

Aug. 8, 1933.

W. H. EDWARDS

1,921,072

TELEPHONE PAY STATION APPARATUS

Filed Nov. 2, 1932

3 Sheets-Sheet 1

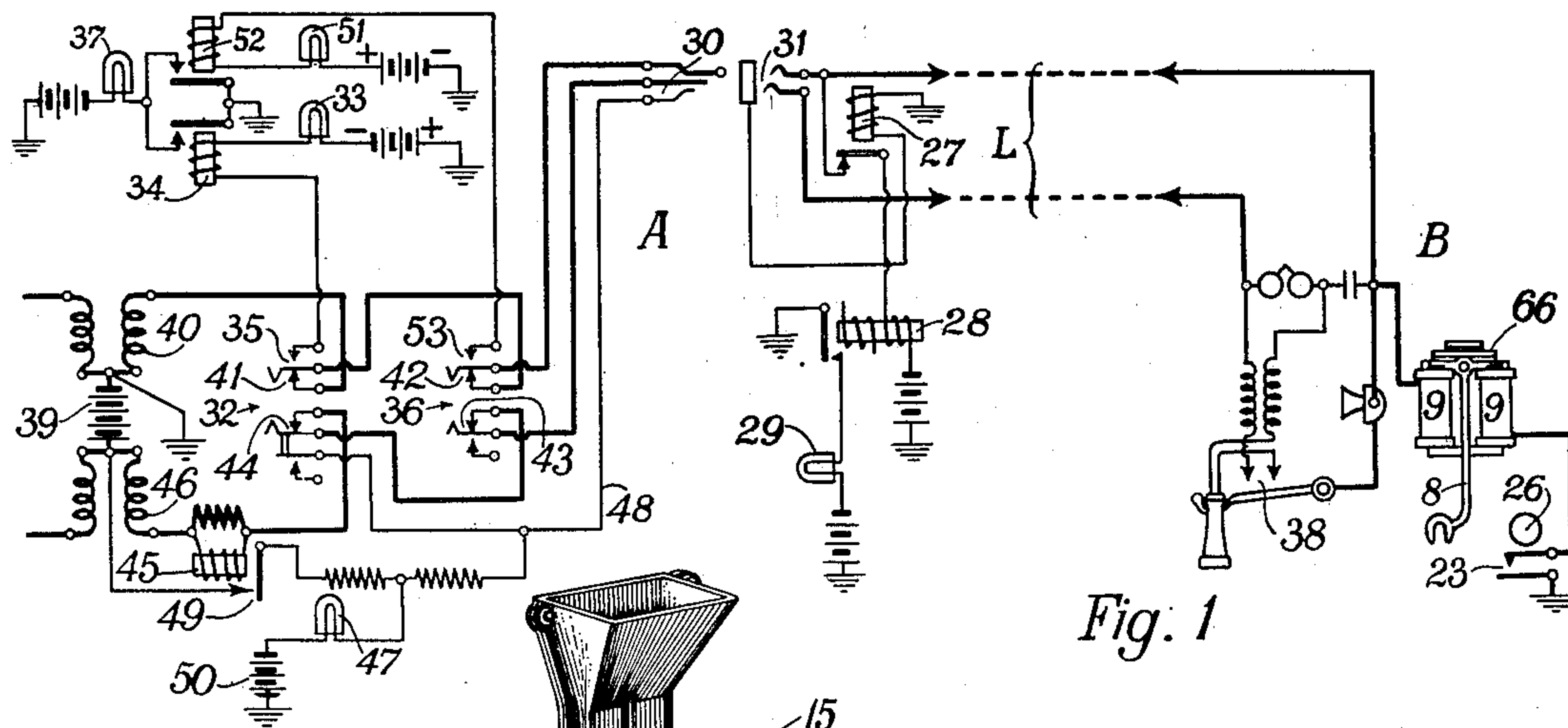


Fig. 1

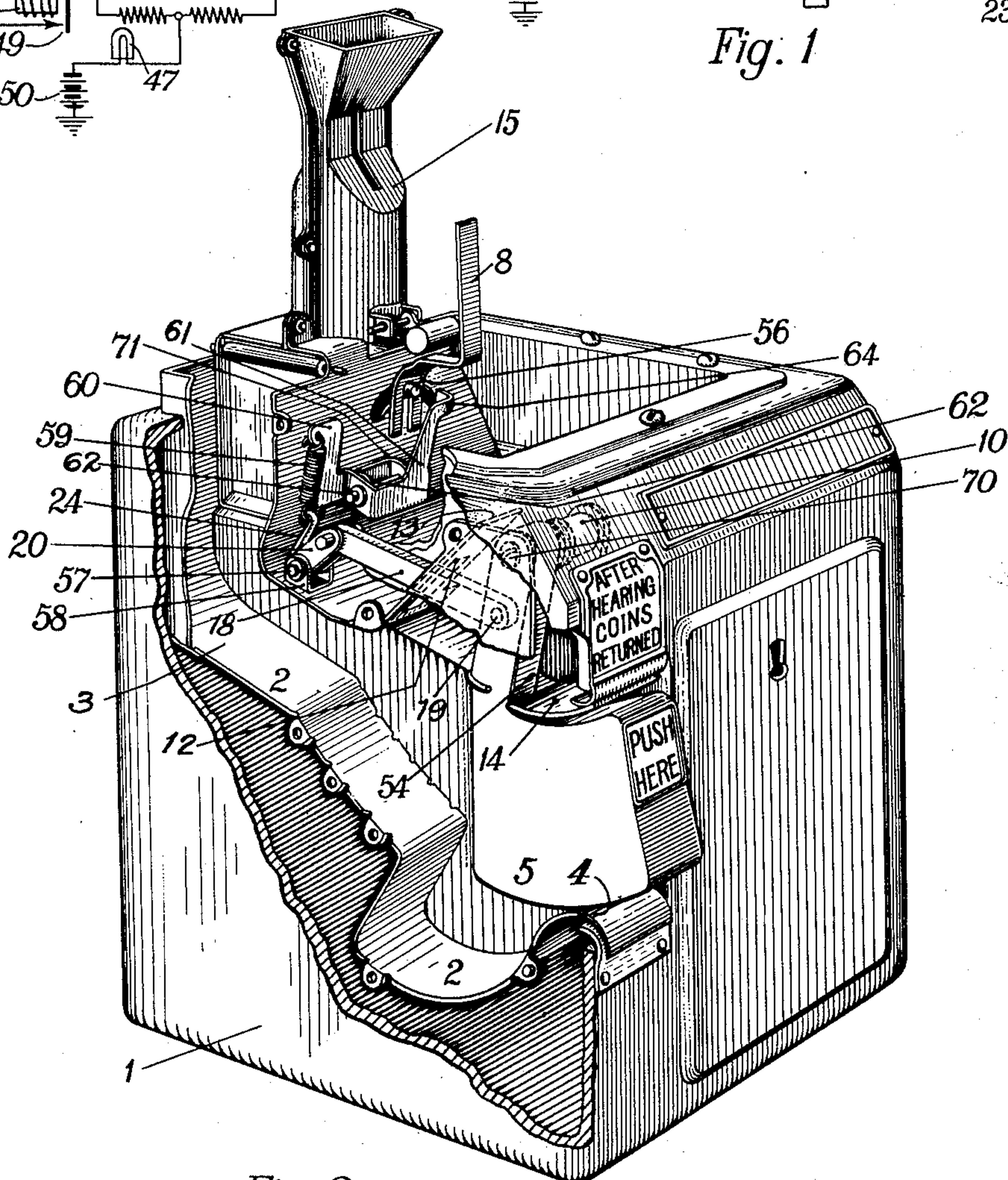


Fig. 2

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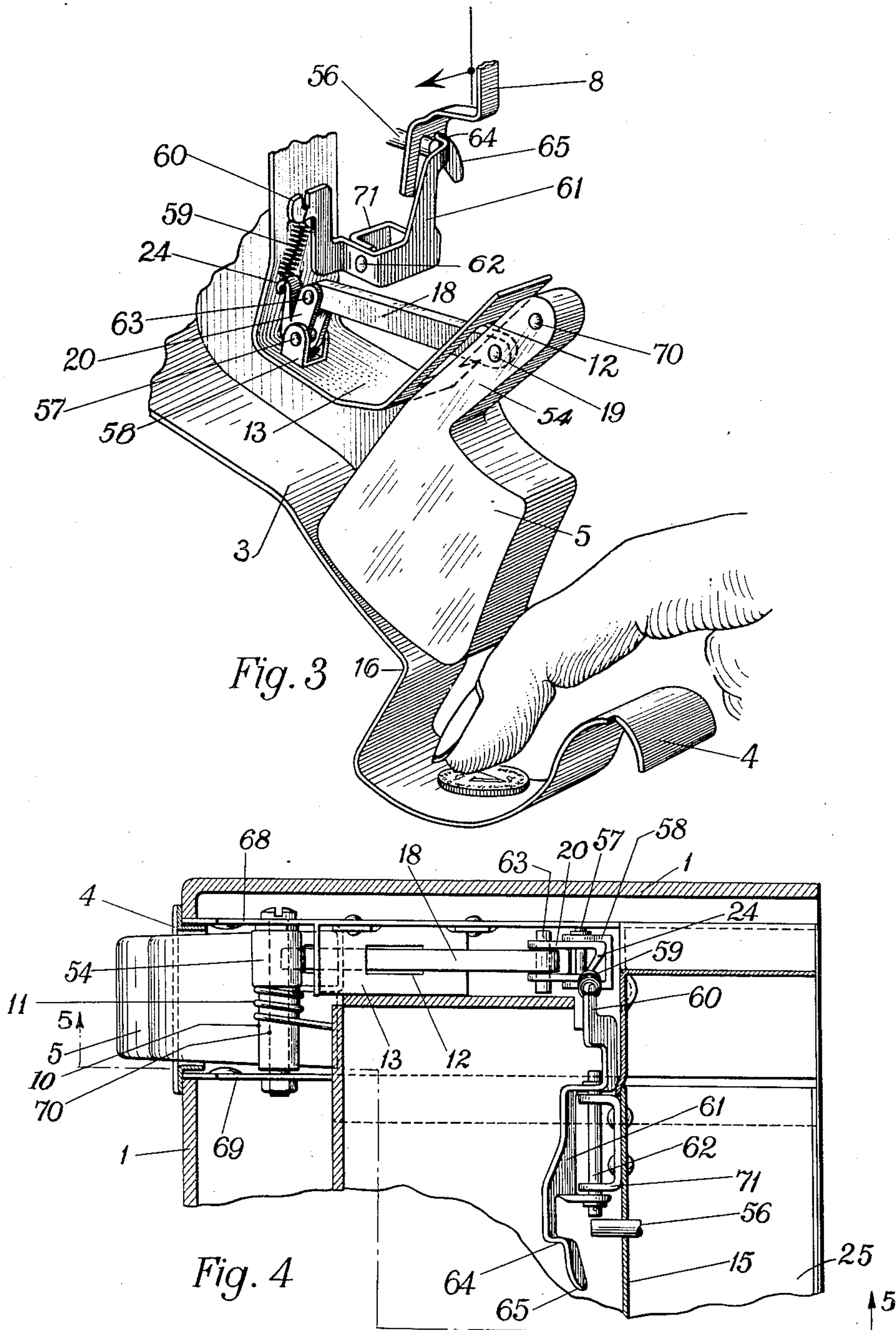
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3 Sheets-Sheet 2



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3 Sheets-Sheet 3

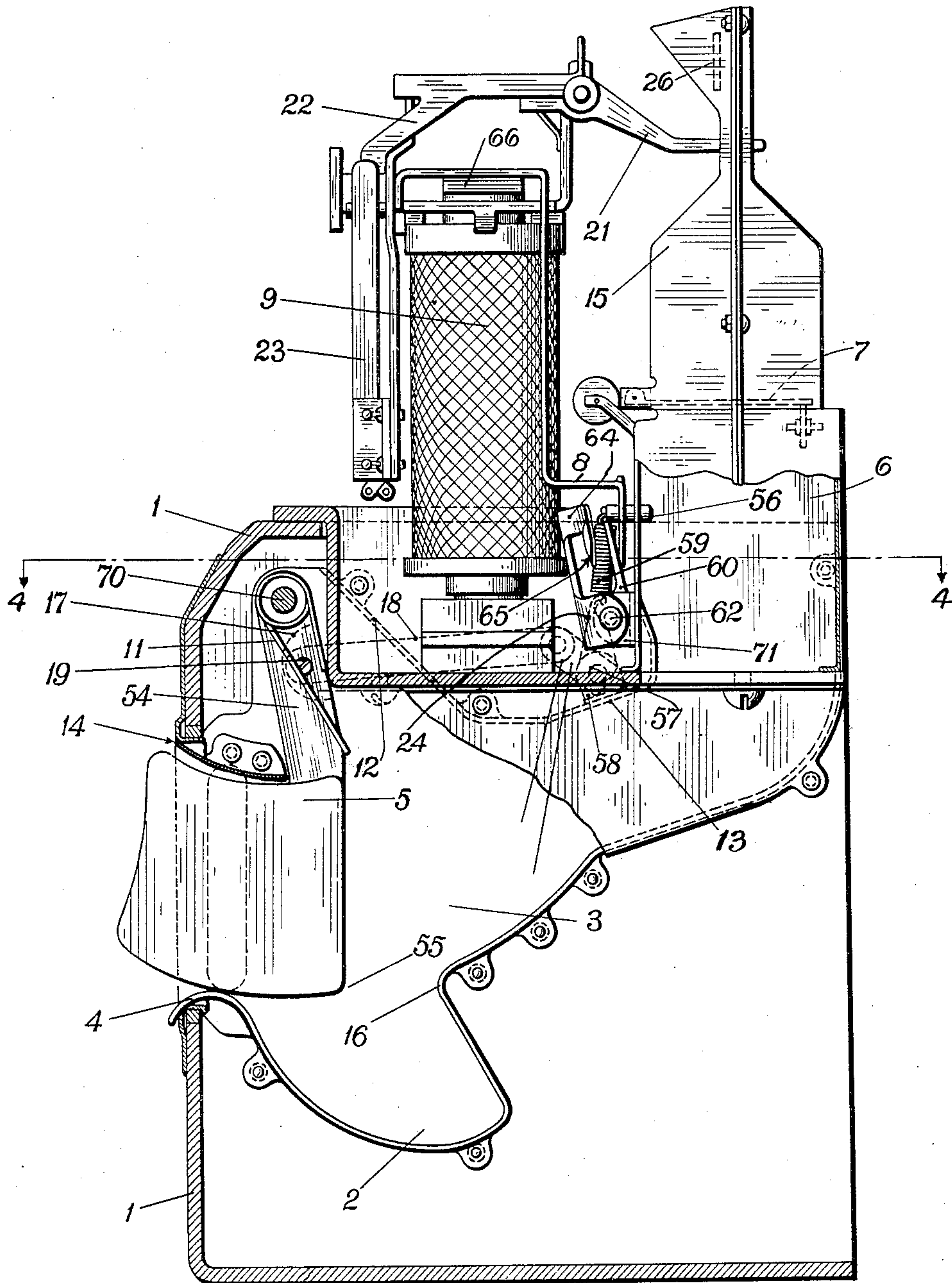


Fig. 5

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TELEPHONE PAY STATION APPARATUS

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Application November 2, 1932. Serial No. 640,895

15 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 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 10 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 15 with the coin 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 coin collecting 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 this 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 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 40 patron.

Another object of the invention 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 45 of fraudulent gain by obstructing the coin return chute, thereby discouraging any such attempts.

A further object of the invention is to provide a mechanism which will not add any load on the operating mechanism of the coin magnet under normal circumstances and will, therefore, not decrease the sensitivity of the magnet and the length of the loops over which it can be operated.

55 A still further object is to provide a mecha-

nism which has a positive action insuring complete freedom for the coin magnet mechanism when the return chute is not stuffed and absolutely blocking the relay against refunding operations when the return chute mechanism is 60 stuffed.

An additional object is to provide an indication to the patron using the coin box so that he can report the trouble in case the refund mechanism is rendered inoperative by disabling the mechanism associated with the return chute 65 opening.

This return chute mechanism consists of a movable plug which is provided to close the return chute opening and is intended to be 70 moved inward by the patron's finger when removing the refunded coins from the return chute. The plug and chute mechanism are arranged so that it is impossible to stuff material behind the plug and the only recourse for the person attempting to stuff the mechanism 75 would be to block the plug itself. If an attempt is made to block the plug in the forward position by wedging it with material inserted between the plug and the coin return chute opening, the patron may free the plug by pushing 80 in on the plug in view of its tapered construction. In case the plug is wedged in the rear-most position, a linkage mechanism blocks the coin magnet from refunding coins until the mechanism has been cleared. This connecting 85 linkage to the plug operates a member through a spring toggle action which snaps into the blocking position at the side of the coin vane extension pin. When the plug moves forward, 90 the blocking member moves quickly away from the coin vane extension pin restoring the mechanism to normal. This construction does not involve any added load on the coin magnet, as the connecting linkage is entirely disconnected 95 when the chute is in the unstuffed condition.

As a result of the blocking of the refund operation, the operator in case of a manual coin collector would not be able to clear the trap where the coins are resting by the operation of 100 the coin return 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 coin collect key. 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 signal from relighting when 110

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
 5 may be arranged 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.
 10 In the 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
 15 has stuffed 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
 20 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
 25 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.
 30 This 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
 35 attempt at 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
 40 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
 45 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.

Furthermore, as soon as the mechanism is
 50 freed by a patron or telephone company representative by the removal of the material wedging the block in the rearmost position, the mechanism is restored without further adjustment of the mechanism.

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
 60 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
 65 improved invention and showing a manual central office A at which the line of a substation B terminates;

Fig. 2 is a fragmentary perspective view, as
 70 seen diagonally from the side and front, of the lower housing of a coin collector showing the coin hopper mechanism, a portion of the relay operating arm, the toggle linkage mechanism for blocking the relay arm, the connecting mechanism to the movable plug in the return chute
 75 opening and the construction of the plug and

return chute embodied in one form of this invention which is shown in the normal unoperated position;

Fig. 3 is a perspective view in diagrammatic form seen from the same position as Fig. 2 with
 80 the plug in the rearmost position showing how a patron's finger is inserted in the return chute to extract the refunded coins. It also shows the manner in which the plug blocks the return
 85 chute leading to the coin magnet and how the toggle linkage functions to intercept the coin vane from operation in the refund direction with the plug in this position;

Fig. 4 is a top view of a partial section of the coin return chute mechanism, the section being
 90 taken along the lines 4—4 of Fig. 5 with the relay and operating arm omitted. The parts are shown in the normal unoperated position;

Fig. 5 is a sectional side view of the refund mechanism taken along the lines 5—5 of Fig. 4.
 95 In this view also, the parts are shown in the normal unoperated position. In this view the coin control magnet with the trigger and ground contact mechanism is shown.

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 and coin hopper are used without change in
 100 this invention.

As may be seen by reference to Figs. 2, 4 and 5, the refund chute is provided within the casing 1 by parallel vertical side walls 68 and 69 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 apparatus to a vertical opening 4 through which they may
 105 be recovered by the patron. A tapered plug 5 is pivoted on a pin 70 so that it normally fills the opening 4 in the return chute closing off the interior of the return chute completely. The pin 70 is provided with a slotted head at one end with a threaded nut on the other end to hold it in place between the side walls 68 and 69. The plug 5, which may be made of die-cast aluminum, molded bakelite, or fashioned from
 110 some other suitable material, has an extension portion 54 with an integral collar 10 which serves as a locating member and a bearing for the plug on the pin 70. A spring 11 made from spring steel wire or other suitable material is coiled around the collar 10 of the plug 5 and is
 115 intended to keep the plug 5 in its forward position or to return it to that position when it is moved to permit the extraction of coins from the return chute. As shown in Fig. 3 when the operator has refunded coins, the patron inserts
 120 his finger into the opening 4, pushing plug 5 to the rear so that the coins may be extracted from the depression in the bottom portions 2 of the chute. In this position, plug 5 entirely blocks the opening 3 of the chute so that it
 125 protects the coin control magnet from tampering by means of wires or other foreign objects inserted through the return chute. In this position, the opening 12 in the roof 13 of the return chute is also closed by the extension 54
 130 of the plug 5. Referring to Fig. 2 and Fig. 5, the return chute is constructed with the plate 14 at the top of the opening 4. The plug 5 is formed so that in the forward position it fits snugly in the opening 4 as it is provided with
 135 140 145 150

slightly tapering side walls and top and bottom surfaces which conform to the contour of the adjacent walls of the return chute. If an attempt is made to stuff material between the plug 5 and the sides of the opening 4, it is a relatively simple matter for the patron to press on the outer surface of the plug 5 and push it inward and free the plug. It will also be noted from Fig. 5 that the dimensions of the plug 5 are such that as the plug is moved inward a sufficient distance so that it is possible to stuff material around its edges and into the opening 4, its rearmost portion 55 has reached the point 16 in the bottom of the return chute 2 blocking the rear of the chute. This makes it impossible to stuff material behind the plug and into the upper rearmost portion of the return chute opening 3.

It will be seen from the foregoing description that the return chute opening and return chute plug are so designed that it is impossible to stuff material into the upper rearmost portion of the return chute where it cannot be reached by the patron. Although material might be stuffed into the depression in the bottom member 2 of the return chute, it would also be equally easy for the patron to discover it and remove it. Furthermore, if the plug is wedged in the forward position it can be easily released by the patron. Consequently, the only way in which the return chute arrangements can be disabled so as to prevent coins from being refunded properly to the patron is by wedging the plug 5 in the rearmost position of its travel.

To prevent the refunding of coins in case the plug is stuffed in its rearmost position in the chute, a toggle linkage mechanism is provided which acts to block the coin vane so that the coin control magnet cannot operate it in the refund direction. This does not, however, interfere with its operation in the collect direction. The extension arm 54 of the plug 5 is provided with a cutout portion 17 in which a connecting arm 18 is pivoted on the pin 19. This connecting arm 18 passes through an opening 12 in the roof 13 of the return chute and it is connected to and operates a lever arm by means of a pivot pin 63 at the upper end of the lever arm 20. The lever arm 20 is pivoted at 57 in a support 58 which is fastened to the roof 13 of the return chute. The other end of the lever arm 20 is formed into a hooked member 24 to which a spring 59 is attached. The other end of the spring 59 is connected to an arm 60 of the toggle member 61 which is pivoted on a pin 62 mounted on a support 71 which is fastened to the coin hopper 15. The other arm of the toggle member 61 is bent so as to form a stop 64 which will, when moved towards the hopper, block the coin vane extension pin 56 against motion in the refund direction. It is also provided with an arm 65 so that if the coin vane extension pin 56 has already been operated to the refund direction, the toggle arm 61 cannot move towards the hopper and block the coin vane extension pin 56 until the coin vane has been restored to the normal position. The relationship of the pivot supports 57 and 62 and the fastening points for the spring 59 to the arms 24 and 60 are such that there will be no movement of the toggle arm 61 until plug 5 has been moved to the rear of the chute a sufficient amount to clear the opening 4 in the return chute. At that point of the motion, the toggle action takes place snapping the toggle

arm 61 into the position to block the coin vane extension pin 56. At approximately the same point in the forward motion, the action is reversed and the coin vane extension pin 56 is unblocked.

Referring to Fig. 5, the coin trigger 21 associated with the coin control magnet 9 is of the conventional construction and is arranged to be deflected by the deposit of the coin 26 initially so that the coin trigger arm 22 drops into a depression in the contour of the coin trigger 21 as shown in the Forsberg patent completing the signaling circuit to ground through the contact springs 23. The coin 26 comes to rest on the trap 7. When the operator attempts to refund the coin 26 by applying current to operate the coin magnet 9 in the refund direction, if the plug 5 is in the normal position, the blocking member 64 is clear of the coin vane extension pin 56 and, consequently, does not interfere with its motion to the right. As the lower portion of the coin vane 6 is pivoted in the front and rear walls of the coin hopper 15, when the extension pin 56 is moved to the right in the refund direction, the upper end of the coin vane 6, which has been supporting trap 7 and the coin 26, is moved from under the trap 7. The weight of the coin 26 will depress the trap 7 and the coin 26 will slide from the trap 7 and be directed towards the refund chute 3. If, on the other hand, the operator attempts to collect the coin by applying current to operate the relay 9 in the collect direction, the upper end of coin vane 6 is moved to the left causing the coin to be directed towards the runway 25 leading to the cash receptacle. When the armature 66 of the magnet 9 is operated to either the collect or refund position, this movement permits 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 66 is operated, thus opening the ground contacts 23 and clearing out the signaling circuit to the central office.

In the event that coins have been refunded by the operator, they pass into the return chute 3 and drop into the depression in the bottom wall 2 of the return chute. The patron pushes the plug inward and extracts the coins. The movement of the plug, through the linkage mechanism operates the blocking member 64, but, inasmuch as the refunding operation has been completed, this does not have any effect. If the plug is pushed by the patron before the coin vane 6 and the coin vane extension pin 56 have restored, the extension wing 65 prevents it from interfering with the restoration of the coin vane 6 and the magnet 9. If, on the other hand, the patron attempts to extract the coins prematurely before the operator has refunded, the action will be the same as if the plug has been stuffed in the rearmost position and is handled as will be described later for this circumstance.

In case a person attempts to wedge the plug in the rearmost position, the operation of the mechanism for the collection of coins by the operator is not interfered with in any way as the motion of the coin vane extension pin 56 as moved by the magnet operating arm 8 is to the left and away from the blocking member 64. On the other hand, if the operator attempts to refund coins, the blocking member 64 effectually prevents the coin vane extension pin 56 from being moved in the refund direction by the mag-

net operating arm 8 and the armature 66 of the magnet 9. Consequently, the coin 26 will remain on the trap 7. The armature 66 not having operated, the coin trigger arm 22 will have prevented the coin trigger 21 from restoring. Consequently, as long as the plug 5 is wedged in the rearmost position, the refunding of coins and the clearing out of the signaling circuit to the central office is prevented. This will not, however, prevent the collection of coins and the clearing out of the central office ground as heretofore described. However, if at any time the plug is released, the refunding operation can henceforth be accomplished in the normal manner and the signaling circuit to the central office cleared out normally.

Fig. 1 shows the circuits involved in a manual central office A and at the station B 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 lamp 47, lighting this lamp, 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 its 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 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, the 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 closure of this circuit causes the energization of relay 45 which closes 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 53 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 66 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 66. At the same time the coin trigger arm 22 (Fig. 5) is lifted so that the coin trigger 21 can 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 66 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 can 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 coins. 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 telephone desired, the above operations would be repeated except that the operator would depress the coin return key 36 instead of the coin 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. The completion of the circuit to the magnet causes the armature 66 of the magnet 9 to operate in the refund direction moving the operating arm 8 and the coin vane 6 (Fig. 5) 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 by the movement of the plug 5. While the armature 66 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 66 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 plug 5 is wedged in the rearmost position so that the armature 66 cannot operate to the refund position when the coin return key 36 is operated, the coin trigger arm 22 (Fig. 5) 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 mechanism is blocked so that the return of the coin cannot proceed in the usual manner, he can signal the operator by operating the switch-hook to close its 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 will then be informed by the patron that the money has not been refunded. The operator can operate the coin return key 36 again and by observation of the lamp 51 and the pilot lamp 37 can 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 di-

rection. 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 plug is wedged and the refunding mechanism is disabled, 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 can then attempt to return the coin again and if unsuccessful can 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 coin collector restored to normal operation.

It should be noted from the foregoing description of this invention that any disabling of the return chute mechanism so that coins will accumulate in the return chute and later be removed by the person who disabled the mechanism is prevented. Furthermore, the disabling of the return chute mechanism by wedging the plug in the rearmost position is clearly indicated to the patron by the normal appearance of the return chute mechanism enabling the patron to report the matter to the operator. The refunding of money by the operator during the period while the return chute mechanism is disabled is prevented. Consequently, the fraudulent collection of money from the return chute by unscrupulous individuals is impossible.

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 including a return chute adapted to receive and retain refunded coins temporarily, a magnet for controlling the movement of the coins to said chute and means normally disconnected from said magnet for mechanically causing its unbalance to prevent the movement of coins to the return chute when said chute is rendered inoperative.

2. In a coin collecting device, a coin control magnet for collecting or refunding coins in accordance with the character of the current applied thereto, a return chute adapted to re-

ceive coins refunded by said control magnet, and mechanical means normally disconnected from said coin control magnet for obstructing said coin control magnet from operating in the refund direction during the application of refund current when said return chute is rendered inoperative for the return of coins.

3. 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 with an accessible portion adapted to receive refunded coins, and means normally disconnected from said coin control magnet for mechanically obstructing said coin control magnet from operating in the refund direction upon the rendering of said return chute inoperative for the return of said coins by fraudulent manipulation, said means being disconnected from the coin control magnet and clearing said coin control magnet for operation in the refund direction upon the return chute being made operative for the return of said coins.

4. In a coin collecting device, a magnet for controlling the collecting and refunding of coins, a return chute associated with said magnet and adapted to receive refunded coins, and toggle means for obstructing said magnet from operating to refund coins upon the disabling of the return chute by fraudulent manipulation.

5. In a coin collecting device, a magnet for controlling the collecting and refunding of coins, a return chute associated with said magnet and adapted to receive refunded coins, and toggle means for obstructing said magnet from refunding coins upon the disabling of the return chute by fraudulent operation, and for clearing said magnet for refunding coins upon the restoration of the return chute to operative condition.

6. In a coin collecting device, a magnet for controlling the collecting and refunding of coins, a return chute associated with said magnet and adapted to receive refunded coins, toggle means normally disconnected from said coin control magnet for obstructing said coin control magnet from refunding coins upon the disabling of the return chute by fraudulent operation, said toggle means being arranged for clearing said coin control magnet for refunding coins upon the restoration of the return chute to operative condition, said toggle means being also arranged for permitting the collecting of coins with the return chute inoperative and operative.

7. 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 chute adapted to retain refunded coins temporarily, and toggle means normally disconnected from said coin control magnet for obstructing said coin control magnet from refunding coins during the application of refund current upon the disabling of the return chute by fraudulent operation, the collecting of coins by the coin control magnet during the application of collect current being unaffected, said toggle means being adapted to clear said coin control magnet for refunding coins during the application of refund current upon the restoration of the return chute to operative condition.

8. In a coin collecting device including a coin control magnet, a return chute for said device having an exit opening normally closed, and means to unbalance the coin control magnet upon the rendering of said return chute in-

effective by fraudulent manipulation for the refunding of coins.

9. In a coin collecting device including a coin control magnet and a return chute, a plug normally closing the exit opening from said return chute, said plug being movable to clear said exit opening for extracting refunded coins, and means associated with said plug for disabling said coin control magnet from refunding coins when said plug is moved to clear the exit opening.

10. 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 having an exit opening, a movable plug normally closing said exit opening, said plug preventing access to the coin control magnet by the insertion of foreign material through said return chute, said plug also being adapted to prevent the stuffing of foreign material into the return chute past said plug, and means responsive to the fraudulent manipulation of said plug to prevent the removal of refunded coins by obstructing the coin control magnet from operating in the refund direction upon the application of refund 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 including a coin control magnet at the substation, a return coin chute for the collecting device, and mechanical means normally disconnected from said coin control magnet, said means being actuated in response to fraudulent manipulation to disable said return chute by obstructing said coin control magnet from discharging coins into the return coin chute upon the operation of the coin collect or coin return keys.

12. 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 coin control magnet therefor, a return coin chute and a collect coin chute associated with said magnet, and toggle linkage means actuated by the disabling of said return coin chute for obstructing said coin control magnet to pre-

vent the discharge of coins to the return coin chute upon the operation of the coin return key and to permit the passage of coins to said collect chute upon the operation of said 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 at the substation, a coin control magnet therefor, a return chute associated with said magnet having an exit opening, a plug for normally closing said opening and means to unbalance the coin control magnet upon the rendering of said return chute ineffective when said plug is tampered with to prevent the refunding of coins by the operation of the coin collect key.

14. In a telephone system including a central station and a substation connected thereto, coin collect and coin return keys at a central station, a coin collecting device at the substation, a coin control magnet therefor, a return chute having an exit opening, a plug normally closing said opening, said plug being movable to extract refunded coins from said return chute, and toggle means associated with said plug for preventing said coin control magnet from refunding coins upon the operation of the coin return key when said plug is clear of said exit opening and to permit the passage of coins to said collect chute upon the operation of said coin collect key.

15. In a coin collecting device, a coin control magnet therefor, a return chute leading from said coin control magnet having a depression adapted to receive and retain refunded coins temporarily and an exit opening through which the coins may be recovered, and means for closing said exit opening while said return chute is receptive to the discharge of coins from said coin control magnet into said depression, said means being movable upon the extraction of coins from said return chute depression to close said return chute against the discharge of coins and against attempts at fraudulent manipulation of the coin collecting device.

WILLIAM H. EDWARDS.

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