C. E. DAVISON.

VENDING MACHINE.

APPLICATION FILED MAR. 9. 1909.

969,040.

Patented Aug. 30, 1910.

2 SHEETS—SHEET 1.

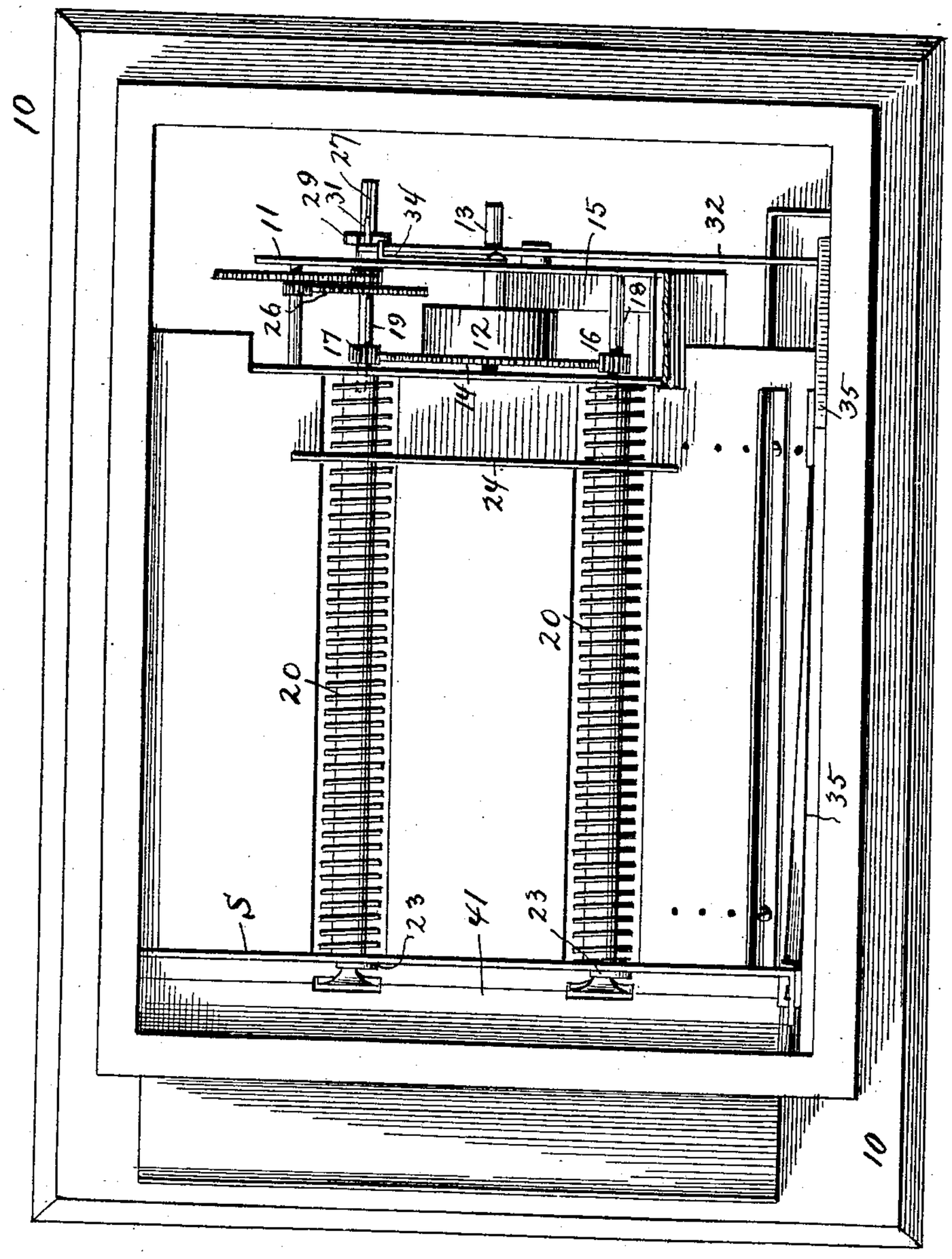

Fig. 1.

Witnesses

L. B. Adams

C. J. Williamson

Inventor

Clinton E. Davison

By Chas. H. Fowler

Attorney

C. E. DAVISON.

VENDING MACHINE.

APPLICATION FILED MAR. 9, 1909.

969,040.

Patented Aug. 30, 1910.

2 SHEETS—SHEET 2.

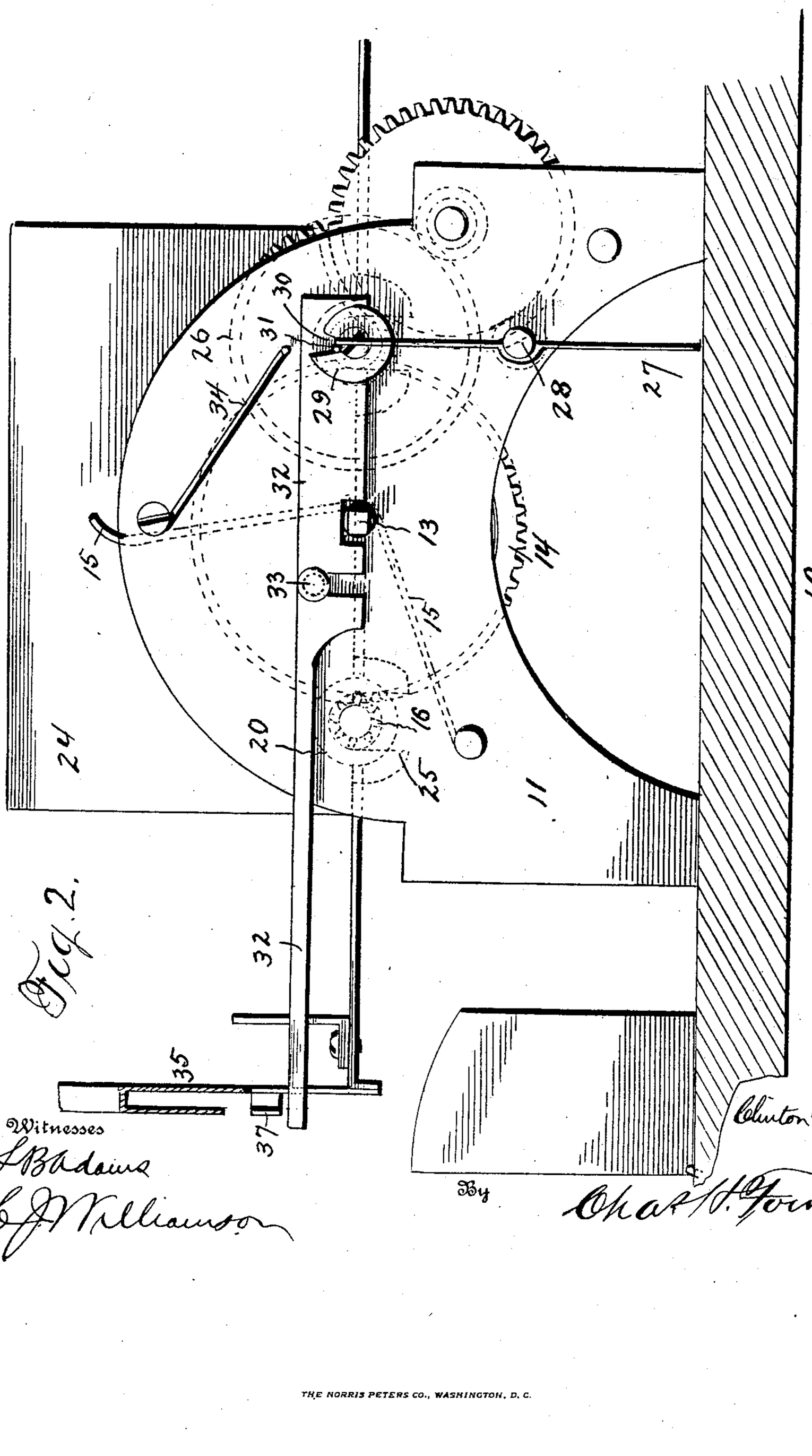

Fig. 2.

Witnesses

L. B. Adams

C. J. Williamson

Inventor

Clinton E. Davison

By Chas. B. Fowler

Attorney

UNITED STATES PATENT OFFICE.

CLINTON E. DAVISON, OF LITTLE ROCK, IOWA.

VENDING-MACHINE.

969,040. Specification of Letters Patent. Patented Aug. 30, 1910.

Application filed March 9, 1909. Serial No. 482,218.

To all whom it may concern:

Be it known that I, CLINTON E. DAVISON, a citizen of the United States, residing at Little Rock, in the county of Lyon and State of Iowa, have invented certain new and useful Improvements in Vending-Machines, and do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

My invention relates to vending machines of the class in which a motor is employed for the delivery of the articles to be vended, the motor being automatically set in motion by the placing in the machine of the proper coin, and automatically stopped when the desired article or number of articles have been delivered, and while I have designed the machine which I have selected as an embodiment of my invention for the vending of flat articles, such as writing paper, envelops, postcards, etc., it is to be understood that I do not restrict myself to the employment of my invention only in a machine for this particular purpose, but reserve the right to whatever use or uses my invention or parts thereof may be put, irrespective of the precise form of the machine in its entirety or the parts thereof.

My object, more particularly, has been to simplify the mechanical parts constituting a machine of this description, without any sacrifice of its reliability or efficiency, these qualities indeed being increased, as well as the cost of manufacture reduced, by the simplification which I have effected.

Referring to the accompanying drawings, Figure 1 is a top plan view of a vending machine embodying my invention, and Fig. 2 is a view thereof partly in end elevation and partly in cross section.

In the interest of compactness and attractiveness, the casing 10 of the machine shown in the drawings is oblong in shape, and consists of a bottom or base of wood and side walls and top formed principally of glass, but it is to be understood that the case may be of any desired design and of any suitable material. Mounted in the casing 10 toward the back thereof, is a spring motor consisting of suitable frame plates 11, a spring 12, and a main arbor 13 on which the spring and the center or main driving gear wheel 14 are mounted. Instead of the usual spring barrel inclosing the spring, I employ simply a bent plate 15 fastened to the frame and engaging the side of the spring opposite the center wheel to confine the spring from displacement in an axial direction. At diametrically opposite points in a horizontal plane, the main or center wheel 14 meshes with pinions 16 and 17, respectively, on two horizontally extending shafts 18 and 19, on each of which shafts is mounted a comparatively long screw or worm 20, the screws or worms being duplicates, the articles to be vended being placed upon and engaged by the thread of the screws, so that by the revolution of the latter the articles will be moved horizontally toward the discharge opening 21 at the front of the machine, and the foremost article precipitated from the screws and thereby delivered from the machine.

Mounted on the screws is an article-supporting and feeding device in the form of a traveler that consists of a vertically-arranged plate or standard 24 having at its bottom two openings or notches 25 each of a size to fit over a screw and its edges to be engaged by the thread thereof, the two openings or notches being of course spaced apart a distance corresponding with the distance between the two screws. Said traveler by the revolution of the screws will be moved forward and thus aid in carrying the collection of vendable articles resting upon the screws, and is of course a necessary device in a machine for vending such flexible articles as sheets of paper, envelops, etc. It may readily be lifted from the screw thread and moved either forward or backward, as occasion may require.

Near the rear end of the screw shaft 19 is a gear 26 which, through a train of gears, gears said shaft to a speed regulator or governor, such as a fan or vane 27 mounted on a shaft or arbor 28, and thereby the rate of revolution of the motor and the screws determined or regulated, and also at the rear end of said screw shaft 19 is a snail cam 29 having a radially extending notch 30 which when engaged by a pin 31 on a coin actuated lever 32, prevents the operation of the motor and thus the feeding and discharging action of the machine. The lever pin 31 is also arranged to engage one of the blades of the fan or vane, and when in engagement therewith to arrest its revolution.

The coin-operated lever 32 is pivoted in-

termediate its ends on a stud or pin 33, and its weight is so distributed that it is heaviest on the side of the pivot 33 which carries the pin 31, so that the normal tendency of the lever is to move in a direction to cause its pin 31 to enter the cam notch and to engage the same and the regulator fan. When a proper coin rests upon the opposite end of the lever 32, it will overbalance the pin-carrying end thereof and lift the pin out of the notch and away from the vane and thus free the motor, and the pin when thus raised being in the path of the periphery of the snail cam, the revolution of the latter will operate to lift the pin-carrying end of the lever still higher and lower the coin-engaged end until a point in the movement of the latter is reached which will permit the passage from the lever of the coin, whereupon under the superior weight of the pin-carrying end of the lever the pin will be again moved into engagement with the notch of the cam and the governor fan, and thereby arrest the operation of the machine, the machine thus being in operation during one revolution of the snail cam and the screws or worms. When the pin-carrying end of the lever 32 is raised it encounters a light wire spring 34 that by its engagement with the lever insures its steady movement and prevents the precipitate discharge of the coin. The coin-engaged end of the lever 32 is at the inner terminal of the coin chute 35, that extends from the front wall of the machine near the top thereof rearwardly and downwardly at a gentle incline, which will assure the rolling of the coin on edge through the chute. At its extreme rear portion, the chute extends downward at a sharper angle and terminates in a vertical portion into which the end of the lever 32 projects.

Having thus described my invention, what I claim is—

1. In a vending machine, the combination of a motor, a coin guide, a rotary cam driven by the motor, a lever extending from the coin guide at a point to intercept a coin to said cam having a projection that projects from one side of the cam to the other and co-operates therewith and a motor governor adapted to be engaged by said projection.

2. In a vending machine, the combination of a motor, a snail cam connected therewith having a radially disposed notch, a coin guide, a lever extending from a point to intercept a coin to said snail cam having a projection adapted to extend through the cam notch and a motor governor adapted to be engaged by said projection.

3. In a vending machine, the combination of a motor, a coin guide, a rotary cam driven by the motor, a lever extending from the coin guide at a point to intercept a coin to said cam that has a projection that projects from one side of the cam to the other and coöperates therewith, a motor governor adapted to be engaged by said projection and a yielding lever engaging device in position to engage the lever when it is moved by the cam.

In testimony whereof I affix my signature in presence of two witnesses.

CLINTON E. DAVISON.

Witnesses:
O. A. Morse,
Geo. E. Tucker.