

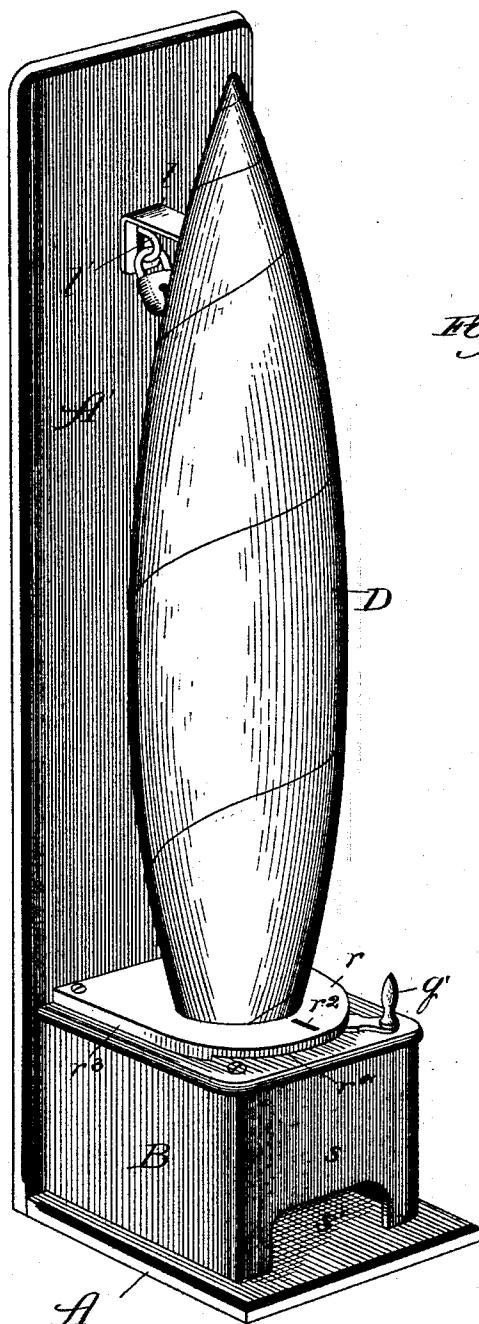
(No Model.)

3 Sheets—Sheet 1.

R. H. LITTLE.
COIN OPERATED VENDING MACHINE.

No. 483,255.

Patented Sept. 27, 1892.



Witnesses,

Thos. Gaylord
Clifford N. White.

Inventor:

Robert H. Little,
By Dymally & Dymally,
Attys.

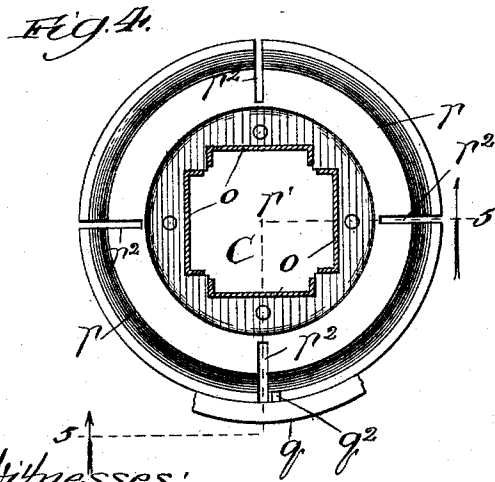
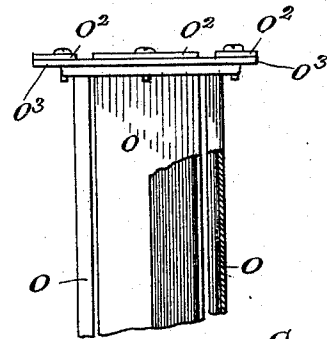
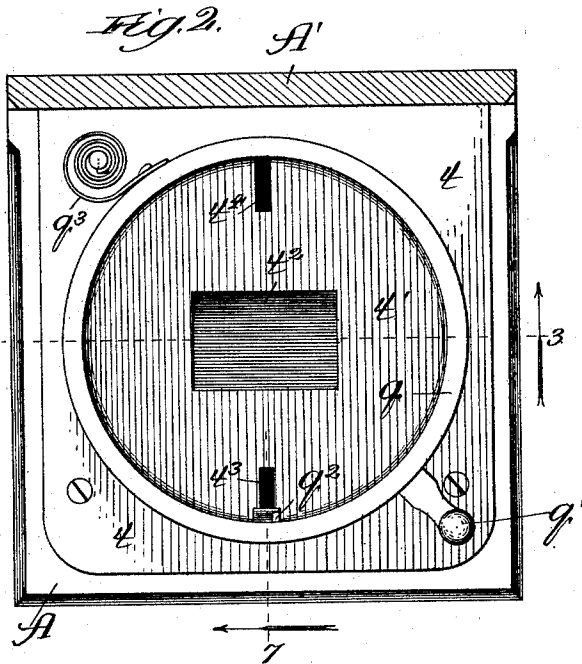
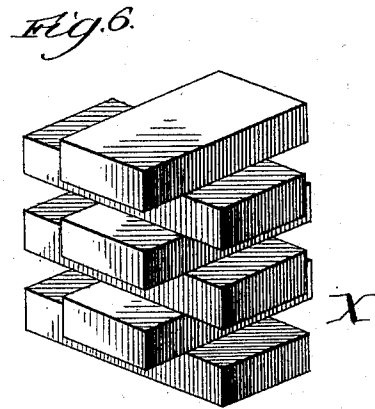
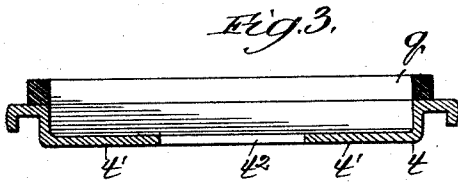
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3 Sheets—Sheet 2.

R. H. LITTLE.
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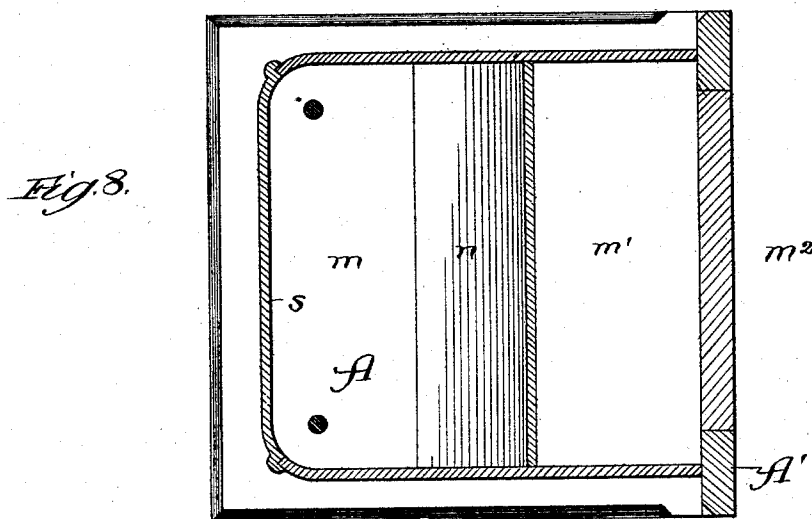
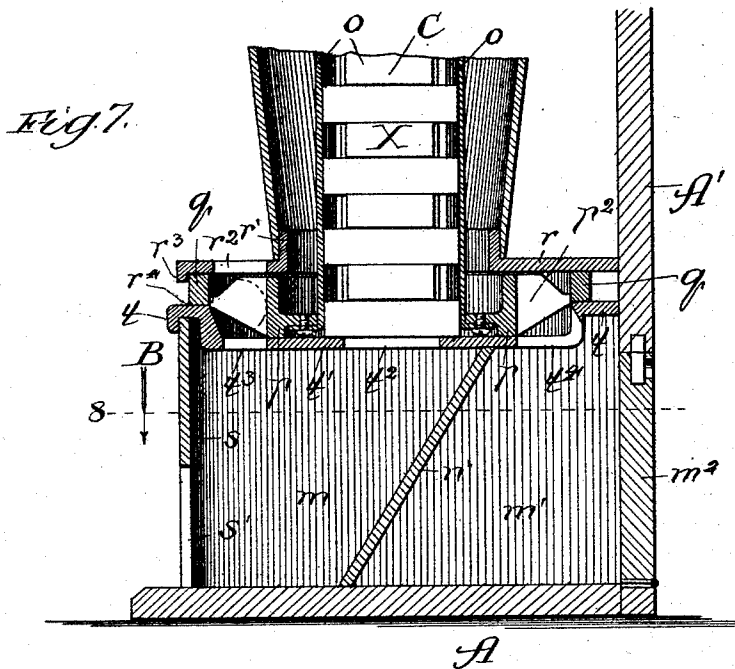
Witnesses:
 Charles E. Clifford,
 Clifford V. White.

Inventor:
Robert H. Little.
By Dyreneworth and Dyreneworth,
Attys.

R. H. LITTLE.
COIN OPERATED VENDING MACHINE.

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Witnesses:

*Chas. C. Gaylord,
Clifford White.*

Inventor:

*Robert H. Little,
By Dymally and Dymally
Attys.*

UNITED STATES PATENT OFFICE.

ROBERT H. LITTLE, OF CHICAGO, ILLINOIS, ASSIGNOR TO EVERELL D. STILES, OF SAME PLACE.

COIN-OPERATED VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 483,255, dated September 27, 1892.

Application filed June 6, 1892. Serial No. 435,650. (No model.)

To all whom it may concern:

Be it known that I, ROBERT H. LITTLE, a subject of the Queen of Great Britain, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Coin-Operated Vending-Machines, of which the following is a specification.

My invention relates to an improvement in vending-machines for delivering prepaid articles of merchandise after the insertion into the machine of a coin, and more particularly in vending-machines of the class in which protected delivery mechanism is normally out of engagement with exposed operating mechanism therefor, and engagement between the two mechanisms is brought about by the insertion into the machine of a coin.

My object is to provide a vending-machine of the above character more especially for the delivery of small articles or packages of merchandise of oblong or other non-circular shape in cross-section and of an improved construction which will render it particularly economical to manufacture and reliable in its operation.

In the drawings, Figure 1 is a perspective view of my improved machine, showing the casing for the reservoir portion in the form of a cigar mounted upon a box or pedestal, which constitutes the casing for the delivery mechanism; Fig. 2, a sectional plan view showing the operating mechanism for the delivery mechanism; Fig. 3, a section taken on line 3 of Fig. 2; Fig. 4, a broken sectional plan view showing the rotary reservoir, its rotary supporting-plate, and a part of the operating mechanism therefor; Fig. 5, a broken section taken on line 5 of Fig. 4 and viewed in the direction of the arrow; Fig. 6, a perspective view, enlarged, of packages or articles of merchandise, showing the manner of stacking the same in the reservoir; Fig. 7, a broken central section of the device, taken on line 7 of Fig. 2 and viewed in the direction of the arrow; and Fig. 8, a section on line 8 of Fig. 7, viewed in a downward direction.

The machine illustrated is adapted to deliver rectangular articles oblong in cross-section, and Fig. 6 represents a stack of these articles, which, for example, may be boxes of

matches. The device is mounted for convenience upon a base-board A and against a back board A'. The lower portion of the device comprises a box B, provided with a stationary top plate *t*, and a front plate *s*, provided with a delivery-opening *s'*. The plate *t* has a circular depressed portion *t'*, in which it is provided with openings *t²*, *t³*, and *t⁴*. The opening *t²* is of the shape of one of the articles X, (shown in Fig. 6,) and is of a size to permit the article to drop readily through it when the article is turned, as hereinafter described, to extend coincident with the opening. The opening *t³* is toward the front of the plate *t* and of a size somewhat less than that necessary to permit the passage through it of the coin. The opening *t⁴* is large enough to permit the coin to pass through, and is located toward the rear side of the plate *t*, diametrically opposite the opening *t³*. On the top plate *t* is a stationary covering-plate *r*, having a central circular opening surrounded by a flange *r'* and a slot *r²*, which is directly over and coincident with the slot *t³* in the plate *t*. At its front and side edges the plate *r* is provided with a flange *r³*, which at the front side is cut away to afford the elongated opening *r⁴*. Resting upon the plate *t*, around its depressed portion *t'*, is a ring *q*, from which extends a lever *q'*. On the ring in the relative position shown in Fig. 2 is an inward-extending pin *q²*. The lever *q'* extends outward through the elongated opening *r⁴*, and fastened at one end on the plate *t* and at its opposite end to the ring *q* is a retracting-spring *q³*, which operates to maintain the lever normally against the right-hand end of the opening *r⁴*. When the lever *q'* is in its normal position, the pin *q²* is at the right-hand side of the slots *r²* *t³*.

Fitting loosely in the ring *q* and resting upon the depressed portion *t'* of the plate *t* is a rotary circular plate *p*, having a central opening *p'* and provided in its periphery with four radial slots *p²*, which are equidistant apart. Rising from the plate *p* and secured thereto at the side of the opening *p'* is the reservoir C. The reservoir C comprises four strips *o*, flanged inward at their opposite longitudinal edges. The plates *o* are provided at their lower ends with outward-extending flanges *o'*, at which they are secured

to the under side of the ring p , and at their upper ends with outward-extending flanges o^2 , at which they are secured upon a ring o^3 . The ring o^3 operates merely to secure the strips o in rigid relation, and the strips constitute the four sides of the reservoir, which is open at the top and bottom and of the shape in cross-section shown in Fig. 4.

In the base portion B of the device is an inclined chute n , which extends downward from the plate t at the rear of the opening t^2 to the base-board A in the direction of the delivery-opening s' , operating thus to divide the base portion into chambers $m m'$. The articles X are inserted into the reservoir through the top of the latter and stacked to extend alternately in opposite directions, as indicated in Fig. 6, the lowest article resting upon the plate t across the opening t^2 .

Housing the reservoir C is a removable hollow casing D, which at its lower end fits around the flange r' of the plate r . The casing shown in the drawings is shaped to represent a cigar and is the subject of a Design Patent No. 21,786, granted to me August 23, 1892. I do not limit myself in this application to any particular form of casing or housing for the reservoir. As shown in the drawings, the casing D may be provided near its top with a hasp l , fitting over a staple l' on the back board A', and be secured in place by a padlock. Any other suitable means may be employed for securing the casing D in place.

In the initial position of the plate p , which forms the base-plate around the reservoir, one of the slots p^2 is coincident with the slots $r^2 t^2$. The slot r^2 is of a size which will just admit the passage through it of a coin of the value at which the articles to be vended are sold. Assuming that the articles are boxes of matches, which are to be sold for one cent each, the slot r^2 will be just large enough to permit a cent to be passed through, and the slot t^2 a trifle smaller. To obtain a box of matches, a cent is inserted into the slot r^2 , causing it to drop into the coincident slot or receptacle p^2 of the plate p and rest in the latter, as indicated in Fig. 7, with its lower edge slightly above the plane of the upper surface of the plate t . The lever q' is then turned from its normal position to the opposite end of the opening r^4 , the ring q turning with it. As the lever is thus moved, the pin q^2 engages the coin near its edge. As the coin is moved, its engagement with the plate p causes the latter to be turned and rotate the reservoir and its contents. The opening r^4 is of a length which permits the lever q' when swung the full distance to turn the plate p exactly one-quarter of a revolution, whereby the next slot p^2 is brought into coincidence with the slots $r^2 t^2$. The reservoir C being turned the distance of a quarter-revolution carries with it the articles of merchandise, and the lowest article X is brought coincident with the opening t^2 , through which it drops onto the chute

n to the delivery-opening s' . The other articles in the reservoir drop until the lowest remaining article rests upon the plate t at a right angle to the opening t^2 across the latter. When the lever q' is released, it is returned by the spring q^3 to its initial position. When on the insertion of another coin the operation is repeated, the first coin put into the machine is carried around to the opening t^4 , through which it drops into the receptacle or compartment m' . No coin larger than that of the proper value can be passed through the slot r^2 , and any coin or piece of metal of smaller size will drop down through the opening t^2 . If no coin is inserted in the slot r^2 , the pin q^2 will slide over the plate p when the lever q' is turned and the plate p and reservoir will remain stationary. In the back board A, at the compartment m' , is a door m^2 , through which access may be had to that compartment when it is desired to remove the coins.

With slight modifications the machine may be adapted for the delivery of articles of any other shape in cross-section, (excepting the circular form,) the opening t^2 being made to conform to the shape of the article and permit it to pass through when turned on its axis to the proper angle.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a vending-machine for delivering non-circular articles, a reservoir in which the articles to be vended are stacked one upon the other to extend alternately at different angles, means for turning the stack on a central longitudinal axis, and a stationary plate against which the stack bears at one end, having a non-circular opening to admit the passage through it of an article only when the stack is turned to a certain relative angle, substantially as described.

2. In a vending-machine for delivering non-circular articles, the combination of a rotary reservoir adapted to receive a single column of the articles to be vended, said articles being stacked one upon another to turn with the reservoir, the axis of rotation of the reservoir and contents being in a line through the longitudinal center of the said column of articles, means for turning the reservoir and contents on their axis, and a stationary plate against which the column of articles rests at one end, having a non-circular opening through which the articles pass when turned to a certain relative angle, substantially as described.

3. In a coin-operated vending-machine for delivering non-circular articles, the combination, with a stationary base-plate provided with a non-circular opening through which the articles pass by gravity when turned to a certain angle, of a bottomless rotary reservoir upon the base-plate in which the articles are stacked one upon the other to rest upon the base-plate across said non-circular opening and extended alternately at different an-

gles in the horizontal plane, the said reservoir operating to hold the articles against independent rotation, and means for rotating the reservoir in the horizontal plane on the
5 insertion into the machine of a coin, whereby the articles are turned on their axes and the lowest article drops through the non-circular opening with each operation, substantially as described.

10 4. In a coin-operated vending-machine for delivering non-circular articles, the combination, with a bottomless rotary reservoir mounted upon a stationary base-plate provided with a non-circular opening through

which the articles drop when turned with the 15 reservoir to a certain angle, of a rotary plate around and integral with the reservoir, provided with radial slots, each arranged to receive and hold a coin, and a spring-controlled lever operating when turned against the re- 20 sistence of its spring to engage a coin introduced into one of said radial slots and through the medium of the coin rotate the reservoir, substantially as and for the purpose set forth.

ROBERT H. LITTLE.

In presence of—

M. J. FROST,

J. W. DYRENFORTH.