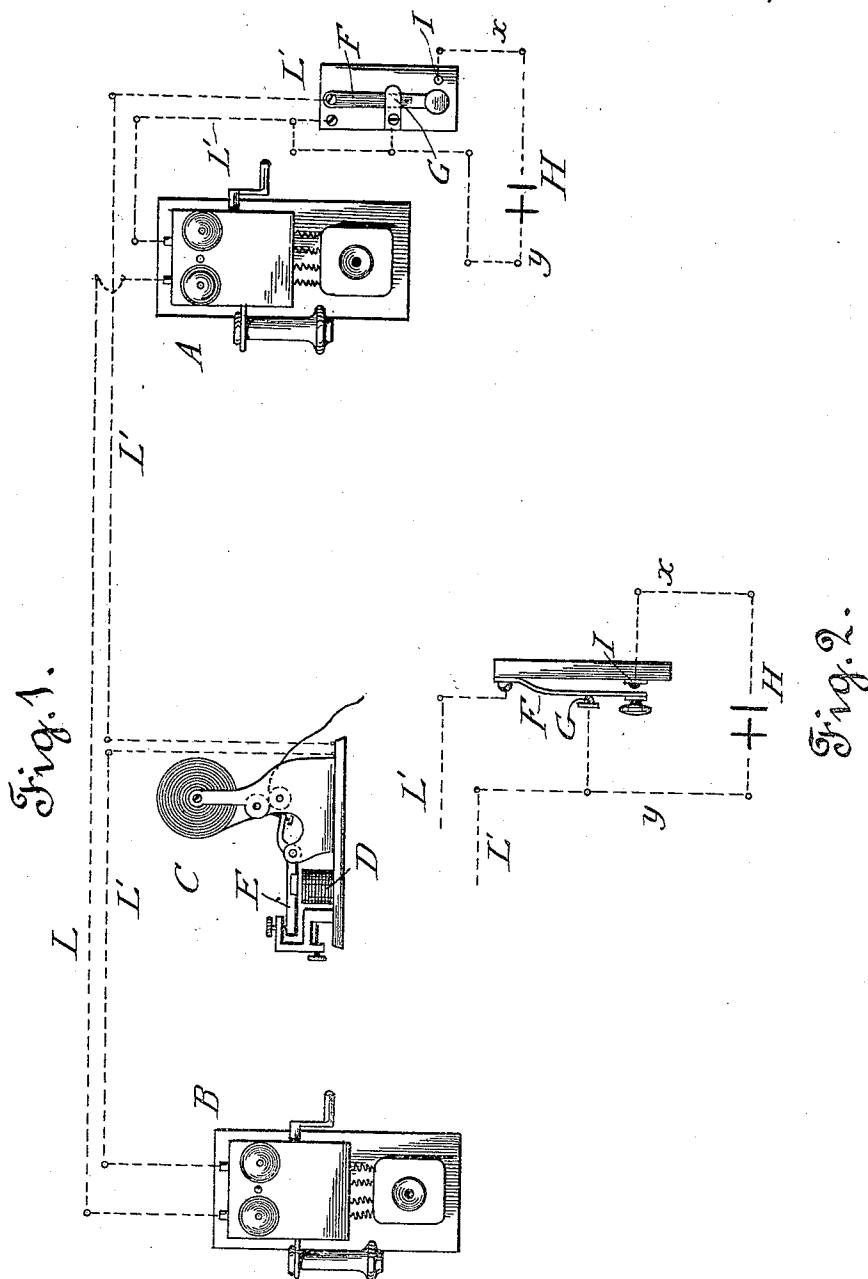


(No Model.)

A. R. DUPERU.
REGISTERING APPARATUS FOR TELEPHONES.

No. 511,883.

Patented Jan. 2, 1894.



Witnesses.

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UNITED STATES PATENT OFFICE.

ANGELO R. DUPERU, OF SAN FRANCISCO, CALIFORNIA.

REGISTERING APPARATUS FOR TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 511,883, dated January 2, 1894.

Application filed November 17, 1892. Serial No. 452,320. (No model.)

To all whom it may concern:

Be it known that I, ANGELO R. DUPERU, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Registering Apparatus for Telephones; and I do hereby declare that the following is a full, clear, and exact description thereof.

In the operation of the telephone system as now organized great annoyance is frequently caused by the failure of an absent subscriber to receive a message and his ignorance of his caller's number. Even where, in subscriber's absence, the number of the caller's telephone is given to a clerk or other substitute with a request by the caller to be called up subsequently, it often happens that from negligence or forgetfulness the subscriber is not informed that he has been called, and thus many important messages are never received.

The object of my invention is to provide each telephone with an electrically operated registering device, which, in case of a failure to respond by the person desired, may be operated either from the central office, or by another subscriber to indicate the number of the calling telephone, or any other matter desired. By this means the subscriber upon his return will find upon his register the numbers of all other subscribers by whom he has been called during his absence.

The ordinary operation of the telephone is in no way affected by the use of my device, which consists in an auxiliary signaling or registering apparatus adapted to be put into use under such circumstances as those above alluded to.

My invention is fully hereinafter described, and is shown in the accompanying drawings, in which—

Figure 1, is a diagram intended to represent a telephone at the central station, and another at a single subscriber's, in connection with a registering apparatus and means for causing the latter to operate. Fig. 2, is a side elevation of the double contact switch at the central office and its electrical connections.

For purposes of convenience I have supposed the telephone A to be located at a central station, because, in practical use, my sys-

tem of registering or recording will probably in all cases, be actuated by a central-office operator.

B represents subscribers' telephones and L and L' the line wires connecting them. The telephone transmitters and receivers are of the usual or any desired kind.

Near the subscriber's telephone, in any convenient situation, is a register or recorder C, which I prefer to have of the well known kind represented in the drawings. This consists of a rotary reel carrying a paper ribbon or strip, the latter being fed by clock work, as well understood by all skilled in the art. I have not considered it necessary to show details of this well known apparatus, and assume that the tape is fed by clock mechanism having a suitable engaging and releasing device. D is the electro-magnet and E the armature, the latter being provided with a marking or perforating point in proximity to the paper strip. It will be understood that when the magnet is energized, and the armature attracted, a mark, puncture or perforation will be made in the strip while the latter is being fed off the reel. The line wire L' is connected to the magnet, the circuit being always closed at the register. The magneto-current however will not affect the armature, and hence the telephone can be used in ordinary service, without operating the register. The line wire L' then extends to the central station, but before being connected to the telephone there, it passes through the double-contact switch key F, situated at some point convenient to the central office operator. This key is a pivoted spring adapted to make normal contact with the point G, so as to keep the main line circuit normally closed, and thus permit the telephones to be used in the ordinary way.

The subscriber's register is operated (in this case from the central office) by an auxiliary battery or other generator H, connected in open circuit with the switch key, and consequently with the line, by wires *x* and *y*. Now supposing the central operator should fail to receive a reply to a call, she makes a contact between the key F and the point I, and thus throws the auxiliary current into the line, the magneto-circuit being broken at the point G. The current thus thrown in will pass to the

magnet in the register, which attracts its armature and marks the strip, such a mark being made at each contact. The simplest way of registering the calling subscriber's number is by groups of dashes separated by spaces, but this, of course, is immaterial.

The apparatus heretofore described might, as before stated, be so arranged as to enable one subscriber to communicate his number to another without recourse to the central office; and such an arrangement comes within the scope of my invention. As a matter of convenience however, and for practical operation, the arrangement shown in the drawings will be found the best. It is clear that a great deal of time and trouble now wasted by central office operators and subscribers in enforced waiting and repeated signaling for absent subscribers, will be saved by the use of my invention. The trouble of operating the switch key is no greater than that required in operating the bell signals, as is now necessary; and the apparatus is inexpensive and simple. The auxiliary battery remains in

open circuit except when actually in use, and is hence not wasted; while the convenience to subscribers in having an unfailing record of all telephone calls received in their absence is so evident that to dwell further upon it seems unnecessary.

Having described my invention, I claim—

The combination with two telephones, the line wires L, L' permanently connecting the same, a recorder located at one of the telephones in the circuit of the line wires, an auxiliary battery, a double contact switch key interposed in the line circuit, and an auxiliary circuit for throwing the auxiliary current into the line, said auxiliary circuit being closed by the shifting of the switch key, substantially as described.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 25th day of October, 1892.

ANGELO R. DUPERU.

Witnesses:

L. W. SEELY,
M. R. BRYAN.