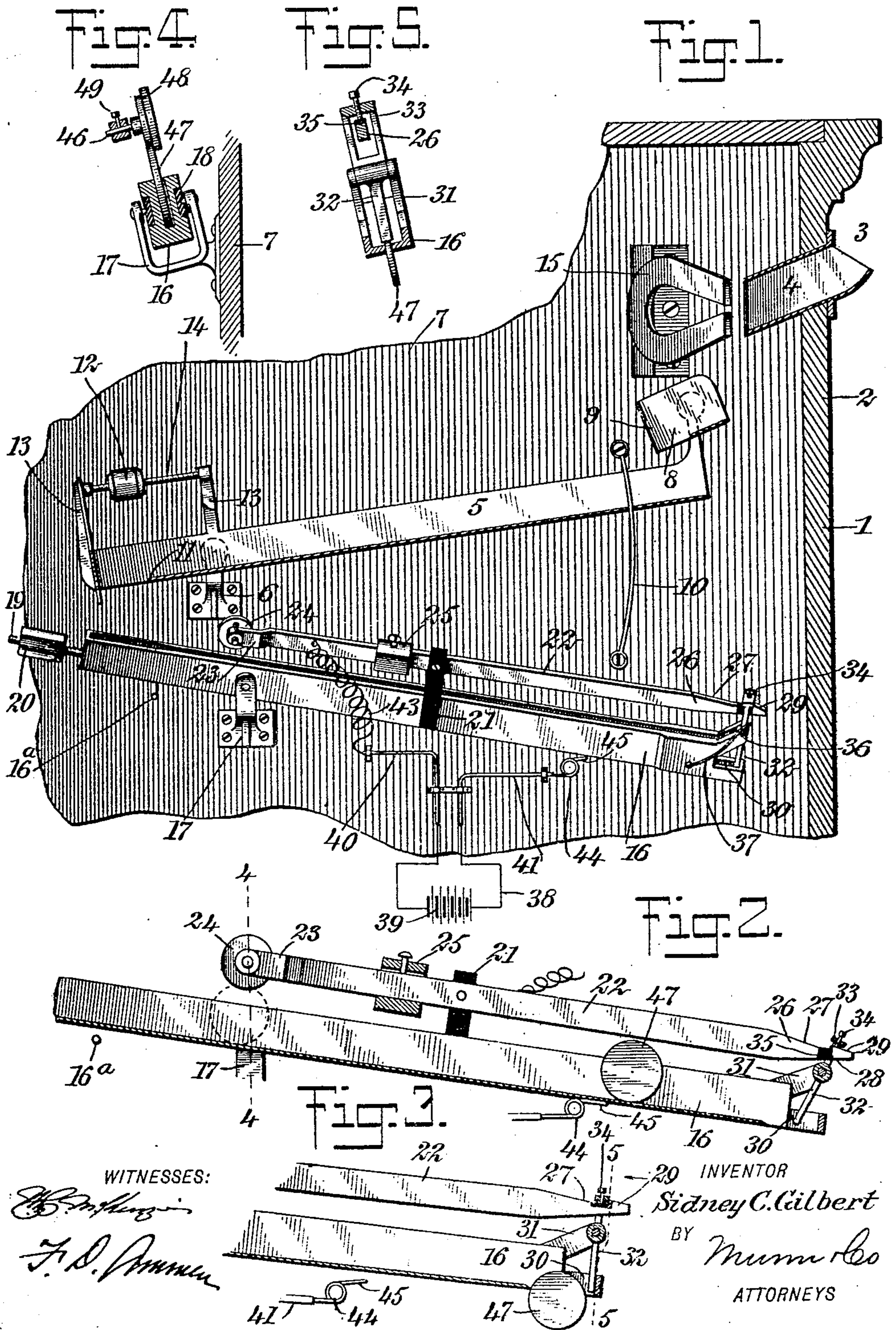


No. 859,654.

PATENTED JULY 9, 1907.

S. C. GILBERT.  
COIN CONTROL FOR VENDING MACHINES.  
APPLICATION FILED MAR. 16, 1906.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

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## COIN-CONTROL FOR VENDING-MACHINES.

No. 859,654.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed March 16, 1906. Serial No. 306,321.

*To all whom it may concern:*

Be it known that I, SIDNEY C. GILBERT, a citizen of the United States, and a resident of Jackson, in the county of Jackson and State of Ohio, have invented  
5 a new and Improved Coin-Control for Vending-Machines, of which the following is a full, clear, and exact description.

This invention relates to vending machines, and particularly to automatic machines of this class which  
10 are operated by the insertion of a coin of a certain denomination.

The object of the invention is to produce a machine of this class having means for controlling the coin, which will prevent the fraudulent operation of the  
15 machine by a spurious or counterfeit piece.

The invention consists in the construction and combination of parts to be more fully described herein-after and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts  
20 in all the figures.

Figure 1 is a vertical section taken through a portion of the case of a vending machine, and illustrating a  
25 coin control therefor; Fig. 2 is a vertical central section through the lower portion of the main chute down which the coin passes; Fig. 3 is a view showing the lower end of the chute shown in Fig. 2 and representing the manner in which the coin sets the  
30 mechanism of the chute as it passes from the chute; Fig. 4 is a cross section taken substantially on the line 4—4 of Fig. 2; and Fig. 5 is a cross section taken substantially on the line 5—5 of Fig. 3.

Referring more particularly to the parts, 1 represents the case of the vending machine which may be of any common construction. At a suitable point in this case the forward wall 2 thereof is provided with a receiving slot 3, in which the coin to operate the mechanism is inserted. This slot 3 is formed into a  
40 guide spout 4, which projects into the interior of the machine and is disposed substantially above the extremity of a receiving chute 5, which is pivotally mounted near the opposite extremity thereof upon a bracket 6 attached to the side wall 7 of the case. At  
45 the extremity of the receiving chute 5, disposed near the spout 4, a receiving cup 8 is attached, preferably disposed in an inclined position, as shown, so that the coin received therein from the spout 4 may pass through an opening 9 so as to fall into the elevated ex-  
50 tremity of the chute 5.

At a suitable point the side wall 7 of the case is provided with a curved guide bracket 10, which operates as a guide for the swinging end of the chute, and limits the movement thereof, as will be readily understood.  
55 The chute 5 is provided with a deep guiding slot or

groove in which the coin is received and along which the coin rolls toward a delivery slot or opening 11, at the depressed end of the chute. In order to counter-balance the long arm of the chute 5, which projects toward the spout 4, I provide a counterweight 12, 60 carried by the short arm of the chute upon suitable brackets 13. These brackets 13 support a threaded rod 14, upon which the counterweight 12 moves in the manner of a nut, being advanced in either direction by rotation, as will be readily understood. 65

Near the delivery point of the spout 4 I provide a permanent magnet 15, which may be of the horse-shoe type shown, and the poles of this magnet are disposed near the path of the coin as it drops from the spout. This magnet is for the purpose of deflecting  
70 spurious coin made of a magnetic metal, such as iron or steel. By means of the magnet, the coin will be deflected sufficiently from its natural trajectory so that it will not fall into the cup 8. Below the receiving chute 5 I provide a main chute 16, which inclines  
75 preferably in an opposite direction to the chute 5, the upper extremity of the chute 16 being disposed just below the opening 11 so as to receive a coin from the chute 5, as will be readily understood. This chute 16 is pivotally supported upon a bracket 17 80 attached to the side wall 7 of the case, and this bracket is preferably of the form shown in Fig. 4; that is, it is skewed so as to support the chute 16 in an inclined position, or in other words so that it does not swing in a vertical plane. By means of suitable insulating  
85 blocks 18 as shown in Fig. 4, the chute 16 is insulated from the case. The long arm of the chute 16 is normally depressed as indicated, and the short arm which receives the coin from the opening 11, is elevated and provided with a threaded stem 19, upon  
90 which stem is mounted an adjustable counterweight 20, the same making threaded engagement with the stem so that it may be advanced in either direction by rotation, as will be readily understood.

At an intermediate point on the long arm of the chute 95 16, I provide an insulating bracket 21, upon which is pivotally supported a lever 22, which extends longitudinally of the chute 16 and is provided at its upper extremity with an offset head 23 carrying a roller 24, said roller being disposed just over the central groove of the  
100 chute 16 in which the coin rolls. The short arm of this lever 22 is disposed upwardly as shown and provided with an adjustable counterweight 25. The lower extremity of the lever 22 is formed into a reduced tip 26, presenting an inclined upper face 27 having a notch 28. 105 This notch 28 presents a shoulder and beyond the notch the tip 26 presents an inclined face or edge 29. The lower extremity of the chute 16 is provided on its under side with an opening 30 through which a coin may pass. Near this point the chute is formed with upwardly pro- 110



jecting arms 31 which support pivotally a trigger 32 having a finger projecting downwardly into the opening 30, and having a yoke 33 projecting upwardly and carrying an adjustable screw 34 which projects inwardly beyond the yoke so as to engage the notch 28 referred to above. At the point where the notch 28 is located, a block 35 of insulating material is provided. Above the pivotal connection of the trigger 32, pins 36 are provided, and springs 37 are attached on each side of the chute 16, and tend to force the trigger into the position shown in Fig. 2. When in this position, the finger or lower portion of the trigger projects into the opening 30 and operates as a bar to prevent the passage of a coin through the opening, as will be readily understood. If, however, the yoke of the trigger is forced inwardly so that the screw 34 can engage the notch 28, the trigger 32 will operate to lock the lever 22 in that fixed position. In this connection, it should be understood that the counterweight 20 constantly tends to depress the upper end of the lever 22 and holds it against a stop-pin 16<sup>a</sup>.

It should be understood that the vending machine with which this coin control operates, is supposed to have its delivering mechanism operated by means of an electric current, which would actuate an electro-magnet of any suitable construction. At 38 is illustrated diagrammatically the circuit which would operate the electro-magnet, which circuit includes a suitable source of electricity such as the battery 39. The circuit 38 is in connection with conductors 40 and 41, attached to the case at a suitable point beneath the chute 16. The conductor 40 connects by means of a suitable conductor or wire 43 with the lever 22, preferably above the pivotal support therefor; that is, on the upper or elevated arm. The other conductor 41 connects with a coiled spring 44 which presents an extending projection or finger 45, which lies adjacent to the under side of the chute, as indicated most clearly in Figs. 1 and 3.

The construction and mounting of the roller 24 will now be described, referring especially to Fig. 4. This roller is supported on a central stud 46 which is adapted to be adjusted transversely in the head 23 of the lever 22. The body of this roller 24 is in substantially the same plane as the slot or groove in the chute 16 which receives the coin. In Fig. 4 a coin 47 is represented disposed in the chute, and this coin naturally rests on the bottom of the slot as shown. The outer portion of the roller 24 is provided with an outwardly projecting flange or shoulder 48, and the position of the side face of this shoulder is adapted to operate to prevent the passing of a coin of undue thickness. In this connection it should be understood that by means of a set screw 49, the position of the roller may be nicely adjusted, so that the shoulder 48 will not operate to prevent the passing of a coin of the proper denomination. By means of the adjusting screw 34 referred to above and which is carried by the trigger 32, the relation of the lever 22 can be very nicely adjusted, so that the lower face of the roller 24 will be at a sufficiently high elevation above the chute 16 to allow a coin of proper denomination to pass.

In operating the machine, a coin of a magnetic metal will be deflected by the magnet 15 as described above. If the coin is of greater weight than the coin

of proper denomination, after falling into the chute 5 it will depress the long arm of the same and be ejected at the upper end of the chute which is left open as shown. In this connection it should be understood that the counterweight 12 enables the chute to be very accurately balanced so as to adapt it to the coin of the particular denomination with which the machine should be operated. Supposing that the coin inserted in the machine has the proper weight and is not magnetic, it will then roll down the chute 5 and pass through the opening 11 into the upper end of the chute 16. Proceeding down this chute, if the coin is of proper diameter and thickness, it will pass under the roller 24 as indicated by the dotted outline in Fig. 2, so as to raise the roller, slightly elevating the upper arm of the lever 22 and depressing the lower arm. In this way the trigger 32 becomes released from the shoulder 28 and is operated by the springs 37 so as to assume the position shown in Fig. 2. When the trigger 32 is moved out into the position shown in Fig. 2, the yoke 33 thereof brings the adjusting screw 34 into contact with the metal body of the lever 22. In this way a metallic connection is formed from the lever 22 to the chute 16. Meanwhile, as the coin advances down the chute, it depresses the lower arm thereof, which is normally slightly above the extension 45, so that the bottom of the chute engages the extension 45. In this way the chute 16 is brought into electrical connection with the circuit 38, and a circuit is formed from the battery through the conductors 40 and 41 to the chute 16 and the lever 22. The passing of the current in the circuit then operates the electro-magnet, which delivers the article to be vended. As the coin passes down the chute 16, it engages the lower portion of the yoke 33, throwing the finger thereof out of its path in such a way as to move the yoke 33 back into its last position, shown in Fig. 1. In this way, as the coin passes from the opening 30, it operates to reset the mechanism. It should be understood that the lever 22 operates as a selecting lever, arresting coins of too great thickness or diameter, while it allows the coins of proper diameter to pass.

Attention is called to Fig. 3, where the coin is represented in the act of leaving the opening 30. When passing out, it will be seen that the lower end of the chute 16 operates as a stop for the finger of the yoke 33, operating in such a way as to stop the yoke when it is in the proper position to set the lever 22.

Having thus described my invention, I claim as new and desire to secure by Letters Patent,—

1. In a coin controlled mechanism for a vending machine, in combination, a chute adapted to receive a coin, a selecting lever pivotally mounted on said chute, a member carried by said lever and adapted to be moved when engaged by the edge of the coin passing down said chute, and means in said chute beyond said member for preventing the escape of the coin, said last means being automatically released by a coin of proper diameter in moving said lever.

2. In a coin control mechanism for vending machines, in combination, a chute constituting a guide along which the coin moves, a lever pivotally mounted on said chute and having a roller adapted to engage the edge of the coin, means for latching said lever in a predetermined position, and an automatically releasing trigger actuated by a coin of predetermined dimensions which moves said lever.

3. In a coin control mechanism for vending machines,



in combination, a chute along which the coin may roll and having a depressed delivery opening, a selecting lever pivotally supported on said chute and affording means for arresting a coin of abnormal diameter or thickness, a trigger normally holding said lever in a set position, and means actuated by the coin in passing said chute for resetting said lever.

4. In a coin control mechanism for vending machines, in combination, a chute along which the coin may roll, a member mounted on said chute and adapted to arrest a coin of abnormal dimensions, means for normally maintaining said member in a set position to receive the incoming coin, an electric circuit including said member and said chute, and means for closing said circuit with the passing coin.

5. In a coin control mechanism for vending machines, in combination, a chute down which the coin may roll, a lever extending longitudinally thereof and having a roller adapted to engage the edge of the coin, a trigger projecting into the path of the coin passing in said chute and affording means for holding said lever in a set position, means for insulating said trigger from said lever when set, and an electric circuit including said lever and said chute.

6. In a coin control mechanism for vending machines, in combination, a chute down which the coin may roll, a lever insulated from said chute and extending longitudi-

nally thereof, an adjustable roller carried by said lever and adapted to engage the edge of the coin passing into said chute, said lever having a notch in the edge thereof, a pivoted yoke carried by said chute and engaging said notch, said yoke affording means for locking said lever in a set position and having a member adapted to project into the path of a passing coin in said chute, whereby the passing coin may reset said lever, and an electric circuit including said lever and said chute.

7. In a coin control mechanism for vending machines, in combination, a pivotally supported chute having a depressed arm toward which the coin rolls, an insulated lever pivotally mounted above said chute and having means for engaging a passing coin, said lever extending longitudinally of said chute, means for locking said lever in a set position whereby said lever may be automatically released by a coin of predetermined dimensions, an electric circuit including said lever and said chute and adapted to be closed by the depression of said chute by the passing coin.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SIDNEY C. GILBERT.

Witnesses:

J. M. ARMSTRONG,  
R. U. WILSON.