

(No Model.)

S. BERGMANN.  
TELEPHONE.

No. 344,938.

Patented July 6, 1886.

Fig. 1.

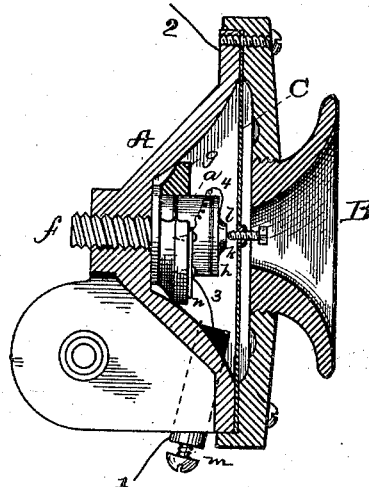
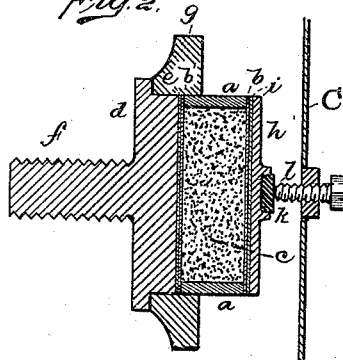


Fig. 2.



ATTEST:  
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# UNITED STATES PATENT OFFICE.

SIGMUND BERGMANN, OF NEW YORK, N. Y.

## TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 344,938, dated July 6, 1886.

Application filed March 9, 1886. Serial No. 194,538. (No model.)

*To all whom it may concern:*

Be it known that I, SIGMUND BERGMANN, of New York city, in the county and State of New York, have invented a certain new and useful Improvement in Telephones, of which the following is a specification.

My invention relates to that class of telephone-transmitters in which the variations of current are produced by changes in the resistance of a body of carbon or other material suitable for the purpose, due to variations in the pressure exerted thereon by the diaphragm against which the sound-waves are projected; and my invention consists in a novel construction for such body or button of carbon, as hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a section of the case of an Edison transmitter having a carbon electrode embodying my invention; Fig. 2, an enlarged section of the electrode and the parts contiguous thereto.

The button consists of a ring or band, *a*, of flexible material—such as soft rubber or felt—provided with two faces, *b* and *b'*, of platinum foil, glued or cemented to the edges of the band *a*. This receptacle is packed with loose powdered carbon or other suitable material, *c*. The button or electrode thus formed is used in the Edison telephone in the same manner as the ordinary carbon button.

*A* is the metal case; *B*, the mouth-piece, and *C* the diaphragm. The plate *d*, faced with platinum *e*, is rigidly secured to the back of the case by the screw *f*, extending from said plate. The plate *d* is encircled by an insulating-ring, *g*, which holds the button placed therein, its platinum face *b'* resting against plate *d*. A plate, *h*, faced with platinum *i*, is placed against the other side of the button. In the center of this plate is set an insulating-piece, *k*. A contact-screw, *l*, passing through the diaphragm, sets against *k*. The movements of the diaphragm cause the screw *l* to press with greater or less force against plate

*h*, and thus a greater or less pressure is exerted upon the powdered carbon, and the resistance thereof is varied.

The connections are as follows: Line-wire 1 is connected with insulated binding-post *m*, from which wire 3 extends to metal plate *n* on ring *g*. From this plate wire 4 extends to platinum plate *i*, to which it is soldered; thence the circuit is through the button and plate to the case and to line-wire 2.

It will be seen that I provide a complete carbon button or electrode which can be readily handled and transported without injury, and can be inserted in any transmitter of the class mentioned. The button, also, does not change its adjustment in use, as the carbon cannot get out of place in its receptacle. The flexible band permits the necessary changes of pressure. It is evident that the button may, if desired, be lengthened into the form of a tube filled with the powdered material and provided with the platinum faces attached to it, as already described.

I am of course aware of the ordinary construction of carbon telephones in which the material is placed within a tube or receptacle. My invention, however, relates to the article of manufacture set forth, which has the advantages above described.

What I claim is—

As an article of manufacture, a button or electrode for telephone-transmitters, having in combination a soft-rubber band, faces of platinum foil secured to said band, and powdered carbon or other suitable material filling the receptacle thus formed, substantially as set forth.

This specification signed and witnessed this 6th day of March, 1886.

SIGMUND BERGMANN.

Witnesses:

A. W. KIDDLE,  
E. C. ROWLAND.