

No. 669,429.

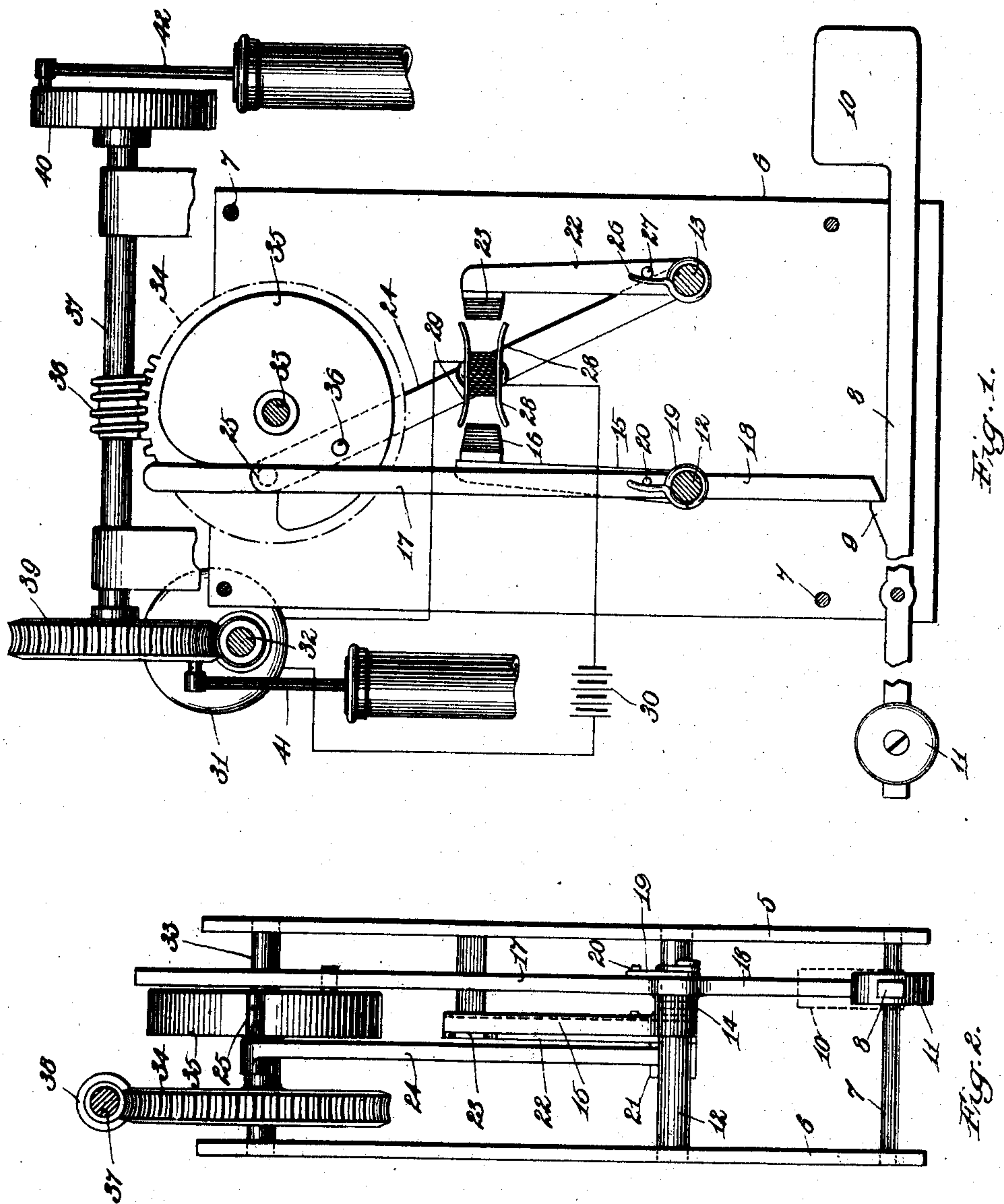
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W. H. PAINE.

COIN CONTROLLED ELECTRIC CIRCUIT CLOSER.

(Application filed Mar. 14, 1900.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM HOWARD PAINE, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO
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COIN-CONTROLLED ELECTRIC-CIRCUIT CLOSER.

SPECIFICATION forming part of Letters Patent No. 669,429, dated March 5, 1901.

Application filed March 14, 1900. Serial No. 8,588. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HOWARD PAINE, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented a certain new and useful Improvement in Coin-Controlled Mechanism, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention has reference to improvements in coin-controlled mechanism.

One object of the invention is to so construct a coin-controlled electric-circuit closer that the circuit may be closed for a period of
15 time and automatically reopened when the work of the electrically-operated mechanism is completed.

Another object of the invention is to so construct a coin-controlled electric-circuit closer
20 that upon the reopening of the circuit the coin-actuated mechanism will be automatically reset.

Another object of the invention is to so construct a coin-controlled electric-circuit closer
25 that a timing or spacing governor may be driven by connection with the operating mechanism to open the circuit after the elapse of a predetermined time.

Another object of the invention is also to
30 provide a novel and useful electric-circuit closer and driving mechanism therefor.

The invention consists in a normally open circuit including a motor, means for closing the circuit governed by mechanism in connection with the motor, and a coin-controlled
35 mechanism for primarily releasing a member of the circuit-closer.

The invention also consists in an electric circuit, means for closing and opening the
40 same, a coin-controlled mechanism for normally holding said closer in the open position, and a governor for operating the closer at the completion of the work.

The invention also consists in the open circuit, the means for closing the same, and in the time mechanism for retracting the closer.

The invention also consists in the circuit having the spaced contact-plates, a spring-actuated closer at one side, a positively-operated closer at the opposite side furnished
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with a retracting-spring, and means for governing the action of the springs.

The invention also consists in the timing-governor in combination with the circuit and the means for opening and closing the same. 55

The invention also consists in such other novel features of construction of parts as shall hereinafter be more fully described, and pointed out in the claims.

Figure 1 represents an elevation, partially
60 in section, illustrating the improved device. Fig. 2 represents an end view of the same, to more clearly show the respective location of the circuit-controllers.

Similar numbers of reference designate corresponding parts throughout. 65

The coin-controlled mechanism herein described is designed for use in connection with an electrically-operated device by which a certain amount of work is to be accomplished in
70 a predetermined space of time and which device contains some moving part from which the circuit-closers may be operated.

As shown in the drawings, 5 and 6 are supporting-frames, of any ordinary construction,
75 secured together by rods 7 7. At the lower portion of the frame 6 is pivoted the lever 8, having the latch-shoulder 9 and the coin-pocket 10, being also supplied with the counterweight 11, adapted to overbalance the
80 empty coin-pocket. Above the lever 8, fixed in the frames 5 and 6, are the shafts 12 and 13. On the shaft 12 is journaled the sleeve 14, having the upwardly-extending arm 15, furnished with the electrical contact-plug 16,
85 insulated from the arm, and the lever 17, which extends upward above the top of the frames 5 and 6 and has the depending-finger 18, which may be brought into engagement with the latch 9 of the lever 8. On the shaft
90 12 is mounted the spring 19, which bears against the pin 20 on the lever 17 and tends to throw this lever and the arm 15 inward toward the right. On the shaft 13 is journaled the sleeve 21, having the upwardly-extending
95 arm 22, with its contact-plug 23, and the upwardly-inclined lever 24, having the bearing-pin 25 at its upper end, and on the shaft 13 is mounted the spring 26, which bears against the pin 27 on the arm 22 and tends
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to throw this arm and the lever 24 outward toward the right. Between the contact-plugs 16 and 23 are mounted and suitably supported double contact-plates 28 and 29, insulated from each other and electrically connected in a circuit which includes an electric battery 30 or other source of electric energy and an electric motor 31, having the worm-shaft 32, the plugs 16 and 23 being under certain conditions adapted to make electrical contact between the plates 28 and 29, and thus complete the electrical circuit.

At the upper portion of the frame is fixed the shaft 33, on which are journaled the gear 34 and the cam 35, so connected that they may be rotated together. On the side of the cam is the pin 36 for acting against the lever 17, and the face of the cam works against the pin 25 of the lever 24, this pin being held in contact with the face of the cam by the action of the spring 26 on the pin 21 of the lever 22. Above the gear 34, journaled in suitable bearings, is the main shaft 37, having the worm 38, meshing with the gear 34, the worm-gear 39 at one end meshing with the worm 32 of the motor 31, and at the other end the crank-wheel 40. The shaft 37 is designed to be connected with any mechanism which it is desired to drive for the accomplishment of any useful or amusing purpose. It is herein represented as connected with the piston-rods 41 and 42, pivoted to the gear 39 and to the wheel 40, by the operation of which air may be compressed in the cylinders (partly shown) to be supplied for the inflation of pneumatic tires or otherwise.

When the pocket end of the lever 8 is depressed, as by the weight of a coin, the end of the finger 18 is released, the spring 19, exerting a pressure on the pin 20, acts to throw the arm 15 and the lever 17 to the right, the contact-plug 16 being thus entered between the plates 28 and 29 completes the circuit, and the current of electricity being supplied from the battery or other source of electrical energy sets the motor 31 in action, rotating the worm-shaft 32 and, at a reduced speed, the gear 39 and the main drive-shaft 37, thus operating the mechanism connected with this shaft. The rotation of the shaft 37 is transmitted to the gear 34 and cam 35, also at reduced speed, by the worm 38. The cam working against the pin 25 of the lever 24 throws this pin end of the lever outward at the commencement of the rotation, thus throwing the arm 22 to bring the plug 23 into contact with the plates 28 and 29 and holding the same in this position until the completion of the cam's rotation. As the cam 35 approaches the end of its rotation the pin 36 on the cam strikes the lever 17 and throws it back, thereby bringing the lower end of the finger 18 to a position in front of the latch 9 of the coin-lever by which the finger is engaged, and the

plug 16 is held back out of contact with the plates 28 and 29. Immediately thereafter, the step portion of the cam coming opposite the pin 25 of the lever 24, this lever is swung on its shaft by the action of the spring 26, bringing the pin 25 into the step in the cam and throwing the plug 23 out of contact with the plates 28 and 29. By this successive operation of the contacts the resetting of the coin-lever on its engagement with the primary acting mechanism is assured before the mechanism is completely stopped.

The cam 35 and the gear 34 are so proportioned with respect to the driving mechanism that they will make a single rotation during the completion of the work accomplished by the connections from the main shaft. This may be thus regulated to operate during a certain period of time or until the work is completed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A coin-controlled mechanism comprising a spring-actuated closer and a spring-retracted closer, and means set in motion through the closing of the circuit for positively operating the closers against the action of their springs.

2. The combination with an open circuit which includes a source of energy and means operative thereby upon the closing of the circuit, of duplex closers for the circuit, a coin-controlled mechanism for engaging the primary closer, and means connected with the operating mechanism for actuating the closers successively in opposite directions.

3. The coin-controlled lever, the spring-actuated closer adapted to be engaged thereby, the spring-retracted closer, the open-circuit contacts between the closers, and the cam, working against the lever-pin of the secondary closer, and carrying means for retracting the lever of the primary closer, as and for the purpose described.

4. The open circuit including a source of energy and the motor, the main shaft 37, connections between the main shaft and the motor, and the gear 34 suitably journaled, engaging the main shaft and having the cam 35 with its pin 36, in combination with the contact-plates, the pivoted spring-actuated lever 17 provided with its closer, means actuated by a coin for releasing this lever, and the pivoted spring-retracted closer 22 having the upwardly-extending lever furnished with its pin which bears against the face of the cam 35, as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM HOWARD PAINE.

Witnesses:

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