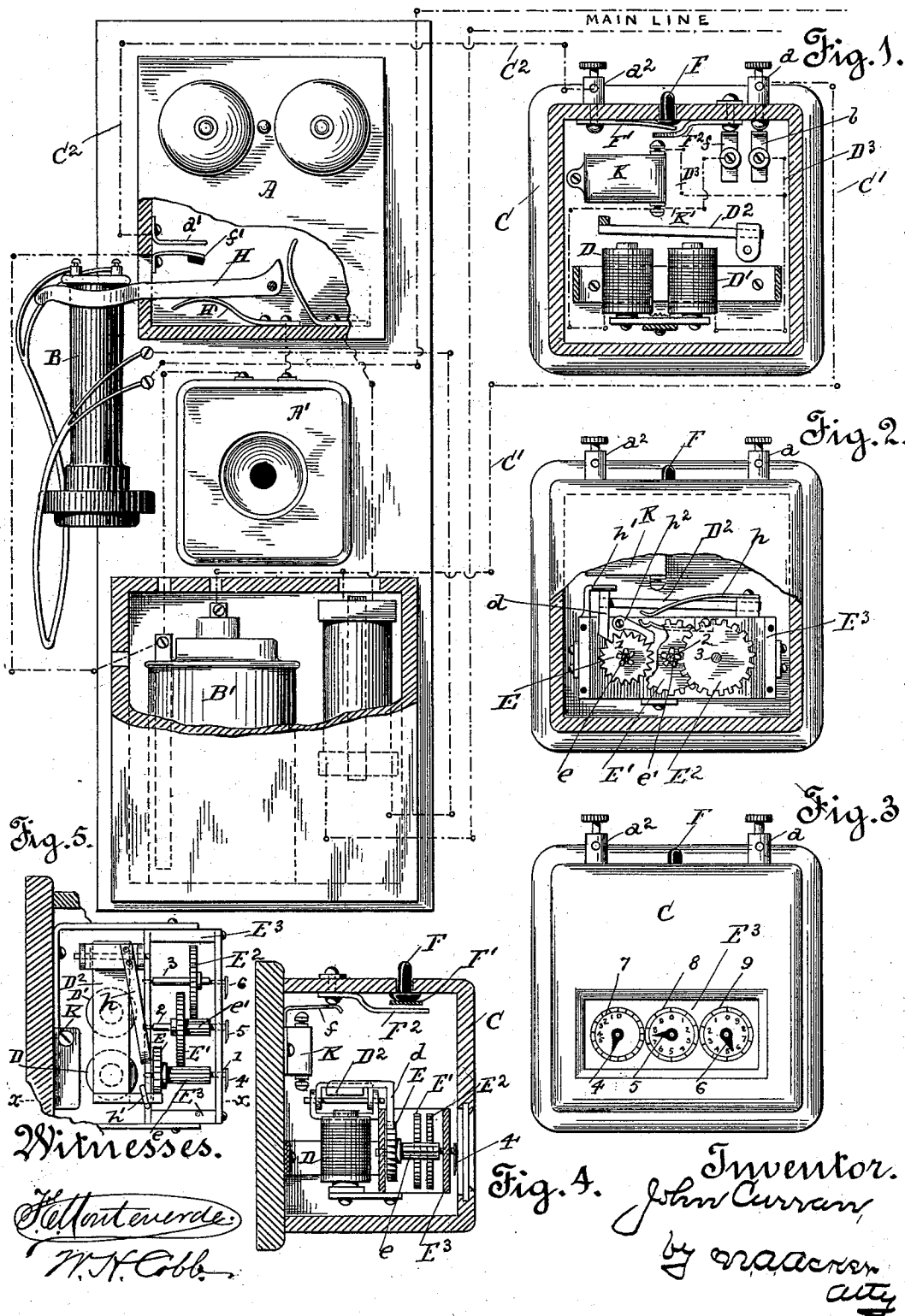


(No Model.)

J. CURRAN.  
TELEPHONE REGISTERING DEVICE.

No. 565,965.

Patented Aug. 18, 1896.



# UNITED STATES PATENT OFFICE.

JOHN CURRAN, OF SAN FRANCISCO, CALIFORNIA.

## TELEPHONE REGISTERING DEVICE.

SPECIFICATION forming part of Letters Patent No. 565,965, dated August 18, 1896.

Application filed July 1, 1895. Serial No. 554,581. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN CURRAN, 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 Telephone Registering Devices; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practise the same.

This invention relates to a certain new and useful registering device for telephones, which consists in the arrangement of parts and details of construction, as will be hereinafter fully set forth in the drawings, and described and pointed out in the specification.

My device is designed for use in connection with such telephones for the use of which a certain charge per switch or call is made; and the object of the invention is to provide a simple and effective device, by means of which the subscriber to the telephone or the user of the telephone is enabled to register in his own office each time the telephone is used or a switch is made by the central office, thus enabling the user or subscriber of the telephone to maintain a count or registry of the number of times the telephone has been used during the month and prevent mistakes being made by the paying for a greater number of switches or calls than has actually been utilized by the subscriber or user of the telephone.

In order fully to understand my invention, reference must be had to the accompanying sheet of drawings, wherein—

Figure 1 is a front view in elevation of an ordinary telephone, showing the register connected thereto, the indicating mechanism of the register being removed. Fig. 2 is a front view in elevation showing the register partly broken away. Fig. 3 is a front view in elevation of the register. Fig. 4 is a vertical sectional end view in elevation of the register, taken on line *xx*, Fig. 5; and Fig. 5 is a top plan view of the register, showing the casing partly broken away.

In the drawings the letter A indicates the magneto bell-box, A' the transmitter, B the hand telephone, and B' the battery, of an ordinary telephone, which parts are arranged

and connected in the usual manner; and these features, forming no part of my present invention, need not be specifically described in the present application.

To one side of the telephone I locate the box or casing C, within which is located the hereinafter-described registering mechanism. Connection is made between the battery B' and the binding-post *a*, which extends through the casing C by means of the wire C', the running of which wire will be understood by reference to Fig. 1. Between the plate *a'*, located within the magneto bell-box and the binding-post *a*<sup>2</sup>, which extends through the casing C, connection is made by means of the wire C<sup>2</sup>.

Within the box or casing C, I locate the magnets D D', and above said magnets secure the armature D<sup>2</sup>, which armature is moved toward or from the said magnets as the circuit between the register and the telephone is closed or opened. From the free end of the armature depends the stud *d*, Fig. 2, which stud, as the armature is drawn toward the magnets, engages with one of the teeth of the register-wheel E and rotates said wheel one notch or tooth. There are three of the register-wheels E E' E<sup>2</sup> arranged within the frame E<sup>3</sup>, secured within the casing C in front of the magnets D D'. These register-wheels are connected one to the other, the teeth of the wheel E' engaging the teeth of the spindle *e* of the wheel E, and the teeth of the wheel E<sup>2</sup> engaging the teeth of the spindle *e'* of the wheel E'. The registering-wheels are secured to the axles 1 2 3, respectively, and the teeth of the spindles *e e'* are of such a pitch that as the wheel E makes one complete revolution the wheel E' will have made one-tenth of a revolution. The axle of each wheel projects beyond the face-plate of the frame E<sup>3</sup>, and I secure to the projecting end of the axles the pointers or index-fingers 4 5 6, which move around the dials 7 8 9, respectively, which dials are secured to the face-plate of the frame E<sup>3</sup>. The numerals upon the dial 7 represent twentieths of a revolution, those upon the dial 8 represent tenths of a revolution, and those upon the dial 9 represent hundredths of a revolution. This feature, being of ordinary construction, will be readily understood without further description.

The lower end of the binding-post *a* is in contact with the plate *b*, from which plate runs the wire *D*<sup>3</sup>. This wire may be said to constitute a continuation of the wire *C*', and it passes through the magnets *D D'* and connects to the plate *f*, Fig. 1.

Through the casing or frame *C* projects the push-button *F*, which, as pushed inward, moves the plate *F'* into contact with the plate *F*<sup>2</sup> and closes the circuit between the telephone and register, provided the hand-telephone has been removed from cut-off switch *H*. As the hand-telephone *B* is removed from the cut-off switch the said switch is forced upward by the spring *H'*, located within the bell-box, and as the said cut-off switch is moved upward it forces the spring-plate *f'* into contact with the plate *a'*.

The operation of my device is as follows: The hand-telephone being removed from the cut-off switch, in order to call up the central office, for the purpose of being placed into communication with the party desired, the said cut-off switch is forced upward so as to place the spring-plate *f'* in contact with the plate *a'*. The operator or user of the telephone then presses the push-button *F* downward, which moves the spring-plate *F'* into contact with the plate *F*<sup>2</sup> and thus closes or completes the local circuit between the register and the telephone. The closing of this circuit causes the armature *D*<sup>2</sup> to move toward the magnets *D D'*. As the armature is drawn toward the magnets the stud *d* engages with one of the teeth of the wheel *E* and rotates the same one notch or tooth, causing the pointer *5* to advance one numeral the movement of which pointer or index-finger indicating that a call has been registered.

The circuit established between the registering device and the telephone being a purely local one, it does not interfere with the telephone or main-line circuit. By releasing the pressure upon the push-button the circuit is broken and the armature is moved upward to its normal position by means of the spring *h*, Fig. 2, it being prevented from moving upward beyond a given distance by means of the stop rod or plate *h'*.

As the armature is moved upward and the stud *d* carried away from the teeth of the

wheel *E* the said wheel is prevented from slipping backward by means of the pawl *h*<sup>2</sup>, which engages with the teeth of said wheel, Fig. 2.

In order that the attendant at the central office may determine whether or not the user of the telephone has registered his call, I locate within the casing or box of the register the buzzer *K*, which is connected by means of the wires *D*<sup>3</sup> and *K'* in parallel with the magnets *D D'*. The closing of the local circuit operates the buzzer and thus notifies the central office that the call has been registered by the user. The sound of the buzzer is transmitted to the central office through the main line by induction between the primary and the secondary windings of the coil *K*<sup>3</sup>; the wire *C'* leading from the register to the battery branches to the primary winding of the coil, Fig. 1. If the buzzer does not operate, the central office will know that the call has not been registered by the user.

By the use of my device dispute between the user of the telephone and the telephone company as to the number of switches made during the month is obviated, for the correctness of the statement made by the company may be readily ascertained by a reading of the dials.

I am aware that changes may be made in the arrangement of parts and details of construction herein shown and described without creating a departure from the nature and scope of my invention.

Having thus described my invention, what I claim as new, and desire to secure protection in by Letters Patent, is—

In a telephone system, the combination with a receiver, of a hinged switch-lever therefor, the contact *a'*, the yielding contact *f'* arranged in the path of the lever, a recording device, a magnet therefor a circuit between the magnet and the contacts, and a switch in the circuit arranged to normally break the circuit, substantially as described.

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

JOHN CURRAN.

Witnesses:

N. A. ACKER,  
LEE D. CRAIG.