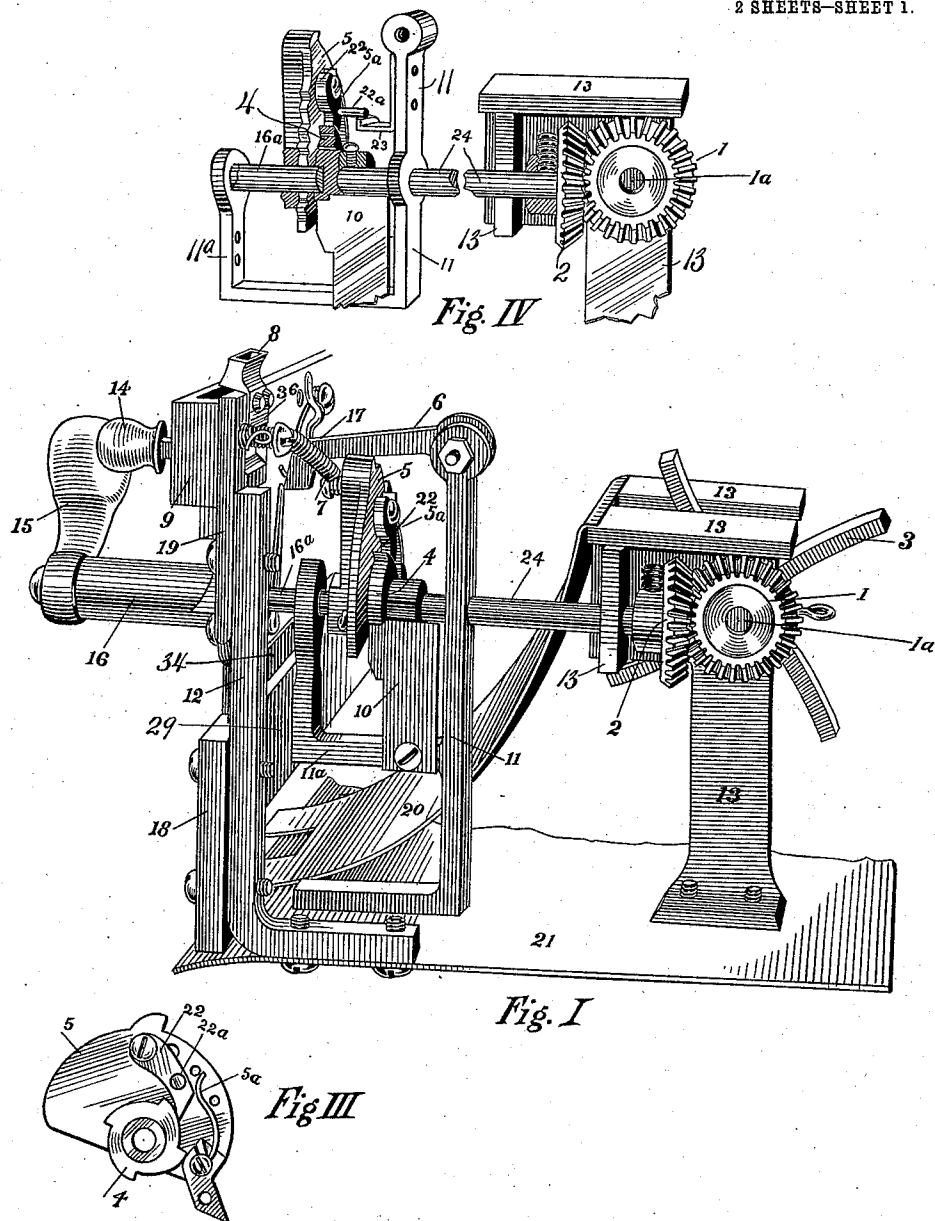




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1,062,231.

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VENDING MACHINE.
APPLICATION FILED NOV. 27, 1911.

Patented May 20, 1913.

2 SHEETS—SHEET 2.

Fig. II.

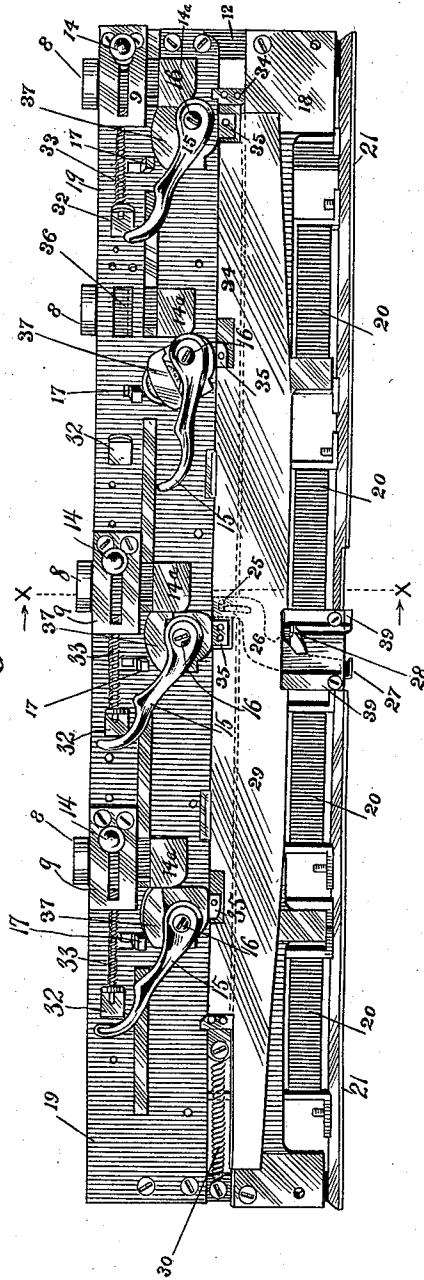


Fig. VIII.

Fig. VII.

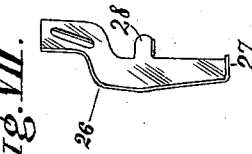
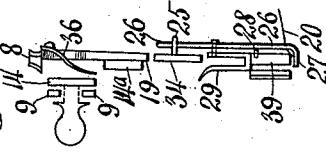
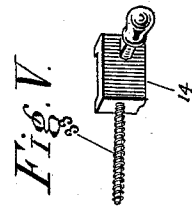


Fig. VI.



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UNITED STATES PATENT OFFICE.

CHARLES EDWARD FANNING, OF DAVENPORT, IOWA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO FRED WERNENTIN, JR., OF DAVENPORT, IOWA.

VENDING-MACHINE.

1,062,231.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed November 27, 1911. Serial No. 662,713.

To all whom it may concern:

Be it known that I, CHARLES EDWARD FANNING, a citizen of the United States of America, residing at Davenport, in the county of Scott and State of Iowa, have invented new and useful Improvements in Vending-Machines, of which the following is a specification.

My invention relates to improvements in package vending machines in which a coin is used to release a lock bar or lever.

The objects of my invention are to provide a vending machine which can be built at low cost and which will automatically lock so as to prevent repeating or obtaining more than one package with the same coin, which shall be simple in construction, and capable of enlargement by multiplying its units. I attain these objects by the mechanism shown in the accompanying drawings in which—

Figure I is a perspective end view of the mechanism of a single unit the casing being omitted. Fig. II is a front view of four units the casing and a slide bracket being omitted. Fig. III is a detail side view of the lock cam and pawl and ratchet wheel. Fig. IV is a detail partly in section showing a preferred form of the pawl, ratchet wheel and detent. Fig. V, is a detail of the slide. Fig. VI is a detail of the bracket for the slide. Fig. VII is a detail of the coin detent lever and Fig. VIII is a section on the line $x-x$ of Fig. II.

Similar numerals refer to similar parts throughout the several views.

The base, 21, may be formed of any convenient material and the casing (not shown) may be formed of any suitable material and of the size and shape required. No claim is made herein for any particular form of casing as these are well known and in common use.

At the front of the machine, a coin chute, 8, is provided to receive the coin. After passing through the coin chute 8 the coin drops into the slide, 14, secured upon the front of the machine by a bracket, 9, and held in place by a coiled spring, 33, which encircles a pin or rod, one end of which is secured to the slide and the opposite end of which slides in a bracket, 32, formed integral with the front plate or secured to it. The slide, 14, has a button or knob secured to it and when the slide is moved to the left by

the button or knob, the coin drops through the slide and into a coin receiving cam, 37. A light spring, 36, engages the coin, if of the proper size, and prevents its dropping out of the slide, 14, but is gaged to allow a thinner coin than required to drop out.

The coin receiving cam, 37, is keyed or otherwise suitably secured to a rock shaft, 16, to which a crank, 15, is also secured. The coin receiving cam, 37, is secured directly over a coin race, 29, consisting of a slotted or channeled bar with the bottom of the channel sloping from each end downward toward the center where an opening allows the coin to drop onto a coin detent, 27. A frame, 11, is secured to the base plate 21 and to its upper end is pivoted a lock bar or lever, 6, one end 17 of which projects through the front plate through a slot therein and is engaged by the coin in the cam, 37, and raised so as to clear the shoulder or detent on the locking cam, 5, and allow of its further movement. If the coin is too small it will not raise the lock bar, 6, and the shoulder or detent on the locking cam, 5, will strike the bar, 6, and be locked or held against further movement thus preventing any movement of the bevel gear wheels 1, and 2, and the paddle wheel, 3. The frame, 11, is provided with a bracket, 11^a, in the upper end of which is journaled an extension, 16^a, of the rock shaft 16 held in place by a cotter pin.

The locking cam, 5, is keyed to the shaft extension, 16^a, and carries a pin upon its front side which is secured by a coiled tension spring, 7, to another pin secured in the frame, 19. The locking cam, 5, has pivoted thereon a pawl, 22, held by a spring, 5^a, in engagement with the ratchet wheel, 4. The ratchet wheel, 4, is keyed upon one end of a shaft, 24, journaled in the frames, 11, and 13, and which has secured upon its opposite end a bevel gear wheel, 2. The bevel gear wheel, 2, meshes with a corresponding bevel gear wheel, 1, suitably secured to a transverse shaft 1^a which is journaled in the supporting frame, 13, and carries upon its opposite end a multiple armed paddle wheel 3 having its arms located in the same plane. The supporting frame, 13, forms a pedestal or base upon which the piles of packages in the machine are to rest, and an apron, 20, forms a guide to carry the packages from the top of the supporting frame, 13, out

through an opening in the front of the machine.

For ordinary purposes, the ratchet wheel, 4, in Fig. I will be sufficient but when a finer adjustment or quicker grip is required, the ratchet wheel, 4, may be made with a larger number and smaller teeth more closely spaced and a detent, 23, as in Fig. IV may be provided to control the engagement of the pawl, 22, with the ratchet wheel, 4, it being necessary that a limited movement of the crank, 15, be allowed before the lock bar, 6, is raised and the locking cam, 5, is unlocked.

A sliding bar, 34, having lugs, 35, secured thereto is secured at the upper edge of the coin race, 29, and held in position by a spring, 30. When the crank, 15, is depressed sufficiently, a projection upon the lower edge of the coin receiving cam, 37, strikes the lug, 35, carrying with it the bar, 34. A pin, 25, is secured to the bar, 34, and projects through a slot in a coin detent lever, 26, which is pivoted to the coin race. Detents, 27, and 28, are formed upon the detent lever, 26, and project forward. The lower detent, 27, holds the coin until the next operation of the detent lever, 26, when that coin is dropped into a coin receptacle and another coin allowed to drop onto the detent, 27, when the detent lever returns to place. The detent, 28, prevents the incoming coin from dropping until the detent, 27, returns to place. A glass front is provided for the space in which the coin is detained by the detent, 27, as a protection against fraud.

In operation, a coin is dropped into the coin chute 8, passing into the slide, 14, and resting upon a lug or table, 14^a, formed integral with the front plate, 19. The slide, 14, is then thrown to the left which drops the coin into the slotted coin receiving cam, 37. The crank, 15, is then depressed revolving the coin receiving cam so that the coin comes in contact with the end, 17, of the lock bar, 6, raising the bar so it will clear the locking cam, 5, and allow the locking cam, 5, to be revolved with the shaft extension, 16^a. As the locking cam, 5, is carried forward, the pawl, 22^a, engages the ratchet wheel, 4, revolving the shaft, 24, and the bevel gear wheels, 2 and 1. The bevel gear wheel, 1, drives the transverse shaft, 1^a, and the multiple armed paddle wheel, 3, so that one arm of the paddle wheel engages the lowest package of the pile resting upon the supporting frame, 13, and pushes it forward on to the apron, 20, upon which it slides down and out through the opening in the front of the machine. At the end of the throw of the crank, 15, it is released and returned to place by the spring, 7, through the locking cam, 5. A spring brake, 10, is provided to prevent the ratchet wheel, 4, from being carried forward by

inertia. When the crank, 15, nears the end of its throw, the coin receiving cam engages the lug, 35, and drops the coin into the coin race, 29. As the lug, 35, is moved by the coin receiving cam it slides with it the bar, 34, thus throwing the detent lever, 26, releasing the coin resting upon detent, 27, and allowing the incoming coin to fall upon the detent, 27, when the detent lever is returned to position.

What I claim is:

1. A vending machine comprising a package supporting frame, a main frame, a transverse shaft journaled in the supporting frame, a paddle wheel fixed on the transverse shaft and having a multiplicity of arms located in the same plane, an intermediate shaft journaled in the main frame, gearing connecting the transverse and intermediate shafts, a ratchet wheel fixed on the intermediate shaft, a rock shaft journaled in the main frame and having an extension and a cam fixed on the shaft extension and provided with a pawl adapted to engage the ratchet wheel.

2. A vending machine comprising a package supporting frame, a main frame, a transverse shaft journaled in the supporting frame, a paddle wheel fixed on the transverse shaft and having a multiplicity of arms located in the same plane, an intermediate shaft journaled in the main frame, gearing connecting the transverse and intermediate shafts, a ratchet wheel fixed on the intermediate shaft, a rock shaft journaled in the main frame and having an extension, a cam fixed on the shaft extension and provided with a pawl adapted to engage the ratchet wheel and a spring connecting the cam with the main frame for returning the cam to normal position after each operation.

3. A vending machine comprising a package supporting frame, a main frame, a lock bar pivoted to the main frame, a transverse shaft journaled in the supporting frame, a paddle wheel fixed on the transverse shaft and having a multiplicity of arms located in the same plane, an intermediate shaft journaled in the main frame, gearing connecting the transverse and intermediate shafts, a ratchet wheel fixed on the intermediate shaft, a rock shaft journaled in the main frame and having an extension, and a cam having a detent adapted to be engaged by the lock bar and fixed on the shaft extension and provided with a pawl adapted to engage the ratchet wheel.

4. A vending machine comprising a package supporting frame, a main frame, a transverse shaft journaled in the supporting frame, a paddle wheel fixed on one end of the transverse shaft, and having a multiplicity of arms located in the same plane and working through the top of the supporting frame, a bevel gear wheel fixed on

the other end of the transverse shaft, an intermediate shaft journaled in the main frame, a bevel gear wheel fixed on one end of the intermediate shaft and meshing with
5 the bevel gear wheel on the transverse shaft, a ratchet wheel fixed on the other end of the intermediate shaft, a rock-shaft journaled in the main frame and having an extension, a cam fixed on the shaft extension and provided with a pawl adapted to engage the
10 ratchet wheel.

CHARLES EDWARD FANNING.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
