

March 17, 1936.

F. C. DU GRENIER
COIN TESTING MECHANISM

2,033,930

Filed April 27, 1935

2 Sheets-Sheet 1

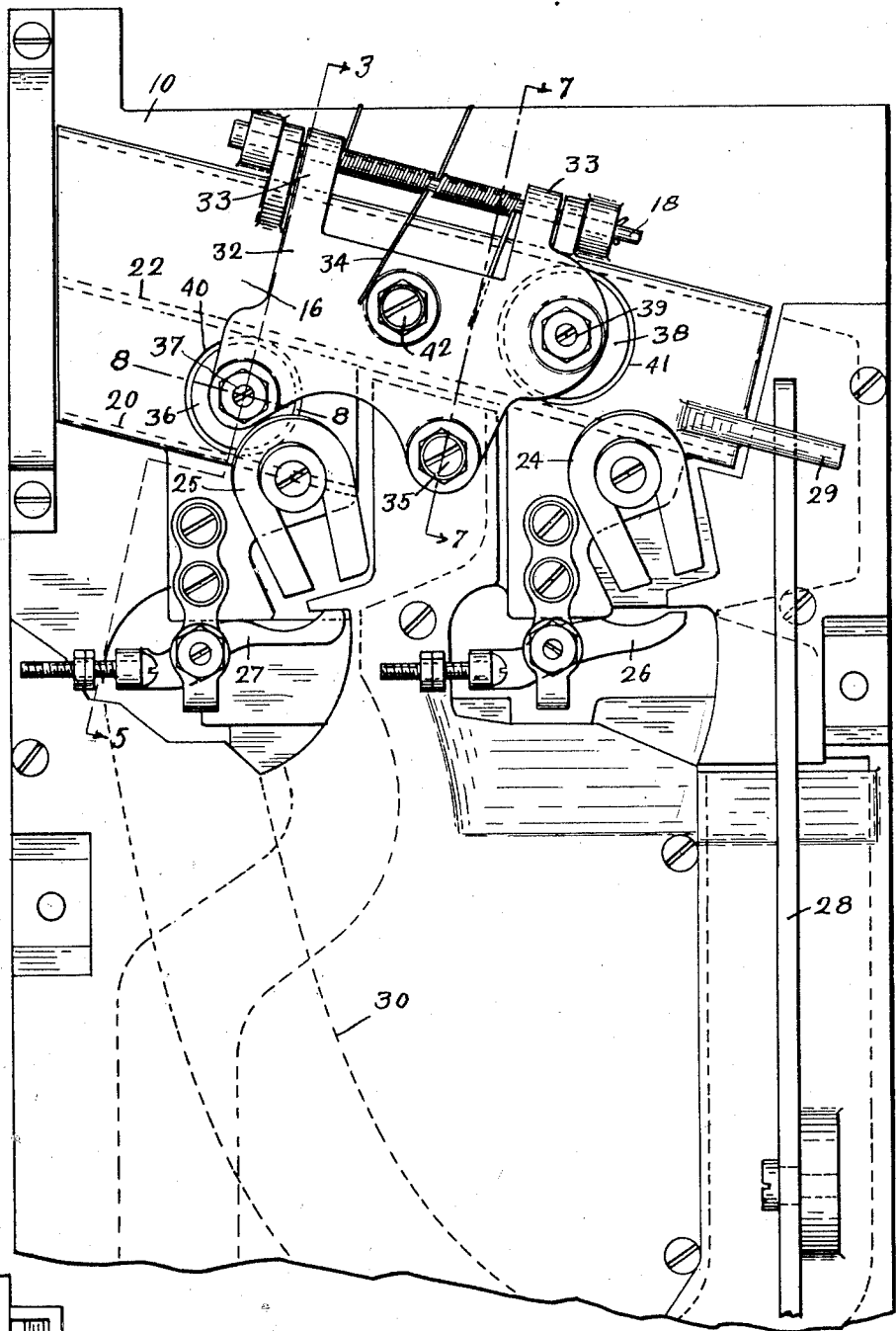


Fig. 1.

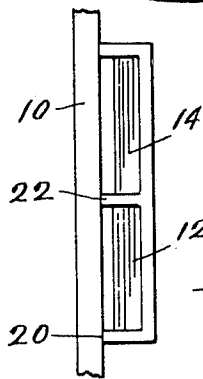


Fig. 2.

Inventor.
Francis Cadulmir,
by L. H. Minneman,
Atty.

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F. C. DU GRENIER

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2 Sheets-Sheet 2

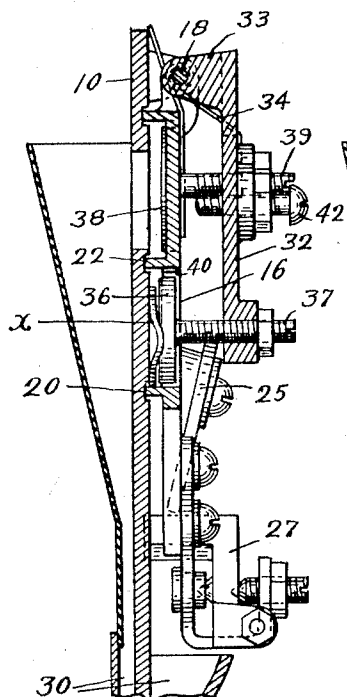


Fig. 3.

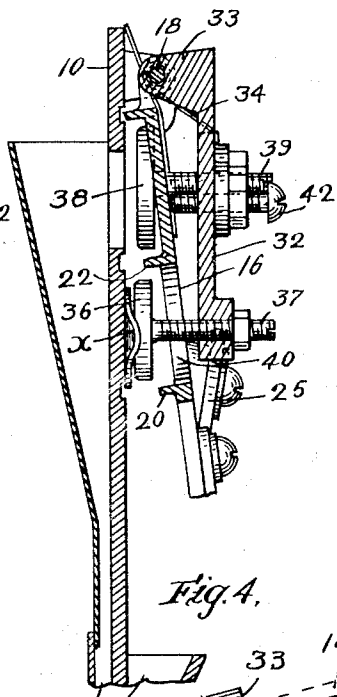


Fig. 4.

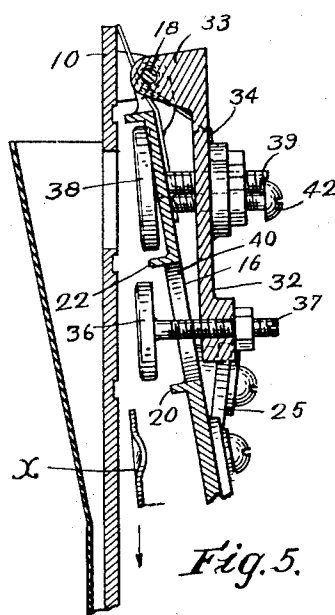


Fig. 5.

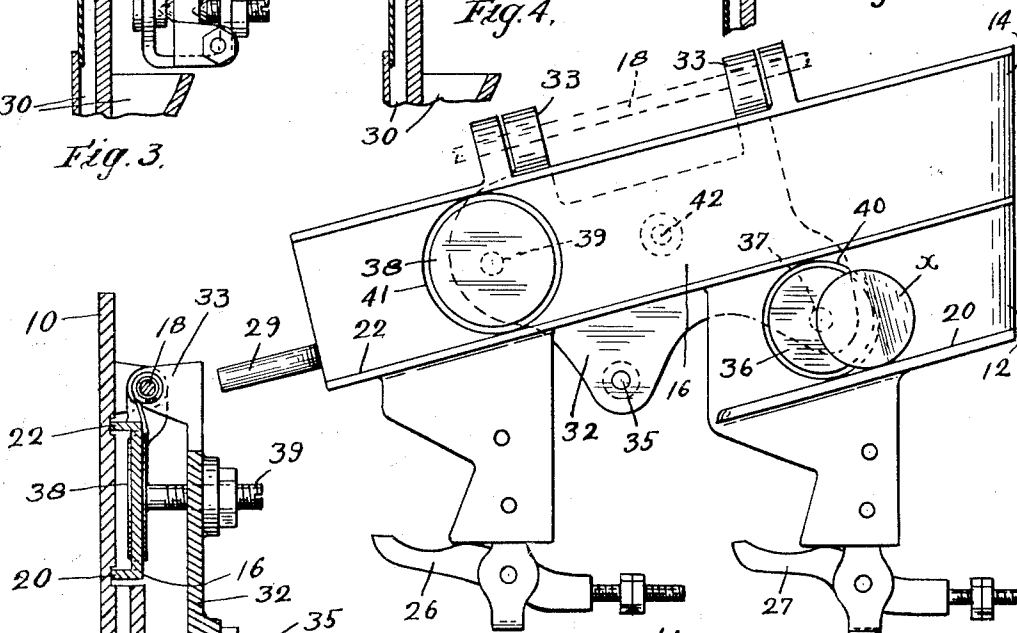


Fig. 6.

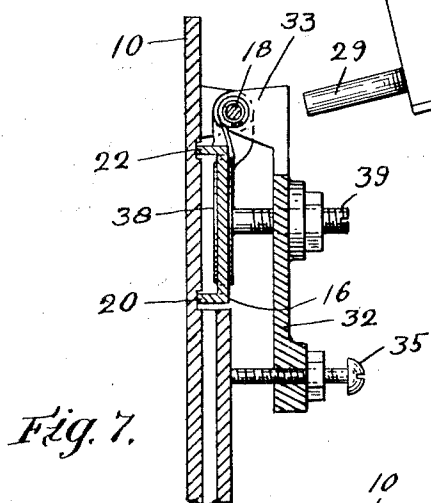


Fig. 7.

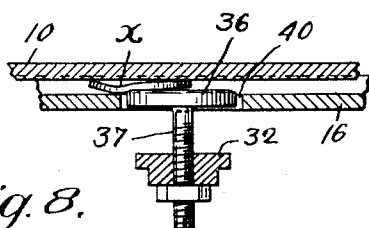


Fig. 8.

Inventor.
Francis C. Du Grenier,
by L. H. Hamman
Atty.

UNITED STATES PATENT OFFICE

2,033,930

COIN TESTING MECHANISM

Francis C. Du Grenier, Haverhill, Mass.

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4 Claims. (Cl. 194—97)

This invention relates to mechanism employed in coin controlled vending machines, which are designed to intercept and return defective coins or slugs and more particularly coins which have been bent, so that they do not have flat sides, but which are otherwise substantially perfect, so that the ordinary tests as to weight, diameter and magnetism do not effect the rejection and return of the coin.

A type of coin testing and intercepting means which is in very general use consists of a hinged plate which forms one side of a portion of the coin passage, usually close to the coin entrance slot, said plate and the adjacent fixed side wall having means for testing each check which is inserted as to its dimensions, weight and magnetism, and for intercepting those which do not come up to standard. Checks which are intercepted and retained by said means are then dislodged by an initial movement of the dispensing operating mechanism, the hinged plate being swung outward from the fixed side of the coin passage, so that the intercepted checks will fall into a coin-return passage and be restored, said plate being generally known as the "scavenger", as by its movement it is supposed to free the machine of all defective checks and cause them to be restored.

While a coin which is bent, but is otherwise perfect, may be intercepted by the devices above referred to, in many instances it will be released by a slight initial movement of the scavenger, so that the coin, instead of falling into the coin restoring passage, will roll along on the coin supporting shelf of the scavenger and pass into the coin passages which lead to the releasing means and in which a bent coin is liable to become lodged, so that various parts of the machine have to be removed before it can be dislodged.

The insertion of bent coins is usually for malicious purposes by competitors and has become a source of trouble and annoyance, as it not only puts the machine out of commission for a time, but often necessitates the services of a skilled repair man or the return of the machine to the factory for readjustment.

The objects of my invention are to provide the scavenger above referred to with means which will not only insure the interception of all bent or laterally distorted coins, but will also prevent the same from passing into the coin passages beyond and will cause them to be delivered to the coin restoring passage.

I accomplish these objects by providing the scavenger plate with an auxiliary coin intercept-

ing device which acts to hold the coin in intercepting position during an initial portion of the restoring movement of the plate, so that when the coin is finally released it will fall into the coin restoring passage and will be prevented from entering the passages into which the coins are normally delivered.

For a more complete disclosure of my invention, reference is now made to the following specification in connection with the accompanying drawings in which:

Fig. 1 is a side elevation of a coin testing and intercepting mechanism, including the scavenger plate, in connection with which an embodiment of my invention is incorporated.

Fig. 2 is a front view of the coin passages.

Figs. 3, 4 and 5 are sectional views at line 3—5 of Fig. 1.

Fig. 6 is a detail view of the inner side of the scavenger plate.

Fig. 7 is a detail sectional view at line 7—7 of Fig. 1 and

Fig. 8 is a detail sectional view at line 8—8 of Fig. 1.

In the drawings only those parts are shown which are directly associated with the particular improvement to which the present invention relates.

As a matter of convenience all parts are mounted on a vertical partition 10, and in the present instance two coin passages 12 and 14, one for a dime and another for a nickel, are provided at one side of said partition, the entrance thereto being indicated in Fig. 2.

A scavenger plate 16 is suspended on a pivot 18, supported on partition 10, and forms one side of a portion of both of said passages, said plate having a pair of approximately parallel ledges or shelves 20, 22, which are slightly inclined downward from the coin entrance and down which the dime and nickel, respectively, normally roll and from which they are discharged into the passages which conduct them to other points in the apparatus. These passages are restricted in height so that checks of greater diameter than the standard diameter will be intercepted and magnets 24, 25, and weight testers 26, 27 are also mounted on the plate 16, so that magnetic and under weight checks will be intercepted thereby. A lever 28 is arranged to engage an arm 29 on the plate 16, so that each time the machine is operated to deliver an article, the plate will be swung from the position of Fig. 3 to the position of Fig. 5, so that any check which has been intercepted will be dumped into a coin restoring pas-

sage 30, which opens directly beneath the ledges 20, 22, the parts above described all being well known in the art.

According to my invention an auxiliary plate 32 is suspended on the pivot 18 at the outside of the scavenger plate 16, said pivot passing through lugs 33, which extend at right angles from plate 32, so that it may be held in parallel relation to plate 16, at a distance therefrom, in which position it is normally held by a spring 34, which holds a stop screw 35 in plate 32 in engagement with partition 10, as shown in Fig. 7.

I further provide a pair of flat circular disks 36, 38, which are mounted on the ends of stems 37, 39, each of which have a screw thread connection with plate 32 and pass through openings 40, 41, in the plate 16, said disks 36, 38 being thereby supported close to and directly over the ledges 20, 22, respectively, and at a distance from the fixed sides of the coin passages corresponding to the thickness of the dime and nickel respectively, so that when a perfectly flat coin rolls down on the ledge 20 or 22 of the passage designed to receive it, it will pass between the disk 36 or 38 and the fixed side of the passage and will not be intercepted, but if the coin has been bent or laterally distorted, it will be intercepted by the disk 36 or 38, as the passage is too narrow at this point to permit it to pass, as indicated in Figs. 3 and 8, in which a bent coin X is shown as lodged between the disk 36 and the fixed side of the passage. The coin will at this time be supported on the ledge 20 and, if the disk 36 were moved away from the partition 10 to a slight extent, the coin would be likely to roll down on the ledge and enter the passage beneath, with the result that the machine would be clogged. This difficulty is avoided by providing an abutment screw 42 in the plate 32 which is arranged to be engaged by the plate 16 when the latter has been swung outward to a sufficient extent to withdraw the ledges 20, 22 from beneath a coin which has been intercepted by the disk 36 or 38, so that, during the initial portion of the outward swinging movement of the plate 16, the plate 32 will be held in its normal position by the spring 34, and as it is possible that the bent coin may be sustained by the disk even after the ledge 20 has been withdrawn from beneath it, the side of the plate 16 is then engaged with the end of the abutment screw 42, so that, on the further movement of plate 16, plate 32 will be swung away from the fixed side of the coin passage, and, as the coin will no longer be supported by the ledge 20, it will fall into the coin returning passage 30, as shown in Fig. 5.

In making the necessary adjustments, the screw 35 is first adjusted so that the inner faces of the disks 36, 38 are parallel to the fixed sides of the coin passages and then the disks are adjusted to a position in which the spaces between their inner sides and the fixed side of the coin passage is just sufficient to permit the coins to pass therebetween and then the screw 42 is adjusted to a position in which it will not be engaged by plate 16 until the ledges 20, 22 have been withdrawn from beneath the coins which may have been intercepted by the disks 36, 38.

With the above described arrangement all bent

coins which might clog the machine will thus be intercepted and restored before they can pass to the point where this action might result.

I claim:

1. In a coin controlled mechanism having a coin-receiving and a coin-restoring passage, coin testing means arranged to conduct the coins in said receiving passage over the entrance to said restoring passage, an auxiliary device arranged to restrict the width of said receiving passage to permit a perfect coin to pass the same and to intercept a laterally distorted coin of the same denomination, and means for moving said coin testing means out of position to obstruct the entrance to said restoring passage while said auxiliary device is held in its intercepting position.

2. In a coin controlled mechanism having coin-receiving and restoring passages, a scavenger plate forming one side and the bottom of said receiving passage and having coin-testing and intercepting means cooperating therewith, means for moving said plate to deliver intercepted coins to said restoring passage, an auxiliary device arranged at one side of said receiving passage to permit a perfect coin of a predetermined denomination to pass the same and to intercept a bent or laterally distorted coin of the same denomination and means for moving said auxiliary device to release an intercepted coin after said plate has been moved to a coin restoring position.

3. In a coin controlled mechanism having coin-receiving and restoring passages, a scavenger plate forming one side of said receiving passage and a bottom on which the coins roll downward, an auxiliary plate having a flat side arranged to form one side of a portion of said receiving passage, and spaced from the opposite side thereof to permit a perfect coin of a predetermined denomination to pass therebetween and to intercept a laterally distorted coin of the same denomination and means to move said scavenger plate to withdraw the bottom portion of the passage from beneath a coin intercepted by said auxiliary plate and thereafter to move the latter to release the coin and permit its discharge into said restoring passage.

4. In a coin controlled mechanism having coin-receiving and restoring passages, a scavenger plate forming one side of said receiving passage and having a projecting ledge forming the bottom thereof down which the coins normally roll, an auxiliary plate disposed directly above said ledge and having a flat face forming a portion of one side of said receiving passage and extending approximately from top to bottom thereof, means for adjusting said auxiliary plate to a position in which its face is parallel to the opposite side of the passage, and spaced therefrom to permit a perfect coin of predetermined denomination to pass therebetween and to intercept a laterally distorted coin of the same denomination, and means to move said scavenger plate to withdraw its ledge from beneath a coin intercepted by said auxiliary plate and then to move said auxiliary plate to release an intercepted coin and permit discharge thereof into said restoring passage.

FRANCIS C. DU GRENIER.