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TELEPHONE PAY STATION APPARATUS

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2 Sheets-Sheet 1

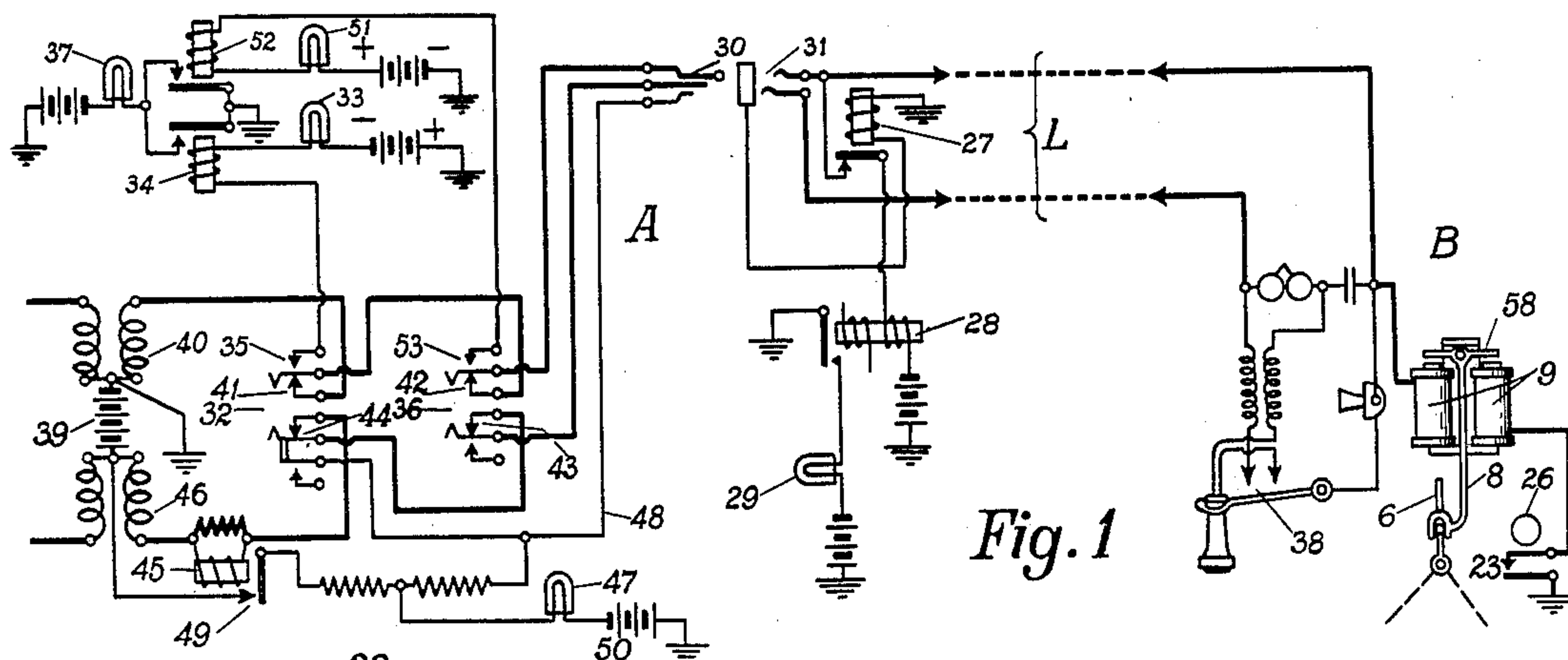


Fig. 1

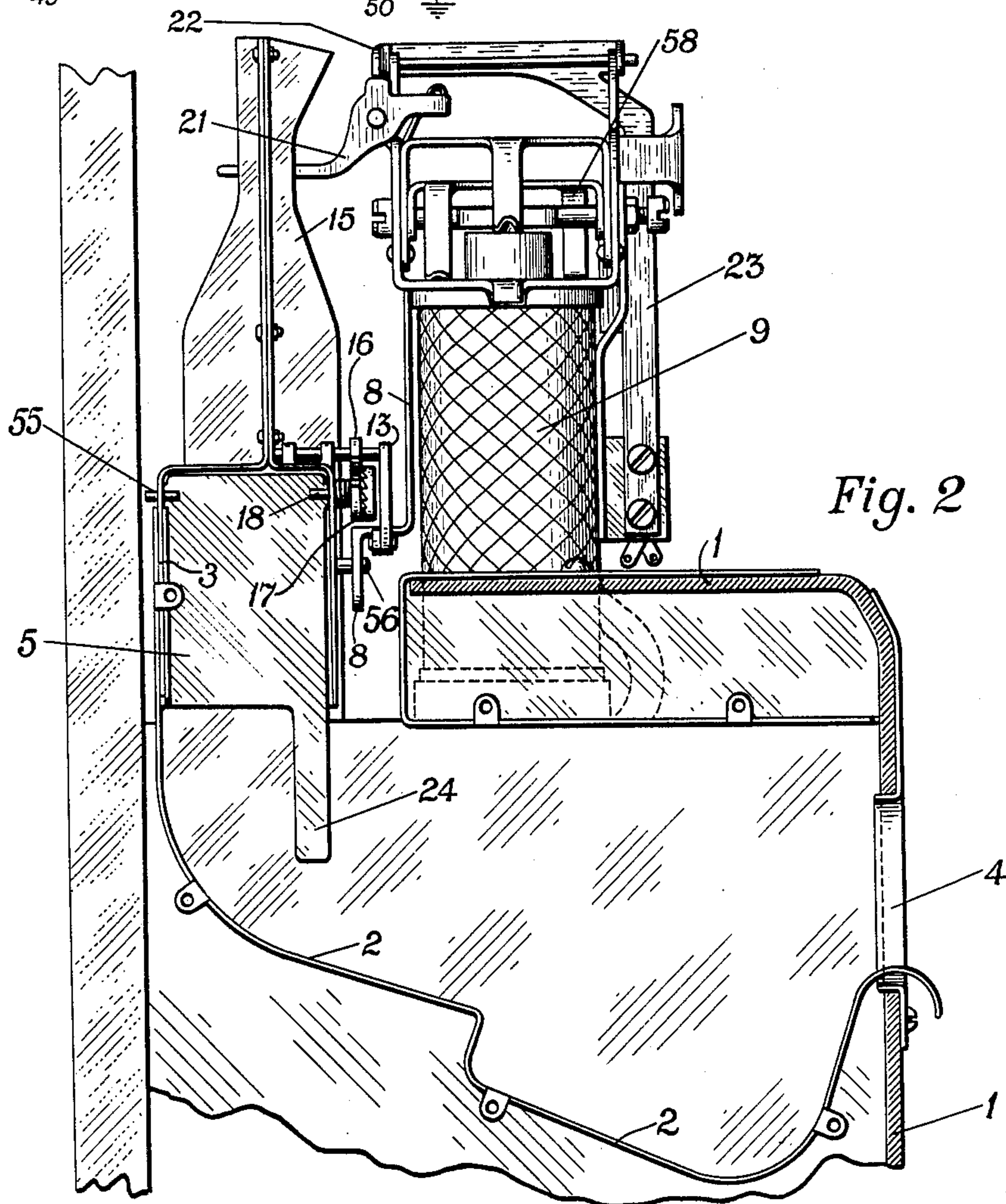
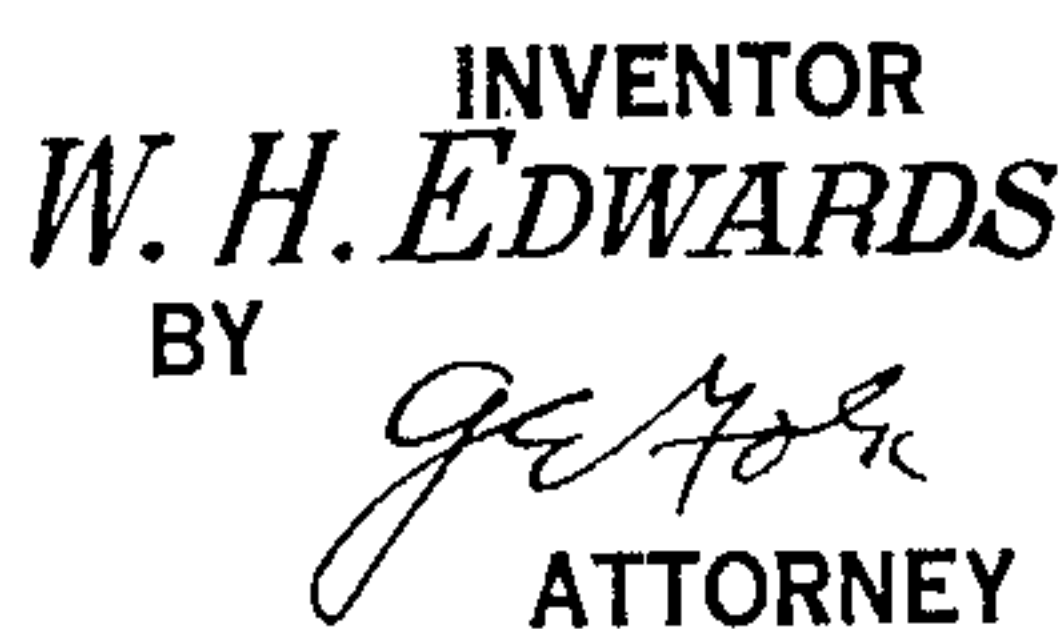


Fig. 2

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UNITED STATES PATENT OFFICE

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TELEPHONE PAY STATION APPARATUS

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16 Claims. (Cl. 179—6.3)

This invention relates to coin collectors, and more particularly to means for preventing the fraudulent collection of money from refund chutes of telephone coin collectors.

5 In connection with pre-payment coin collectors of the type commonly used at telephone pay stations, it is the practice to refund money to patrons when calls are not completed. Unscrupulous individuals have taken advantage of this
10 feature of the coin collectors by obstructing the coin refund chute, thus preventing the return of the coins to their rightful owners when calls have not been completed, and later removing the obstruction and appropriating the accumulated
15 coins. The problem of designing a coin return chute within the cost and space requirements, which is capable of discharging a number of coins of various denominations simultaneously, which also provides protection against tampering
20 with the magnet mechanism through the return chute, and which at the same time is proof against efforts at obstructing it, is a difficult one.

One of the objects of this invention consists
25 in providing a coin collector apparatus which will detect the presence of obstructions and will prevent the operation of the refunding mechanism as long as the obstructions are present.

A further object of the invention consists in
30 arranging the detecting and disabling operations so that the operator, in case of a manual coin collector, or the central office mechanism, in the case of a dial coin collector, will recognize the disabled refund condition, so that the trouble
35 can be cleared and an adjustment of the refund with the patron can be arranged, and so that the money that could not be refunded will be collected by the telephone company to compensate for the adjustment made to the patron.

40 A further object is to provide for continued operation of the coin collector until the mechanism is cleared.

This invention has the ultimate object of preventing any possibility of fraudulent gain by obstructing the coin return chute, thereby discouraging any such attempts.

45 In coin collectors of the type commonly in use, the chute vane is operated by gravity so as to close the opening leading from the refund side of the coin hopper to the upper portion of the coin return chute, except when it is swung open
50 by the coins as they are being discharged into the return chute. In accordance with this invention, a modified chute vane is connected to the operating arm of the coin magnet in such a

manner that it is opened for the discharge of coins by the operation of the magnet to the refund position. However, if the chute is blocked upon the insertion of obstructions therein and the chute vane cannot be moved, it reacts on the
60 coin magnet in turn, so that the magnet is prevented from operating to return the coins. The operator, in case of a manual coin collector, will not be able to clear the trap where the coins are resting by the operation of the coin return
65 key. The line signal will light again after the operator has disconnected the cord, inasmuch as the trigger has remained in the tripped position. However, after plugging in again the operator will be able to collect the coins by operating the
70 coin collect key, after an unsuccessful attempt to refund the coins and the mechanism will function in the regular manner, depositing the coins in the coin receptacle, restoring the trigger, opening the ground and preventing the line
75 signal from relighting when the operator disconnects again. This sequence of events gives a definite indication to the operator that the money has not been refunded and that the patron is entitled to a refund, which may be ar-
80 ranged by other means. The amount to be refunded is not lost to the telephone company as the coins have been collected. Furthermore, the operator is able to report the stuffed condition so that the trouble may be cleared. In the
85 meantime, the coin collector is not out of service, as coins may be collected in the regular manner and refunded as outlined. It will be noted that as long as the mechanism is stuffed, coins cannot be returned, and the person who has stuffed
90 the chute cannot profit by the attempt to defraud the pay station patrons, and is thereby discouraged from further attempts.

In case of a dial coin collector, when the pay station patron hangs up after a calling attempt
95 for which the money is to be refunded, the central office mechanism automatically applies refund current to the line and a short period thereafter tests to determine whether the circuit to ground at the coin collector has been opened
100 by the operation of the coin magnet and restoration of the coin trigger. However, since the coin magnet is prevented from operating in the refund direction, the ground circuit will still be closed when the test for ground is made. This
105 causes a signal to be operated at a special operator's position. The operator will then plug into the line and if the patron has again removed the receiver to request the return of his coin, can learn from him of the unsuccessful attempt at
110

refunding. The operator can then proceed to adjust the matter and arrange to have the trouble cleared as outlined above for a manual coin collector. In case, however, the patron does not communicate with the operator to request the refund of the money, the operator will first attempt to collect the coins and being successful will clear the collector for further service. Repeated instances of calls from the same pay station being referred to the special operator in which the ground is removed by collecting the coins give an indication of stuffing or other trouble and the trouble can be reported and cleared.

The novel features which are considered characteristic of this invention are set forth with particularity in the appended claims. The invention itself, both as to its organization and method of operation, together with other objects and advantages thereof, will be further explained in the following detailed description having reference to the accompanying drawings consisting of the following figures:

Figure 1 is a circuit diagram embodying the improved invention and showing a manual central office A at which the line of a substation B terminates;

Fig. 2 is a fragmentary side view of a coin collector showing the coin magnet mechanism, coin hopper, and coin return chute embodying one form of this invention, which is shown in the normal unoperated position;

Fig. 3 also, is a fragmentary view of a coin collector, viewed from the front, with the coin magnet cut away, except for the end of the operating arm, to show better the same embodiment of the invention, with respect to the interconnection between the operating arm, coin vane, and chute vane, and their relationship to the coin return chute. The mechanism again is shown in the normal position;

Fig. 4 is an enlarged view of the same device showing the connection of the linkage to the chute vane;

Fig. 5 is a similar view of Fig. 4 as seen from the front of the same mechanism;

Fig. 6 shows the same linkage mechanism as Fig. 3, except that the position of the parts is that assumed during the operation of the magnet mechanism to the refund position, as it occurs in normal operation when the coin-refund key is operated at the central office; and

Fig. 7 is a similar view of the mechanism illustrated in Fig. 6 in the position which it takes during the collection of coins by operation of the coin collect key at the central office.

In the drawings, one embodiment of the invention is illustrated in connection with a coin collector of the type disclosed in Patent No. 1,043,219, of November 5, 1912, to O. F. Forsberg. This patent shows the usual coin collector magnet and coin refund chute. This Forsberg magnet is used without change in this invention except for the linkage to, and the changes in the chute vane. The other features of the Forsberg coin collector are unchanged except for the removal of the baffle plate in the return chute.

As may be seen by reference to Fig. 2 and Fig. 3, the refund chute is provided within the casing 1 by parallel vertical side walls between which an inclined bottom wall 2 is positioned. An opening 3 is formed between these walls through which refunded coins travel in their passage from the coin control magnet to a ver-

tical opening 4 in the front of the casing through which they may be recovered by the patron. A chute vane 5 is provided which normally closes the opening leading to the coin vane 6 and the trap 7. This is intended to prevent the fraudulent manipulation of the coin vane 6 to the refund position by the insertion of wires through the return chute opening 4 or by similar procedures. The coin vane 6 is moved to the refund or collect position by the operating arm 8 of the coin magnet 9, upon the application of refund or collect current to the line at the central office in accordance with circuit operations which will be described later. These aforementioned parts are substantially the same as in the Forsberg collector except as noted below.

Referring in particular to Fig. 3, a link 10 is connected at one end to the pin 11 which is fastened to the operating arm 8. The other end of the connecting link 10 is attached by a pin 12 to a lever arm 13 pivoted on a pin 14 which is fastened to the front wall of the coin hopper 15. Turning, now, to the enlarged view Fig. 5, of the same mechanism, a partially toothed wheel 16 is fastened to the lever arm 13 so that it drives a second partially toothed wheel 17, when the wheel 16 is rotated counter-clockwise. When the wheel 16 is rotated clockwise, the teeth do not engage with the teeth of wheel 17 and no motion of the latter is produced. This wheel 17 is a loose fit on shaft 18 which is an extension of and serves as a support for the chute vane 5 in the front wall of the coin hopper 15. The other support is the pin 55 (Fig. 2) fastened to the chute vane and passing through the rear wheel of the coin hopper 15. Referring to Fig. 4, it will be noted that the toothed wheel 17 is provided with a serrated surface 19 which is held in contact with a similar surface on a flange member 20 which is staked firmly to the shaft 18. The serrated surfaces of the parts 17 and 20 are held in contact by the spring 59 under normal circumstances so that these elements constitute a positive drive to chute vane 5, when wheel 17 is rotated in a clockwise direction. However, if the chute vane 5 is held stationary and wheel 17 is rotated counter-clockwise, the serrated surfaces slip over one another.

Referring to Fig. 3, if a coin 26 has been deposited and is resting on trap 7 when the operating arm 8 of the magnet 9 is moved to the right to refund the coins to the patron in the usual manner as will be described later, the forked end of the operating arm 8 moves the extension pin 56 of the coin vane 6 which is pivoted on pin 57 fastened in the front and rear walls of the coin hopper 15. This causes the upper end of coin vane 6, which has been supporting trap 7 and the coin 26 to be moved to the right. The weight of the coin 26 will depress the trap 7 and coin 26 will slide from the trap 7 and be directed towards the refund chute 3. When the operating arm 8 moves to the right as shown in Fig. 6, the connecting arm 10 moves the lever arm 13 counter-clockwise through an arc which in turn causes the toothed wheel 16 to rotate the toothed wheel 17 in the clockwise direction. As described previously, the serrated surfaces of the toothed wheel 18 of the member 20 are arranged so that this motion will be transmitted to the shaft 18 and will

operate the chute vane 5 so as to open it and permit the coins to slide into the refund chute 3. When the magnet 9 restores to normal, this operation is reversed and the chute vane 5 is closed and the trap 7 is restored by gravity.

The coin trigger 21, which is of the conventional construction, was deflected by the deposit of the coin 26 initially so that the coin trigger arm 22 dropped into a depression in the contour of the coin trigger 21 as shown in the Forsberg patent and completed the signaling circuit to ground through the contact springs 23. When the armature 58 of the magnet 9 was operated to the refund position, this movement permitted the coin trigger 21 to be restored by gravity to its normal position through the momentary lifting of the coin trigger arm 22 when the armature 58 was operated, thus opening the ground contacts 23 and clearing out the signaling circuit to the central office.

In case a person attempts to stuff the return chute opening 3 with paper, cotton or some similar substance, the operation of the mechanism is as follows, as may be seen from Fig. 2 and Fig. 3. Inasmuch as the refund chute 3 is completely accessible to the patron from the opening 4, except for the rearmost portion of the chute, it would be impossible to stuff it at the front without the stuffing being detected and removed by the patrons using the telephone. Consequently, any stuffing attempts will, of necessity, be directed towards placing the blocking material at the rear of the return chute below the chute vane 5. Consequently, when the magnet 9 is energized by the refund current tending to move the operating arm 8 to the right so as to refund coin 26, the extension 24 of the chute vane 5 tends to move and does move to a certain extent in the return chute 3 until it is blocked from further motion by the stuffing. If the stuffing is not enough to obstruct the arm 24 of chute vane 5 from completing its travel, it will not prevent the coin 26 from traveling past the stuffing and down into the bottom of the return chute 3. If, however, the arm 24 cannot complete its travel the linkage to the operating arm 8 is such that the operating arm 8 cannot complete its movement and swing the coin vane 6 to the right sufficiently to permit the coin 26 to slide off the trap 7. Neither will the armature 58 have operated sufficiently so that the coin trigger arm 22 will have been lifted sufficiently to permit the coin trigger 21 to restore. Consequently, as long as the stuffing obstructs the passage of the coins through the return chute 3 the magnet mechanism cannot operate in the refund direction.

The stuffed condition of the chute will not, however, prevent the coins on the trap from being collected. In this case, the operation of the mechanism is the same whether the chute is stuffed or not. Reference to Fig. 7 shows the operating arm 8 after it has moved to the left and shifted the coin vane 6 so that the coin 26 will slide off the trap 7 and be guided into the runway 25 leading to the cash receptacle. It will be seen that the connecting link 10 and the lever arm 13 have moved so that the toothed wheel 16 is rotated in a clockwise direction. whereupon, as mentioned before, the teeth will not engage with the toothed wheel 17 and the chute vane 5 will not be moved. Likewise, after the coin 26 has been collected, the trap 7 will restore and when the magnet 9 is deenergized,

the retractile springs on the armature 58 which are not shown in detail will restore the operating arm 8 and the connecting linkage to the chute vane 5 to the normal position. It will be seen, therefore, that stuffing will not interfere with the collection of coins which have been left on the trap and which could not be refunded as the result of the stuffing.

Removal of the stuffing will restore the mechanism to normal operation without further adjustment of the mechanism.

If an attempt is made to stuff the chute vane 5 in the open position, hoping thereby to block the armature 58 and associated coin vane 6 in the refund position so that all deposited coins would be refunded and be caught by the stuffing in the chute, the operation will be as follows. Assuming that the parts have been moved to the position shown in Fig. 6 and that stuffing has been placed so that the extension arm 24 cannot return to normal. When the magnet 9 is deenergized, the retractile springs tend to restore the armature 58 and the operating arm 8 to the normal position shown in Fig. 3. However, the torque exerted on the toothed wheel 17 by the restoring tendency is sufficient to overcome the friction between the serrated surfaces of the toothed wheel 17 and the member 20 which are held in contact with each other by the spring 59. Consequently, since the shaft 18 with the member 20 cannot be moved by the toothed wheel 17, the wheel 17 will spring in the direction of the coin hopper 15 permitting the wheel 17 to rotate together with the connecting linkage to the operating arm 8 and the armature 58. Thus, in this manner, the operating arm 8 will restore to the normal position leaving the chute vane 5 blocked in an open position. When a subsequent operation of the armature 58 in the refund direction is attempted, the operating arm 8 will tend to move to the left. However, as previously described for the condition where the vane is blocked in the closed position, it is now impossible for the chute vane 5 to open further because the chute vane 5 will strike against the stop pin 54 mounted on the coin hopper 15. Thus, the operating arm 8 and the coin vane 6 cannot move in the refund direction and the coins cannot be dumped from the trap 7 into the refund chute 3. However, the armature 58 can operate in the collection direction as heretofore described, thereby permitting the collection of the coins.

Upon the removal of the stuffing and the resetting of toothed wheel 17 and flange member 20 the mechanism is restored to normal.

Fig. 1 shows the circuits involved in a manual central office and at the station for operating the coin collector. When a coin 26 is deposited in the coin chute to obtain a connection, it trips the coin trigger 21, permitting the coin trigger arm 22 to drop and close the ground contact springs 23. A circuit will be established under these conditions over the following path: From grounded contact 23, coils of magnet 9, tip side of line L, closed contact of relay 27, and winding of relay 28 to battery. The closure of this circuit will energize relay 28 and thereby light lamp 29. The operator, noting this light, will insert plug 30 in jack 31 and cause lamp 29 to be extinguished as follows: The battery 50 is closed through the lamps 47 lighting this lamp, then through conductor 48, sleeve contacts of plug 30 and jack 31, energizing relay 27. This opens the contacts of relay 27 deenergizing relay 28 and

extinguishing lamp 29. In the meantime, it may be assumed that the patron at station B has removed the receiver from the hook and the contacts 38 are closed. This completes a circuit from the battery 39 through the repeating coil winding 40 to the contact 41 of the key 32 through the contact 42 of the key 36 to the tip of the plug 30, tip contact of the jack 31 over the tip side of the line L through the talking circuit of the station B, back through the ring side of the line L, jack 31 and plug 30, contacts 43 of key 36 and contacts 44 of key 32 through the supervisory relay 45, repeating coil winding 46 back to the other side of battery 39. The energizing of relay 45 closes the contacts 49 shunting the lamp 47 but still holding operated the relay 27 from the battery 39. The operator can now communicate with station B and obtain the number desired by the patron calling from station B. In the event the call is completed, the coin collect key 32 is operated and the coin 26 deposited in the coin box in the following manner. The operation of key 32 closes a circuit from positive battery, lamp 33, winding of relay 34, upper make contact 35 of collect key 32, upper closed contact of key 36, tip contacts of plug 30 and jack 31, tip conductor of line L, windings of magnet 9, closed contact 23 to ground. The closure of the circuit just described will cause lamp 33 to be lighted and relay 34 to be energized. This relay will close a circuit through its make contact from ground and battery through the filament of pilot lamp 37 and cause it to be lighted also. As referred to previously, the energizing of magnet 9 will act on the armature 58 and move the operating arm 8 to the left thereby causing the coin 26 to be collected. While the magnet 9 is operated the ground contact springs 23 are held closed by the armature 58. At the same time the coin trigger arm 22 is lifted so that the coin trigger 21 may restore by gravity. When the key 32 is released the circuit is deenergized, magnet 9 will be opened and the retractile springs on the armature 58 will cause the operating arm 8 to restore to normal. When the magnet 9 has restored, the ground contact springs 23 will be opened. After the patron has replaced the receiver on the hook, the relay 45 will be deenergized removing the shunt from the lamp 47 and relighting the lamp 47. The operator may now disconnect the plug 30 from the jack 31, deenergizing the relay 27. The circuit for relay 28 through the ground contact springs 23 has already been opened by the collection of the coin. Thus, the circuits at the central office and at the station have been restored to normal and the pay station is ready for the next call.

In case the call was not successfully completed to the desired distant station, the above operations will be repeated except that the operator will depress the coin return key 36 instead of the collect key 32. The circuit in this event is as follows: The negative battery is connected through lamp 51, relay winding 52, make contact 53 of the key 36 to the station and the magnet in the manner described for the collect operation. The operation of relay 52 lights the pilot lamp 37. This completion of the circuit to the magnet causes the armature 58 of the magnet 9 to operate in the refund direction moving the operating arm 8 and the coin vane 6 to the right permitting the coin 26 to slide off the trap 7 into the return chute 3 where it can be recovered by the patron through the

opening 4. While the armature 58 is held operated in the refund position, the ground contact springs 23 are held closed and the coin trigger arm 22 is raised so that the coin trigger 21 may restore. When the coin return key 36 is released, the magnet 9 is deenergized, the retractile springs restore the armature 58 and the ground contact springs 23 are opened. The operations of disconnecting are the same as were described for the collection of the coin.

However, if the coin return chute is stuffed so that the armature 58 cannot operate to the refund position when the coin return key 36 is operated, the coin trigger arm 22 will not be lifted and the coin trigger 21 will remain in the tripped position keeping the ground contact springs 23 closed. If the patron realizes before he hangs up that the return of the coin has not proceeded in the usual manner, he may signal the operator by operating the switchhook contacts 38 so as to deenergize the supervisory relay 45, removing the shunt from the lamp 47 so it will be lighted. The operator will then communicate with the patron and be informed by the patron that the money has not been refunded. The operator can actuate the coin return key 36 again and by observation of the lamp 51 and the pilot lamp 37 determine that the coin return current has again been applied to the line, and can ascertain in that way that the ground contact springs 23 have not been opened as would be the case with the normal refunding of the coin. The operator can then operate the coin collect key 32 to collect the coins inasmuch as the magnet 9 is not blocked from operation in the collect direction. The ground contact springs 23 will then be opened and the operator can determine by subsequent operation of the collect key and observation of the lamps 33 and 37 that the coins have been collected. The operator can then communicate with the patron and advise him of the fact that the refunding mechanism is out of order and arrange to reimburse him in the manner provided for such cases.

If the patron has replaced the receiver on the hook before noting that the refunding of the coin was not accomplished, the operator will note the relighting of the lamp 47 due to the deenergizing of relay 45 and will disconnect the plug 30 from the jack 31 in the regular way, not knowing that the coin has not been refunded. Relay 27 will be deenergized by the disconnect operation and as the ground contact springs 23 are still closed due to the trigger 21 not having been restored, the relay 28 will be energized again and the lamp 29 will be relighted. This will signal the operator again and she will replace the plug 30 in the jack 31 and communicate with the patron in case he has removed his receiver from the hook and is attempting to signal the operator. The operator may then attempt to return the coin again and if unsuccessful may collect it in the manner described above arranging for a refund to the patron in some other manner. If the patron has left the telephone without communicating with the operator, she can ring the pay station in the regular way to communicate with the patron regarding reimbursing him. The operator can then collect the coin.

The operator ordinarily will then advise the repair forces of the trouble condition existing at the pay station and arrange to have the stuffing

removed and the coin collector restored to normal operation.

It should be noted from the foregoing description of this invention that any stuffing or article inserted far enough into the chute to escape detection by a casual inspection of the patron will block the refunding operations so that no money can be caught behind the stuffing. The fraudulent collection of money from the refund chute by this means is thus prevented.

Although the invention has been described in connection with a specific type of coin collector, it may be modified in obvious ways to meet the requirements of coin collecting apparatus having different types of coin return chutes. Likewise, it is applicable to coin collectors connected to dial central office lines.

What is claimed is:

1. In a coin collecting device, a coin control magnet for collecting or refunding coins in accordance with the polarity of current applied thereto, a return chute associated with said magnet and having an exit opening, and means for unbalancing said coin control magnet by the insertion of articles in said return chute through said opening to prevent the coin control magnet from operating upon the application of refund current.

2. In a coin collecting device, a coin control magnet for collecting or refunding coins in accordance with the polarity of current applied thereto, a return chute associated with said magnet and having an exit opening, and means for unbalancing said magnet by the insertion of articles in said return chute through said exit opening to prevent the coin control magnet from operating upon the application of refund current and to permit the collection of coins upon the application of collect current.

3. In a coin collecting device, a coin control magnet for collecting or refunding coins in accordance with the polarity of the current applied thereto, a return coin chute associated with said magnet and having an exit opening, and means for mechanically obstructing said coin control magnet by the insertion of articles in said return coin chute through said exit opening to prevent said coin control magnet from operating upon the application of refund current.

4. In a coin collecting device, a coin control magnet for collecting or refunding coins in accordance with the polarity of the current applied thereto, a return coin chute associated with said magnet and having an exit opening, and means for mechanically obstructing said coin control magnet by the insertion of articles in said return coin chute through said exit opening to prevent said coin control magnet from operating upon the application of refund current and to permit the collection of coins upon the application of collect current.

5. In a coin collecting device, a coin control magnet, a return chute associated with said magnet and having an exit opening, a chute vane closing off said return chute from said coin control magnet, means to link said chute vane to said coin control magnet to unbalance said coin control magnet upon the insertion of articles in said return chute through said exit opening.

6. In a coin collecting device, a coin control magnet, a return chute having an exit opening, a chute vane closing off said return chute from said coin control magnet, means including link-

age connecting said chute vane to said coin control magnet to obstruct said coin control magnet from operating during the application of refund current upon the insertion of articles in said return chute through said opening to interfere with the movement of said chute vane.

7. In a coin collecting device, a coin control magnet, a return chute having an exit opening, a chute vane closing off said return chute from said coin control magnet, means including linkage connecting said chute vane to said coin control magnet to prevent said coin control magnet from operating during the application of refund current upon the insertion of articles in said return chute through said exit opening to obstruct the movement of said chute vane, the collection of coins upon the application of collect current not being affected.

8. In a coin collecting device, a coin control magnet for collecting or refunding coins in accordance with the polarity of current applied thereto, a return chute having an exit opening, detecting means in said return chute for determining the presence of material stuffed therein and means responsive to the actuation of said detecting means for rendering said coin control magnet mechanically inoperative upon the application of the refund polarity of current and operative to collect coins upon the application of the collect polarity of current.

9. In a coin collecting device, a coin control magnet, an operating arm therefor for collecting or refunding coins in accordance with the polarity of current applied to the magnet, a chute leading from the magnet, a return chute having an exit opening, a hinged chute vane separating said return chute from the chute leading from said magnet, said chute vane being adapted to detect the presence of material stuffed in said chute for preventing the receipt of refunded coins, and linkage means interconnecting said chute vane and said operating arm to permit the magnet to operate in the collect direction upon the application of the corresponding polarity of current and to obstruct said coin control from operating in the refund direction upon the application of the corresponding polarity of current until said material is removed.

10. In a coin collecting device, a coin control magnet, an operating arm therefor for collecting or refunding coins in accordance with the polarity of current applied thereto, switching means closed by the deposit of coins and opened by the operation of said coin control magnet upon the collecting or refunding of coins, a return chute for refunding money and having an exit opening, hinged chute vane means for separating said return chute from said coin control magnet, said chute vane means being adapted to detect the presence of material stuffed in said chute to prevent the receipt of refunded coins, and connecting means between said chute vane means and said coin control magnet adapted to obstruct the coin control magnet from refunding and from opening said switching means when said chute vane means is prevented from moving under control of said coin control magnet upon the application of coin refund current and adapted to permit said coin control magnet to collect coins and open said switching means upon the application of coin collect current.

11. In a telephone system including a central station and a substation connected thereto, coin

collect and coin return keys at the central station, a coin collecting device at the substation, a main chute therefor, a coin control magnet associated with said chute, a return coin chute leading from the main chute and having an exit opening, a collect chute leading from said main chute to a cash compartment, and means actuated by the insertion of articles in said return coin chute through said exit opening for mechanically obstructing the coin control magnet from discharging coins into the return coin chute upon the operation of the coin return key and to permit the discharge of coins to said collect chute upon the operation of the coin collect key.

12. In a telephone system including a central station and a substation connected thereto, coin collect and coin return keys at the central station, the coin collect keys being connected to a source of current of one polarity and the coin return keys being connected to a source of current of the opposite polarity, a coin operating device including a coin control magnet at the substation for collecting or refunding money in accordance with the polarity of current applied thereto as determined by the operation of the coin collect keys or the coin return keys, a return chute having an exit opening, and means for mechanically obstructing said coin control magnet by the insertion of articles in said return chute through said exit opening to prevent the refunding of coins upon the operation of the coin return key and to permit the collection of coins upon the operation of the coin collect key.

13. In a telephone system including a central station and a substation connected thereto, coin collect and coin return keys at the central station, a coin collecting device including a coin control magnet at the substation, a return coin chute having an exit opening, a chute vane closing off said return coin chute from said coin control magnet, and means to unbalance said coin control magnet upon the insertion of arti-

cles in said return chute through said opening so as to obstruct said chute vane.

14. In a telephone system including a central station and a substation connected thereto, coin collect and coin return keys at the central station, the coin collect keys being connected to a source of current of one polarity and the coin return keys being connected to a source of current of the opposite polarity, a coin collecting device including a coin control magnet at the substation for collecting or refunding coins in accordance with the polarity of current applied thereto as determined by the operation of the coin collect or coin return keys, a return chute having an exit opening, a hinged chute vane separating said return chute from said coin control magnet, said chute vane being adapted to detect the presence of material stuffed in said return chute and obstructing the movement of said chute vane, and linkage means interconnecting said chute vane and said coin control magnet so as to prevent the coin control magnet from refunding coins upon the operation of the coin return keys and to permit the coin control magnet to collect coins upon the operation of the collect keys.

15. In a coin collecting device, a coin control magnet, a return chute adapted to receive coins refunded to said coin control magnet, and means to mechanically obstruct the discharge of coins into said return chute upon said return chute being inoperative for the return of said coins.

16. In a coin collecting device, a coin control magnet for collecting or refunding coins in accordance with the polarity of current applied thereto, a return chute adapted to receive coins refunded by said coin control magnet, and means to mechanically obstruct the refunding of coins into said return chute by the application of refund current upon the return chute being inoperative for the return of said coins by the insertion of articles in said return chute.

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