A. D. GROVER.

COIN TESTING MECHANISM FOR COIN CONTROLLED MACHINES.

APPLICATION FILED SEPT. 2, 1915.

1,225,808. Patented May 15, 1917.

Fig. 1.

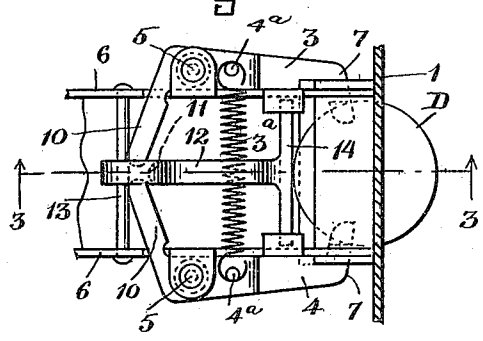


Fig. 2.

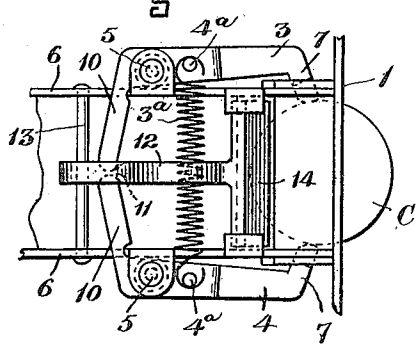


Fig. 3.

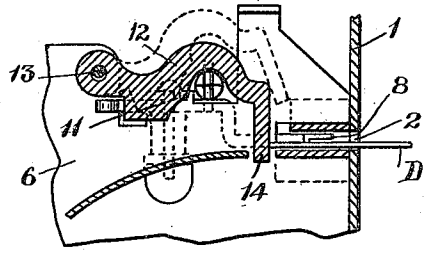


Fig. 4.

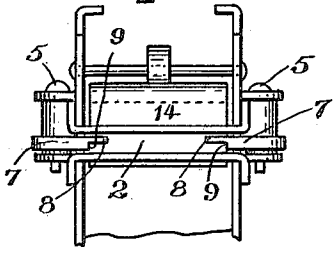


Fig. 5.

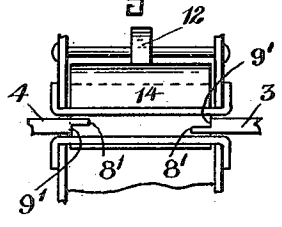


Fig. 6.

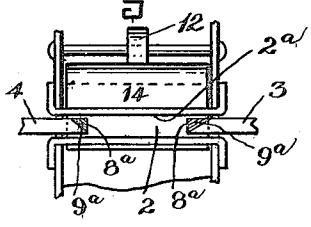


Fig. 7.

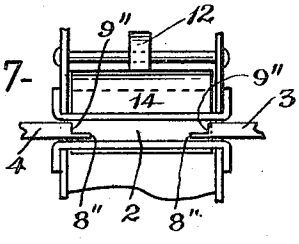
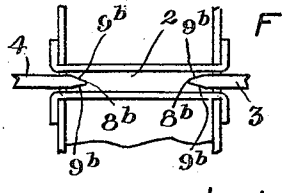


Fig. 8.



INVENTOR.

Albert D. Grover

by A. Alexander Thomas
Atty.

UNITED STATES PATENT OFFICE.

ALBERT D. GROVER, OF NEW YORK, N. Y., ASSIGNOR TO AUTOSALES GUM & CHOCOLATE COMPANY, A CORPORATION OF NEW YORK.

COIN-TESTING MECHANISM FOR COIN-CONTROLLED MACHINES.

1,225,808. Specification of Letters Patent. Patented May 15, 1917.

Application filed September 2, 1915. Serial No. 48,581.

To all whom it may concern:

Be it known that I, ALBERT D. GROVER, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Coin-Testing Mechanisms for Coin-Controlled Machines, of which the following is a specification.

My invention relates to coin-testing mechanisms for coin-controlled machines and has for its object the provision of a device which will positively prevent the entrance of a thin disk into the machine.

I have found by actual experience that thin disks, if allowed to enter coin-controlled machines, are difficult to get out of the way, as it is very easy for such disks to lodge in narrow spaces and thereby interfere with the proper operation of the machine. Thin tin disks, such as are commonly found, are frequently inserted in coin-controlled machines by mischievously inclined boys, and it is impossible to guard against those disks by the ordinary magnetic deflecting devices, because those disks are so thin and light that they will adhere to the magnets instead of being deflected by them out of the coin-chute, or, if they pass by the magnets, they are liable to find lodgment in some crevice or separating space among the parts of the coin-controlled mechanism. It is, therefore, very desirable and important that thin disks be prevented from entering the machine, and I have invented a mechanism which I have found by actual tests to accomplish that purpose in a highly satisfactory manner.

In its mechanical embodiment, the principle of my invention may assume various forms and modifications.

Broadly stated, my invention comprises a movable mechanism having means controlled by the thickness of an entering disk to lock a disk of less than prescribed thickness against full passage through the coin-entrance slot of the machine.

More specifically considered, the mechanism of my invention is provided with what I call an operative portion and an inoperative portion. The operative portion is adapted to be engaged by a coin of proper thickness and thereby forced aside to permit entrance of the coin into the machine, while the inoperative portion is adapted to engage a disk of less than prescribed thickness and thereby lock the disk against full entrance into the slot. There are several ways in which the inoperative portion of the coin-engaging part of my new mechanism may prevent the insertion of a thin disk into the machine. In one form of my invention I associate a locking gate with the coin-testing mechanism, and in that case the engagement of a thin disk with the inoperative portion of the testing mechanism causes the gate member to remain in obstructing position and thereby prevent the disk from fully entering the slot. However, the coin-engaging part of my mechanism may be so constructed that the inoperative portion thereof will engage a thin disk and wedge it against the side of the coin-entrance slot, thereby preventing full entrance of such a disk into the slot. In the latter case, the obstructing gate above referred to is not necessary.

In the preferred embodiment of my invention, I use a pair of oppositely pivoted arms or levers which have their free ends extended in proximity to the coin-entrance slot into the path of the entering coin or disk. The free ends of those arms or levers are partially cut away to provide operative portions which are engaged by proper coins and inoperative portions which are engaged by thin disks. The particular form or configuration of those operative and inoperative portions is immaterial, and by way of illustration I have shown several forms in the drawings.

In the accompanying drawings, which form part of this specification

Figure 1, is a plan view of a preferred embodiment of my invention, showing how a thin disk fails to move the arms or levers which control the obstructing gate member.

Fig. 2, is a view similar to Fig. 1, showing how a proper coin operates the arms or levers to open the gate member.

Fig. 3, is a transverse cross-section approximately on line 3—3 of Fig. 1, showing the gate member in normal or obstructing position in full lines and in operated position in dotted lines.

Fig. 4, is a front view of the mechanism shown in Fig. 1.

Figs. 5, 6, 7 and 8, are views similar to

Fig. 4, showing different modifications of the coin-engaging ends of the coin-testing arms or levers.

I will first describe the form shown in Figs. 1 to 4.

The plate 1, which may represent part of the exterior casing of a suitable coin-controlled machine, is provided with a coin-entrance slot 2. A pair of arms or levers 3 and 4 are pivoted at 5 to any suitable part of the machine, as for instance, the walls or brackets 6. The free ends 7 of the levers 3 and 4 extend through openings in the walls 6 into the path of the entering coin or disk. As seen from Fig. 4, the free end of each arm or lever is provided with an operative portion 8 and an inoperative portion 9. The free ends 7 are normally held in the path of the entering coin or disk by any suitable means, such as a spring 3^a connected to the levers at 4^a. At the rear the levers 3 and 4 are provided with extensions 10 which are adapted to engage the heel 11 of the gate member 12 pivoted on the rod 13. The forward end 14 of the gate member 12 projects downwardly into the path of the entering disk or coin and forms an obstruction therefor unless moved aside. The gate member 12 is mounted loosely on the shaft 13, as best seen from Fig. 3. The purpose of this loose mounting is to compel the simultaneous operation of both levers 3 and 4 to raise the gate 12 into inoperative or unobstructing position. If only one of the levers 3 and 4 is operated, the effect of the pressure of the extension 10 against one side of the heel 11 will be to shift the gate slightly along the rod 13 without lifting the same. All this is fully explained and illustrated in my co-pending application, Serial No. 726,831, filed October 19, 1912, and I do not, therefore, herein claim broadly the combination of a gate member adapted to be operated by the simultaneous movement of two coin-engaging members, for such combination is claimed in the aforesaid application.

The operation of the mechanism shown in Figs. 1 to 4 will now be understood and may be briefly described as follows: When a coin of proper size and thickness is inserted into the coin-entrance slot 2, it engages the operative portions 8 of the levers 3 and 4 and forces the free ends of said levers apart, as shown in Fig. 2 where the coin is indicated at C. This simultaneous operation of the levers 3 and 4 causes lifting of the gate 12, as above described, and allows the coin C to descend into the machine to perform its intended function. When a coin of less than the prescribed thickness is attempted to be inserted, it will engage the inoperative portions 9 of the levers 3 and 4 and thereby fail to operate them. In this connection it should be remembered that Figs. 1 and 4, as well as the other figures, show the mechanism on an enlarged scale in order to illustrate the mechanism more clearly. The free ends 7 of the levers are concealed from view of the person intending to operate the machine and the natural tendency of any one would be to insert a disk along the bottom of the coin-entrance slot, as shown in Fig. 3, where the disk is indicated at D. When a disk is thus inserted, it will engage only the inoperative portions 9, with the result that the levers 3 and 4 will not be operated and the gate 12 will remain in position to obstruct full entrance of the thin disk into the slot.

Instead of arranging the operative portions 8 above the inoperative portions 9, as shown in Fig. 4, the arrangement shown in Fig. 5 may be used, where the operative portion 8^1 of the lever 3 is below the inoperative portion 9^1, while the operative portion 8^1 of the lever 4 is above the inoperative portion 9^1. In this arrangement it matters not whether the thin disk is inserted along the upper or lower edge of the coin-entrance slot, for in either case only one of the operative portions 8^1 will be engaged, and, therefore, only one of the levers operated. However, the operation of only a single lever, as above explained, is insufficient to raise the gate 12. It is quite inconceivable that a person would insert a thin disk diagonally in such a way as to engage the diagonally arranged portions 8^1, because the form of the free ends of the levers 3 and 4 is not visible through the coin-entrance slot.

In Fig. 7, the operative portions 8″ are arranged below the inoperative portions 9″. This modification may be used in a case where the coin-entrance slot is so arranged that the tendency would be to insert the coin along the upper or farther edge of the slot.

Fig. 6, shows a further modification in which one corner of the free end of each lever is cut off diagonally, thereby providing operative portions 8^a and inoperative portions 9^a. When a proper coin is inserted it engages the portions 8^a and forces the levers apart. However, when a thin disk is attempted to be inserted, it engages the beveled portions 9^a and is forced by the same against the edge 2^a of the coin-slot, thereby becoming wedged against full entrance into the slot. This form of my invention does not require the use of the gate 12, since a thin disk is actually locked by the portions 9^a against full entrance into the slot.

Fig. 8, shows a modification in which the free ends of the levers 3 and 4 are pointed or wedge-shaped, thereby forming operative portions 8^b and inoperative portions 9^b. This modification, like that shown in Fig. 6, does not require the use of the gate 12, for a thin disk will engage the inoperative portions 9^b and be wedged by them against the upper

or lower edge of the coin-entrance slot, thereby preventing full entrance of the disk into the slot. I have actually tried out this modification and I have found by numerous tests that the thin disk is invariably wedged by the inoperative portions 9^b against the upper or lower edge of the coin-slot, or diagonally across the coin-slot. A coin of proper thickness will engage the operative portions 8^b and force them aside.

It will be understood that while I have herein shown certain specific constructions to illustrate the principle of operation of my invention, I do not intend to be limited to the details herein set forth, as it is obvious that the broad idea of my invention, as set forth in the accompanying claims, may be mechanically embodied in other ways than those shown.

I am aware that pointed levers have heretofore been used to prevent disks of soft material (such as lead, paper and the like) from entering the coin-slot by impaling such disks upon the pointed ends of the levers. However, as far as I am aware, I am the first to invent a coin-gripping or arresting mechanism controlled by the thickness of the coin or a disk, and preventing hard disks of less than prescribed thickness from passing through the coin-entrance slot.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States, is:

1. In a coin-testing device, the combination of a coin-chute having a coin-entrance slot, a movable device for normally closing said coin-chute in proximity to said slot, a pair of movable members for actuating said device into open position, said members being adapted to be simultaneously operated by a proper coin entering said slot, the connections between said members and said device being such that the simultaneous operation of both members is necessary to move said device into open position, and means provided at the free ends of said members for preventing simultaneous operation thereof when a disk of less than prescribed thickness is inserted into the slot, whereby said disk is stopped by said device from fully entering said slot.

2. In a coin-testing device, the combination of a coin-chute having a coin-entrance slot, a hinged gate for normally closing said coin-chute near the slot, a pair of levers mounted independently of said gate and adapted to move the same into open position, said levers being adapted to be simultaneously operated by a proper disk as it enters said slot, coöperating means on said gate and said levers for compelling the simultaneous operation of said levers to open the gate, and means provided at the free ends of said levers for preventing simultaneous operation thereof when a disk of less than prescribed thickness is inserted into the slot, whereby said disk is stopped by said gate from fully entering said slot.

In witness whereof, I hereunto subscribe my name this 31 day of Aug., 1915.

ALBERT D. GROVER.

Witnesses:
M. A. LYONS,
F. E. LANG.

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