Nov. 18, 1952 S. J. LEVINE 2,618,420

DEVICE FOR COUNTING AND DISPENSING PILLS

Filed Oct. 18, 1950

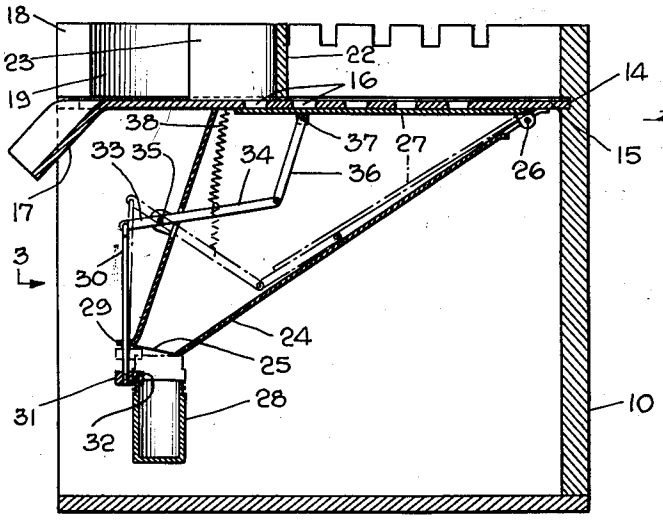


Fig. 1.

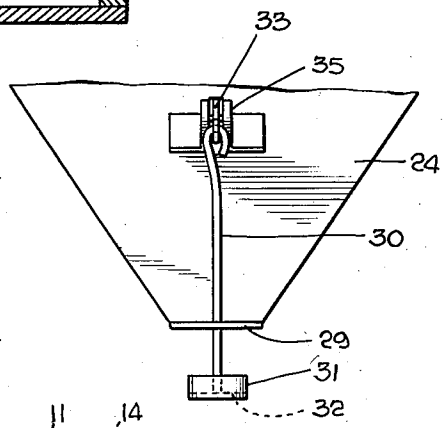


Fig. 3.

Fig. 2.

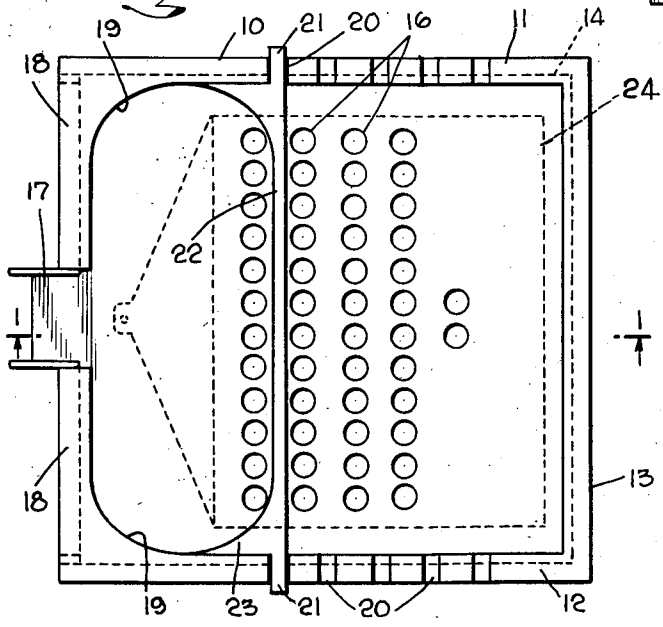
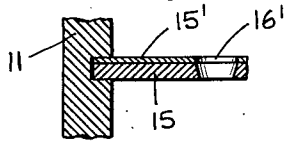


Fig. 4.



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Patented Nov. 18, 1952 2,618,420

UNITED STATES PATENT OFFICE

2,618,420

DEVICE FOR COUNTING AND DISPENSING PILLS

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Application October 18, 1950, Serial No. 191,816

7 Claims. (Cl. 226—2)

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This invention relates to devices for use in counting and dispensing small body members, such as pills, for example, in the bottling of various type and kinds of drugs for sale. More particularly, the invention deals with a device having means for quickly varying the number of pills to be counted and dispensed so that the operation of bottling or packaging can be accomplished in a short period of time. Still more particularly, the invention deals with a device of the character described, wherein the balance or surplus of uncounted pills can be quickly and easily returned to a supply container.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

Fig. 1 is a sectional view through a counter and dispenser made according to my invention, the section being substantially on the line 1—1 of Fig. 2.

Fig. 2 is a plan view of the structure as seen in Fig. 1.

Fig. 3 is a view looking in the direction of the arrow 3 of Fig. 1, showing only part of the construction on an enlarged scale; and

Fig. 4 is a sectional detail view, showing the use of a shim plate for varying size of the pill to be counted.

In Figs. 1 and 2 of the drawings, I have shown at 10 a box or casing, comprising side walls 11 and 12 and a back wall 13, these walls being grooved adjacent the upper end portions thereof, as indicated at 14, to receive a table or platform 15. The table or platform 15 has a plurality of alined apertures 16 arranged in rows, twelve apertures being disposed in each row with the exception of one short row containing two apertures, so that a total of fifty pills can be counted and dispensed in a single operation.

The platform 15 has, centrally of its forward edge, a downwardly extending dispensing trough 17 which projects sufficiently to facilitate arrangement of a bottle or container therebeneath, into which the uncounted pills or other members are adapted to be placed.

The box 10 includes, above the table or platform 15, front wall portions 18 and these wall portions, where they join the side walls 11 and 12, are rounded, as seen at 19.

Upper surfaces of the walls 11 and 12 have spaced notches or recesses 20, to receive outward-

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ly extending members 21 on a partition element 22. The element 22 has rounded end portions 23 which in conjunction with the rounded corners 19, form, at all times, a surface facilitating free sweeping movement of pills or the like for dispensing through the trough 17. The partition element can be placed in any position to expose one or more of the rows of apertures 16 or, if desired, all of the apertures, so that one to three, or four dozen pills, or a total of fifty pills, can be counted in a single operation, as later described.

Arranged below the table or platform 15 is a dispensing hopper 24, having a contracted discharge 25. Pivoted to the upper rear portion of the hopper 24, as at 26, is a pill or tablet supporting plate 27, which supports the pills or tablets, or other members, in the exposed apertures 16, until all of the exposed apertures are filled, after which, the plate 27 is lowered into the dotted line position, which will allow the pills or tablets to drop and pass out through the discharge 25 into a receiver bottle or receptacle 28.

The lower end of the hopper 24 has an outwardly extending apertured bearing 29, in which is slidably mounted a rod 30. The rod 30 supports, at its lower end, a block 31 having a curved recess 32 therein, suitable for reception of part of the upper edge of the bottle or receptable 28. The upper end of the rod 30 is coupled to a short end 33 of a lever 34, the lever being pivoted to the hopper, as seen at 35. The free end of the lever 34 is coupled with a link 36 which, in turn, is pivoted to the plate 27, as seen at 37; a spring 38 is fixed to the plate 15 and to the lever 34 and normally supports the plate 27 in raised operative position. It will be understood that the bottle or receptable 28 is held in the hand and placed in the recess 32 of the block 31 and then pushed upwardly to a position adjacent the discharge 25. In this operation, the lever 34 is actuated to move the plate 27 into its lowered position, as indicated in dot and dash lines in Fig. 1 of the drawing.

In Fig. 4 of the drawing, I have shown, on top of the platform or plate 15, a supplemental shim plate or platform 15', which will have apertures 16', smaller in diameter than the apertures 16, thus pills, tablets or other members of smaller size can be counted and dispensed. In other words, if the apertures of the table member are of the largest size, then two or more shim plates or platforms can be utilized to adapt the one device to counting and dispensing pills of different sizes. However, in many instances, individual devices will be utilized for the different sized pills, tablets or the like to be counted.

It will be understood that, after the partition element 22 has been adjusted to the position to expose the desired number of apertures in counting one dozen or more of the pills, or similar bodies to be counted, a large number of these bodies are quickly dumped into the space forwardly of the element 22 and are then moved around by hand over the exposed apertures until all apertures are filled, after which a sweep of the hand will replace the surplus pills or bodies into the receptacle held below the trough, as previously stated. Then the mechanism is tripped to dispense the counted pills into the receiving bottles or other receptacle as heretofore stated.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A device for counting and dispensing pills and like bodies, comprising a casing having an inwardly set table bordered by front, back and side walls, a plurality of perforations in the table arranged in predetermined rows, means adjustable into predetermined positions on the side walls of the casing for partitioning the table to expose predetermined apertures therein, a supporting plate beneath said table for supporting pills arranged in the apertures of said table, a discharge hopper arranged in the casing beneath the apertured portion of said table and, in which, the supporting plate is pivotally mounted, means comprising a spring actuated link and lever mechanism coupled with said plate to normally support the same in operative position upon the lower surface of the table, means adjacent the lower discharge end of the hopper for receiving and guiding a receptacle in the direction of the discharge end of the hopper, and said last named means being coupled with and adapted to operate said lever, whereby movement of said means by a receptacle will automatically actuate the link and lever mechanism to lower the plate in the hopper to dispense the pills supported thereby through the hopper into said receptacle.

2. A device for counting and dispensing pills and like bodies, comprising a casing having an inwardly set table bordered by front, back and side walls, a plurality of perforations in the table arranged in predetermined rows, means adjustable into predetermined positions on the side walls of the casing for partitioning the table to expose predetermined apertures therein, a supporting plate beneath said table for supporting pills arranged in the apertures of said table, a discharge hopper arranged in the casing beneath the apertured portion of said table and, in which, the supporting plate is pivotally mounted, means comprising a spring actuated link and lever mechanism coupled with said plate to normally support the same in operative position upon the lower surface of the table, means adjacent the lower discharge end of the hopper for receiving and guiding a receptacle in the direction of the discharge end of the hopper, said last named means being coupled with and adapted to operate said lever, whereby movement of said means by a receptacle will automatically actuate the link and lever mechanism to lower the plate in the hopper to dispense the pills supported thereby through the hopper into said receptacle, and said table having, at one edge portion thereof, a discharge chute extending through one of said walls facilitating removal of surplus pills from the table.

3. A device for counting small bodies and for dispensing the same into a receiving receptacle, said device having an apertured table, means adjustable relatively to the table controlling exposure of a predetermined number of apertures on the table in controlling the number of bodies to be counted by disposing the bodies in the apertures of the table, a plate movable toward and from the lower surface of the table and normally supporting the bodies in the apertures thereof, means for positioning a receptacle at a delivery station in the device below said table, and means coupling said last named means with the plate, whereby actuating of said positioning means by the receptacle will operate to lower said plate and free the bodies disposed in said apertures for delivery to said receptacle.

4. A counting and dispensing device of the character described, comprising a casing, an apertured table in said casing, a hopper beneath said table, a plate movably supported in the hopper normally closing the apertures of said table to support bodies to be counted in said apertures, said plate being movable toward and from said table, said hopper having a contracted delivery end, and means at said delivery end and in operative engagement with the plate for lowering said supporting plate to free the bodies supported thereby for delivery into the hopper and through the discharge thereof into a receiving receptacle positioned at said delivery end.

5. A counting and dispensing device of the character described, comprising a casing, an apertured table in said casing, a hopper beneath said table, a plate movably supported in the hopper normally closing the apertures of said table to support bodies to be counted in said apertures, said plate being movable toward and from said table, said hopper having a contracted delivery end, means at said delivery end and in operative engagement with the plate for lowering said supporting plate to free the bodies supported thereby for delivery into the hopper and through the discharge thereof into a receiving receptacle positioned at said delivery end, and said last named means comprising a spring actuated link and lever mechanism coupled with said supporting plate and normally maintaining the plate in operative position.

6. A counting and dispensing device of the character described, comprising a casing, an apertured table in said casing, a hopper beneath said table, a plate movably supported in the hopper normally closing the apertures of said table to support bodies to be counted in said apertures, said plate being movable toward and from said table, said hopper having a contracted delivery end, means at said delivery end and in operative engagement with the plate for lowering said supporting plate to free the bodies supported thereby for delivery into the hopper and through the discharge thereof into a receiving receptacle positioned at said delivery end, said last named means comprising a spring actuated link and lever mechanism coupled with said supporting plate and normally maintaining the plate in operative position, means adjustable relatively to the table controlling exposure of predetermined apertures of the table, and said last named means, in combination with walls of the casing, defining a body work area having rounded corners.

7. A counting and dispensing device of the character described, comprising a casing, an apertured table in said casing, a hopper beneath said table, a plate movably supported in the

hopper normally closing the apertures of said table to support bodies to be counted in said apertures, said plate being movable toward and from said table, said hopper having a contracted delivery end, means at said delivery end and in operative engagement with the plate for lowering said supporting plate to free the bodies supported thereby for delivery into the hopper and through the discharge thereof into a receiving receptacle positioned at said delivery end, said last named means comprising a spring actuated link and lever mechanism coupled with said supporting plate and normally maintaining the plate in operative position, and a shim plate supported on said table and having apertures of smaller size registering with the apertures of said table.

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REFERENCES CITED

The following references are of record in the file of this patent:

FOREIGN PATENTS

Number	Country	Date
19,326	Great Britain	Sept. 15, 1908