No. 844,034. PATENTED FEB. 12, 1907.

F. R. McBERTY.

COIN COLLECTOR FOR TELEPHONE LINES.

APPLICATION FILED SEPT. 28, 1905.

Fig 1.

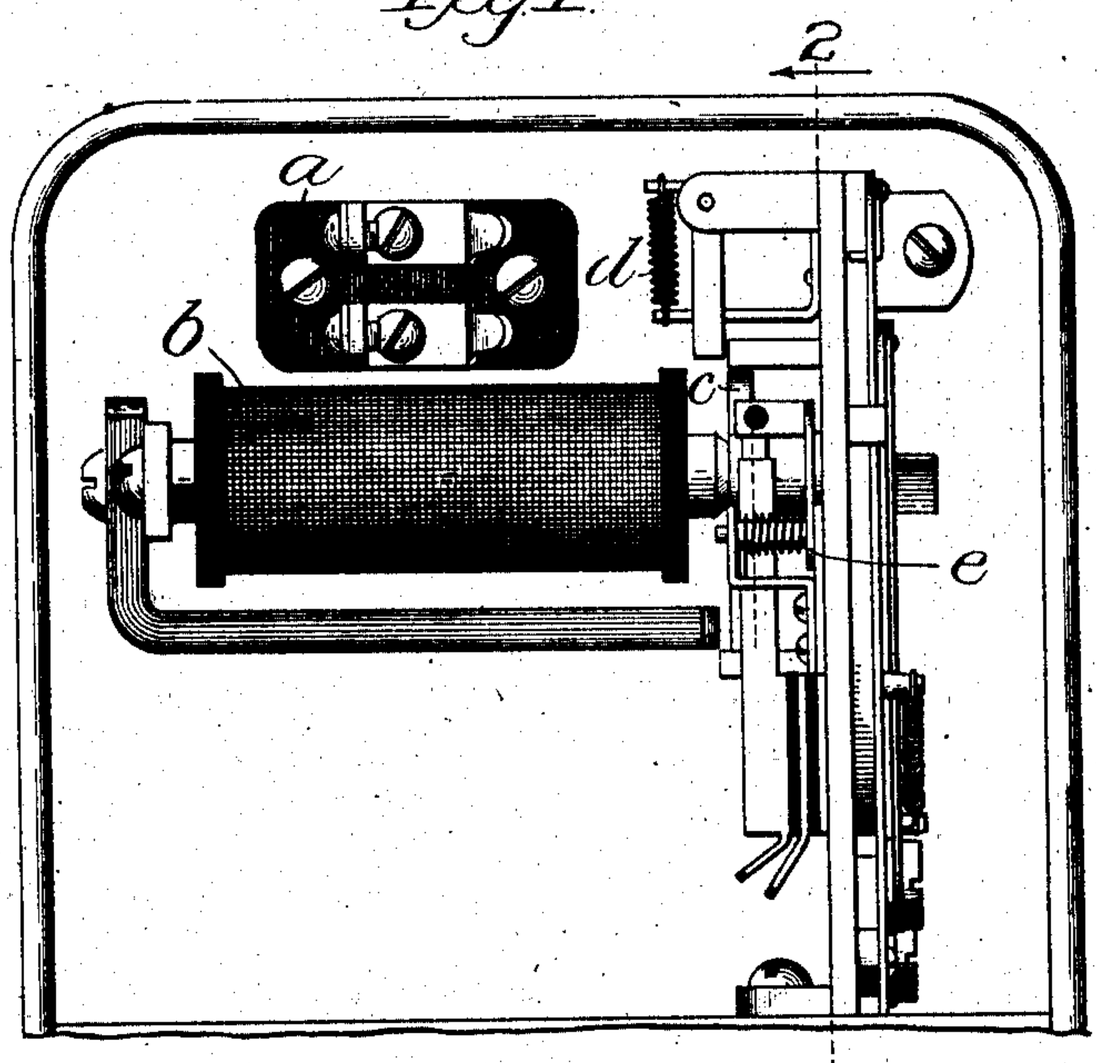


Fig 2.

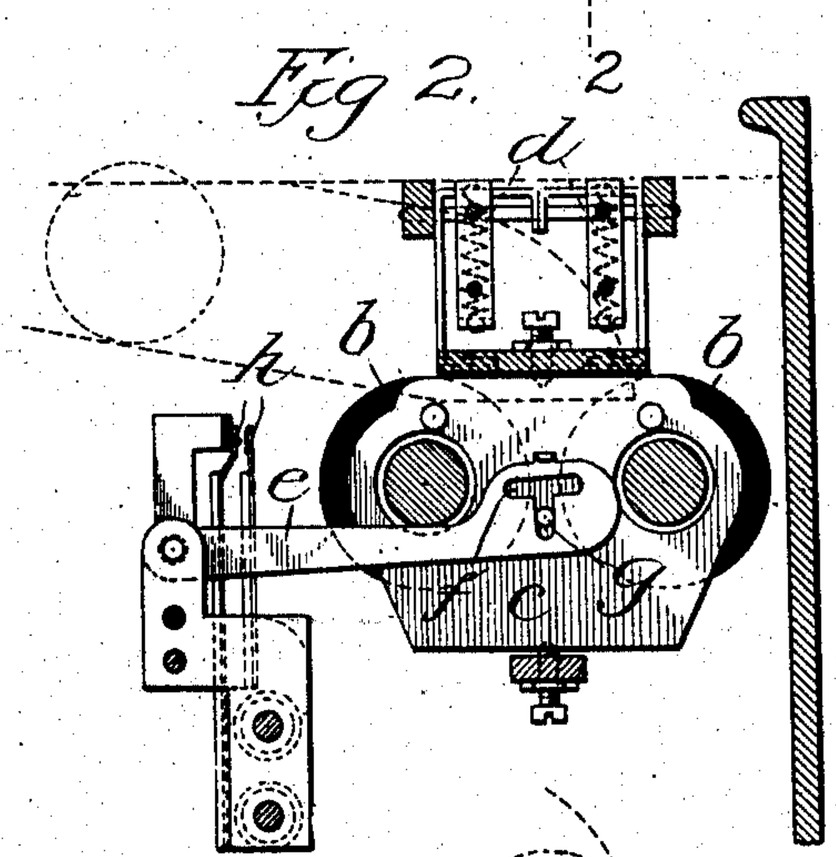
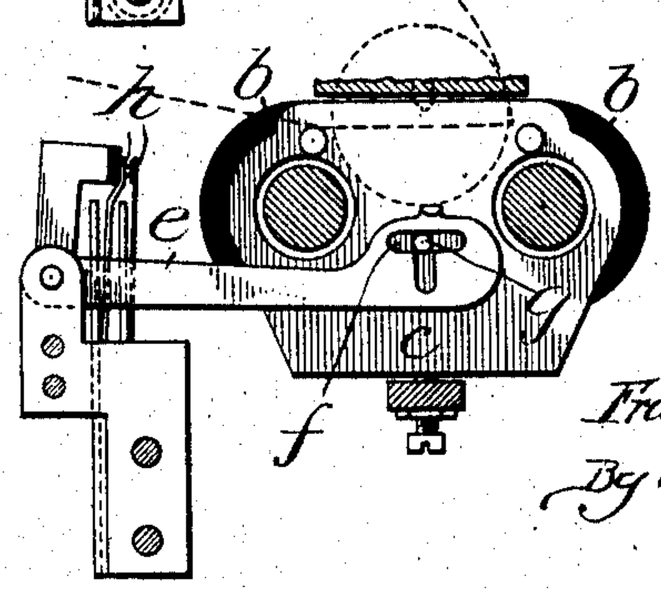


Fig 3.



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UNITED STATES PATENT OFFICE.

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COIN-COLLECTOR FOR TELEPHONE-LINES.

No. 844,034. Specification of Letters Patent. Patented Feb. 12, 1907.

Application filed September 28, 1905. Serial No. 280,523.

To all whom it may concern:

Be it known that I, FRANK R. McBERTY, citizen of the United States, residing at Evanston, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Coin-Collector for Telephone-Lines, of which the following is a full, clear, concise, and exact description.

My invention relates to coin-collectors of the variety used at subscribers' stations of telephone-lines. In these structures it has been usual to provide a lever operated by the weight of the coin to close initially the circuit to the central office to signal the operator. The prior art is fairly exemplified in Letters Patent to Albert M. Bullard, for apparatus for telephone toll-lines, No. 665,874, dated January 15, 1901. I refer also to Patent No. 650,488, dated May 29, 1900, to Charles E. Scribner and myself, for toll-collecting appliance for telephone pay-stations, as showing another form of collecting apparatus to which my present invention is applicable.

My invention relates more particularly to means for mechanically maintaining closed the contacts that are closed by the coin after the operator has sent current over the line to operate the magnet to deposit the coin in the cash-box or return it to the subscriber. In the Bullard patent, No. 665,874, contacts g^2 g^3 are shown for maintaining the circuit closed in a shunt about the coin-operated switch. In patent to Joseph J. O'Connell, No. 704,268, dated July 8, 1902, for coin-collector for telephone toll-lines, is shown, described, and claimed certain means operated by the armature of the polarized electromagnet for maintaining the coin-operated contacts closed together independently of the coin after the armature has been rocked in the act of throwing the coin in one direction or the other, as the case may be.

My invention consists in improved means for doing this work, and speaking specifically my invention consists in providing a T-shaped slot in the lever which is shifted by the weight of the coin, into which slot a pin controlled by the armature projects, the combination being such that when the armature is tilted in either direction by current sent from the central office the lever will be locked in position, so as to be under the control of the operator in order that the operator may determine the time of opening the coin-controlled contacts. It should be stated that the pin normally rests in the lower part of the T slot, and when in this position in my particular form of apparatus the armature cannot be rocked or tilted, since the pin would obstruct such movement of the armature. The weight of the coin carries the lever down to bring the upper and horizontal portion of the slot in line with the pin. Then when the armature is moved in either direction the pin moves in this horizontal portion of the slot in one direction or the other, and in either case the pin will be in one end of the horizontal portion of the T slot, so as to prevent the lever from rising or moving to open the coin-operated contacts.

My invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 represents a front view of a portion of the interior mechanism of one form of coin-collector, to which my invention has been applied. Fig. 2 is a sectional elevation, taken on line 2 2 of Fig. 1, showing the normal position of the coin-operated lever and of the contacts controlled thereby. Fig. 3 shows the same mechanism with the coin in position and the lever consequently depressed and the contacts thereby closed.

Like parts are indicated by similar letters of reference throughout the different figures.

On the rubber base *a* are mounted the apparatus terminals in a well-known way. The magnet *b*, in this instance polarized, is provided with a centrally-pivoted armature *c*, which, as is well understood, is rocked in one direction or the other, according to the direction of the current which is closed through the magnet, this armature from either of its operated positions being adapted to be restored by springs *d d*. (Shown in dotted lines in Fig. 2.)

The coin when inserted in the chute, as indicated in dotted lines in Figs. 2 and 3, is carried by and rests upon the lever *e*, and said lever *e* is thus depressed by the weight of the coin, so as to bring the horizontal portion of the slot *f* in line with the pin *g*, which pin in this instance projects from the armature *c*. Now assume that the armature is tilted to deposit the coin, which would be to the right. This movement would carry the

pin *g* to the right, moving the coin of course in the same direction and starting it on its way toward the cash-box.

The shape of the slot where the pin *g* rests is such as to hold the lever in its lowered position or in its contact-closing position, and the lever will thus be mechanically retained in position to hold the contacts *h* closed so long as the operator shall choose to keep the circuit closed.

Assume that the connection asked for with another subscriber was not obtained and the operator desired to return the coin to the subscriber who made the deposit. In such instance current of the opposite polarity would be sent over the circuit and the armature, and consequently the pin, would be moved in the opposite direction—that is, to the left—in which case, as before, owing to the shape of the slot the lever *e* will be kept from rising after the coin has left the lever, and the contacts *h* will be still maintained closed independently of the influence of the coin until the operator opens the circuit to let the armature *c* and the lever *e* resume their normal positions.

The coin-operated contacts *h* are assumed to be those whereby the signaling-circuit is initially closed to call the operator. The particular manner in which the coin is directed through the chute to bear upon and depress the lever *e* and also the manner of supporting the coin and allowing it to fall in one direction or the other as the armature is tilted constitute no part of my invention.

It will be understood that the novel feature of the T-shaped slot, combined with the pin, which pin is actuated by or attached to the armature, may be usefully employed in other structures than coin-collectors. It will also be understood by those skilled in the art that the particular configuration of the slot and the size and shape of the pin which works therein may be varied without departing from my invention, provided the lever when initially moved or weighted changes the relations between the pin and the slot, so that when the pin itself shall be actuated the lever will be held mechanically in position and be adapted thus to maintain the position of the lever, and thereby the condition of the circuit.

It is evident that if only one direction of movement of the armature were required a non-polarized electromagnet may be used, in which case the slot may be in the shape of an inverted L or otherwise conformed to the particular conditions of operation.

I have deemed it unnecessary to illustrate either the circuits to the central station or the details of the coin-chute. Other portions of the coin-collector have been omitted, since their construction is well understood and they are unnecessary to an understanding of my invention.

I claim—

1. The combination with a lever provided with a slot extending transverse to the direction of movement of said lever, of contacts controlled by said lever, a coin-chute adapted to guide a coin in position to actuate said lever, an electromagnet, an armature therefor provided with means for controlling the disposal of said coin, and a pin on said armature in position to enter said slot and lock said lever against movement when said armature is in its attracted position.

2. The combination with a lever provided with a horizontally-extending slot, of contacts controlled by said lever, a coin-chute arranged to guide a coin in position to depress said lever, an electromagnet, a tilting armature therefor provided with means for controlling the disposal of said coin, and a pin on said armature in position when the lever is depressed and said armature is tilted, to enter said slot and lock said lever against movement.

3. The combination with a lever provided with an angular-shaped slot, of contacts controlled by said lever, a coin-chute arranged to guide a coin in position to actuate said lever, an electromagnet, a tilting armature therefor provided with means for controlling the disposal of said coin, and a pin on said armature in position when the armature is in its attracted or unattracted position, to enter the one or the other arm of the slot to permit or to prevent, respectively, the movement of said lever.

4. The combination with a pivoted lever provided with a T-shaped slot, of contacts controlled by said lever, a coin-chute adapted to guide a coin in position to depress said lever, an electromagnet, a tilting armature therefor provided with means for controlling the disposal of said coin, and a pin on said armature in position to enter the horizontal or vertical portion of said T-slot, when said armature is in its attracted or unattracted position, respectively, to control the movement of said lever.

5. In a coin-collector, the combination with a coin-chute, an electromagnet, a vertically-pivoted armature adapted to be tilted in one of two opposite positions when attracted, and provided with means for controlling the disposal of a coin deposited in said chute, a lever arranged to be actuated by said deposited coin, and a pin in said armature arranged to engage said lever and hold the same against movement when said armature is in its attracted position.

In witness whereof I hereunto subscribe my name this 18th day of July, A. D. 1905.

FRANK R. McBERTY.

Witnesses:
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