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C. H. UNDERWOOD
SPURIOUS COIN DETECTOR
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1,947,538

Fig. 1

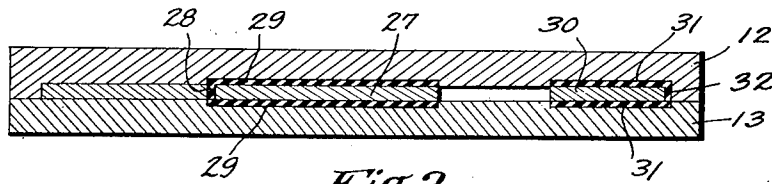
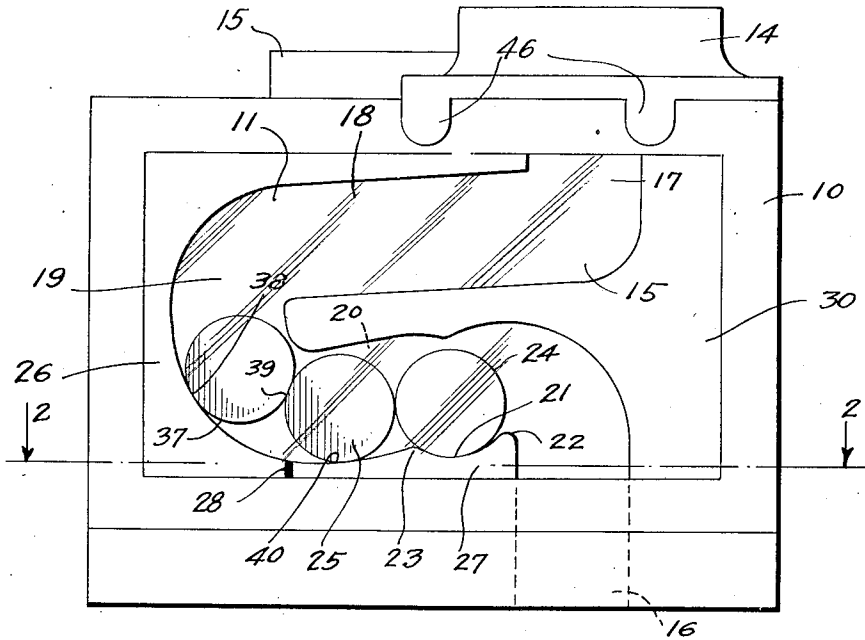


Fig. 2.

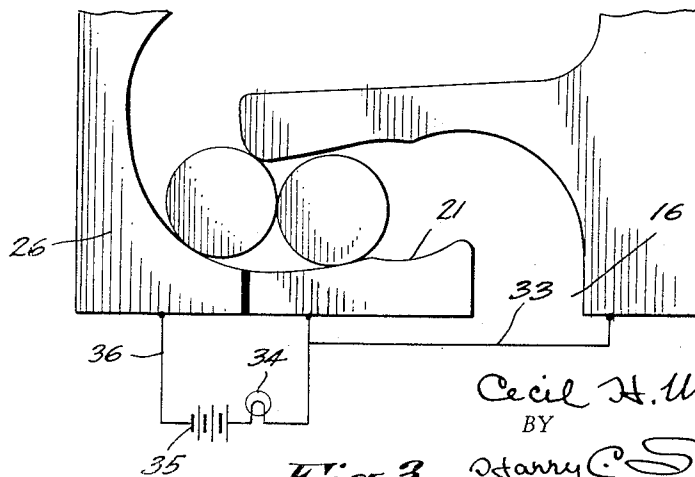


Fig. 3.

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SPURIOUS COIN DETECTOR

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Serial No. 635,706

12 Claims. (Cl. 194—98)

This invention is a spurious coin detector and has reference to a device forming an auxiliary part of a coin-operated device. Various methods and devices have been employed and incorporated in slot machines for discarding spurious elements, but in all cases they have been complicated, expensive to construct, and in actual practice have very little utility and usually are not effective in accomplishing the result desired.

10 This device has reference to a method and means by which spurious coins are retained in an element in which the coin is visible and will not tend to pass through into the slot machine, and any variation in size, co-efficient of rolling friction or sliding friction, specific gravity or weight, will prevent operation of the device and the spurious element will remain in sight, where an attendant can readily detect the insertion thereof.

20 In addition to this, the device is provided with electrical indicating means for the purpose of indicating when a spurious coin or element is deposited in the device, whereby the insertion of the spurious coin may be instantly detected by persons, even when the device itself is out of sight, the indicating means being mounted in any convenient location.

30 This device must be loaded with a standard element or coin to make it operable and then each inserted coin or element thereafter will operate the slot machine by means of the previously inserted coin, the last inserted coin and the second last inserted coin both always remaining in the detector and within sight until the next following coin is inserted.

40 This device may readily be incorporated in any slot machine, though it is preferred to have it as an individual unit which is disposed in proper registry with a slot in a slot machine, and which may be readily removed and replaced. This, of course, may be performed in a variety of ways, depending upon the type of slot machine and slot opening, and would preferably be locked in position.

50 This invention is an improvement over and is also adaptable for cooperation with my co-pending applications Ser. No. 604,477 filed April 11, 1932, and Serial No. 605,821 filed April 18, 1932, neither of which have incorporated therein the double hump or the electrical signalling element. The main object of the invention, therefore, is to provide a method and means for the detection of spurious coins for slot machines in which the coins are visible for a period of time from the insertion thereof until the inser-

tion of the next following coin, the two last coins always remaining within sight.

Another object of the invention is to provide a method of the character outlined, which may be applied to existing slot machines or incorporated in their structure.

A further object of the invention is to provide a method which will effectively prevent the operation of slot machines by coins or elements which are different in size, or vary in characteristics from the standard coin for which the slot machine is adapted to be used.

A still further object of the invention is to provide the device with electrical signalling means, whereby an audible or visual signal is provided, in the event that a spurious coin is inserted in the machine, this signal being adapted for mounting upon the device or disposed at some remote point.

Other objects and advantages of the invention will become apparent as the following description is read on the drawing forming a part of the specification and in which similar reference characters are used to indicate similar parts throughout the several views, of which:

Fig. 1 is a side elevation of my invention;

Fig. 2 is a section taken on line 2—2 of Fig. 1;

Fig. 3 is a fragmentary diagrammatic view, indicating the operation of the signalling element when a spurious coin is inserted in the machine.

60 The invention consists of a frame with transparent sides similar to that described in the afore-mentioned previously filed applications, and consisting of a frame 10 in which glass or other transparent panels 11 are mounted on both sides, so as to make the coins visible from both sides of the device, the frame 10 consisting of the side elements 12 and 13 forming back and door, the door being preferably hinged to the back and being locked in position by means of a receiver 14, with which is incorporated a lock 15, and which has the spanning ears 46, which span the two members 12 and 13, to keep them in locked position.

A tortuous coin path 15 extends from the receiver to a discharge slot 16, this tortuous path consisting of a vertical coin receiving portion 17 continuing into a slightly downwardly sloping path 18, continuing into a reverse curve 19, and thence continuing into an upwardly sloping path 20, this path terminating in the vertical discharge passage 16. The portion 20 has formed on its lower wall, a coin receiving recess 21, this recess being arcuately formed and coincidentally forming the discharge hump 22 and

retaining hump 23, whereby one coin 24 is retained in the recess 21 and another coin 25 is normally retained in the portion of the path rearwardly thereof.

5 The path is formed by a conductive element 26, which may be of any suitable metal, and which is in electrical contact with the frame 10. A portion 27 of this element is insulated from portion 26 by means of insulation 28 and 29, and another element 30 forming the other side of the path is also insulated from the frame 10 by the insulation shown at 31 and 32.

10 The elements 27 and 30 are electrically connected as shown at 33, and are connected in series with a lamp or other signalling device 34 and a battery 35, the other terminal of the battery 35 being connected to the member 26 or frame 10, as indicated at 36.

The operation of the device is as follows:—

20 The first coins 24 and 25 are placed in position as shown in Fig. 1 and the device locked. The humps 22 and 23 are of such a height that when another coin 37 is inserted in the slot, and the coin is of sufficient weight or of standard weight, the coin 37 will impact with the coin 25, and so in turn with the coin 24, driving the coin 24 into the discharge slot 16, the coin 25 stopping in the recess 21 and the coin 37 assuming the position of the coin 25, therefore, only one coin is passed into the discharge slot for each coin inserted in the receiving slot.

30 In the event that the coin 37 is lighter in weight than the standard coin, it will not have sufficient energy to drive the coin 24 into the discharge slot and will remain in the position shown in Fig. 1, forming an electrical connection between the coin 37 and the member 26, as indicated at 38, thence between the coins 25 and 37 as indicated at 39, and thence between the coin 25 and the element 27 as indicated at 40, completing the electrical circuit and operating the signalling device 34.

35 The same result is obtained where the coin is too large in diameter, in which event it will make the circuit between the element 26 and the element 30 across the path.

40 As soon as the signal operates, the party in charge of the device can immediately remove the spurious coin and place the device in condition for further operation.

50 It will be noted that this same arrangement can be applied to the previously referred to applications, the electrical signalling element being very important, inasmuch as many slot machines are operated out of sight of the attendant.

55 The novel features of this application over the previous applications, are, the electrical signalling device, and the means for retaining the two last coins always within sight.

60 Having described an operative device, it will be understood that variations in construction and arrangement of parts, which are consistent with the appended claims, may be resorted to without detracting from the spirit or scope of the invention, or sacrificing any advantages thereof.

I claim:—

70 1. A spurious coin detector for slot machines, comprising a housing having a circuitous path for a coin and provided with means for retaining a first coin in a visual position adjacent a discharge slot, and for retaining a second coin in follow position to the first coin and also in visual position, said first coin being forwarded into the discharge slot by impact of

a third coin, through the interposed second coin.

2. A spurious coin detector for slot machines, comprising a housing having a circuitous path for a coin and provided with means for retaining a first coin in a visual position adjacent a discharge slot and for retaining a second coin in follow position to the first coin and also in visual position, said first coin being forwarded into the discharge slot by impact of a third coin, through the interposed second coin, said means comprising an arcuate coin receiving recess for the first coin, the path sloping downwardly back of the recess for retaining the second coin.

3. A spurious coin detector for slot machines, comprising a housing having a circuitous path for a coin and provided with means for retaining a first coin in a visual position adjacent a discharge slot, and for retaining a second coin in follow position to the first coin and also in visual position, said first coin being forwarded into the discharge slot by impact of a third coin, through the interposed second coin, and means whereby an electrical circuit is completed when a spurious element of less weight than the coin is inserted.

4. A spurious coin detector for slot machines, comprising a housing having a circuitous path for a coin and provided with means for retaining a first coin in a visual position adjacent a discharge slot, and for retaining a second coin in follow position to the first coin and also in visual position, said first coin being forwarded into the discharge slot by impact of a third coin, through the interposed second coin, said means comprising an arcuate coin receiving recess for the first coin, the path sloping downwardly back of the recess for retaining the second coin, and means whereby an electrical circuit is completed when a spurious element of less weight than the coin is inserted.

5. A spurious coin detector for slot machines, comprising a housing having a circuitous path for a coin and provided with means for retaining a first coin in a visual position adjacent a discharge slot, and for retaining a second coin in follow position to the first coin and also in visual position, said first coin being forwarded into the discharge slot by impact of a third coin, through the interposed second coin, and means whereby the impact of the third coin with the second coin provides a momentary impulse to an electrical signalling device.

6. A spurious coin detector for slot machines, comprising a housing having a circuitous path for a coin and provided with means for retaining a first coin in a visual position adjacent a discharge slot, and for retaining a second coin in follow position to the first coin and also in visual position, said first coin being forwarded into the discharge slot by impact of a third coin, through the interposed second coin, said means comprising an arcuate coin receiving recess for the first coin, the path sloping downwardly back of the recess for retaining the second coin, and means whereby the impact of the third coin with the second coin provides a momentary impulse to an electrical signalling device.

7. A spurious coin detector for slot machines, comprising a housing having a circuitous path for a coin and provided with two depressions to gravitationally retain in follow arrangement

and visible position, a first coin and a second coin, and to permit forwarding of said first coin to the slot machine by impact of a third coin through the interposed second coin, the second coin assuming the position of the first coin.

8. A spurious coin detector for slot machines, comprising a housing having a circuitous path for a coin and provided with two depressions to gravitationally retain in follow arrangement and visible position, a first coin and a second coin, and to permit forwarding of said first coin to the slot machine by impact of a third coin through the interposed second coin, the second coin assuming the position of the first coin, and means whereby an electrical circuit is completed when a spurious element of less weight than the coin is inserted.

9. A spurious coin detector for slot machines comprising a housing having a circuitous path for a coin and provided with two depressions to gravitationally retain in follow arrangement and visible position, a first coin and a second coin, and to permit forwarding of said first coin to the slot machine by impact of a third coin through the interposed second coin, the second coin assuming the position of the first coin, and means whereby the impact of the third coin with the second coin provides a momentary impulse to an electrical signalling device.

10. A spurious coin detector for slot machines, comprising a housing having a circuitous path for a coin and provided with two depressions to gravitationally retain in follow arrangement and visible position, a first coin and a second coin, and to permit forwarding of said first coin to the slot machine by impact of a third coin through the interposed second coin, the second coin assuming the position of the first coin, and means whereby the impact of the third coin with the second coin provides a momentary impulse to an electrical signalling device.

whereby the impact of the third coin with the second coin provides a momentary impulse to an electrical signalling device, and whereby the electrical signalling device will be continuously operated by the insertion of a spurious element in place of the third coin.

11. A visual coin indicator for slot machines, provided with a circuitous path terminating in a receiving slot and a discharge slot and having means for retaining a first coin and a second coin in visible position from the time of insertion thereof, until insertion of a third coin, said first coin being forwarded to the slot machine by impact of the third coin through the second coin, said second coin assuming the previous position of the first coin, the required weight of the third coin being equal to or greater than the weight of the first and second coins for operation, third coins of lesser weight being stopped and retained with the first and second coins in visible position.

12. A visual coin indicator for slot machines, provided with a circuitous path terminating in a receiving slot and a discharge slot and having means for retaining a first coin and a second coin in visible position from the time of insertion thereof, until insertion of a third coin, said first coin being forwarded to the slot machine by impact of the third coin through the second coin, said second coin assuming the previous position of the first coin, the required weight of the third coin being equal to or greater than the weight of the first and second coins for operation, third coins of lesser weight being stopped and retained with the first and second coins in visible position, and means whereby a retained third coin or a coin bridging said path closes an electrical circuit incorporating a signalling device.

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