No. 647,353. Patented Apr. 10, 1900.

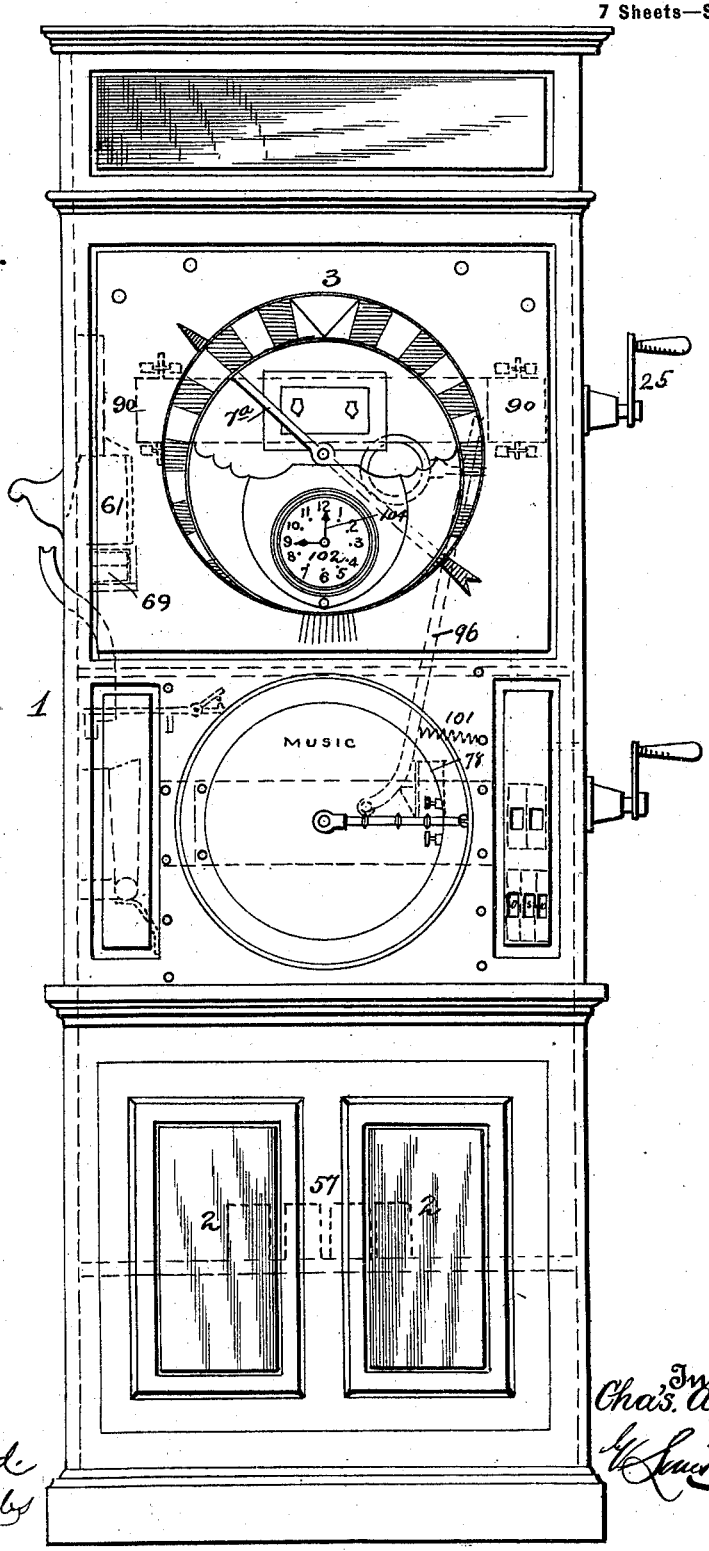
C. A. YALE.

COIN CONTROLLED APPARATUS.

(Application filed July 7, 1899.)

(No Model.) 7 Sheets—Sheet 1.

Fig. 1.



Witnesses
F. L. Ourand.
J. L. Coombs

Inventor:
Chas. A. Yale,
by Louis Bagger & Co.
Attorneys.

No. 647,353. Patented Apr. 10, 1900.

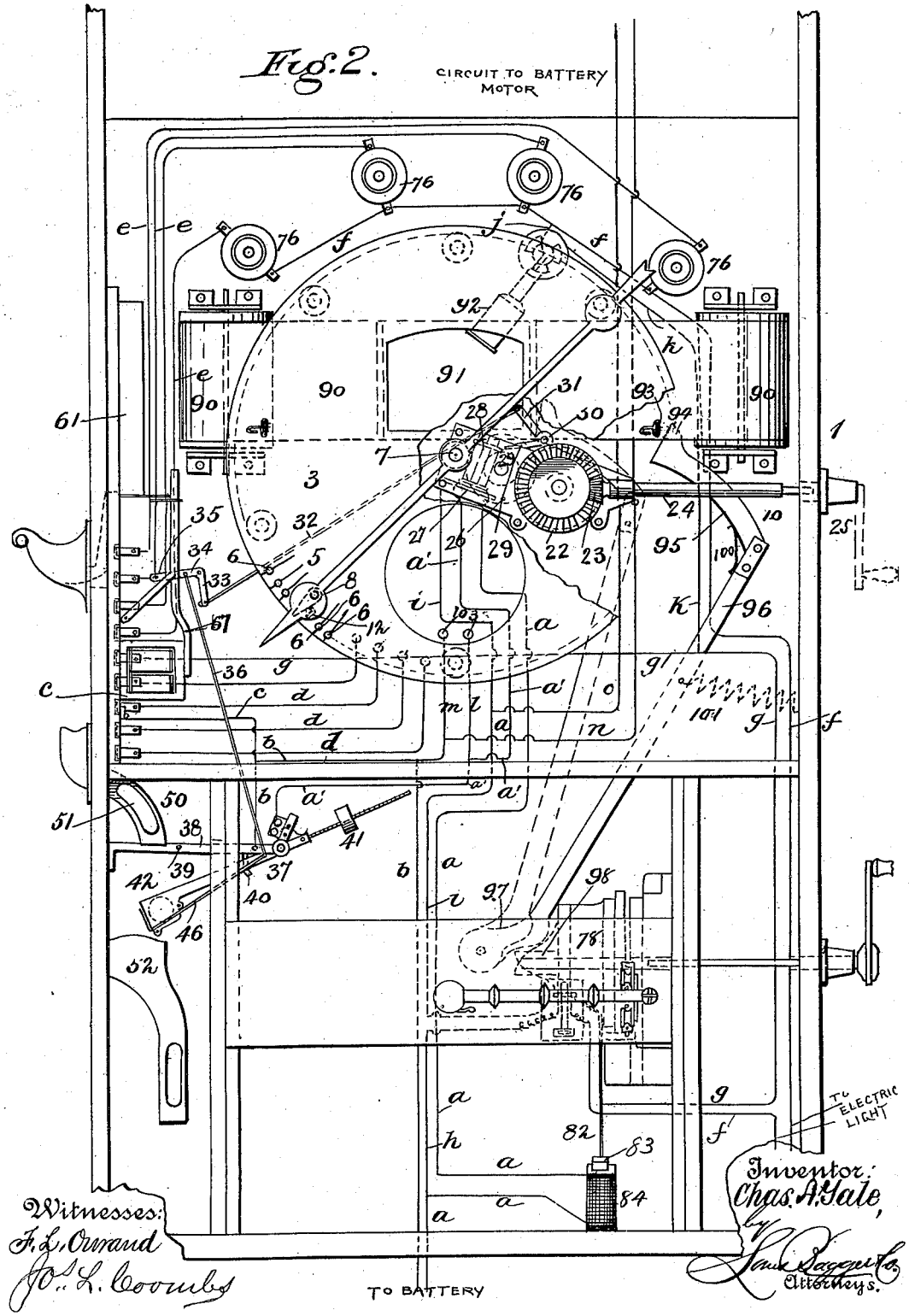
C. A. YALE.

COIN CONTROLLED APPARATUS.

(Application filed July 7, 1899.)

(No Model.) 7 Sheets—Sheet 2.

Fig. 2.



Witnesses:
F. L. Ormand
J. L. Coombs

Inventor:
Chas. A. Yale,
by Louis Bagger & Co.
Attorneys.

No. 647,353. Patented Apr. 10, 1900.

C. A. YALE.

COIN CONTROLLED APPARATUS.

(Application filed July 7, 1899.)

(No Model.) 7 Sheets—Sheet 3.

Fig. 3.

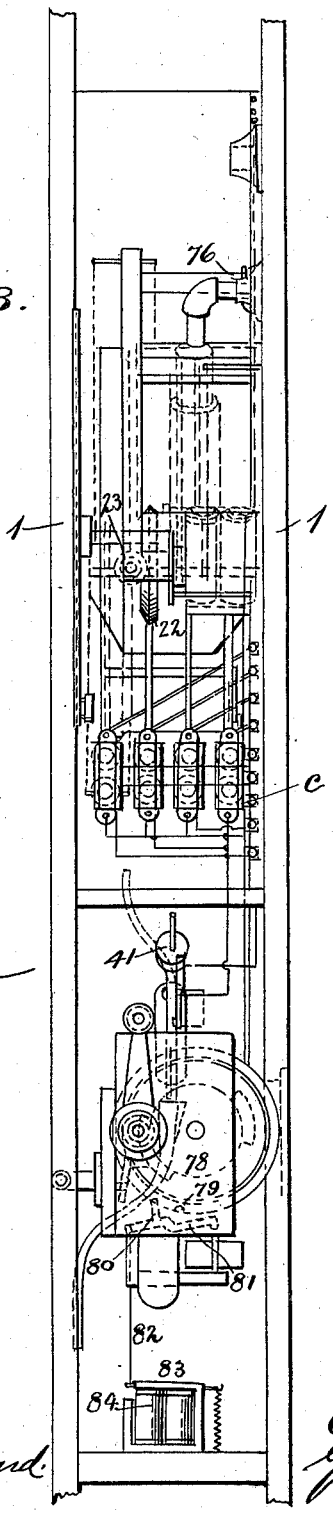


Fig. 11

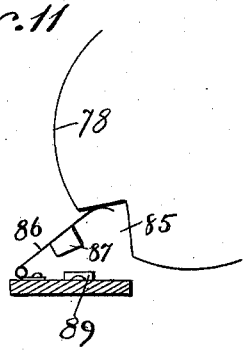
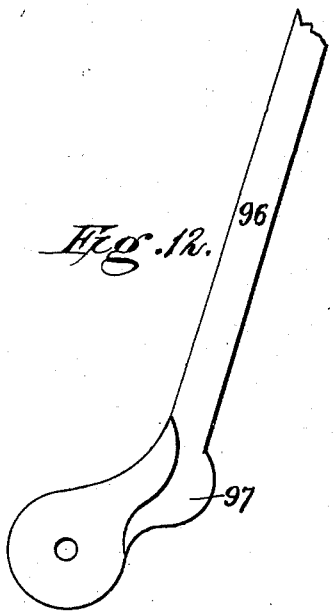


Fig. 12.



Witnesses:
Franck L. Durand.
Jos. L. Coombs

Inventor:
Charles A. Yale,
by Louis Bagger & Co.
Attorneys.

No. 647,353. Patented Apr. 10, 1900.

C. A. YALE.

COIN CONTROLLED APPARATUS.

(Application filed July 7, 1899.)

(No Model.) 7 Sheets—Sheet 4.

Fig. 4.

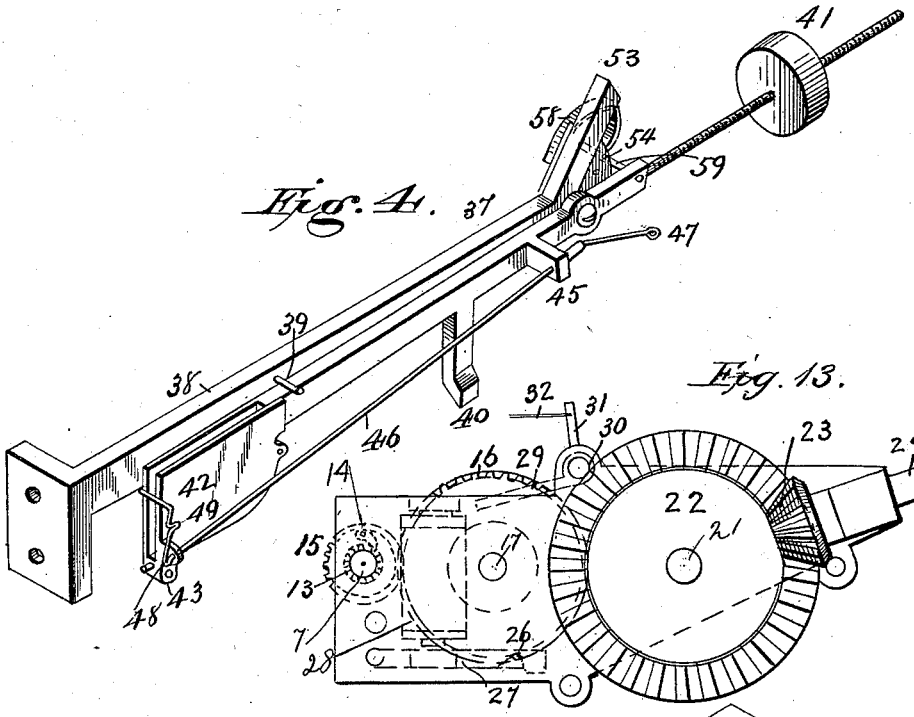
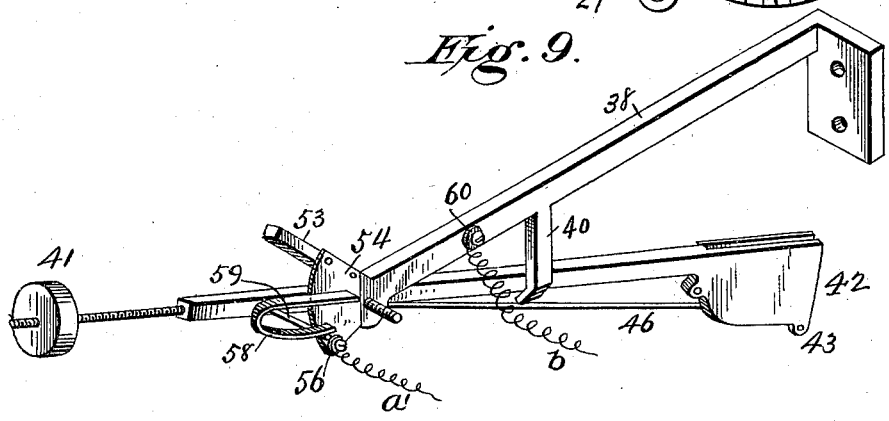


Fig. 13.

Fig. 9.



Witnesses:
Frank L. Durand
Jos. L. Coombs

Inventor:
Charles A. Yale,
by Louis Bagger & Co.
Attorneys.

No. 647,353. Patented Apr. 10, 1900.

C. A. YALE.

COIN CONTROLLED APPARATUS.

(Application filed July 7, 1899.)

(No Model.) 7 Sheets—Sheet 5.

Fig. 5.

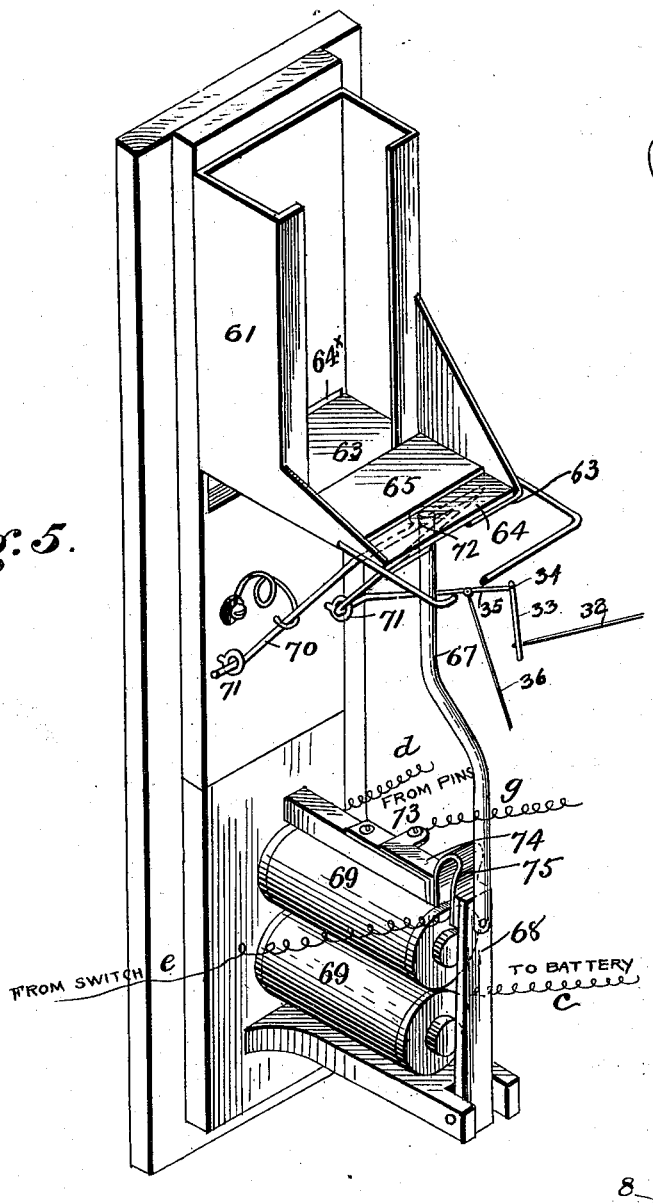
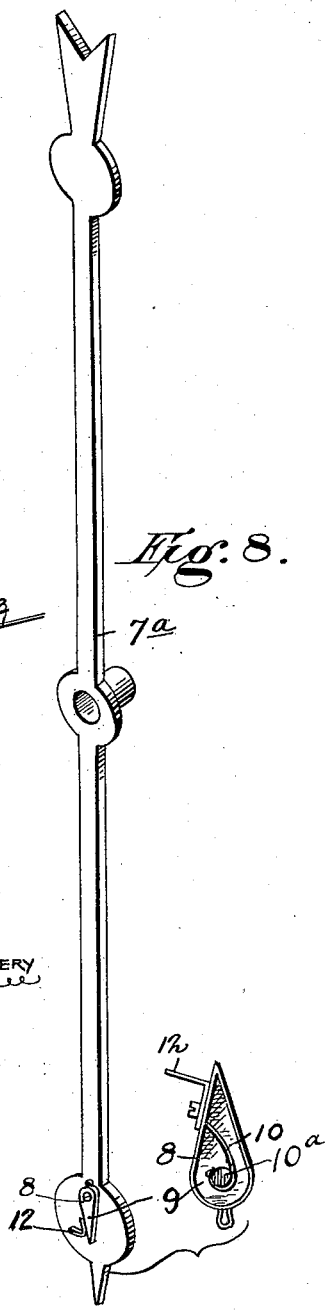


Fig. 8.



Witnesses:
F. L. Durand.
Jos. L. Coombs

Inventor:
Charles A. Yale,
by Louis Bagger & Co.
Attorneys.

No. 647,353. Patented Apr. 10, 1900.

C. A. YALE.

COIN CONTROLLED APPARATUS.

(Application filed July 7, 1899.)

(No Model.) 7 Sheets—Sheet 6.

Fig. 6.

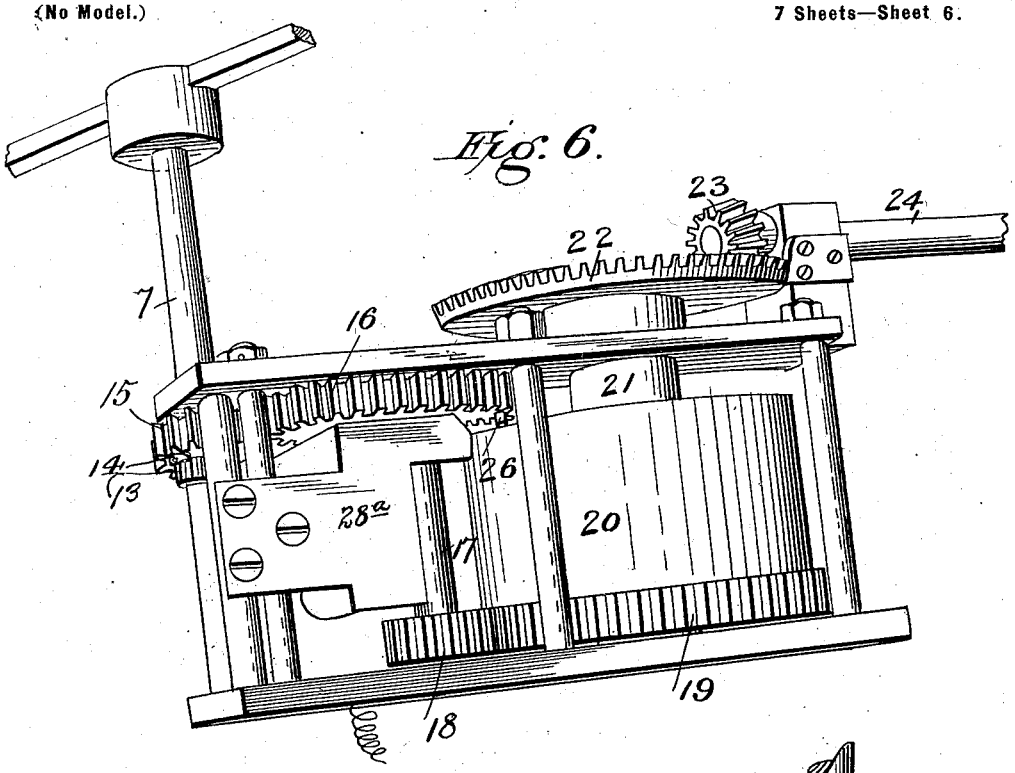
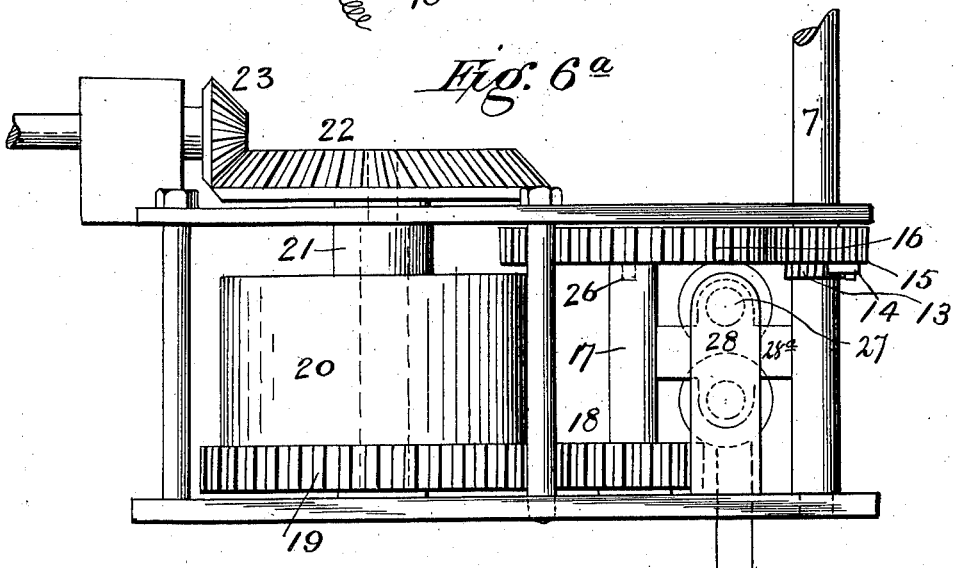


Fig. 6a



Witnesses:
Franck L. Durand.
Jos. L. Coombs.

Inventor:
Charles A. Yale,
by Louis Bagger & Co.,
Attorneys.

No. 647,353. Patented Apr. 10, 1900.

C. A. YALE.

COIN CONTROLLED APPARATUS.

(Application filed July 7, 1899.)

(No Model.) 7 Sheets—Sheet 7.

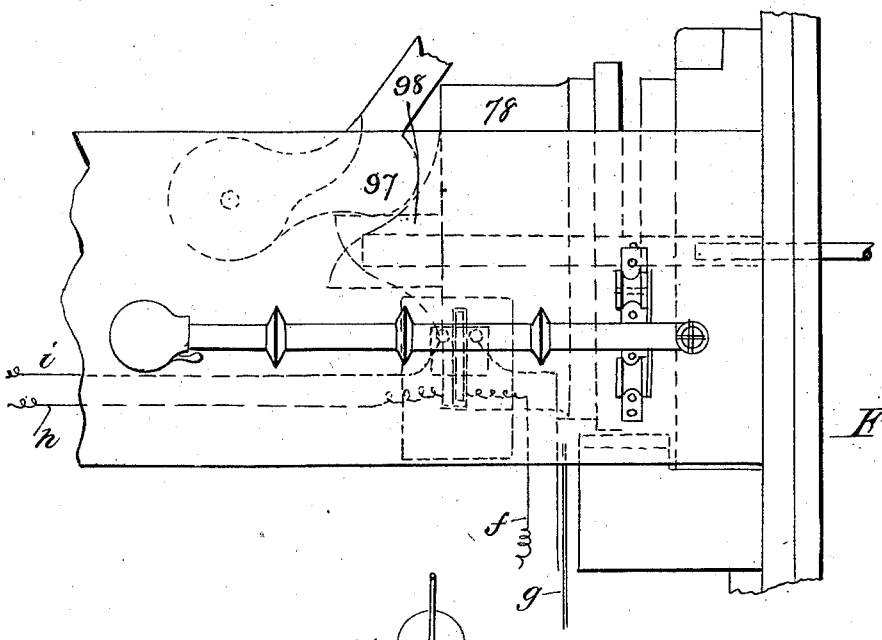


Fig. 7.

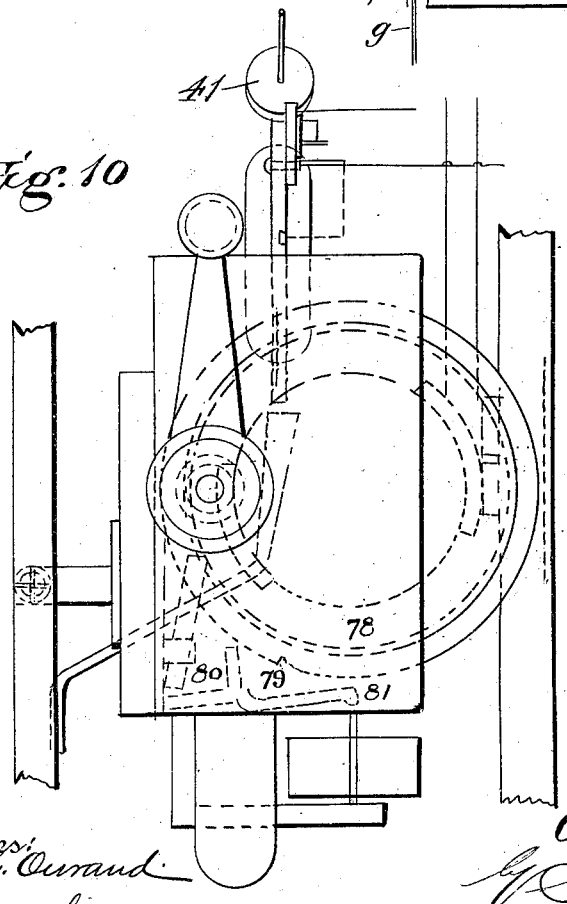


Fig. 10

Witnesses:
Franck L. Durand.
Jos. L. Coombs

Inventor:
Charles A. Yale,
by Louis Bagger & Co
Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES A. YALE, OF BURLINGTON, VERMONT, ASSIGNOR TO ELECTA C. YALE, CHARLES E. YALE, AND GRACE GERTRUDE YALE, OF SAME PLACE.

COIN-CONTROLLED APPARATUS.

SPECIFICATION forming part of Letters Patent No. 647,353, dated April 10, 1900.

Application filed July 7, 1899. Serial No. 723,105. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. YALE, a citizen of the United States, residing at Burlington, in the county of Chittenden and State of Vermont, have invented new and useful Improvements in Coin-Controlled Apparatus, of which the following is a specification.

My invention relates to what I term a "musical salesman and vending and advertising device" for the purpose of increasing retail sales, and is operated by a coin inserted in a slot in the frame or casing of the machine, which will set in operation a musical instrument, display an advertisement illuminated by an electric light, will also show electric lights at the upper part of the cabinet or casing, and will rotate an indicating hand or pointer and allow a printed ticket bearing a suitable number to fall into a tray. The device can also be operated by electrical connections with a clock by which the hand or pointer is rotated, the musical instrument set in operation, an advertisement displayed, and circuits established with electric lights for illuminating the device, the construction being such that when the pointer stops its movement it will point to a figure on a dial for a purpose hereinafter explained.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a front elevation of a device or machine constructed in accordance with my invention. Fig. 2 is a similar view, on an enlarged scale, the front of the cabinet being removed and the dial broken away to show the interior construction. Fig. 3 is a side view, the side of the cabinet being removed to illustrate the inner construction. Fig. 4 is a detail perspective view of the balance operated by a coin. Fig. 5 is a similar view of the card-holder and means for allowing a card to fall into a tray and also showing the electrical connections with incandescent lamps and the electromagnets for operating the card-ejecting device and establishing the lamp-circuit. Fig. 6 is a detail perspective view showing the means for rotating the hand or pointer and the electromagnet connected therewith. Fig. 6[a] is an elevation of the same. Fig. 7 is a detail side view of the musical instrument. Fig. 8 is a detail perspective view of the hand or pointer, showing the means for making the electrical circuit when said hand stops. Fig. 9 is a detail perspective view of the coin-operated balance, showing the manner of establishing the electrical circuit when the balance is depressed by a coin. Fig. 10 is a detail end view of the musical instrument. Fig. 11 is a detail view showing the switch operated by the spring-barrel of the musical instrument. Fig. 12 is a detail view of the lever operated by the spring-barrel of the musical instrument. Fig. 13 is a detail side view of the gearing and electromagnet which operate the card-ejecting devices and the mechanism for releasing a coin in the balance.

In the said drawings the reference-numeral 1 designates a cabinet which is designed to be made very ornamental, provided at the lower part with a compartment to receive an electrical battery, hereinafter described. This compartment is provided with doors 2, which can be opened to allow access to be had to the compartment for changing or renewing the battery. Located in the upper part of the cabinet is a stationary dial 3, of non-conducting material, the edge of which at the front side is formed with a large number of lines 5, preferably about two hundred, and numbered consecutively from "1" to "200," a few of which lines are shown in Fig. 1, and each line provided with a contact-pin 6, of conducting material. Passing centrally through said dial is a rotatable shaft 7, to which is secured an indicating hand or pointer, near the pointed end of which is pivoted what I term a "trigger" 8. This trigger is wedge-shaped and is made of vulcanite or other suitable insulating material and is provided at one side with a conducting-plate 9, which makes electrical circuit through its pivot with the hand. This trigger at the inner end is provided with a spring 10, and the plate 9 is provided with a contact-arm 12, adapted when the hand is at rest to contact with one of the contact-pins 6; but when the hand is in motion or rotating it will by its centrifugal force throw the trigger backward,

so that the contact-arm 12 will not touch any of said pins. The spring 10 has one of its ends curved and attached to the pintle 10^a, which pivots the trigger to the hand or pointer. The opposite end of the spring 10 bears against the inner surface of the wall of the trigger, as will be understood by the view given in Fig. 8, and has a tendency to make the trigger assume a position in alinement with the indicator end of the pointer. This tendency of the spring 10 to throw the trigger into alinement with the pointer is overcome by the centrifugal force during the revolution of the pointer; but when the pointer comes to rest the spring 10 throws the trigger into alinement with the pointer and the contact-arm 12 into contact with one of the pins 6. The upper portion of the cabinet is inclosed by a glass door. A dial of original design and about two feet in diameter is painted thereon in rich colors, the different colors forming a rim about three inches wide, with a shield painted in the lower portion of the circle, with a circular portion left blank in order to display the clock, which is back of the glass. Above the shaft the space is also left blank in order that an uninterrupted view may be had of the advertising. The pointer on the indicator or hand is visible between the lines 5 of the dial. Back of the glass door and within the cabinet is the dial 3, about two feet in diameter, and is held to position about one inch back of the glass door by being fastened to five or more standards, which in turn are fastened to the back of the cabinet. An aperture of sufficient size is cut through the upper portion of this stationary dial to admit of full view of the advertisements as they roll into position back of said dial. Below the dial-shaft is a circular aperture in which a clock is fastened for the purpose hereinafter described. Secured to the shaft 7, about midway of its length, is a ratchet 13, with which engages a pivoted pawl 14 of a pinion 15 loose on said shaft. This pinion meshes with a gear 16, fixed to a rotatable shaft 17, the other end of which is provided with a gear 18, which in turn meshes with a gear 19 of a spring-barrel 20. Located in said barrel and secured thereto is a convolute spring, (not shown,) which may be of any ordinary or suitable construction. The other end of this spring is secured to a shaft 21, provided with a bevel-gear 22, which meshes with a bevel-pinion 23 on the inner end of a shaft 24, the outer end of which passes through the side of the cabinet and is provided with a crank 25, by which it may be rotated for winding up the spring. Secured to the gear 16 is a pin 26, which is adapted to engage with a projection on the armature 27 of an electromagnet 28, supported by plate 28^a, for preventing movement of the train of gearing until said armature is attracted to the magnet, as hereinafter described. This pin, after being released and the train of gearing started, will strike one arm 29 of a pivoted elbow-lever 30, the other arm 31 of which has pivoted to it an inclined rod 32, the opposite end of which is pivoted to one arm 33 of an elbow-lever 34. The other arm 35 of this lever is connected with the mechanism for ejecting a ticket, as will be described later on. Pivoted to said arm 35 is a downwardly-extending rod 36, which is connected with mechanism for releasing a coin from a balance 37. This balance consists of an arm pivotally connected with an inwardly-extending bar 38. This bar is provided with a stop-pin 39 and an arm 40, having its end bent at an angle and forming stops to limit the movement of the said balance. One end of the balance is provided with a counterbalance-weight 41 and the other end is formed with an enlargement 42, with a slot or recess therein to receive a coin. Journaled to a lug 43 on the said extension and a lug 45 near the pivotal point of the balance is an oscillating rod 46, provided with a crank 47, which is pivotally connected with the rod 36. The opposite end of the rod 46 forms a catch for holding a coin and is bent downwardly, forming a crank 48, and is then bent upwardly and formed with a bend 49 and the upper end bent at a right angle, so as to lie in front of the slot in said extension which forms the coin-receptacle. This bent end prevents the coin from falling out of the slot until thrown out of the way by the oscillating rod and connections. In normal position the balance is depressed by the weight so that the extension or coin-receptacle will rest against the lower end of a tube 50, which extends outside the cabinet and is of a size to admit a nickel or other coin. This tube is formed with an opening 51 in the side of such a size that if a coin smaller than the one which is designed to trip the balance is inserted it will fall out of said opening instead of being dropped into the coin-receptacle.

The numeral 52 designates a tube which conveys the coin as it drops from the coin-receptacle of the balance into a compartment in the cabinet. At the inner end of the bar 38 is an upwardly-extending inclined arm 53, provided with a plate 54, of non-conducting material, having a binding screw or post 56. This binding-screw is connected by a conductor a' with one pole of the electromagnet 28, the other pole of which is connected by a conductor a with the positive pole of the battery 57, located in the lower compartment of the cabinet. Secured to the said plate 54 is a spring-contact 58, which is adapted to contact with a pin 59 on the balance when the latter is depressed by a coin, so as to establish an electric circuit, as hereinafter described. Also secured to said bar 38 is a binding-post 60, with which is connected a conductor b, which leads to the negative pole of the battery.

The numeral 61 designates a ticket-holder located inside the cabinet, and at the lower end thereof is an opening leading to a tray outside the cabinet to receive a ticket ejected

from said receiver or holder. At the lower end of said receiver is a shelf 63, upon which works a horizontally-movable slide 64, which is held in place by a guide-plate 65, secured to said receiver above and parallel with the said shelf. This slide is operated to remove a ticket from said receiver out through an opening therein flush with its bottom by a rod 67, secured to the armature 68 of an electromagnet 69, which is electrically connected with conductor *b* by a conductor *c*. The other pole of this magnet is connected with the pins 6 by conductors *d*. In practice I propose to use a number of these electromagnets—say four, for instance—with each of which a proportional number of the said contact-pins are connected; but for convenience only one will be described. Pivotally connected with the cabinet is a lever 70, consisting of a metal rod bent to form two parallel arms, the ends of which are journaled in eyes 71, secured to the cabinet. The central portion of this lever is formed with a bend 72, which engages the rod 67. One of the ends of said lever is bent to form a crank, which is pivotally connected with the arm 35 of the lever 34, so that as the latter is operated by the train of gearing the rod 67 will be operated, which in turn will move the slide 64 outwardly to push the bottom ticket in the ticket-holder out through the slot $64^{\times}$. The slide 64 is a metal plate of substantially the same thickness and width as the ticket used, and when it moves outward it pushes the ticket at the bottom of the holder 61 out through the slot $64^{\times}$, and when the slide returns to its normal position the column of tickets in the holder fall upon the shelf 63, and this places the bottom ticket in line with the slot $64^{\times}$ and in the path of the slide 64. The slide is moved through the medium of the electromagnet 69, as described. Secured to the frame of said magnet 69 is an insulated plate 73, provided with a conducting-plate 74, which is adapted to contact with a contact-spring 75, carried by the armature 68, but insulated therefrom. The conducting-plate 74 is connected by a conductor *e* with a series of incandescent lamps 76 at the upper part of the cabinet when only one magnet 69 is employed; but when two or more of these magnets are used, as shown in the drawings, a corresponding number of lamps are employed, each connected by a separate wire or conductor *e* with the magnets. The other poles of the lamps are connected by a conductor *f* with a switch, hereinafter described. The contact-spring 75 is connected by a conductor *g* with the battery, as hereinafter described. Located in said cabinet is a musical instrument, being shown in the present instance as what is known as the "Regina," and as this is well known and in common use a detailed description thereof is not necessary. The spring-barrel 78 of this instrument is formed with a notch 79, with which is adapted to engage the arm 80 of a pivoted lever 81. This lever is connected with a vertical rod 82, which in turn is connected with the armature 83 of an electromagnet 84 in circuit with the conductor *a*. In normal position the arm 80 engages with the notch 79 and prevents the musical instrument from operating; but when the armature 83 is attracted by the electromagnet said arm will be disengaged from the notch, thus permitting the instrument to operate, which operation will continue until the said barrel has made a revolution, when the arm will again fall into the notch, the current in the meanwhile being cut off from magnet 84. Said barrel is also formed with notch 85, with which is adapted to engage a switch 86, pivoted to the casing of the musical instrument. This switch is provided with a contact-piece 87, which is adapted to contact with a contact-plate 89, secured to said casing and insulated therefrom. The said contact piece and plate are normally out of engagement with each other; but when the barrel of the musical instrument is rotated the switch will be operated so that said piece and plate will contact and establish a circuit, which will remain closed until said barrel has made a revolution. The contact-plate 89 of the switch is connected, as before stated, with the lamps by the conductor *f*, while the contact-piece 87 is connected by a conductor *h* with the conductor *a*, leading to the battery. The conductor *g* is connected with a conductor *i*, which extends upwardly and is electrically connected with the indicating hand or pointer.

Located in the upper part of the cabinet are two vertical rollers 90, around which passes an endless band provided with advertisements, a transparent plate 91 being provided through which a view can be had of the same. In rear of this plate is an electric lamp 92 in shunt-circuit with the other lamps, the positive pole of this lamp being connected by conductor *j* with the conductor *f*, while the negative is connected by conductor *k* with the conductor *g*. Said endless band is provided with a number of hooks 93, with which is adapted to engage a projection 94 on the free end of an arm 95, pivoted to the upper end of a lever 96, which in turn is pivoted to the casing of the musical instrument. The lower end of this lever is provided with a cam projection 97, which is adapted to be engaged by a cam 98 on the spring-barrel of the musical instrument, whereby said lever and arm are thrown forward, and the projection 94, engaging with one of the hooks 93, will move the said endless band the space of one advertisement. The object of pivoting the arm to the lever is that it may ride over the hook on its return movement. A spring 100 is provided for throwing this arm into operative position after riding over the hook, and a spring 101 is connected with the lever to return it to normal position after the cam on the spring-barrel has passed out of engagement with the cam projection 97.

Located below the shaft which carries the indicating-hand is a clock 102, the dial of

which near the edge is provided with twelve equidistant holes. The numeral 103 designates two removable conducting-pins adapted to be inserted in said holes. These pins are insulated from the dial, if the latter is of conducting material, and are adapted to be contacted by the hands 104 of the clock, which are of conducting material, but insulated from the works. One of said pins is connected by a conductor *l* with the conductor *a'*, while the other is connected by a conductor *m* with the conductor *b*. The object of this construction is to automatically set the machine in operation at any predetermined hour by the hands of the clock coming in contact with said pins, which pins, as before stated, are removable, so that they may be set to make the electrical circuit at any hour desired.

Connected with the conductor *m* is a conductor *n*, while conductor *i* is connected with a conductor *o*. These conductors *n* and *o* extend up to the upper part of the cabinet and can be employed to operate any suitable mechanism.

Located in the cabinet, at one side thereof, are three rotatable wheels each having thereon figures running consecutively from "0" to "10," and the object of the same is to indicate the number of the ticket securing a present. These wheels are set or operated by the person in charge of the apparatus to indicate the number of the ticket which has drawn a gift or present, and said number is permitted to remain in full view of the customers until another gift-number has been indicated by the mechanism, when the wheels are again set to indicate this number, and so on. There are similar wheels above those just mentioned which indicate the series to which the winning number belongs—that is to say, in order that only one ticket of the number entitled to a gift shall be recognized by the merchant this set of wheels is moved to indicate in serial order the particular number of drawing to which the gift-number relates, said gift-number being indicated by the lower set of wheels.

A number—say one to two hundred—of tickets or cards of suitable thickness and having printed thereon the kind and amount of goods the customer is entitled to, are placed in the ticket-receiver. There are no blanks, the purchaser or customer receiving full value for his deposit. For illustration, the tickets reading "Good for one five-cent cigar" are placed in one receiver, and the tickets reading "Good for two five-cent cigars" in another, the tickets reading "Good for five five-cent cigars" in another, and the tickets reading "Good for ten five-cent cigars" in another. Each receiver has its special magnet connected up with the pins on the inner dial and also connected to one of the lights in top of cabinet. For instance, No. I receiver, containing tickets for one five-cent cigar, is represented by a white light, which is illuminated at the moment the hand stops and makes connection therewith through the ticket-ejector magnet. No. II receiver, which, we will say, holds the tickets printed "Good for two five-cent cigars," illumes the blue light in like manner as above; ejector No. III, a green light, and ejector No. IV a red light. The customer wishing to purchase a cigar or such goods as the machine is intended to vend, deposits his nickel or coin and is sure to receive full value for his money, and a present is presented to him in case, through the agency of his depositing a nickel, one of the colored lights is produced, the value or amount of which is indicated on the printed ticket which he will receive from the machine. The said coin will drop through the tube 59 into the coin-receptacle at the end of the balance 37, depressing the same, as seen in Fig. 2. As the balance is thus depressed the pin 59 will come in contact with the spring-contact 58, so that an electrical circuit will be established as follows: From battery through conductor *a*, to magnet 84, to magnet 28, conductor *a'*, to binding-post 56, contact 58, pin 59, bar 38, and conductor *b*, back to battery. This will cause armature 27 to be attracted by magnet 28, throwing the projection on the armature out of engagement with the pin 26 and releasing the train of gearing which operates the indicating hand or pointer. The loose pinion 15 will now be operated, and its pawl engaging with the ratchet on the shaft 7 will rotate said shaft and hand. When the gear carrying said pin 26 makes a half-revolution, said pin will strike the arm 29 of elbow-lever 30, operating the latter so that the arm will actuate the rod 32, which in turn will operate elbow-lever 34, elevating rod 36. The movement of rod 36 will turn the rod 46, throwing the catch 44 away from the slot of the coin-receiver and allowing the coin to fall into the tube 52 below. The movement of the elbow-lever 34 will also actuate the lever 70, which will force the rod 67, connected with the armature 68, away from the magnet 69, thus withdrawing the slide 64 from beneath the tickets, causing a ticket to fall upon the shelf 63. As the coin drops out of the coin-receptacle of the balance the counterbalance-weight will restore the balance to normal position and will also break said circuit, allowing lever 70 to return to normal position and throwing it out of engagement with the rod 67 of armature 68. As said circuit is established the magnet 84 will be energized, attracting armature 83, which through the medium of rod 82 will actuate lever 81, throwing its arm 80 out of engagement with the notch 79 of the spring-barrel of the musical instrument and allowing the same to rotate and the musical instrument to be set in operation. This rotation of said spring-barrel will cause the switch 86 to ride out of the notch 85, bringing the piece 87 and plate 89 into contact and establishing the lamp-circuit as follows: From battery, conductor *a*, conductor *h*, con-

tact-plate 86, contact-piece 87, contact 89, conductor *f*, to the lamps, and from thence by conductors *e*, contact 75 on armature 68, (which armature has been attracted by magnet 69, as hereinafter described,) contact-piece 74, conductor *g*, conductor *i*, the indicating hand or pointer, trigger 8, one of the pins 6 and its conductor *d* to magnet 69, and from thence by conductor *c* to conductor *b* back to battery. Conductor *g* is connected to one of the binding-posts shown at the left in Fig. 2 and extends horizontally across the casing down the side thereof and up to a binding-post on the spring-barrel. Conductor *i* has one of its ends secured to a binding-post on the spring-barrel and extends thence up to a binding-post on the frame which supports the gearing 22 23. As said indicating-hand is rotated by its train of gearing it will make several revolutions through the loose pinion, its pawl, and the ratchet on the shaft of said hand and will also after said train is stopped move several revolutions through its momentum. As said hand or pointer is revolving its trigger will not contact with the pins 6, but when it comes to a stop will contact with one of the same, establishing a circuit with the magnet 69 for making the lamp-circuit, as before described. As the spring-barrel of the musical instrument is thus rotated its cam 98 will strike the projection 97 of the lever 96, throwing the latter forward and causing the projection 94 of arm 95 to engage with one of the hooks of the endless band, moving the latter one advertising-space, which advertisement can be seen through the glass 91 and said advertisements being illuminated by the lamp 92, which is in shunt-circuit with the lamps at the upper portion of the cabinet.

I will now describe the device when used as an automatic machine and which is operated at any predetermined hour by the clock. At the opening of the store the proprietor has prepared cards or tickets equaling in number the numbers on the dial, which, as before stated, in the present instance are numbered from "1" to "200." Each customer making a purchase of a certain value is given one of these tickets. The removable pins of the clock-dial are now inserted in the holes in the latter corresponding with the hour at which it is desired that the machine should operate. For instance, if the machine is to be operated on at six o'clock one of the pins is placed in the hole coincident with the figure "12" of the dial and the other in the hole coincident with the figure "6." When the hour arrives, the two hands of the clock will contact with these pins, establishing a circuit as follows: From battery to conductor *a*, magnet 84, to magnet 28, conductor *a'*, conductor *l*, the hands of the clock, to conductor *m*, and conductor *b*, back to battery. This will release the train of gearing which operates the indicating-hand, when the said hand-circuit, musical-instrument circuit, and light-circuits will be established, as before described. The person holding the ticket numbered the same as that at which the hand or pointer stops will receive a prize.

Having thus fully described my invention, what I claim is—

1. In a machine of the character described, the combination of the pivoted balance-arm provided with a counterbalance-weight, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the crank at the other end of said rod, the rod connected therewith, the elbow-lever, with which said rod is connected, the rod also connected with said elbow-lever, the elbow-lever connected therewith, the train of spring-actuated gearing one of the gears of which is provided with a pin adapted to engage with said last-mentioned elbow-lever, and means for locking and releasing said train of gearing, substantially as specified.

2. In a machine of the character described, the combination with the dial, the central shaft, the indicating hand or pointer, the ratchet fixed to said shaft, the loose pinion and the pawl pivoted thereto, of the train of spring-actuated gearing one of the gears of which is provided with a pin, the electromagnet, the armature thereof provided with a projection adapted to engage with said pin, the positive conductor connected with said magnet, the battery, the negative conductor connected with said magnet, the binding-post carried by an inwardly-extending arm with which said negative conductor is connected, the spring-contact, the weighted balance-arm provided with a pin adapted to engage with said spring-contact, the binding-post and the conductor connected therewith and with the negative pole of the battery, substantially as specified.

3. In a machine of the character described, the combination with the dial, the pins near the edge thereof, the central shaft, the hand or pointer of conducting material, the trigger pivoted to said hand or pointer and provided with a contact-arm, of the train of spring-actuated gearing for operating said shaft, one of the gears of which is provided with a pin, the electromagnet, the armature thereof provided with a projection and the battery of the positive conductor connected with said magnet and battery, the negative conductor connected with said magnet and with a binding-post, the inwardly-extending arm carrying said binding-post, the spring-contact, the weighted balance-arm provided with a pin, the binding-post on said bar, the conductor connected therewith and with said pins and the battery and the conductor electrically connecting said hand or pointer with the battery, substantially as specified.

4. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the dial, the

central shaft, the indicating hand or pointer, the ratchet on said shaft, the loose pinion provided with a pawl, of the train of spring-actuated gearing one of the gears of which is provided with a pin, the electromagnet, the armature thereof provided with a projection adapted to engage with said pin and electrical connection with a battery for actuating said armature and releasing the pin, substantially as specified.

5. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the dial, provided with a number of contact-pins near the edge, the central shaft, the indicating hand or pointer of conducting material and the train of spring-actuated gearing for operating said hand, the pivoted trigger having a contact-arm adapted to engage with said pin, and the battery and electrical connections between the same, substantially as specified.

6. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the dial provided with a number of contact-pins near the edge, the central shaft, the hand or pointer of conducting material, the train of spring-actuated gearing for operating said shaft, one of the gears of which is provided with a pin, the electromagnet, the armature thereof, having a projection, the battery electrically connected with said magnet, the pivoted spring-actuated trigger carried by said hand or pointer having a contact-arm, and said hand and pins electrically connected with the battery, substantially as specified.

7. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery, the dial provided with a number of contact-pins near the edge, the hand or pointer electrically connected with the battery, and means for rotating the same, the trigger pivoted to said hand, and the contact-arm thereof, of the electromagnet with which said pins are electrically connected, with a contact-plate secured to but insulated from said magnet, the incandescent lamps electrically connected with said contact-piece, the armature provided with a contact-piece and the conductor connected therewith and with the battery, substantially as specified.

8. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery, the dial electrically connected therewith, the hand or pointer of conducting material electrically connected with said battery, the trigger pivoted thereto and provided with a contact-arm, and the conducting-pins near the edge of the dial, of the electromagnet with which said pins are electrically connected, the conductor connecting said magnet with the battery, the contact secured to said magnet but insulated therefrom, the armature provided with a contact-piece, the conductor connected with said contact secured to the magnet, the series of lamps electrically connected therewith and electrically connected with the contact-piece of said armature and with the battery, substantially as specified.

9. In a machine of the character described, the combination, with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod, provided with a catch for holding the coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery, the dial, the hand or pointer of conducting material electrically connected with said battery and means for rotating the same, the trigger pivoted to said hand and provided with a contact-arm, the series of contact-pins near the edge of the dial, of the electromagnet connected therewith and with the battery, the contact-piece secured to said magnet but insulated therefrom, the incandescent lamps electrically connected therewith, the armature having a contact-piece electrically connected with the battery, the conductor connected with said lamps, the switch electrically connected therewith and with the battery, and the spring-barrel and means for setting it in operation and closing the switch-circuit, substantially as specified.

10. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery, the dial provided with a hand or pointer of conducting material, the trigger pivoted thereto and provided with a contact-arm, and the series of contact-pins near the edge of said dial, and the electrical connections between said pins and the battery, of the electromagnet with which said pins are connected, the spring-barrel having a notch, the electromagnet in circuit with said first-mentioned magnet, the armature thereof, the lever having an arm connected with said armature and adapted to engage with said notch, and the switch in circuit with the battery and means for operating the same and making and breaking the circuit, substantially as specified.

11. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery,

the dial, the pointer and means for operating the same, the trigger pivoted to said pointer and provided with a contact-arm, the contact-pins near the edge of the dial, the electromagnet electrically connected with said pins and with the battery, the contact-piece secured to said magnet but insulated therefrom, the incandescent lamps, electrically connected therewith, the armature provided with a contact-piece, the conductor electrically connected therewith and with the battery, the spring-barrel having notches, the switch adapted to engage with one of said notches and electrically connected with the said lamps and battery, the electromagnet in circuit with the battery, the armature thereof, the pivoted lever connected therewith and adapted to engage with the other notch of the said spring-barrel, and the conductor connected with said hand and with the battery, substantially as specified.

12. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery, the conductor connected therewith, the electromagnet at the lower part of the machine connected therewith, the armature thereof, the lever having an arm connected with said armature, the spring-barrel having two notches with one of which the arm of said lever engages, the pivoted switch in circuit with said battery engaging with the other notch, the conductor connected with said switch and leading to a series of incandescent lamps, the conductor connected with said lamps and with a contact-piece carried by an electromagnet, but insulated therefrom, the armature and the contact carried thereby electrically connected with the battery, of the dial, the hand or pointer of conducting material, and means for operating the same, the trigger pivoted to said hand or pointer and provided with a contact-arm, the contact-pins near the edge of the dial, and the electromagnet electrically connected with said pins and with the battery, substantially as specified.

13. In a machine of the character described, the combination with the coin-tube, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery, the conductor connected therewith, the electromagnet at the lower part of the machine connected with the battery, the armature thereof, the lever having an arm connected with said armature, the spring-barrel having two notches, with one of which the arm of said lever engages, the pivoted switch in circuit with, and engaging, the other notch, the conductor connected with said switch and leading to a series of incandescent lamps, the conductor connected with said lamps and with a contact-piece carried by the electromagnet to which said contact-piece is secured but insulated therefrom, the conductor connected therewith, the weighted counterbalance-arm with which said electromagnet is electrically connected and electrically connected with the battery, and the armature of said electromagnet provided with a contact-piece and electrically connected with the battery, of the dial, the hand or pointer of conducting material and means for operating the same, the trigger pivoted to said hand or pointer and the contact-pins near the edge of the dial, connected with said last-mentioned electromagnet, substantially as specified.

14. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery, the electromagnet near the bottom of the machine electrically connected with the battery, the armature, the lever having an arm connected therewith, the spring-barrel provided with a notch with which the arm of said lever engages, and with a cam, of the lever provided with a cam projection with which said cam engages, the arm pivoted to the upper end of said lever, the roller, the endless band passing therearound and the hooks on said band, substantially as specified.

15. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery, the electromagnet connected therewith, the armature, the lever having an arm connected with said armature, the spring-barrel having two notches, the switch connected with the battery, one of the notches in the barrel being normally engaged with said arm, and the other with said switch, a cam on the barrel and the incandescent lamp connected with said switch and with the battery, of the upwardly-extending lever having a cam projection, the arm pivoted to the other end thereof, said cam projection being operated by said cam, the rollers, the endless band passing therearound, and the hooks thereon, substantially as specified.

16. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery, the dial, the hand or pointer and means for operating the same, the electromagnet near the lower end of the machine, electrically connected with the battery, the armature thereof, the lever connected therewith provided with an arm, the spring-barrel provided with two notches, the pivoted switch, one of the notches in the barrel being normally engaged with said arm, and the other with said

switch, the conductor connected therewith, the incandescent lamp with which said conductor is electrically connected with the battery, of the upwardly-extending lever, the arm pivoted to the end thereof, a cam on said spring-barrel for operating said lever, the vertical rollers, the endless band passing therearound and the hooks on said band, substantially as specified.

17. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery, the electromagnet connected therewith, the armature, the lever connected therewith having an arm, the spring-barrel having two notches with one of which said arm engages, the switch engaging with the other notch, the incandescent lamps electrically connected with said switch, the conductor connected therewith, the contact-piece with which said conductor is connected, the electromagnet carrying said contact-piece but insulated therefrom and electrically connected with the battery, the dial, the hand or pointer and means for operating the same, the trigger pivoted to said hand or pointer, the contact-pins near the edge of the dial, and the conductors connecting the said pins and the last-mentioned electromagnet, of the upwardly-extending lever, the arm pivoted to the upper end thereof, a cam on said spring-barrel for operating said lever, the vertical rollers, the endless band passing therearound and the hooks on said band, substantially as specified.

18. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery, the electromagnet near the lower end of the machine connected therewith, the armature, the lever connected therewith provided with an arm, the spring-barrel provided with a notch engaging said arm, the dial, the hand or pointer, the shaft thereof, the train of gearing for operating the same, one of the gears of which is provided with a pin, the electromagnet in close proximity to the said train, the armature thereof provided with a projection and the conductors connected with said magnet and electrically connected with the battery, of the upwardly-extending lever, the arm pivoted to the upper end thereof, a cam on the spring-barrel for operating said lever, the vertical rollers, the endless band passing therearound and the hooks on said band, substantially as specified.

19. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery, the electromagnet near the lower end of the machine connected therewith, the armature, the lever connected therewith provided with an arm, the spring-barrel provided with two notches with one of which said arm engages, and with a cam, the pivoted switch electrically connected with the battery and engaging with the other notch, the incandescent lamps electrically connected with said switch and with the battery, the dial, the hand or pointer, the shaft thereof, the train of gearing for operating the same, one of the gears of which is provided with a pin, the electromagnet in close proximity to said train electrically connected with the battery and the armature having a projection, of the upwardly-extending lever having a cam projection, the arm pivoted to the upper end thereof, a cam on the spring-barrel for operating said projection, the vertical rollers, the endless band passing therearound, and the hooks on said band, substantially as specified.

20. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery, the electromagnet, near the lower end of the machine electrically connected with the battery, the armature, the lever connected therewith provided with an arm, the spring-barrel having two notches, with one of which said arm engages, the pivoted switch electrically connected with the battery, engaging with the other notch, the conductor connected with said switch, the incandescent lamps connected therewith, the contact-piece with which said conductor engages, the electromagnet carrying said contact-piece but insulated therefrom, the armature having a contact-piece electrically connected with the battery, the series of contact-pins connected with said magnet, the dial, the hand or pointer, the trigger pivoted thereto and provided with a contact-arm, and said hand or pointer electrically connected with the battery, the shaft, the train of gearing for operating the same, one of the gears of which is provided with a pin, the electromagnet in close proximity to said train electrically connected with the battery, and the armature having a projection, of the upwardly-extending lever having a cam projection, the arm pivoted to the upper end thereof, a cam on the spring-barrel for operating said projection, the vertical rollers, the endless band passing therearound, and the hooks on said band, substantially as specified.

21. In a machine of the character described, the combination with a coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the dial, the hand or pointer and its shaft, the ratchet carried thereby, the loose pinion on said shaft, and the train of gearing one of the gears of which is

provided with a pin, the electromagnet in close proximity to said train, the armature having a projection, and the said magnet in electrical connection with the battery, of the electromagnet near the lower end of the machine electrically connected with the battery, the armature, the lever connected therewith provided with an arm, the spring-barrel provided with a notch with which said arm engages, the upwardly-extending lever, provided with a cam projection, the arm pivoted to the upper end thereof, a cam on the spring-barrel for operating said projection, the vertical rollers, the endless band passing thereround, and the hooks on said band, substantially as specified.

22. In a machine of the character described, the combination with the coin-tube, the pivoted balance-arm, the coin-receptacle, the oscillating rod provided with a catch for holding a coin in said receptacle, the pin on the balance-arm, the spring-contact, the battery, the spring-barrel connected therewith and means for operating the same, the lamps in circuit with said battery, the hand or pointer and means for operating the same, and the endless band and means for moving the same, of the clock-dial formed with a series of holes, the removable pins, the bands of conducting material, and the conductors connected with said pins and in electrical connection with the battery, substantially as specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES A. YALE.

Witnesses:
HENRY BALLARD,
FREDK. B. DEBERVILLE.