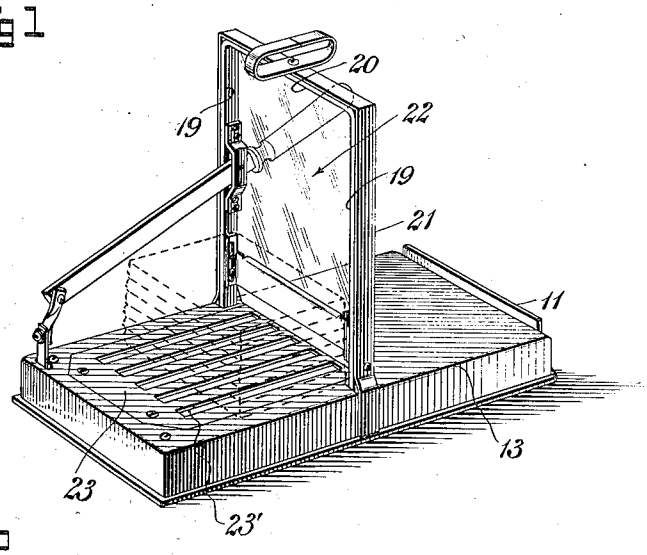
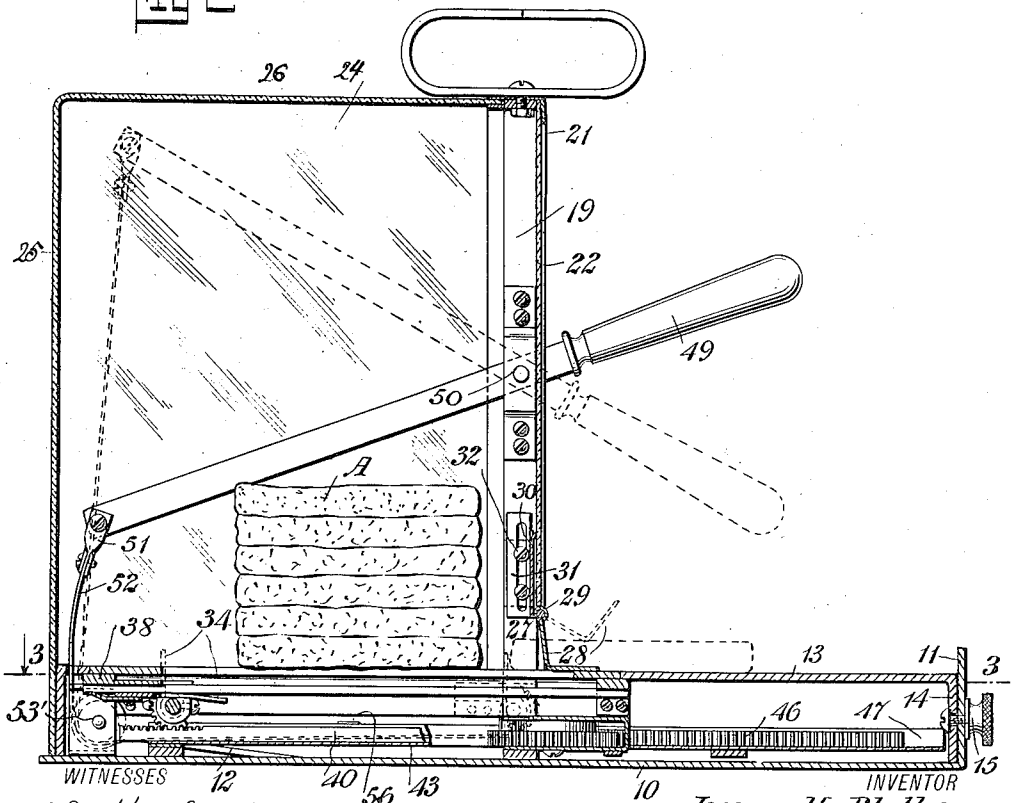


Fig 2



WITNESSES

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Fig 3

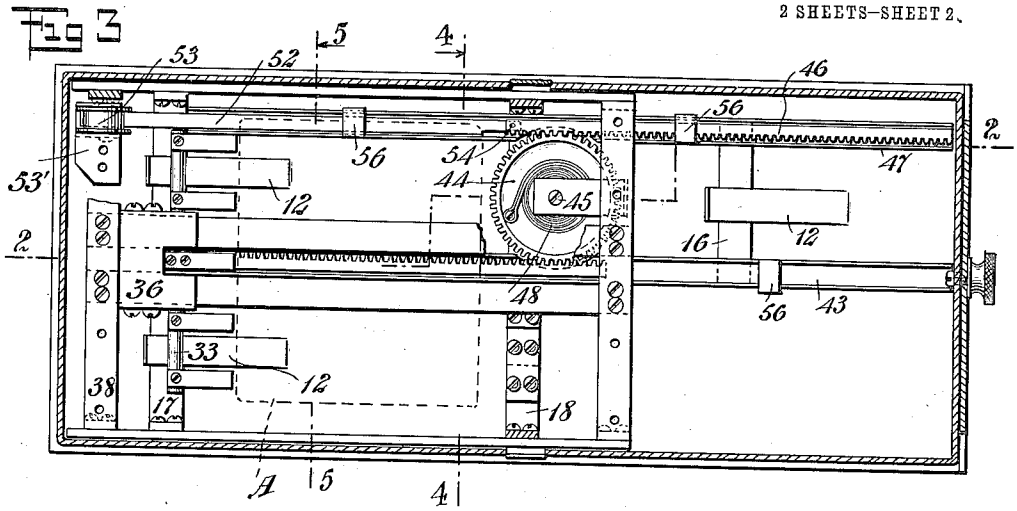


Fig 4

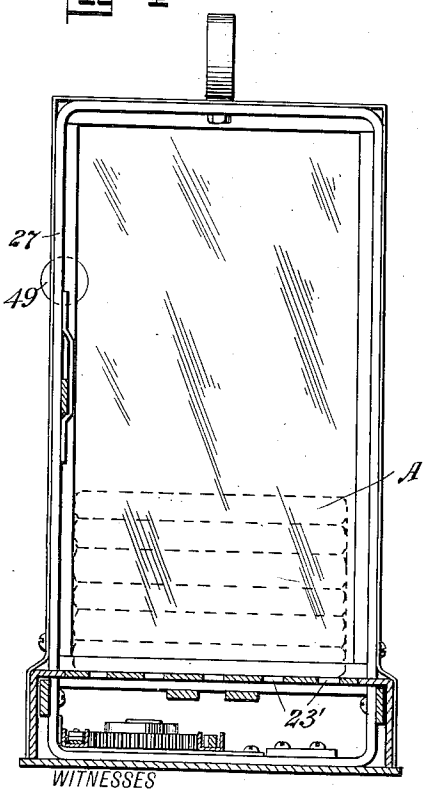


Fig 5

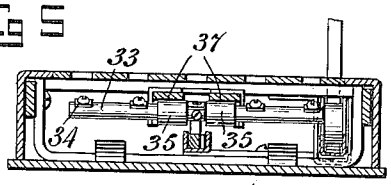


Fig 6

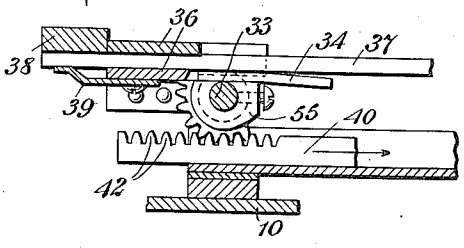


Fig 7

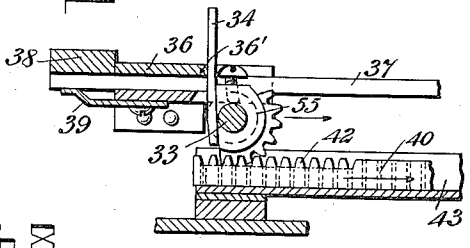
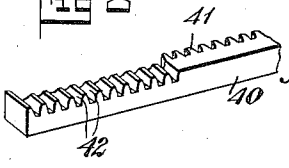


Fig 8



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UNITED STATES PATENT OFFICE.

JAMES HENRY BLYTHE, OF DENVER, COLORADO.

BREAD-DELIVERING MACHINE.

1,123,075. Specification of Letters Patent. Patented Dec. 29, 1914.

Application filed March 25, 1914. Serial No. 827,085.

To all whom it may concern:

Be it known that I, JAMES H. BLYTHE, a citizen of the United States, and a resident of Denver, in the county of Denver and State of Colorado, have invented a new and Improved Bread-Delivering Machine, of which the following is a full, clear, and exact description.

This invention relates to dispensing apparatus and has particular reference to devices of the nature indicated which are adapted for the storage and display of sliced bread, crackers, sandwiches or the like, and having provision for the delivery of such commodities singly by an authorized person.

Among the objects of the invention, therefore, is to simplify and improve the construction of devices of this character, having reference especially to neatness and attractiveness of appearance, sanitation and reliability of operation.

The foregoing and other objects of the invention will hereinafter be more fully set forth and claimed and illustrated in the drawings forming a part of this specification in which like characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a perspective view of a device made in accordance with this invention, a major portion of the display casing being removed; Fig. 2 is a vertical longitudinal section on the broken line 2—2 of Fig. 3; Fig. 3 is a horizontal section on the line 3—3 of Fig. 2; Figs. 4 and 5 are transverse sections on the lines 4—4 and 5—5 respectively of Fig. 3; Fig. 6 is a view corresponding to Fig. 2 but indicating on a larger scale the ejector mechanism in normal position; Fig. 7 is a similar view indicating the same mechanism in actuating position; and Fig. 8 is a perspective view of the rear end of one of the actuating bars.

The several parts of this device may be made of any suitable materials, and the relative sizes and proportions, as well as the general design of the mechanism, may be varied to a considerable extent without departing from the spirit of the invention hereinafter more fully set forth and specifically claimed.

Referring to the drawings for a more specific description, I show at 10 a base plate substantially flat and having at the front end an upturned flange 11 and in the bottom any suitable number of engaging fingers 12 struck up to form a plurality of catches.

13 indicates the main portion of the base casing of substantially rectangular configuration and having end and side flanges resting upon the upper surface of the base plate 10, the front end 14 being adapted to be secured to the flange 11 by any suitable detachable means such, for instance, as a screw 15 whereby the casing 13 is normally locked to the base 10, the main portions of the casing being engaged beneath said catches 12 through transverse supports or bars 16 and 17, shown best in Fig. 3.

At 18 I show another cross bar secured to the intermediate portion of the base casing, stiffening the same, and extending thence upwardly are side bars or standards 19 having a cross bar 20 connecting their upper ends. An angle member 21 may coöperate with the uprights 19 and cross bar 20 to secure the front panel 22 of the display casing in position. The upper surface of the casing 13 is substantially flat and smooth and is provided with a removable slotted panel 23, the slots 23′ thereof being arranged parallel to one another and longitudinally of the casing. Said panel extends substantially through one half of said casing at the rear end thereof. As shown in Fig. 2, the display casing comprises side panels 24, a rear panel or side 25, and a top 26, in addition to the front panel 22 above described. The display casing, therefore, is intended to receive and hold for delivery a quantity or pile of slices of bread or the like, indicated at A, to be dispensed singly from the device through an opening 27 at the bottom of the front panel. Adjacent said opening is a flap 28 hinged on a horizontal pivot 29 at or near the lower edge of the panel 22. Said hinge is carried by an adjustable guard 30 connected by slotted flanges 31 to the inner faces of the standards 19 as by set screws 32. Said guard 30 is adjustable vertically in accordance with the thickness of the various commodities to be dispensed.

The ejector mechanism is located beneath the floor of the device or upper portion of the casing 13, and includes a rock shaft 33 journaled transversely of the casing and having a plurality of fingers 34, shown as five in number and adapted to project upwardly through the slots 23′ of the panel 23

during the forward actuation of the ejector. The said rock shaft is journaled at 35 in a carriage 36 which is adapted to slide to and fro along a pair of guide bars 37 closely below the top of the casing 13. The rear ends of the guide bars 37 are connected to a cross bar 38 at the rear end of the casing and against which cross bar the carriage 36 normally rests. At 39 I show a spring tongue connected to the carriage and extending rearwardly and upwardly into engagement with the lower surfaces of the guide bars 37. Among the functions of this tongue 39 is to steady the action of the carriage and insure the proper operation of the rock shaft and projection upwardly of the fingers 34 initially.

Any suitable means may be employed to turn or rotate the rock shaft through an angle of substantially 90 degrees to cause the fingers to be projected upwardly through the slots 23′ and the reciprocation of the carriage with the fingers thus projected for the purpose of ejecting a slice of bread. For this purpose I prefer to employ a peculiar construction of actuating bar 40 having rack teeth 41 throughout the length of one side thereof, and also provided with a short series of teeth 42 at the top of its rear end. Said bar 40 lies in and is guided along a channel member 43 which lies substantially along the longitudinal center of the machine. The front end of the actuator bar 40 lies normally adjacent a gear 44 journaled at 45 on a vertical axis, the teeth 41 meshing with the teeth of the gear 44. The gear is operated by means of another rack bar 46 lying and operating in a channel member 47 parallel to the member 43 and adjacent one side of the casing 13. The rack 46, however, is maintained in position adjacent the front of the casing by virtue of a spring 48 acting upon the gear 44 as shown in Fig. 3.

At 49 I show a hand lever pivoted at 50 to one of the standards 19. This is shown as a lever of the first class, having at its rear end a link 51 constituting an attachment means for a flexible connection such as a steel ribbon 52 or the like, operating over a roller 53 and having its forward end connected at 54 to the rear end of the rack 46. The roller 53 is journaled in a bracket 53′ adjacent the bar 38. The force of the spring 48 acts, therefore, to hold the lever in the full line position of Fig. 2.

A gear segment 55 is keyed to the rock shaft 33 and its teeth are in constant mesh with the short series of teeth 42 of the actuator bar 40. With the parts in the normal position shown in Fig. 6, the first effect of the reciprocation of the bar 40 is to act through its teeth 42 to partially rotate the shaft 33, bringing the fingers 34 from their normal position up to the position shown in Fig. 7. The carriage 36 during this time is not moved, but as soon as the rotation of the rock shaft is stopped by contact between the fingers 34 and the shoulders 36′ of the carriage, the continued movement of the bar 40 will cause a positive reciprocation of the carriage, the fingers 34 being held in their projected position by virtue of the gear 55. Said fingers, therefore, will engage a slice of bread or the like and cause it to be projected through the opening 27 and delivered upon the front portion of the casing 13. The flange 11, however, preferably projects far enough upwardly to prevent said commodity from being ejected beyond the casing. As soon as the force of the operator's hand is relieved slightly from downward pressure upon the handle 49, the first effect of the spring is to cause a reverse reciprocation of the actuating bar 40 with the result that the rock shaft and fingers will be rotated so as to bring the fingers below the slots 23′, and therefore, while the fingers continue to restore the parts to normal position, there will be no engagement between the fingers and the commodity within the display casing.

Any suitable number of guides 56 may be employed in connection with the channel members 43 and 47 to hold the actuating racks therein.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. In a device of the character set forth, the combination of a display casing adapted to hold a quantity of any commodity to be dispensed, an actuator casing supporting the aforesaid casing, the latter casing having a slotted top upon which the commodity rests, an ejector mechanism including a carriage, a rock shaft journaled to the carriage, a series of fingers carried by the rock shaft, and means to operate the rock shaft to first rotate the same to project the fingers into engaging position through the slots and subsequently to cause the carriage with the rock shaft to move longitudinally for the purpose set forth.

2. In a device of the character set forth, the combination of a casing having a slotted upper surface, guide means below the upper surface, an ejector comprising a casing slidable along said guiding means, a rock shaft connected for partial rotation on said carriage and movable therewith along the guiding means, engaging means carried by the rock shaft and adapted to be projected through the slots, and means acting upon the actuator serving first to rotate the rock shaft and subsequently to propel it and the carriage along the guiding means.

3. In a device of the character set forth, the combination of a casing having a series of parallel longitudinally arranged slots in its upper surface, guiding means below said

surface parallel to said slots, a carriage fitted to and slidable along said guiding means, a series of fingers associated with said carriage, and means acting upon said carriage to reciprocate it along the guiding means, the last mentioned means serving first to project the fingers upwardly through the slots and subsequently to cause the positive movement of the carriage.

4. The herein described actuating device for a dispensing machine, the same comprising guiding means, a rock shaft arranged transversely of the guiding means, fingers connected to the rock shaft, an actuating bar slidable longitudinally of said guiding means, means to reciprocate the bar, said bar acting first to partially rotate the rock shaft to elevate the fingers and subsequently to carry the bar and fingers bodily with the bar, and means to limit the extent of rotation of the rock shaft.

5. In a device of the character set forth, the combination of a casing having a series of parallel slots in its upper face, guiding means beneath said casing face and parallel to said slots, said guiding means including a pair of channel members, a gear wheel journaled between said channel members, a pair of actuating bars located and slidable in said channel members and having teeth meshing with the teeth of the gear wheel, means to reciprocate one of said bars to cause the rotation of the wheel and the reciprocation of the other bar in the opposite direction, the last mentioned bar having a short series of gear teeth on the upper surface of its rear end, a rock shaft, a series of fingers connected to the rock shaft and projectable upwardly through and guidable along said slots, a pinion connected to the rock shaft and meshing with the short series of rack teeth, means to limit the rotation of the rock shaft, and means to restore the parts to normal position after actuation thereof.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES HENRY BLYTHE.

Witnesses:

HERBERT M. MUNROE,

ROBERT S. LAUNDON.