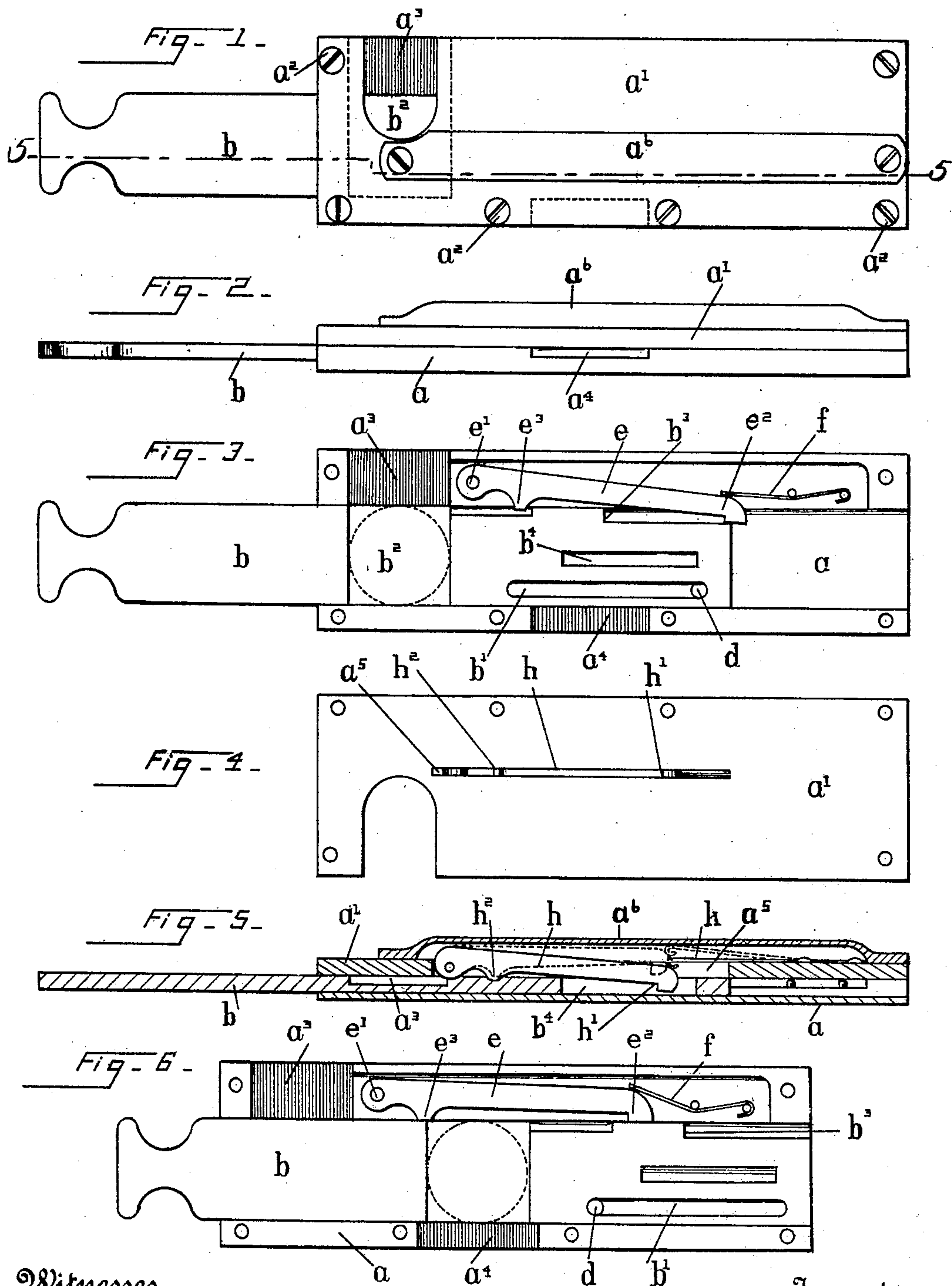


No. 832,126.

PATENTED OCT. 2, 1906.

A. N. HAUVER.  
COIN DETECTOR.

APPLICATION FILED JAN. 2, 1904. RENEWED MAY 23, 1906.



Witnesses  
Frank S. Seivore  
May F. Ritchie

Inventor  
Alfred N. Hauver,

by Frank H. Allen  
Attorneys



# UNITED STATES PATENT OFFICE.

ALFRED N. HAUVER, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-THIRD TO ALEXANDER CRAWFORD, OF BOSTON, MASSACHUSETTS.

## COIN-DETECTOR.

No. 832,126.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed January 2, 1904. Renewed May 23, 1906. Serial No. 318,432.

*To all whom it may concern:*

Be it known that I, ALFRED N. HAUVER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Coin-Detectors, of which the following is a specification.

The immediate object of this invention is to provide a simple, cheap, and effective mechanical device for measuring coins and the like disks of standard sizes, my said device being particularly valuable for use with so-called "slot-machines" for detecting and rejecting spurious coins, as well as disks of metal approximating the size of genuine coins.

Briefly described, my invention consists of simple yet extremely sensitive means for gaging both the diameter and thickness of all coins deposited in the said device.

In order to explain my invention clearly, I have provided the accompanying sheet of drawings, in which—

Figure 1 is a plan view of a complete coin-detector embodying my improvements, and Fig. 2 is an edge view of the same. Fig. 3 is a plan view of the lower or main plate of my detector with the several operative parts mounted therein, the slidable bar  $b$ , in which the coins are first deposited, being shown in its normal or open position—that is to say, in position to receive the coin to be gaged. In Fig. 4 I have shown the top plate  $a'$  removed from the main plate and reversed, so as to expose its inner face. Fig. 5 is a longitudinal sectional view of the complete device, taken on the line 5 5 of Fig. 1. Fig. 6 is a view similar to Fig. 3, showing the operative parts in position for discharging a tested coin.

Referring to these drawings, the letter  $a$  indicates the principal or body member of my device, the same being grooved longitudinally to receive a bar  $b$ , that is slidably mounted in said body and is held therein by a cap or top plate  $a'$ , that is secured to the said body by screws  $a^2$ , as here illustrated, or by any other suitable means. This top plate  $a'$  is formed with a longitudinal slot  $a^3$ , above which is mounted a supplemental plate  $a^4$ .

Bar  $b$  is slotted, as at  $b'$ , and within said slot is a stud  $d$ , that is fixed in the body-plate  $a$ , and thus serves as a stop to limit the end-

wise movement of the bar  $b$  in either direction. The side wall of plate  $a$  is cut away, as at  $a^3$ , to allow the passage of a coin into a pocket  $b^2$  in the slidable bar  $b$ , and the opposite side wall of the body-plate  $a$  is cut away, as at  $a^4$ , to allow the egress of a tested coin. When the bar  $b$  is slid in one direction, its pocket  $b^2$  registers with the described opening  $a^3$ , (see Fig. 3,) and when the said bar is slid in the opposite direction as far as it can go the said pocket registers with the discharge-opening  $a^4$ , (see Fig. 5,) and it will now be understood that during the operation of gaging and testing a coin the said coin is carried from the receiving-opening  $a^3$  to a position coincident with the discharge-opening  $a^4$ . During this passage of the coin through the device it is gaged both as to its diameter and thickness, as I will now proceed to describe in detail.

Pivoted at  $e'$  in the upper side wall of the body-plate is a lever-arm  $e$ , whose free end is formed with a hook or right-angular bend  $e^2$ , that is adapted to engage an offset  $b^3$  in the bar  $b$ , and thus limit the endwise movement of said bar and prevent the pocket  $b^2$  from passing into coincidence with the discharge-opening  $a^4$ . A spring  $f$ , engaging the free end portion of lever  $e$ , acts with a constant tendency to hold the angular end of said bar in engagement with the edge of bar  $b$ . Arm  $e$  is provided near its pivotal support with a projection  $e^3$ , that normally lies in the path of a coin carried by the pocket  $b^2$ . As the said coin is carried forward by the bar  $b$  the edge of the coin engages the projection  $e^3$  and forcibly rocks the bar  $e$  on its pivot, thus moving the hook  $e^2$  out of operative engagement with the offset  $b^3$  and permitting the pocket  $b^2$  to be moved sufficiently to register with the discharge-opening. If, however, an undersize coin or disk is dropped into the detector and is moved forward into engagement with the lever projection  $e^3$ , the said lever will not be moved sufficiently to carry its hook  $e^2$  completely out of engagement with the offset  $b^3$ , and it will then be impossible to slide the bar inward sufficiently to bring the pocket  $b^2$  and discharge-opening  $a^4$  into register with each other. Thus it will be seen that a coin or disk that is even slightly less in diameter than the standard coin will be detected and cannot pass through the apparatus.

Having described the means employed for



gaging the diameter of a coin, I will proceed to describe the means which I provide for testing the thickness of said coin.

Pivotally mounted in the top plate  $a'$  and arranged in said slot is a lever-arm  $h$ , whose free end portion is formed with an angular hook  $h'$ , that projects from said slot and lies normally in a groove  $b^4$  in the slidable bar  $b$  and is adapted to abut the end wall of said groove  $b^4$ , and thus limit the inward movement of said bar during the testing operation. Lever  $h$  is formed with a projection  $h^2$ , that lies normally in the path of the coin during the passage of said coin through the detector. A spring  $k$  serves to hold the lever  $h$  in its said normal position. If a coin of standard thickness be deposited in pocket  $b^2$  and passed through the detector, the projection  $h^2$  will be engaged by the upper face of said coin and the free end of lever  $h$  will be raised into said slot  $a^5$  and the space provided by said supplemental plate  $a^6$  sufficiently to lift the hook  $h'$  out of operative engagement with the end wall of groove  $b^4$ , when the pocket  $b^2$  may be moved into register with the discharge-opening  $a^4$ ; but if a coin whose thickness is even slightly less than the standard is introduced into the apparatus it will not move the projection  $h^2$  a sufficient distance to lift the hook  $h'$  out of the groove  $b^4$ , and obviously it will be impossible to slide the bar  $b$  forward far enough to permit the coin to pass from pocket  $b^2$  outward through the discharge-opening.

The projections on levers  $e$  and  $h$  are preferably so located that the thickness and diameter of the coin are gaged simultaneously, and failure on the part of either to measure up to the standard will prevent the passage of the coin through the apparatus.

While my described device is particularly valuable for use with slot-machines, it is also valuable for use in testing the thickness and diameter of gold and silver coins, and in thus detecting coins that are badly worn and are consequently under weight and of reduced value.

Having thus described my invention, I claim—

1. The herein-described coin-detector, comprising a housing having a coin-inlet and a coin-outlet at different places in its length and at opposite sides, a bar reciprocatorily mounted in said housing and provided with a coin-pocket, said bar having one of its edges formed with an offset and its side formed with a groove, said offset and groove being located rearward of said pocket, a lever extending lengthwise adjacent to the edge of

said bar and having its forward end pivoted to said housing in advance of said offset and its rear end arranged rearward of said offset and provided with a hook to engage the latter before said pocket has reached the coin-outlet, said lever having between its ends a projection adapted to be engaged by the edge of a coin of predetermined diameter so as to cause said hook to be elevated out of the path of said offset, and a second lever extending longitudinally along the side of said bar and having its rear end provided with a hook normally projecting into the groove in the side of said bar, said second lever having its forward end pivoted in said housing in advance of said groove and provided between its ends with a projection arranged to be engaged by the side of a coin of predetermined thickness so as to elevate said hooked end out of said groove, said projections being relatively arranged to be engaged simultaneously by said edge and side respectively of the coin.

2. The herein-described coin-detector, comprising a housing consisting of a body member formed with a longitudinal groove, and with a coin-inlet and a coin-outlet arranged at opposite sides of said groove and communicating with different places in the length thereof, a top plate secured to said body member over said groove and formed with a longitudinally-extending slot, and a supplemental plate secured to said body-plate and covering said slot and arranged slightly above the same; a bar mounted to reciprocate in said groove in the body member and provided with a coin-pocket, said bar also having a groove in its side and an offset extending from its edge, both located rearward of said pocket; a spring-pressed latch of lever form, pivoted in said housing and provided with a hook to engage said offset and with a projection to be engaged by the edge of a coin of predetermined diameter in said pocket; and a spring-pressed arm arranged in said slot in the top plate and beneath said supplemental plate and having one of its ends adapted to project from said slot into the groove in said slide, said arm having between its ends a projection arranged to be engaged by the side of a coin of predetermined thickness so as to lift the hooked end of said arm into said slot.

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

ALFRED N. HAUVER.

Witnesses:

ALICE J. MURRAY,  
FREDK. K. DAGGETT.