June 5, 1951 L. J. ANDRES 2,555,669

SLUG REJECTOR SCAVENGER FOR MAGNETIC COIN TESTERS

Filed May 14, 1949

FIG. 1.

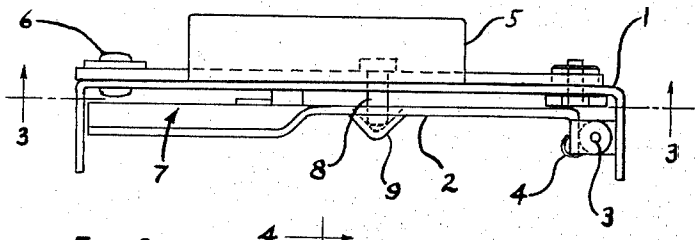


FIG. 2.

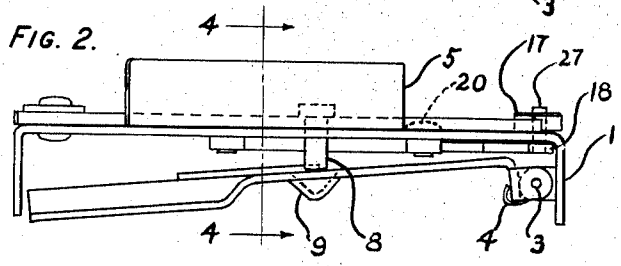


FIG. 4.

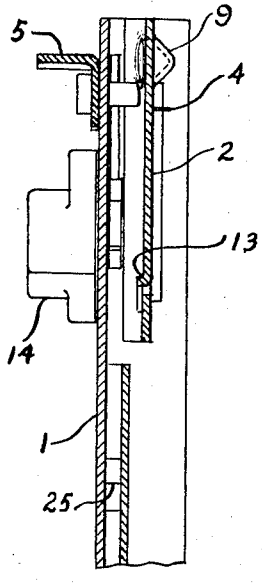
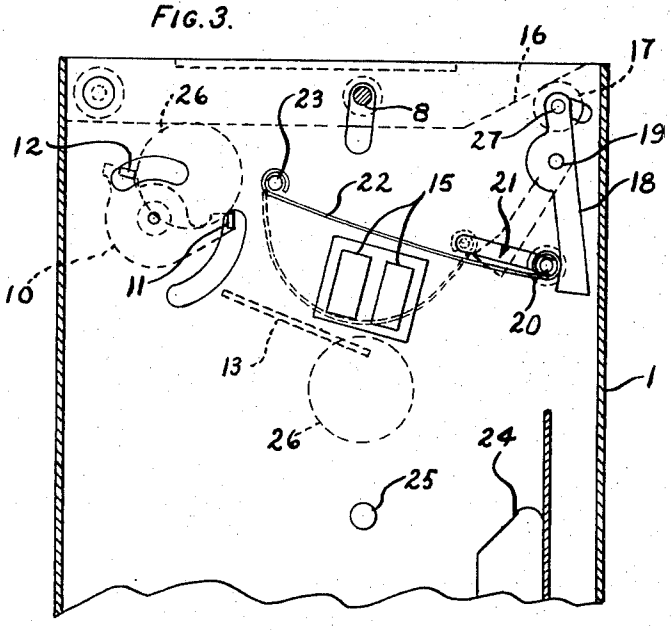


FIG. 3.



INVENTOR.

Lloyd J. Andres

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SLUG REJECTOR SCAVENGER FOR MAGNETIC COIN TESTERS

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3 Claims. (Cl. 194—101)

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This invention relates in general to coin separating apparatus and more particularly to a device for separating spurious magnetic coins from acceptable coins.

In conventional type slug rejectors a permanent magnet is usually employed to provide a concentrated magnetic field for testing the conductivity of a coin passing therethrough by reducing its velocity in accordance with its conductivity.

The purpose of this invention is the provision of means for releasing non-acceptable para-magnetic coins which have retained against the face of the magnet. Previous to this invention a pivotally mounted lever was positioned for movement over the face of the magnet to dislodge coins retained thereto. This pivotal type of arm has many objections which are overcome by the use of a spring adapted to bend in a manner to release the coin and simultaneously block the entry of other coins until it has assumed its normal operating position and comprises a principal object of the invention.

A further object of the invention is the provision of a spring member normally positioned above a coin runway and capable of being bowed into downward arcuate shape when operated by lever means and retaining therein energy to return itself and all related parts to normal position when released.

These and other objects of the invention will be apparent in one embodiment shown and described in the appended drawing and specification.

Fig. 1 is a plan view of a slug rejector containing a spring scavenger means.

Fig. 2 is the same as Fig. 1 in changed position.

Fig. 3 is a fragmentary cross-sectional elevation view of the device taken through section line 3—3, Fig. 1.

Fig. 4 is a fragmentary end elevation view taken through section line 4—4 Fig. 2.

Fig. 1 shows a plan view of the slug rejector comprising a frame 1 and a gate 2, which gate is pivoted to frame 1 by a hinge pin 3. A spring 4 surrounding pin 3 is adapted to coact between gate 2 and frame 1 to normally urge the gate into closed position as shown. A scavenger lever 5 is pivotally secured at one end to frame 1 by pin 6 and a coin entry 7 formed by the frame 1 and the gate 2 leads to a testing passageway, to be hereinafter described, between the inner surfaces of the frame 1 and the gate 2.

A stud 8 secured in lever 5 extends through a clearance aperture in frame 1 and normally projects into a conical cavity 9 formed in the gate as shown.

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Referring to Fig. 2, when the lever 5 is manually moved downward the stud 8 will cam against the inner surface of the conical cavity 9 and pivot the gate about pin 3 outward from the frame against the restraining action of spring 4 as shown.

Referring to Figs. 3 and 4 a conventional cradle member 10 counterweighted and pivotally positioned to frame 1 has a pair of projections 11 and 12 extending through suitable apertures in frame 1 into the path of a coin descending in entry 7. Gate 2 is provided with a sloping runway 13 along which coins are intended to descend downwardly for testing after displacement by the cradle member 10.

A permanent magnet 14 secured in the frame 1 has a pair of poles 15 positioned flush with the inner surface of the frame 1 and above runway 13. The end 16 of the scavenger lever opposite its pivoted end is formed obliquely as shown in order to coact with a roller 17 journalled on a pin 27 the end of a lever 18, which lever is pivotally mounted to the frame 1 about a stud 19. A flat scavenger spring 22 is pivotally secured at one end about a stud 23 secured in the frame 1. The opposite end of the spring 22 is pivotally secured to a flanged pin 20 slidably secured in an aperture 21 in the frame 1. The spring 22 in normal position is slightly bowed and provides the upper surface of the coin testing passageway and because of its strategic placement coins having diameter larger than that of an acceptable coin delivered by the cradle will be prevented from moving downward along the runway 13. The lower end of lever 18 is adapted to engage the loop of the spring 22 surrounding pin 20 when operated.

It is well known that acceptable coins in descending downward on runway 13 will be retarded sufficiently by the magnetic field provided by poles 15 to impinge upon anvil 24 and thence rebound over abutment 25 for acceptance. Other non-acceptable coins will be retarded sufficiently to descend between anvil 24 and abutment 25 and thence be rejected.

In operation and assuming that a coin of proper dimensions but having para-magnetic properties is deposited in entry 7 it will impinge upon the cradle member projections 11 and 12 and be transferred thereby to further descend along runway 13 to a position adjacent the magnet poles 15 where it will be retained thereto. In order to remove the suspended coin for the

further operation of the device the scavenger lever 5 is moved downward whereupon two functions will occur substantially simultaneously: the stud 8 will cam the gate 2 outward from the frame, and the oblique end 16 of lever 5 will cam against roller 17 and move lever 18 clockwise about its stud 19.

The downward end of the lever 18 which normally rests in engagement against the end of spring 22 will slide pin 20 along its aperture 21 and bow spring 22 into position shown by dotted lines. This movement of the spring 22 will dislodge a coin represented by dotted figure 26 from the magnet where it will descend by gravity to a rejection passageway not shown.

The initial movement of lever 5 will by means of stud 8 cam the gate 2 outward from the frame in order to move runway 13 from under the suspended coin and thus provide a path for the escape of the coin when displaced by spring 22.

When the lever 5 is released the energy stored in spring 22 will reverse the motion of all parts previously described and return them to their initial positions.

Having described my invention I claim:

1. In a coin separator a frame, a gate member pivotally secured to said frame including spring means for normally urging said gate in proximity with said frame forming a coin testing passageway therebetween, a sloping runway integral with said gate for normally conducting coins in a predetermined path, a permanent magnet in said frame positioned adjacent said path, an elongated spring member normally positioned substantially parallel with said runway and above said magnet and said path pivotally secured at one end to said frame, the opposite end of said spring member secured to a movable support means, said support means retained in said frame and adapted for movement to bow said spring member downward across said magnet, lever means secured to said frame and adapted to coact with said gate member and one end of said spring member whereby the movement of said lever means will concurrently move said gate member outward from said frame to displace said runway from said path and bow said spring member downward across the outer surface of said magnet to remove from said magnet any paramagnetic article retained thereby.

2. In a scavenger means for a slug projector comprising a frame, means in said frame forming a coin testing path, a runway member pivotally secured to said frame for conducting coins along said path, said runway member normally urged by spring means in proximity with said frame, an elongated spring member pivotally mounted at both ends in said frame and normally positioned above said path and substantially parallel to said runway member, lever means secured in said frame articulated with one end of said spring member and said runway member whereby the movement of said lever means against the action of said spring means will concurrently displace said runway member outward from said path and bow said spring member downward across said path to remove any debris or article retained therein and upon the release of said lever means said spring means will return said lever and runway member to their normal positions and permit said spring member to return to its said normal position.

3. In a coin separator a scavenger means comprising a frame, means in said frame forming a coin testing path, a gate pivotally secured to said frame, said gate normally urged by spring means a predetermined spaced relation with said frame, a sloping runway secured to said gate for conducting coins in a predetermined path in said passageway, a permanent magnet positioned in said frame adjacent said path, an elongated spring member pivotally secured in said frame substantially parallel with said runway and above said path, lever means pivoted to said frame and adapted to coact with one end of said spring member and said gate when the said lever is moved whereby the movement of said lever means will concurrently bow said spring member downward across the said path and swing said gate and runway outward from said frame to scavenge coins or other articles from said passageway.

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No references cited.