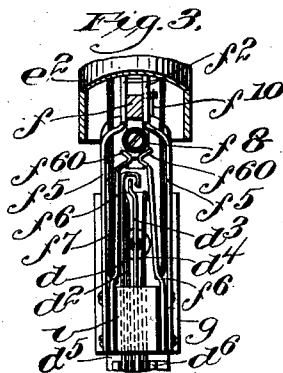
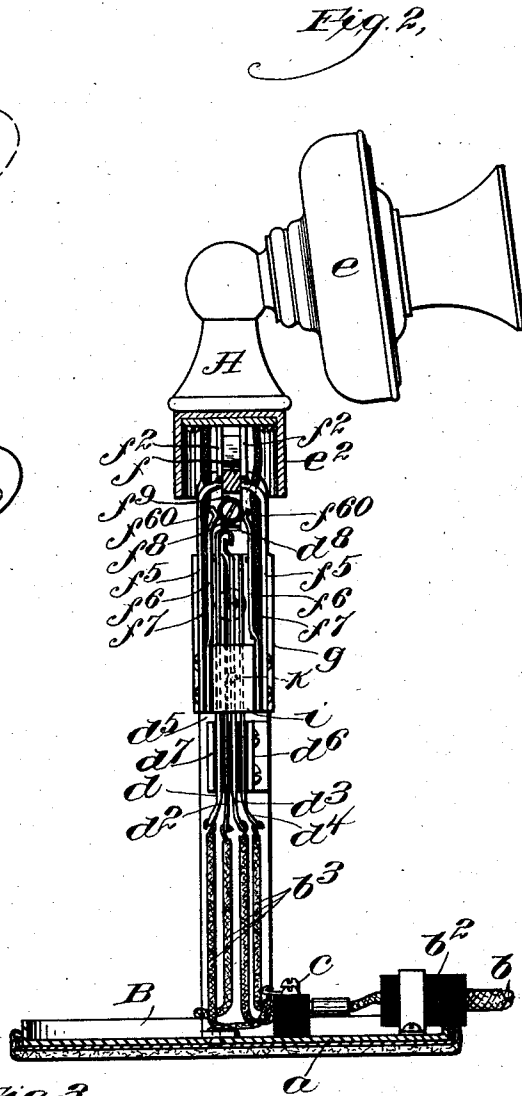
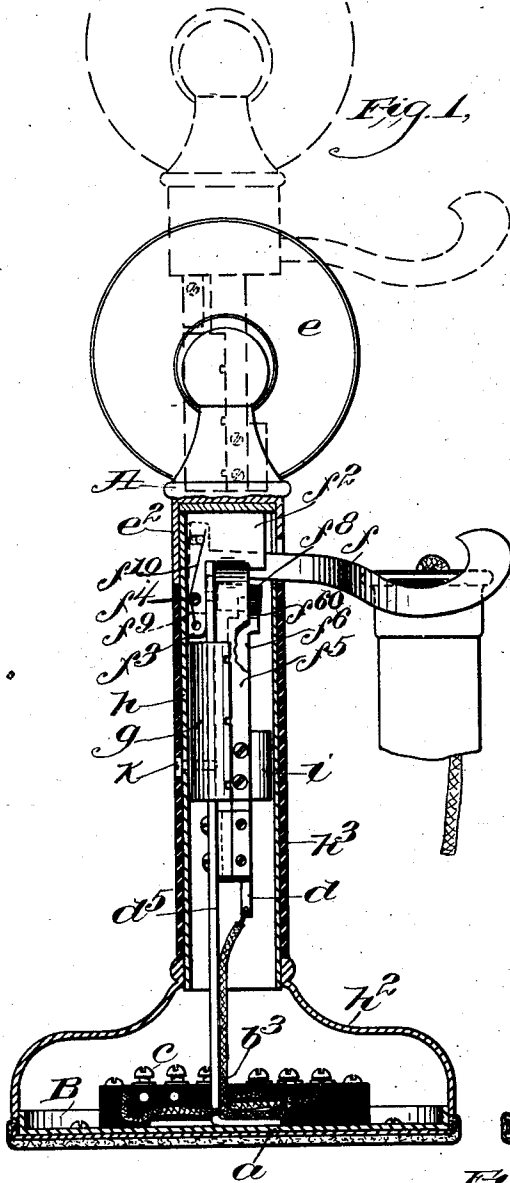


W. F. TAYLOR & V. DURBIN.  
TELEPHONE INSTRUMENT.  
APPLICATION FILED MAY 17, 1909.

1,010,531.

Patented Dec. 5, 1911.

2 SHEETS—SHEET 1.

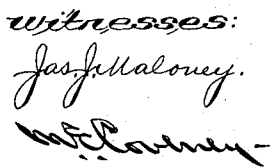


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Jas. J. Maloney.  
[Signature]

Inventors:  
Walter F. Taylor,  
& Vernon Durbin,  
by [Signature] Att'y.

**1,010,531.**

2 SHEETS—SHEET 2.



*Inventors:*  
*Walter F. Taylor,*  
*& Vernon Durbin,*  
*by H. J. Swormore atty*

# UNITED STATES PATENT OFFICE.

WALTER F. TAYLOR AND VERNON DURBIN, OF BROOKLINE, MASSACHUSETTS, ASSIGNORS TO HOLTZER-CABOT ELECTRIC COMPANY, A CORPORATION OF MASSACHUSETTS.

## TELEPHONE INSTRUMENT.

1,010,531.

Specification of Letters Patent.

Patented Dec. 5, 1911.

Application filed May 17, 1909. Serial No. 496,496.

*To all whom it may concern:*

Be it known that we, WALTER F. TAYLOR and VERNON DURBIN, both residing in Brookline, county of Norfolk, and State of Massachusetts, have invented an Improvement in Telephone Instruments, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The present invention relates to a telephone desk instrument and is embodied in a novel construction and arrangement, the principal purpose of which is to facilitate inspection and repairs.

In accordance with the invention, the instrument is made of three principal parts, viz., the base or standard, the transmitter member, which supports the transmitter and the switch hook on which the receiver is hung, and an inclosing shell which covers the leading-in wires and the contacts.

The base portion receives the leading-in wires which are connected to a series of spring contacts mounted on an upright support extending upward from the base, and the transmitter portion is provided with two spring contacts which are connected with the wires leading to the transmitter and are arranged to be engaged by the switch hook when the receiver is on the hook, and disengaged therefrom when the receiver is taken down.

The upper or transmitter portion is provided with a sleeve which is adapted to fit over the lower portion, the springs carried by the upper portion then engaging or disengaging the contacts connected with the leading in wires so as to close the signaling circuit when the receiver is hung up, and to close the telephone circuit when the receiver is taken down in the usual way.

The inclosing portion consists of a tubular member adapted to inclose the two parts above described, and a cap at the bottom of the tubular member which covers the extended portion of the base.

When the instrument is assembled the parts are held together by a single screw which extends through the inclosing member into the two portions of the transmitter member within. Upon removing the screw, the transmitter member can be lifted out of the inclosing portion, the inclosing portion then removed, and the other parts put

together again without the inclosing member, so that the instrument is in working condition; whereby it can be much more readily inspected than is the case with the ordinary instrument which has to be completely dismantled to gain access to the circuit connections.

Figure 1 is a vertical section of an instrument embodying the invention, showing in dotted lines the position of the upper member when it has been removed; Fig. 2 is a section, taken at right angles to Fig. 1, with the inclosing case removed, and the other parts restored to their working condition; Fig. 3 is a similar view, showing the parts in a different position; Fig. 4 is a section showing the several parts of the instrument with the transmitter member removed and the other parts assembled; Fig. 5 is a horizontal section on line  $x^5$  of Fig. 4; and Fig. 6 is a horizontal section on line  $x^6$  of Fig. 4.

The base  $a$  receives the leading-in wires  $b$  through a sleeve of insulating material  $b^2$ , the said leading-in wires being connected with the binding posts  $c$  which, in turn, are connected through wires  $b^3$  with a series of spring contacts  $d$ ,  $d^2$ ,  $d^3$  and  $d^4$ . The said contacts are so arranged that they tend to spread apart, the contacts  $d$  and  $d^3$ , however, which close the signaling circuit being reversed as to their contact sides, so that when left to themselves they remain in contact keeping the signaling circuit closed, (see Fig. 4). The contact springs are arranged side by side, so that if the two outer springs are pressed toward each other, they bring all the springs into contact with the exception of the springs  $d$  and  $d^3$  which are separated on account of the reversing of the contact surfaces. The upper member  $A$  carries the transmitter  $e$  and receiver hook  $f$ , the latter being pivotally supported between two pieces of sheet metal  $f^2$  which have two downwardly extending portions  $f^3$  to hold the pivot  $f^4$  on which the receiver hook  $f$  is mounted; and two other forked extensions  $f^5$  to which are connected the contact springs  $f^6$  which are in electrical contact with the conductors  $f^7$  which lead to the transmitter. When the upper and lower members  $A$  and  $B$ , respectively, are together, the spring members  $f^6$ , if left free, engage the outer contact springs  $d$  and  $d^4$ , closing the circuits with the exception of the signaling circuit. The contact springs  $f^6$ , which tend to meet

at the upper end, are provided with out-turned portions  $f^{60}$  which lie directly below an insulated engaging member  $f^8$  movable with the receiver hook  $f$ , so that when the weight of the receiver depresses the said hook it will separate the springs  $f^6$ , thus allowing the other contacts to separate, as shown in Fig. 2, the signaling contacts  $d$  and  $d^3$ , however, then being in engagement. The instrument is thus in condition to receive signals, and upon the removal of the receiver from the hook  $f$  the projection  $f^8$  will rise, thus permitting the springs  $f^6$  to come together, closing the telephone circuits and opening the signaling circuit, as best shown in Fig. 3.

In the construction shown, the receiver hook  $f$  is provided at the rear end with a downwardly extending arm  $f^9$  through which extends the pivot  $f^4$  between the extended portions  $f^3$  of the sheet metal pieces  $f^2$ . The insulated engaging portion  $f^8$  is secured to the part  $f^9$  and projects forward therefrom so as to move up and down with relation to the contact springs  $f^6$  as the receiver hook rocks on its pivot. A spring  $f^{10}$  is arranged to act on the receiver hook  $f$  to move the outer end thereof upward when the weight of the receiver has been removed. This upper member is arranged to be connected with the lower member by a sliding movement, and to be securely supported thereon when in position.

The lower member B consists of a flat plate  $d^5$  properly secured to the base  $a$ , and extending upward therefrom, the spring contacts being held on a bracket  $d^6$  secured to said plate, the springs being separated by insulating material and clamped to the side of the bracket  $d^6$  by means of a clamping plate  $d^7$ . The plate  $d^5$  extends upward above the ends of the contact springs and is provided with a notch  $d^8$  above which are formed two shoulders  $d^9$ , the notch serving to receive the switch hook  $f$  while the shoulders engage the plates  $f^2$  between the extensions  $f^3$  and the extensions  $f^5$ . The space between these extensions  $f^3$  and  $f^5$  is substantially equal to the thickness of the plate  $d^5$ , so that as the two parts slide together they fit and form an adequate mutual support. As an additional supporting means, however, the extensions  $f^5$  at the lower end are connected by means of a half round shell  $g$  which is secured to the sides of the extensions, the width of the plate  $d^5$  being substantially equal to the width of the shell  $g$  which, therefore, serves to hold the plate flat against the sides of the extensions.

The inclosing shell for the instrument consists of a metallic tubular portion  $h$  extending upward from an extended cap portion  $h^2$  which fits over the base  $a$  and covers the leading-in wires  $b$  and their connections, the tubular portion  $h$  surrounding the con-

tact springs. The tubular portion  $h$  is shown as covered with an outer shell  $h^3$  which may be of hard rubber or gutta percha, the said shell being substantially the same in diameter as that of a downwardly projecting cap  $e^2$  at the rear of the receiver  $e$ . The metallic shell  $h$  projects upward above the outer portion  $h^3$  and is adapted to fit into the cap  $e^2$  so that when the instrument is assembled, the interior is fully protected and the outside is free from any apparent joints. The part  $g$  which is connected with the projections  $f^5$  is curved so as to conform to the interior of the tube  $h$ , and the contact springs  $f^6$  which are secured to the inner sides of the arms  $f^5$  are shown as connected by means of a bow-shaped member  $i$  which projects substantially into contact with the other side of the portion  $h$ , thus giving a support for the interior part at opposite sides. This construction, moreover, serves to keep the parts  $f^5$  in their original position and prevents them from spreading, or being sprung together. After the instrument is fully assembled, the parts may be fastened by means of a screw  $k$  which extends through the side of the member  $h$  and the shell  $g$  and is screwed into the plate  $d^5$ . This holds the parts all firmly together, and, at the same time, if it is necessary to inspect the connections, or to take the instrument apart for repairs, it is necessary only to remove the screw  $k$ , after which the upper portion A can be pulled out endwise, as shown in dotted lines, Fig. 1, and the inclosing portion lifted off. Then, if it is desired, the upper and lower parts, as shown in Fig. 2, can be put together without the inclosing portion, so that the instrument is in its original operative condition, but with all the connections and contacts exposed.

#### Claims:

1. In a telephone instrument a base provided with leading in wires and spring contacts; an upright support mounted on said base; a transmitter portion provided with a transmitter and a gravity hook for the receiver, said transmitter portion being removably secured on said upright; spring contacts for the transmitter conductors adapted to engage the spring contacts on the base; and an inclosing case independent of said base and support.

2. In a telephone instrument a base provided with leading in wires and spring contacts; an upright support mounted on said base; a transmitter portion provided with a transmitter and a gravity hook for the receiver, said transmitter portion being removably secured on said upright; spring contacts for the transmitter conductors adapted to engage the spring contacts on the base; and an inclosing sleeve independent of said base and transmitter portion.

3. In a telephone instrument a base provided with leading in wires and spring contacts; an upright support mounted on said base; a transmitter portion provided with a transmitter and a gravity hook for the receiver, said transmitter portion being removably secured on said upright; spring contacts for the transmitter conductors adapted to engage the spring contacts on the base; an inclosing sleeve independent of said base and transmitter portion; and a fastening device accessible from the outside, for said inclosing sleeve, base and transmitter portion.

4. A telephone instrument having a base or support and a transmitter supported thereby, but separable therefrom; spring contacts constituting means for automatically completing the circuits through the instrument when said transmitter is supported upon said base or support; an inclosing sleeve independent of the base and the transmitter but adapted to be held in position between said base and transmitter; and a single fastening device extending through said inclosing sleeve into engagement with the parts within.

5. A telephone instrument having a base

with a central vertical support; leading in wires connected with said support; spring contacts connected with said leading in wires and mounted on said vertical support, said contacts being so associated as normally to open the talking circuit and close the signaling circuit; a transmitter member having a sleeve connection with said vertical support; spring contacts mounted in said transmitter member, said spring contacts being electrically connected with the transmitter terminals and arranged to make electrical contact with the spring contacts of the leading in wires of the transmitter circuit and also to separate the signaling terminals by spring pressure; and a receiver hook adapted to act on the spring contacts mounted in the transmitter member and retain them out of engagement with the other contacts when the receiver is on the hook.

In testimony whereof, we have signed our names to this specification in the presence of two subscribing witnesses.

WALTER F. TAYLOR.  
VERNON DURBIN.

Witnesses:

M. E. COVENEY,  
JAS. J. MALONEY.