

(No Model.)

2 Sheets—Sheet 1.

W. R. POPE.

COIN OPERATED INDUCTION COIL.

No. 374,495.

Patented Dec. 6, 1887.

Fig. 1.

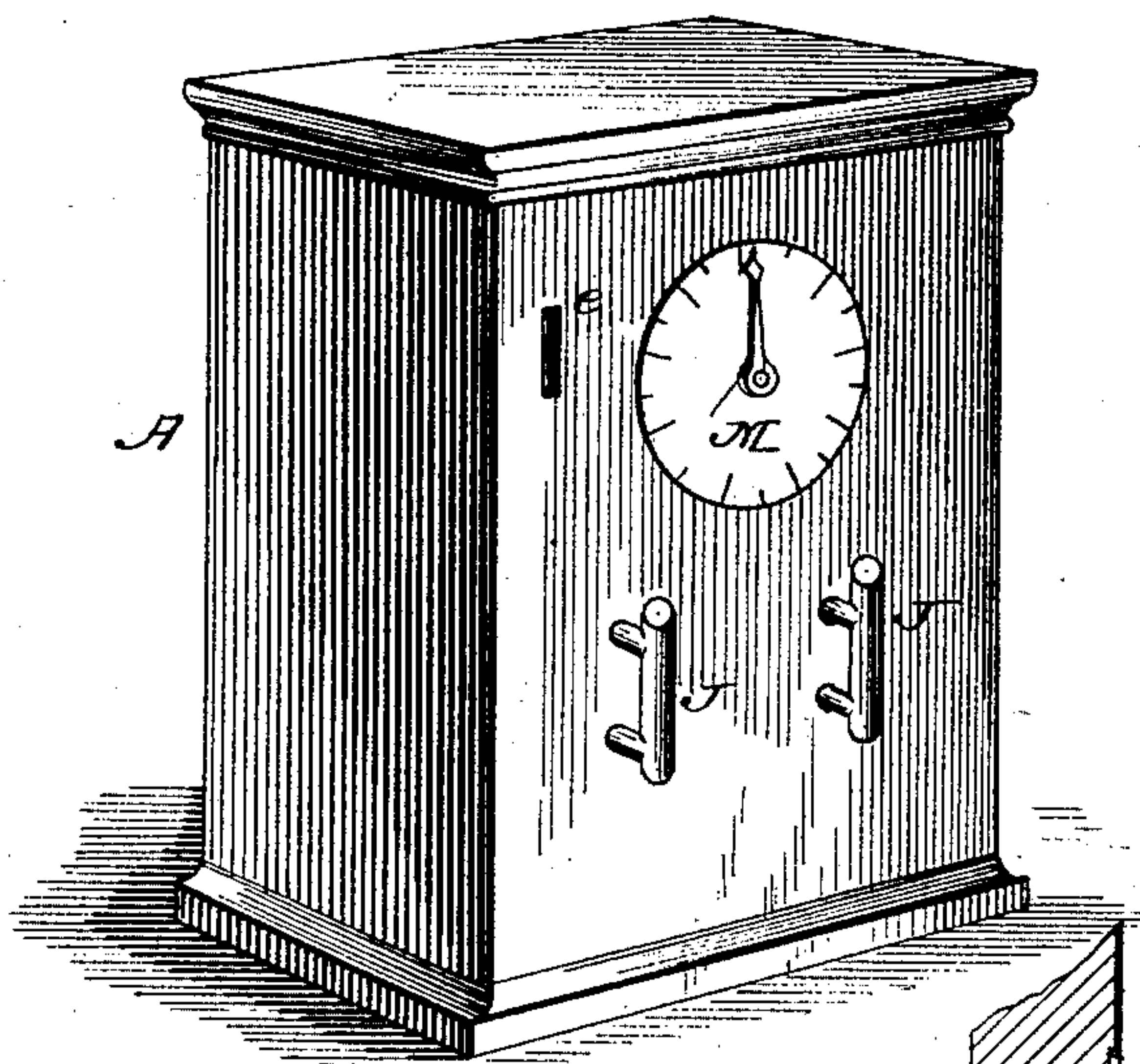
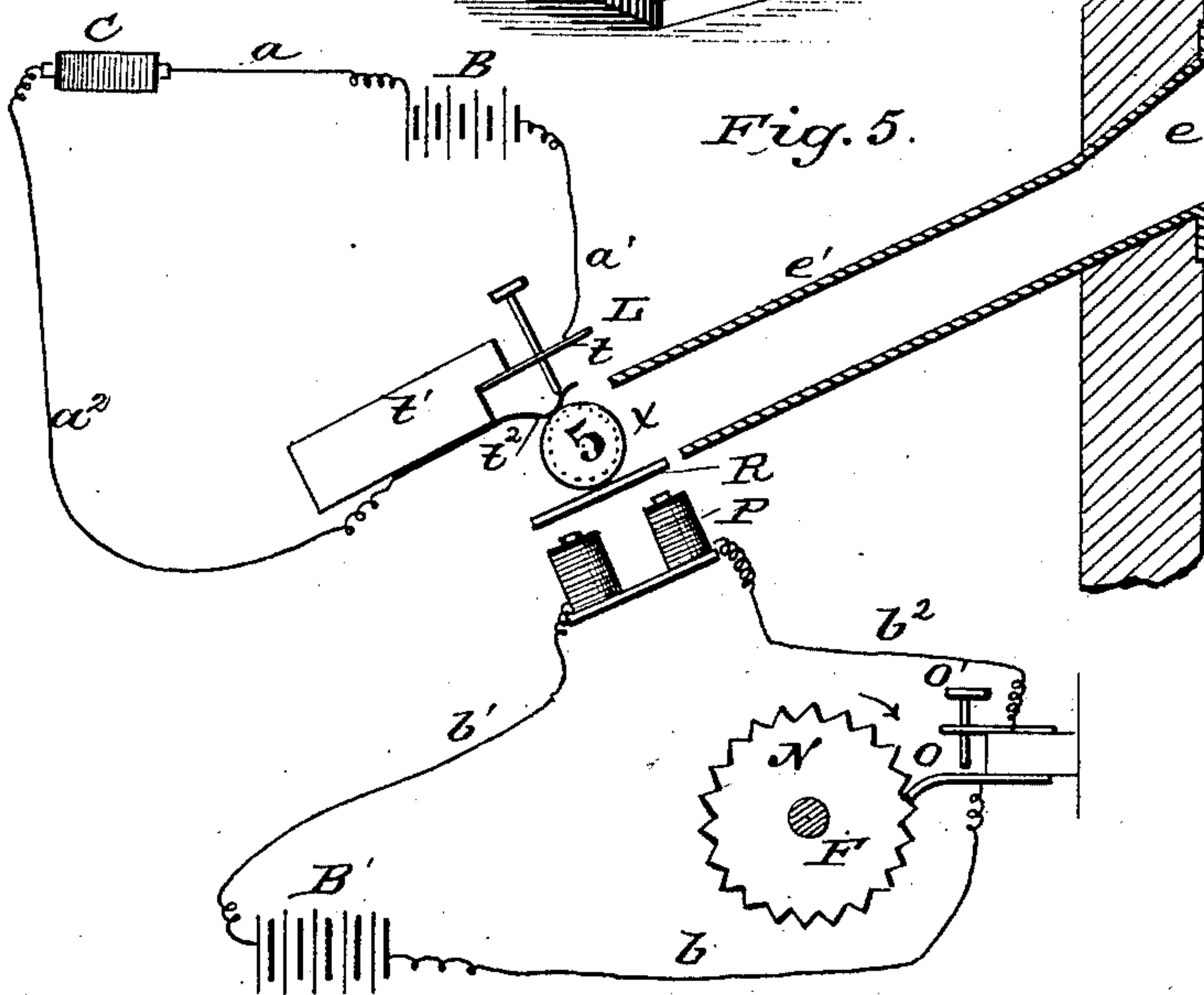


Fig. 5.



WITNESSES:

Fred G. Dieterich
Edw. W. Byrnes

INVENTOR:

W. R. Pope
BY *Munn & Co*

ATTORNEYS.

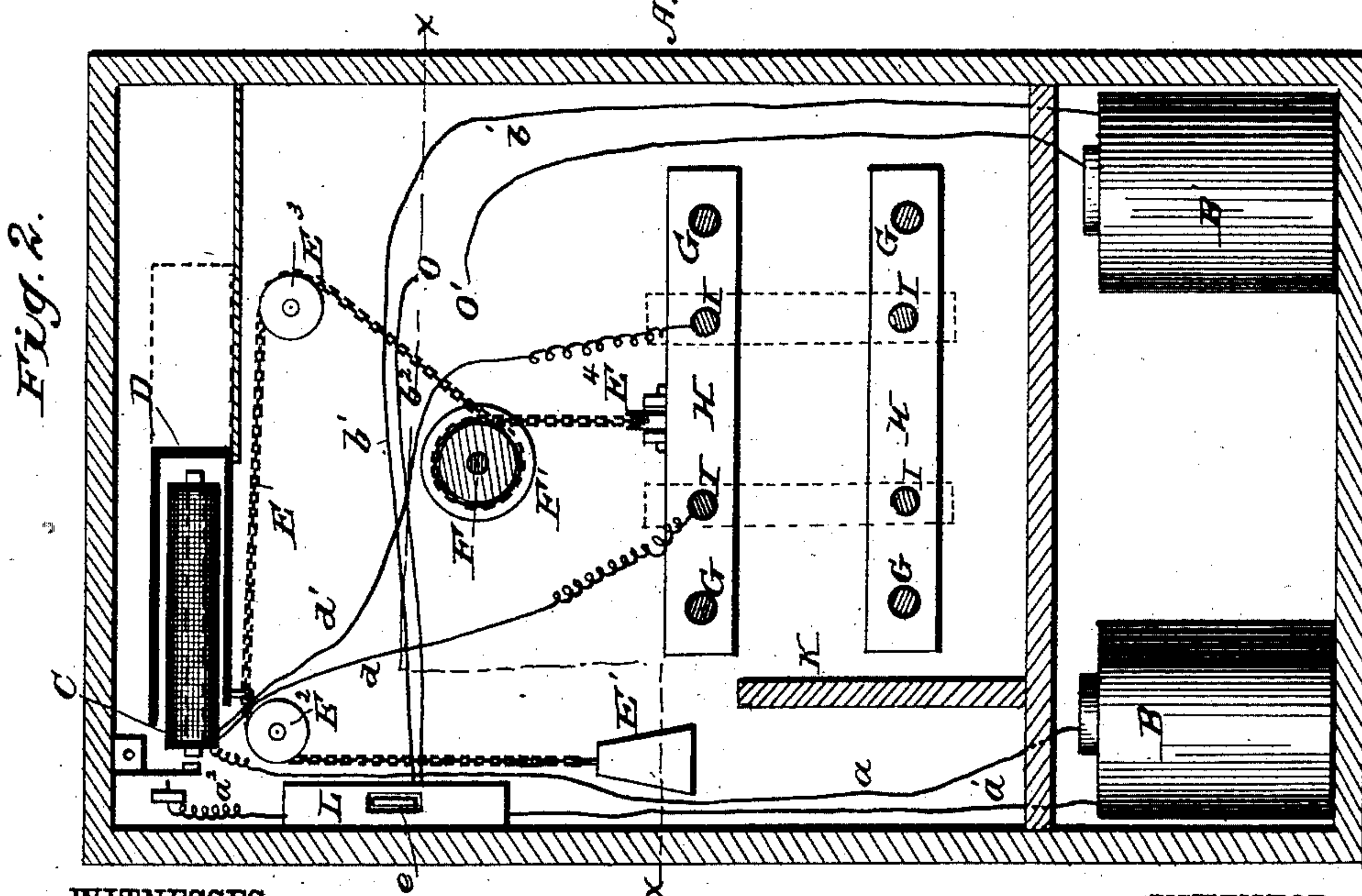
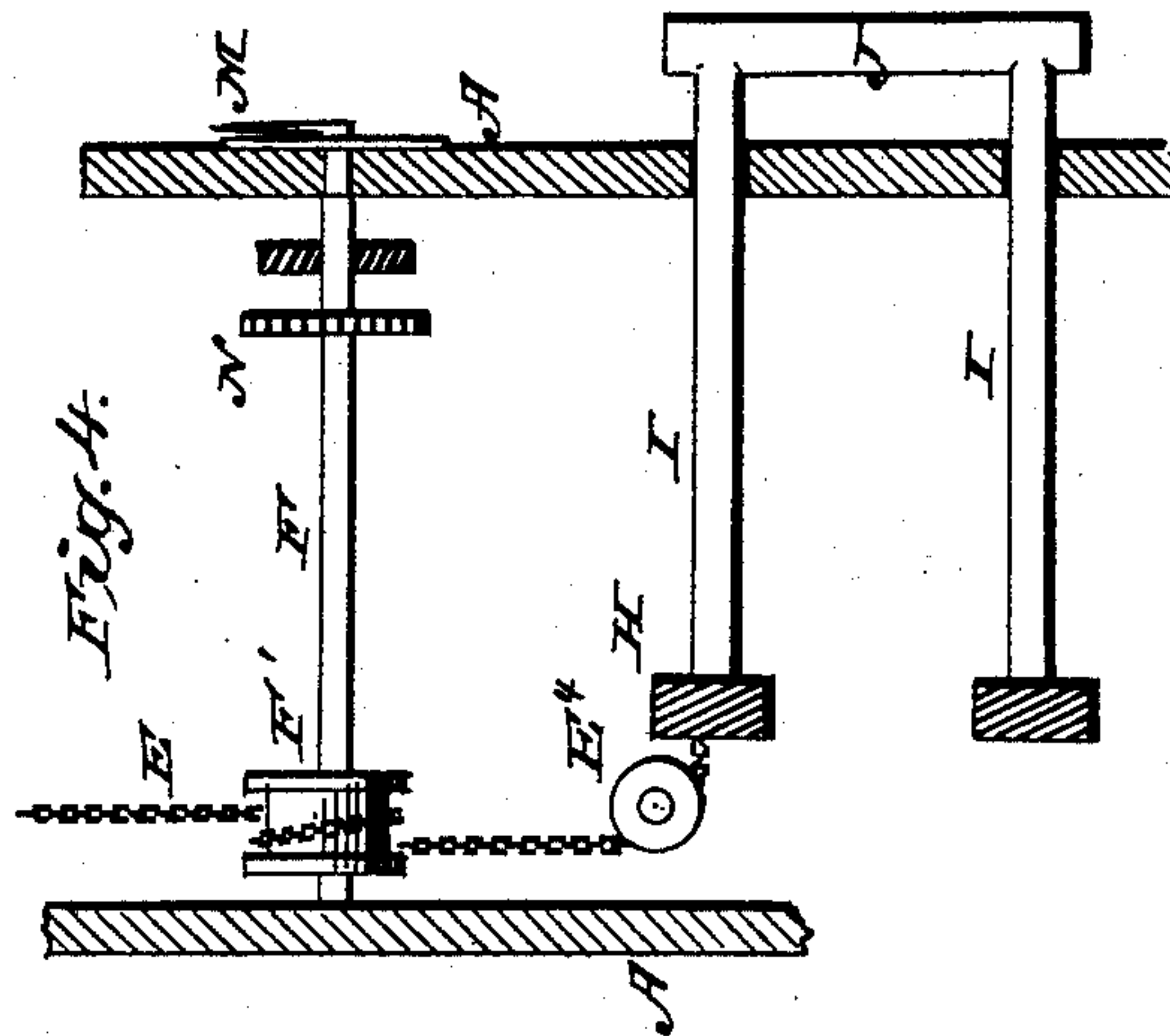
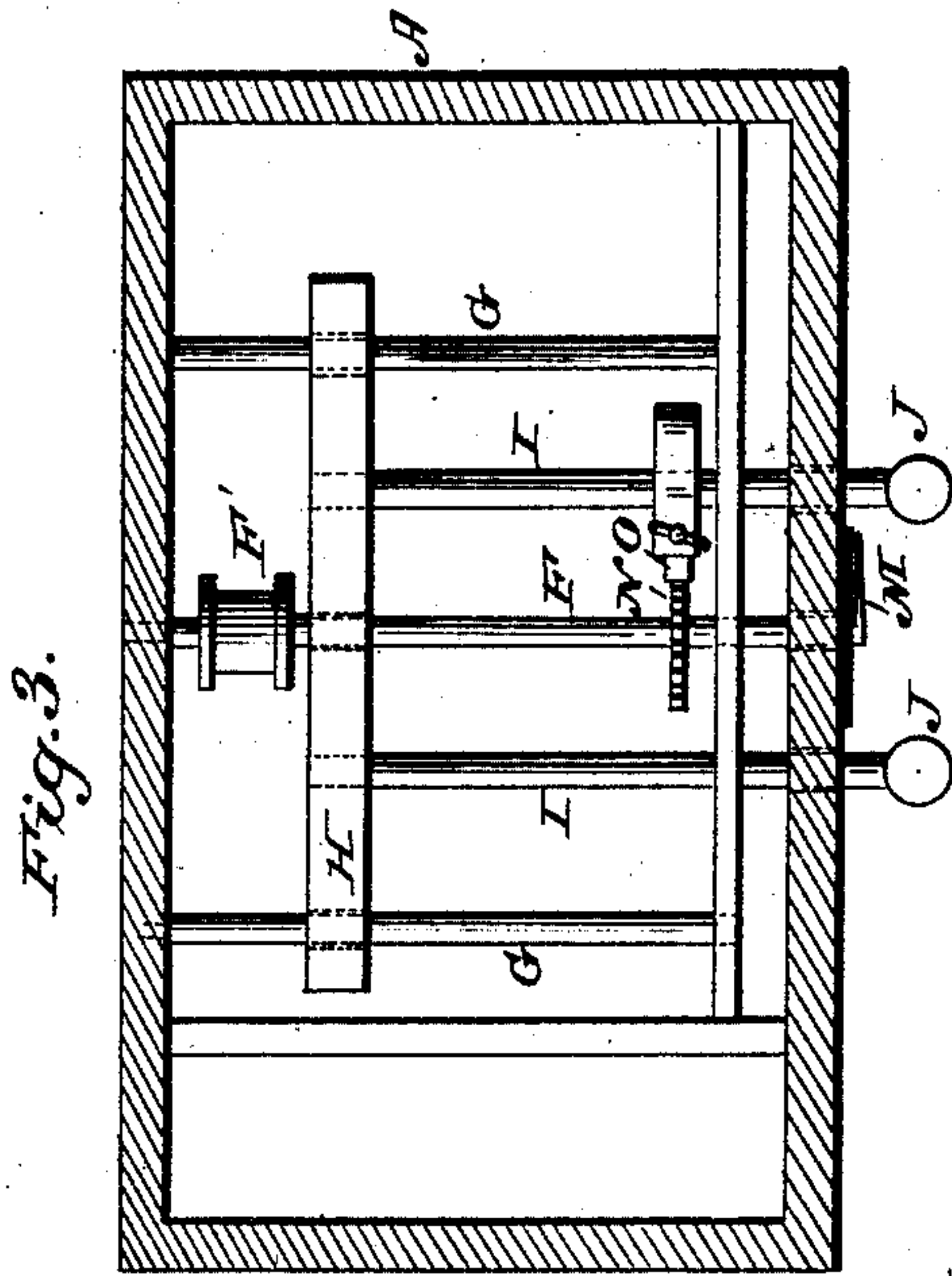
(No Model.)

2 Sheets—Sheet 2.

W. R. POPE.
COIN OPERATED INDUCTION COIL.

No. 374,495.

Patented Dec. 6, 1887.



WITNESSES:

Fred G. Dietrich
Edw. H. Byrn.

INVENTOR:

W. R. Pope
BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM RILEY POPE, OF BALTIMORE, MARYLAND.

COIN-OPERATED INDUCTION-COIL.

SPECIFICATION forming part of Letters Patent No. 374,495, dated December 6, 1887.

Application filed August 31, 1887. Serial No. 248,427. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM RILEY POPE, of Baltimore city, in the State of Maryland, have invented a new and useful Improvement in Coin-Operated Induction-Coils, of which the following is a specification.

The object of my invention is to provide a device for administering electricity for experimental or therapeutic purposes which shall be so constructed that the circuit shall be broken except just at the time when the device is used, and which shall be rendered operative by the insertion of a coin or other detached article, so that the instrument may be set up in public places and left (without an attendant) to care for itself and make its own collection.

To this end it consists in the peculiar construction and arrangement of parts which I will now proceed to describe in connection with the drawings, in which—

Figure 1 is an outside perspective view of the device. Fig. 2 is an enlarged vertical longitudinal section. Fig. 3 is a horizontal section through line *x x* of Fig. 2. Fig. 4 is a vertical sectional view through line *y y* of Fig. 3, and Fig. 5 is a detail view of detached parts connected diagrammatically by circuit-wires.

A represents the outer case, in the face of which (see Fig. 1) is an opening, *e*, for a coin; also a dial-face with an index-hand, M, and also two pulls or handles, J J, which are constructed and connected with circuit-wires within to form positive and negative electrodes. These handles are made adjustable to pull out, and this motion is made to regulate in a progressive way the strength of the current transmitted through said electrodes. The farther the handles are withdrawn the stronger the current. This strength of current is indicated by the index-hand, which, by gearing hereinafter described, has a deflection commensurate with the extent to which the handles are pulled out or the strength of the current. This device in its normal condition of disuse is inoperative, there being no current until a coin (a nickel five-cent piece) is deposited in the opening *e*, which is made to establish a circuit, and is afterward dropped into a receptacle within by the reverse movement of the handles.

The above results are attained by the following mechanism, reference being had to Figs. 2, 3, 4: The electrode-handles J J are connected by rods I I to cross-bars H H, which slide horizontally on guide-rods G G G G, fixed in the case. To the rear side of one of these cross-bars is attached a chain or other flexible connection, E, which passes around a pulley, E¹, then around a drum, F', on shaft F, thence around a pulley, E³, is then connected to the shell D of an induction-coil, C, then passes around a pulley, E², and is attached to a weight, E'. When, therefore, the handles J J are pulled out, it will be seen that the shell D of the induction-coil is drawn off the coil and its power increased. When the handles are released, the gravity of the weight E' draws the shell upon the induction-coil again, and also pulls in the handles. Now, as the handles J J are connected by wires *d d'* with the secondary wire of the induction-coil, it will be seen that a variable charge will be transmitted through the body of the individual grasping these handles.

For the uses of my invention I employ two batteries, B and B'. One of these charges the primary wire of the induction-coil, when the circuit is completed, by the wires *a a'* and the coin-holder L, and the other battery, B', serves, by devices hereinafter described and the circuit-wires *b b' b'*, to release the coin from the coin-holder when the handles are released. Fig. 5 shows in detail how this is accomplished. From the opening *e* in the outer case there is an inclined chute, *e'*, for the coin, which leads to the coin-holder, which consists of an armature, R, and a spring, *t'*, the space between which is too small to allow a coin to pass. The spring *t'* is insulated and held upon a block, *t'*, and is connected to the wire *a'*, that leads to the primary of the induction-coil. Just above spring *t'* is a set-screw, *t*, which is normally out of contact with spring *t'*, and is connected by a wire, *a'*, with the battery, the other pole of which is connected by a wire, *a*, with the other end of the primary wire of the induction-coil. Now, when a coin, *x*, is inserted in the opening *e* and passes down the chute *e'*, said coin lodges between the armature R and the spring *t'* and forces *t'* up into contact with screw *t*, thus establishing the primary circuit

of the induction-coil and rendering the device operative, so that any one grasping the handle-electrodes J J will receive a charge of electricity more or less strong, according to the extent to which the handles are pulled out.

To automatically release the coin and drop it into a receptacle below formed by partition K, Fig. 2, I provide (see Fig. 5 again) a magnet, P, which, by attracting the armature R, releases the coin. This magnet is charged by a current from the battery B' through wires b b' b^2 . This charging is effected by a closure of this circuit by the inward movement of the handles from the influence of the weight E'. As the handles go in, a reverse rotary motion is given to shaft F by the chain E on drum F', and this shaft sets back the index-hand to zero, and also closes the circuit through b b' b^2 as follows: N is a toothed wheel fixed rigidly on shaft F and arranged to have its teeth play against a spring, O. This spring O (see Fig. 5) is a terminal of wire b of Fig. 2, and a screw, O', arranged close to spring O is a terminal of wire b^2 . Now, when the shaft F is revolved in one direction while the handles J are being pulled out, wheel N, Fig. 5, turns in the direction of the arrow, and its teeth pull spring O away from screw O', and the circuit through the magnet P is broken, and the coin is held and the apparatus is operative. When, however, the handles J are released and pass in, the direction of movement of shaft F is reversed and spring O is brought to bear against screw O' by wheel N. This establishes a current from battery B' through the magnet P, which attracts the armature R and drops the coin, the dislodgment of which also breaks at t t^2 the circuit of the other battery, B, and renders the instrument inoperative, so that the batteries do not run down and become exhausted.

In carrying out my invention I do not confine myself to the particular construction and arrangement of parts, as these may be varied to some extent without departing from my invention.

Having thus described my invention, what I claim as new is—

1. In an apparatus for administering electricity, the combination of a pair of handles or electrodes, an electric generator having its circuit-wires connected thereto, and a holder for a coin or other detached article having contact-points arranged in the circuit, whereby the presence of the coin is made to close the circuit, substantially as and for the purpose described.

2. The combination, with a battery and an induction-coil having a movable section, of a pair of adjustable handles or electrodes connected to the secondary circuit-wires, and also to the movable section of the induction-coil, whereby the adjustment of the electrodes is made to move the movable section of the induction-coil and graduate the strength of the current, as set forth.

3. The combination of an induction-coil, two electrodes connected therewith and formed as handles, a connection between the handles and the movable section of the induction-coil, and an index-hand and dial, the said index-hand being connected to and operated by the handles simultaneously with the adjustment of the induction-coil section, substantially as shown and described.

4. The combination, with an induction apparatus, as described, with adjustable handles, a primary wire circuit with coin-holder, and contacts in the same, of a second battery-circuit, and magnet for releasing the coin from the coin-holder, and contacts in said second circuit connected to and operated by the handles on the return movement, substantially as and for the purpose described.

The above specification of my invention signed by me in the presence of two subscribing witnesses.

WILLIAM RILEY POPE.

Witnesses:

EDWD. W. BYRN,
 SOLON C. KEMON.