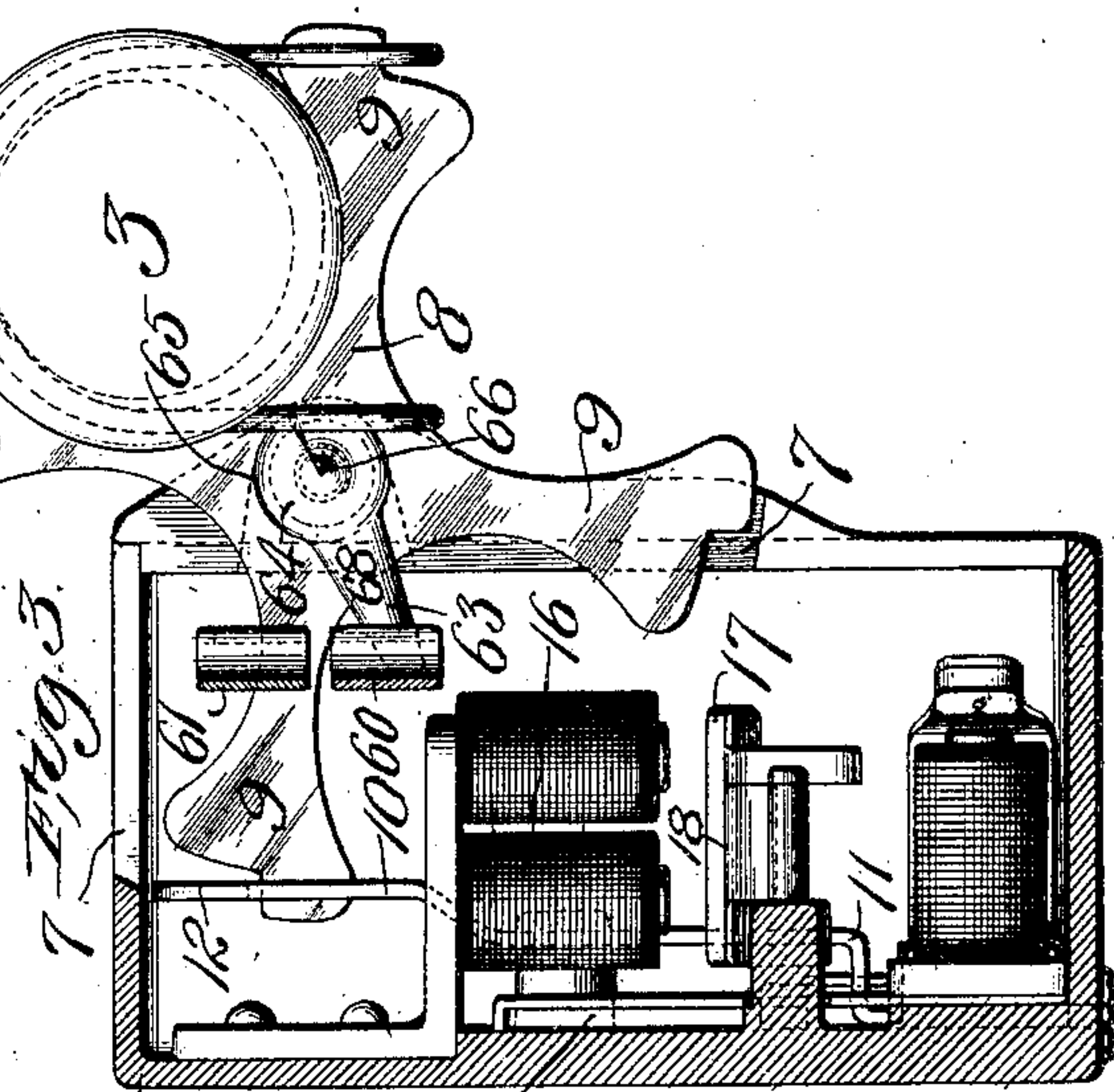
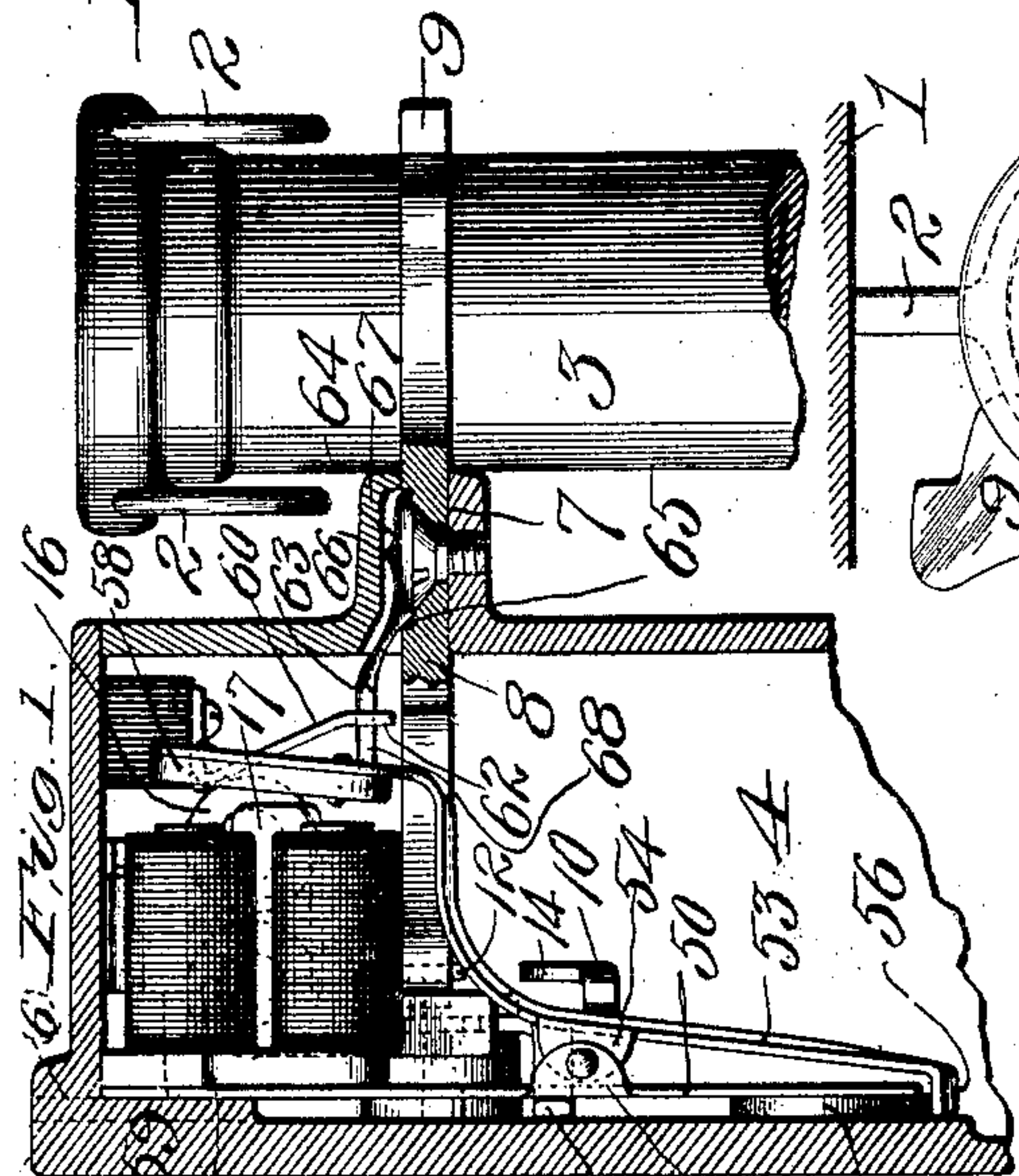
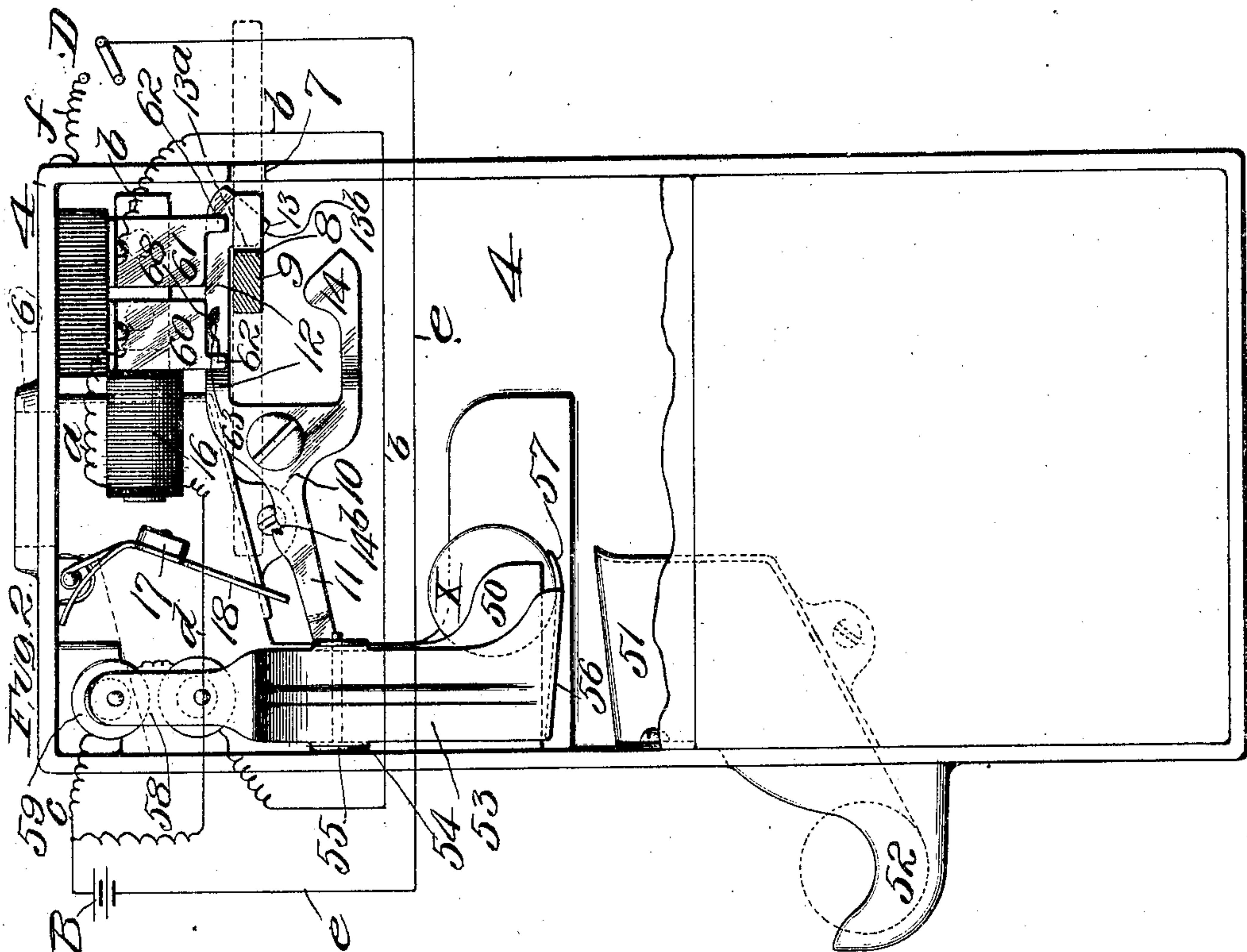


No. 832,314.

PATENTED OCT. 2, 1906.

R. W. GOEB.
COIN CONTROLLED MECHANISM.

APPLICATION FILED FEB. 13, 1903.



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COIN-CONTROLLED MECHANISM.

No. 832,314.

Specification of Letters Patent.

Patented Oct. 2, 1906.

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To all whom it may concern:

Be it known that I, RUDOLPH WM. GOEB, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Coin-Controlled Mechanism, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation, the casing and a portion of the locking member being shown in section and a portion of the casing and the telephone-receiver being broken away. Fig. 2 is a front elevation, a portion of the front plate of the casing being removed and one of the arms of the locking member being shown in section, this view also indicating the circuits; and Fig. 3 is a plan view, partly in section, with the top of the casing removed.

My invention relates to improvements in coin-controlled mechanism, and more particularly to means whereby a coin can be returned to the operator under certain conditions.

Among my objects are to provide an efficient mechanism by means of which a coin can be returned to the operator under certain conditions, to provide means whereby the particular coin deposited by a given person can be returned to such person, and to so combine the coin-returning mechanism with mechanism for releasing the locking mechanism without the aid of a coin that both said releasing mechanism and said coin-returning mechanism can be operated from a single source of energy.

To these ends and also to improve generally upon mechanisms of the character indicated my invention consists in the various matters hereinafter described and claimed.

I have here shown the present invention as combined with and forming part of the mechanism for locking a telephone.

Referring now more particularly to the drawings, 1 indicates a telephone-box of any usual or preferred construction, and 2 the receiver suspension-hook extending from the same, the receiver being indicated as 3. A box or casing 4, suitably supported at the side of the telephone-box, as by being connected to a wall or other support, contains

the hereinafter-mentioned locking mechanism and is provided with a coin-slot or raceway 6. The front wall of the casing is provided with a horizontal slot 7, and pivotally supported to rotate through said slot is a spider-plate 8, having arms 9, these arms successively projecting beyond the casing as the plate is rotated and being spaced from each other a sufficient distance to permit the telephone-receiver 3 to lie between any adjacent arms when the receiver is supported upon the suspension-hook. Pivotally supported within the casing is a locking-lever 10, which has a coin-receiving arm 11 projecting upon one side of the pivot and extending under the raceway 6 and has also a locking-arm 12, which when the parts are in normal position lies slightly above the plane in which the arms of the spider-plate rotate. A finger or projection 13 depends from the free end of the locking-arm 12, and when the said arm is in normal locking position a suitable portion of said finger or projection lies in the path of travel and slightly in advance of one of the arms 9 of the spider-plate or receiver locking element. The locking-lever is also provided with a stop-arm 14, which extends under the locked arm 9 of the spider-plate and is adapted to engage said arm when the locking-arm of the lever is thrown upwardly and to thus limit the initial movement of the locking-lever, so that said lever will not initially be thrown into such position that the coin is deposited from the coin-receiving arm 11.

Suitably supported within the casing, and here shown as above the locking-lever 10, is an electromagnet 16, and a releasing-lever 18; which normally hangs away from said magnet and out of releasing position, is suitably pivoted and provided with an armature 17, which coöperates with said magnet. The upper portion of the coin-receiving arm 11 is provided with a notch 14^b, adapted to receive the free end of said releasing-lever. The said electromagnet is included in a circuit provided with a suitable push-button or other switch.

Except for certain details of construction and arrangement of the parts the construction and operation of the mechanism heretofore described is old and well known, and it is therefore believed that it will in this specification be unnecessary to explain the opera-

tion further than to say that the sides of the locking-lever carrying the locking-arm over-balances the side carrying the coin-receiving arm, so that when the parts are in normal positions the locking-lever serves to lock the receiver-locking element 8 in position, as shown most clearly in Fig. 2, this receiver-locking element in turn locking the receiver against removal from its supporting-hook. When a coin is deposited in the raceway, it falls upon the coin-receiving arm 11 and serves to elevate the locking-arm 12 sufficiently to release the said receiver-locking element, the engagement of the stop-arm 14 with the under surface of said receiver-locking element preventing full movement of said locking-lever and causing the locking-lever to remain in the position to which it has just been thrown, with the coin supported upon the coin-receiving arm 11. As the receiver is withdrawn from its hook the receiver-locking element is rotated to carry out of engagement with the stop-arm 14 the arm 9, which has heretofore obstructed the full movement of said stop-arm, and as soon as said receiver-locking element is moved as just described the said locking-lever completes its rocking movement from locking position and deposits its coin, said locking-lever then falling into position to again lock the receiver-locking element when the receiver is again placed upon the hook and such locking element is moved during such replacing of the receiver. If it be desired to release the said locking-lever without the use of a coin, the electromagnet 16 is energized, whereupon the releasing-lever 18 is thrown until its free end enters the said notch 14^b, the said releasing-lever in its said movement rocking the locking-lever sufficiently to carry the locking edge 13^a of the finger 13 out of locking position and to bring the inclined edge 13^b of said projection in the line of movement of the arm 9, which has been locked. By reason of the engagement of the releasing-lever in the said notch the locking-lever is held in this unlocking position, and upon movement of the receiver-locking element the said arm 9 engages the said inclined surface 13^b, and thus rocks the locking-lever sufficiently to release the releasing-lever, and thereby permit said locking-lever and releasing-lever to return to their normal positions.

The coin-raceway 6 extends below the free end of the coin-receiving arm 11 and is produced between the rear wall of the casing and a plate 50, a discharge-raceway 51 having its open upper end below the raceway 6 in order to receive a coin from said raceway 6 and to deliver the same to a point at which it can be conveniently obtained by the user of the present mechanism, said discharge or delivery raceway 51 being here shown as extending beyond one side wall of the casing and terminating in an open coin-receptacle

52. A lever 53, conveniently pivoted by struck-up logs 54 to lugs 55, struck up from the said raceway-plate 50, lies upon the outer side of said raceway-plate and has its end turned to produce a coin-support 56, which normally lies under and closes the lower end of said raceway 6. The said raceway 6 is preferably adjacent one of the side walls of the casing, as clearly shown in Fig. 2, so that said side wall prevents escape of a coin from one end of the said support 56. The said support 56 inclines downwardly away from said end closed by said casing-wall and is then slightly upturned to produce a finger or stop 57, which prevents a coin from rolling from the said supporting-plate 56 by reason of its own impetus. The upper arm of the coin-returning lever 53 is provided with an armature 58, which coöperates with a suitable electromagnet 59, supported upon and within the said casing.

Under normal conditions the coin-releasing lever 53 lies in the position indicated in the drawings, with its armature away from the said magnet 59 and its coin-supporting end plate 56 below and closing the open end of the coin-receiving raceway 6. When now a coin is deposited in said raceway, it serves to release the telephone-receiver in the manner heretofore explained and then falls upon the supporting-plate 56 of said coin-returning lever 53. If for any reason, such as failure to secure the desired connection, the coin is to be returned to the depositor, it is only necessary for central or some other authorized person to energize the magnet 59, whereupon the coin-returning lever 53 is rocked to carry its supporting-plate 56 from under the coin, and said coin drops into the delivery-raceway 51 and is presented to the depositor. We will assume, however, that the first user has obtained the desired connection and is therefore not entitled to the return of his coin. The user returns the receiver to its supporting-hook, thereby causing the same to be locked upon the telephone, and the coin X remains supported, as shown in Fig. 2. The coin of the next user after being released from the coin-receiving arm 11 strikes the inner side of the previously-deposited coin X, (the space between the inner edge of said coin and the opposite edge of the raceway being less than the width of the coin intended to operate the mechanism,) and thus drives said previously-deposited coin from the supporting-plate 56 and over the end of the detaining-finger 57, whereby said previously-deposited coin is forced into the portion of the casing which acts as a coin-receptacle, said second-deposited coin remaining supported upon the coin-returning lever 53 in the position in which the first-deposited coin had rested. If therefore it becomes necessary to return the coin to the second user, this is done by energizing the magnet 59 and

causing the coin-returning lever 53 to operate, as previously explained, the said second user receiving the particular coin which he himself deposited. In this manner it is impossible for a person to deposit a spurious or worthless coin and receive a good one in exchange therefor. It is to be noted that after falling from the coin-receiving arm 11 a coin strikes the supporting-plate 56, and thus has the force of its fall broken, the coin then rolling gently at an angle to the line of its former travel until it is brought to rest by the finger 57. The outer end of the finger 57 is of course so placed with relation to the open mouth of the delivery-chute 51 that a coin passing over said finger end falls beyond the said mouth.

Such being the construction and operation of the coin-returning mechanism *per se*, the circuit including its operating-magnet 59 and the relationship between the coin-returning mechanism and the locking-lever-releasing mechanism are now to be considered.

Suitably supported within the casing and insulated therefrom and out of electrical connection with each other are two terminals 60 and 61, each of which is provided upon its outer end with a projection or stop-finger 62, and movable across the said terminals in order to make contact with either, its said movement being limited by the before-mentioned stop-fingers 62, is a switch-arm 63, which moves with the said receiver-locking element 8.

One of the terminals, as the terminal 60, is electrically connected to one pole of the releasing-lever-operating magnet 16, as by the wire *a*, while the other of said terminals is connected, as by the wire *b*, with one pole of the coin-returning-lever-operating magnet, the opposite pole of each of said magnets being connected to one pole of a suitable source of electrical energy, such as the battery B. These connections are here shown as the wire *c*, extending from the magnet 59 to the said pole of said battery, and a wire *d*, extending from the magnet 16 to the said wire *c*. The opposite pole of the said battery is connected by the line-wire *e* to one terminal of the switch D, the other terminal of said switch being connected by the line-wire *f* to the casing 4, which is electrically connected to the said switch-arm 63. This switch-arm is so connected to the receiver-locking element 8 that when the same is in locked and locking position, as shown in the drawings, (see particularly Fig. 3,) the switch-lever 63 is in contact with the terminal 60, and the releasing-lever-operating magnet is therefore in the circuit from the battery, the coin-returning-lever-operating magnet being cut out of the battery-circuit by reason of the break between the terminal 61 and the said switch-arm. Therefore if the said switch be closed the magnet 16 will be energized

and the locking-lever will be thrown into unlocking position, while the coin-returning mechanism will be in no manner affected. When, however, the receiver-locking element is unlocked and thrown into unlocking position, the switch-lever 63 moves with it and engages the terminal 61, whereby the coin-returning-lever-operating magnet is thrown into the battery-circuit and the releasing-lever-operating magnet is cut out therefrom. Therefore if when the said receiver-locking element is in unlocking position the switch D be closed the coin-returning mechanism will be operated, but the locking-lever-releasing mechanism will not be affected. By reason of the arrangement just described I am enabled to employ a single source of energy and a single switch, together with very simple wiring, for the purpose of independently operating both the locking-lever-releasing mechanism and the coin-returning mechanism.

For the purposes of the present invention the location of the switch D is wholly immaterial, it being only necessary that the switch be so located that it can be operated by the person who is to control the mechanism herein described. If central is to control the releasing mechanism and the coin-returning mechanism, the switch D can be located at the central office. If the lessee of the telephone is to control the releasing mechanism and the coin-returning mechanism, the switch can be located at the place at which the telephone is erected.

Manifestly many forms of switch-arms 63 can be employed, and such arms can be electrically connected to the casing in many ways. As here shown, however, said arm comprises a stamped plate having a split body portion 64, which is received in a circular recess 65 in the upper side of the pivoted receiver-locking element 8, said recess being concentric with the pivot-pin of said element. Above substantially the central axis of said pivot-pin said body portion is provided with a projection or struck-up point 66, which forcibly bears upon an extension 67 upon one of the casing-plates and projecting over the said pivot-pin, whereby said switch-arm is by reason of its own resiliency forcibly held between the said casing extension 67 and the said receiver-locking element. From said body portion 64 an arm 68 projects radially and coöperates with the before-mentioned terminals 60 and 61, said arm being preferably curved in cross-section, as shown most clearly in Fig. 2, in order to permit the same to move freely along the contact-surfaces of the said terminals and to properly wipe said contact-surfaces. As a point 66 engages the casing projection 67, while the whole lower edge of the body portion 64 engages the receiver-locking element 8, there is considerable friction between the

switch-arm and the said receiver-locking element, while there is practically only pivotal engagement between the said switch-arm and the said casing projection 67.

5 Therefore the said switch-arm is compelled to move with the said receiver-locking element. At the same time, however, there is only frictional engagement between said receiver-locking element and said switch-arm, so that
10 the said receiver-locking element can be turned about its pivot in order to permit the receiver to be placed between any pair of its arms 9.

I am aware that minor changes in the construction, arrangement, and combination of the several parts of my device can be made and substituted for those herein shown and described without in the least departing
15 from the nature and principle of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a coin-returning mechanism or the like, a casing provided with a receiving-raceway for leading a coin into said casing, a delivery-raceway for leading a coin from said casing to the depositor, and a coin-receptacle, a lever, and a coin-supporting plate along
25 one side of said lever and obstructing the passage between said receiving and delivery raceways, said plate having an upturned end projecting beyond the edge of said lever and obstructing the passage between said supporting-plate and said coin-receptacle; substantially as described.

2. In a mechanism of the character indicated, the combination with a locking element, of mechanism for releasing said element, mechanism for returning a coin, and means for operating both of said mechanisms from a single source; substantially as described.

3. In a mechanism of the character indicated, the combination with a lockable member, and a locking element therefor, of mechanism for releasing said locking element, a second operative mechanism, means for operating said releasing mechanism and said
45 second operative mechanism from a single source, and means whereby when said lockable member is in locked position said releasing mechanism is rendered operable and when said lockable member is in unlocked
50 position said second operative mechanism is rendered operable; substantially as described.

4. In a mechanism of the character indicated, the combination with a lockable member, and a locking element therefor, of mechanism for releasing said locking element, a second operative mechanism, means for operating said releasing mechanism and said second operative mechanism from a single source, and means carried by said lockable
60 member and adapted when said member is in

locked position to render said releasing mechanism operable and when said member is in unlocked position to render said second operative mechanism operable; substantially as described.

5. In a mechanism of the character indicated, a locking element, electrically-controlled mechanism for operating the same, electrically-controlled coin-delivering mechanism, two electrically-disconnected terminals, a single source of electrical energy, connection between said source of energy and the operating members of both of said mechanisms, connection between said respective
70 terminals and the operating member of said respective mechanisms, and a switch member electrically connected to said source of energy and adapted to contact with either of said terminals; substantially as described.

6. In a mechanism of the character indicated, the combination with a lockable member, and a locking element therefor, of releasing mechanism cooperating with said locking element and including an electrically-controlled member, a coin-returning mechanism
80 also including an electrically-controlled member, electrically-disconnected terminals, a switch-arm movable with said lockable member and adapted to contact with either of said terminals, a source of electrical energy, connection between said source of energy and each of said electrically-controlled members, connection between said source of energy and said switch, and connection between said respective terminals and the electrically-controlled members of said respective mechanisms; substantially as described.

7. In a mechanism of the character indicated, the combination with a lockable member, of a terminal, a cooperating terminal movable with said lockable member, said lockable member having movement independent of said cooperating terminal in the direction of movement of said cooperating terminal, and means for limiting the movement of said cooperating terminal; substantially as described.

8. In a mechanism of the character indicated, the combination with a rotatable lockable member having a plurality of locking-arms whereby said lockable member is operative in a plurality of positions, of a terminal, and a cooperating terminal movable with said lockable member, said lockable member having movement independent of said cooperating terminal in the direction of movement of said cooperating terminal; substantially as described.

9. In a mechanism of the character indicated, the combination with a rotatable lockable element, of terminals having stop members, and a cooperating terminal movable with said lockable element, said lockable member having movement independent of said cooperating terminal in the direction of
125 130

movement of said cooperating terminal, said cooperating terminal being movable between said stop members; substantially as described.

5 10. In a mechanism of the character indicated, the combination with a rotatable lockable member, of a terminal, a cooperating terminal in frictional driving connection with said lockable member, and means for limiting
10 the movement of said cooperating terminal; substantially as described.

11. In a mechanism of the character indicated, the combination with a movable member, and a bearing-plate, of a switch-arm held
15 between said movable member and said bearing-plate and having substantially a point bearing upon said bearing-plate at a point coincident with the axis of movement of said movable member, and a relatively broad

bearing-surface bearing upon said movable member; substantially as described. 20

12. In a mechanism of the character indicated, the combination with a rotatable member, and a bearing-plate, of a switch-arm of resilient material having substantially a
25 point bearing upon said bearing-plate over substantially the axis of movement of said pivoted member and having a relatively broad bearing-surface bearing upon said pivoted member; substantially as described. 30

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 27th day of January, 1903.

RUDOLPH WM. GOEB.

Witnesses:

GALES P. MOORE,
GEORGE BAKEWELL.