

No. 766,354.

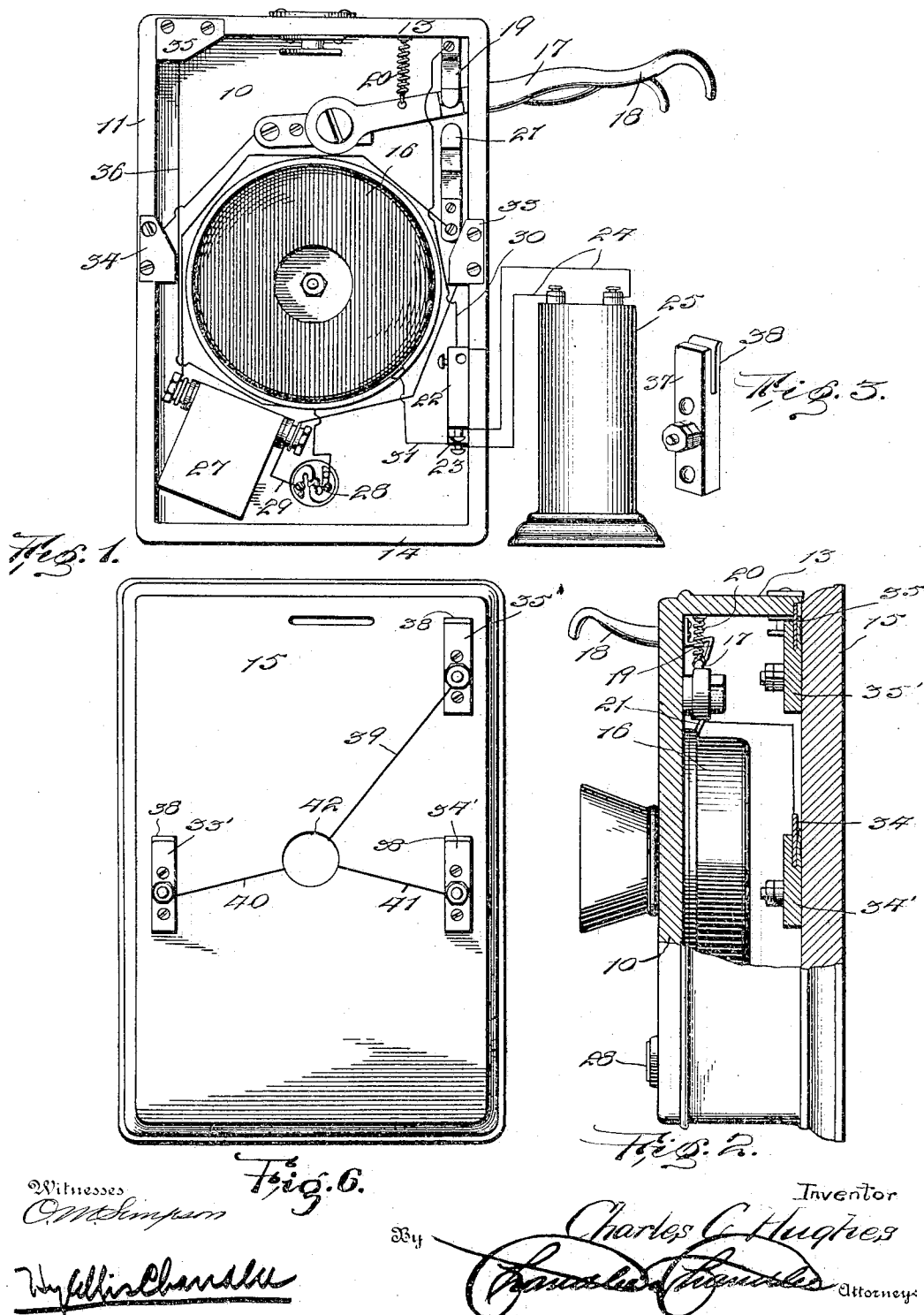
PATENTED AUG. 2, 1904.

C. C. HUGHES.
TELEPHONE BOX.

APPLICATION FILED DEC. 10, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



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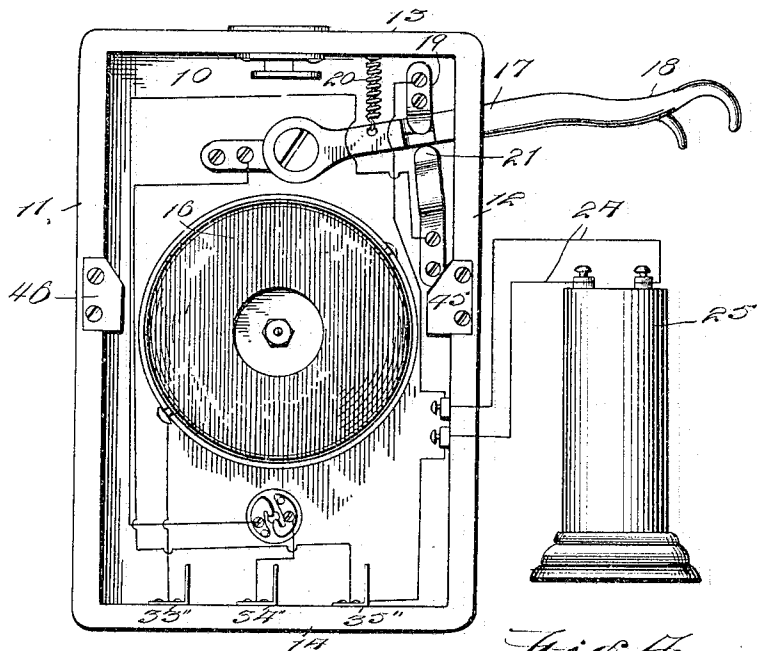


Fig. 4.

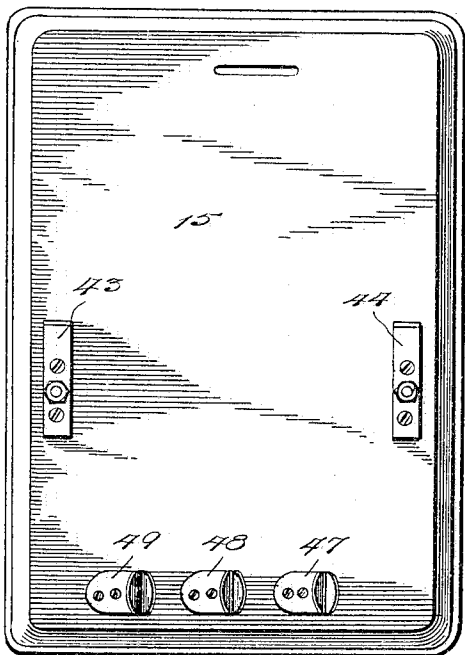


Fig. 7.

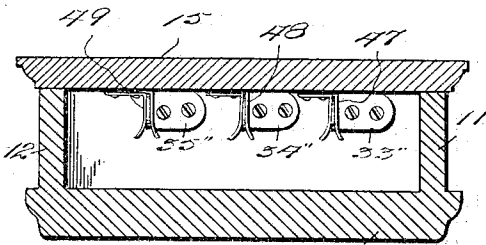


Fig. 5.

Witnesses

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CHARLES C. HUGHES, OF BALTIMORE, MARYLAND.

TELEPHONE-BOX.

SPECIFICATION forming part of Letters Patent No. 766,354, dated August 2, 1904.

Application filed December 10, 1902. Serial No. 134,689. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. HUGHES, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Telephone-Boxes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to telephones, and more particularly to the boxes therefor and to the means for making efficient electrical connections between the apparatus within the box and the parts carried by the cover.

As telephones are ordinarily installed the transmitter is secured to the lid of a box, while the body of the box contains the contacts with which the receiver-hook cooperates to switch in the talking and ringing circuits interchangeably. The lid or cover of the box is ordinarily connected to the body of the box by means of hinges and electrical connections between the parts carried by the body, and the parts carried by the cover are ordinarily made through the medium of the hinges alone or through the medium of a spring-finger and a hinge-leaf, which contacts therewith when the cover is in closed position.

The objection to the hinge connections is that the parts corrode more or less, with the result that the resistance is increased and the efficiency of the telephone impaired. In the present construction it is the object to overcome these defects by the employment of knife-switches, which engage suitable contacts when the cover is in place, and in one embodiment of the invention the knife-switches act also to hold the cover to the body of the box.

A further object of the invention is to provide a construction and arrangement wherein all of the working parts of the telephone will be carried by the body of the box, said body having contacts for engagement with contacts carried by the cover, which latter is secured to the wall or other suitable support. With this arrangement if any part of the mechanism carried by the body of the box is found defective said body may be removed from the

stationary cover and may be conveyed to a shop for repair, and a substitute body fully equipped with proper mechanism may be engaged with the cover. It must be understood that the cover carries nothing but electrical contacts for engagement by those carried by the body and which are not liable to disorder.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is an elevation showing a box with the body thereof carrying the operative parts of a telephone and disengaged from the cover, which carries only contacts for engagement by knife-switches upon the body and through the medium of which the body is held to the cover. Fig. 2 is a section taken vertically through the two switches at one side of the box. Fig. 3 is a detail perspective view of one of the terminals carried by the cover for engagement by a knife upon the body. Fig. 4 is a view similar to Fig. 1 and showing an arrangement wherein the box is provided with means separate from the knife-switches for holding the body and cover together. Fig. 5 is a transverse section through the lower portion of the box and including the knife-switches. Fig. 6 is an elevation showing the inner side of the cover with the contacts. Fig. 7 is a view similar to Fig. 6, showing a modification.

Referring now to the drawings, and more particularly to Figs. 1, 2, and 3 thereof, there is shown a telephone carrier-box comprising a body portion including a front 10, sides 11 and 12, top 13, bottom 14, and a back cover 15. It will be noted that instead of the removable cover of the box forming the front said removable cover forms the back of the carrier-box.

The transmitter 16 is secured to the front 10 of the carrier-box, as is usual; but said front 10 is fixed to the sides and ends of the carrier-box instead of being movable therefrom, and within the body of the carrier-box is mounted the lever 17, which projects through the side 12 of the carrier-box and has a receiver-hook 18 at its outer end, said lever being held normally in engagement with the yieldable contact-piece 19 through the me-

dium of a helical spring 20, attached to the lever and the top of the carrier-box, said yieldable contact being mounted upon the inner face of the front 10 of the carrier-box.

5 A second yieldable contact 21 is mounted upon the inner face of the front 10 of the carrier-box for engagement by the lever 17 when the latter moves from the contact 19.

10 On the inner face of the side 12 of the carrier-box are mounted the binding-posts 22 and 23, with which are engaged the end of receiver-wires 24, connected to the receiver 25 and passed through the perforations 26 in the side of the carrier-box. Within the body of

15 the carrier-box is also arranged the buzzer 27, which may be substituted by a bell, as will be understood, or which may be arranged upon the outer face of the front of the carrier-box or other portion of the body, the

20 circuit-wires for the buzzer in that event being passed through suitable perforations in the body or attached to binding-screws passed through the body. In the present instance there is shown a push-button 28 for ringing up and one terminal of which is connected

25 by a wire 29 with the buzzer 27, the opposite terminal of said buzzer being connected with the lower contact for engagement by the switch-lever when the receiver is hung

30 up, the other contact for the switch-lever being connected by a wire 30 with a receiver binding-post, the other receiver binding-post being connected with the transmitter by means of a wire 31.

35 Set flush in the rear edge of the side 12 is a switch-knife 33, which projects laterally and inwardly of the box beyond the inner face of the side 12, there being a corresponding switch-knife 34 set into the rear edge of the side 11

40 and projecting laterally and inwardly of the carrier-box. A third switch-knife 35 is set into the rear edge of the top of the carrier-box and projects downwardly into the carrier-box. The knife 35 is connected with the same

45 terminal of the transmitter as the push-button's second terminal through the medium of the wire 36, and may be known as the "talking-line" knife. The knife 34 is connected to the base of the switch-lever and may be called

50 the "common return-knife," while the knife 33 is connected with the same terminal of the buzzer as the push-button and may be called the "ringing-knife."

On the back or cover 15 of the carrier-box

55 are mounted three switch-contacts 33', 34', and 35' for engagement by the knives 33, 34, and 35, respectively. Each of these contacts consists of a lower base portion, which is secured rigidly to the back 15 and the upper

60 end portion of which is bifurcated to form arms 37 and 38. The arm 37 is offset forwardly, while the arm 38, which is a spring-arm, has its extremity offset rearwardly and resting against the back 15, so that when the knives

of the body are forced between the arms intimate contact will be insured.

To the contacts 33', 34', and 35', respectively, are connected the wires 39, 40, and 41, of which the wire 39 is the ringing-wire, the wire 40 is the common return-wire, and the wire 41

70 is the talking-wire. These wires are passed through an opening 42 in the back 15 and are continued to the switchboard or to whatever place it is desired that the instrument be connected. With this arrangement it will be seen

75 that there are employed knife-switches of the most efficient style for electrically connecting the telephone apparatus with the line-wires, so that proper contact and conduction will be had at all times. Furthermore, it will be seen

80 that in the equipment of a building with a number of phones an extra phone or body portion of a carrier-box may be provided with its equipments, and when a phone in use is found to be defective it may be instantly

85 unhooked from its support formed by the cover 15 and the extra phone hooked to the support in its place. In this way it is not necessary that a mechanic remain in the room of a guest at a hotel a sufficiently long time to permit of

90 discovery of the defects and the repairing of an instrument, but he may substitute a perfect instrument and repair the imperfect instrument in his shop and at his leisure. Furthermore, with the present arrangement

95 the guest is not deprived of the use of his phone, excepting for the very short time necessary to substitute the new one.

In Figs. 4 and 5 of the drawings there is shown a carrier-box the same as that above

100 described and in which all of the working parts are carried by the body, which is removably connected to the back or cover, which is designed for attachment to the wall and serves as a support for the carrier-box. In this arrangement, however, separate means for making connections and for holding the body to the cover are provided. To the back 15 in this case are secured two hooks 43 and 44, which project upwardly adjacent to the side

110 edges of the back and in position for engagement by the inwardly-projecting portions of plates 45 and 46, which are let into the rear edges of the sides of the carrier-box and project beyond the inner faces of the sides. To

115 connect the body of the carrier-box to the back or cover, the plates are brought to lie against the backs above the hooks and the body is then moved downwardly to engage the plates with the hooks. On the upper face of the

120 bottom of the carrier-box are secured the switch-knives 33'', 34'', and 35'', corresponding to the knives 33, 34, and 35 and electrically connected with corresponding parts of the mechanism in the carrier-box. Upon

125 the front face of the back or cover of the carrier-box are bifurcated spring-terminals 47, 48, and 49, which correspond to the posts 33',

34', and 35' and have ringing common return and talking wires connected thereto. With this second form of the invention the plates on the body are engaged with the hooks on the back or cover and at the same time the knives are engaged with the spring-terminals to make electrical connections between the parts in the carrier-box and the line-wires.

The second embodiment of the invention permits also of ready attachment and detachment of the carrier-box and cover, as well as insuring proper electrical connection.

What is claimed is—

1. A telephone instrument including a box having its back open, said box carrying a transmitter, a receiver, a switch and a pair of electric terminals, and circuit-wires connecting said elements, and a cover to close the back of the box having line-wire terminals thereon disposed to engage the terminals of the box when the cover is on the box, said cover being adapted for attachment to a wall.

2. A telephone instrument including a box having its back open, said box carrying the working parts of the telephone, and electric terminals with which said working parts are

connected and a cover to close the back of the box and having line-wire terminals disposed to engage the terminals of the box when the cover is on the box, said cover being adapted for attachment to a wall, said terminals being so constructed that when engaged, they will hold the box to its cover.

3. A telephone instrument including a support and a carrier-box with one side open removable bodily therefrom one part having switch-knives and the other corresponding terminals for engagement therewith, the support being free from working parts of the telephone and closing the open side of the carrier-box, and the carrier-box having all of the working parts of the telephone attached thereto and adapted and arranged for connection with line-wires through the medium of the knives and terminals of the support and carrier.

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

CHARLES C. HUGHES.

Witnesses:

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GEO. H. CHANDLEE.