

No. 845,370.

PATENTED FEB. 26, 1907.

F. R. McBERTY & J. L. McQUARRIE.

COIN COLLECTOR.

APPLICATION FILED JAN. 23, 1903.

5 SHEETS—SHEET 1.

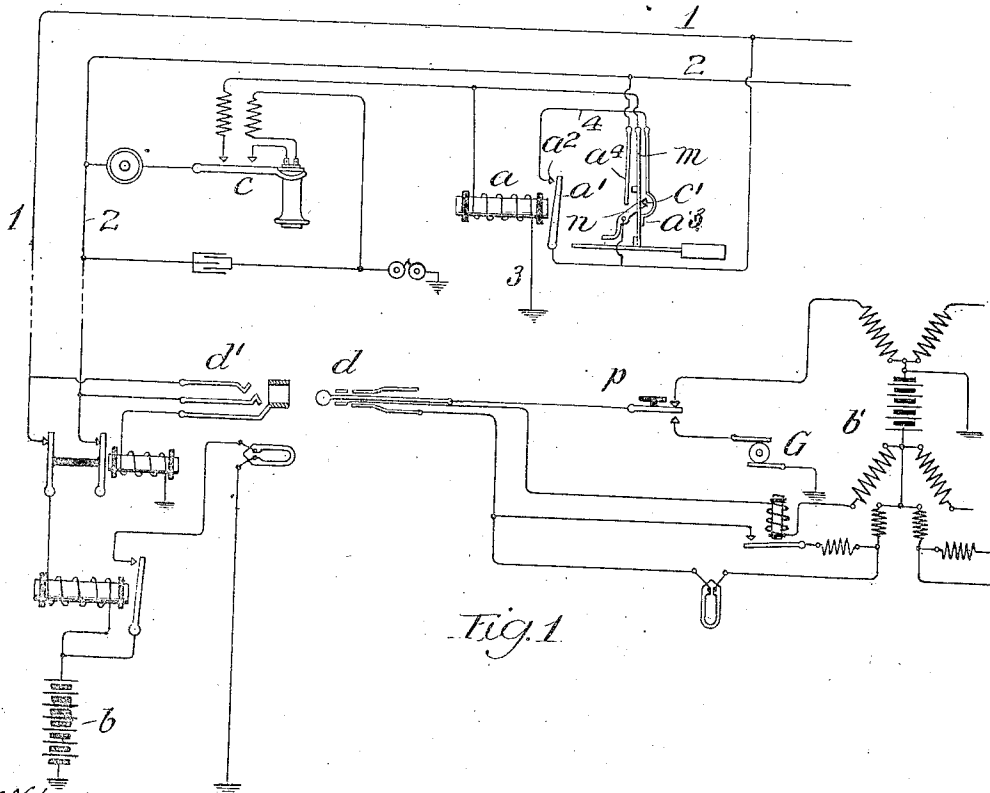
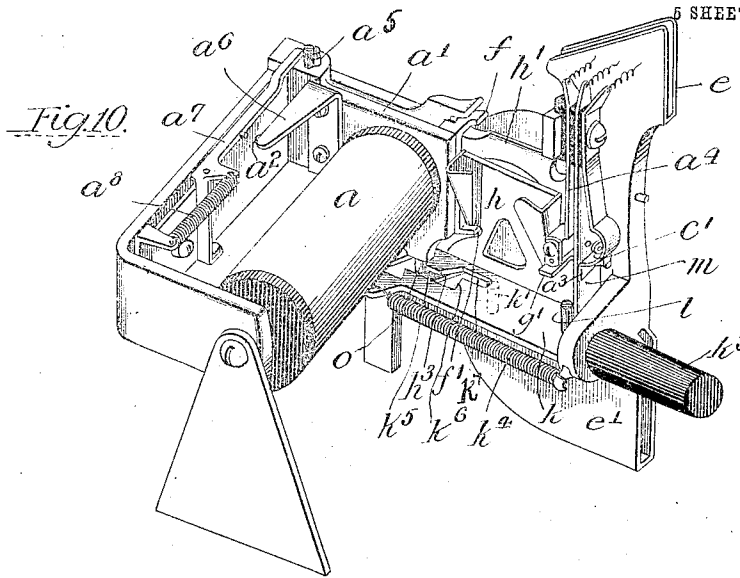


Fig. 1

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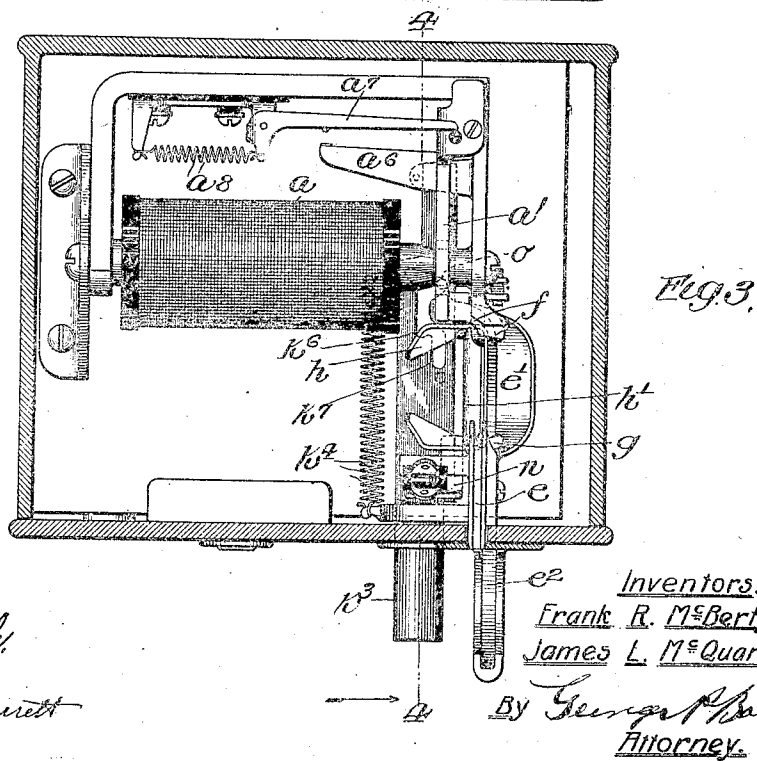
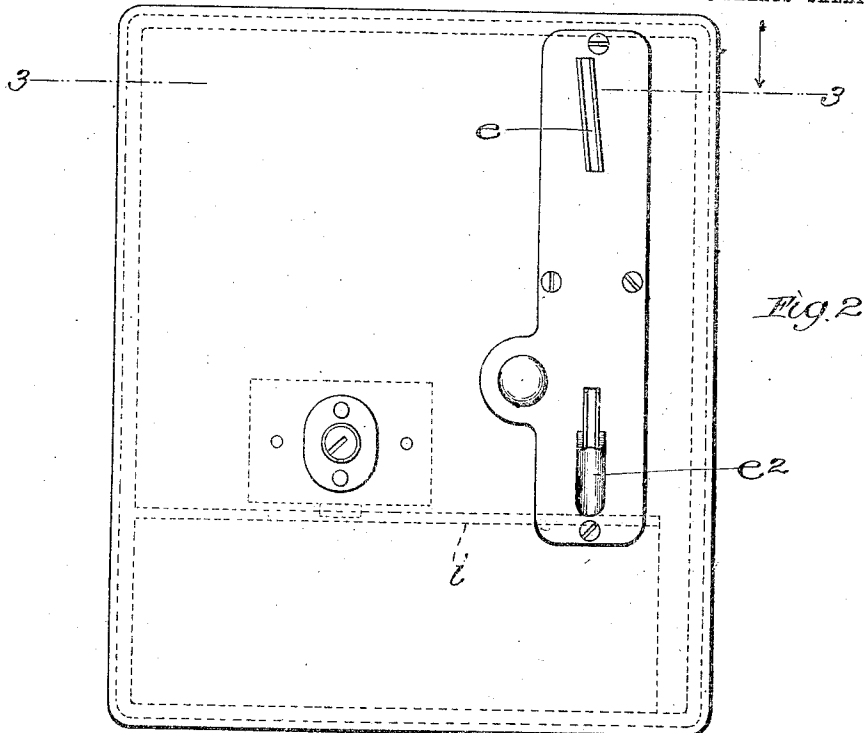
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5 SHEETS—SHEET 2.



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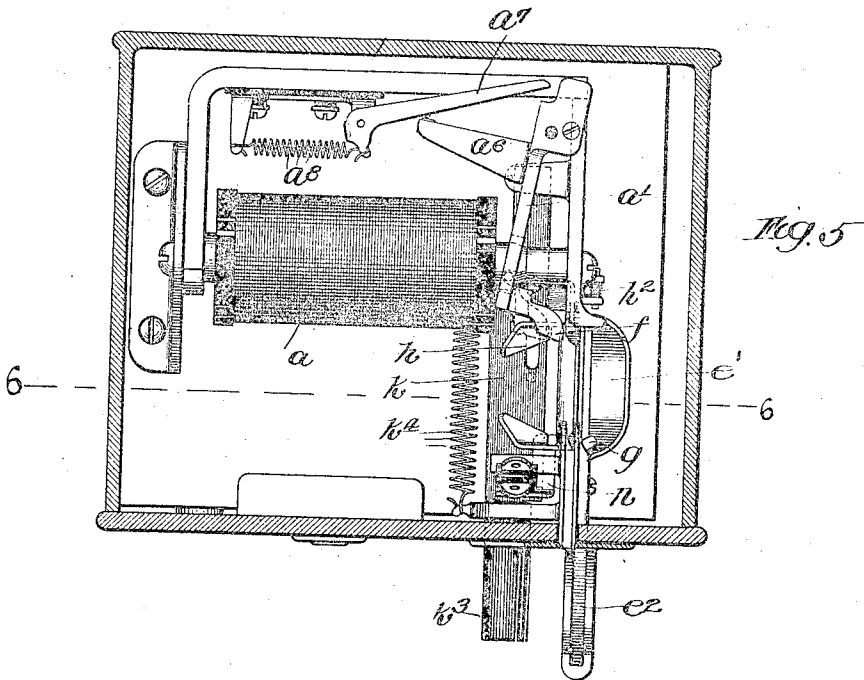
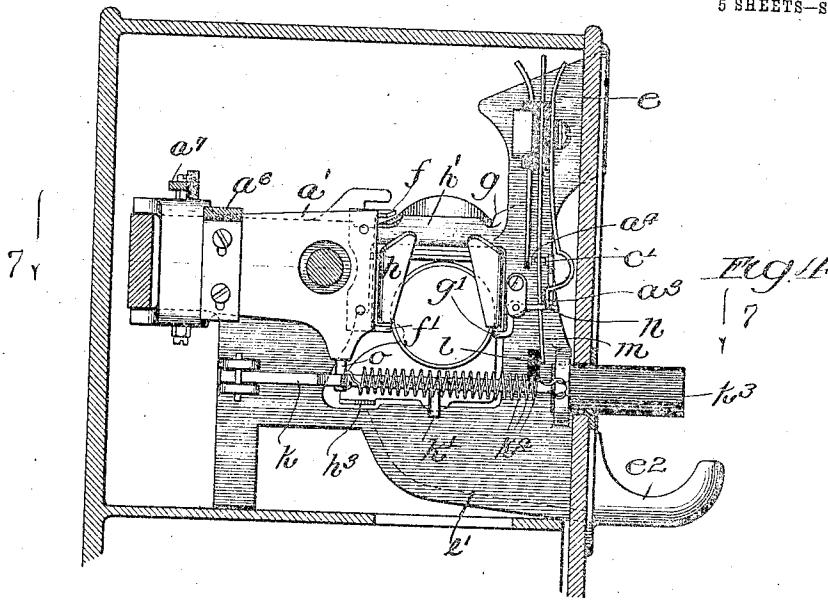
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5 SHEETS—SHEET 3.



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5 SHEETS—SHEET 4.

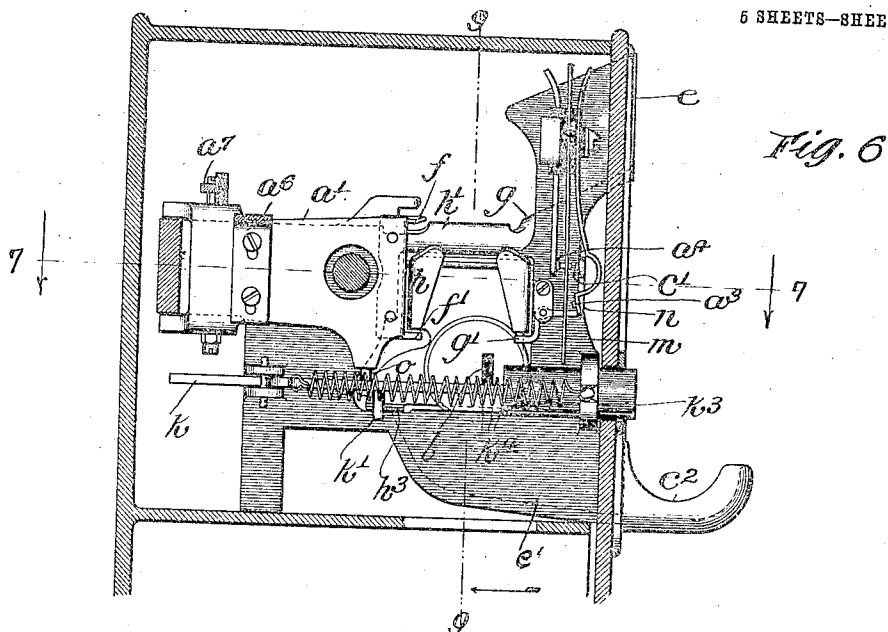


Fig. 6

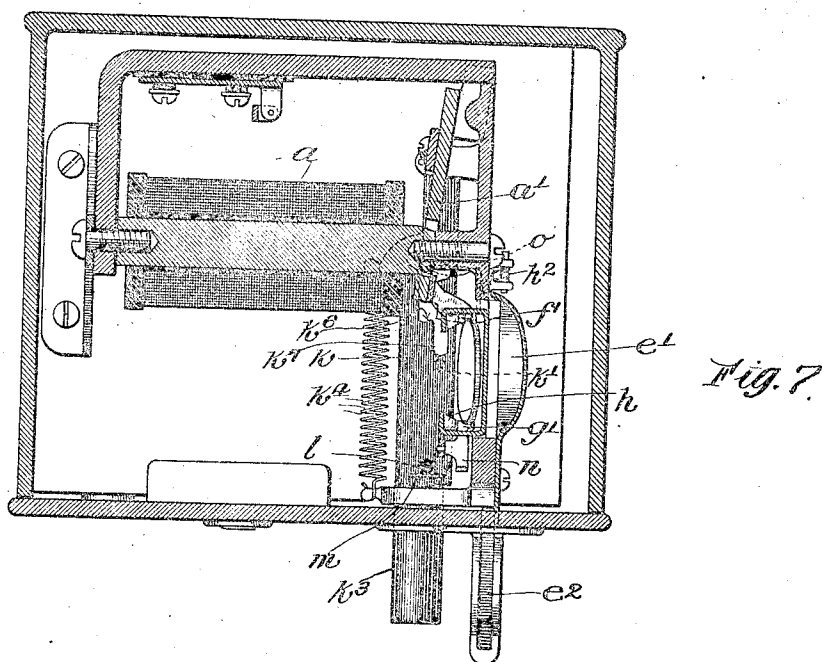


Fig. 7

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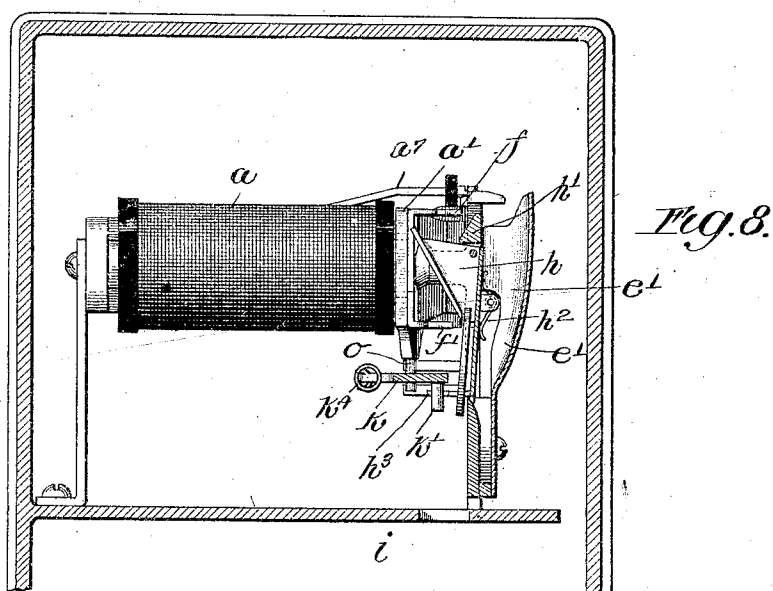
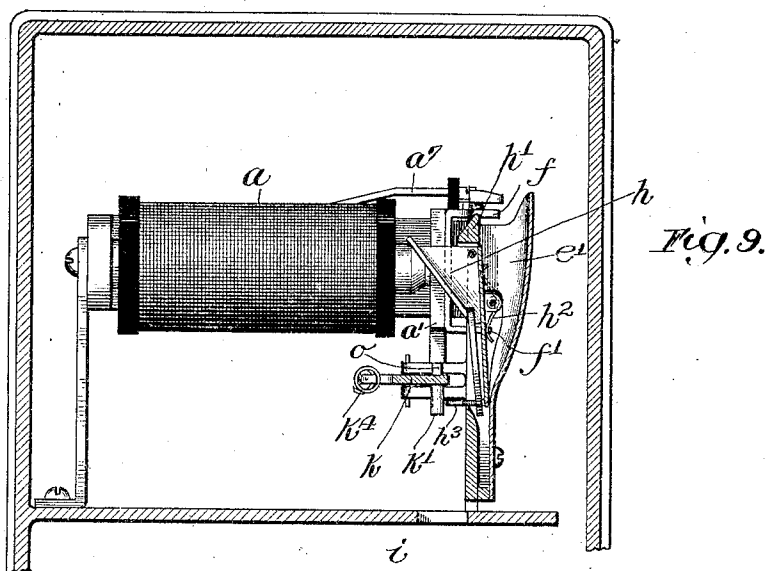
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COIN COLLECTOR.

APPLICATION FILED JAN. 23, 1903.

5 SHEETS—SHEET 5.



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UNITED STATES PATENT OFFICE.

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OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

COIN-COLLECTOR.

No. 845,370.

Specification of Letters Patent.

Patented Feb. 26, 1907

Application filed January 23, 1903. Serial No. 140,266.

To all whom it may concern:

Be it known that we, FRANK R. McBERTY and JAMES L. McQUARRIE, citizens of the United States, residing at Evanston and Chicago, respectively, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Coin-Collectors, of which the following is a full, clear, concise, and exact description.

Our invention relates to a pay-station system for telephone-exchanges, and has for its object to provide an improved organization of circuits and apparatus for controlling the disposition of coins deposited in the sub-station toll-box in payment for telephone service.

Our system is of the general type wherein at the initiation of a call the subscriber makes a preliminary or provisional deposit of a coin in the toll-box, the mechanism whereof is controlled electrically from the central office. The deposited coin is held pending its final disposition in a temporary receiver, from which it may be discharged either into a cash-box or into a return-chute which refunds it to the depositor. The refunding mechanism, according to our plan, is to be manually operated by the subscriber, under the control, however, of the operator at the central office. The permanent deposit of the coin in the cash-box may be brought about by electromagnetic mechanism actuated from the central office.

Our invention is directed toward means for insuring the proper preliminary deposit of the coin as a prerequisite to securing any attention from the central office, but more particularly toward means for permitting the recovery of the coin under various circumstances where no charge should properly be made, while effectually preventing its fraudulent recovery or other "beating" of the system.

Certain particularly-desired features of operation which are accomplished by our invention are as follows: The central office is signaled only by the preliminary deposit of a coin. If the line is a party-line and is already in use, the coin will be immediately and automatically returned. If the line is out of order, so that the attention of the central office is not secured, the coin can be re-

covered by the subscriber by operating his refunding mechanism. As soon as the operator answers the call, she immediately has entire control of the coin, so that the subscriber cannot recover it without her assistance. The final discharge of the coin into the cash-box may be brought about by the operator pressing a key at the central office or, under proper circumstances, after the operator has performed a given act—such, for example, as the taking down of the connection—the subscriber may recover the coin by operating his refunding mechanism. The operator has perfect control of the deposited coin as soon as she has answered the call and retains it during the existence of the connection, and these several results are secured without disturbing the usual operation of line and supervisory signals at the switchboard.

We will describe our invention in detail by reference to the accompanying drawings, which illustrate the preferred embodiment thereof, and the features or combinations which we regard as novel will be pointed out in the appended claims.

Figure 1 is a diagram illustrating the electrical features and circuits of a telephone-line extending from a substation to a central-office switchboard, the system being organized and equipped for operation in accordance with our invention. Fig. 2 is a front elevation of one form of substation toll-box or coin-collector which is intended for use in connection with our system. Fig. 3 is a sectional plan view thereof on line 3 3 of Fig. 2, showing the mechanism in full plan. Fig. 4 is a sectional side elevation on line 4 4 of Fig. 3. Fig. 5 is a plan view of the mechanism, showing the armature of the actuating-magnet fully attracted in position to discharge a coin from the temporary receiver into the cash-box. Fig. 6 is a sectional elevation showing the plunger of the refunding mechanism pushed clear in. Fig. 7 is a sectional plan view showing the armature attracted the first step. Fig. 8 is a sectional view on line 6 6 of Fig. 5. Fig. 9 is a similar view, but illustrating the temporary coin-receiver shifted to one side to discharge the coin therefrom into the return-chute; and Fig. 10 is a perspective view of the toll-box mechanism.

The same letters of reference are used to designate the same parts wherever they are shown.

Each substation of the telephone-line, which is shown in Fig. 1 as a party-line, extending in two limbs 1 2 to a number of stations, is provided with a toll-box, into which a coin must be deposited in order to signal the central office. The particular mechanism of the toll-box is not to be claimed in this application, being made the subject of a separate sole application for patent by Frank R. McBerty. The system of our invention, however, is designed to include at each pay-station a toll-box of the general type of that which is made the subject-matter of the McBerty sole application before referred to.

The telephone-line extends in two limbs 1 2 from a number of substations (it being assumed that the line is a party-line, but only one substation being illustrated) to a central-office switchboard. The line conductor 1 is normally connected at the central office through the winding of a signal-controlling instrument (shown as the usual line-relay) and the contacts of a cut-off relay to the free pole of a grounded battery *b*. The conductor 2 is shown normally open. A central-office switching-circuit of a well-known character is illustrated, having a plug and spring-jack connection-switch by which it may be connected with the line. A grounded battery *b'* (which may be the same as battery *b* in accordance with the usual practice) is connected in a bridge of the plug-circuit, and when the plug is inserted in the spring-jack the battery *b'* is applied to the line, the free pole thereof being connected to the line conductor 2. At the same time the cut-off relay is actuated to disconnect the battery *b*, so that the effect of making connection with the line, as in answering the subscriber's call, is to transfer the connection of the free pole of the battery from conductor 1 to conductor 2. A key *p* is associated with the operator's plug-circuit, which is adapted when depressed to break the circuit of the tip-strand and connect the end thereof leading to the tip of the plug—that is, to the limb 1 of the telephone-line—to the free pole of a grounded generator *G* of special strong current.

At the substation the usual telephone apparatus is connected in a bridge of the line controlled by the usual telephone-switch *c*, and we also further control said bridge at another point by contacts associated with the toll-box. The actuating-magnet *a* of the toll-box mechanism is connected in a ground branch or other return-circuit from the limb 1 of the telephone-line controlled by a contact *c'*, which is arranged to be actuated by a deposited coin, as will hereafter be described. The connection of the magnet with the other limb 2 is controlled by the telephone-switch, said magnet being shown in a

grounded branch from the bridge of the line at a point between the telephone apparatus on the one side and the coin-actuated contact on the other. The armature *a'* of the magnet is preferably arranged to close a relay-contact *a''*, controlling a shunt 4 of the coin-actuated contact *c'*. Said shunt, however, is also controlled at a normally closed contact *a''*, which is opened in the actuation of the manually-operated refunding mechanism of the toll-box. A normally open contact *a'* is also closed in the actuation of the refund mechanism, whereby the magnet *a* is connected directly to the limb 2 of the line—that is to say, in the initial movement of the refunding mechanism the connection of the magnet *a* is transferred from line conductor 1 to conductor 2. The magnet *a* is of high resistance and impedance and is adapted to respond weakly to current from the central-office battery, but will respond with considerably greater energy to current from the generator *G*.

In order that our system may be thoroughly understood, we will now proceed to describe the particular toll-box illustrated, which is designed for use in connection therewith.

The receiving coin-chute *e* has its mouth near the top of the front face of the box and leads rearwardly downward to the mechanism which separates proper coins from those which are undersized. Two stops *f g* are provided in the path of the falling coin and are at such a distance apart that coins of the required size cannot pass between them, and the coin-chute is continued below said stops as a return-chute *e'*, leading back to a return cup *e''* at the front of the box. A temporary receiver *h* in the form of a swinging guideway is provided alongside the return-chute, and a bar *h'* forms the upper edge of the partition dividing said receiver from the return-chute, the lower portion of said partition being formed by the wall of the temporary receiver. The stops *f g* are placed so as to arrest the coin alongside the bar *h'*. The edges of said stops are preferably inclined, as shown, so that the coin will be supported at its outer edges only in such a way that it will tend to turn sidewise over the bar *h'* and this tendency is increased by arranging the chute at a slight angle, so that the coin will already be tilted to one side when it strikes the stops. The center of gravity of the coin will therefore be displaced toward the receiver *h*, and the coin will turn sidewise over the bar *h'* and fall into said receiver, where it will be held by stops *f' g'*. One advantage of this peculiar arrangement for deflecting the coin laterally is that a string attached to the coin will interfere with the freedom of movement which is necessary to the normal operation. The beating of the device is therefore made more difficult. The stops *f f'* are carried at

the top and bottom, respectively, of the armature a' of the magnet a , said armature being pivoted at a^b substantially in the plane of the receiver to swing horizontally, moving the stops carried thereby across the edges of the chute and receiver. The armature-lever a' is normally held in a retracted position by the end of a bell-crank lever a'' , pressing against an insulating-stud carried by said armature-lever near the fulcrum thereof. Said bell-crank lever is actuated by the spring a^s . The armature carries an arm a^c , which extends at right angles thereto toward the fulcrum of the spring-actuated lever a'' in position to form an intermediate stop for the armature-lever when the latter is partially attracted. Contact parts are carried by the arms a^c at their points of engagement to constitute the relay-contact designated in the diagram as a^2 . After the armature has reached its intermediate position the final step or movement in its attraction to the position shown in Fig. 5 is opposed by the considerably-increased resistance due to the change in the leverage by which the tension of spring a^s is applied.

The upper stop f , carried by the armature, is normally interposed in the coin-chute in position to deflect a deposited coin into the coin-receiver, but is withdrawn by the attraction of the armature through the first step. The lower stop f' is normally interposed at the bottom of the temporary receiver h in position to cooperate with the stop g' to arrest a coin in said receiver, and said stop f' is long enough to remain in the path of the coin whether the armature is in its normal position or has been moved to the intermediate position; but when the armature is completely attracted, as shown in Fig. 5, said lower stop f' will be moved out of the path of the coin to permit the same to fall through into the cash-box i . The swinging receiver h is normally maintained by the spring h^2 in the position shown in Fig. 8, so that when the armature of the magnet is fully attracted to remove the lower stop f' from the path of the coin said coin will be directed into the cash-box. Means are provided, however, for swinging the receiver over to the position shown in Fig. 9, so that a coin will be directed therefrom into the return-chute. The lower stop g' does not extend over far enough into the chute to support the coin in the receiver or guide when the same is shifted to the position shown in Fig. 9, so that the coin will thus be released even though the other stop f' is not moved, the relation of the stops to the receiver being such that the coin will fall through unless it is supported by both of said stops. The shifting of the receiver to discharge the coin into the return-chute may be effected by a pin k' , carried by the plunger-bar k , engaging a beveled ear or cam-plate h^3 , carried by the lower end of said

swinging receiver. The bar k is fitted with a push-button k^3 , by which it may be reciprocated, said bar being normally maintained in the position shown in Figs. 3 and 4—for example, by the spring k^4 .

To prevent the plunger from being pushed in to throw a coin into the return-chute under improper circumstances, a locking-pin o is carried by the armature and arranged to slide in a cam-groove k^5 in the plunger bar or plate k , said groove being formed so that when the armature is attracted the plunger cannot be pushed clear in. It will be noted that the cam-groove is shaped so that in the initial movement of the plunger the armature a' will be caused to move over to its intermediate attracted position in line with the projecting shoulder k^6 , so that unless the armature is retracted to enter the pin o in the extension k^7 of the slot the further inward movement of the plunger will be arrested before the pin k' has engaged the cam-plate h^3 to shift the swinging receiver. The advantage of this is that a very weak attraction of the magnet will serve to lock the plunger, since the armature is moved over close to the pole-piece by the initial movement of said plunger. This prevents the subscriber from recovering his coin by a sudden movement of the plunger to throw over the swinging receiver before the magnet has had time to draw up its armature through the considerable distance necessary. The movement of the plunger k may also serve to control the switch-contacts a^3 and a^4 . An insulating-stud l is carried by the plunger-plate and normally engages a contact-spring m , forcing the same into contact with a back contact-anvil a^3 . When, however, the plunger is pushed in by the initial movement, the pressure of the stud l against spring m is removed and said spring by its own resiliency leaves the back contact a^3 and comes against the alternate contact a^4 . A contact c' should be arranged to be closed by the coin when the same is held in the temporary receiver h , and for this purpose the lower stop g' , upon which the coin rests in the temporary receiver, may be formed by the lower end of a pivoted lever n , the upper end whereof carries the contact-point c' . When the coin is in the receiver, its weight swings the lever n upon its pivot and brings the contact-point c' into engagement with a corresponding contact on the switch-spring m . When said switch-spring takes its alternate position as the plunger is pushed in, it is separated from this contact c' as well as from contact a^3 .

The operation of the device is as follows: The subscriber desiring to transmit a call to the central office takes his telephone from its switch-hook c and deposits a coin in the coin-chute e . If the line is already busy at some other station, the magnet a will be excited by

current from either the battery *b* or the battery *b'* at the central office, so that the armature thereof will be drawn up and the stops removed from the path of the coin. The coin will therefore be immediately returned through the chute *e'* to the return-cup *e*². Ordinarily, however, the magnet will not be excited, and the coin will strike the stops *f g* and fall sidewise over the bar *h'* into the temporary receiver *h*, as before described. If a coin smaller than that for which the instrument is designed is deposited in the chute, it will simply fall through between the stops *f g* and into the return-chute instead of turning sidewise over the bar *h'*, as a proper coin will do. Assuming the coin to be a proper one and that it has turned over and come to rest in the temporary receiver, it will there bring about the closure of the contact *c'*, as before described. This will close circuit from conductor 1 (to which battery is applied at the central office) to earth through conductor 3, which includes the winding of magnet *a*. The magnet will then be excited and draw up its armature to the intermediate position. Three results are accomplished by drawing up the armature: First, the stops *f f'*, carried by the armature, are removed from the coin-chute, so that coins subsequently deposited will simply pass through the chute and be returned; second, the relay-contact *a*³ will be closed to close shunt 4 and maintain the circuit through the magnet independent of the coin-actuated contact *c'*, and, thirdly, the pin or stop *o*, carried by the arm *a'*, will be moved into the path of the shoulder *k*⁶ of the plunger-bar, so that if the magnet continues excited the plunger cannot be pushed clear in to recover the coin. Until the operator answers, however, the supply of current to magnet *a* can be cut off at contacts *a*³ and *c'* by the initial inward movement of the plunger, so that in case the subscriber does not receive attention he can recover his coin by slowly pushing in the plunger. When the operator plugs in, the subscriber loses control of the coin, since battery *b'* is now applied to limb 2 of the telephone-line, and the initial inward movement of the plunger will connect the magnet *a* direct with this limb 2 at contact *a*⁴, so that the magnet will remain excited to lock the refunding mechanism.

The final disposition of the coin held in the temporary receiver may be either by the operator causing said coin to be deposited in the cash-box or permitting the subscriber to recover it in case no charge is to be made, as where the connection called for cannot be obtained. If the coin is to be deposited, the operator will apply special strong current from the generator *G* by depressing her key *p*. This will cause the magnet to become so strongly excited that it will completely draw up its armature against the tension of spring

*a*⁸, as shown in Fig. 5. This will withdraw the lower stop *f'*, permitting the coin to fall into the cash-box. If the coin is to be returned, the operator will tell the subscriber to wait a moment and to then push the button. She will then take down the connection—that is, remove her plug *d* from the spring-jack *d'*—after which the subscriber by pressing the button may break the circuit of the magnet *a* at contact *a*³, causing its de-energization and as the plunger moves in causing the receiver *h* to be shifted into the position shown in Fig. 9, whereby the coin is released and discharged into the return-chute.

In pay-station systems of operation it is desirable that the toll shall be paid by the subscriber who initiates the call and that no charge be made against the called subscriber. In the system of our invention this result is accomplished by so arranging the circuit that current for actuating magnet *a*, which controls the continuity of the substation telephone-circuit, is applied to the side of the line with which that magnet is associated in the act of inserting the calling-plug in the jack of the called-subscriber's line. Thus when the called-subscriber in response to the calling-signal takes his receiver from its switch-hook magnet *a* is immediately actuated to complete the telephone-circuit without requiring the deposit of a coin.

Having thus described our invention, we claim—

1. The combination with a telephone-line extending from a substation to a central office, of a toll-box at the substation having a temporary coin-receiver, a manually-operated refunding mechanism, a coin-transferring mechanism, a magnet arranged to lock the refunding mechanism or operate the coin-transferring mechanism according to the current applied thereto, and means at the central office for applying current suitable for exciting the magnet for either of its functions.

2. The combination with a telephone-line, of a toll-box at the substation, a temporary coin-receiver in said toll-box, a manually-operated refunding mechanism, a magnet connected with the line having an armature-lever mechanism adjusted for step-by-step movement according to the strength of the current applied to said magnet, a lock for the refunding mechanism set in the first movement of the armature-lever, and coin-transferring mechanism actuated by a further movement thereof, and means at the central office for applying currents of suitable strength to the line to bring about the step-by-step movement of said armature-lever mechanism.

3. The combination with a metallic-circuit telephone-line 1 2 and a grounded battery normally applied to the line conductor 1 at

the central office, a line-signal instrument being included in said conductor 1, of a toll-box at the substation having a manually-operated refunding mechanism, a magnet arranged to lock said refunding mechanism when excited, a normally open coin-controlled contact in the toll-box, adapted to connect the magnet in a return-circuit from the aforesaid line conductor 1, switch-contacts changed in the actuation of the refunding mechanism adapted to transfer the connection of the magnet to the other line conductor 2, and means controlled by the central-office operator for transferring the battery connection from conductor 1 to conductor 2, whereby the refund of the coin is brought under the control of the operator when she answers the call.

4. The combination with a telephone-line having a source of current normally connected therewith at the central office, of a toll-box at the substation having a receiving coin-chute and a return-chute continued therefrom, a temporary coin-receiver, electromagnetically-operated coin-transferring mechanism controlling the discharge of a coin from said temporary receiver, and means for operating the same from the central office, a stop controlling the direct passage of coins into said return-chute, a magnet for moving said stop, and a contact adapted for actuation by a coin in the temporary receiver, controlling the connection of said magnet with the telephone-line, whereby coins deposited in the toll-box while a previously-deposited coin is in the temporary receiver will be returned.

5. The combination with a party telephone-line, of a toll-box at a station thereof, having a receiving coin-chute and a return-chute continued therefrom, a temporary coin-receiver, a contact adapted to be closed by a coin in said receiver, controlling a signal-circuit, a stop controlling the direct passage of deposited coins into said return-chute, a magnet for moving said stop, a telephone-switch, a circuit for said magnet from one of the line conductors, controlled by said telephone-switch, a source of current normally connected to the other line conductor, and a bridge of the line conductors at each station of the party-line controlled by the telephone-switch thereat, whereby a coin deposited in the toll-box when the line is already in use will be returned.

6. The combination with a metallic-circuit telephone-line 1 2 extending from a substation to a central office, of a toll box at the substation having a temporary coin-receiver, a manually-operated refunding mechanism, a coin-transferring mechanism and a magnet having armature-lever mechanism adapted for step-by-step operation according to the weak or strong excitation of the magnet, a battery normally connected with a line con-

ductor 1 at the central office, a signal-controlling instrument in the battery-circuit through said line conductor, a contact adapted for closure by a coin in the temporary receiver, controlling a return-circuit from said line conductor, said magnet being included in such return-circuit, a lock for the refunding mechanism made operative by the first movement of the said armature-lever mechanism, switch-contacts operated in the actuation of the refunding mechanism adapted to transfer the connection of the magnet to the other line conductor to permit the recovery of the coin, a connection-switch at the central office adapted to apply a source of current to the other line conductor 2, whereby the refunding mechanism is locked when the operator answers, and means at the central office for applying current to strongly excite the magnet and so operate the coin-transferring mechanism.

7. The combination with a telephone-line and a coin-collecting toll-box at the station thereof having a coin-chute and a temporary coin-receiver, of a movable stop adapted to prevent the deposit of a coin in said receiver, and a magnet controlling the stop connected with the telephone-line switch-contacts closed by a coin in the temporary receiver controlling the circuit of said magnet for exciting the same; whereby the presence of a coin in the temporary receiver prevents the deposit of a second coin therein, as described.

8. The combination with a party telephone-line and a coin-collecting toll-box at a station thereof having a temporary coin-receiver and a coin-chute leading thereto, of a movable stop controlling the deposit of a coin, and a magnet for actuating said stop, said magnet being connected with the telephone-line; telephone-switches at the other stations of the line, and a circuit of said magnet closed by any of said switches when the telephone is in use at said other station, whereby the deposit of a coin is prevented when the line is already in use.

9. The combination with a telephone-line leading to a central office and there connected with line-switching mechanism and provided at its substation with a coin-collecting toll-box having a coin-receiver and a coin-chute leading thereto, of a movable stop controlling the deposit of a coin in said box, and a magnet for actuating said stop, said magnet being connected with the telephone-line, a source of current at the central office and means for applying the same to the line in making connection therewith; whereby the magnet is excited to prevent the deposit of a coin after connection is made with the line, as described.

10. The combination with a telephone party-line leading to a central station and having at a substation a coin-collecting toll-box provided with a temporary coin-re-

ceiver and a coin-chute leading thereto, a movable stop or valve controlling the deposit of a coin in said temporary receiver and a magnet actuating said stop; of a switch in said temporary coin-receiver, a switch at each other substation of the line closed in the use of the telephone there, and a switch at the central station closed in making connection with the line for conversation, and a circuit of said magnet for actuating the same closed by each of said switches; whereby the deposit of a coin is prevented when a coin has already been placed in the receiver, or when the line is in use at a different station as described.

11. The combination with a telephone-line and switching appliances therefor at the central station, a supervisory signal and a source of current connected with the line during its use for conversation, and a telephone-switch controlling the circuit of said supervisory signal at the substation, of a coin-collector at said substation having a temporary coin-receiver, a refunding device for returning the coin, and a manually-operated push-button for actuating said refunding device, a lock for the refunding device and a magnet controlling the lock, said magnet being in a normally open circuit with said source of current connected with the line at the central station, and a switch controlled by said push-button for closing the circuit of said magnet; whereby the return of the coin is prevented during connection with the line at the central station.

12. The combination with a metallic-circuit telephone-line with switching apparatus at the central station thereof, a supervisory signal and a source of current connected through said switching apparatus with the line, and a telephone-switch controlling a bridge of the line for operating said signal, of a coin-collector at the substation of the line having a temporary coin-receiver and a coin-depositing device, and a magnet controlling said coin-depositing device, said magnet being connected in a ground branch with the conductor of the line not directly connected with said source of current at the central office; a manually-operated refunding device, a lock for said refunding device also controlled by said magnet, and a switch controlled in operating said refunding device adapted to transfer the circuit connection of said controlling-magnet to the other line conductor; whereby the magnet is left connected with one of the line conductors to permit the taking of the coin, the supervisory signal is controlled by the telephone-switch independently of the circuit of said magnet, and said magnet is made active to block the refunding device when the same is operated during the connection of the line, as described.

13. The combination with a party telephone-line and a coin-collector at the substation thereof having a coin-receiver and a chute leading thereto, of a movable stop adapted to prevent the deposit of coins in said coin-receiver and a magnet controlling said stop, and means operated by the telephone-switches at each of the stations of said party-line for exciting said magnet when the telephone is in use at another station, the circuit of said magnet at its station being controlled by the telephone-switch at the said station, the circuit of the telephone at said station being controlled by the magnet to be closed when the magnet is excited, and means at the central office for applying current to the line in making connection therewith to excite said magnet; whereby the telephone at the said station may be taken for use without preventing the deposit of a coin in said coin-receiver, but said magnet is operated and the circuit of the telephone is closed when connection is made with the line at the central office, as described.

14. The combination with a party telephone-line, of a coin-collector at a substation thereof having a refund-passage, and means controlled by switches at the other substations, adapted to direct a deposited coin into said refund-passage.

15. The combination with a party telephone-line, of a coin-collector at a substation thereof having a coin-chute and a refund-passage, of a magnet associated with the coin-collector, and means operated in the response of said magnet for directing a deposited coin into said refund-passage, a branch circuit for said magnet from one side of said telephone-line, and means controlled in the use of the telephone at any of the other substations of the line, for applying current to the side from which said branch is extended; whereby if the line is busy a coin deposited in said collector is automatically returned.

16. The combination with a telephone-line, of a coin-collector at the substation thereof having a refund-passage, of a magnet associated with the coin-collector and means operated thereby for directing a deposited coin into said refund-passage, a branch circuit for said magnet from one side of the line, and means for applying current to said side in the use of the line; whereby a coin deposited when the line is already in use will be returned.

In witness whereof we hereunto subscribe our names this 16th day of December, A. D. 1902.

FRANK R. McBERTY.
JAMES L. McQUARRIE.

Witnesses:

JOHN G. ROBERTS,
GEETRUDE EYSTER.