

(No Model.)

3 Sheets—Sheet 1.

J. B. CARR.
COIN CONTROLLED MACHINE.

No. 562,280.

Patented June 16, 1896.

Fig. 2.

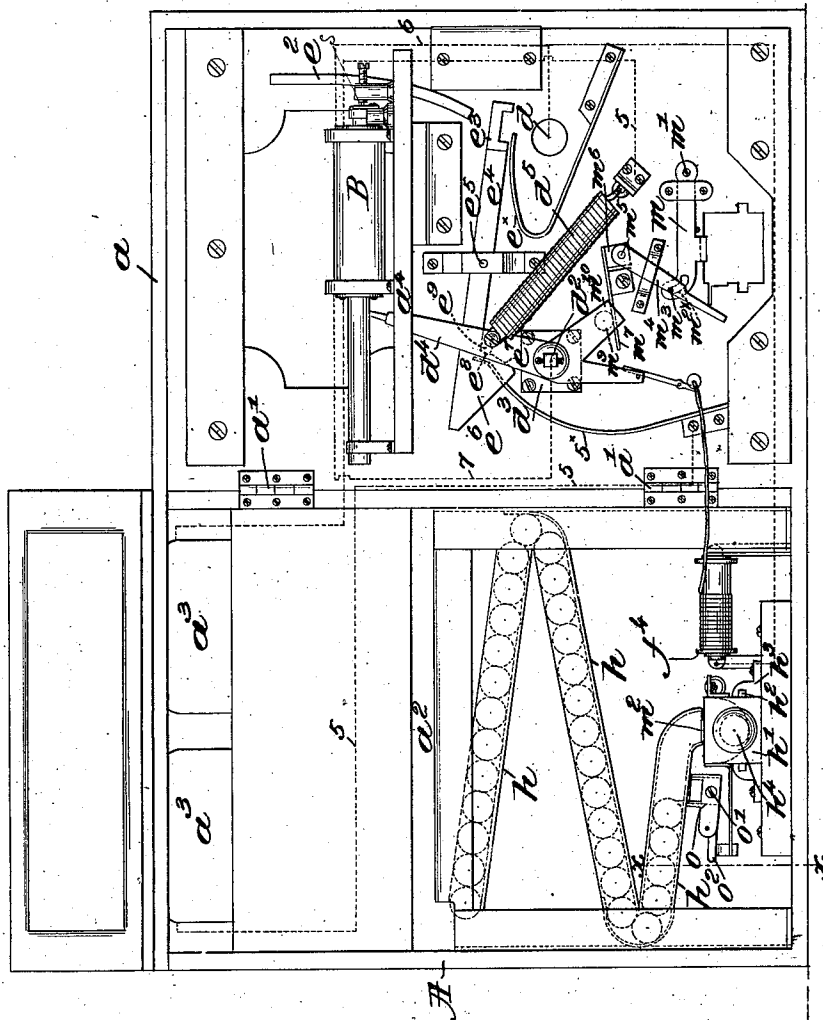
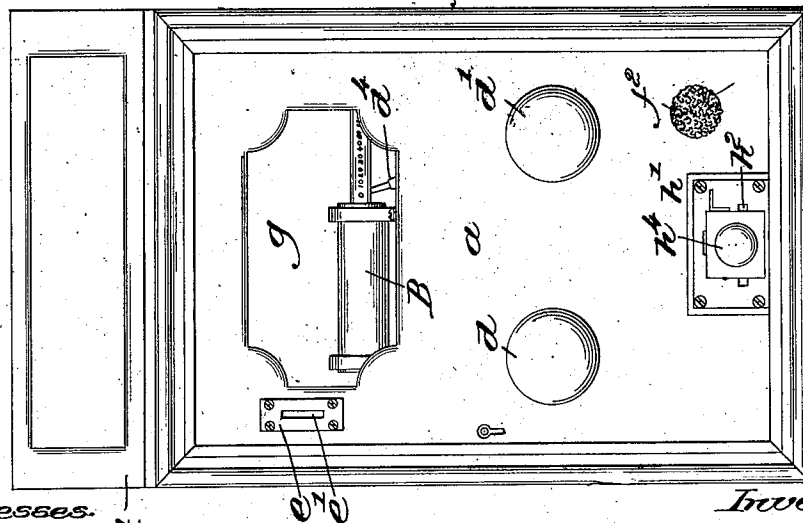


Fig. 1.



Witnesses.

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(No Model.)

3 Sheets—Sheet 2.

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COIN CONTROLLED MACHINE.

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Fig. 3.

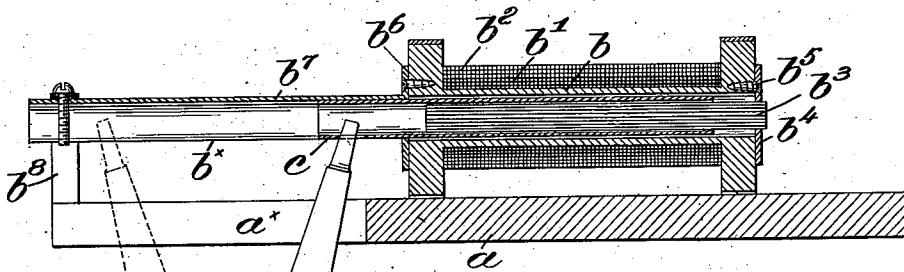


Fig. 5.

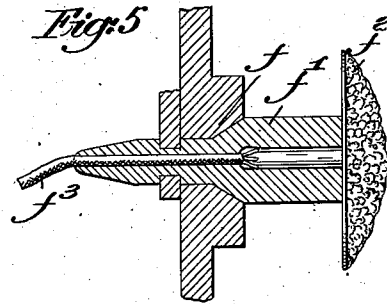
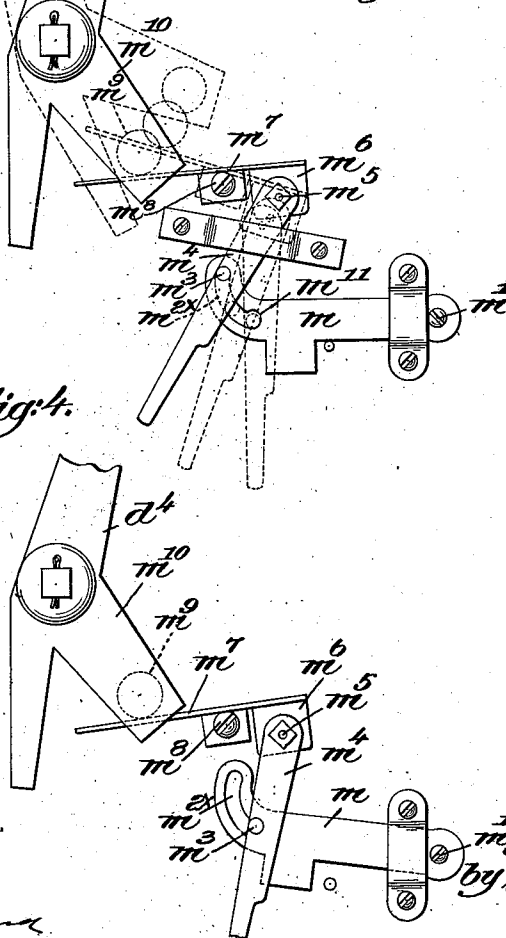


Fig. 4.



Witnesses.

Fred S. Greenleaf.

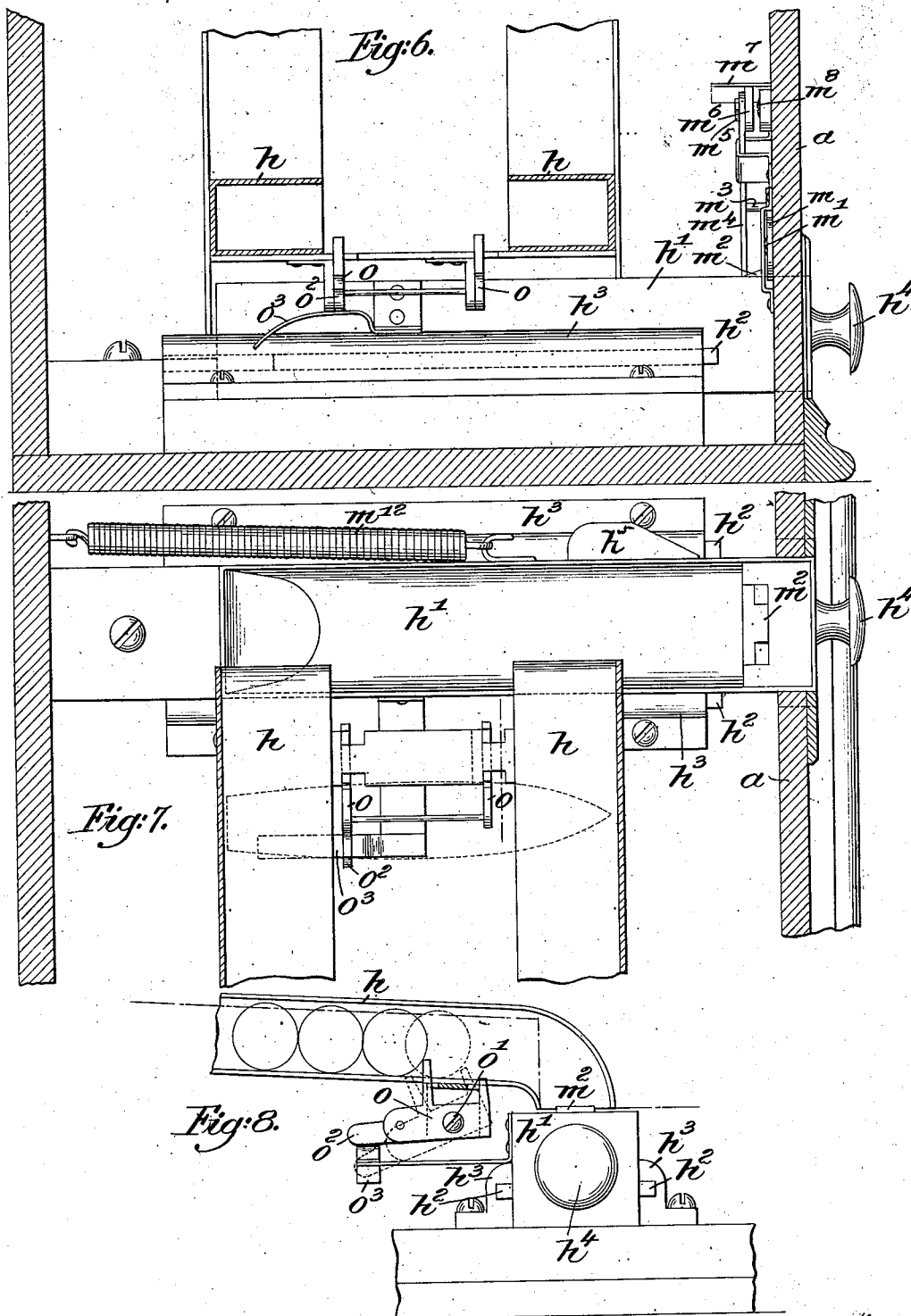
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3 Sheets—Sheet 3.

No. 562,280.

Patented June 16, 1896.



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UNITED STATES PATENT OFFICE.

JOHN B. CARR, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO
JOHN MATTSON, OF REVERE, MASSACHUSETTS.

COIN-CONTROLLED MACHINE.

SPECIFICATION forming part of Letters Patent No. 562,280, dated June 16, 1896.

Application filed July 29, 1895. Serial No. 557,407. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. CARR, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Coin-Controlled Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention in coin-controlled machines consists, first, in a machine from which the operator, after depositing the necessary coin in the receptacle provided for the same, may, by grasping or manipulating suitable handles or electrodes, obtain a shock or charge of electricity, which, in the preferred embodiment of my invention, will be transmitted through such devices as will enable the operator to vary the current according to his wishes or needs.

My invention also comprehends a removable electrode, which, after depositing the necessary coin, the operator may draw out or remove from the machine and apply it and the electric current to any desired part of the body.

Another feature of my invention consists in providing a machine, having appliances for administering an electric current, with a suitable receptacle for cigars or other articles and with a delivery device which, after the deposit of the necessary coin, may, upon movement of the electrodes or other appliances connected with the electrical portion of the machine, be released or operated to deliver a cigar or article in a position such as will enable it to be received by the operator.

Other features of my invention will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1, in front elevation, shows a machine embodying my invention; Fig. 2, a view with the front door thrown back on its hinges; Fig. 3, an enlarged detail in partial section showing one means for varying the current and for releasing the cigar or other article; Fig. 4, another detail showing some of the parts Fig. 3 in a different position; Fig. 5, a sectional detail of a part of a removable electrode; Fig. 6, an enlarged sectional detail on the dotted line *x x*, Fig. 2;

Fig. 7, a top or plan view of Fig. 6; and Fig. 8, on an enlarged scale, shows the cigar-deliverer and devices immediately adjacent thereto on a larger scale than in Fig. 2.

In the drawings, which show one embodiment of my invention, selected for illustration of the same, A is a suitable receptacle or box provided at its front with a door *a*, hung upon suitable hinges *a'*, enabling it to be turned back, as in Fig. 2.

The box A is provided with a suitable shelf *a²*, upon which, in the present instance, are arranged the battery-cells *a³*, which together constitute one form of electrical generator, it being understood that my invention is not restricted to this or to any particular source from which the electrical current is received. In the present instance upon the inside of the door I have mounted, upon a suitable shelf *a⁴*, an ordinary induction-coil B, it (see Fig. 3) being shown as comprising a suitable spool *b*, upon which are wound the usual primary and secondary coils *b'* and *b²*, the usual core *b³* being shown as supported at one end by a suitable plate *b⁴*, screwed to the end of the spool at *b⁵*.

The primary coil *b'* is, as usual, arranged in a circuit 5 with the generator receiving its current therefrom, said circuit including the usual circuit-breakers, and also an automatic switch to be described.

Upon the opposite end of the spool *b* I have secured, by its flange *b⁶*, a tubular guide *b⁷*, supported at its outer end by a suitable bracket *b⁸* on the shelf *a⁴* and containing the non-magnetic shield or tube *c*, adapted to slide in and out of the spool around the core *b³* to thereby, according to its position, expose more or less of the said core to intensify or diminish the inductive action of the current received from the coil.

Upon the door *a* I have, in the present instance, mounted two conducting, preferably metallic, knobs, or as I shall hereinafter denominate them "electrodes" *d d'*, which may or may not be movable, these knobs being connected by wires 6 7 with the opposite ends of the secondary inductive coil *b²*.

In the present instance of my invention the knob or electrode *d'* is made rotatable, its shank *d²* being journaled in a suitable bearing

d^3 in the door, and made square or otherwise adapted at its inner end (see Fig. 2) to receive an arm d^4 , which passes through a suitable slot a^x in the shelf a^4 and the slot b^x in the guide-tube b^7 and at its free end engages the outer end of the shield c , so that by rotating the electrode d' and its arm d^4 the said shield may be moved out from or into the induction-coil to vary the intensity of the current, as described.

A spring d^5 connects the arm d^4 with a plate secured to the door to draw the said arm to its normal position at the right, as shown in full lines, Figs. 2 and 3, rotation of the electrode to withdraw the shield to expose more or less of the induction-armature being necessarily in opposition to the action of this spring.

The door is shown as provided with a suitable plate e , provided with a slot e' of suitable shape and size to receive the desired coin, deposit of which is required to permit operation of the machine, said slot e' opening into a suitable conducting-tube e^2 , which at its lower end terminates immediately above a table e^3 on the end of a lever e^4 , pivoted at e^5 , and having its opposite end extended and provided with a triangular-shaped end e^6 , the inner edge e^7 of which is beveled, as shown in Fig. 2, the said lever at the juncture of the beveled edge, at the under side of the lever, being provided with a suitable socket e^8 (shown only in dotted lines, Fig. 2) for the reception of a pin e^9 on the inside of the arm d^4 , and also shown in dotted lines only.

In the present instance of my invention the circuit 5, connecting the generator with the primary induction-coil, is caused to pass through the spring d^5 , arm d^4 , pin e^9 and when the arm is moved, through a spring 5^x . (See Fig. 2.)

When the arm d^4 and its knob are in their normal positions, the spring 5^x does not quite touch the pin e^9 and the circuit is thereby broken at this point to save the battery. Initial movement of the knob, however, causes the pin e^9 to contact with the spring referred to and closes the generator-circuit to permit a current to be obtained through the induction-coil, said pin and spring constituting one form of automatic switch or cut-out to save the battery when the machine is not in use.

A coin dropped into the slot e' descends through the tube e^2 and protrudes partially from the lower end of the tube, resting upon the table e^3 , the weight of the coin causing the table to drop upon and to be supported by the spring e^x and thereby tilt the lever e^4 sufficiently to disengage the pin e^9 from the notch or recess e^8 in the lever to thereby enable the knob and its arm d^4 to be turned.

The operator having thus deposited his coin grasps both knobs or electrodes with his hands and turns the knob d' to the right, Fig. 1, thereby turning the arm d^4 correspondingly—i. e., to the left in Fig. 2—to first close

the generator-circuit through the pin e^9 and spring 5^x and thereafter gradually withdraw the shield c from the core of the induction-coil to a greater or less extent depending upon the degree or extent of rotation of the knob, receiving a current through his hands and body of a degree or strength represented by the amount of core exposed by the withdrawal of the shield, a full withdrawal of the shield giving the operator a full current or charge. This movement of the arm d^4 causes its pin e^9 to contact with the beveled edge or surface e^7 of the lever e^4 and raises that end of the lever to positively depress the table e^3 sufficient to entirely withdraw the coin from the end of the tube and permit said coin to drop from the table upon the bottom of the box or into a suitable receptacle thereupon.

When the knob is returned to its original position, the lever and its table being now free from the weight of the coin, the end e^6 of the lever drops by gravity into position, locking the arm d^4 in its position, Fig. 2, where said arm and knob will be positively held until deposit of another coin to release the arm, as described.

Referring now to Figs. 1 and 5, near the lower right-hand corner of the door a I have provided a suitable receptacle or socket f for the body f' of what I term a "removable electrode" f^2 , shown as having a surface of a sponge to be dampened, or the said removable electrode may have any other suitable conducting-surface. The sponge or other conducting-surface of the removable electrode f^2 is shown as connected by a flexible conductor f^3 with one of the wires, as 6, leading from the secondary induction-coil, said flexible conductor being preferably coiled within the box A, upon a suitable rotatable spool f^4 , which may be of the nature of the usual shade-roller having a spring (not shown) to automatically rotate it in one direction to wind the conductor thereupon yet permit free rotation in the other direction to enable the conductor to be withdrawn from the box.

Should the individual depositing the coin wish to receive the current through some other or local portion of the body for treatment for some local difficulty, he will deposit his coin as before, to thereby start the machine, and will then with one hand grasp the movable knob d' and turn it slightly to the right and unhook the locking-dog f^5 (see Figs. 2 and 5) from the shouldered spindle end of the electrode-body f' , and with the other hand withdraw the now unlocked and removable electrode f^2 and apply it to the parts affected, whereupon, by rotation of the movable knob d' , he will cause a current of any desired strength to be applied to the parts affected.

In the present instance of my invention I have combined with the parts described a receiver for cigars or other articles and means for removing the same, and I will now pro-

ceed with the description of the particular embodiment of such idea in the present illustration of my invention.

Referring to Fig. 2, h is a zigzag downwardly-inclined chute which constitutes, in effect, one form of receiver in which the cigars or other articles are laid in series, being supported each by that in front of it and all tending by gravity to work in the lowest part of the chute or receiver. This receiver or chute terminates immediately over the open top of a removable drawer h' , which constitutes one form of what I call a "deliverer" for delivering the cigars to the operator after the machine has been operated.

Referring now to Figs. 6, 7, and 8, which particularly illustrate this part of the machine, the drawer-like deliverer h' is provided with suitable slides h^2 , which work in suitable guides h^3 on the bottom of the box, said drawer at its front end protruding through the door a of the machine, it being provided with a suitable knob or handle h^4 , by means of which the operator or individual using the machine may withdraw the deliverer.

The door (see Fig. 2) is provided, at its inner side above the opening through which the deliverer is drawn, with a locking-lever m , pivoted at m' , and adapted when the deliverer is in its innermost position to drop behind a beveled shoulder m^2 (see Fig. 6) on the deliverer, and to lock the latter against withdrawal. The locking-lever m is herein shown as upturned at its end and provided with the curved slot m^{2x} , (see Figs. 3 and 4,) in which travels a pin m^3 on a depending lever m^4 , pivoted at m^5 to an ear m^6 on one end of a lever m^7 , pivoted at m^8 , and at its opposite end standing in position to be acted upon by a roller m^9 (shown in dotted lines) upon a short branch arm m^{10} of the arm d^4 referred to.

The normal position of the parts is as shown in full lines, Figs. 2 and 3. If the individual using the machine wishes to obtain a cigar, he deposits the required coin in the slot, as before, thereby releasing the removable electrode or knob d' , as described. He may then grasp the electrodes d and d' , as before, and by rotating the latter receive the current of electricity from the generator and induction-coil as described. As he turns the electrode and its arm d^4 to withdraw the shield from the induction-coil to increase the current received, the roller m^9 on the short arm m^{10} , referred to, will rise from the lever m^7 , permitting the latter under the weight of the lever m^4 to drop more or less according to the extent of movement of the arm d^4 . As the lever m^4 drops, as described, by the turning of the lever m^7 in following the roller m^9 , the pin m^3 on the said lever m^4 descends to a greater or less extent in the curved slot m^{2x} according to the extent of movement of the parts described. At the bottom of the slot m^{2x} is a pocket m^{11} , and when the arm d^4 on its electrode has been turned sufficiently to

permit the pin m^3 to descend to the bottom of said slot m^{2x} the lever m^4 drops, catching the pin in this pocket, so that when the electrode and the arm are returned to their full-line position, Fig. 3, the roller m^9 will strike the lever m^7 and return it to its normal position, thereby lifting the lever m^4 and the pin m^3 and the locking-lever m with it to release the cigar-deliverer and permit the latter to be withdrawn by the operator. As the deliverer is withdrawn the tripping-lug h^5 , Fig. 7, lifts lever m^4 to one side out of engagement with the pocket m^{11} , and allows the lever m to drop into position to slide up over the locking-shoulder m^2 , as the deliverer is returned to its innermost or closed position, by means of a suitable spring m^{12} . (Shown in Fig. 7.)

Upon the face of the tubular guide b^7 , which is exposed through the glass g in the door of the box, I prefer to arrange, as shown in Fig. 1, a series of characters, for instance "10," "20," "30," "40," &c., in relation to which the arm d^4 , when moved by rotation of the electrode, travels to enable the one operating the machine to follow the movement of the arm. The figures on this scale may, if desired, represent the strength of the current received, the higher figures being at that side of the scale toward which the arm d^4 is moved in completely uncovering the core of the induction-coil, the arm d^4 thus constituting an indicator to show the amount of current used.

The machine will be so adjusted that movement of the arm d^4 , or indicator, to a certain figure, for instance "60," is absolutely necessary to drop the pin m^3 to the bottom of the slot m^{2x} in the locking-lever and seat it in the pocket therein, so that when the electrode and its arm d^4 are returned to their normal position the locking-lever will be moved to release the cigar-deliverer.

Any movement of the electrode and its arm d^4 less than to "60" will therefore fail to drop the pin m^3 sufficiently to catch in the pocket and will permit the electrode and its arm to be returned to their normal positions without raising the locking-lever, for the latter will not be raised unless the pin drop into the pocket referred to.

If the individual using the machine wishes to take the current and also obtain a cigar, it will be necessary that he be able to receive the current represented by "60" before he can obtain his cigar, and unless he can receive the current represented by "60" he fails to obtain his cigar. If, however, the individual does not wish to take the current, he will not grasp the knob or electrode d , but will simply grasp and rotate the knob or electrode d' until the indicating-arm marks the point "60," and return it when the cigar-deliverer can be withdrawn and the cigar removed. It will be understood, however, that the mere movement of the electrode and its indicating-arm d^4 to the point "60" will not in itself effect the release of the cigar-deliverer, it being necessary after

reaching the point "60" to return the electrode to its original position before the deliverer is released, and when returned to its normal position for the release of the cigar-deliverer it is automatically locked by the coin-controlled starting mechanism, making it necessary to deposit a second coin before a second cigar can be withdrawn. The return movement of all the parts to their normal positions takes place automatically without effort on the part of the operator.

To drop the cigars singly from the chute into the drawer-like deliverer, I have provided near the end of the chute a sort of escapement locking device *o*, pivoted at *o'* in a suitable support and provided with a fork presenting two arms which penetrate the bottom of the chute or receiver and are so spaced as to receive between them a single cigar or other article. This fork escape device *o* is provided with a laterally-extended arm *o²*, with which coöperates a curved spring *o³* on the adjacent side of the deliverer *h'*.

In the position Figs. 2 and 8 the series of cigars are held back by the long arm of the fork standing in front of the endmost cigar. When the deliverer *h'* is withdrawn to remove the cigar which it contains, the spring *o³*, Fig. 6, is withdrawn from beneath the arm *o²* of the fork, permitting the latter under the action of gravity, or a suitable spring, to drop to its original position, Fig. 8, permitting the entire series of cigars to move forward in the chute until the endmost cigar reaches its dotted-line position in contact with and stopped by the other or short arm of the fork, now in its elevated position.

When the deliverer is returned, after the removal of its cigar, the spring *o³*, striking the arm *o²* of the fork from beneath, lifts said arm and thereby turns said fork again into its normal full-line position, such return movement causing its arm to pick from the series the endmost cigar, (shown in dotted lines, Fig. 8,) and drop the same into the deliverer, at the same time moving in front of and to hold back the rest of the series.

I have herein shown one embodiment of my invention; but it is evident my invention is not limited to this embodiment alone, for the same may be varied without departing from the spirit and scope of my invention.

The coin-controlled mechanism described I have denominated in the claims as "starting mechanism," inasmuch as it is necessary to deposit the coin before the machine can be fully operated.

While I have shown one means for varying the electric current, yet my invention obviously is not limited to such means alone; and the form of electrodes employed may also be varied in different conditions.

Having shown and described one embodiment of my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a machine of the class described, the combination with an inclosing box, provided

at its front with a sight-opening, of two electrodes, one of which is rotatable and arranged adjacent said sight-opening, an induction-coil within the box containing a core, and provided with a movable shield having a movement past said sight-opening, an arm fixed on said rotatable electrode and having a vibrating movement back of and exposed through said opening and directly connected with and to move said shield, whereby the operating devices for the core-shield are visible and thereby indicate at all times to the operator the strength of the current, substantially as described.

2. In a machine of the class described, the combination with an inclosing box, provided at its front with a sight-opening, of two electrodes, one of which is rotatable and arranged adjacent said sight-opening, an induction-coil within the box containing a core, and provided with a movable shield having a movement past said sight-opening, said shield being marked with a scale to indicate the strength of current corresponding to the withdrawal of the shield, an arm fixed on said rotatable electrode and having a vibrating movement back of said opening and directly connected with and to move said shield, whereby the operating devices for the core-shield are visible and thereby indicate at all times to the operator the strength of the current, substantially as described.

3. In a machine of the class described, a source of electricity, a plurality of electrodes, one of which is movable, and another of which is removable, a flexible conductor connecting said removable electrode with said source of electricity, a lock normally locking this latter electrode, and means whereby movement of said movable electrode unlocks the said removable electrode, substantially as described.

4. In a machine of the class described, a source of electricity, a circuit therefrom normally broken, a plurality of electrodes one of which is movable, and another of which is removable, a flexible conductor connecting said removable electrode with said source of electricity, a lock normally locking this latter electrode, and means whereby movement of said movable electrode unlocks the said removable electrode and also completes the circuit, substantially as described.

5. In a machine of the class described, a source of electricity, a circuit therefrom normally broken, a plurality of electrodes, one of which is movable and another of which is removable, a flexible conductor connecting said removable electrode with said source of electricity, a lock normally locking this latter electrode, a lock normally locking said movable electrode, coin-operated starting mechanism controlling said latter lock, and means whereby movement of said movable electrode unlocks the said removable electrode and also completes the circuit, while further movement thereof regulates the strength of the current, substantially as described.

6. In a machine of the class described, an article-receiver, a deliverer therefor, a locking device for said deliverer, coin-controlled starting mechanism to unlock the same, a trip operated by the outward movement of said deliverer to set said locking device in operative position, and automatic means for returning said deliverer to its normal position and locking the same, substantially as described.

7. In a machine of the class described, an article-receiver, a deliverer therefor, an escape connected with said receiver, the same being automatically operated by the movement of said deliverer, a locking device for said deliverer, coin-controlled starting mechanism to unlock the same, a trip operated by the outward movement of said deliverer to set said locking device in operative position, and automatic means for returning said deliverer to its normal position and locking the same, substantially as described.

8. In a machine of the class described, an article-receiver, a deliverer therefor, an escape connected with said receiver, two arms thereon alternately moving across the path of said receiver, mechanism connected with said deliverer whereby a definite amount of the contents of said receiver is retained between said arms on the movement of said deliverer in one direction, and the same is deposited in said deliverer on the movement thereof in the opposite direction, a locking device for said deliverer, coin-controlled starting mechanism to unlock the same, a trip operated by the outward movement of said deliverer to set said locking device in operative position, and automatic means for returning said deliverer to its normal position and locking the same, substantially as described.

9. In a machine of the class described, an article-receiver, a deliverer therefor, a locking device for said deliverer, a slot in the locking device terminating in one end in a pocket, a pin movable in said slot, a movable lever, connecting devices between said lever and pin whereby the extent of movement of said lever varies the position of the pin in its slot, and coin-operated starting mechanism controlling said lever, substantially as described.

10. In a machine of the class described, an article-receiver, a deliverer therefor, a locking device for said deliverer, a slot in the locking device terminating in one end in a pocket, a pin movable in said slot, a movable lever, means whereby increasing resistance is offered to the progressive movement of said lever, connecting devices between said lever and pin whereby the extent of movement of said lever varies the position of the pin in its slot, and coin-operated starting mechanism

controlling said lever, substantially as described.

11. In a machine of the class described, a source of electricity, a plurality of electrodes one of which is removable, a flexible conductor connecting said removable electrode with said source of electricity, a lock normally locking said removable electrode, an externally-operated lever to unlock the same, and coin-operated starting mechanism controlling said lever, substantially as described.

12. In a machine of the class described, a source of electricity, a plurality of electrodes, one of which is removable; a flexible electric conductor between the said movable electrode and said source of electricity and an automatic device independent of and unaffected by said source of electricity, within the machine, for automatically withdrawing within the machine and permitting the drawing out therefrom of the said flexible conductor, substantially as described.

13. In a machine of the class described; an article-receiver, a deliverer therefor, a locking device for said deliverer, a slot in the latter terminating in one end in a pocket, a pin movable in said slot; two electrodes one of which is movable, and connecting devices between said movable electrode and pin whereby the extent of movement of the electrodes varies the position of said pin in its slot, substantially as described.

14. In a machine of the class described, an article-receptacle, a movable delivering-receptacle therefor, and the forked locking mechanism moved by said deliverer and operating, substantially as described.

15. In a machine of the class described, a combination with an inclosing box, provided at its front with a sight-opening, of two electrodes, one of which is movable and arranged adjacent said sight-opening, an induction-coil within the box containing a movable part for varying the current, said part having a movement past said sight-opening, an arm rigidly fixed on said movable electrode and directly connected with and to move said movable part, whereby the said operating devices for the induction-coil are visible within the box, and thereby perform the additional function of, and constitute, an indicator to indicate at all times to the operator by their movement the strength of the current, substantially as described.

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

JOHN B. CARR.

Witnesses:

FREDERICK L. EMERY,
LAURA MANIX.