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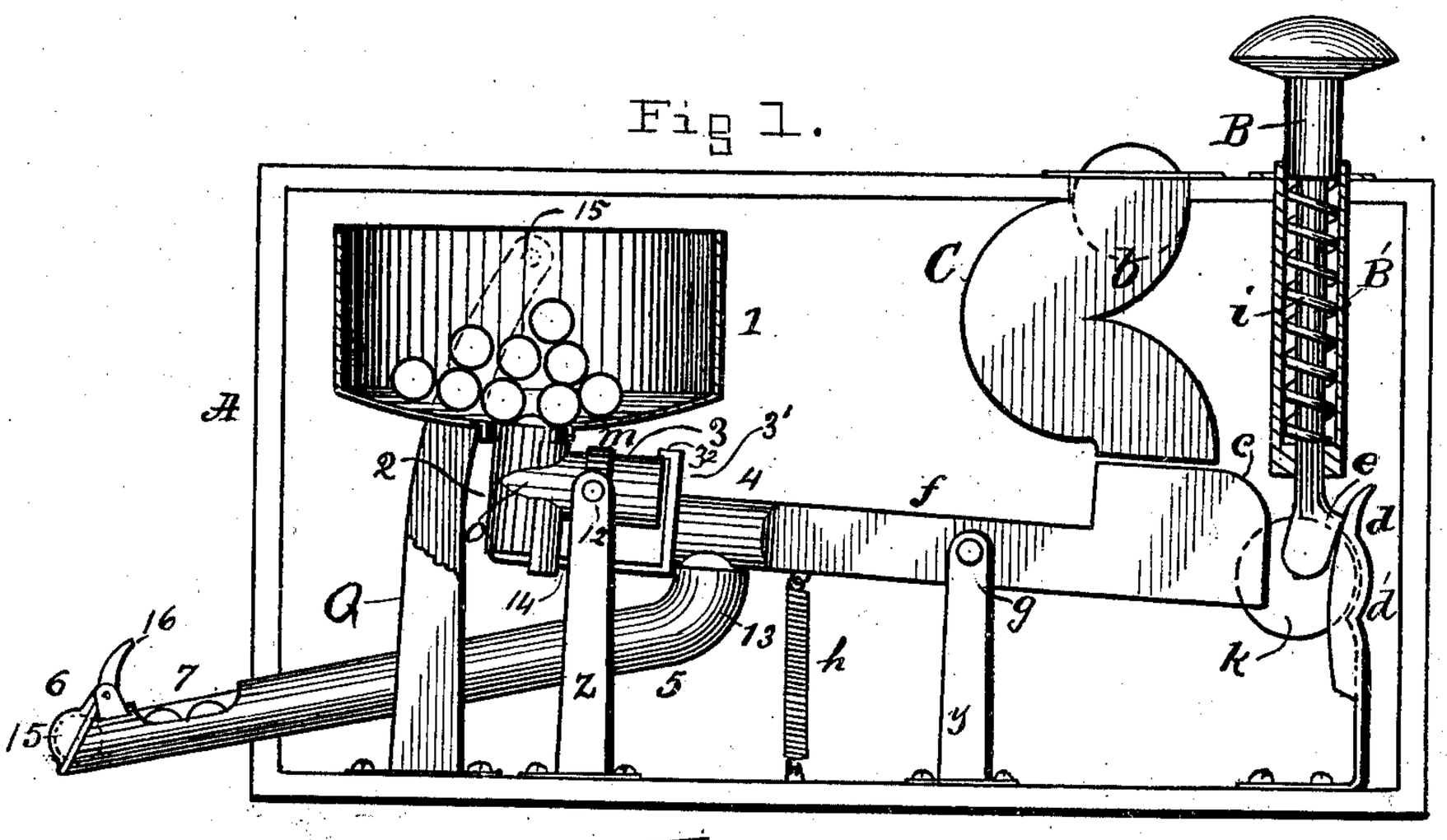
C. H. EGGLESTON, C. F. HARDY & VON ANTWERP LEPPER.

VENDING MACHINE.

APPLICATION FILED SEPT. 19, 1902.

NO MODEL.

Fig 1.



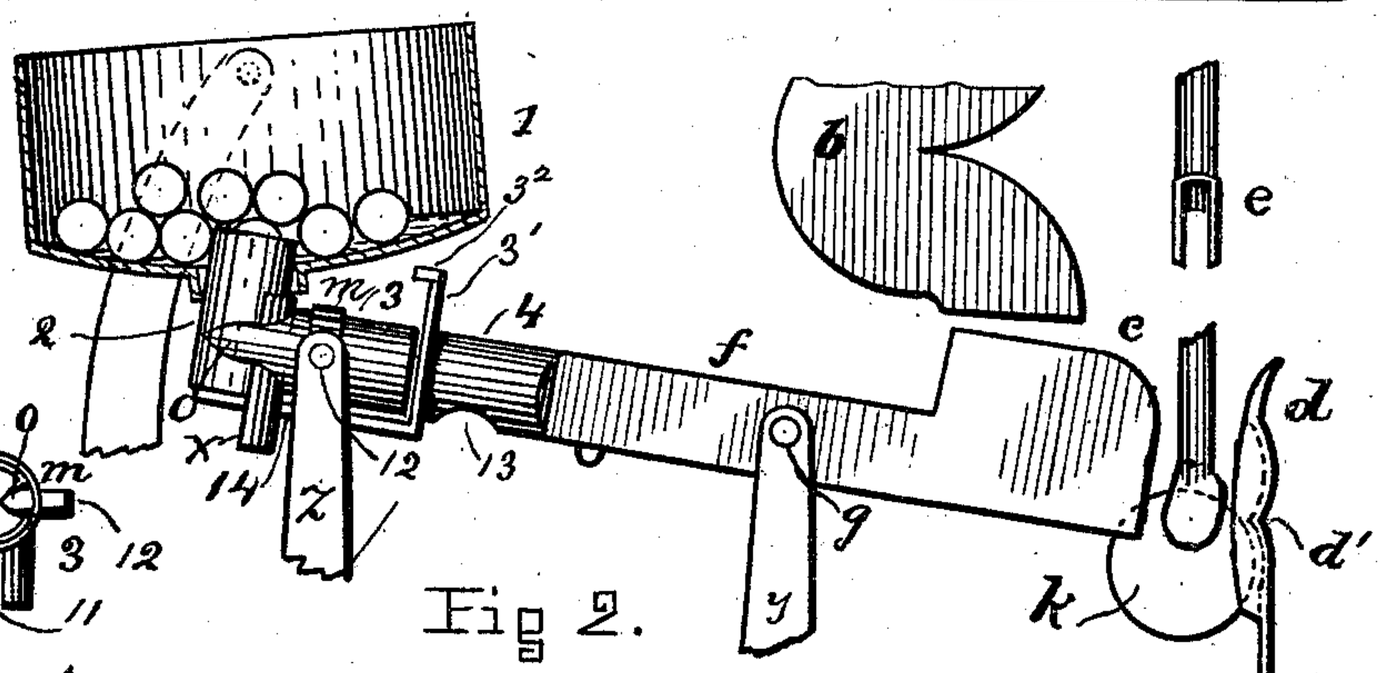


Fig 2.

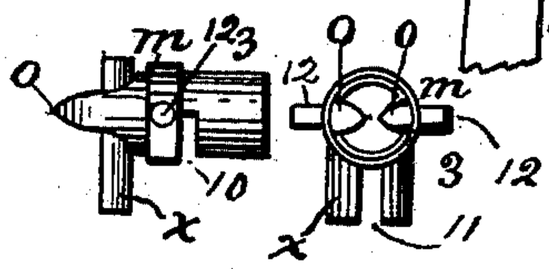


Fig 3.

Fig 4.

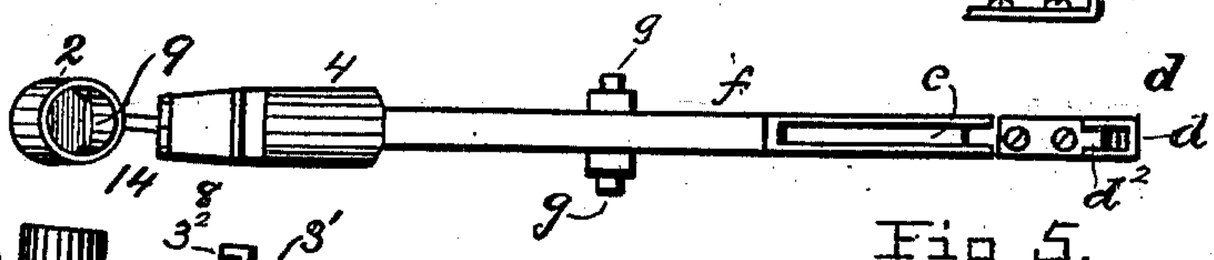


Fig 5.

Fig 7.

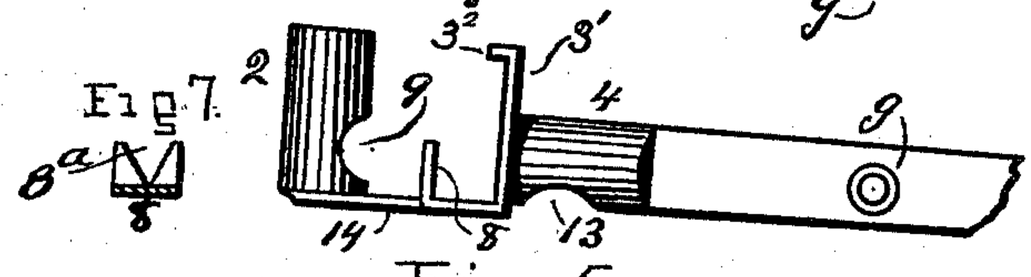


Fig 6.

Witnesses.
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No. 756,947. Patented April 12, 1904.

UNITED STATES PATENT OFFICE.

CHARLES H. EGGLESTON, COLIN F. HARDY, AND VON ANTWERP LEPPER, OF MARSHALL, MICHIGAN; SAID EGGLESTON ASSIGNOR TO E. J. KIRBY, OF MARSHALL, MICHIGAN.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 756,947, dated April 12, 1904.

Application filed September 19, 1902. Serial No. 124,044. (No model.)

To all whom it may concern:

Be it known that we, CHARLES H. EGGLESTON, COLIN F. HARDY, and VON ANTWERP LEPPER, citizens of the United States, residing at Marshall, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Vending-Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to machines for vending pills and other articles of globular form; and it consists in the construction and combination of parts hereinafter more particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents a side elevation of the machine, partly sectioned, in the normal position. Fig. 2 represents a part of the same in position to deliver. Fig. 3 represents a detail side elevation of the dividing-tube. Fig. 4 represents a detail end elevation of the same. Fig. 5 represents a detail plan view of the operating-lever. Fig. 6 represents a side elevation of the same; and Fig. 7 represents a cross-section through the same in proximity to the divider, showing the latter in elevation.

A designates the casing, containing an open hopper 1, to which the pills are supplied, as shown, and which is hung at the middle of its upper part by trunnions, one of which is shown, (marked 15,) to a bifurcated standard Q or equivalent fixed support. The outlet is in the center of its bottom, as usual, and when the hopper is rocked on its trunnions the discharge of the pills through the same is facilitated. The same result is brought about by stirring the accumulated pills in the lower part of the said hopper. Both these functions are performed by a receiving-tube 2 of less diameter than said outlet, which moves up and down in the arc of a large circle through this outlet with the vibration of a lever *f*, on one end of which it is rigidly mounted, the two being preferably integral. This tube 2 has a discharge part 9 near its bottom in alinement with a tubular part 4 of the said lever, having an outlet 13 in its under side communicating with a delivery-tube 5. The outlet 13 is always open. The part 9, however, is normally closed by shield *x*, depending from the proximate end of a dividing-tube 3, located in the space between the receiving-tube 2 and the tubular part 4 of the lever and pivoted by gudgeons 12 of its fixed collar *m* to bearings in a standard or standards *z*. This pivoting allows such play of this dividing-tube as prevents the parts from binding as the lever vibrates up and down. For the same reason the said shield is slitted at 11 to straddle the slender part 14 of the lever *f* immediately below it, and it is concaved transversely to fit the cylindrical surface of receiving-tube 2. The dividing-tube 3 is provided with a pair of terminal lugs *o*, similarly fixed to this latter tube by curvature and serving to guide the parts and keep them in position. The said part 14 of the lever is provided with a raised divider or partition between receiving-tube 2 and tubular part 4 and having a V-shaped notch or recess 8^a, which is broad at the top, also a stop 3′, extended vertically above the tubular part 4 at the end thereof nearest to the dividing-tube 3. The divider 8 plays up and down with the vibration of the lever through a transverse slot 10 in the bottom of dividing-tube 3, and the stop 3′ similarly plays up and down at the delivery end of the said dividing-tube, their relative positions as to elevation making such action alternate, so that the divider 8 opens the tube 3 in the middle, while the stop 3′ closes it at the end, and the divider 8 closes the passage through the middle of the said tube, while the stop 3′ opens the delivery end, the former action occurring when the parts are in the position shown in Fig. 1, and the latter action occurring while they are in the position shown in Fig. 2. The V-shaped recess 8^a expedites the passage of the pill past the divider 8 as the latter descends. The stop 3′ is provided at the top with a flange 3^2, overlapping the delivery

end of the dividing-tube 3 to prevent it from being accidentally tilted up out of position by the friction of the receiving-tube 2 against the shield *x* and lugs *o* as the operative end of the lever *l* descends. The said lever being mounted by trunnions *g* in a standard or standards *y*, this downward motion of its longer arm is caused by a traction-spring *h*. The reverse movement is caused by the pressure of a plunger B on a coin *k* in forcing the latter down between the short arm of said lever and a fixed resilient coin-stop *d*. The said plunger works down through a guide-tube B′, fixed to the top of the said casing and containing a replacing-spring *i*. Its lower end is bifurcated to hold the coin securely against tilting during pressure. For the same purpose and to guide it into position the said coin-stop and the proximate end of the lever are provided with channels *c* and d^2 opposite each other. The latter channel has in the middle a prominence *d′*, which holds the coin securely, compelling the use of sufficient force in pressing it past this point of the lever. The coin is supplied to channel *c* of the lever by coinway, the lower part of which is inclined to give the coin an impetus in the direction of the coin-stop *d*, said coinway being rigidly attached to the top of casing A and extending within the latter. Of course it will not admit of a coin of diameter exceeding its own, and a coin of smaller diameter would not be stopped by the prominence or projection *d′*.

The end of the delivery-tube 5 is closed by a valve 6, having a handle 16 extending upward, and is weighted with a metal ball 15. (Shown in dotted lines.) The said tube 5 is provided with a slot or opening 7 on top for convenience of inspection.

The operation has been already indicated. While the coin is forced down past the prominence *d′* it depresses the short arm of the lever and lifts the longer end, as shown in Fig. 2, bringing the port 9 of the receiving-tube 2 above shield *x* and in register with the dividing-tube 3. Simultaneously moves the divider 8 up through slot 10 into tube 3, so that the first pill escaping through port 9 is stopped by said divider. The coin having passed the coin-stop, the plunger is replaced by spring *i* in its normal position and the long arm of lever *f* is drawn down by spring *h*, restoring the parts to the position of Fig. 1. This closes port 9 by shield *x*, opens a way through the middle of the tube 3 by withdrawing the divider 8, and closes the delivery end of the said tube by lowering stop 3′ opposite thereto. In consequence the first pill runs to the said stop and the second takes its place, their being room in the dividing-tube 3 for two pills only. When the next coin is forced through and the long arm of the lever thereby raised again, the divider cuts off the first pill from the second, closes port 9, lifts the stop 3, opening the delivery end of said dividing-tube, and brings the tubular part 4 of the said lever in register with the dividing-tube, so that the first pill is forced to pass through said part 4, the outlet 13, and the delivery-tube 5. The valve 6 is then opened and allowed to close itself again after they have run out. Gravity is relied on for the passage of the pills through the parts 2, 3, 4, and 5, the tubes 3 and 4 being slightly inclined. The former is pivoted at a higher point than the latter and the whole lever slants up toward the hopper.

It will be noted that in starting the machine two downward motions of the plunger or push-button B are required to deliver the first pill, so the first coin must be allowed for or a dummy used instead. After that a pill will be delivered at each downward thrust upon a coin.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a vending-machine, a pivoted hopper and a receiving-tube extending down through its bottom and provided with a port in combination with a lever moving the said tube, a pivoted dividing-tube in contact with the said receiving-tube and adapted to receive pills therefrom, but provided with a shield for closing the said port while the lever is in normal position and means for tilting the said lever to open the port for the outward passage of a pill into the said dividing-tube, the hopper being rocked on its pivots by the same vibration of the lever and the receiving-tube being thrust up among the pills to stir the same substantially as set forth.

2. A lever and means for operating the same, in combination with a receiving-tube carried thereby, a pivoted dividing-tube adapted to receive a pill from the said receiving-tube when the said lever is oscillated and a discharge-tube 5, the said lever being provided with a tubular part 4 a divider 8 and stop 3′, the said tubular part 4 being arranged to receive the pills from the said dividing-tube and deliver them to the said discharge-tube and the said divider 8 being arranged between the said tubular part and stop and adapted to permit the passage of the pills one by one when the said divider is lowered by the rocking of the lever arranged and operated substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES H. EGGLESTON.
C. F. HARDY.
V. A. LEPPER.

Witnesses:
CRAIG C. MILLER,
CHARLES H. BILLINGS.