

W. MILLARD.
COIN CONTROLLED MECHANISM.
APPLICATION FILED MAY 5, 1911.

1,101,653.

Patented June 30, 1914.

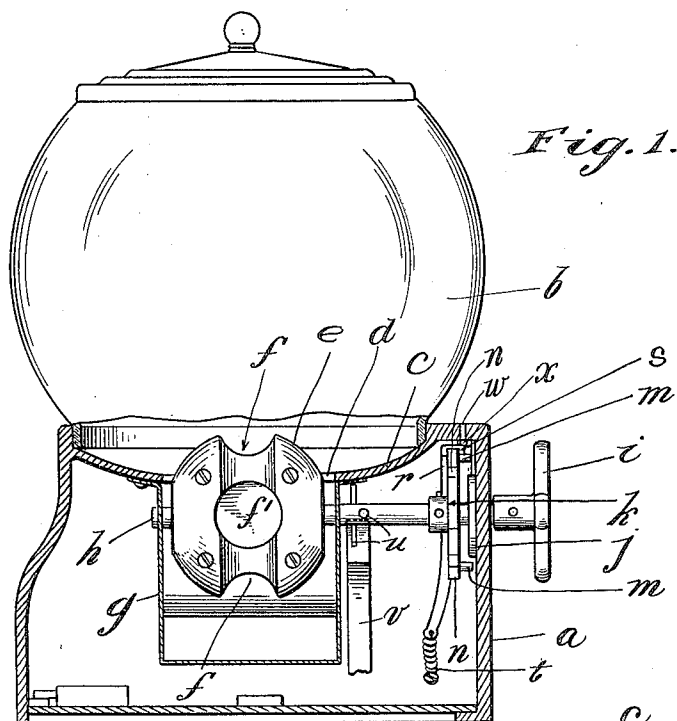


Fig. 1.

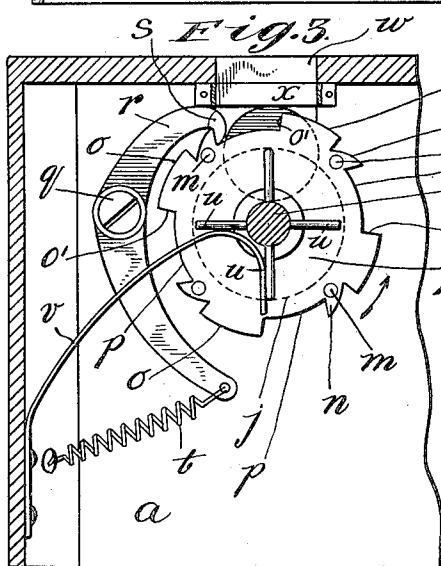


Fig. 3.

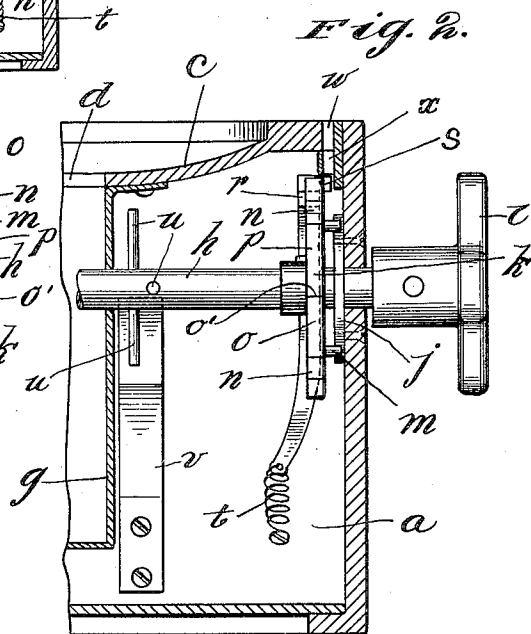


Fig. 2.

Witnesses:
M. Reimer.
M. Hamilton.

William Millard Inventor
By his Attorney,
James Hamilton

UNITED STATES PATENT OFFICE.

WILLIAM MILLARD, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO
ALBALL MANUFACTURING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF
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COIN-CONTROLLED MECHANISM.

1,101,653.

Specification of Letters Patent.

Patented June 30, 1914.

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To all whom it may concern:

Be it known that I, WILLIAM MILLARD, a subject of Great Britain, residing in the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Coin-Controlled Mechanism, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to coin-controlled vending machines and particularly to the coin-controlled mechanism used in such machines; and an object of this invention is to provide a mechanism of the character just mentioned which will be simple in construction, comparatively cheap in manufacture, and most efficient and durable in use.

Another object of this invention is to provide a coin-controlled mechanism which may not be easily put out of order by feeding into the coin slot, as is commonly done by maliciously-disposed persons, toothpicks, pins, nails and the like.

In the drawings illustrating the principle of this invention and the best mode now known to me of applying that principle, Figure 1 is an elevation, partly in section, of my new coin-controlled vending machine; Fig. 2 shows the coin-controlled mechanism in front elevation and Fig. 3 shows the coin-controlled mechanism in side elevation.

The base *a* of the machine is hollow and supports a casing *b* which forms the side wall of a receptacle for the commodity, such as balls of gum, which is to be vended. The bottom of this receptacle is formed by the top *c* of the base *a*; and this top *c* is formed with a central opening *d* through which projects upwardly a part of a feed-roller or ejector *e* formed with a centrally-disposed circumferential groove *f*. In the bottom wall of the latter is formed a series of pockets *f'*. The feed-roller *e* lies within a chute *g* in the side walls of which is rotatably mounted the inner end of a shaft *h* upon which the feed-roller *e* is mounted fast. The shaft *h* extends outside of the base *a* and upon its outer end is fastened a knob *i*. Just within the base *a* and fastened thereto is an annular plate *j* through which passes the shaft *h* and closely adjacent to the plate there is mounted fast upon the shaft *h* a ratchet-wheel *k* from which pins *m* project toward the annular plate and substantially parallel with the shaft. The

ratchet-wheel *k* is formed with ratchet-teeth *n* and with stop-lugs *o*, which are radially disposed. Between each lug *o* and the tooth *n* which is immediately in front of it, there is a recess *p*. Pivoted upon a screw pin *q* is a pawl *r* the toe *s* of which is adapted to engage the ratchet-teeth *n*. The other end of the pawl *r* is fastened to one end of a coil spring *t*, which is at its other end fastened to the base *a*. Projecting from the shaft *h* is a series of arms *u* which lie at right angles to each other and with which is adapted to engage the free end of a leaf spring *v* the other end of which is fastened to the base *a*. The leaf spring *v* tends to rotate the ratchet-wheel *k* in such a manner as to force the teeth *n* against the toe *s* of the pawl *r*. In a slot *w* in the top wall of the base *a* there is fitted a coin chute *x* the lower end of which is arranged to direct a coin between the ratchet-wheel *k* and the adjacent wall of the base *a*.

If a coin be dropped through the coin chute *x* it will fall upon the shaft *h* and will lie between the uppermost two of the pins *m*. As is clearly shown in Fig. 3, the diameter of the largest coin which may be dropped through the chute *x* is substantially less than the distance between successive pins *m* so that there is left a substantial interval between the edge of the coin and the pins *m* which are adjacent thereto. Through this interval will fall toothpicks, nails, pins and the like which may be dropped through the coin-chute *x* by maliciously-disposed persons. This construction will also allow the coin to rock while the shaft is being rotated in a manner which will be described, the coin resting upon the shaft, and rocking into engagement with one or the other of the pins *m*. The coin being in the position shown in Fig. 3, when the shaft *h* is turned, in the direction shown by the arrow, the coin will be carried by the pin *m* in its rear and will engage with the pawl *r*, and thus act as a cam to raise the toe *s* of the said pawl. Thus, the coin will hold the pawl disengaged from the ratchet-wheel *k* until the adjacent stop-lug *o* has passed under the toe *s* of the pawl. After the coin has passed thereunder, the spring *t* will throw the toe *s* of the pawl into engagement with the ratchet wheel and the shoulder *o'* of the next succeeding stop-lug *o* will prevent fur-

ther turning of the shaft *h* in the direction shown by the arrow in Fig. 3.

It has been found that, in the operation of coin-controlled mechanism having a
5 ratchet-wheel provided with pins on one of its faces, such pins being substantially parallel with the axis of the wheel, there is a liability of the coin to become wedged between the free ends of the pins and the
10 opposed wall of the casing. To prevent this wedging of the coin I have provided the annular plate *j*, which directs the coin into its proper place between the pins *m*.

I claim:

15 A coin-controlled mechanism, consisting of a casing, provided with a coin-chute; an operating shaft, mounted in said casing, and extending transversely below said coin-chute; a wheel, mounted fast upon said
20 shaft, and formed with radially-disposed stop-lugs, and ratchet teeth, said lugs and teeth, being alternately arranged, said wheel having pins, which project from one face thereof, in a direction substantially parallel with the shaft thereof, the distance
25 between said pins being substantially greater than the greatest dimensions of said

coin-chute; a spring-controlled pawl, the toe of which is arranged to engage the ratchet teeth, and to be disengaged there- 30 from and be lifted over the stop-lugs, by the cam action of the coin, the coin resting upon the shaft, and being free to rock thereon during the rotation of the shaft; said shaft being provided with a series of radially extending arms; a leaf-spring, one 35 edge of which is arranged to engage in succession with said arms, the pressure of said leaf-spring upon said arms serving to rotate said ratchet wheel, and thus throw the 40 said teeth into engagement with the toe of said pawl; and an annular plate, fastened to a wall of said casing, adjacent to the ratchet wheel and opposite the free ends of said pins, said plate preventing the wedg- 45 ing of the coin between the pins and wall.

In testimony whereof I hereunto set my hand in the presence of the two undersigned witnesses at New York city this first day of May, A. D. 1911.

WILLIAM MILLARD.

Witnesses:

E. I. MCCARTHY,
JAMES HAMILTON.