No. 751,420. PATENTED FEB. 2, 1904.

T. F. SOLON.

COIN CONTROLLED APPARATUS.

APPLICATION FILED SEPT. 1, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

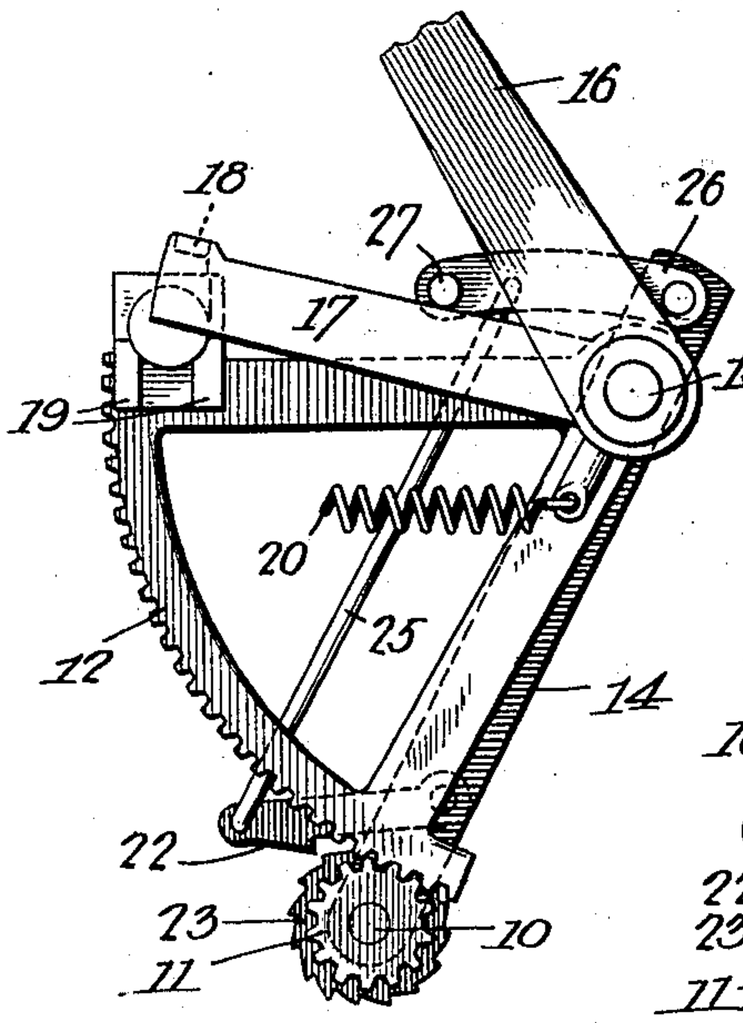

Fig. 1.

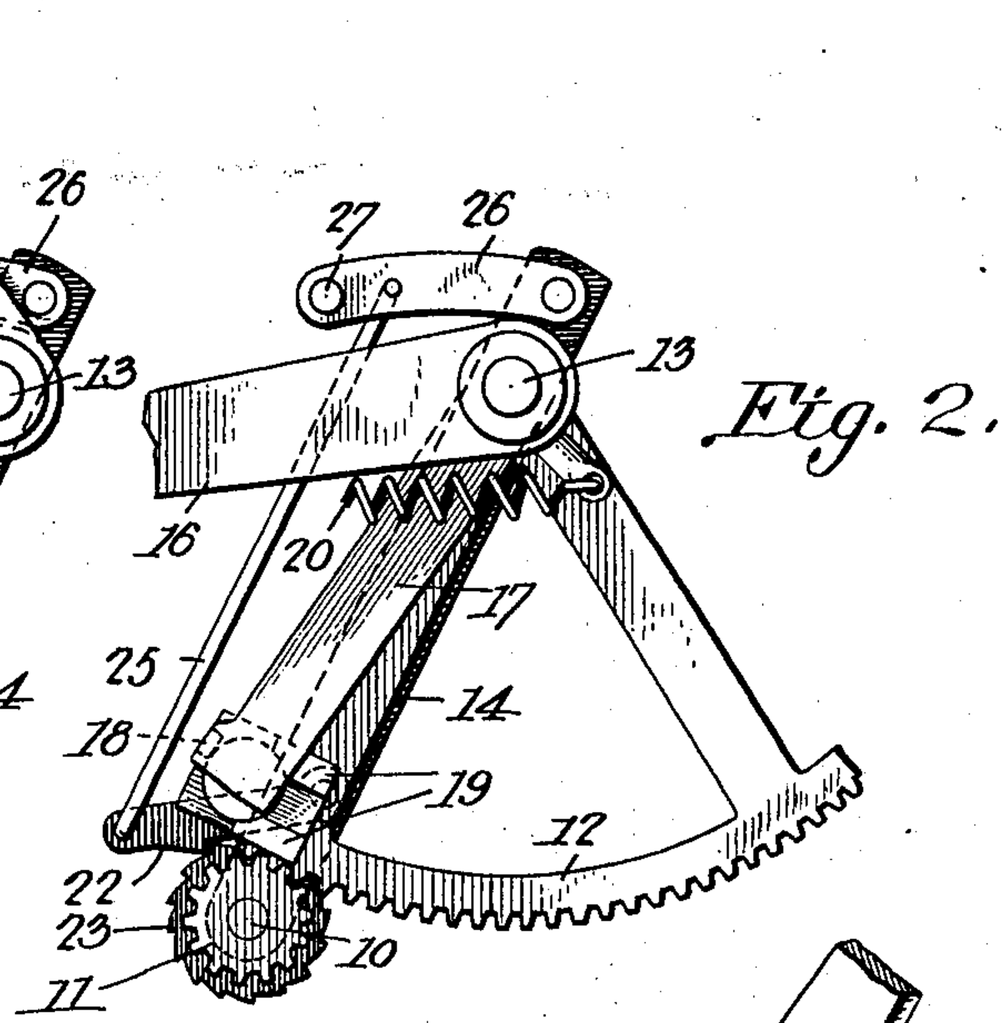

Fig. 2.

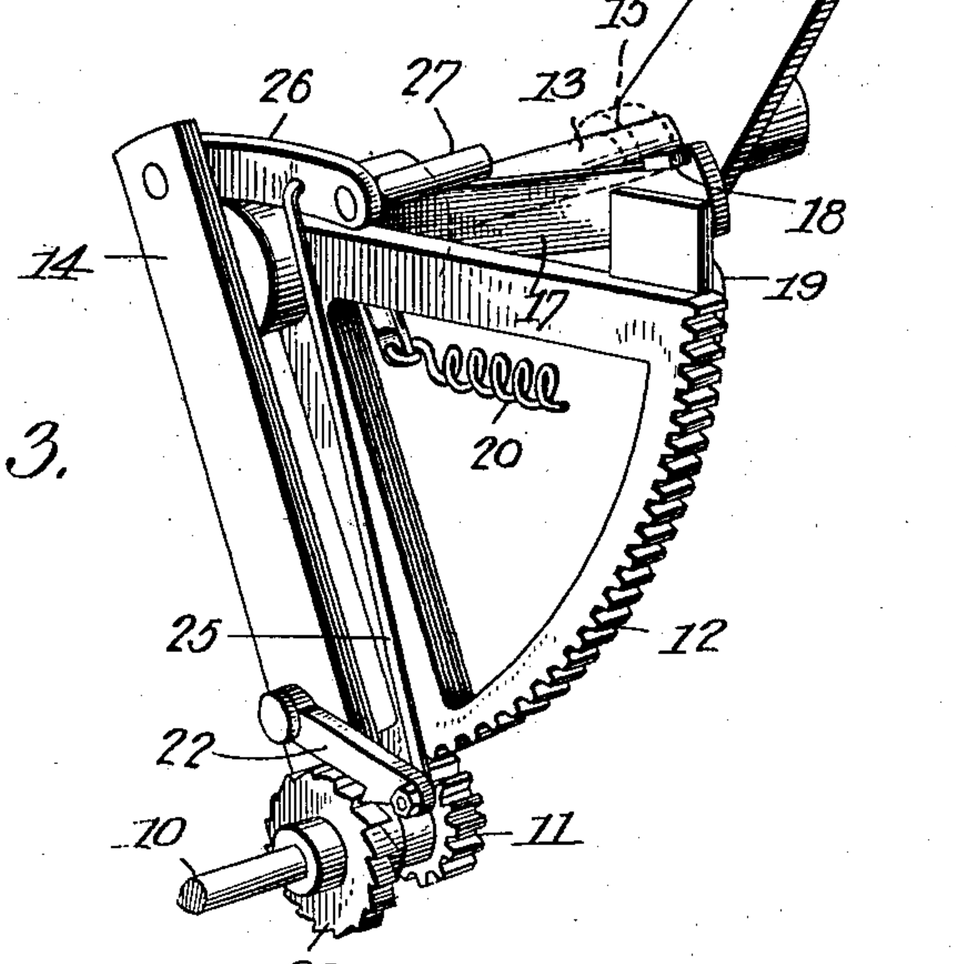

Fig. 3.

Witnesses
C. H. Stewart.
Jno. E. Parker

Thomas F. Solon, Inventor.
by Church & Church
Attorneys

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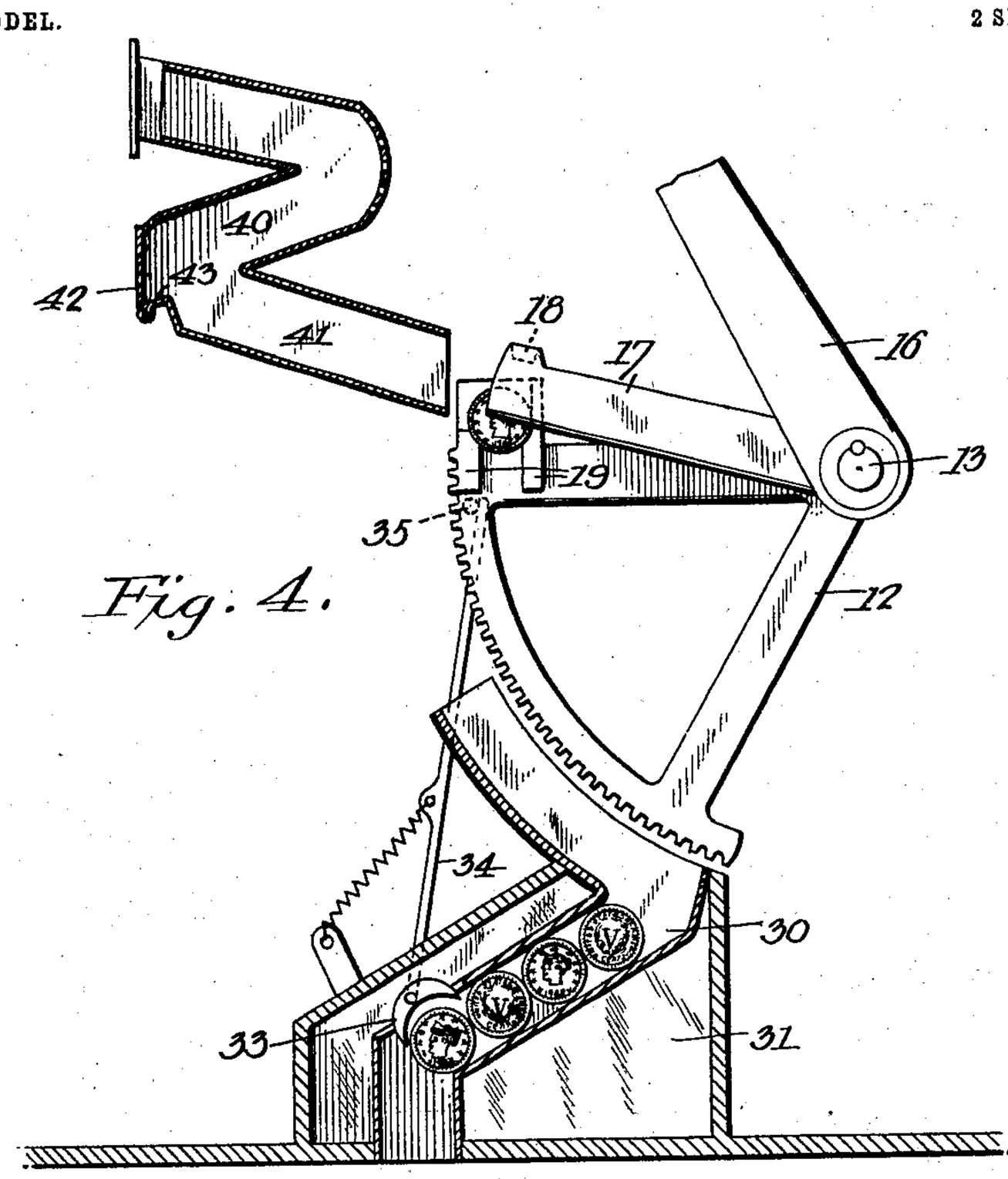
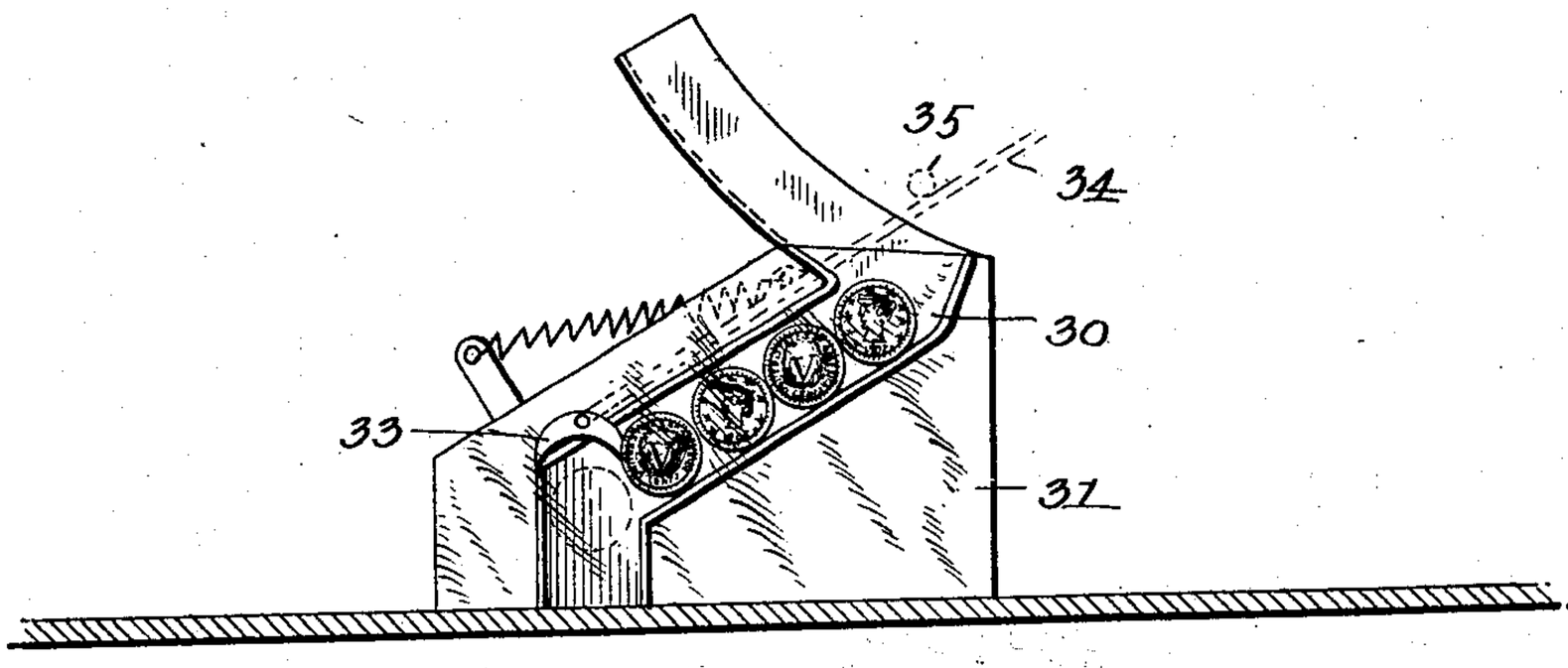


Fig. 4.

Fig. 5.



Witnesses
E. K. Stewart.
Jno. E. Parker

Thomas F. Solon, Inventor.
by Church & Co.
Attorneys

No. 751,420. Patented February 2, 1904.

UNITED STATES PATENT OFFICE.

THOMAS F. SOLON, OF SOLON SPRINGS, WISCONSIN.

COIN-CONTROLLED APPARATUS.

SPECIFICATION forming part of Letters Patent No. 751,420, dated February 2, 1904.

Application filed September 1, 1903. Serial No. 171,574. (No model.)

To all whom it may concern:

Be it known that I, THOMAS F. SOLON, a citizen of the United States, residing at Solon Springs, in the county of Douglas and State of Wisconsin, have invented a new and useful Coin-Controlled Apparatus, of which the following is a specification.

This invention relates to certain improvements in coin-controlled machines, and has for its principal object to provide an improved mechanism whereby on the insertion of a coin of proper denomination a spring, weight, or equivalent actuating member may be wound or adjusted to operative position and then released to perform its function after the lever has returned to its initial position.

A further object of the invention is to provide a coin-controlled machine for use in connection with graphophones and similar sound-reproducers in which on the insertion of a coin of proper denomination the inserted coin may act to release the winding-shaft of a spring-motor mechanism, so that the operator may then turn the shaft to wind the motor, and on the completion of the winding operation the sound-box and record will be set into motion by the unwinding of the spring, while the winding-shaft is automatically locked.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a side elevation of a coin-controlled mechanism constructed in accordance with the invention and illustrating the same as applied to the winding-shaft of a graphophone or like sound-producing machine. Fig. 2 is a similar view showing the position of the parts at the completion of the operative movement of the lever. Fig. 3 is a detail perspective view of the mechanism. Fig. 4 is a sectional view showing the transparent coin-chute and the mechanism for releasing the lowermost coin in the chute at each operative movement of the mechanism. Fig. 5 is an elevation of the coin-slot, showing the coin-releasing mechanism in position for releasing the lowermost coin.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

In the supporting-frame of the apparatus are bearings for a winding-shaft 10, having the usual gearing connections with the spring-carrying shaft of a motor mechanism or other operative device to which the coin-controlled apparatus is to be connected. On this winding-shaft is secured a pinion 11, which meshes with a segment 12, loosely mounted on a shaft 13, the shaft being supported at one end by a bracket-arm 14, extending upward from the winding-shaft, while the opposite end of said segment-carrying shaft passes through a suitable bearing 15, formed in one end of the casing. To the outer end of the shaft 13 is secured an operating-lever 16, having a suitable handle, which may be grasped by the person inserting the coin and depressed to effect the winding of the spring. To this shaft is also secured an arm 17, provided at its outer end with an overhanging tongue 18, projecting in the direction of the toothed portion of the segment. The segment is provided with a pair of spaced lugs 19, forming a seat for an inserted coin, the coin being conducted to the seat by means of a suitable chute.

To the hub of the arm 17 is secured a pin forming a connection for one end of a contractile spring 20, the opposite end of which is secured to a fixed point and serves to return the arm and the operating-lever to initial position immediately after the completion of each downward movement. When the lever and arm are depressed after the insertion of the coin, the latter is caught by the tongue 18, and as it cannot move downward between the lugs 19 the movement of the lever is imparted to the segment, said segment turning and through the pinion 11 revolving the winding-shaft 10. Should no coin

be placed in the seat formed by the lugs, the tongue will pass between said lugs without effecting operative movement of the segment.

When the spring or other operating device to which the coin-controlled mechanism is connected has been wound or otherwise adjusted to operative position, it is retained in position by means of a pawl 22, pivoted to the bracket-arm and engaging a ratchet-wheel 23, secured to the winding-shaft. The outer end of the pawl is connected by a rod 25 to an arm 26, pivoted to a stud near the upper end of the bracket-arm, and said arm 26 has a laterally-projecting pin 27, disposed in the path of movement of the arm 17, so that when the latter ascends under the influence of the spring 20 the pin will be raised and effect a corresponding movement of the pawl 22, the latter moving from engagement with the ratchet-wheel and permitting the wound spring or other mechanism to set the shaft into operation.

It is obvious that this mechanism, while described as used in connection with the winding-shaft of the spring-motor, may be applied to various forms of coin-controlled mechanisms wherein the shaft 10 represents a revoluble member for operating a vending or other device without departing from the invention.

In devices of this class it has been found desirable to retain the operating-coins in sight after each operation, so as to minimize the danger of persons operating the machine by slugs or other counterfeits, and for this purpose the coin-chute 30 is provided with sides of glass or similar transparent material, as indicated at 31, the chute being of sufficient length to retain a number of coins and provision being made for discharging the lowermost coin from the chute after each operative movement. For this purpose the retaining-finger 33, in the form of an escapement-anchor, is placed at or near the lower end of the chute and is so arranged that one of these ends or arms shall normally engage the lowermost coin and prevent its passage to the cash-drawer. Secured to this anchor is a finger 34, which projects up alongside the toothed segment and is adapted to be engaged by a pin 35, projecting from one side of said segment. When the segment is operated, the pin 35 comes into contact with the finger or arm 34 and moves the same to such an extent as to move the lower finger of the anchor from engagement with the lowermost coin of the chute and bring the upper or second finger of the anchor into contact with the second lowermost coin. When the lowermost coin has been released and dropped and the segment starts on its return movement, the anchor is returned to its initial position and allows said second lowermost coin to fall in the direction of the bottom of the chute until it is engaged by the lower finger of the anchor and the column of coins held until the next operation.

It often happens in machines of this class that innocent intending purchasers deposit a small coin, such as a cent, in a machine intended to be operated by a nickel, and in order to return such small coins or to prevent the operation of the machine by these coins or by slugs or counterfeits of a size smaller than that intended for the operation of the machine the chute has two runs 40 and 41, arranged at an angle to each other, the end of the upper run 40 terminating in a spring-door 42, closing an opening through which small coins may pass. The angle of the chute-run 40 is such that the coins will receive sufficient impetus to travel over the space leading to the lower run 41 and will be directed against the door, the door opening and allowing the coin to pass it. The opening is of course of much less diameter than that of the coin intended to operate the machine, and the shelf 43, immediately in advance of the door, is on a level somewhat lower than the plane of the lower portion of the run 40, so as to insure the discharge of the coin, while it is not of a sufficient area to form a rest for larger coins, the latter dropping down through the open space into the lower run 41.

At the juncture of the two runways the metal walls of the chute are perforated, so that an attempt to operate the machine or to withdraw a coin by the insertion of a wire will result in the catching of the end of the wire in one or other of the perforations.

Having thus described the invention, what is claimed is—

1. In combination, a shaft, a ratchet-wheel thereon, a pawl engaging the ratchet-wheel and serving to prevent reverse movement of the shaft, a pinion carried by the shaft, a gear-segment intermeshing with the pinion, an operating-lever for revolving the gear and imparting rotative movement to the pinion, said lever and gearing being locked through the intervention of a deposited coin, and means for releasing the pawl from engagement with the ratchet-wheel.

2. In combination, a shaft, a pinion and a ratchet-wheel carried by the shaft, a secondary shaft, a segment mounted loosely thereon and intermeshing with the pinion, an arm rigidly secured to the secondary shaft, coin-clamping devices carried partly by the segment and partly by the arm, an operating-lever for effecting rotative movement of the shaft, a spring for returning the arm and lever to initial position after each operative movement, and means operable on the return of the arm for releasing the ratchet and permitting rotative movement of the pinion-carrying shaft.

3. In combination, a shaft, a ratchet-wheel

and a pinion on said shaft, a secondary shaft, a gear-segment mounted loosely on the secondary shaft and intermeshing with the pinion, a bracket-arm serving as a partial support for the secondary shaft, a pawl engaging with the teeth of the ratchet-wheel, a pair of spaced lugs carried by the segment and forming a coin-receiving seat, an operating-lever and an arm carried by the secondary shaft, a tongue carried by the arm and adapted to pass between the lugs of the segment or to be interlocked with the segment through the medium of a deposited coin, means for restoring the arm and lever to initial position, a pivoted arm connected to the pawl, and a pin carried by said arm and projecting into the path of return movement of the tongue-carrying arm, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOMAS F. SOLON.

Witnesses:
CHAS. A. KEELER,
MARY T. VIZARD.