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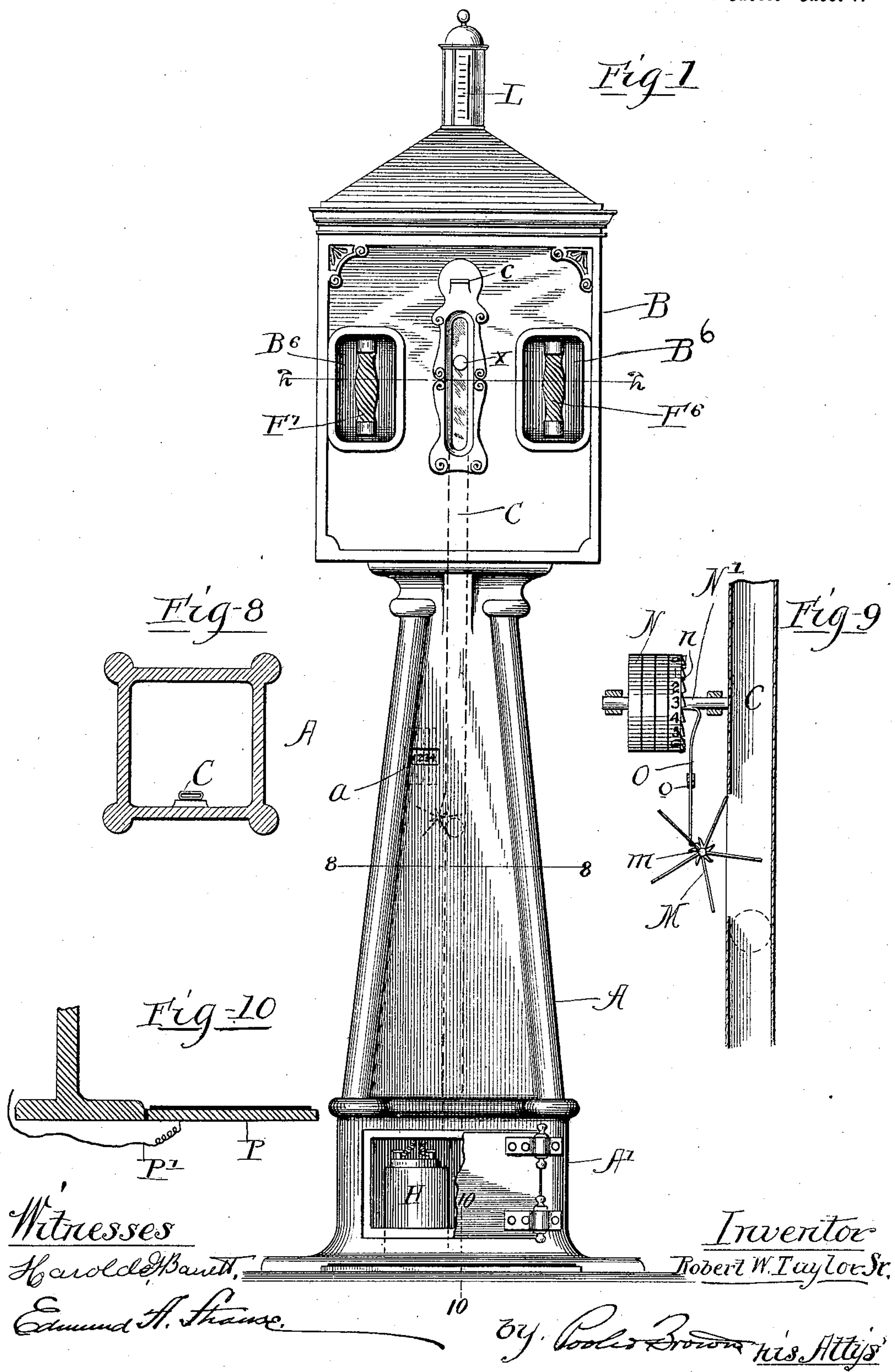
Patented Feb. 28, 1899.

R. W. TAYLOR, SR.
COIN CONTROLLED ELECTRICAL APPARATUS.

(Application filed Feb. 14, 1898.)

(No Model.)

5 Sheets—Sheet 1.



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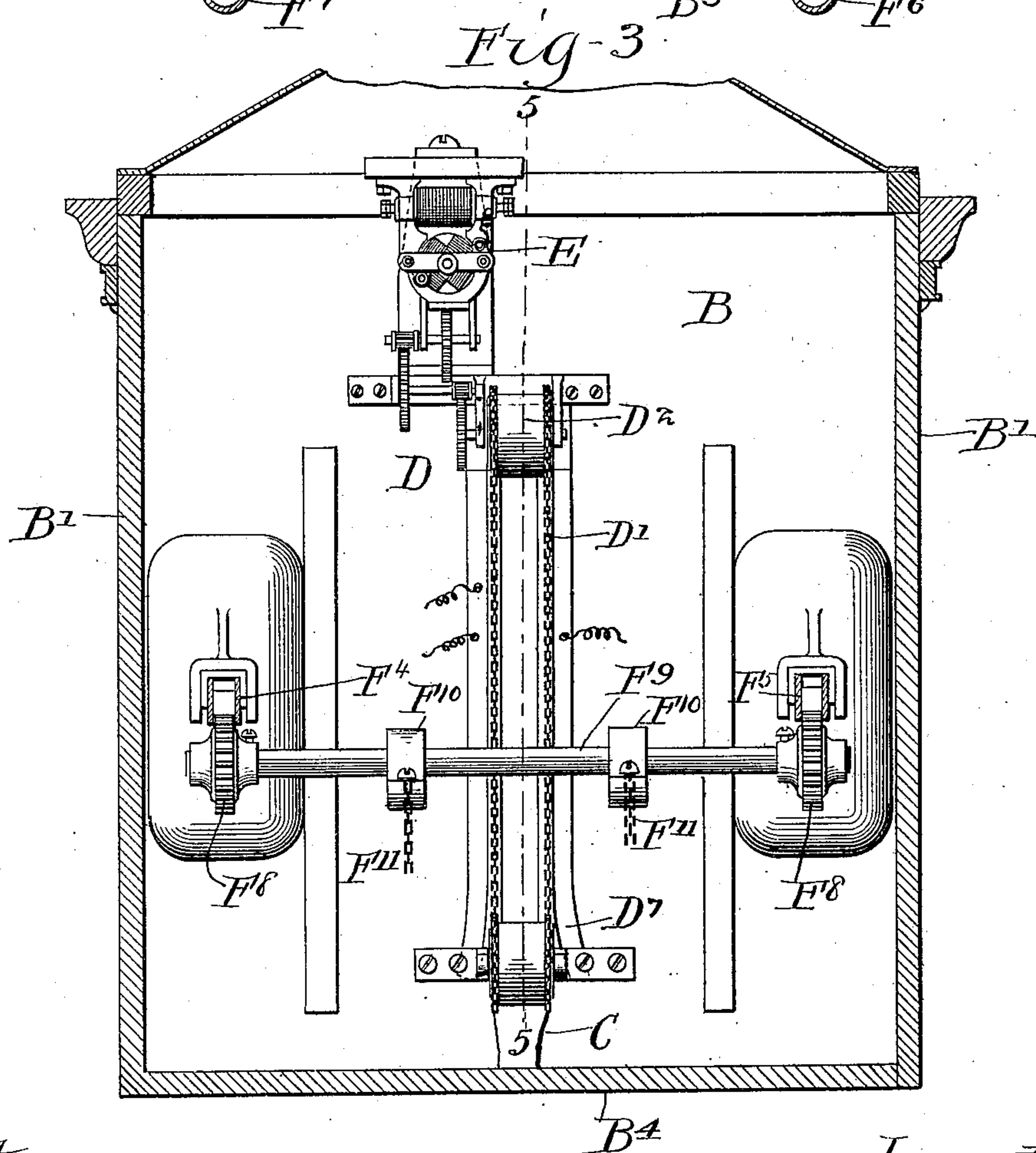
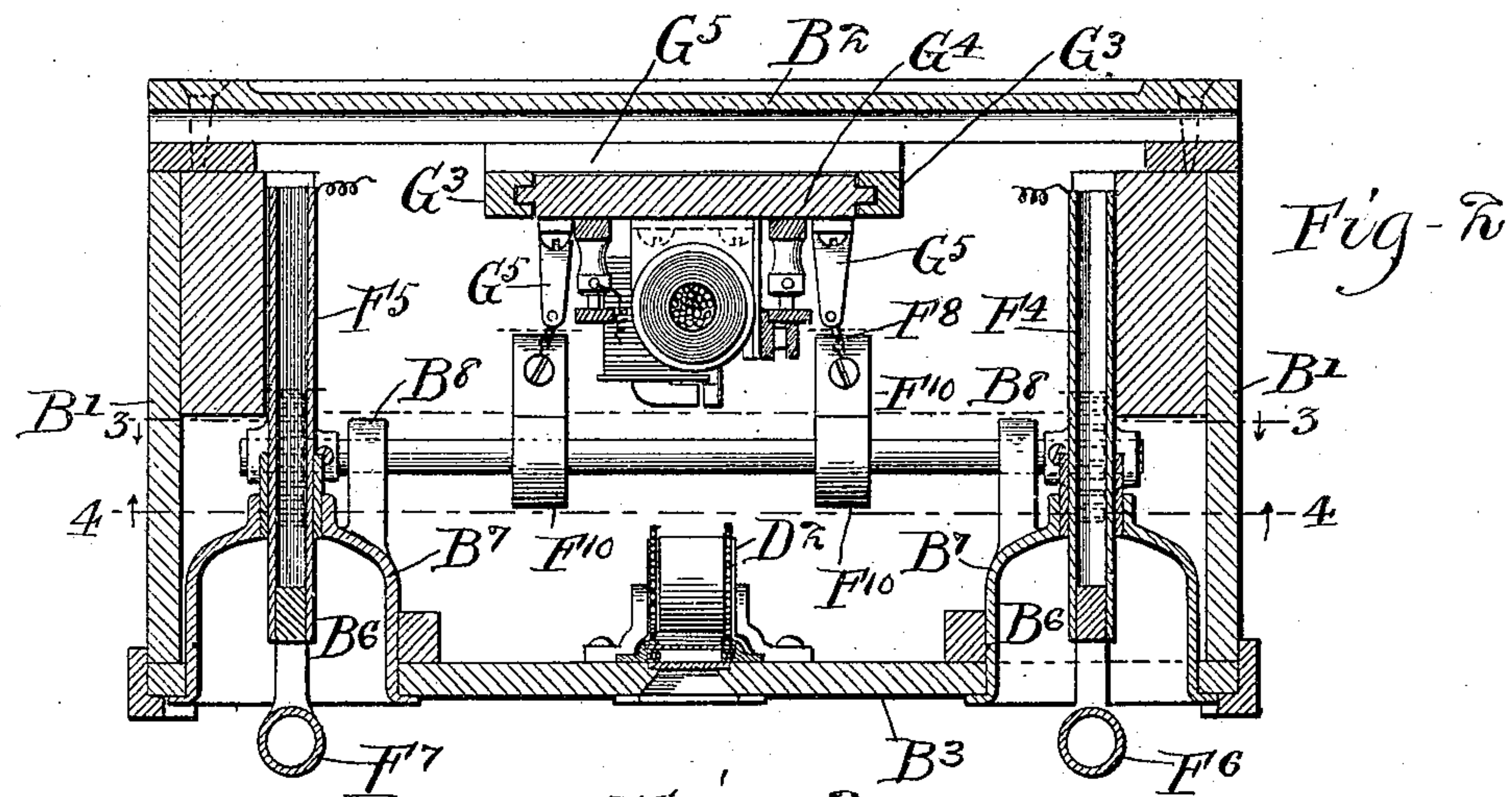
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5 Sheets—Sheet 2.



Witnesses

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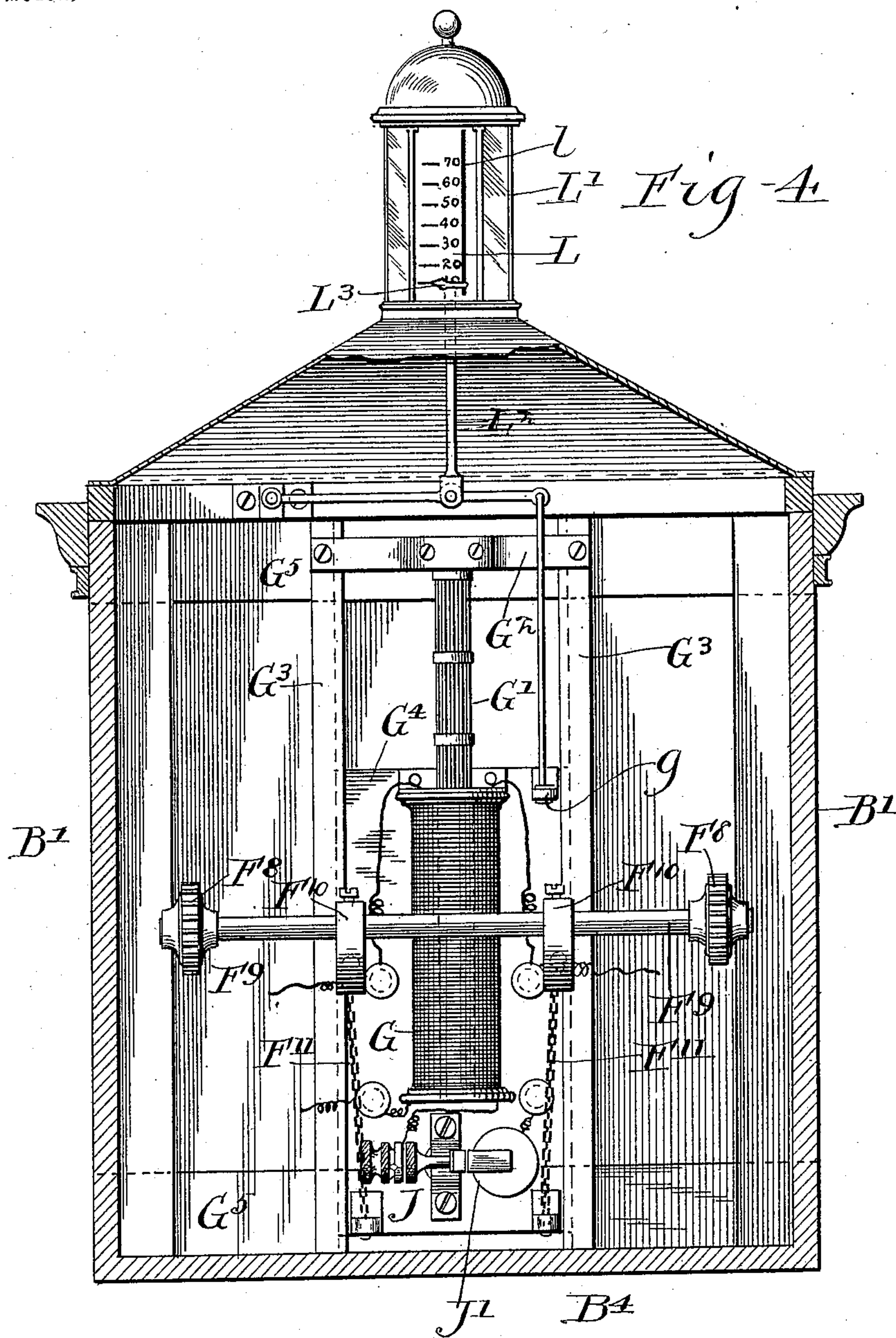
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(No Model.)

5 Sheets—Sheet 3.



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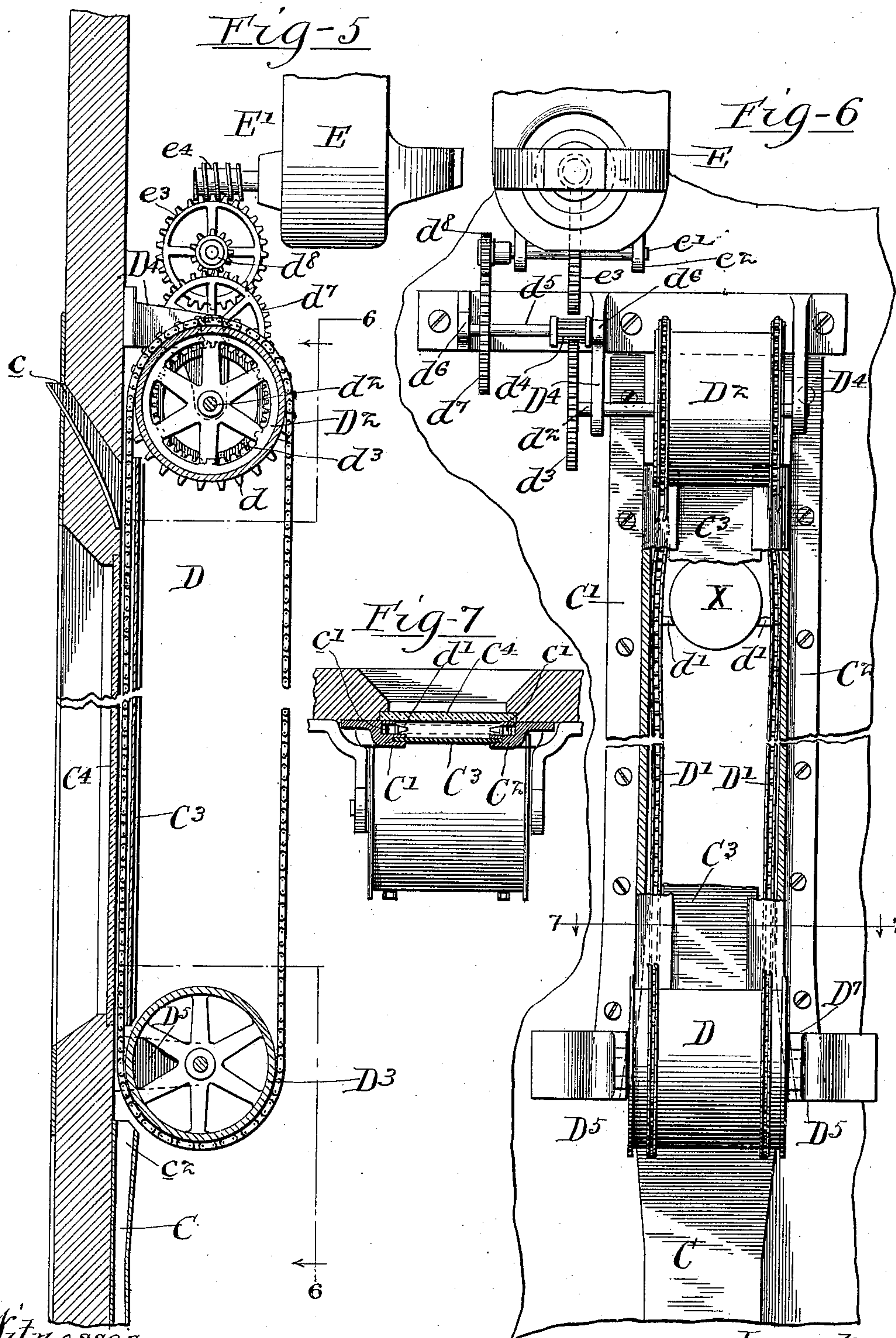
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COIN CONTROLLED ELECTRICAL APPARATUS.

(Application filed Feb. 14, 1898.)

(No Model.)

5 Sheets—Sheet 4.



Witnesses
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No. 620,197.

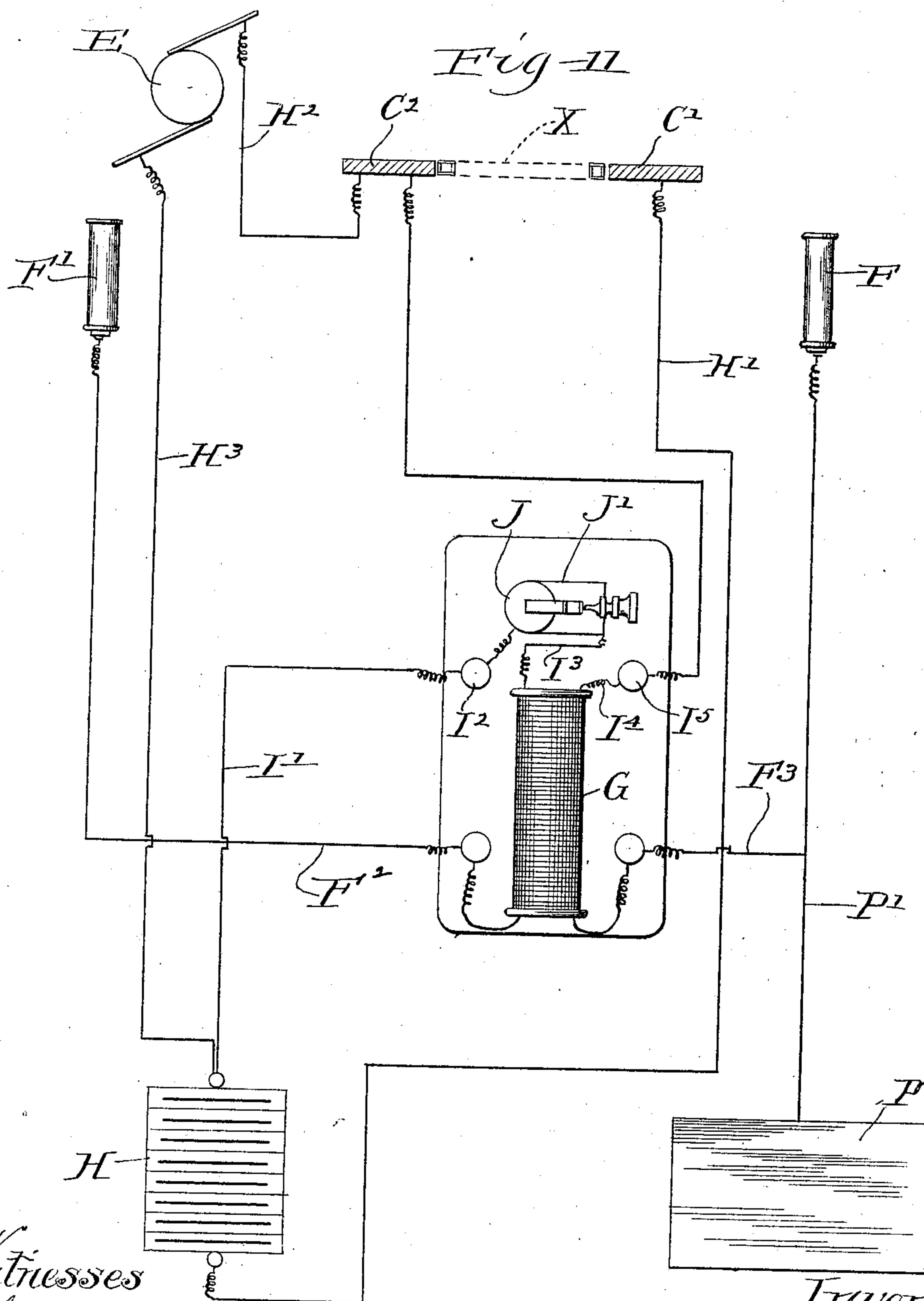
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(Application filed Feb. 14, 1898.)

(No Model.)

5 Sheets—Sheet 5.



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UNITED STATES PATENT OFFICE.

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COIN-CONTROLLED ELECTRICAL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 620,197, dated February 28, 1899.

Application filed February 14, 1898. Serial No. 670,234. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. TAYLOR, Sr., of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Coin-Controlled Electrical Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in apparatus for vending purposes in which the mechanism is actuated by the insertion into the apparatus of a coin which constitutes the purchase price of the article to be vended.

The apparatus herein illustrated is designed more particularly for applying for a limited time electricity to the body of a person by means of a normally open electric circuit, which is adapted to be closed for a limited period when a coin is inserted into the apparatus to actuate the same, said circuit including positive and negative electrodes adapted to engage the body of a person; but certain of the features of my invention may be employed in vending apparatus for other purposes.

An apparatus embodying my invention consists generally of a normally open motor-circuit, a coin-chute, within which are located electrodes or terminal strips, which are included within said motor-circuit, and a coin-carrier adapted to carry a coin through the chute in such manner as to close said circuit and maintain the circuit closed during the passage of the coin therethrough. Said apparatus contains also a normally open operating-circuit, which includes any suitable electric generator and which includes the same electrodes or terminals which are included within the motor-circuit or other terminals and being adapted to be closed by the same coin which closes said motor-circuit. In said operating-circuit are included an induction-coil and operating-electrodes, which are so located as to be engaged outside of the apparatus and through which the operating-circuit is closed to the body of the user.

The invention embraces also other features of improvement in devices of the character referred to; and the invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a front elevation of an apparatus embodying my invention. Fig. 2 is a plan section taken on line 2 2 of Fig. 1. Fig. 3 is a vertical sectional view taken on lines 3 3 of Fig. 2 and looking toward the front side of the machine. Fig. 4 is a vertical sectional view taken on line 4 4 of Fig. 2 and looking toward the rear of the machine with parts omitted. Fig. 5 is an enlarged detailed section taken on line 5 5 of Fig. 3. Fig. 6 is an enlarged detailed view taken on the indirect line 6 6 of Fig. 5. Fig. 7 is a cross-section taken on a line 7 7 of Fig. 6. Fig. 8 is a cross-section taken on a line 8 8 of Fig. 1. Fig. 9 is an enlarged detailed view of a portion of the coin-chute and coin-registering mechanism. Fig. 10 is a detailed section taken on line 10 10 of Fig. 1. Fig. 11 is a diagrammatic view illustrating the wiring.

As shown in said drawings, A designates a hollow standard of any suitable form, which is supported upon a hollow base-casing A', and B a housing within which is contained a portion of the operating parts of the device and which is supported upon said standard. Said housing is preferably of rectangular form and comprises end walls B' B', a rear wall B², a front wall B³, and a bottom wall B⁴. F F' designate the electrodes for the operating-circuit, and G an induction-coil which is included within said circuit. In the front wall B³ of said housing is formed a transverse slot c, which leads into a chute C, extending downwardly upon the inside of the front walls of said housing and standard to the base-casing A', in which will be located a coin-receiving receptacle. Within that portion of the coin-chute which is contained within the housing B are located parallel-extending terminal strips or electrodes C' C² of normally open motor and operating circuits, which terminal strips are parallel with each other and of such distance apart as to receive the coin between the same, which latter acts as a circuit-closer

to close both the motor and operating circuits. As herein shown, said terminal strips constitute the side walls of the upper portion of the coin-chute, being secured to the rear face of the front wall of the housing by screws in the manner shown. As herein shown, the rear wall of said chute is formed by an insulating-strip C^3 , which engages at its opposite edges grooves in the proximate edges of the strips $C' C^2$, and the front wall of said chute opposite said strip is formed by a plate C^4 of glass or other transparent material, through which the course of the coin in this portion of the chute may be observed, said plate being secured in a recess in the rear face of the front wall of the housing between said wall and the strips $C' C^2$.

D designates as a whole a coin-carrier, which is operated to carry the coin from the slot c through that portion of the chute in which are located the terminal strips $C' C^2$, and E designates an electric motor operatively connected with said carrier to actuate the same when the circuit is closed by the presence of a coin within the chute.

The carrier, as herein shown, consists of two endless belts $D' D'$, consisting in this instance of sprocket-chains, which are trained over upper and lower pulleys $D^2 D^3$, rotatively secured in brackets $D^4 D^5$, mounted on the inner face of the front wall of the housing B . The upper pulley D^2 is provided with sprockets d , which engage the links of the chain belt, whereby said belt has positive engagement with said pulley and is positively actuated to carry the coin through the chute. Said pulleys are made of such material as to insulate the two belts from each other. Said carrying-belts are so arranged that the front laps thereof pass through the upper end of the coin-chute in close engagement with the terminal strips $C' C^2$ on opposite sides thereof, the proximate faces of the terminal strips forming the sides of said chute being in the present instance provided with guide-grooves c' , within which the front laps of said belts are located. Said belts are provided with oppositely-arranged inwardly-extending prongs or spurs d' , which project into the chute and are of such distance apart at their inner ends as to intercept a coin which is dropped into the chute above the same. When a coin is caught between said prongs d' , the weight of the same acts to spread or separate the belts D' and hold them in close contact with the terminal strips $C' C^2$. The motor-circuit is closed at this time through said coin and the motor will be operated to drive the pulley D^2 , and thereby actuate the belts to carry the coin downwardly between the strips $C' C^2$, which will act to maintain said motor-circuit closed until the coin has passed the lower end of said terminal strips. The lower ends of said terminal strips diverge, as shown at D^7 , Figs. 3 and 6, which permits the coin to spread the belts upon the pulley D^3 and to thereby allow said coin to drop between said prongs into the

lower part of the chute, said chute being enlarged adjacent to the lower end of the coin-carrier, as shown at c^2 in Fig. 5, to receive the coin after it has been released from the carrying mechanism. In practice there will be a plurality of sets of prongs d' so arranged that just before one set is in position to release the coin another set will occupy such relation to the slot c as to intercept another coin dropped into the chute, so that the operation of the apparatus may be continuous at the will of the user.

It will be understood that the terminal strips $C' C^2$ are of such length that the operation of the apparatus, of whatever kind, will be completed before the coin passes out of contact with said terminal strips, thereby avoiding the necessity of employing switches or other mechanism for maintaining a continuous circuit.

The carrier may be made of other form than that herein shown.

The operative connections between the motor and coin-carrier are made as follows: The shaft d^2 , to which the pulley D^2 is secured, extends at one end beyond the bracket D^4 and is provided on its outer end with a gear-wheel d^3 , which meshes with a gear-pinion d^4 , carried by a shaft d^5 , secured in brackets d^6 , mounted upon the inner face of the front wall of the housing. Said shaft d^5 carries a gear-wheel d^7 , which meshes with a gear-pinion d^8 , affixed to a shaft e' , rotatively secured in brackets e^2 . Said shaft e' carries between its ends a gear-wheel e^3 , which meshes with a worm-gear e^4 , carried by the armature-shaft E' of the motor E . Said gear connection between the motor and coin-carrier is so arranged and timed that the coin will occupy a predetermined period of time in passing between the terminal strips $C' C^2$, whereby the motor-circuit and operating-circuit may be closed for a predetermined period of time. If it is desired to increase the period in which the application of the electrical circuit is effected, this may be accomplished by changing the gearing between the motor and coin-carrier.

The motor E is in circuit with a generator, herein shown as consisting of a primary battery H , which may be conveniently located in the base-casing A' of the standard. The wiring of the motor-circuit is shown diagrammatically in Fig. 11 and is as follows: From one pole of the battery H a wire H^1 leads to the terminal strip C' of the coin-chute. From the opposite terminal strip C^2 a wire H^2 leads to one pole of the motor. From the opposite pole of the motor a wire H^3 leads back to the opposite pole of the battery H , which completes the motor-circuit. It will thus be seen that owing to the separation of the terminal strips $C' C^2$ the motor-circuit is normally open and is adapted to be closed by the insertion of a suitable conductor between said terminal strips, which is accomplished in the present instance by means of a coin X , which acts

as a circuit-closer while it is being carried by the coin-carrier between said terminal strips.

The electrodes F F' are connected with the induction-coil G, which latter is energized in the present instance by the battery H. Said battery, the primary coil of the induction-coil, and the terminal strips C' C² are included within a primary circuit, while the electrodes F F' and the secondary coil of the induction-coil are included within a secondary or induced circuit. The wiring of the primary circuit is shown diagrammatically in Fig. 11 and is as follows: I' designates a wire which leads from one pole of the battery H to a binding-post I² and from thence to an electromagnet J' of the circuit-breaker J. From said circuit-breaker a wire I³ leads to one end of the primary coil of the induction-coil. From the opposite end of said primary coil a wire I⁴ leads to a binding-post I⁵ and from thence to the terminal strip C² on one side of the coin-chute. The primary circuit is completed through the wire or conductor H', connected with the opposite terminal strip C'.

The secondary circuit consists of wires F² F³, which are connected with the opposite ends of the secondary coil and are connected at their other ends with the positive and negative electrodes F F', which are adapted to be engaged by the body of the person using the apparatus, through which the secondary circuit is closed.

In the present construction the core G' of the induction-coil G is attached to the rear wall of the housing, so as to be stationary therein, while the coil G is movable with respect thereto, whereby it may be moved upon the core to vary the magnetic field. Said core G' is secured to a cross-bar G², which is affixed to vertical guides G³ G³, secured rigidly in the housing. The rear wall of the housing will preferably be made removable, so as to afford access to the interior thereof, and the vertical guides G³ G³ are therefore secured to upper and lower transverse cleats G⁵ G⁵, which are secured rigidly at their opposite ends to the rear ends of the side walls of the housing. The induction-coil G is secured in any suitable manner to a movable supporting-plate G⁴, which has sliding engagement with the vertical guides G³, said guides in the construction shown being provided on their proximate faces with guide-grooves, which are engaged by tongues on the opposite edges of the said supporting-plate. Any other suitable sliding engagement may be provided between said parts.

As a separate improvement the electrodes F F' of the secondary circuit are movably mounted within the housing D in a manner to be withdrawn from said housing and are operatively connected with the movable supporting-plate G⁴, upon which the induction-coil is secured in such manner that when said electrodes are withdrawn from the housing they will act to move the coil upon the core, and thereby increase the magnetic field and

strengthen the current of the secondary circuit. As herein shown, the electrodes F F' consist of straight bar portions F⁴ F⁵, located within the housing on opposite sides thereof and parallel with each other, and handle portions F⁶ F⁷, attached to or formed integral with said bar portions and arranged to be grasped by the hands of the user from outside of the housing. The front wall of said housing is provided with recesses B⁶ B⁶ to receive said handle portions of the electrodes when the latter are in their innermost positions, said recesses being formed by inwardly-extending cup-shaped castings B⁷ B⁷, secured in any suitable manner to the front wall of the housing. Said bar portions of the electrodes are made in the form of rack-bars, the teeth of which engage gear-pinions F⁸ F⁸, which are affixed rigidly to the opposite ends of a transverse shaft F⁹, rotatively mounted in bearings B⁸ B⁸, attached to or formed integral with the castings B⁷. Said shaft and pinions are so constructed as to insulate the electrodes from each other in order to prevent short-circuiting of the operating-circuit when the apparatus is not in use. Said shaft F⁹ is provided between its ends with cams F¹⁰ F¹⁰, which are connected with the supporting-plate G⁴, upon which the induction-coil G is mounted, by means of connecting-chains F¹¹ F¹¹ or other flexible connections, secured at one end thereof to the pulleys and at their opposite ends to studs G⁵ G⁵, attached to the lower end of said supporting-plate. With this construction it will be obvious that when the electrodes F F' are withdrawn from the housing the rack-bars thereof will act upon the pinions F⁸ F⁸ to rotate the shaft F⁹, with a result of winding the chains upon the pulleys F¹⁰, and thereby raising the supporting-plate G⁴ and coil G, attached thereto, with relation to and upon the core G'. Obviously the arrangement of the core and coil may be reversed—that is to say, the coil may be made stationary and the core movable and connected to the rotary shaft F⁹ in such manner as to be moved into the coil when the electrodes are withdrawn from the housing. As a further and separate improvement said pulleys F¹⁰ are made of such form that when the chains are wound thereon they will act to decrease the rate of movement of the coil upon the core as said coil approaches the outer end thereof, thereby decreasing the rate of increase of the current as the volume is increased. This is accomplished by mounting the pulleys eccentrically upon the shaft F⁹ and in such manner that the periphery thereof at the greatest radial distance will first act upon the chains. This construction obviously enables a person to receive a greater amount of current than if the rate of increase were uniform throughout the movement of the coil with relation to the core, as the person using the device receives more gradually the increased current.

The apparatus is provided with an indi-

cator, which is visible from the outside thereof and which is so constructed as to indicate the amount of current being used. Preferably said indicator is operatively connected
 5 and is movable with the induction-coil. Said indicator is made as follows: L designates a graduated dial which is contained within a casing L', mounted upon the top of the housing B, the graduations of said dial being arranged in vertical order from the lower to the
 10 upper end thereof. L² designates an endwise-movable rod or bar which passes upwardly inside casing L' and which is provided on one end with a pointer L³, which passes through
 15 a guide-slot l in the casing, with its free end in engagement with the outer face of the dial. The opposite end of said rod L² is pivotally connected with an oscillatory bar, which is pivotally connected at one end with the rear
 20 wall of the housing and is pivotally connected at its opposite end with an endwise-movable actuating-bar, which latter is connected at its opposite end with a lug g, carried by the supporting-plate G⁴. With this construction
 25 it will be obvious that when said supporting-plate and the coil G, attached thereto, are raised by withdrawing the electrodes F F' from the housing in the manner stated said pointer L² will, through the connections described,
 30 be moved upon the dial L to indicate the position of the coil upon the core and thereby the amount of current being used.

As a further and separate improvement the apparatus is provided with a registering device so located with respect to the coin-chute
 35 as to register the number of coins which pass through the said chute. Said device, as herein shown, consists of a star-wheel M, which is rotatively secured in the hollow standard A
 40 in such manner that the radial projections thereof extend into the chute in the path of the coin, said chute being provided in its adjacent side with a slot to receive said projections of the wheel. N designates a plurality
 45 of registering-wheels of common form and arrangement rotatively mounted upon a shaft N', secured in any suitable manner within the standard adjacent to the coin-chute, said registering-wheels bearing on their peripheries
 50 numerals, as shown. Said registering-wheels are operatively connected with the star-wheel by means of an endwise-reciprocating connecting-bar O, which engages between its ends a bearing o, secured in the
 55 hollow standard A. Said bar engages at one end ratchet-teeth n, formed on one of the registering-wheels N, and engages at its other end ratchet-teeth m, formed on the star-wheel M. With this construction the coins
 60 as they pass through the chute will engage the projections of the star-wheel and turn said wheel step by step, which will act through the connecting-bar O to turn the registering-wheels step by step in a familiar manner.
 65 The front wall of the hollow standard is provided with a transverse slot a opposite the registering-wheels, through which the record

made by said wheels at any given time may be read. The registering devices described not only make a record of the number of coins
 70 which have been deposited within the apparatus, but also indicate the amount of electrical energy which has been consumed for any given period of time, it being understood that both the motor and operating circuits
 75 are closed for a predetermined and uniform length of time each time a coin is inserted into the apparatus, so that the amount of electrical energy consumed for any period will equal the amount consumed during one
 80 operation of the apparatus multiplied by the number of operations or the number of coins which have been inserted into the apparatus.

The electrodes F F' of the operating-circuit, as stated, are adapted to be grasped by the
 85 hand of the person using the same, through which the circuit is closed to the person. As a further improvement I have shown in Figs. 1 and 10 the operating-circuit connected with an electrode, which is attached to the base of
 90 the apparatus and upon which the person using the same may stand, so that said circuit may be applied to the lower part of the body instead of to the upper part, as by the apparatus previously described. As shown
 95 in said figures, P designates a plate, which will be attached to the base-casing of the standard A in any suitable manner and insulated therefrom. Said plate is made of such size and extends in front of the standard such
 100 distance as to afford space for a person to stand thereon and is connected with the secondary circuit by means of a wire P', leading from the conductor F² of said circuit. When the said electrode P is to be used, the person
 105 will grasp only the electrode F', and the circuit will be closed through the electrode P and the lower part of the person's body. When it is not desired to use the electrode P, it will be covered by a suitable insulating material,
 110 such as a rubber mat, so that the lower portion of the person's body will be insulated therefrom. It will be obvious that the electrodes F, F', and P may be made of other form, whereby the operating-current may be directed to any portion of the person's body—as, for instance, said electrodes may be attached to the apparatus by flexible connections, as common in electric batteries for therapeutic
 115 purposes.

An important feature of my invention is embraced in the construction described, in which the terminal strips of the normally open motor-circuit are located in the coin-chute, and a coin-carrier positively controlled
 120 by the motor and adapted to carry a coin between said electrodes, through which coin said motor-circuit is closed.

Another and important feature of my invention is embraced in the construction described, in which the terminal strips of the normally open motor-circuit are of such length and the movement of the coin between the same so timed that said coin will pass be-

tween said strips and provide a continuous circuit during the time the apparatus is effecting one complete operation, thereby obviating the necessity of employing switching mechanism for effecting this result. This feature of my invention may be employed whenever it is desired to close a normally open motor-circuit for a fixed period of time in which certain work is to be accomplished, and is hereinafter made the subject of claims, which are not restricted to the particular class of apparatus herein illustrated.

A further and important feature of my invention is embraced in the construction described, in which the operating-circuit is closed by the same coin which closes the motor-circuit, as this construction greatly simplifies the apparatus and obviates the necessity of employing complicated and delicately-adjusted mechanism liable to get easily out of order.

It is obvious that many changes may be made in the details of construction, and I do not wish to be limited to the particular construction herein shown, except as made the subject of specific claims.

I claim as my invention—

1. The combination with a coin-chute, of an electric generator, stationary terminal strips in said chute in open circuit with said generator, and positively-actuated means for carrying a circuit-closer between said strips in a manner to close the circuit therethrough.

2. The combination with a coin-chute, of an electric generator, terminal strips in said chute in open circuit with said generator, and a coin-carrier in said chute movable in a plane parallel with said terminal strips.

3. The combination in a coin-chute, of an electric generator, a motor, terminal strips in said chute in open circuit with said generator and motor, and a coin-carrier in said chute controlled by said motor.

4. The combination with a coin-chute, of an electric generator, a motor, stationary terminal strips in said chute in open circuit with said generator and motor, and a coin-carrier in said chute controlled by said motor.

5. In a coin-controlled apparatus, the combination with a coin-chute, of an electric generator, terminal strips in open circuit with said generator, and means for carrying a circuit-closer between said strips, said strips being of such length and the movement of the circuit-closer between the same being so timed that the circuit-closer will pass between said strips and afford a continuous current during one complete operation of the apparatus.

6. The combination with a coin-chute comprising metallic side walls and front and rear walls connecting said side walls and insulating the same from each other, a generator in open circuit with said side walls of the chute, and a coin-carrier in said chute.

7. The combination with a coin-chute, of an electric generator, terminal strips in said chute in open circuit with said generator, a

coin-carrier including parts normally insulated from each other which severally engage said terminal strips and is positively actuated to carry a coin through said chute, through which coin the circuit is closed.

8. The combination with a coin-chute, of an electric generator, a motor, terminal strips in said chute in open circuit with said generator and motor, a coin-carrier controlled by said motor, including parts normally insulated from each other which severally engage said terminal strips and adapted to carry a coin through said chute, through which coin the circuit is closed.

9. The combination with a coin-chute, of an electric generator, a motor, terminal strips in said chute in open circuit with said generator and motor, a coin-carrier movable between said strips and controlled by said motor, comprising an endless traveling belt, trained over pulleys at the opposite ends of the chute, and means on said belt adapted to be engaged by a coin to carry the same in electrical engagement with said terminal strips whereby the circuit will be closed through said coin.

10. The combination with a coin-chute, of an electric generator, a motor, terminal strips in said chute in open circuit with said generator and motor, a coin-carrier in said chute controlled by said motor comprising an endless traveling belt trained over pulleys at the opposite ends of the chute, and means on said belt adapted to engage a coin through which coin the circuit is closed.

11. The combination with a coin-chute, of an electric generator, a motor, terminal strips in said chute in open circuit with said generator and motor, said strips being provided in their proximate faces with guide-grooves, a coin-carrier in said chute controlled by said motor comprising an endless belt trained over pulleys at the opposite ends of the chute and located in said guide-grooves of the strip, and means on said belt adapted to engage a coin through which coin the circuit is closed.

12. The combination with a coin-chute, of an electric generator, a motor, terminal strips in said chute in open circuit with said generator and motor, a coin-carrier in said chute controlled by said motor comprising an endless belt trained over pulleys at the opposite ends of the chute, and oppositely-arranged inwardly-extending prongs on said belt adapted to intercept a coin which is inserted into said chute.

13. The combination with a coin-chute, of a normally open motor-circuit, a normally open operating-circuit and means within said chute for simultaneously closing both said circuits.

14. The combination with a coin-chute, of a normally open motor-circuit, a normally open operating-circuit and means within said chute for simultaneously closing both circuits said means being actuated by the motor when said motor-circuit is closed.

15. The combination with a coin-chute, of

terminal strips in said chute, a motor in open circuit with said terminal strips, a normally open operating-circuit within which said terminal strips are included and means controlled by said motor for carrying a circuit-closer in position to simultaneously close both of said circuits.

16. The combination with a coin-chute, of terminal strips in said chute, a motor in open circuit with strips, a normally open operating-circuit within which said terminal strips are included, and a coin-carrier in said chute controlled by said motor.

17. The combination with a coin-chute, of a normally open motor-circuit, a normally open operating-circuit including an induction-coil, means for closing both of said circuits, said means being actuated by the motor when said motor-circuit is closed and positive and negative electrodes in open circuit with said induction-coil.

18. In an apparatus for the purpose set forth, the combination with the housing and a standard on which said housing is supported and a coin-chute in said housing, of a normally open motor-circuit; a normally open operating-circuit, including an induction-coil; positive and negative electrodes in said housing in open circuit with said induction-coil, in position to be engaged by the hands of the user, and a third electrode connected with the standard in position to be engaged by the feet of the user, said last-mentioned electrode being connected with the induction-coil and employed alternately with one of the first-mentioned electrodes.

19. In an apparatus of the character described, the combination with a housing, a normally open operating-circuit including an induction-coil, positive and negative electrodes connected with said induction-coil, and a coin-actuated mechanism in said housing for closing said operating-circuit, of means connected with the movable part of the induction-coil which operates to decrease the rate of increase of the current as the volume of said current is increased.

20. In an apparatus of the character described, the combination with a housing, a normally open operating-circuit including an induction-coil, positive and negative electrodes movably mounted within the housing and connected with said induction-coil, and a coin-actuated mechanism in said housing for closing said operating-circuit, of operative connections between said electrodes and the movable part of the induction-coil embracing a rotative eccentric-cam pulley and flexible connections between said pulley and the movable part of the coil.

21. In an apparatus of the character described, the combination with a housing, a normally open operating-circuit including an induction-coil, positive and negative electrodes movably mounted within said housing and connected with said induction-coil, and a coin-actuated mechanism in said housing

for closing said operating-circuit, of rack-bars connected with said electrodes, a rotative shaft provided with pinions engaged by said rack-bars, and an eccentric-pulley on said shaft connected with the movable part of said induction-coil by flexible connections.

22. The combination with a coin-chute, provided in one side thereof with a slot, of a registering device comprising a star-wheel projecting into said chute in the path of said coin, a registering-wheel rotatively secured adjacent to said chute, and an endwise-reciprocating bar engaging at one end ratchet-teeth on said star-wheel and at its other end ratchet-teeth on said register-wheel.

23. In an apparatus for the purpose set forth, the combination with a housing and a coin-chute therein, of a normally open motor-circuit; a normally open operating-circuit, including an induction-coil which is movable with relation to its core, positive and negative electrodes in open circuit with said induction-coil, and mechanically connected therewith so as to produce relative movement between the coil and the core, and means within the coin-chute for closing both said motor and operating circuits.

24. In an apparatus for the purpose set forth, the combination with the housing and a coin-chute therein, of a normally open motor-circuit, a normally open operating-circuit, including an induction-coil which is movable with relation to its core, positive and negative electrodes in open circuit with said induction-coil, and mechanically connected therewith so as to produce relative movement between the coil and the core and in such manner that the speed of the moving parts is decreased as the volume of current is increased, and means within the coin-chute for closing both motor and operating circuits.

25. In an apparatus for the purpose set forth, the combination with a housing, a coin-chute therein and a standard on which said housing is supported, of a normally open motor-circuit, a normally open operating-circuit, including an induction-coil, which is movable with relation to its core, positive and negative electrodes in open circuit with said induction-coil and mechanically connected therewith so as to produce relative movement between the coil and the core, a third electrode connected with the standard and electrically connected with one end of the induction-coil, said electrode being adapted to be employed alternately to one of the first-mentioned electrodes and means within the chute for closing both motor and operating circuits.

26. In an apparatus for the purpose set forth, the combination with a housing and a coin-chute therein, of a normally open motor-circuit, a normally open operating-circuit, including an induction-coil which is movable with relation to its core, positive and negative electrodes in open circuit with said induction-coil, and mechanically connected therewith so as to produce relative movement between

the coil and the core, terminal strips in said coin-chute included in said motor and operating circuits and a coin-carrier controlled by the motor-circuit and adapted to carry a coin
5 between the terminal strips in such a manner as to close both circuits therethrough.

27. In an apparatus for the purpose set forth, the combination with a housing and a coin-chute therein, of a normally open motor-circuit, a normally open operating-circuit including an induction-coil which is movable
10 with relation to its core, positive and negative electrodes in open circuit with said induction-coil and mechanically connected therewith
15 so as to produce relative movement between said coil and core, an indicator comprising a

graduated dial and a pointer operatively connected with said movable part of the induction-coil, means for carrying a coin through the chute to close both motor and operating
20 circuits, and a coin-registering device connected with the chute for registering the number of coins which pass therethrough.

In testimony that I claim the foregoing as my invention I affix my signature, in presence
25 of two witnesses, this 11th day of February, A. D. 1898.

ROBERT W. TAYLOR, SR.

Witnesses:

WILLIAM L. HALL,
W. A. WHITEHEAD.