

(No Model.)

2 Sheets—Sheet 1.

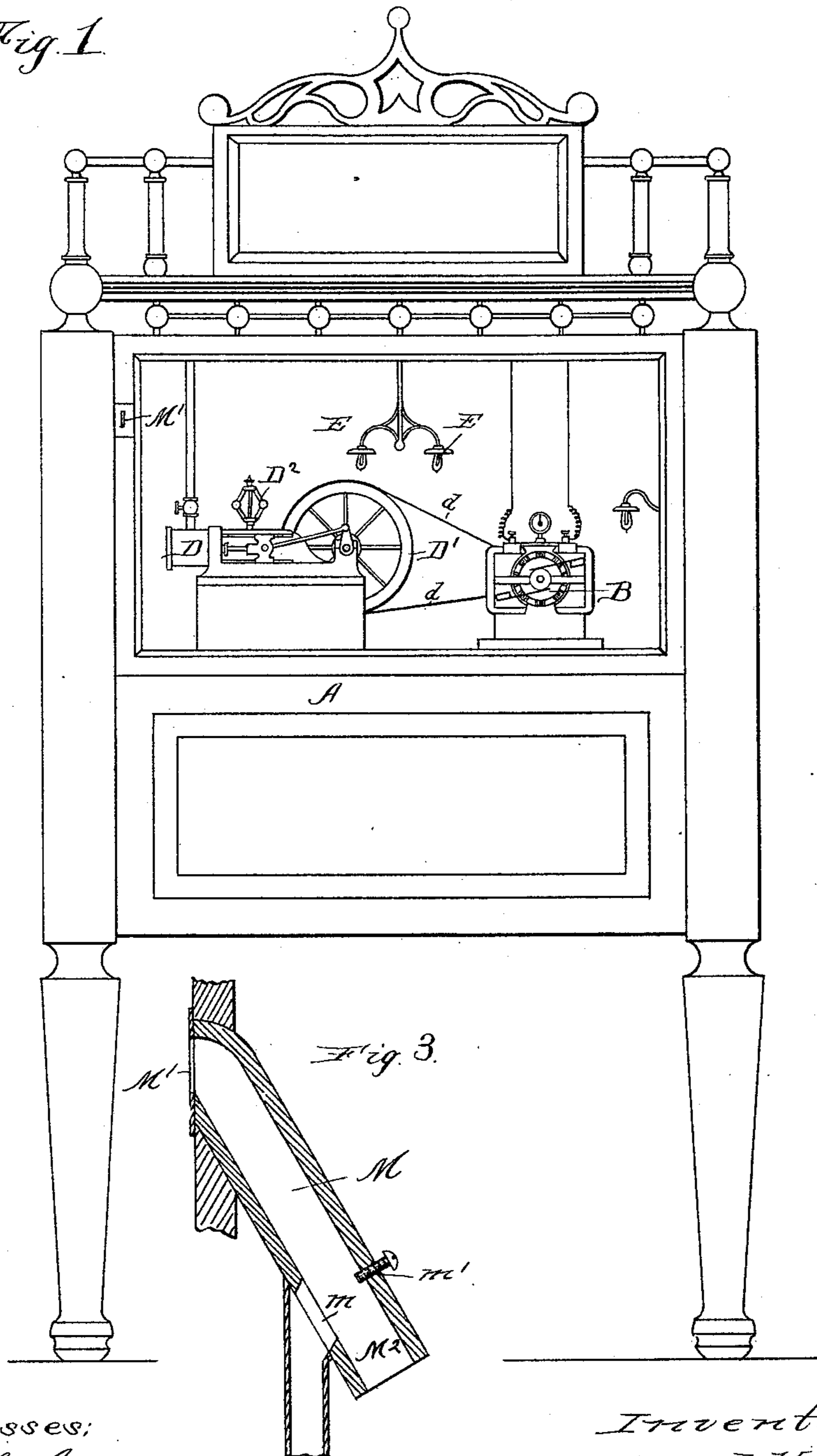
E. H. AMET.

COIN OPERATED DISPLAY APPARATUS.

No. 414,000.

Patented Oct. 29, 1889.

Fig. 1



Witnesses:
Sew. C. Curtis.
H. M. Munday

Inventor:
Edward H. Amet.
By Munday, Evarts & Adcock
His Attorneys:

(No Model.)

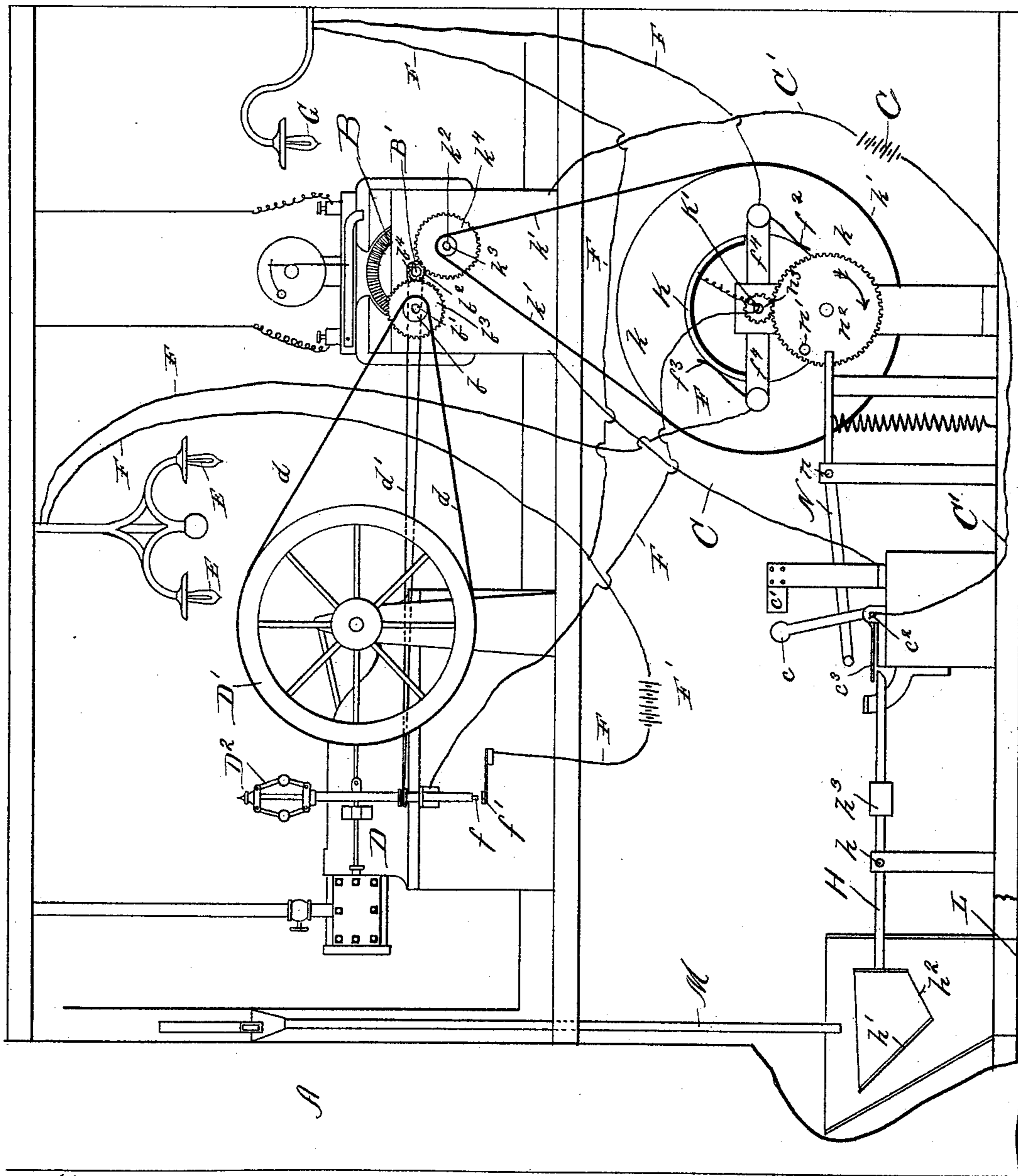
2 Sheets—Sheet 2.

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COIN OPERATED DISPLAY APPARATUS.

No. 414,000.

Patented Oct. 29, 1889.



Witnesses:
 Geo. C. Curtis.
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Fig. 2.

Inventor:
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His Attorneys:

UNITED STATES PATENT OFFICE.

EDWARD H. AMET, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND
HERBERT A. STREETER, OF SAME PLACE.

COIN-OPERATED DISPLAY APPARATUS.

SPECIFICATION forming part of Letters Patent No. 414,000, dated October 29, 1889.

Application filed March 29, 1889. Serial No. 305,223. (No model.)

To all whom it may concern:

Be it known that I, EDWARD H. AMET, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Coin-Operated Display Apparatus, of which the following is a specification.

My invention relates to exhibition or display machines designed to receive a coin and be set in motion thereby.

In my invention an electric motor having a battery for operating it is set in motion by the coin closing an electric circuit. This motor is connected with the fly-wheel of a display-engine having a governor which operates a movable contact-piece and closes an electric circuit through one or more incandescent lamps. The electric motor is also connected with a contact making or breaking device, which controls the length of time the motor runs each time it is set in operation.

The invention consists in the novel devices and novel combinations of parts and devices herein shown and described, and more particularly pointed out in the claims.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a front elevation of a device embodying my invention. Fig. 2 is a rear elevation showing also a diagram view of the circuits, and Fig. 3 is a detail view of the nickel-receiving chute.

In the drawings, A represents the frame of the machine.

B is an electric motor, of any suitable or well-known construction, operated by a battery C, connected in the circuit C' C' of the motor.

D is a display or toy engine, the fly-wheel D' of which is connected by a belt d' with a pulley b on the shaft b', which is driven by gears b² b³ from the main shaft B' of the motor.

E E are a pair of incandescent electric lights, connected in the circuit F with the battery F', by which the necessary current is furnished to these lamps to operate them.

G is a third incandescent lamp, also connected in the circuit F.

The engine D is furnished with a governor

D², which is driven by a belt d' from a pulley b⁴ on the main shaft of the motor. The governor D² operates a movable contact-piece f, by which the light-circuit F is opened and closed at f'.

K is a circuit-breaker of a semicircular shape, carried by the shaft K', which is furnished with a pulley k, connected with and driven by the motor through the belt k' and pulley k² on the shaft k³, which is furnished with a gear k⁴, that meshes with the gear b² on the main shaft of the motor. The rotary semicircular contact K makes and breaks the light-circuit F at f² and f³. The spring contact-pieces f² f³ are secured to a stationary bar f⁴, forming part of the electric-light circuit F. The electric-motor circuit C' is broken and closed by a movable contact-piece c and stationary spring contact-piece c'. The movable contact-piece c is pivoted at c² to the frame, and is furnished with a bent arm c³, which is operated to close the circuit C' by a coin-operated lever H. The lever H is pivoted at h to the frame, and is furnished with an inclined hopper or shield h', having an opening h², through which the coin may pass into the coin-receptacle L below. The coin hopper or shield h' is arranged in the path of the coin as it descends through the coin chute or passage M, so that the coin will strike or impinge against the plate or shield h', and thus by the blow raise the lever H and push the movable contact c against the spring-contact c', in which position it will be held by the friction of the two contact-pieces c c' against each other. The coin, after striking the plate h', will roll or fall out of the hopper through the opening h² therein. The lever H is furnished with an adjustable counterpoise h³. After the pulley k or the shaft K' makes four revolutions the movable contact-piece c is moved to break the circuit C' at c', and thus stop the motor by means of a lever N, pivoted at n to the frame and operated by a pin or projection n' on the gear n², which meshes with a gear n³ on the shaft K'. The direction in which the gear-wheel n² rotates normally to cause the pin n' to impinge against the lever N is indicated by the arrow on Fig. 2. When the pin n' of the gear n² impinges against the lever

N, it causes the opposite end of the lever N to strike against the arm c^3 , and thus separate the contact-points c and c' and break the electric-motor circuit C' .

5 The coin chute or passage M is inclined or arranged at an angle and furnished with a slot or opening m large enough for a nickel to pass through, and with a projection m' opposite said opening for the purpose of deflecting the nickel as it falls down the chute, and thus cause it to pass through the opening m , and thence to the coin-operated lever H. The projection m' is made large enough so that a nickel will strike it as it descends, but small enough to prevent a cent or smaller coin than a nickel from striking against it, so that the smaller coins will be carried by their momentum over the opening m in the chute, and thus be automatically separated from the nickel or coin, which alone are designed to set the display machinery in operation.

The operation is as follows: A coin of the proper size being deposited in the chute M through the opening M' strikes against the lever H, and thus closes the motor-circuit C' by moving the contact-lever c into engagement with the opposing spring contact-piece c' . This sets the motor in operation. The motor at the same time drives the engine D and causes the governor D^2 to rapidly revolve, thus causing the movable contact-piece f to close the electric-light circuit F at f' . At the same time the motor slowly revolves the semicircular contact maker and breaker K, which first closes the electric circuit F at f^3 , thus setting the incandescent lamps E in operation. As the semicircular contact-piece K continues to revolve, the electric-light circuit F is broken at f^3 , thus extinguishing the lights E, and at the same or about the same time the electric-light circuit F is closed at f^2 , thus lighting the incandescent lamp G. As the breaker K or its shaft K' continues to revolve, it drives the gear n^2 and causes the pin n' to engage the lever N, and thus open the motor-circuit C' by moving the contact-piece c back to its normal position. This stops the motor, and as soon as the fly-wheel of the engine slows up sufficiently the light-circuit F will be broken at f' , and both the lights E and G finally extinguished, when the apparatus will be ready for the reception of another coin. As the breaker K revolves, the lamps E and G will be alternately lighted and extinguished, thus producing a very unique, attractive, and interesting display.

The coin-passage M, it will be observed, is divided into two branches at the opening m and projection m' , one straight branch M^2 and a deflected branch leading to the coin-operated lever H. The projection or stop m' preferably consists of an adjusting-screw, as indicated in the drawings, so that it may be set for any particular coin desired.

65 I claim—

1. In a coin-operated-machinery display apparatus, the combination, with a case having

a coin chute or passage, of a coin-operated lever, an electric motor, a battery, an electric circuit having a movable contact-piece operated by said coin-lever, a display-engine connected with said motor, an electric-light battery and circuit, said engine having a governor, a movable contact-piece for making and breaking the light-circuit connected with and operated by said governor, and a circuit-breaking mechanism connected with the motor for breaking the motor-circuit after the lapse of a certain period, substantially as specified. 70 75 80

2. The combination, with a case having a coin chute or passage M, of coin-operated lever H, movable contact c , operated by said lever H, electric motor B, battery C, motor-circuit C' , engine D, connected with said motor and furnished with governor D^2 , electric lights E and G, light-circuit F and battery F' , contact f' and movable contact f , connected with said governor D^2 , revolving circuit-breaker K, connected with and driven by said motor, contact-pieces f^2 and f^3 in said light-circuit F, whereby the lights E and G are alternately lighted and extinguished, lever N, and revolving circuit-breaker wheel n^2 , having projection n' , substantially as specified. 85 90 95

3. The combination, in a display apparatus, of an electric motor with a display-engine, a battery and motor-circuit, a case having a coin-receiving chute or passage, and mechanism for closing the electric circuit by the fall or passage of the coin, an electric light and electric-light circuit, and mechanism for making and breaking the electric-light circuit, substantially as specified. 100

4. The combination, with a case having a coin passage or chute M, of a coin-operated lever H, having a shield or plate h' in the path of the coin, an electric circuit, and a movable contact-piece operated by said lever H, substantially as specified. 105 110

5. The combination, with a case having a coin-passage, of a coin-operated lever having a hopper provided with an inclined side arranged in the path of the coin and furnished with an opening in its bottom for the coin to pass through, so that the lever will be operated by the impact of the coin and then automatically discharge the coin through the opening, substantially as specified. 115

6. The combination, with a case having a coin-passage, of a coin-operated lever having a hopper arranged in the path of the coin and furnished with an opening for the coin to pass through, so that the lever will be operated by the impact of the coin and then automatically discharge the coin through said opening, said coin passage or chute having an inclined portion provided with an opening for the coin to pass through, and a projection for deflecting coins of the required size through said opening and permitting smaller coins to pass by their momentum without being deflected, substantially as specified. 120 125 130

7. The coin-chute M, having opening m and

projection m' for automatically separating coins of the required size from smaller ones, substantially as specified.

8. The combination, with a coin-operated lever, of a coin-chute leading thereto, comprising a straight branch and a deflected branch communicating with each other, and a projection or device for deflecting coins of the required size into the branch leading to the coin-operated lever, substantially as specified.

9. The combination, with an electric motor,

of an engine connected thereto, a circuit-breaking mechanism, also connected to said motor, an electric light, electric circuits and contact-pieces, a case having a coin-chute, and coin-operated lever for closing the electric circuit, substantially as specified.

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