(No Model.) 4 Sheets—Sheet 1.

F. O. CLAFLIN.

AUTOMATIC SELLING DEVICE.

No. 453,561. Patented June 2, 1891.

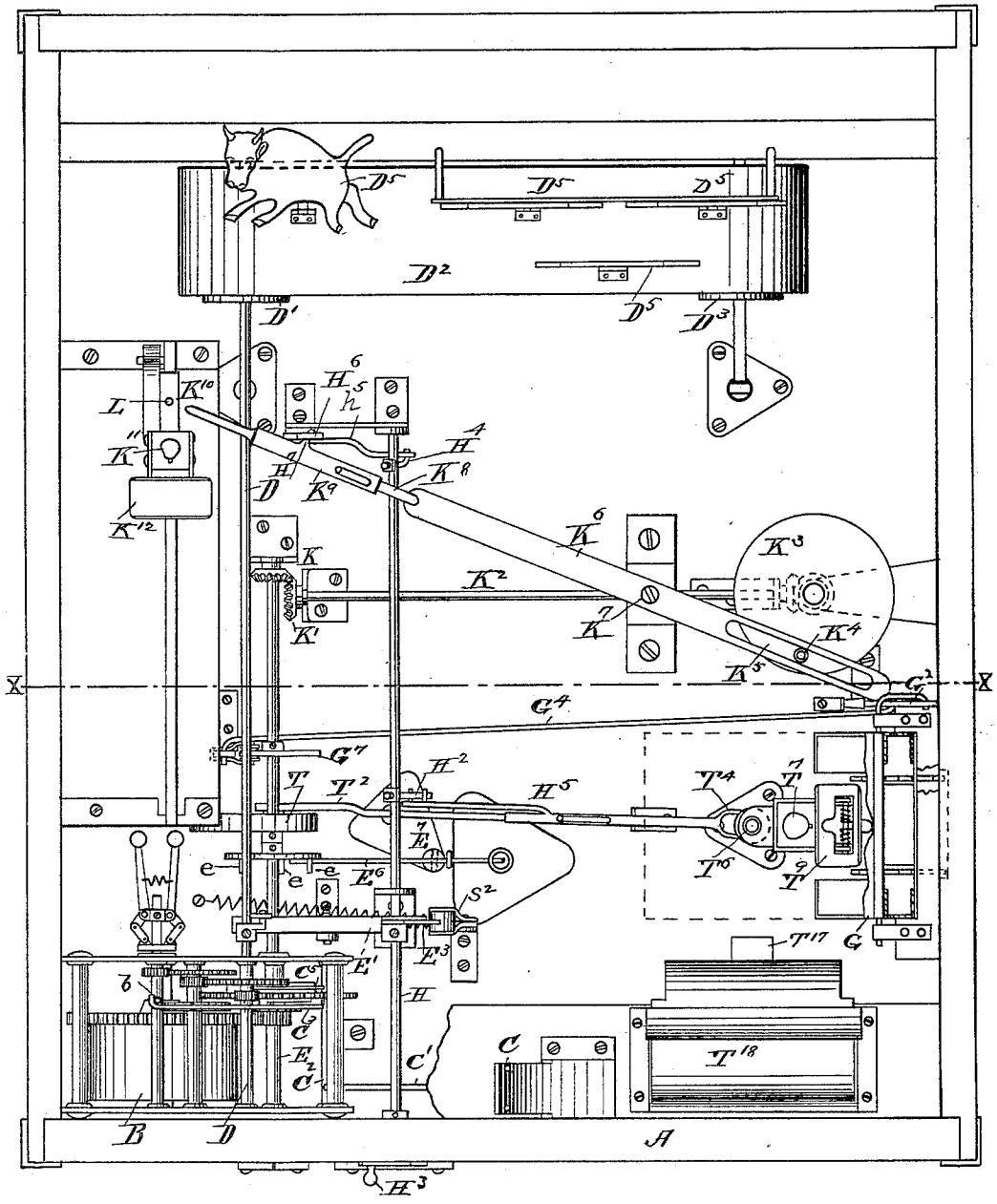


Fig. 1.

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Matthew M. Blunt

Edward S Day

INVENTOR.

Frank O. Claflin

by Frank G. Parker atty

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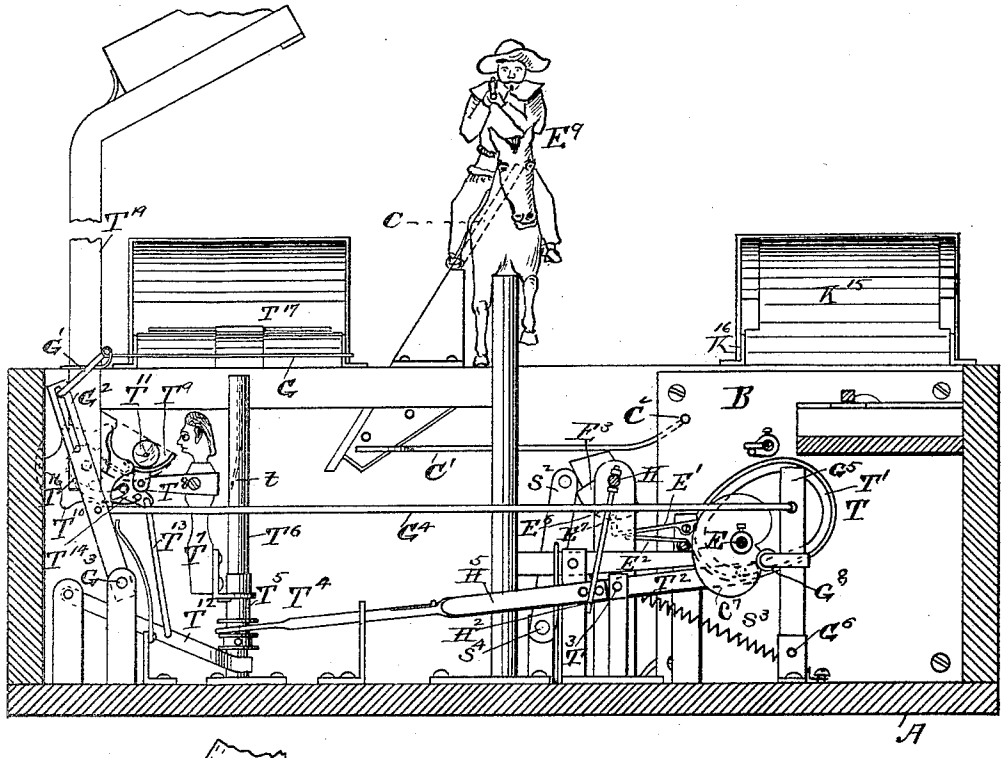


Fig. 2.

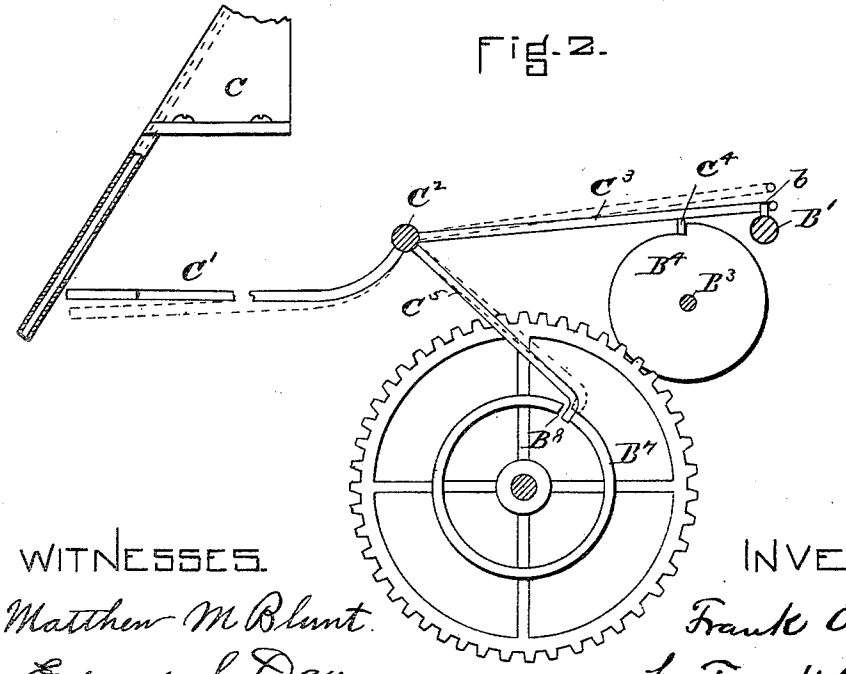


Fig. 3.

WITNESSES.

Matthew M Blunt.

Edward S Day

INVENTOR.

Frank O. Claflin

by Frank S. Parker Atty

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

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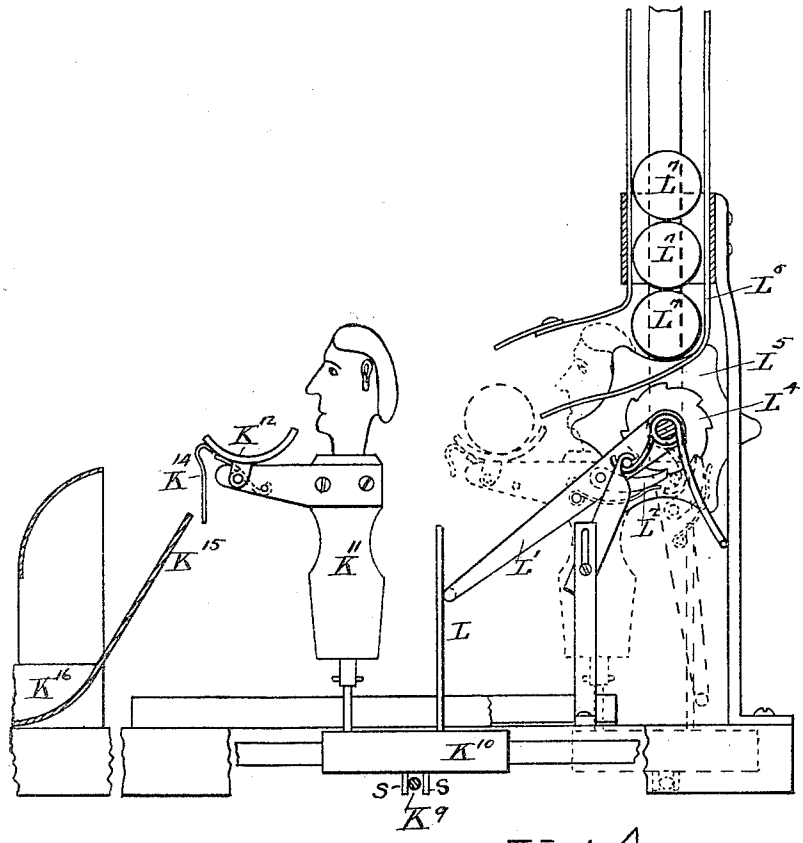


Fig. 4.

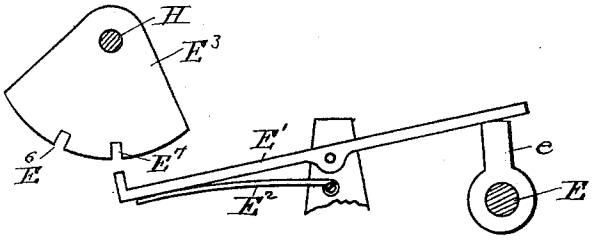


Fig. 5.

WITNESSES.

Matthew M Blunt

Edward S. Day

INVENTOR.

Frank O. Claflin

by Frank G. Parker Atty.

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

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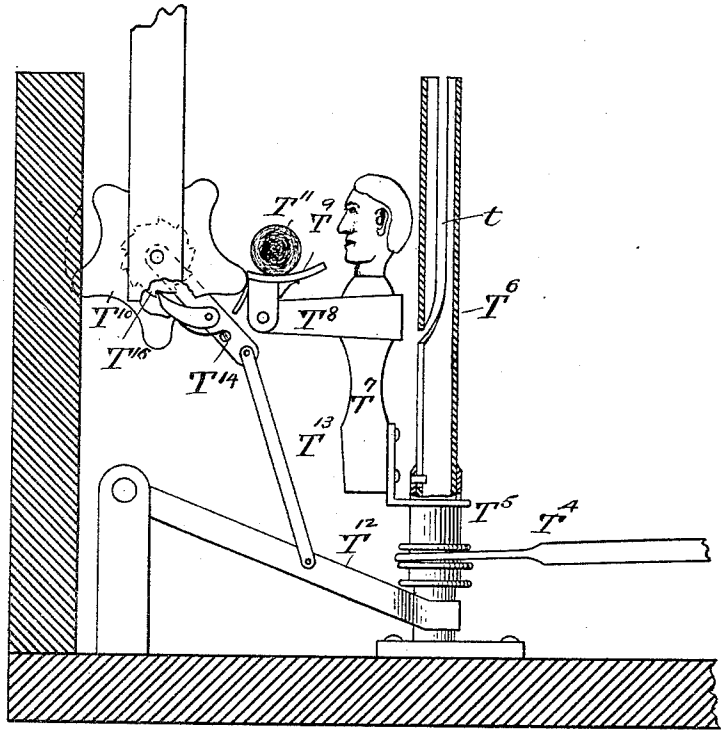


Fig. 6.

WITNESSES
William H. Parry
Edward S. Day

INVENTOR
Frank O. Claflin
per Frank G. Parker Atty.

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

UNITED STATES PATENT OFFICE.

FRANK. O. CLAFLIN, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND GEORGE H. WASHBURN, OF SAME PLACE, IRVING E. WILLIAMS, OF WOBURN, AND G. ANDERSON LORING, OF HINGHAM, MASSACHUSETTS.

AUTOMATIC SELLING DEVICE.

SPECIFICATION forming part of Letters Patent No. 453,561, dated June 2, 1891.

Application filed July 12, 1890. Serial No. 358,556. (No model.)

To all whom it may concern:

Be it known that I, FRANK. O. CLAFLIN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Automatic Selling Devices, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to the combinations of a series of delivering mechanisms with mimic show mechanisms, all of which are operated by a single motor and severally started by dropping a coin into the respective slot.

The device may be best understood by reference to the accompanying drawings, in which—

Figure 1 is a plan showing most of the operative parts, the top being removed for the purpose of more clearly exhibiting the mechanism. Fig. 2 is a cross-vertical section taken on line *x x* of Fig. 1, the view being taken from the rear. Fig. 3 shows in elevation a part of the stopping and starting mechanism. Fig. 4 is a view in elevation showing one of the delivering automatons and its connecting mechanisms, looking from the right toward the left. Fig. 5 is a detail. Fig. 6 is a view, partly in elevation and partly in vertical section, showing parts of my device.

In the drawings, A represents the case or box in which the working parts are inclosed.

B is a spring-motor, which is adapted to give motion to all of the parts.

In the drawings, buffaloes D^5 D^5 and a hunter E^9 are shown. The buffaloes are made to move by a belt D^2 on rotating drums D' D^3, the drum D' being rotated by the shaft D, which is connected to the motor B, as shown. The hunter E^9 is operated by pins *e e*, Fig. 1, which act through the lever E^6, pivoted at E^7. The mechanism connected with the hunter and the buffaloes need not be more fully described here, as it is fully set forth in the specification of Patent No. 409,923, of August 27, 1889, entitled "coin-operated toy."

The starting or let-off device consists of a chute C, adapted to receive a coin and so arranged and located that when the coin drops from the chute it will fall upon the arm C', said arm extending from the rocker-shaft C^2. A rod C^3, having a hook at its end, extends from the rocker-shaft C^2 and is adapted to engage with a radial pin *b* on the journal B', and thus prevent the said journal from rotating and through it stop the motor B. The dropping of the coin upon the arm C will depress it and cause the hooked rod C^3 to rise up, and, freeing the pin *b*, allow the motor to start.

To allow the motor to continue in motion long enough to cause the automaton to make one complete performance, I have attached to the rocker-shaft C^2, Fig. 3, a stay-arm C^5, the lower end of which is bent so that it will drop into the opening B^8 in the ring B^7, said ring B^7 being attached to one of the slow-going wheels of the motor. The action of the stay-arm C^5 is as follows: When lifted out of the opening B^8, (by the weight of the coin on the arm C', the motor being in motion,) it cannot drop back into place until the wheel to which the ring B^7 is attached has made a complete rotation—that is, until the motor has been in motion long enough to cause the automaton to perform. When the ring has made a rotation, the end of the stay-arm C^5 drops into the opening B^8. This action allows the hooked rod C^3 to engage with the pin *b* on the journal B' and thus stop the motor. The projection C^4 on the rod C^3 serves to engage with a notch on the disk B^4, connected to one (B^3) of the journals of the motor, thus insuring the checking of the motor at the right time.

I will now describe the mechanism connected with the automaton which delivers cigars, referring to Figs. 1 and 2. The shaft E has upon it a face-cam T, having a cam-groove T'. This cam acting upon the lever T^2 causes it to oscillate about its pivot T^3, and as its forked end T^4 engages with rings on the collar T^5, the said collar is made to move up and down on the post T^6. The automaton T^7 is attached to the collar T^5, so as to move with it, and as the collar T^5 has a pin in it adapted to run in a spiral slot *t* in the post T^6, the collar and its attached automaton T^7 turns a quarter-rotation to the right or left as it goes up or down. The automaton T^7 has rigid arms T^8, to which is attached by

pivots a tray T^9, said tray T^9 being held in a horizontal position by a slight spring adapted to allow the tray to tip when its edge comes in contact with the stop T^{17}, as will be explained below, so as to cause its contents—a cigar, for instance—to roll out. The collar T^5, in its downward motion, causes the lever T^{12} to move downward, and acting through the rod T^{13}, pawl-lever T^{14}, and ratchet T^{16} causes the fluted drum T^{10} to make a part rotation. As the fluted drum has a cigar in each of its flutes it will deliver one into the tray T at each time that the said tray descends. Now, if we suppose the automaton is down—that is, in the position shown in Fig. 2—with a cigar T^{11} in the tray, and that a coin is dropped into the chute C, then the motor will start and the automaton T^7 will move upward on the rod T^6, at the same time turning to the right so that the outer edge of the tray will come in contact with the stop T^{17} and cause it to tip so that the cigar will roll off onto the delivery-counter T^{18}. After this the automaton will turn and descend to the point from which it started and the motor will stop and remain so until another coin is placed in the chute C. The raceway T^{19} may be made of any convenient size and form that is adapted to receive a number of cigars and deliver them one at a time to the fluted roller T^{10}. G, Fig. 2, is a flat door adapted to close the opening in the top of the case A, through which the cigar automaton passes previous to delivering a cigar. This door G is operated by the cam C^7, which, acting through the friction-roller G^8, causes the lever G^5 to swing on its pivot G^6, and as the lever G^5 gives motion to the rod G^4 attached to the lever G^2, (swinging on the pivot G^3,) motion will be given to the said lever G^2 and through it and the arm G′ to the door G, the door opening or closing with the motion of the slotted lever G^2—that is, as the lever is brought forward—and thus causes the door G to open. The reverse motion of course closes it.

The mechanism of the automaton K^{11}, Figs. 1 and 4, that delivers rolls of confectionery may be described as follows: Upon the end of the shaft E a beveled gear K is attached, which, acting through the gear K′, shaft K^2, and gears indicated by dotted lines, gives motion to the crank-disk K^3. The crank-disk K^3 has a crank-pin K^4, which, working in a slot K^5 in the lever K^6, (which swings on the pivot K^7,) gives motion to the said lever. At the end K^8 of the lever K^6, I have a telescope-joint connection K^9, so arranged that it may be extended, when desired, so as to engage with studs S S, Fig. 4, on the under side of the slide K^{10}, and give motion to the said slide. K^{11} is an automaton mounted on the slide K^{10}. Said automaton holds a tray K^{12}, as shown plainly in Fig. 4. The tray K^{12} is pivoted to the arms of the automaton, as shown, and is provided with an arm K^{14}, which, as the automaton advances, comes in contact with the edge of the fixed counter or shelf K^{15} and causes the tray to tip, so that the roll of confectionery on it will roll down into the recess K^{16}, from which place the buyer may take it. The rolls L^7 of confectionery to be delivered by the automaton K^{11} are placed in the raceway L^6, the lower one resting in one of the flutes of the fluted roller L^5.

Motion is given to the fluted roller L^5 by the following described mechanism: A standard L extends upward from the slide K^{10}, and is so placed that as the slide and its automaton approaches the raceway L^6 it will come in contact with the lower end of the pawl-lever L′ and cause it to swing back, taking with it the pawl L^2, which engaging with the ratchet L^4 will cause it (the ratchet) to make a part rotation, and as the ratchet L^4 is connected with the fluted roller L^5 it will cause the said roller to make a part rotation, and thus cause a roll of confectionery to roll from the fluted roller into the tray K^{12}. As this device has but one motor and one coin-chute, it is not intended that both of the automatons should work at the same time, and the mechanism is so made that but one can work at a time. As shown, the lever T^2 T^4 is in working connection with the automaton T^7 and the lever K^6 K^9 is out of working connection with the automaton K^{11}.

I use the following-described device for causing the levers T^2 T^4 and K^6 K^9 to operate or not to operate their respective automatons: H^3, Fig. 1, is a hand-lever attached to the rocker-shaft H. H^2 is an arm extending downward from the rocker-shaft H, and connects at its lower end by means of the projection H^5 to the forked extension-piece T^4 of the lever T^2, so that in turning the rocker-shaft H the forked extension T′ may be slid back and forth on the lever T^2, to which it is connected by a telescope-joint. The extension part K^9 of the lever K^6 is operated from the same rocker-shaft H, the connection being formed by an arm H^4, link h^5, lever H^6, and start H^7. The above-described mechanism for connecting the extension T^4 and K^9 to the rocker-shaft H is so arranged that by turning the shaft in one direction but one of the extensions will be thrown into action, while the other will be thrown out. Thus, if the cigar automaton T^7 is in working connection with the motor B the confectionery automaton will be out of working connection, and vice versa.

To prevent the movement of the rocker-shaft H while either of the automatons are working I have the following device: Upon the shaft H, I have a cam-piece E^3, the lower side of which has two notches E^6 E^7, as indicated by dotted lines in Fig. 2. E′ is a lever, having at its end a bent part which may catch into one of the notches E^6 E^7 and thus hold the cam-piece E^3 and by it the rocker-shaft H firmly in place. E^2 is a spring which serves to force the lever E′ upward into engagement with the notches E^6 E^7 of the cam-piece. When the motor is not in action a cam-arm *e*, Fig. 5, on the shaft E, holds the lever E′ in

such a position that its bent part is away from the notched cam E^3, and the said cam E^3 and the rocker-shaft H may be moved so as to throw the parts for working either of the automatons. For holding the cam-piece E^3 in place when the lever is out of the notches E^6 E^7, I have a lever S^2, swinging on the pivot S^4 and held in place by a spring S^3. The lever S^2 has a roller at the top, Fig. 1, which bears against the cam-piece E^3 and holds it in the desired position.

In the drawings I have left off all of the merely ornamental parts, as they would hide the mechanical details. In practice I have the visible parts ornamented, and have miniature imitation of caves, bowers, &c., with fields and forests, as may be desired.

I claim—

1. In an automatic selling device, a motor set in motion by the dropping of a coin, an automaton moving bodily and having a tray from which an arm extends, said arm being adapted to cause the tray to tip by coming in contact with fixed shelf, as described, in combination with a storage raceway for cigars or other articles, and a mechanism for automatically placing the same on the tray of the automaton, substantially as and for the purpose set forth.

2. In an automatic selling device, a motor set in action by the dropping of a coin, and two or more automatons adapted to be driven by one motor, in combination with a shifting mechanism whereby either of said automatons may be put in acting connection with the motor, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 10th day of July, A. D. 1890.

FRANK. O. CLAFLIN.

Witnesses:
FRANK G. PARKER,
MATTHEW M. BLUNT.