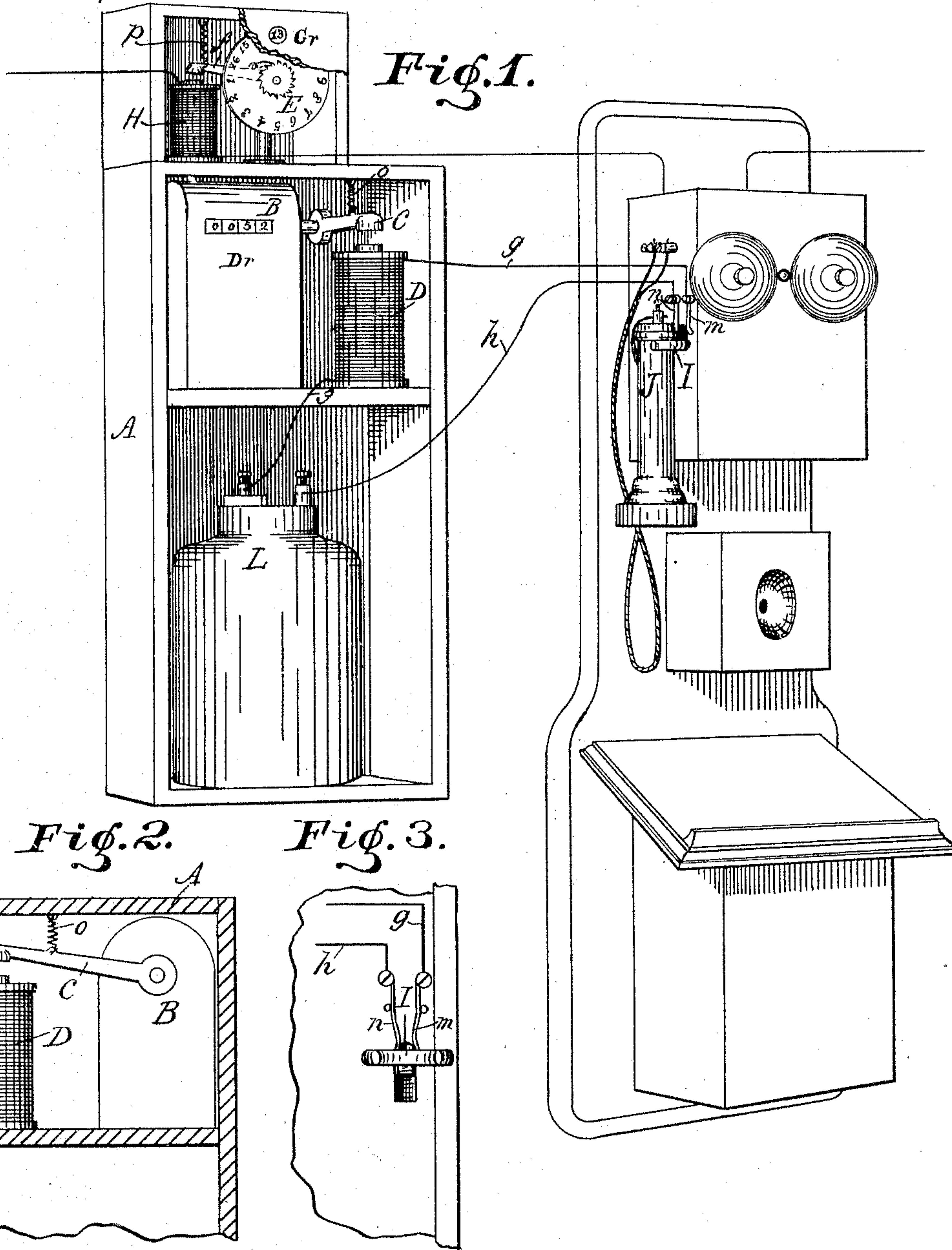


(No Model.)

C. WITTENBERG.
TELEPHONE REGISTER.

No. 355,743.

Patented Jan. 11, 1887.



Witnesses.

Cha. Leonard.
H. P. Hood.

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UNITED STATES PATENT OFFICE.

CHARLES WITTENBERG, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO EDWARD
G. CORNELIUS, OF SAME PLACE.

TELEPHONE-REGISTER.

SPECIFICATION forming part of Letters Patent No. 355,743, dated January 11, 1887.

Application filed April 19, 1886. Serial No. 199,362. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WITTENBERG, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Telephone-Registers, of which the following is a specification.

My invention relates to an improved means for registering the number of times that a telephone apparatus is used, for the purpose of assessing tolls thereon.

The objects of my improvement are, first, to operate a registering mechanism by means of an electric circuit which is closed automatically each time the telephone is used; and, second, to provide a second registering device to be used in connection with the first, but adapted to be operated by a different electric circuit directly from the central telephone-station, for the purpose of recording credits to the telephone user, all as hereinafter fully explained.

The accompanying drawings illustrate my invention.

Figure 1 represents my registering device in perspective, showing its connection with a telephone apparatus. Fig. 2 is a partial section, on a larger scale, showing the means for operating the register. Fig. 3 is a partial side elevation of the telephone apparatus, showing the means for closing the electric circuit which operates the register.

A represents a closed case from which the front wall has been removed.

B represents a register of some well-known form, as a series of disks bearing numerals on their peripheries and arranged to be operated successively by a single actuating-lever, *c*. Said lever forms also an armature for the electro-magnet D, and is suspended above the magnet by a spring, *o*.

E represents a second register of some well-known form, as a disk having on its face a series of numerals and arranged to be turned by an actuating-lever, *f*. Said lever also forms an armature for the electro-magnet H, and is suspended above the magnet by a spring, *p*.

I represents the well-known automatic telephone switch-lever, which has a short vertical movement, being held down by the weight of

the telephone-receiver J, and rising automatically when the receiver is removed.

The electro-magnet D is placed in an electric circuit, represented by the battery L and wires *g* and *h*, having a pair of disconnected terminals, *m* and *n*, arranged opposite each other on the telephone-case, so as to closely embrace between them the switch-lever and receiver-support I when in its raised position, as shown in Fig. 3. The electro-magnet H is arranged in the branch electric circuit or line-circuit, in which the telephone apparatus is situated, and the arrangement and tension of spring *p* is such that the ordinary current passing through the line is not of sufficient strength to cause the magnet H to move the lever *f*; but when an additional or extra impulse is sent through said line, as from a strong supplemental battery, the lever is then drawn down to the magnet, and the register thereby carried forward one point.

The operation of my device is as follows: When the telephone-receiver J is removed from the lever I, the upward movement of said lever brings it between and in contact with both of the terminals *m* and *n*, and the lever being a good conductor, the electric circuit in which the magnet D is included is thereby completed, and the magnet becoming energized lever *c* is drawn downward and the register B carried forward one point. When the receiver is again placed on its supporting-lever, the current through D is broken, and lever *c* is returned to its normal position by the spring. This register represents the debtor side of the account between the user of the telephone apparatus and the exchange. In case the exchange or central station cannot make the connection desired, the user of the telephone is so informed, and the operator at the central station then sends an electric impulse through the line-circuit, which energizes the magnet H sufficiently to overcome spring *p* and bring down lever *f*, which is returned to its normal position by the spring when said impulse has ceased, thereby moving the register E forward one point.

In making up a statement of tolls due for the use of the telephone, the user is debited with the points shown on register B and credited with the points shown on register E.

I claim as my invention—

1. The combination of a telephone apparatus, an electro-magnet arranged in an independent electric circuit, said electric circuit
5 having a pair of normally-disconnected terminals attached to said telephone apparatus, a register having an actuating-lever arranged to form an armature for the electro-magnet, and a lever forming a part of the telephone apparatus
10 and arranged to electrically connect said terminals, all arranged to co-operate substantially as and for the purpose specified.

2. The combination, at a subscriber's station, with a telephone, of an electro-magnet arranged in the line-circuit with which said telephone is connected, and a register having an actuating-lever arranged to form an armature for said magnet, whereby the operator at a central station may make a record at the subscriber's station, substantially as and for the purpose
20 specified.

3. The combination, at a subscriber's station, with a telephone, of a register adapted to be operated by an electro-magnet which is energized by an electric impulse sent through the
25 line-circuit with which the telephone is connected, a second register adapted to be operated by an electro-magnet which is energized by a local electric circuit having normally-disconnected terminals attached to the telephone,
30 and means, substantially as shown and described, for closing said circuit by a movable part of the telephone apparatus, all arranged to co-operate substantially as and for the purpose specified.

CHARLES WITTENBERG.

Witnesses:

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