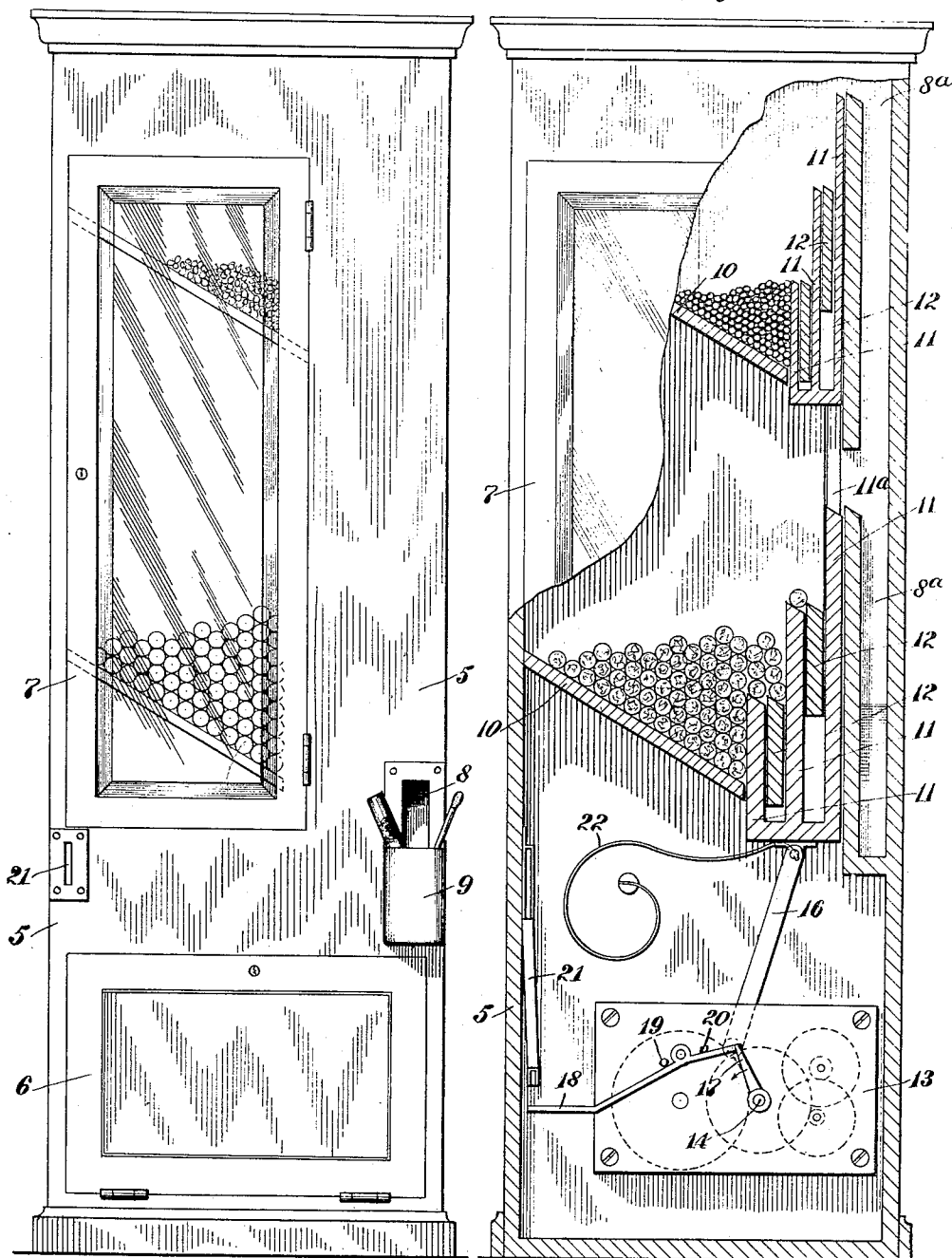


935,401.

2 SHEETS—SHEET 1.

Fig. 2.



WITNESSES

H. D. Smith
witness

INVENTOR

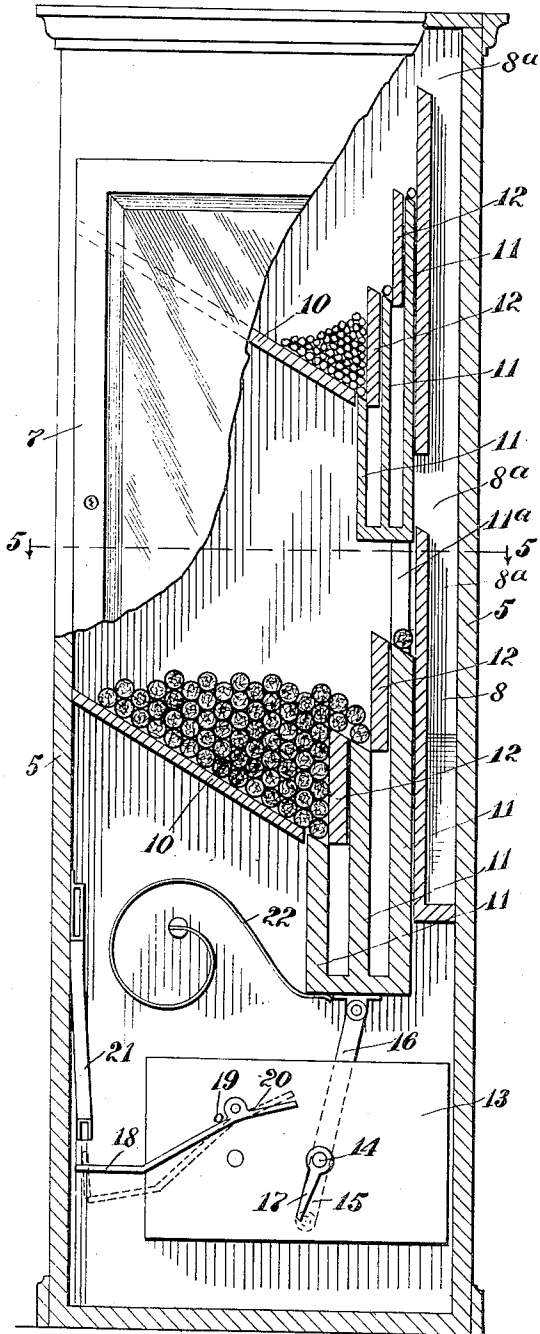
Peter C. Petersen
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P. C. PETERSEN.
DISPENSING MACHINE.
APPLICATION FILED JUNE 3, 1909.

935,401.

Patented Sept. 28, 1909.
2 SHEETS—SHEET 2.

Fig. 3



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Fig. 4

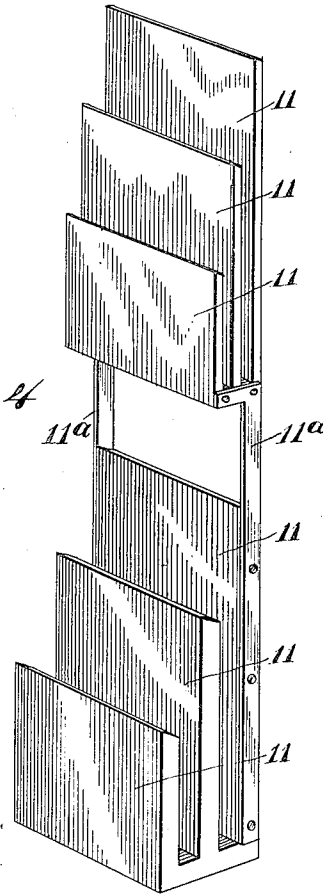
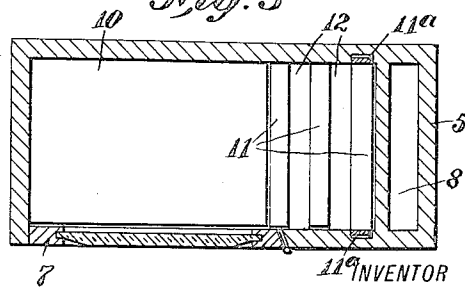


Fig. 5



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UNITED STATES PATENT OFFICE.

PETER C. PETERSEN, OF PERTH AMBOY, NEW JERSEY.

DISPENSING-MACHINE.

935,401.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed June 3, 1909. Serial No. 499,850.

To all whom it may concern:

Be it known that I, PETER C. PETERSEN, a citizen of the United States, and a resident of Perth Amboy, in the county of Middlesex and State of New Jersey, have invented a new and Improved Dispensing-Machine, of which the following is a full, clear, and exact description.

The invention is an improvement in machines for dispensing cigarettes and matches or similarly-shaped articles, and has in view an apparatus to be actuated by a check or coin-controlled mechanism and which will deliver a cigarette and a match at each operation.

To this end the invention in general consists of an upright casing having a delivery chute, feed chutes for the matches and cigarettes or other articles, retaining plates spaced apart and arranged in stepped relation above the lower side of each chute, and an elevator having lifting plates movable at each side of each retaining plate and likewise arranged to lift the articles dispensed from the delivery chutes to the top of the first retaining plate, then to the next, and finally from the last retaining plate into the chute.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of a dispensing machine constructed in accordance with my invention; Fig. 2 is a similar view partly in central vertical section; Fig. 3 is a like view, showing the elevator in the lowest position of its movement; Fig. 4 is a perspective view of the elevator; and Fig. 5 is a cross-section of the machine on the line 5—5 of Fig. 3, looking in the direction of the arrows.

The machine in its preferred form embodies an upright casing 5 having doors 6 and 7 which respectively admit of access to the lower and upper portions of the apparatus, as for the removal of the coins and filling the machine, as well as for making inspection and repairs. The door 7, which is shown to have a glass front, is positioned at one side of the casing, the opposite side being devoted to a delivery chute 8 for the articles dispensed and the delivery mechanism, the chute discharging to the outside of the casing within a suitable cup or receptacle

9. Directly opposite the door 7, the casing is provided with feed chutes 10, 10, arranged one above the other and inclining downwardly from the door side of the casing toward the delivery chute 8. These feed chutes 10 terminate sufficiently short of the inner wall of the delivery chute 8 to admit of the passage therebetween of an elevator, shown in detail in Fig. 4, the elevator having two sets of delivery plates 11, rigidly secured together one above the other for the respective feed chutes, the connection between the two sets of delivery plates being preferably secured together by strips 11^a at the opposite edges, which are slidably retained in grooves in the rear and front walls of the casing, as shown in Fig. 5.

In the embodiment of the invention shown, three plates constitute each set of the elevator delivery plates, the plates being arranged in spaced relation, with their upper edges inclining or beveled in the same direction as the chutes 10, which is in the direction of the delivery chute 8. The plates are further arranged in stepped relation, with the tallest or most elevated plate located contiguous to the inner wall of the delivery chute, and the lowest or most depressed plate arranged contiguous to the feed chute. The space between each set of delivery plates of the elevator is equal to or slightly in excess of the thickness of the plates, which is approximately the same as the diameter of the articles to be dispensed, thus, in the case of the lower set of the elevator delivery plates, which is shown to be constructed for delivering cigarettes, the thickness of the individual plates and spaces between them is substantially greater than the corresponding dimensions of the upper set of elevator delivery plates, which is shown to be constructed to deliver matches. It is obvious, however, that the two sets of elevator delivery plates may be of any relative size commensurate with the articles which are to be dispensed, and the delivery mechanism may be modified to dispense but a single kind of article.

Arranged at the lower sides of the feed chutes 10, to fit in the spaces between the two sets of elevator delivery plates, are fixed retaining plates 12, also located in stepped relation, with the lower plate of each set arranged adjacent to and at a substantial distance above the bottom of the adjacent delivery chute, and each plate having its

upper edge beveled or inclined at the same angle and in the same direction as the upper edges of the elevator delivery plates. The inner wall of the delivery chute 8 has a delivery opening 8^a for each set of elevator plates, with the bottom edges of the openings similarly beveled or inclined, each opening being arranged at an elevation above the highest retaining plate for each compartment, with that portion of the wall directly below acting as a retaining plate and arranged in stepped relation with the other retaining plates.

In the lower portion of the casing 5, opposite the door 6, is fixed a suitable motor 13 having a driving shaft 14, one end of which has an attached crank 15 operatively connected to the bottom of the elevator through the intermediary of a link 16, and the other end having an attached arm 17 arranged in the path of a controlling lever 18, the latter being normally retained in the position as shown in Figs. 2 and 3, by a stop pin 19 and a spring 20, respectively arranged at the opposite sides of the fulcrum. One arm of the lever 18 projects under the discharge end of a coin or check chute 21 leading from a point at the outside of the casing. A counterbalancing spring 22 of spiral form has one end fixed to the casing and the other end attached to the under side of the elevator, the spring being arranged and constructed to exert an upward pressure on the elevator substantially equal to the elevator's weight.

Cigarettes and matches, or such articles as the machine is intended to dispense, are placed on the feed chutes 10, and by reason of the inclination of the latter the articles slide down against the side of the lower retaining plate and over the top of the lowest delivery plate of the elevator. On dropping a coin or check in the chute 21, the lever 18 is depressed, releasing the arm 17 and leaving the motor free to revolve the driving shaft 14, which, through the crank arm and connecting link 16, lowers the elevator from the position shown in Fig. 2 to the position shown in Fig. 3, in which latter position the upper beveled edges of the elevator plates are respectively in register with the chutes 10 and retaining plates 12, whereby the articles roll from these members over the top of the next adjacent elevator plate in the direction of the delivery chute. On the continued movement of the driving shaft, the elevator plates carry the articles on their beveled edges to the beveled edge of the retaining plates above, where all of the articles carried slide or roll from the elevator plates to the respective registering retaining plates, which in the case of the highest elevator plates are the bottom edges of the delivery openings 8^a, at which points the articles drop into the delivery chute and pass to the cup or receptacle 9, where they may be

removed. At about this time the arm 17 of the motor contacts with the lever 20, and the further movement of the elevator arrested, thus, the articles are successively lifted to the top edges of the retaining plates until all of the articles in the compartments are exhausted. It is obvious by increasing the number of retaining plates and delivery plates, the separation of the articles, so that only one will pass into the discharge chute at each operation of the elevator, is rendered more refined.

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

1. The combination in a dispensing machine, of a delivery chute, a support for the articles to be dispensed, a retaining plate, and an elevator having lifting plates connected together to move in unison in the same direction, and arranged in stepped relation at the opposite sides of the retaining plate to respectively elevate the articles from the support to the retaining plate and from the retaining plate to the chute.

2. The combination in a dispensing machine, of a casing, a delivery chute within the casing discharging to the outside thereof and provided with a delivery opening at the top, a retaining plate, a feed chute to support the articles dispensed, inclining downwardly toward the retaining plate, and an elevator having delivery plates to respectively carry the articles from the feed chute to the retaining plate and from the retaining plate to the delivery opening in the delivery chute.

3. The combination in a dispensing machine, of a delivery chute having a delivery opening at the top, a retaining plate arranged below the delivery opening, a feed chute for the articles to be dispensed, arranged below the retaining plate, and an elevator having delivery plates to respectively move the articles from the feed chute to the top of the retaining plate and from the top of the retaining plate to the delivery opening.

4. The combination in a dispensing machine, of a delivery chute, a fixed retaining plate, a feed chute to support the articles to be dispensed, and an elevator having delivery plates rigidly connected together and arranged at the opposite sides of the retaining plate to respectively lift the articles from the feed chute to the top of the retaining plate and from the top of the retaining plate into the delivery chute.

5. The combination in a dispensing machine, of a delivery chute having a delivery opening at the top, fixed retaining plates spaced apart and arranged in stepped relation to each other and to the adjacent wall of the delivery chute, a feed chute, and an elevator having delivery plates respectively

arranged between the feed chute and adjacent retaining plate, between the retaining plates and between the said wall of the delivery chute and adjacent retaining plate, to lift the articles from the feed chute to the retaining plates and delivery opening in successive steps.

6. The combination in a dispensing machine, of a delivery chute having a delivery opening, a retaining plate arranged below the delivery opening and spaced from the adjacent wall of the delivery chute, a feed chute to support the articles to be dispensed, arranged below the retaining plate, and an elevator having delivery plates arranged at the opposite sides of the retaining plate, with the top edges of all of said plates and wall and the feed chute inclining toward the delivery chute.

7. The combination in a dispensing machine, of a delivery chute having a delivery opening in the side wall thereof, retaining plates spaced apart and from said wall of the delivery chute and arranged in stepped relation with respect to each other and to the wall, a feed chute to carry the articles to be dispensed, inclining downwardly toward the delivery chute and arranged at its lower end below the top of the lowest retaining plate, an elevator having delivery plates connected together to move in unison in the same direction and arranged in stepped relation respectively between the feed chute and the adjacent retaining plate, between said wall of the delivery chute and the adjacent retaining plate and between the retaining plates, said wall and all of said plates having beveled upper edges inclining downwardly toward the delivery chute, and means for operating the elevator to carry the upper edges of the plates thereof into respective register with the feed chute and the upper edges of the retaining plates, and then into respective register with the top edges of the retaining plates and the top edge of said wall.

8. The combination in a dispensing machine, of a delivery chute having delivery openings, feed chutes arranged one above the other and below the respective openings, retaining plates arranged in stepped relation above the lower portions of the feed chutes

and below each of the delivery openings, and an elevator having two sets of delivery plates connected together to move in unison, with the plates of each set respectively arranged at opposite sides of the retaining plates to carry the articles to be dispensed from the feed chutes to the tops of the retaining plates and the delivery openings, in successive steps.

9. The combination in a dispensing machine, of a feed chute to carry the articles to be dispensed, retaining plates arranged in stepped relation with respect to the feed chute and to each other, and an elevator having delivery plates connected together to move in unison in the same direction and arranged in stepped relation between the feed chute and the lower retaining plate and between the retaining plates, said feed chute and the top edges of all of the plates inclining in the same direction.

10. The combination in a dispensing machine, of a casing, a delivery chute discharging to the outside of the casing and having a delivery opening arranged above the point of discharge, a support for the articles to be dispensed arranged within the casing below said opening, elevator plates to successively raise the articles from the support to the delivery opening of the delivery chute by intermittent elevations, and means interposed between said plates for passing the articles from one plate to the next.

11. The combination in a dispensing machine, of a casing, a delivery chute discharging to the outside of the casing and having a delivery opening arranged above the point of discharge, a support for the articles to be dispensed, arranged within the casing below said opening, and an elevating mechanism having means to successively deliver the articles from the support to the delivery opening of the delivery chute by alternate vertical and lateral movements.

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

PETER C. PETERSEN.

Witnesses:

SOPHUS M. JACOBSEN,
OLGA JORGENSEN.