R. H. POLLOCK.
COIN SELECTING DEVICE.
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2 SHEETS—SHEET 1.

[Diagram of coin selecting device]

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To all whom it may concern:

Be it known that I, ROBERT H. POLLOCK, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Coin-Selecting Devices; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates broadly to coin selecting devices for vending machines, and more particularly to coin selecting devices which do not depend upon moving mechanisms for their selective features.

The principal object of this invention is a coin selecting device particularly adapted to be used in automatic pre-payment vending machines, and to be constructed in such a manner as to eliminate the possibility of becoming inoperative because of clogging of mechanical parts.

Another object of this invention is to provide a coin selecting mechanism wherein the selection of a proper coin is dependent upon the resilience of the material from which the coin is composed.

Another object of this invention is a coin selecting mechanism wherein the selection of a proper coin is dependent upon the rebound of a coin from the rebounding surface, the path of rebound being limited by barriers above and below the direction taken by a normal proper coin.

Another object of this invention is to construct a coin selecting mechanism wherein the selection of a coin is dependent upon the rebound of a coin from an elastic surface, and the path of the coin from the rebounding surface is determined by adjustable barriers definitely located with reference to the position of the rebounding surface.

A further object of this invention is to construct a coin selecting mechanism in which a coin drops a pre-determined distance by gravity and strikes an inclined elastic surface in such manner as to rebound into a proper receptacle, and improved tokens in the nature of coins being more or less resilient than a proper coin are directed into a selecting chute or receptacle by means of adjustable barriers located on either side of the path taken by a normal coin.

A still further object of this invention is to construct a coin selecting device wherein the coins may be dropped a pre-determined distance under the influence of gravity and strike a rebounding surface, from which the coin may rebound into a selective receptacle, the side walls of which receptacle are so arranged as to prevent a proper coin from rebounding out of said receptacle.

Other and further objects of this invention will in part be obvious and will in part be pointed out in the specification hereinafter following, by reference to the accompanying drawings in which like numerals are used to represent like parts throughout the several figures thereof.

Figure 1 is a view showing a vertical elevation of a coin selecting device with a portion of one side broken away;

Fig. 2 is an additional side elevation with the entire front plate removed;

Fig. 3 is a vertical transverse section on the plane of the line 3—3 of Fig. 2; and

Fig. 4 is a similar view on the plane designated by the line 4—4 of Fig. 1.

In vending machines which are adapted more particularly to be used by the public wherein the mechanism of the vending machine is rendered operative by the introduction of a coin through a coin slot, it becomes necessary that some type of selective mechanism be arranged in the coin chute in order to insure that only a proper coin will be introduced into the machine previous to the actuation of the vending mechanism. Many and complicated devices have been constructed for separating coins from iron washers, lead slugs, tokens, etc., the operation of which devices are dependent upon weight, thickness and magnetic properties of the material introduced into the machine to separate improper slugs, etc., from a proper coin in order to prevent fraud. In all mechanisms wherein the selection of a proper coin is dependent upon moving parts, there is great liability of the moving parts being clogged, and thus rendering the entire mechanism inoperative. The present invention seeks to obviate the difficulties of the hereinbefore specified mechanisms, by forming a positive selecting device in which the selection of a coin does not depend upon movable parts.

Referring more particularly to the drawings, a coin insert 1 is arranged above a casing 2, of any type of vending machine in which this particular device may be inserted,
and comprises a front plate 4 in which an opening 5 is formed, through which opening a coin may be inserted by the thumb and fingers and pressed against a back wall 6. Immediately as the finger pressure is released, the coin falls under the influence of gravity, down a chute 7, which chute is slightly greater in width and somewhat greater in depth than the width and thickness of a pre-determined coin. The chute 7 is formed between a front side plate 8 and a back side plate 9. The width of the chute 7 is determined by means of edge members 10 and 11. The front and back side plates may be attached to the edge members 10 and 11 by any convenient devices, but screws 12 are particularly adapted for this purpose. A resilient anvil member 14, preferably formed of hardened steel, is securely attached to the back side plate 9 by means of a through bolt or screw 15. The anvil member 14 is provided with a striking face 16, which is inclined toward selective chutes, which will be more specifically described hereinafter. A magnet 17, is adjustably mounted on the coin chute 7 by means of a pivot screw 18 and an adjusting screw 19, which is adapted to pass through an arc-shaped slot 20 that is formed in one bar of the magnet. The magnet 17 is preferably constructed with flat bar pole pieces 21 and 22, which pole pieces are connected together by means of an arched portion 24. The flat pole pieces permit the magnet to lie very close to the front side plate 8, and therefore permit the magnetic lines to be more or less concentrated beneath the magnet in such manner as to pass through and into the chute 7. The rotative adjustability of the magnet permits a range of adjustability wherein more or less of the magnetic lines may pass within the coin chute in a predetermined manner. Selective chutes 25 and 26 are arranged adjacent to and immediately beyond the anvil member on the side of the anvil member toward which its striking face is inclined. The selective chute 25, being the one nearest the anvil member, is adapted particularly to receive improper articles such as washers, lead slugs, tokens, etc., introduced by unscrupulous parties in attempting to defraud the device. The selective chute 26 is adapted to receive only proper coins. A lower adjustable barrier 27 is arranged between the selective chutes 25 and 26 in such manner that it may be vertically adjusted to predetermined definite positions. An upper adjustable barrier 28 is arranged above the path of a normal coin and depends in a downward direction between the anvil member and the lower adjustable barrier. The front side plate 8, is provided with slots 31, through which adjustment screws 32 are adapted to pass into the adjustable barriers 27 and 28. This construction of slots and screws permits the barriers to be moved in directions substantially that of their longitudinal axes, and to be securely bound in any predetermined position when the screws 32 are tightened. Adjacent each of the barriers 27 and 28, the front plate 8 is formed with a preferably curved slot 29, these slots extending transversely of said barriers at the ends thereof remote from the slots 31. Screws 30 pass through said slots 29 and through washer plates 30', and are threaded into the barriers, said washer plates contacting with the outer side of plate 8 and bridging the slots 29. By this arrangement the barriers may be swung laterally for further adjustment in addition to that afforded by the slots 31 and screws 32. The two parts of the barriers directed toward the path taken by a rebounding coin are preferably formed into knife edges in order to prevent an improper token from striking a flat rebounding edge and caroming over into the selective chute 26 which is intended to receive only proper coins. If an improper coin strikes the knife edge at all, it will be thrown backward upon its course, and fall into the selective chute 25, which is intended for improper tokens. The lower edge of the edge member 11 is also preferably formed knife-edged, and constitutes a stationary barrier which will contact with highly resilient substance, such as disks of glass, etc., to cause them to fall into the rejecting chute 25. A division wall 36 substantially separates the selective chutes 25 and 26. The outer edge of the wall 37 of the selective chute 26, is formed with a straight portion 38, which forms a rebounding wall to reflect a proper coin of more than usual resilience into the proper selective chute 25. The outer wall 37, immediately adjacent the straight portion 38, is curved as at 39, in order to further direct a proper coin downwardly back of the adjustable barrier 27, and into the chute 26. An opening 40 is left in the outer wall 37 in order to permit the introduction of a trip lever of any nature whatsoever, which may be struck by a proper coin in order to release the mechanism to permit actuation of the vending device, or a portion of a bell may be introduced through the opening 40 to sound a signal such as is particularly adapted for pay station telephone work.

The operation of the device is as follows: Presuming that a proper coin is introduced through the opening 5, the nature of the opening is such as prevents the coin from being thrown down by the finger, but permits the coin to drop only under the influence of gravity, therefore it will drop with a substantially predetermined momentum and will contact with the striking face 16 of the anvil member 14 with a definite predetermined impact. Immediately after con-
tact, the coin will rebound in a direction substantially that indicated by line 41, and will pass under the upper barrier 27 and over the lower barrier 28 into the proper selective coin chute 26. If a magnetic material such as a washer, be introduced through the opening 5, its acceleration due to gravity, will be retarded, because of the magnetic lines from the magnet 17, and it will strike the anvil member with a force that is not sufficient to cause it to rebound enough to clear the lower barrier 27, therefore, its path will be substantially that indicated by line 42. A lead slug or non-resilient material, will not rebound to any substantial height, and will take a parabola similar to that indicated by line 44. A very resilient material which is not magnetic, such as glass, pounded brass or copper, will rebound higher than a normal coin and will strike the upper barrier 28 and thus be thrown back into the rejecting chute 23 on a path substantially that indicated by line 45. The adjustability of the barriers 27 and 28 permits this particular selecting device to be properly adjusted for a definite coin and also permits a range of adjustment by means of which a single coin chute may be set in a predetermined manner to take any one of predetermined coins.

As many changes could be made in the above described structure and many different embodiments of this invention could be made without departing from the scope thereof, the definite matter contained in the above description and shown in the accompanying drawings is to be taken as illustrative and not in its limiting sense. I desire it also to be understood that the language used in the claims is intended to cover all generic and specific features of this invention herein described, and all statements of the scope of the invention which as a matter of language might fall therebetween.

I claim:
1. The combination of a coin inlet chute, an anvil below said chute from which proper coins are adapted to rebound to a predetermined path, and from which slugs and improper coins are adapted to rebound to a greater or less extent, a pair of guideways to respectively receive proper coins and slugs or improper coins, vertically elongated barriers above and below the path of the proper coins, and means for adjusting said barriers vertically and horizontally.

2. The combination of a coin inlet chute, an anvil below said chute from which proper coins are adapted to rebound to a predetermined path, and from which slugs and improper coins are adapted to rebound to a greater or less extent, a pair of guideways to respectively receive proper coins and slugs or improper coins, vertically elongated barriers above and below the path of the proper coins, a fixed vertical plate with which said barriers contact, said plate having substantially vertical slots adjacent one end of said barriers and wide substantially horizontal slots adjacent the other ends thereof, fasteners passing through said slots and engaged with said barriers and washer plates through which certain of said fasteners pass, said washer plates bridging said substantially horizontal slots.

3. A device of the character described including a coin run-way comprising an upper and a lower portion; said upper portion being provided with a coin chute, a rebounding anvil located beneath said coin chute, an adjustable barrier arranged above said anvil; the lower portion comprising an exit chute for improper disks arranged adjacent said anvil, a guiding chute for proper coins, and an adjustable barrier between the exit chute for improper disks and the guiding chute for proper coins.

4. A device of the character described including a coin run-way, said coin run-way comprising upper and lower portions; said upper portion including a coin chute of a predetermined length; a coin insert arranged over said coin chute, said coin insert comprising a covered top, a front wall, a rear wall, said front wall being provided with an opening substantially the diameter of a predetermined coin; a rebounding anvil at the bottom of said run-way including an exit chute for improper disks, a guiding chute for proper coins, and an adjustable barrier between said chutes for improper disks and said guiding chute for proper coins.

5. A device of the character described including a coin run-way comprising upper and lower portions; the upper portion of said coin run-way being provided with a coin chute of a predetermined length, a rebounding anvil located substantially at the bottom of said coin chute, a magnet member adjustable mounted over said coin chute in such manner as to be adjustable to vary the amount of magnetic force passing into said coin chute; the lower portion of said run-way being provided with an exit chute for improper disks, a guiding chute for proper coins, and an adjustable barrier between said guiding and exit chutes.

6. A device of the character described including a coin run-way, said coin run-way being provided with a coin chute, a magnet member mounted upon one wall of said coin chute and adjustable transversely thereof to vary the amount of magnetic force which passes through said insert chute, a rebounding anvil, an exit chute for improper disks, a guiding chute for proper coins, and barrier means located between said exit chute and said guiding chute.
7. A device of the character described including a coin run-way, said coin run-way being provided with an insert chute, a coin insert, said coin insert being formed with a solid top, one side of said coin insert being provided with an opening, a magnet having flat pole pieces adjustably mounted over said insert chute, a rebounding anvil at the bottom of said insert chute, an exit chute for improper disks, a guiding chute for proper coins, and barrier means between said exit and said guiding chutes.

8. A device of the character described including a coin run-way, said coin run-way comprising an insert coin chute of a definite predetermined length, a rebounding anvil located beneath said insert coin chute, an adjustable barrier arranged above said anvil, an exit chute for improper disks, a guiding chute for proper coins, an adjustable barrier between the exit chute for improper disks and the guiding chute for proper coins, and the outer wall of said guiding chute comprising a downwardly inclined rebounding face.

9. A device of the character described including an insert chute, a coin insert arranged above said chute, a rebounding anvil having an inclined face arranged at the bottom of said insert chute, an adjustable barrier above the path taken by a normal coin in rebounding from said rebounding anvil, an adjustable barrier below said path, said barriers being formed with knife edges directed toward said path, and a guiding chute for proper coins.

10. In a device of the character described, the combination of an insert chute, an anvil mounted at the bottom of said insert chute, barrier members arranged above said anvil, said barrier members being provided with downwardly projecting knife edges, a guiding chute for proper coins, a barrier member between a portion of said guiding chute and said anvil member, the outer wall of said guiding chute being inclined above said last mentioned barrier to form a rebounding surface for resilient coins.

11. A device of the character described including a coin run-way, said coin run-way comprising upper and lower portions; said upper portion including a coin chute of a predetermined length, a coin insert arranged over said coin chute, said coin insert comprising a covered top, a front wall, a rear wall, said front wall being provided with an opening substantially the diameter of a predetermined coin; a rebounding anvil at the bottom of said coin chute; an adjustable magnet having one pole pivotally mounted over said coin chute; the lower portion of said run-way including an exit chute for improper disks, a guiding chute for proper coins, and an adjustable barrier between said chute for improper disks and said guiding chute for proper coins.

12. A device of the character described including a coin chute of a predetermined length, a rebounding anvil located in the path of a coin which passes through said coin chute under the influence of gravity, said rebounding anvil being provided with an inclined striking face, adjustable barriers adjacent said rebounding anvil and on the side of said anvil toward which its striking face is downwardly inclined, said adjustable barriers being spaced apart in a vertical direction, and said barriers being provided with knife edges, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ROBERT H. POLLOCK.

Witnesses:

GEORGE F. MILLER,
MARGARET M. CHRYSTAL.