

No. 640,443.

Patented Jan. 2, 1900.

F. J. CLENDINNEN & G. A. P. WEYMOUTH.
COIN OPERATED PUBLIC TELEPHONE CALL INSTRUMENT.

(Application filed Jan. 20, 1898.)

(No Model.)

2 Sheets—Sheet 1.

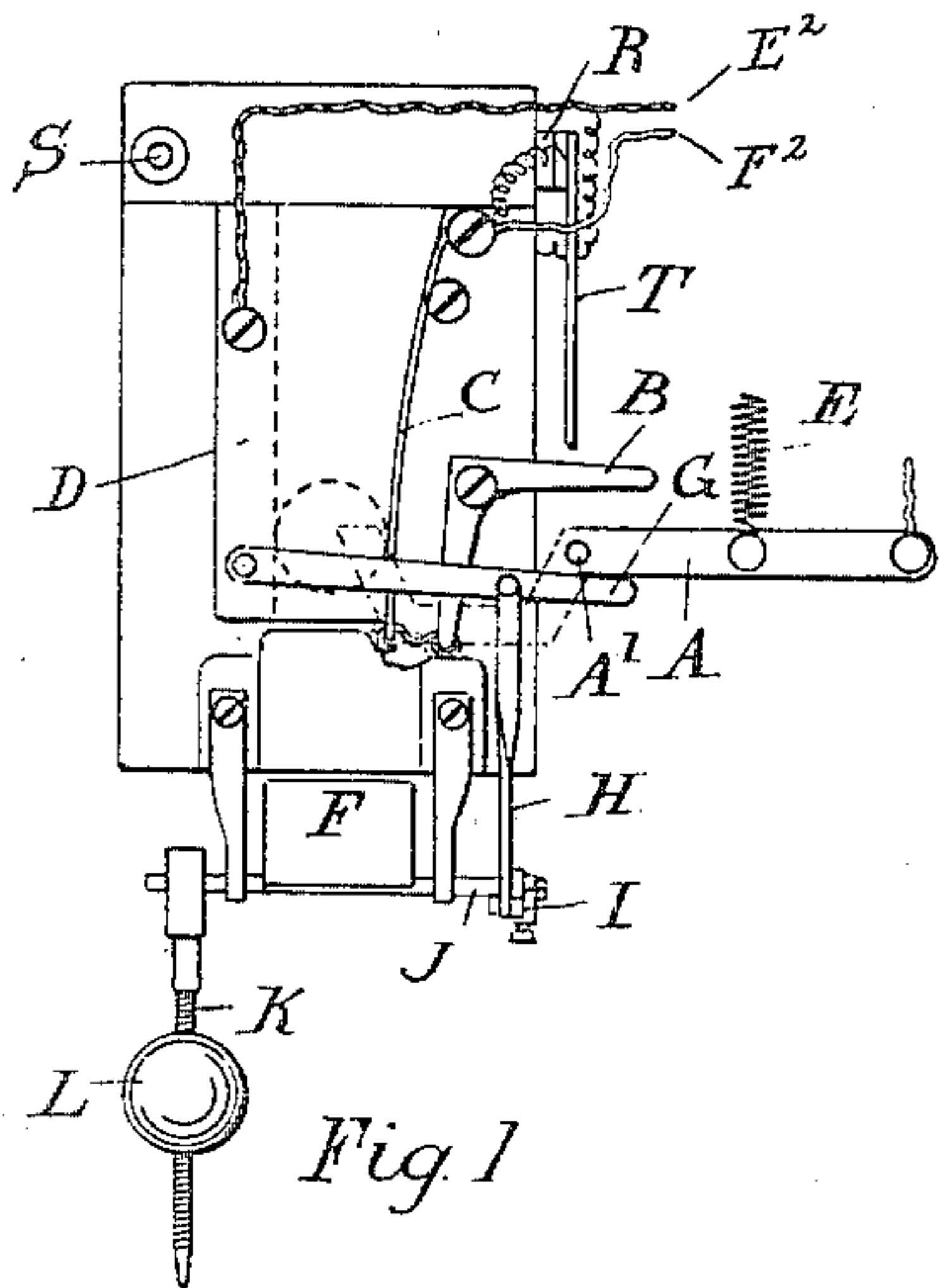


Fig 1

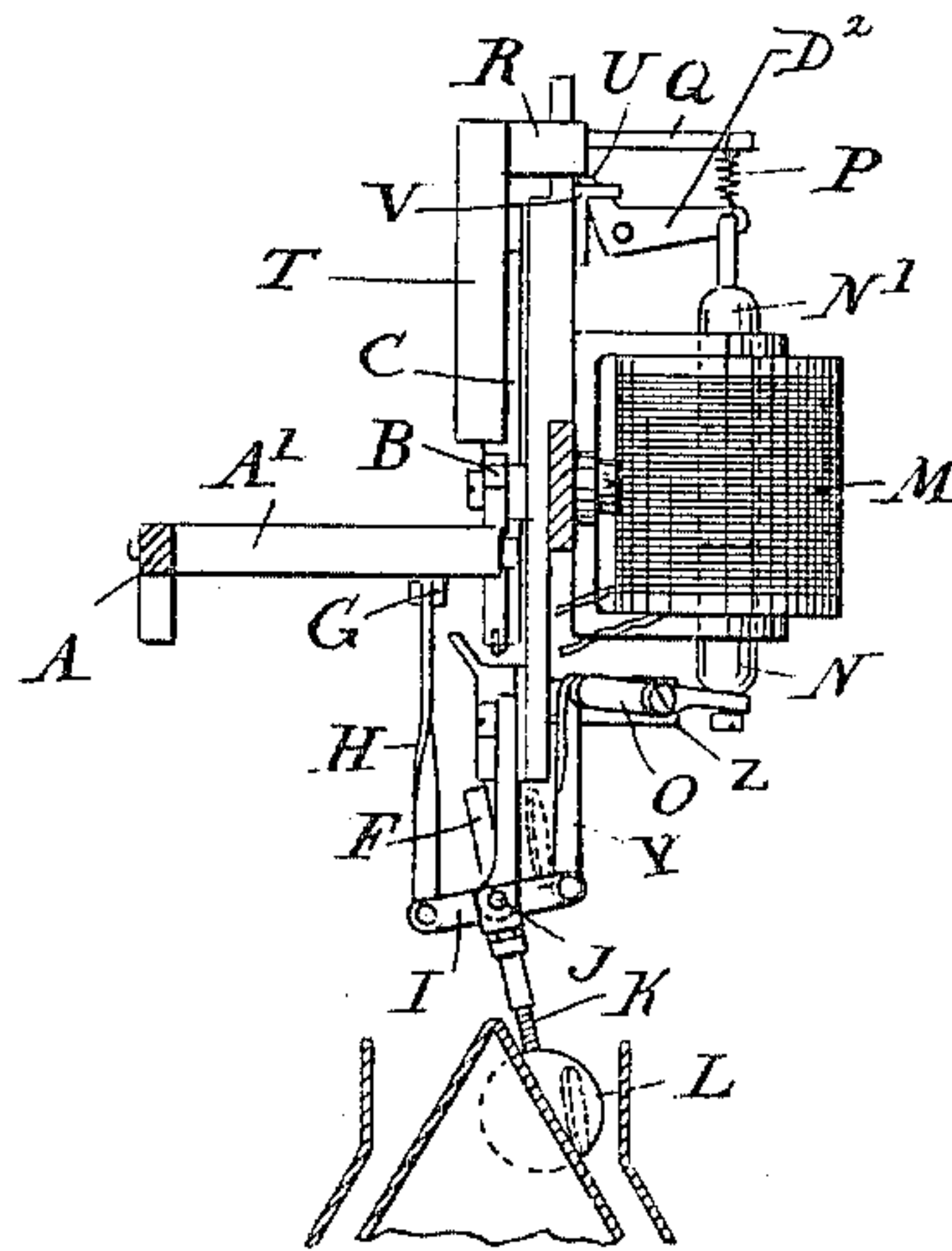


Fig 2

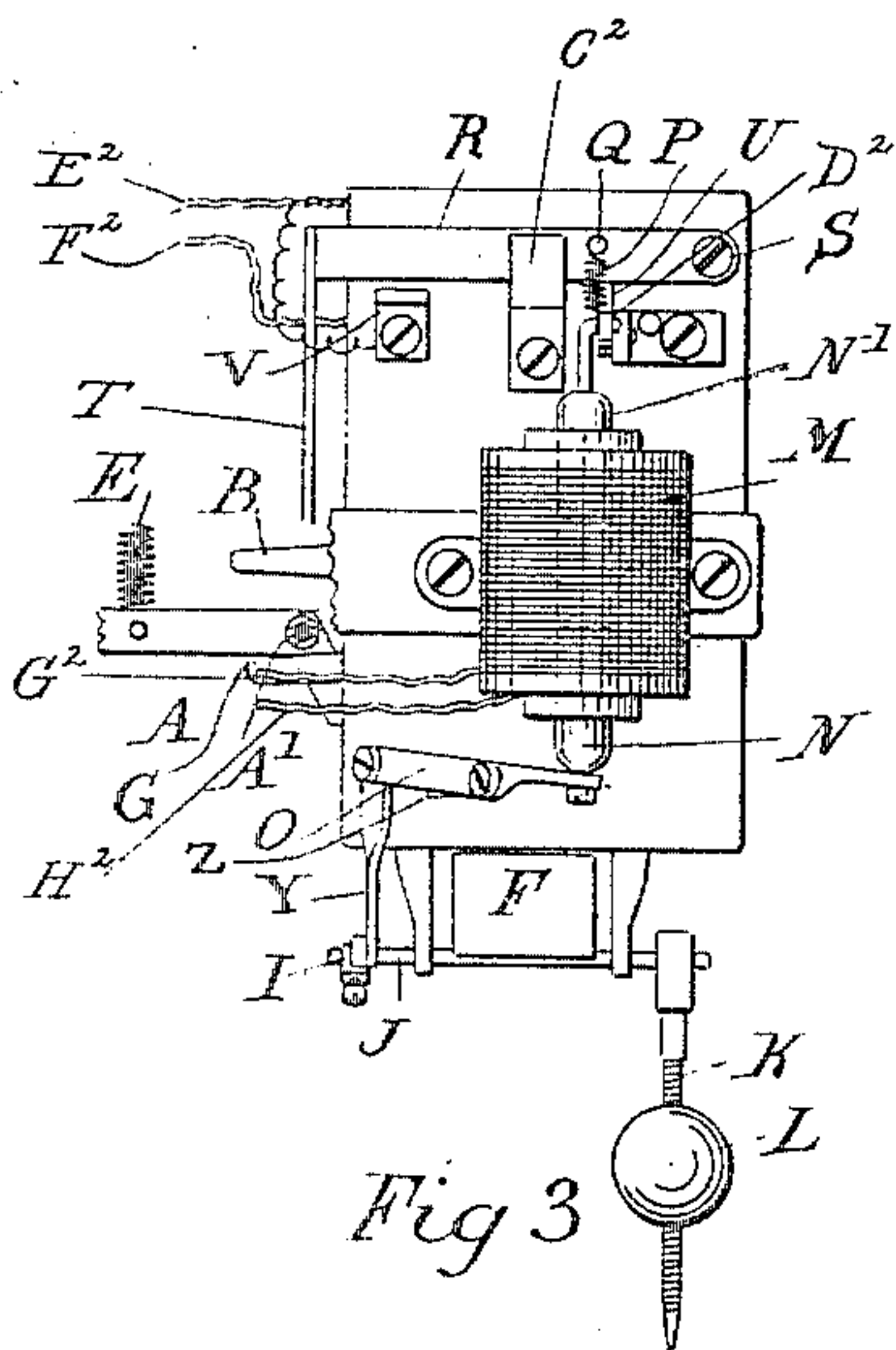


Fig 3

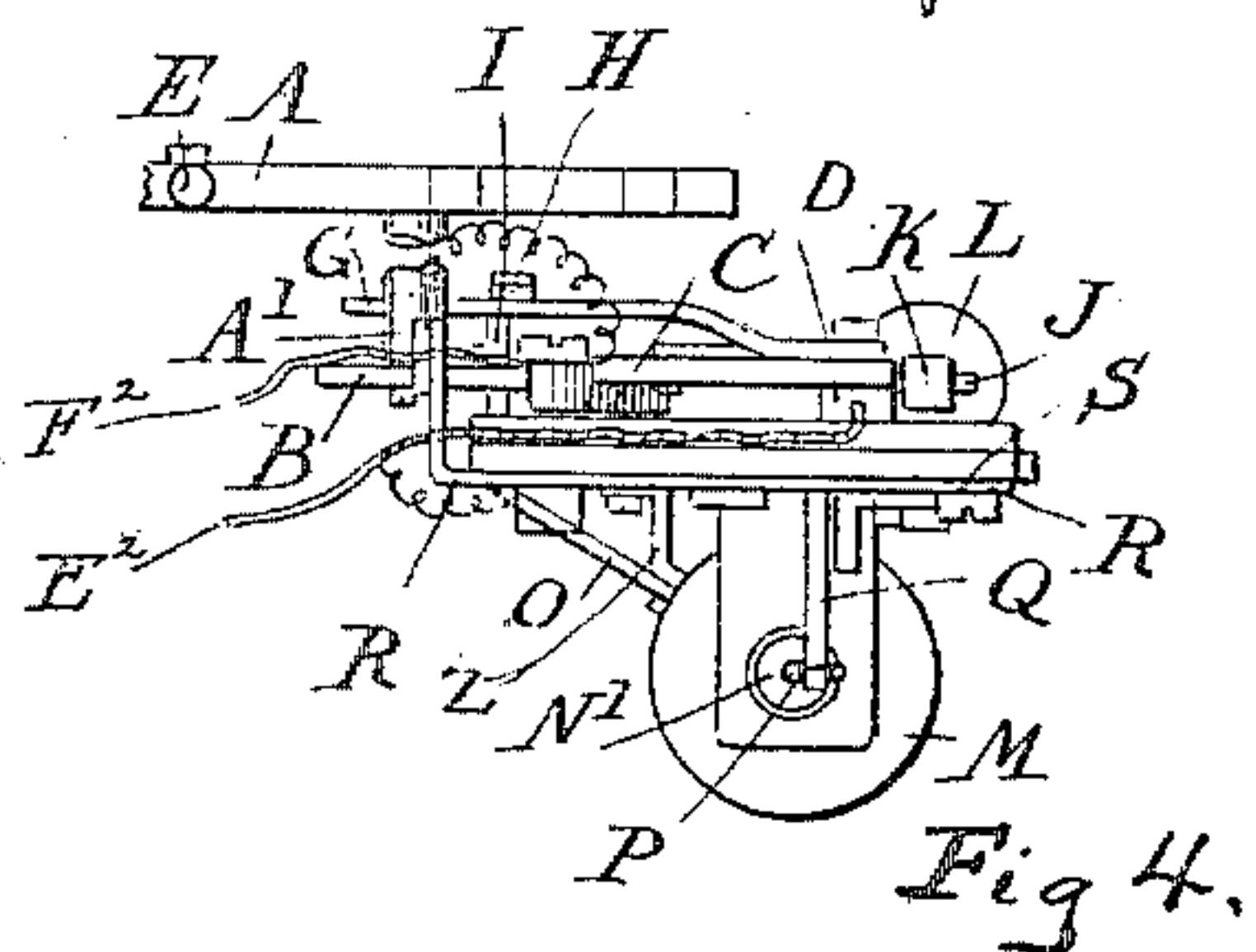


Fig 4.

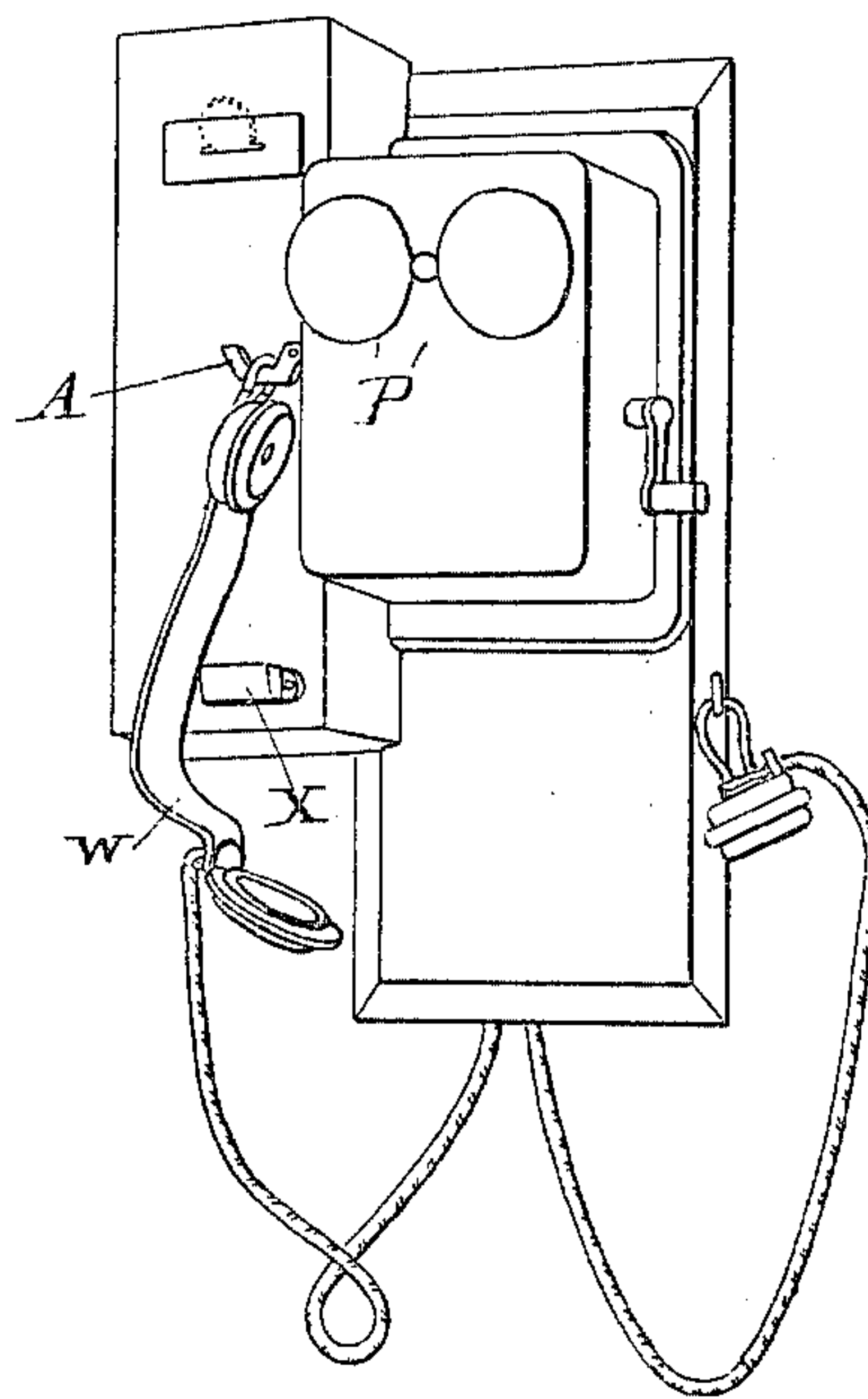


Fig 5

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Fig. 7.

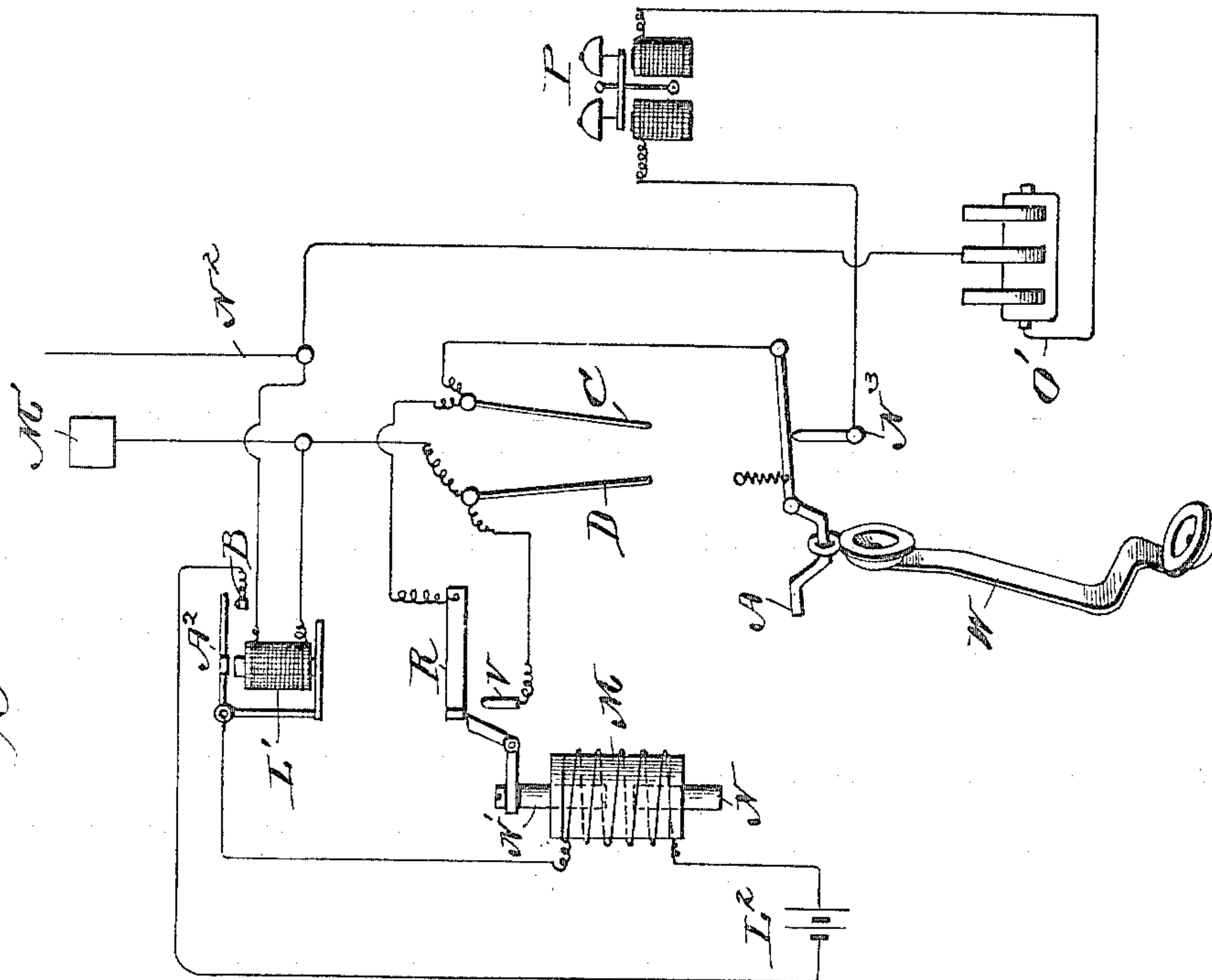
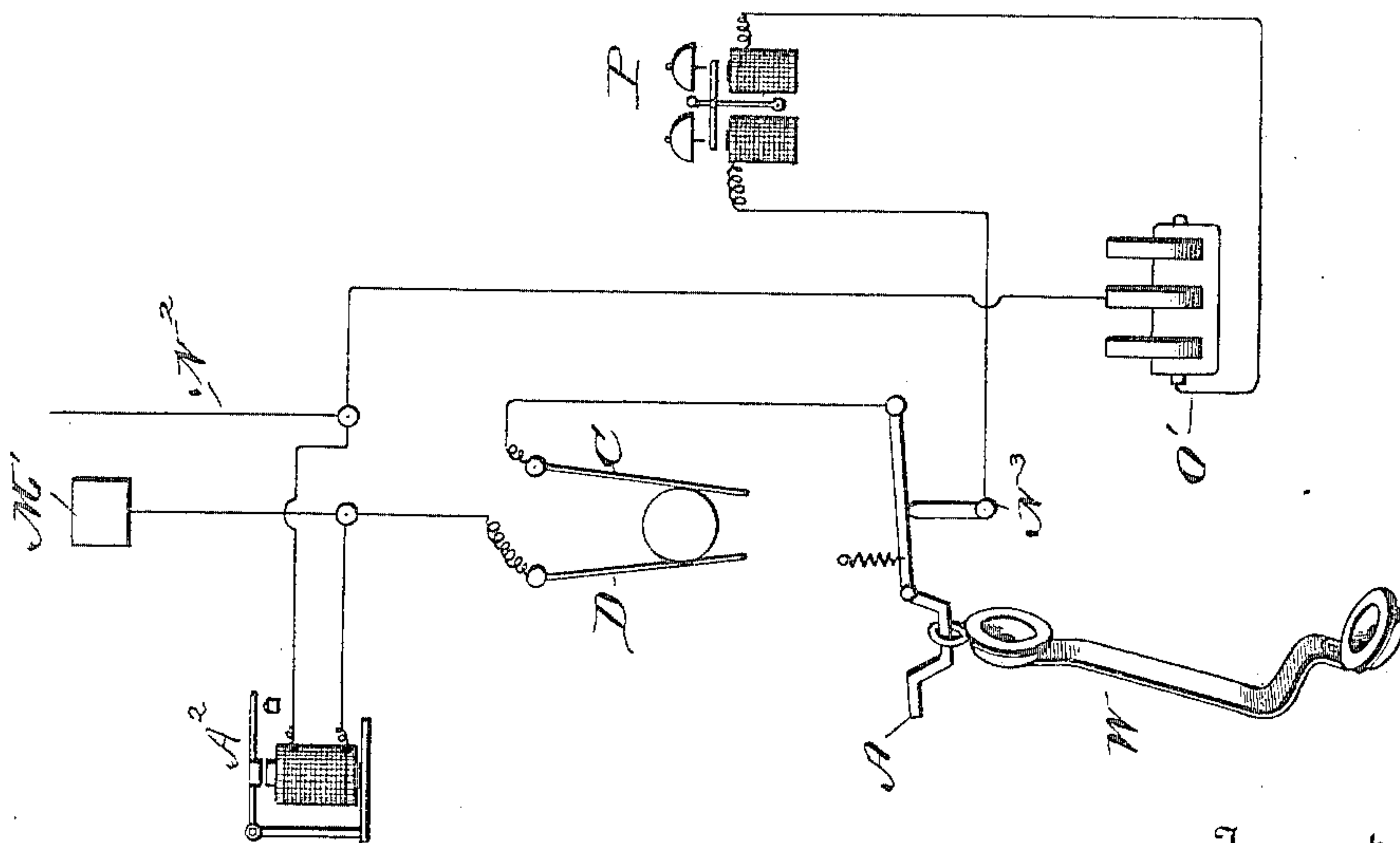


Fig. 6



Witnesses

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UNITED STATES PATENT OFFICE.

FREDERICK JOHN CLENDINNEN, OF HAWKS BURN, AND GEORGE ANDREW PHILIP WEYMOUTH, OF SOUTH MELBOURNE, VICTORIA.

COIN-OPERATED PUBLIC TELEPHONE-CALL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 640,443, dated January 2, 1900.

Application filed January 20, 1898. Serial No. 667,240. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK JOHN CLENDINNEN, doctor of medicine, residing at Haven, Williams road, Hawksburn, and
5 GEORGE ANDREW PHILIP WEYMOUTH, electrical engineer, residing at City road, South Melbourne, in the Colony of Victoria, subjects of the Queen of Great Britain and Ireland, have invented a certain new and useful Improved Coin-Operated Public Telephone-Call Instrument, (Letters Patent being
10 applied for in Victoria, No. 14,522, on the 21st of August, 1897; in New South Wales, No. 8,065, on the 22d of December, 1897; in New
15 Zealand, No. 10,250, on the 24th of December, 1897; in Queensland, No. 42,306, on the 17th of December, 1897, and in South Australia, No. 3,901, on the 15th of December, 1897,) of which the following is a specification.

20 The object of our invention is to provide a telephonic-call box or instrument for the use of the public. By its aid the insertion of a coin into a slot enables a non-subscriber to communicate with the exchange. Should,
25 however, the required subscriber be engaged, the coin is not forfeited, but is dropped out of the machine. Our invention requires no skilled attention in its operation, is applicable to any call-box, and can be quickly and
30 economically attached with the prospect of but little derangement.

Our invention consists of a telephone-call box in which there is a slot for the reception of a suitable coin. The ringing-up circuit in
35 this is normally open, but on the entry of a suitable coin the edges of the same close it. The exchange can then be called in the usual way. If no connection, however, can be obtained with the subscriber desired, the money
40 paid for the conversation is returned.

Referring to the drawings which form a part of this specification, Figure 1 represents a front elevation of the mechanism, all of which for the convenience of illustration is
45 shown as attached to a rectangular piece of ebonite or other insulating material. The whole mechanism, with the magneto, can be in one call-box or it may be situated in another box attached to existing instruments.
50 Fig. 2 shows a side elevation in which a coin has been released from the chute and is fall-

ing into the cash-receipt box. Fig. 3 represents a back view of Fig. 1; Fig. 4, a plan of Fig. 3; Fig. 5, a perspective view, on a small scale, of our instrument when cased in and
55 attached to an existing telephone-box, though, as before said, in new instruments it can all be in one case. On the bottom of the case surrounding our instrument is seen the cash-delivery box into which the coin falls if the
60 would-be user cannot attain his ends. Fig. 6 is a diagram of the circuit used when ringing up exchange, and Fig. 7 is a diagram of the circuit used when calling from exchange.

Similar letters of reference indicate similar
65 or corresponding parts wherever they occur in the several views.

On reference to the drawings it will be seen that A is the line-lever of an ordinary telephone-box, having a magneto O' and bell
70 P' and to the end of which the receiver and transmitter W is hung. Above this lever is pivoted the bell-crank lever B, to the lower arm of which by an adjusting or other link is connected the spring metallic face C. This
75 consists of a piece of sheet-brass or other electric conductor and is of such thickness that the weight of a coin will cause it to spring backwardly. It is pivoted at its top end. On the opposite side of it is the other contact-
80 face D. This is stationary and consists of a piece of brass or other electric conductor. The two faces C and D form the two contact sides of the coin-chute and both of them are in the ringing-circuit. This circuit is closed
85 by the entry of the coin. On the removal of the receiver and transmitter from its lever to communicate with the exchange the said lever, being freed from its weight, is by a spring
90 E lifted. The arm A', projecting from the lever, strikes the upper arm of the bell-crank lever B, which releases the coin and opens the ringing-circuit. The coin then falls on and remains for the allotted time on a tilting
95 platform F. This platform, table, or switch F is secured to the top side of a pivot-pin J hereinafter described. Its top face is smooth and rounded to the circumference of the circle of which it forms a part. As can be well
100 understood the top or coin-bearing face of the tilting table when the pivot-pin J is partially rotated moves either to the front or back of the

coin-chute above it. When it moves to the front, the coin falls into the cash-receipt box, whereas when it moves backward the coin is dropped into the box X. At the expiration of the allotted time for speaking the hanging of the receiver and transmitter on the line-lever causes the said lever to descend, its arm A' striking the top of the lever G. This by a link H is connected to a lever I, secured to the pivot-pin J, upon which the platform F is mounted. To J is secured a threaded rod K, upon which is an adjustable weight L, so that on the completion of a conversation and the replacement of the receiver and transmitter the platform moves outward and the coin falls into the cash-receipt box in the interior; but if the desired subscriber is engaged the exchange sends a battery-current through the relay L', which is of such a resistance as not to interfere with the speaking-circuit. From this connection is made through a solenoid and local battery. This solenoid M has connected to its lower core N a lever O, which is pivoted to a bracket Z. This bracket Z, Figs. 3 and 4, is fixed to the framework of the instrument. On its outer end is pivoted the lever O, which is pivoted near its middle, so that when the desired subscriber cannot be obtained the tilting platform by the core N is moved inwardly, since one end of the lever O is attached to N and the other end by a link Y to the lever I, secured on the pivot-pin J. When the tilting platform is thus operated, the coin is ejected into the return cash-box X. The upper core N' is suspended by a spring P to an arm Q, projecting from a lever R. This is pivoted at S and is guided in its traveling movement by a bracket C², Fig. 3. Depending from the traveling end of the lever R is a resetting-piece T, operated as hereinafter described. Pivoted to the top of the upper core N' is the lower arm of a bell-crank lever D², Fig. 2. This is pivoted as seen in the said Fig. 2, and its upper arm U, Figs. 2 and 3, by the tension of the spring P is pressed close against the ebonite. Resting upon the top of the arm U is the lever R, and directly the upper core is drawn into the solenoid its upper arm is removed outwardly from beneath R. The lever R thus released falls upon the stop V, Figs. 2 and 3, and makes contact therewith. The lever R is lifted and the arm U again placed beneath the lever R by the lifting of the receiver and transmitter W, Fig. 5, from the line-lever A, since the spring E, Fig. 1, lifts the said lever A, from which, as before said, projects the arm A'. This arm A' strikes beneath and lifts the upper arm of the bell-crank lever B, which in its turn lifts the resetting-piece T before alluded to.

The ringing-circuit connecting the two sides of the coin-chute are shown by the wires E² and F², Figs. 1 and 4. The solenoid-circuit is lettered G² and H².

Should the exchange desire to ring up the proprietors of the shop or office in which the

call-box is located, it is accomplished by sending a battery-current along the line and through the aforesaid relay L'. This connects the local battery L² and solenoid M, as hereinafter described, and withdrawing the arm U from beneath lever R allows the latter to fall onto V. The ringing-circuit is thereby completed. The removal of the receiver and transmitter W from the line-lever A causes the said lever to be raised by its spring and also resets the said lever and arm and once more opens the ringing-circuit.

If the exchange informs a person who has prepaid that the subscriber or other person to whom he wishes to speak is engaged, the receiver and transmitter must not be placed on its hook on the line-lever until the coin is ejected. When once the coin is paid, the conversation must either be obtained or the coin returned before the receiver and transmitter is hung.

As shown in Fig. 6, the ringing-circuit closed by the entry of the coin is from the line-wire N² through the magneto, thence through the bell, thence through contact-spring N³, Figs. 6 and 7, and line-lever to contact-spring C, which forms part of the slot connection, then through the coin to fixed contact D, thence to the earth-plate through the earth and exchange-shutter, and back along the line-wire. It will be noticed that the relay L' is always connected across the line and earth wires; but owing to its high resistance and self-induction it is not affected by the ringing or speaking currents nor does its being in circuit affect them.

As shown in Fig. 7, when ringing up from exchange there is an open circuit in the ringing-circuit, as there is no coin in the slot. So the method of procedure is as follows: A continuous current from six cells is sent along the line, which magnetizes the relay and draws down the armature A² into contact with contact B, which completes the local-battery circuit through solenoid M, which at once draws in the two plungers N and N'. As N' is drawn down it pulls the crank, which releases the lever R, which then drops and makes contact with the stop V. This, it will be noticed, short-circuits the slot, as V is connected to D and R is connected to C. Now the exchange can ring up, their magneto-current coming along the line N², through magneto-frame and bell, through N³ and line-lever to C, thence through R to V, thence to D and the earth-plate back to the exchange. The return of the coin is effected in the same way as ringing up from the exchange end. A continuous current from six or more cells is sent along the line, which magnetizes the relay and draws down the armature A² into contact with contact B, which completes the local-battery circuit through solenoid M, which at once draws in the two plungers N and N'. As N is drawn in the tilting table F (referring to original drawings) is so turned or tilted by the connecting links and levers that the coin which was

resting on the top of the said table is thrown out and into the tray X, from which its owner secures it.

The speaking-circuit we have nothing to do with, and it is in no way interfered with by putting our attachment onto existing telephones.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In combination with the coin-chute of a coin-controlled telephone, a tilting platform arranged under the said chute, a solenoid having two cores, one of which is connected to the said platform for tilting the latter, means for energizing the said solenoid, bell-ringing devices actuated by the line-circuit, which is closed by the other core of the said magnet substantially as set forth.

2. In an improved coin-operated telephone instrument, an alarm and electric circuit conductors provided with contacts arranged for closing the circuit by the interposition of a coin, in combination with the conductors of an additional electric circuit and electromagnetic means for closing the same, both of these circuits being arranged to operate the alarm, in order that the occupants of the house or shop containing it may be rung up whenever the exchange desires to communicate with them and that the instrument may be used whenever the proper coin is dropped into the slot, substantially as set forth.

3. An improved coin-operated telephone instrument for public call having beneath the coin-chute a tilting platform which, by the replacement of the receiver and transmitter on its line-lever discharges the coin into the cash-receipt box or on a battery-current from

the exchange by means of a relay, a local circuit closed by said relay and a solenoid energized by the said local circuit, repays the said coin, all as and for the purposes hereinbefore described.

4. An improved coin-operated telephone instrument for public call consisting of a coin-chute below which is a tilting platform retained vertically by a balance-weight and pivoted in bearings, said table being moved forwardly by a lever, and a link attached to a lever moved by an arm on the line-lever, and moved backwardly by a battery-current which from the exchange and through a relay draws into a solenoid a lever-core attached to a lever having a link thereon connected to a lever on the platform pivot-pin or spindle, all as and for the purposes hereinbefore described and as illustrated in the drawings.

5. An improved coin-operated telephone instrument for public call in which the ringing-circuit is closed by a battery-current from the exchange passing through a relay, a local circuit closed by the said relay and a solenoid energized by said local circuit, the upper core of which draws downwardly a bell-crank lever thereby releasing a lever which falls upon a stop and completes the circuit, all as and for the purposes hereinbefore described.

In witness whereof we have hereunto set our hands in presence of two witnesses.

FREDERICK JOHN CLENDINNEN.
GEORGE ANDREW PHILIP WEYMOUTH.

Witnesses:

EDWIN PHILLIPS,
CECIL W. LE PLASTIER.