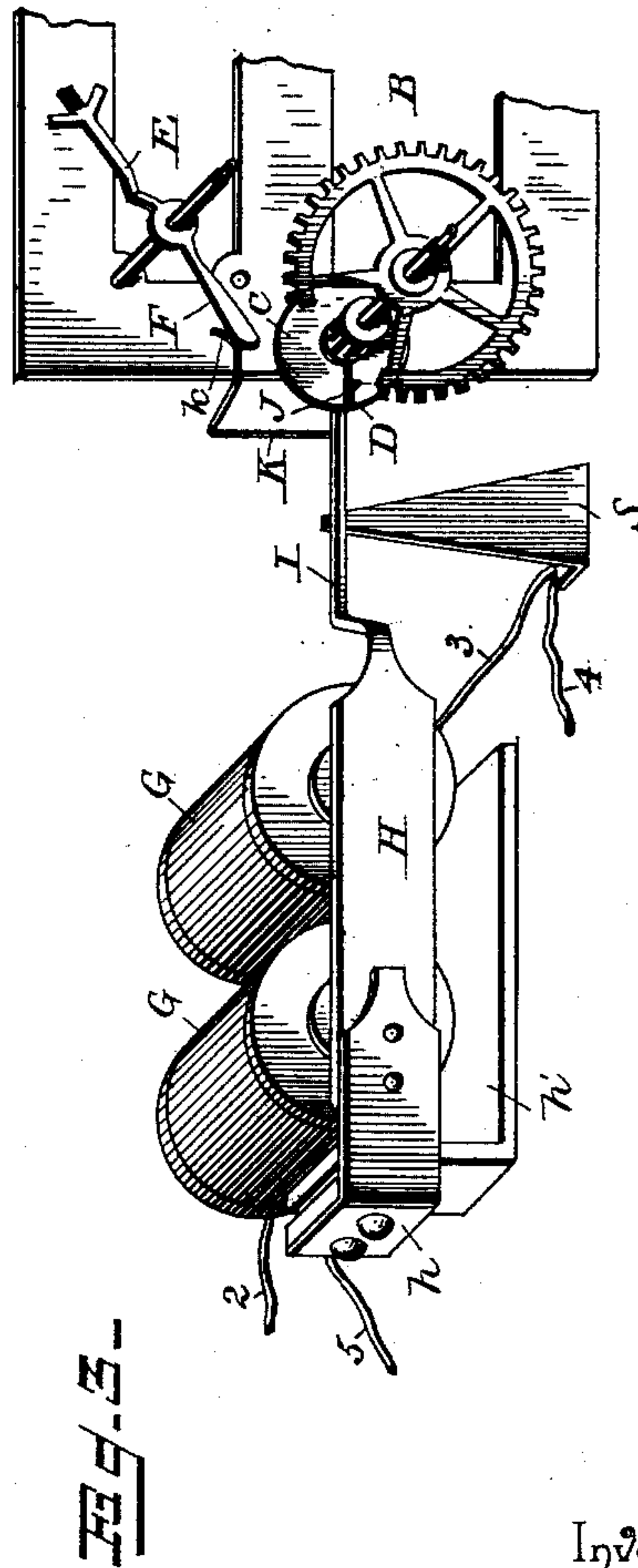
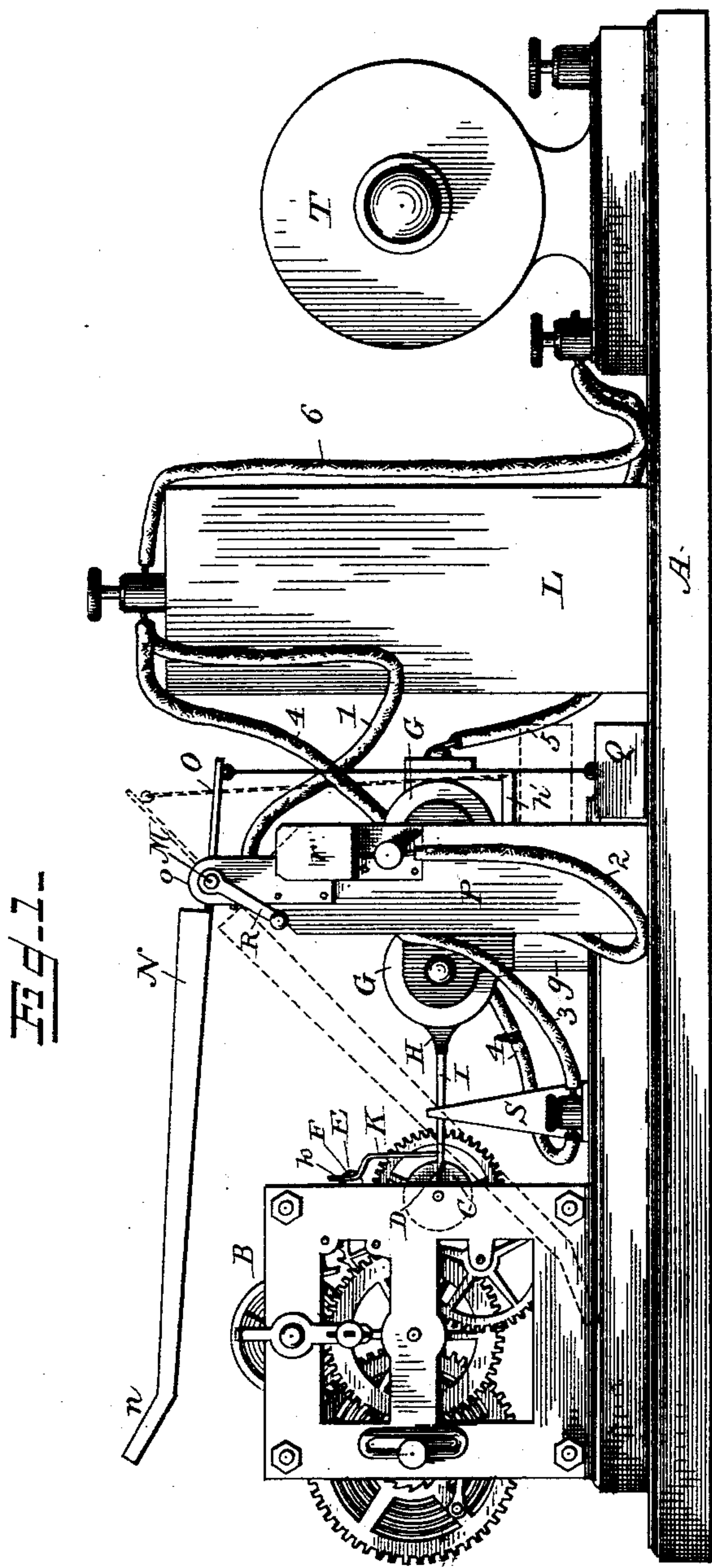


(No Model.)

2 Sheets—Sheet 1.

J. O. FROST.  
COIN CONTROLLED ELECTRICAL APPARATUS.  
No. 520,044. Patented May 22, 1894.



Witnesses

Chas. H. Curand  
S. P. Haupter.

By his Attorneys,

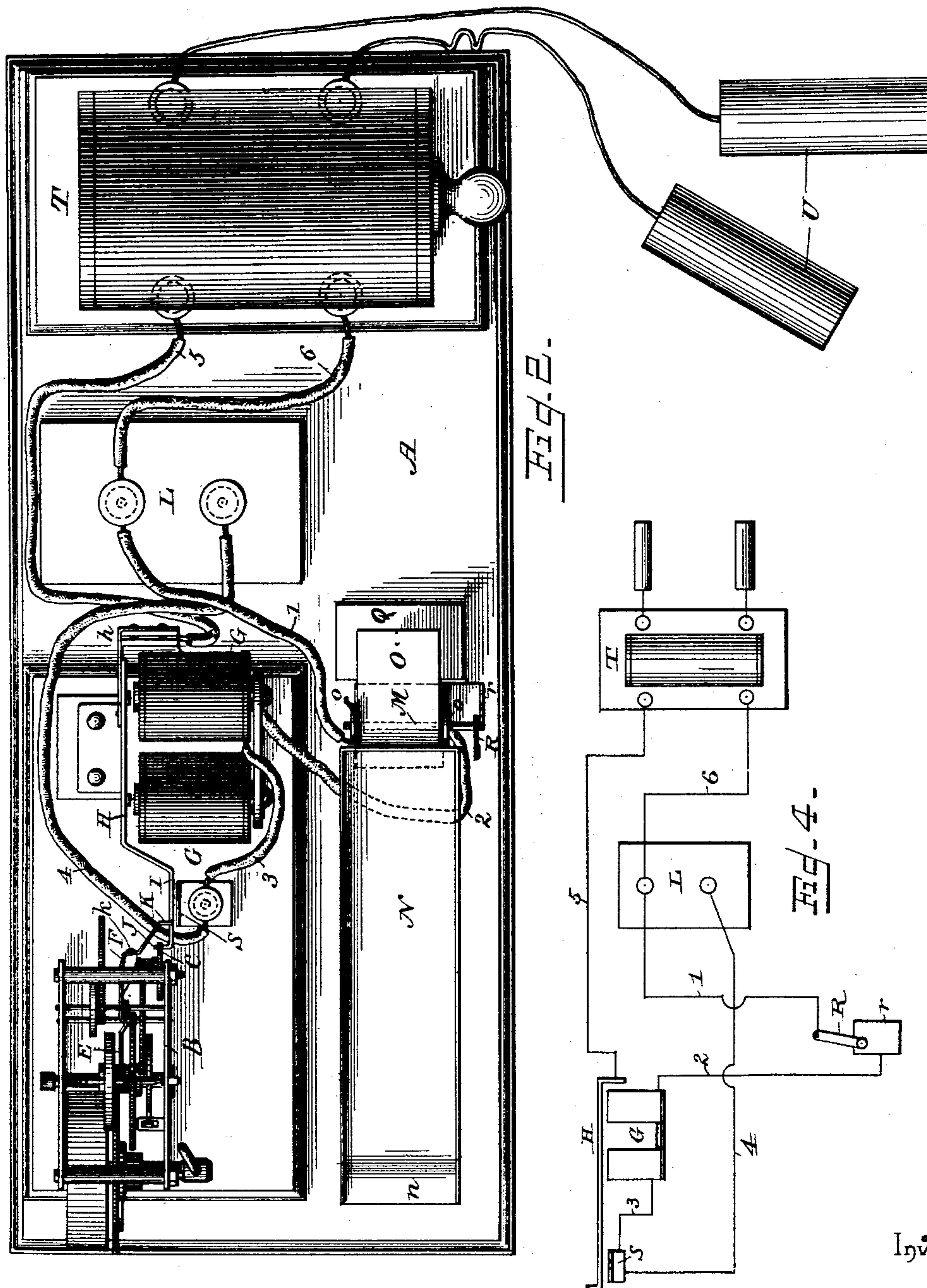
John O. Frost.

Cashnow & Co.

J. O. FROST.  
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No. 520,044.

Patented May 22, 1894.



Witnesses

Chas. H. Ourand  
D. W. Holman

By his Attorneys,

Ca Snow & Co.



# UNITED STATES PATENT OFFICE.

JOHN O. FROST, OF GREENSBURG, ASSIGNOR OF ONE-HALF TO MINNIE JOHNSON, OF UNIONTOWN, PENNSYLVANIA.

## COIN-CONTROLLED ELECTRICAL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 520,044, dated May 22, 1894.

Application filed December 30, 1893. Serial No. 495,167. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN O. FROST, a citizen of the United States, residing at Greensburg, in the county of Westmoreland and State of Pennsylvania, have invented a new and useful Coin-Controlled Electrical Apparatus, of which the following is a specification.

This invention relates to coin-controlled electrical apparatus; and it has for its object to effect certain improvements in apparatus of this character which are adapted to be operated by a coin of a certain denomination.

To this end the present invention contemplates an improved electrical apparatus which shall be constructed with a view to being active for a certain predetermined duration by the deposit of a coin on the proper part, so as to be available for use in giving shocks to the person dropping the coin into the machine, as well as for many other uses such as for draft regulating purposes, the regulation of steam, water, &c., and in connection with any devices which could be operated by an external working circuit which is active for a certain length of time.

With these and other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the drawings:—Figure 1 is a side elevation of the coin-controlled electrical apparatus constructed in accordance with this invention. Fig. 2 is a top plan view thereof. Fig. 3 is an enlarged detail in perspective showing the connections of the magnet-controlled devices with the time or clock mechanism. Fig. 4 is a diagrammatic plan view showing the circuit connections of the apparatus.

Referring to the accompanying drawings, A represents a suitable base upon which the several parts of the apparatus may be mounted, but it will of course be understood that the entire apparatus will ordinarily be incased within a suitable casing provided with a slot through which the coin may be introduced, so as to drop it onto that part of the apparatus which closes the operating circuit thereof, and it is to be further observed that the

arrangement and manner of mounting the several parts of the apparatus will be varied to accommodate the same to the particular use to which it is placed.

At a convenient point on the base A, is mounted an ordinary spring-actuated clock or time mechanism B, which is intended to regulate the period of time during which the apparatus shall be active for the use required of it, which may be one or more minutes, but, as illustrated, the time mechanism B, is adapted to run uninterruptedly for periods of one minute each after the coin has been deposited in the apparatus, and to secure this result one of the shafts of said mechanism carries a plain or imperforate stop wheel C, provided with a single notch or slot D. The said mechanism is also provided with the ordinary escapement lever E, which is located at a point above the stop wheel C, and is provided with a twisted end F, which is engaged and disengaged, simultaneously with the stop-wheel, by the magnet controlled devices that are operated by the adjacently arranged electro-magnets G.

The electro-magnets G, are mounted on the block g, at a point near to the clock or time mechanism B, and are designed to control the movements of the spring armature H, made fast at one end as at h, to the magnet bracket or frame h'. The spring armature H, has the free end thereof extended into a contact arm I, provided at its outer end with the angled catch tongue J, which is adapted to normally project through the notch or slot D, in the stop wheel C, and thereby prevent the clock or time mechanism from running. Attached to the contact arm I, of the spring armature near the tongue end thereof is the upwardly projecting stop arm K. The upwardly projecting stop-arm K, is provided with the laterally bent stop-end k, which is adapted to engage against the twisted end F, of the escapement lever, so as to hold such lever at one side of the dead center, so that when the arm K, is moved away from the escapement lever, simultaneously with the disengagement of the tongue J, with the stop wheel C, the time or clock mechanism will start at once and continue running for one minute.

The electro-magnets G, are energized when the same are closed in the circuit with the



battery L. The battery L, is arranged in any convenient location, but preferably on the base A, with the other parts of the apparatus, and the battery wire 1, connected with one of the binding posts of the battery L, leads to and is electrically connected with the axle M, of the side flanged tilting coin tray N. The tilting coin tray N, is of an elongated shape having an outer angled end *n*, which, together with the length of the tray, will provide means for retaining the coin thereon sufficiently long to insure the proper activity of the several parts of the apparatus which are energized by the tilting of said tray. The said coin tray N, is provided with a short end extension O, to which is secured the axle M, journaled in the bearing arms *o*, secured to opposite sides and at the upper end of the supporting post P, arising from the base A. It will be understood that the tilting coin tray N, is adapted to be arranged in a position convenient to receive the coin deposited into the apparatus, and said tray is held normally in an inactive approximately horizontal position by a loose weight connection Q, with the short end extension thereof.

The axle M, of the tilting coin tray N, carries at one end the contact arm R, which is included in the circuit with the battery wire 1, and is adapted to be brought in contact with the contact bracket *r*, attached to one side of the supporting post P, and thereby close the operating circuit of the apparatus. The contact bracket *r*, which forms a circuit closer with the arm R, has electrically connected thereto the magnet wire 2, which leads to one terminal of the electro-magnets G, while the other terminal of the magnets has connected therewith the wire 3, leading to the upright contact spring S, attached to the base and disposed at one side of the contact arm I, of the spring armature. The return battery wire 4 is also connected to this contact spring and leads to the other binding post of the battery L.

Now by reference to Fig. 4 of the drawings, it will be seen that the parts are in such position as to close the operating circuit over the wires 1, 2, 3 and 4, and thereby energize the magnets G, to cause them to attract the armature H. This occurs when the tray N, is tilted by a coin so as to bring the contact arm R, against the contact bracket *r*. At the moment the armature H, is attracted, the tongue J, and the stop-arm K, are disengaged from the time mechanism, which will then run for one minute, and simultaneously with this movement, the contact arm I, of the armature is moved against the upright contact spring S, which closes an external working circuit 5—6, one of the wires of which is connected to one pole of the battery L, while the other wire is connected to the armature H, and it will be seen that when the coin tray rises to its normal position and breaks the contact as R—*r*, the external working circuit will be completed over the wires 5 and 6, the arma-

ture, the upright contact spring, the wire 4, and the battery L. This working circuit 5—6 will be active until the stop wheel brings its notch or slot opposite the slot J, at which moment the spring of the armature assisted by the spring *s* will throw said tongue into the stop wheel notch and stop the mechanism, but while the mechanism is running the external circuit may be used for a variety of different purposes, and for the purposes of illustration I have shown the terminals of the wires 5—6 as connected to the binding posts of one of the coils of an induction coil T, of the ordinary type, which is conveniently regulated by hand to vary the intensity of the secondary current, and connected with the terminals of the other or secondary coil of the induction coil T, is a pair of handles U, which may be grasped by a person to receive a shock.

It will be understood that it is simply necessary to connect the terminals of the wires 5—6 with any electrical apparatus which it may be desirable to operate for a short period of time, so as to adapt the herein described apparatus for many purposes, and I further reserve the right to make any changes in the form, proportion and minor details of construction without materially departing from the spirit or principle of my invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a coin controlled electrical apparatus, the combination of a time mechanism having a stop wheel, a magnet controlled spring-armature adapted to normally engage with said stop wheel and with the escapement lever of the mechanism, an adjacent projected contact spring arranged at one side of the spring armature in the path of its movement to form a contact therewith and to assist in throwing it into engagement with the time mechanism, an operating battery circuit for the armature magnet, a coin-controlled circuit closer included in said battery circuit, and an external working circuit partly completed by the battery circuit and having a circuit closer consisting of said armature and said contact spring, substantially as set forth.

2. In a coin controlled electrical apparatus, the time mechanism having an imperforate notched stop wheel, and the escapement lever of which is provided with a twisted end, F, suitably arranged electro-magnets included in the battery circuit, a spring armature having a right angularly disposed catch tongue adapted to normally project through the notch of said stop wheel, a projected bent stop arm attached to said armature and having a laterally bent stop end K adapted to engage against the twisted end of said escapement lever, a coin operated circuit closer included in the battery circuit of said magnets, and an external working circuit energized by the movement of said armature in one direction, substantially as described.

3. In a coin controlled electrical apparatus,



the combination with the time mechanism and the electrically controlled devices for releasing and stopping the same; of a suitably arranged stationary flanged contact bracket  
5 included in one of the electrical circuits, a normally inactive tilting pivotally mounted coin tray included in the same circuit with said contact bracket and having a swinging contact arm connected to its axle and adapted  
10 to work at one side of and to contact therewith to close such circuit, and separate means for normally holding the tray to a position with its contact arm out of contact with said bracket substantially as described.  
15 4. In a coin controlled electrical apparatus, the combination with the time mechanism and the electrically controlled devices for releasing and stopping the same; of a supporting post, a flanged off-standing stationary contact bracket attached to said post and in-

cluded in one of the electrical circuits, an elongated side flanged tilting coin tray having an axle near one end pivotally mounted on top of said post and included in the same circuit with said contact bracket said tray 25 also having an outer angled end *n*, a swinging contact arm attached fixedly to one end of the tray axle and adapted to be moved against said contact bracket, and a weight loosely connected to the short end of the tray 30 for normally holding the same in an inactive position, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN O. FROST.

Witnesses:

RILEY WALLACE,  
W. C. LOOR.