(No Model.) 3 Sheets—Sheet 1.

W. R. POPE.

COIN CONTROLLED MACHINE FOR ADMINISTERING ELECTRICITY.

No. 492,486. Patented Feb. 28, 1893.

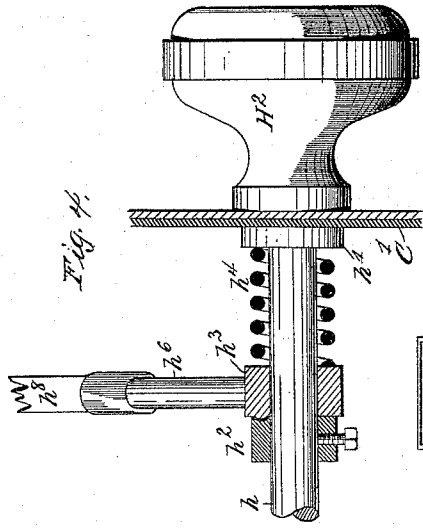

Fig 4.

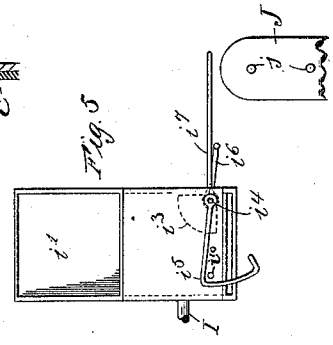

Fig 5

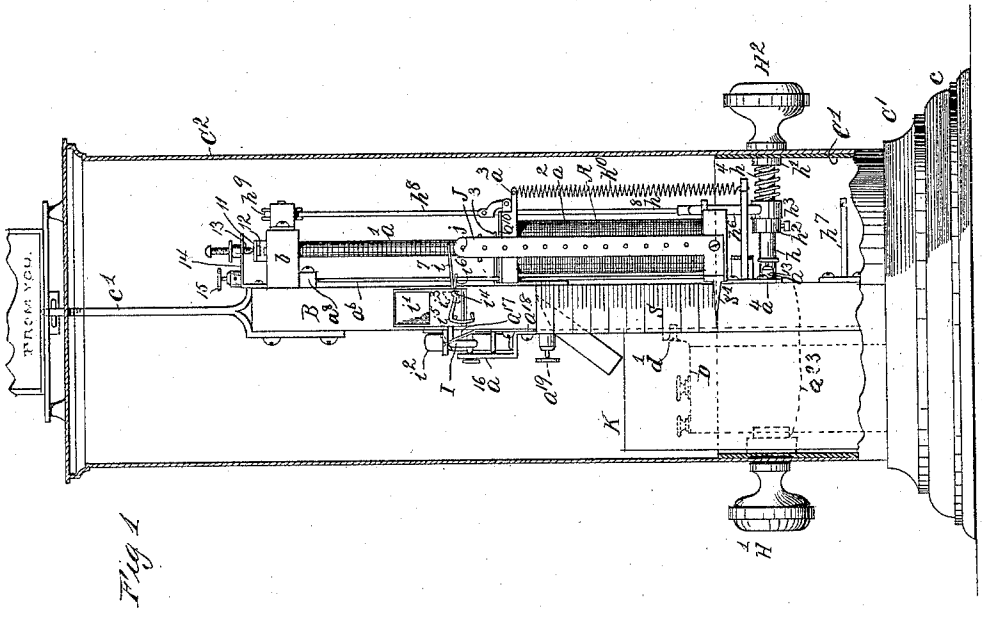

Fig 1

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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W. R. POPE.

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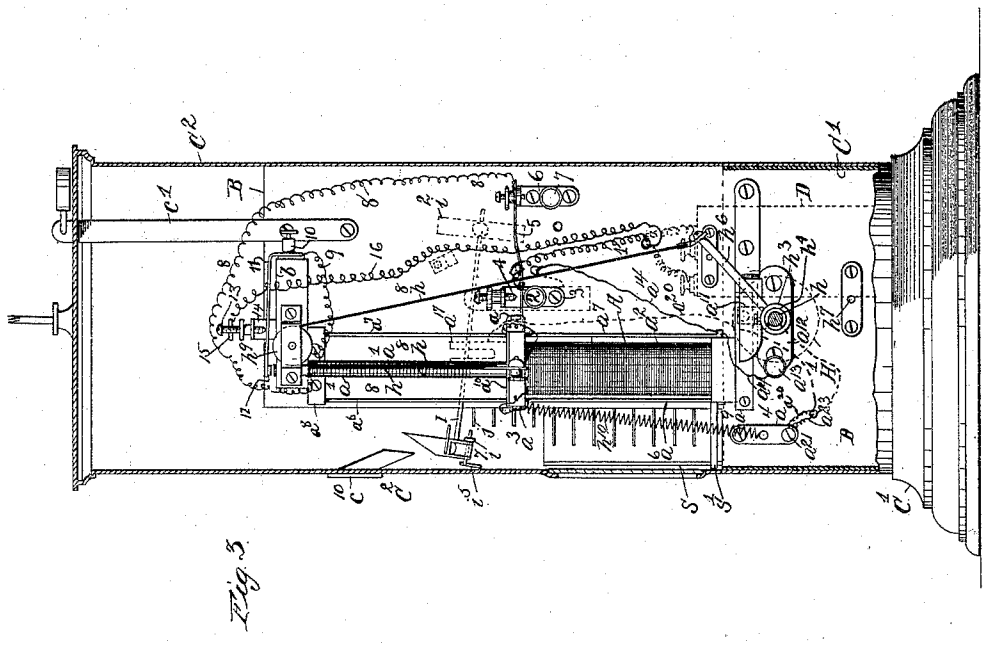

Fig. 3.

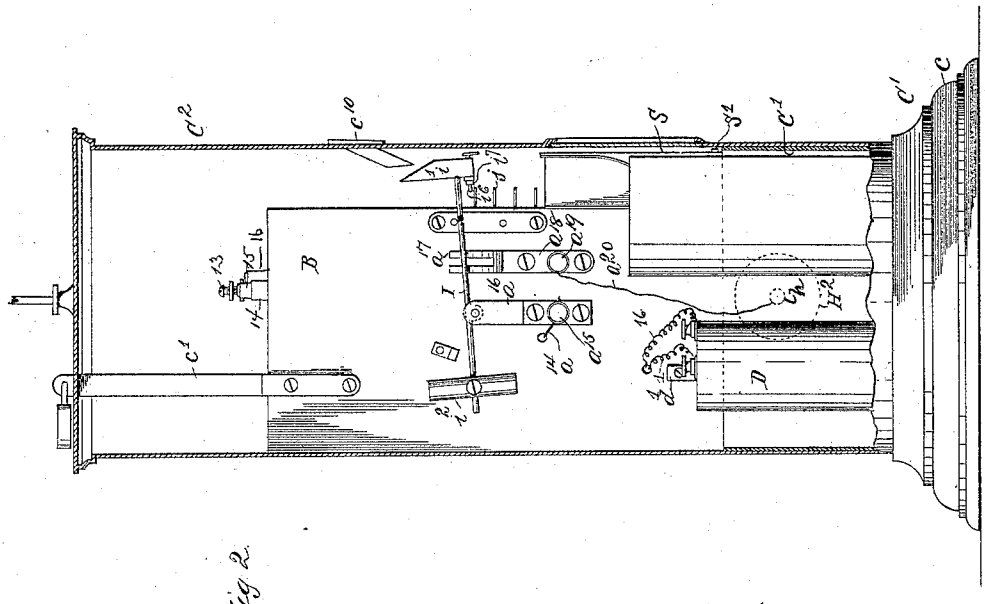

Fig. 2.

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(No Model.) 3 Sheets—Sheet 3.

W. R. POPE.

COIN CONTROLLED MACHINE FOR ADMINISTERING ELECTRICITY.

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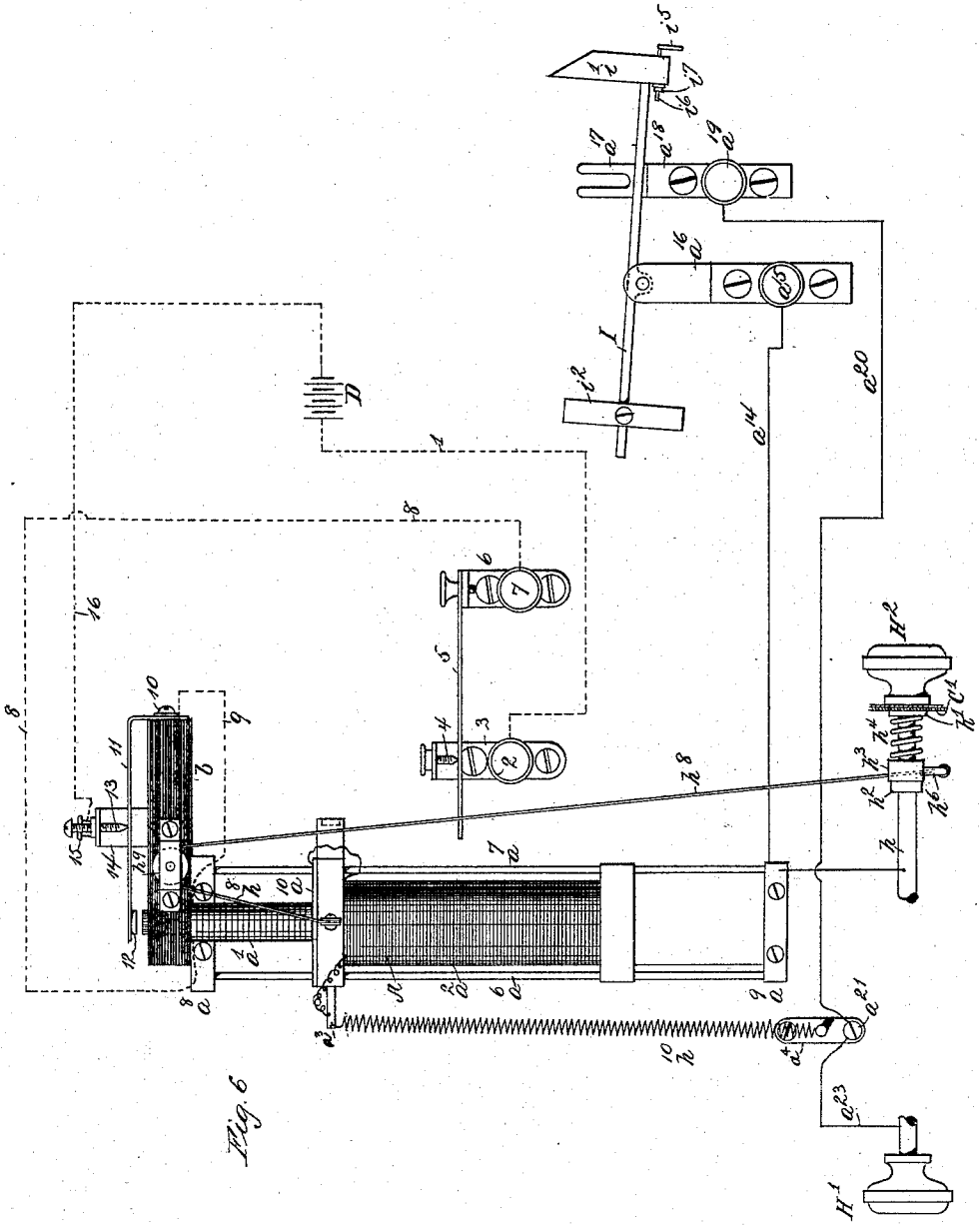

Fig. 6

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM RILEY POPE, OF NEW YORK, N. Y., ASSIGNOR TO THE NATIONAL ELECTRIC MACHINE COMPANY, OF SAME PLACE.

COIN-CONTROLLED MACHINE FOR ADMINISTERING ELECTRICITY.

SPECIFICATION forming part of Letters Patent No. 492,486, dated February 28, 1893.

Application filed August 13, 1892. Serial No. 443,064. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM RILEY POPE, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Coin-Controlled Machines for Administering Electricity, of which the following is a specification.

The object of my improvement is to produce a simple and inexpensive machine of such character that upon the introduction of a coin of predetermined denomination, it would be possible to obtain a shock or current of electricity.

I will describe a machine embodying my improvement and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a front view of a machine embodying my improvement, part of the case being removed. Fig. 2 is a side view thereof with the case partially removed. Fig. 3 is a view of the opposite side with the case partially removed. Fig. 4 is a detailed view of certain parts showing the co-action of one of the handles with a part employed to move the secondary of the induction coil. Fig. 5 is an end view of a coin receptacle including its appurtenances. Fig. 6 is an end view of a coin receptacle including its appurtenances. Fig. 7 is a diagram illustrating the circuits.

Similar letters and numerals of reference designate corresponding parts in all the figures.

A designates an induction coil consisting of a primary a' and a secondary a^2. These parts may be of ordinary or any suitable construction. The primary a' is immovably connected to a support B in a vertical position, whereas the secondary a^2 is secured to said support so as to be capable of moving vertically and lengthwise of the primary a'. The support B is represented as consisting of an upright board fastened to the lower section C′ of a case C′ C^2. This case C′ C^2 may be made of sheet metal. As here represented, the lower section C′ is provided with a base-piece c, on which the machine may firmly rest, and the upper section C^2 slides down over the cylindric portion of the section C′.

The support B may be secured to the section C′ of the case C^2 by means of screws passing through the cylindric portion of the section C′ and entering the support. The two sections of the case may be secured together by means of a rod c' extending up through the top of the section C^2 and having a padlock fitted to its projecting extremity.

Obviously the case may be made of any ornamental configuration.

Outside of the case of the machine are two metal handles H′ H^3, represented as made in the form of door knobs. The handle H′ passes through the cylindric portion of the section C′ of the case C′ C^2 and is fastened by a nut applied to a screwthread on its inner extremity. It may be clamped in sufficiently tight to prevent it from being rotated, and if this is done, it is less liable to injury by force tending to turn it. The handle H^2 is affixed to a shaft h extending through the cylindric portion of the section C′ of the case C′ C^2 and passing into the support B. On this shaft within the case are collars h' h^2 h^3. The collar h' is adjacent to the inner surfaces of the cylindric portion of the section c' of the case C′ C^2 and prevents the handle and its shaft from being detached. The collar h^3 is capable of a sliding movement lengthwise of the shaft and is held with one side in contact with the collar h^2 by a spring h^4, coiled around the shaft between the collar h^3 and the collar h'. The opposite sides of the collars h^3 h^2 are provided with a horizontal projection and recess. There may be any number of the projections and any number of recesses. By means of said projection and recess the collars h^3 h^2 are normally engaged so that the collar h^3 will rotate with the shaft, but the engagement between these collars is such that if anything prevents the rotation of the collar h^3, it will move lengthwise of the shaft against the resistance of the spring h^4 and become disengaged from the collar h^2. From the collar h^3 projects an arm h^6. After the rotation of the handle H^2 a certain distance, this arm h^6 will come in contact with a rod h^7 projecting horizontally from the lower portion of the support B, whereupon the further motion of the arm will be arrested. The arrest of the arm h^6 will not, however, interfere with the continued rotation of the handle H^2 and its shaft, hence any attempt to force the handle beyond the point where it is

intended to move will not cause injury to the machine. From the arm h^6 a band h^8 passes up over a pulley h^9, journaled in a bracket fastened to a block b extending horizontally from the support B. The band h^8 after passing around the pulley h^9 is fastened to the secondary of the induction coil. Obviously, by rotating the handle H^2 in one direction, the secondary will be raised and by rotating the handle in the reverse direction, the secondary will be lowered. Preferably a spring h^{10} will be employed to lower the secondary to its normal position. As shown, such spring is of helical coiled wire and is fastened to a metal screw a^3 extending from the secondary of the induction coil and to a metal bracket a^4 extending from the support B.

The upper section C^2 of the case C' C^2 has notches at opposite sides of its lower portion, so that it may be slid down past the handles H' H^2.

D designates a battery, which may be of any suitable form. It may advantageously be a dry battery. It is shown as fitted in a holder which is fastened by a screw d' to the support B.

From one pole or electrode of the battery D a wire, 1, extends. This wire passes through the support B and is secured in a metal binding screw, 2, which is mounted upon a metal bracket, 3, secured to the support B. The bracket, 3, is provided with a metal contact point, 4, here shown as made in the form of a screw engaging with the bracket, so as to be adjustable. Below the contact point, 4, is arranged a contact point, 5, consisting of a strip of metal extending horizontally from a metal bracket, 6. This bracket, 6, is provided with a binding screw, 7, from which extends a wire, 8. The wire, 8, is shown as passing through the support B, thence up along one side of said support and thence from the support again to the same side as that upon which the brackets 3 and 6 are mounted. The wire then connects with one extremity of the coil of the primary a' of the induction coil A. The movable secondary a^2 of the induction coil is provided with a finger a, which, when the secondary is lowered to its normal position, will impinge against the contact piece, 5, and separate it from the contact piece, 4, thus breaking the circuit which includes the primary of the induction coil. Whenever the secondary is raised, the finger a rises from the contact piece, 5, allowing it to impinge against the contact point, 4, so as to complete the primary circuit. As the secondary of the induction coil is raised and lowered by means of the handle H^2, the circuit, including the primary of the induction coil, is opened and closed by means of said handle. From one end of the coil constituting the primary of the induction coil a wire, 9, extends to a binding screw, 10, extending from a plate affixed to the block b. From this binding screw, 10, extends a metal strip, 11, forming part of a rheotome, which at its free extremity is provided with a piece of magnetic metal, 12, located over the core of the primary of the induction coil. Above the strip, 11, is a contact piece, 13, extending from a metal bracket, 14, provided with a binding screw, 15. From the binding screw, 15, a wire, 16, extends passing across the support B and then downward to one pole or electrode of the battery D.

The primary of the induction coil A is supported from the block b and extends downwardly therefrom. The secondary is guided by rods a^6 a^7, fastened at their upper extremities in a cross-bar a^8, and at their lower extremities in a cross-bar a^9. One end of the coil constituting the secondary of the induction coil is fastened to a metal plate a^{10}, which is fastened to the upper extremity of the secondary of the induction coil and is in metallic contact with the metal rods a^6 a^7. The circuit of the secondary of the induction coil is therefore extended to this plate, thence to the said rods and from thence to the bar a^9. From the bar a^9, it is extended by a metallic clip a^{11} to a metal plate a^{12} fastened to the support B and receiving the shaft of the handle H^2 through it. This shaft, being made of metal, is in electric communication with the plate a^{12}, and hence extends the circuit to the said handle. The plate a^{12} is provided with a metal binding screw a^{13}, whence extends a wire a^{14}. This wire passes through the support B and extends upwardly to a binding screw a^{15}, which is connected to a metal plate a^{16}, fastened to the support B, and constructed to form a bracket in which is fulcrumed a metallic lever I. The lever I at one end is provided with a coin receptacle i' and at the other end with a counterbalance i^2. Normally the counterbalance holds the lever I in contact with a resilient metal finger a^{17}, extending from a metal plate a^{18} fastened to the support B, and provided with a metal binding screw a^{19}. From this binding screw a^{19} a wire a^{20} extends through the support B and to a metal screw a^{21}, that extends from the metal plate a^4 fastened to the support B. From the screw a^{21}, there also extends a wire a^{23} and this wire passes through the support B and connects with the metal shank of the handle H'. From the screw a^{21}, the circuit is extended through the metal spring h^{10}, and thence to the screw a^3. One extremity of the coil constituting the secondary of the induction coil is fastened to this screw, thus completing the secondary circuit.

Owing to the normal contact of the lever I with the spring finger a^{17}, the secondary will be normally short-circuited from the handles, but whenever a coin is deposited in a coin receptacle i', the lever will be oscillated so as to break the short circuit and thereupon the secondary circuit with be continued to the handles.

It will be seen that the primary circuit is normally open and the secondary circuit normally short-circuited. The movement of that

handle which adjusts the secondary of the induction coil, and thereby varies the shock or current of electricity administered, serves to close the primary circuit of the induction coil, and the deposit of a coin of proper denomination in the coin receptacle breaks the short circuit of the secondary coil. The coin receptacle has a bottom support i^3, which will only serve to sustain a coin as large as the proper denomination. The coin aperture c^{10} of the case C′ C² should be of such a size as to prevent any coin larger than that of the proper denomination from entering the machine.

The bottom support i^2 of the coin receptacle is pivoted at i^4 to the body of the coin receptacle. Said bottom support is rigid upon the pivot i^4 and the latter turns freely in the body of the coin receptacle. One extremity of the pivot is bent to form an arm i^5, which by co-acting with a pin i^{10} will limit the rocking movement of the bottom support i^3 in each direction. The other extremity of the pivot is bent to form an arm i^6. An arm i^7 is loosely mounted upon the pivot, so as to be free to oscillate thereon. It extends over the arm i^6.

The secondary of the induction coil is provided with a rack bar J, comprising a number of pins j. The arm i^7 extends across these pins. When the secondary of the induction coil ascends after the descent of the coin receptacle, the arm i^7 will be oscillated by the pins j of the rack bar J upon the pivot i^4 without affecting the bottom support i^3 of the coin receptacle. The minute that the secondary is lowered, the pins j of the rack J will oscillate the arm i^7 downwardly, and, as then this arm will impinge against the arm i^6, the latter will also be oscillated downwardly. This will cause the bottom support of the coin receptacle to be oscillated upwardly, so as to permit of the passage of the coin, which will then drop into a receptacle K located in the lower part of the case C′ C².

I have shown the section C² of the case C′ C² as provided with a vertical slot fitted with a piece of glass and a graduated scale, S, arranged on one edge of the support B opposite an opening c^5. An index S′ is attached to the secondary of the induction coil and extended over the scale, hence when the secondary is raised, the index will indicate the extent of the shock or current of electricity administered.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a machine for administering electricity, the combination of an induction coil having a fixed section and a movable section, a handle outside the case of the machine, an arm having yielding connection with said handle, a strap connected with the arm, a pulley around which the strap extends and a connection between the strap and the movable section of the induction coil, substantially as specified.

2. In a machine for administering electricity, the combination of an induction coil having a fixed section and a movable section, a handle outside of the case of the machine, a shaft extending from said handle to the inside of the case, a collar fixed to said shaft, a collar constructed to interlock with the fixed collar and loosely mounted on said shaft, a spring for holding the loose collar in engagement with the fixed collar, an arm extending from the loose collar, a strap connected with the arm, a pulley around which the strap extends and a connection between the strap and the movable section of the induction coil, substantially as specified.

3. In a machine for administering electricity, the combination of a case, a support consisting of a board or similarly shaped part extending upwardly within the center of the case, an induction coil arranged at one side of the support, a coin lever arranged on the other side of the support and provided with a coin receptacle having an adjustable bottom, a rack on the movable section of the induction coil and means for operating the movable section of the induction coil, substantially as specified.

4. In a machine for administering electricity, the combination of an induction coil having a movable section, a movable handle, a primary circuit including the primary of the induction coil and closed and opened by the movable handle, a secondary circuit including the secondary of the induction coil, contact pieces in said secondary circuit controlled by the secondary of the induction coil, a coin lever for establishing or disestablishing a short circuit or shunt in the secondary circuit and means for operating the movable section of the induction coil, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM RILEY POPE.

Witnesses:
ANTHONY GREF,
WILLIAM A. POLLOCK.