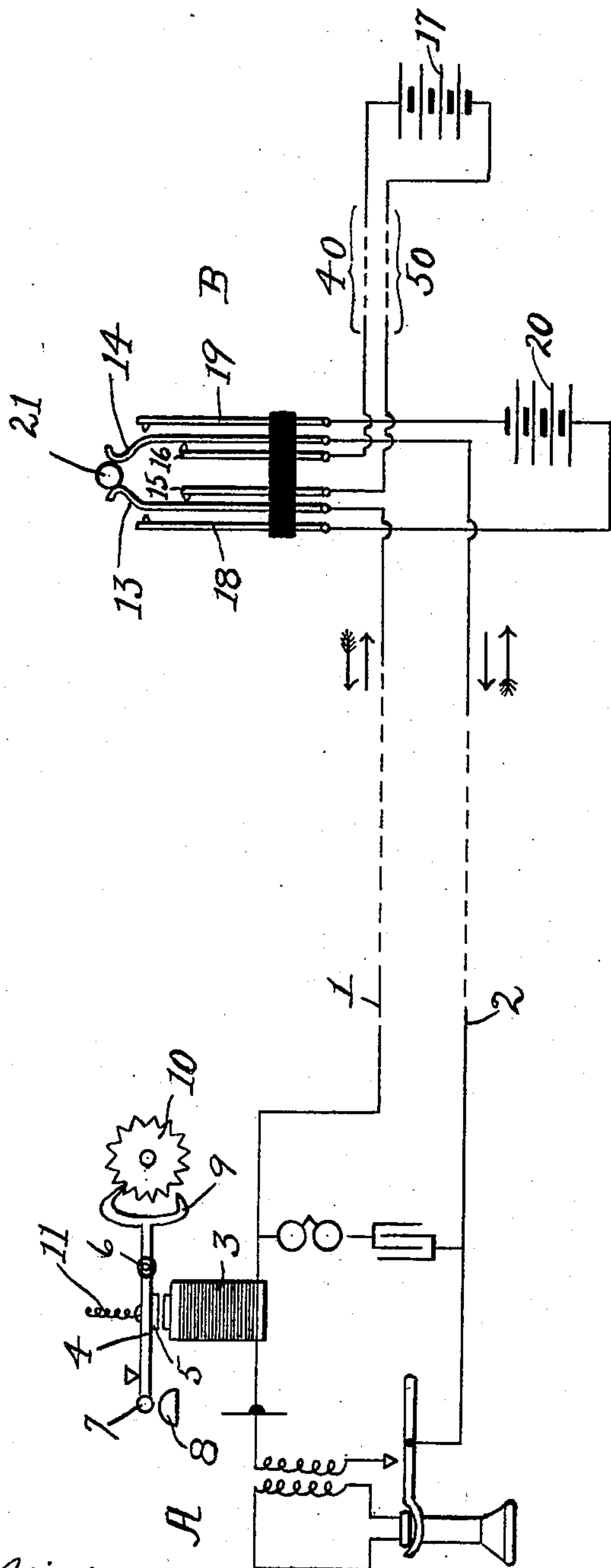


No. 886,220.

PATENTED APR. 28, 1908.

I. KITSEE.
REGISTERING TELEPHONE CALLS.
APPLICATION FILED JUNE 26, 1907.



WITNESSES:

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REGISTERING TELEPHONE-CALLS.

No. 886,220.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed June 26, 1907. Serial No. 380,959.

To all whom it may concern:

Be it known that I, ISIDOR KITSEE, citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Registering Telephone-Calls, of which the following is a specification.

My invention relates to an improvement in recording telephone calls.

Its object is, to record such calls in a simple and efficient manner.

In carrying out this, my invention, I have taken into consideration: 1st: that the call should be registered at the subscriber's station. 2nd: that the subscriber should be notified of such registering. 3rd: that the operator at the exchange should only be able to register during the time that the line is busy.

The drawing represents in diagrammatic view a telephonic circuit provided with an outlying or subscriber's station, the circuit centering in an exchange, and provided with a registering device.

A designates the outlying station and B the exchange.

1 and 2 are the two lines representing the telephonic circuit.

At the subscriber's station, A are the usual transmitting and receiving devices, here only shown in conventional sign. At this station is also placed the electro-magnet 3, the coil of same being connected in series as to one of said lines, here shown as line 1. In proximity to this electro-magnet is the lever 4 provided with the armature 5. This armature is polarized and this polarization is a necessity in the carrying out of this, my invention. At one end, the lever is provided with the clapper 7 and at the other end with the means 9 to actuate a registering device, here only represented by the toothed wheel 10. In proximity to the clapper 7 is the gong 8. The lever is fulcrumed at 6 and is provided with the spring 11. In the exchange, the lines 1 and 2 are normally connected to the common battery 17. I have not shown the different devices necessary for the manipulation of this circuit, as these devices may differ with the different systems employed. In the exchange, the circuit is also provided with the switching device comprising the movable conductors 13 and 14, here shown as to be connected permanently to the circuit proper. These

conductors are normally in contact with the conductors 15 and 16 and through same with the battery 17. In proximity, but normally out of contact with the conductors 13 and 14 are the conductors 18 and 19, here forming the terminals of the battery 20. 21 is the means to actuate this switching device.

In the drawing, the common battery 17 is shown as to be connected with the positive pole to the line wire 2 and the current, therefore, will flow in the circuit when the receiver is removed from the hook, in the direction of the unfeathered arrow. In such case, the armature 4 is of a polarity, so as not to be affected by the energizing of the core through the flow of this current, but is affected in a manner, so as to be drawn towards the core of electro-magnet 3 when the flow of the current is reversed.

Normally, that is, when the line is idle, no current will flow through the circuit 1 and 2. When, now, the subscriber removes the receiver from the hook, the line is closed and the current will flow from the common battery 17, as stated above, in the direction of the unfeathered arrow. The flow of this current will not affect electro-magnet 3, and the armature 5 will remain in its normal position, that is, away from the core of said electro-magnet. After the operator has answered the call and has given the calling subscriber the desired party, then she manipulates the switch in a manner, so as to disconnect the conductors 13 and 14 from the conductors 15 and 16 and connect the conductors 13 and 14 to the conductors 18 and 19. Through this manipulation the battery 17 is cut out of the circuit and the circuit is connected with the battery 20. The connection of the circuit with battery 20 is in opposition to the connection of the circuit of battery 17 and the flow of the current, therefore, through the circuit will be in the direction of the feathered arrow, that is, in a direction opposite to the direction of the former flow of current. At the subscriber's station, the polarized armature 5 will answer to this flow of the current and the lever 4 will be drawn towards the core of 3 in a manner, so that the clapper 7 will strike the gong and simultaneously the ratchet 9 will actuate the wheel 10, so that the same will be moved one tooth. The connection of the circuit with battery 20 needs to be only for a very short time and the operator shall relieve the conductors 13 and 14 from the pressure of 21 after this pressure has

lasted a short interval. In such systems, in which the connection of the circuit of the subscriber calling to the circuit of the subscriber called is made directly by inserting the circuit of the subscriber called in series as to the circuit of the subscriber calling, it is essential that the switching device shall be placed before the means to connect these two circuits together, so that when the switch is operated, only the part of the circuit of the subscriber calling shall be connected to the battery 20, and the circuit to be called-up should not be in connection with said battery. For this purpose, I have indicated in dotted lines the place wherein such devices may be located and I have designated this place by the numerals 40 and 50.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In combination with a telephonic circuit, centering in an exchange a common battery therefor, stationed at said exchange, an outlying station for said circuit, and means positioned in part at said outlying station and in part at the exchange to register a call, the means positioned at the outlying station comprising a polarized electro-magnet, a registering device and means for said electro-magnet to actuate said registering device through the flow of the current in one direction and to remain inactive through the flow of the current in an opposite direction, the means positioned at the center comprising an auxiliary battery a switching device, and means therefor to disconnect the main subscriber's circuit from the common battery and connect the main subscriber's circuit to said second battery, the current of said second battery flowing then in a direction opposite from the flow of the first named battery through the telephonic circuit, independent of the plug circuit or devices therein connecting two subscriber circuits to each other.

2. In a registering device for a telephonic circuit, a polarized electro-magnet stationed at the subscriber's station, a registering device in operative relation thereto, and means to give audible signal through the operation of said electro-magnet, in combination with two sources of current and a switching device stationed at the center, one source normally connected to said circuit, said switching device adapted to disconnect both legs of the subscriber's circuit from one source of current and to connect said circuit, independent of a plug circuit, to the second source of current.

3. Means to register a telephonic call, said means comprising a registering device with

polarized electro-magnet located at the outlying or subscriber's station, and comprising an auxiliary source of current and switching means located at the center, the switching means adapted to connect said source to the circuit of said outlying station and disconnect said circuit from its normal source of current, said switching device adapted to be manipulated by the operator independent of the means to connect two subscribers' stations with each other.

4. In combination with a telephonic circuit a common battery therefor stationed at the center or exchange, means at the outlying station of said circuit to register a call, said means comprising a registering device and an electro-magnet, polarized in a manner, so as not to be affected by the flow of the common battery, both the device and electro-magnet in operative relation as to each other, a second battery at said exchange, and means at the exchange to disconnect the telephonic circuit from the common battery and connect the same directly and without the interposition of a connecting cord to said second battery, the current of which is then flowing through the circuit in opposition to the former flow of the current.

5. Means to register a telephonic call at an outlying or subscriber's station, said means comprising polarized means to register a call located at said outlying station and comprising, at the central station, an auxiliary source of current, independent of the source of current normally connected to the circuit of said outlying station and comprising switching means adapted to disconnect the normal source and connect the auxiliary source to said circuit, independent of the means for connecting said circuit to a second circuit.

6. A telephonic circuit, a center station and a sub-station therefor, two sets of batteries at the center, one set of batteries normally connected to said circuit, the second set of batteries adapted to be connected with said circuit simultaneously with the disconnection of the first named battery from said circuit independent of the means for connecting said circuit to a second circuit, registering means, and means to actuate said registering means located at the substation, in combination with means to give audible signals when the registering means are operated.

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

ISIDOR KITSEE.

Witnesses:

MARY C. SMITH,
H. C. YETTER.