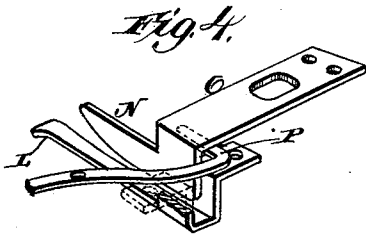
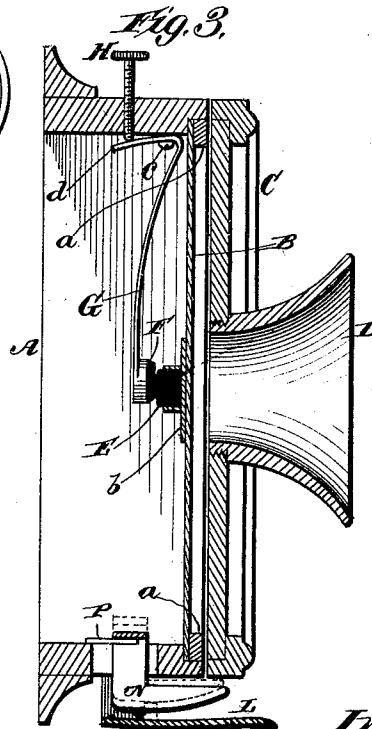
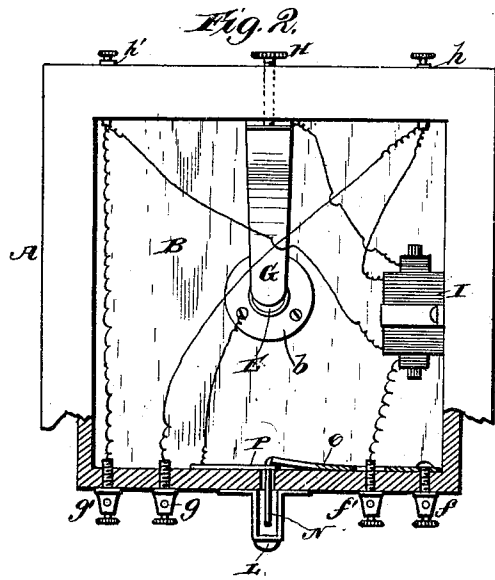
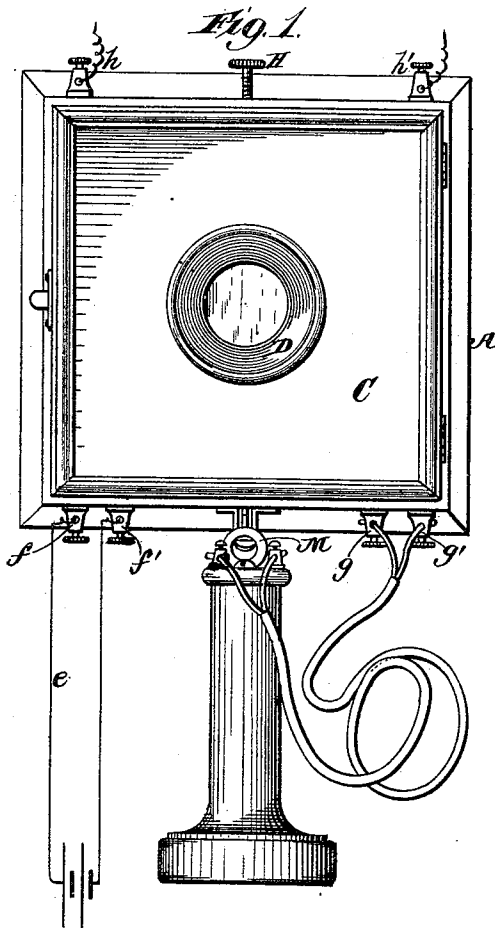


S. E. BEEDY.

TELEPHONIC TRANSMITTER.

No. 266,747.

Patented Oct. 31, 1882.



Witnesses.

Robert Everett,

J. A. Rutherford

Inventor

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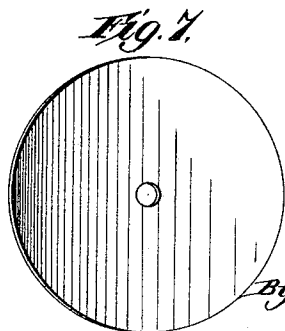
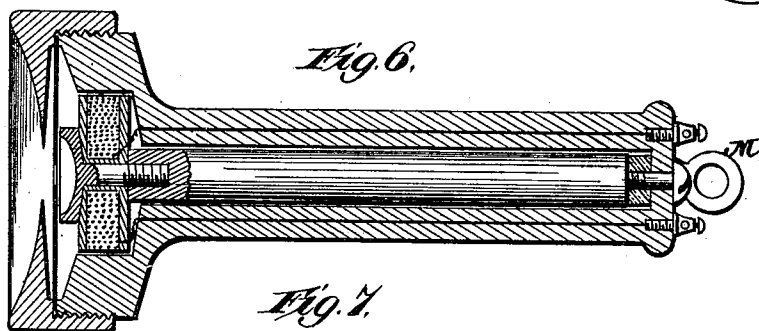
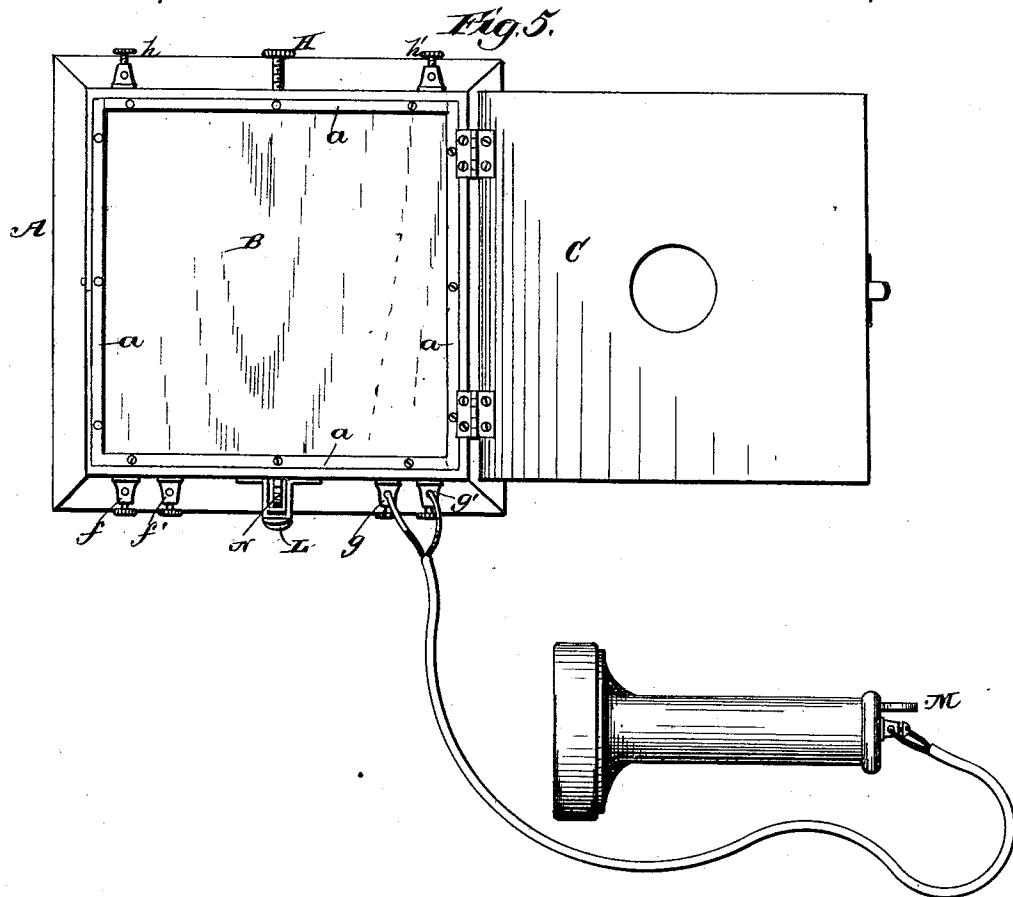
By James L. Norris,  
Att'y.

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*J. C. Rutherford*

Inventor:  
*Seth E. Beedy.*

By *James L. Norris*  
*Atty.*

# UNITED STATES PATENT OFFICE.

SETH E. BEEDY, OF FARMINGTON, MAINE, ASSIGNOR OF ONE-HALF TO  
JOHN J. LINSOTT, OF SAME PLACE.

## TELEPHONIC TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 266,747, dated October 31, 1882.

Application filed June 13, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, SETH E. BEEDY, a citizen of the United States, residing at Farmington, in the county of Franklin and State of Maine, have invented new and useful Improvements in Telephonic Transmitters, of which the following is a specification.

My invention relates to electric telephones; and it consists, first, in a diaphragm formed of wood or other suitable material, with one of the carbons mounted therein and extending over the entire area of the box, with a mouth-piece mounted upon a hinged door, which is wholly distinct and separate from the diaphragm, whereby the entire surface of the latter may be exposed when desired; second, in the employment of two carbons, one mounted upon the diaphragm and the other upon an adjustable spring-plate connected with the box or case, and having a screw bearing upon its bent end, whereby the carbon upon the arm may be thrown against the carbon on the diaphragm.

Referring to the drawings making part of this application, Figure 1 is a front elevation of the telephone-box. Fig. 2 is a rear elevation of the same, part of the casing being broken away to show the circuit-breaking device. Fig. 3 is a vertical section taken through the center of the box. Fig. 4 is a view of the circuit-breaking device. Fig. 5 is a front elevation of the case, showing the hinged door open and the telephone attached. Fig. 6 is a longitudinal central section of the receiver. Fig. 7 is a detail view of the diaphragm used in the receiver.

A in said drawings indicates the telephone box or casing, which may be of any desired form or size. As shown in the drawings, it is square; but it may be either round or polygonal.

Upon the front of the box is placed a diaphragm, B, which extends over the entire area bounded by the walls of said box, and is fastened in place by strips *a*, laid upon the edge or edges of the diaphragm, and having screws which pass through the strips and the diaphragm into the walls of the box. This diaphragm is made of wood, and preferably

of spruce, although other varieties may prove equally good. Its thickness may be varied; but experience has shown that a diaphragm about one-eighth of an inch in thickness will give good results.

In front of the diaphragm B is placed a door, C, wholly separate therefrom, and carrying the mouth piece D, which is of the usual form, and placed at the middle point, or thereabout, of the diaphragm. This door is hinged to the box upon one of its vertical sides, so as to swing open and expose the entire surface of the diaphragm, as shown in Fig. 5.

Upon the rear surface of the diaphragm B, at or about its central point, I place a carbon, E, mounted on any suitable seat, *b*, which in the present instance is made of brass and screwed to the diaphragm.

Directly in rear of the carbon E, I place a second carbon, F, which is mounted upon a spring-arm, G, connected with the box by means of a screw or screws, *c*, and adjusted relatively to the carbon E by a set-screw, H, which passes through the wall of the box and has its end bearing against the bent end *d* of the spring-arm G. It is evident that by turning said set-screw the carbon F is thrown against the carbon E, while by retracting said screw the elasticity of the spring-arm will withdraw it from said carbon. The arm G being provided with a bent end, *d*, and the attaching screw or screws *c* being set close to the acute angle formed by said bend, when the screw is driven tightly up, its head bearing against the surface of the part *d* will tend to throw it flat against the wall of the case or box. This will draw the carbon F away from the carbon E, and the action of the set-screw H, forcing said bent end down, will cause the carbon F to approach the carbon E. The range of adjustment, being extremely small, can easily be effected by means of this construction and arrangement of parts.

The connections in this telephone are not substantially different from those already known.

The local or primary circuit is as follows: The wire *e* from one pole of the battery passes to the binding-post *f*, through the breaker,

and thence to the carbon on the diaphragm, and from the electrode F on the spring-arm to the primary of the induction-coil I, thence to binding-post *f'*, and thence back to the battery. One terminal of the coil on the receiver is connected to binding-post *g*, and passes thence to binding-post *h*, thence to the secondary of the induction-coil, and from there to binding-posts *h'* and *g'*, and thence to coil in the receiver. The line-wires are connected to binding-posts *h* and *h'*. The telephone-receiver is connected to the binding-posts *g* and *g'*.

The breaker which is shown in Figs. 2 and 3 and in detail in Fig. 4 consists of any suitable device for interrupting the local circuit. In this case it consists of a hook or support, L, adapted to receive the ring M on the extremity of the handle of the receiver. Above this hook is placed a latch, N, forming part of a spring-plate, O, secured to the box, and which in its normal position lies in contact with the connection P. When the receiver is placed on the hook the ring M pushes the latch N upward, and thereby raises the plate O and breaks the circuit. When the receiver is taken from the hook the elasticity of the plate throws it down into contact with the connection P.

I propose to use in connection with this telephone the receiver shown in Fig. 6, having a perforated diaphragm, and the permanent magnet, with a separable soft-iron core, all of which are shown and claimed in an application filed by me of even date herewith, and therefore forming no part of the invention comprised in this application.

By forming the diaphragm of wood I secure

increased sensitiveness and intensity of action, and by mounting the mouth-piece upon the hinged door, separate from the diaphragm, I am able to use the transmitter in a room of any size, for by opening the door so great a diaphragm surface is exposed that conversation carried on many feet from the box can be distinctly heard. On the other hand, for ordinary messages the mouth-piece will be sufficient at a distance of ten or twelve feet.

By using two carbons—one mounted on the diaphragm and the other on a spring-arm, as described—I obtain increased simplicity of construction and better results in operation.

What I claim is—

1. The combination, with the wooden diaphragm, of the two carbons, one mounted upon the central part thereof, and the other supported by an arm, G attached to the box, said arm having a bent end, *d*, and a set-screw, H, bearing against the end *d*, whereby the said carbon may be adjusted toward the diaphragm, substantially as described.

2. The combination, with the hinged door carrying the mouth-piece, of the separate diaphragm covering the whole face of the box, the carbon mounted thereon, the second carbon mounted on a spring-arm, and a set-screw bearing against the bent end of said arm, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

SETH E. BEEDY.

Witnesses:

JAMES L. NORRIS,  
ALBERT H. NORRIS.