

(No Model.)

W. BURNLEY.
TELEPHONE TRANSMITTER.

No. 353,536.

Patented Nov. 30, 1886.

Fig. 1.

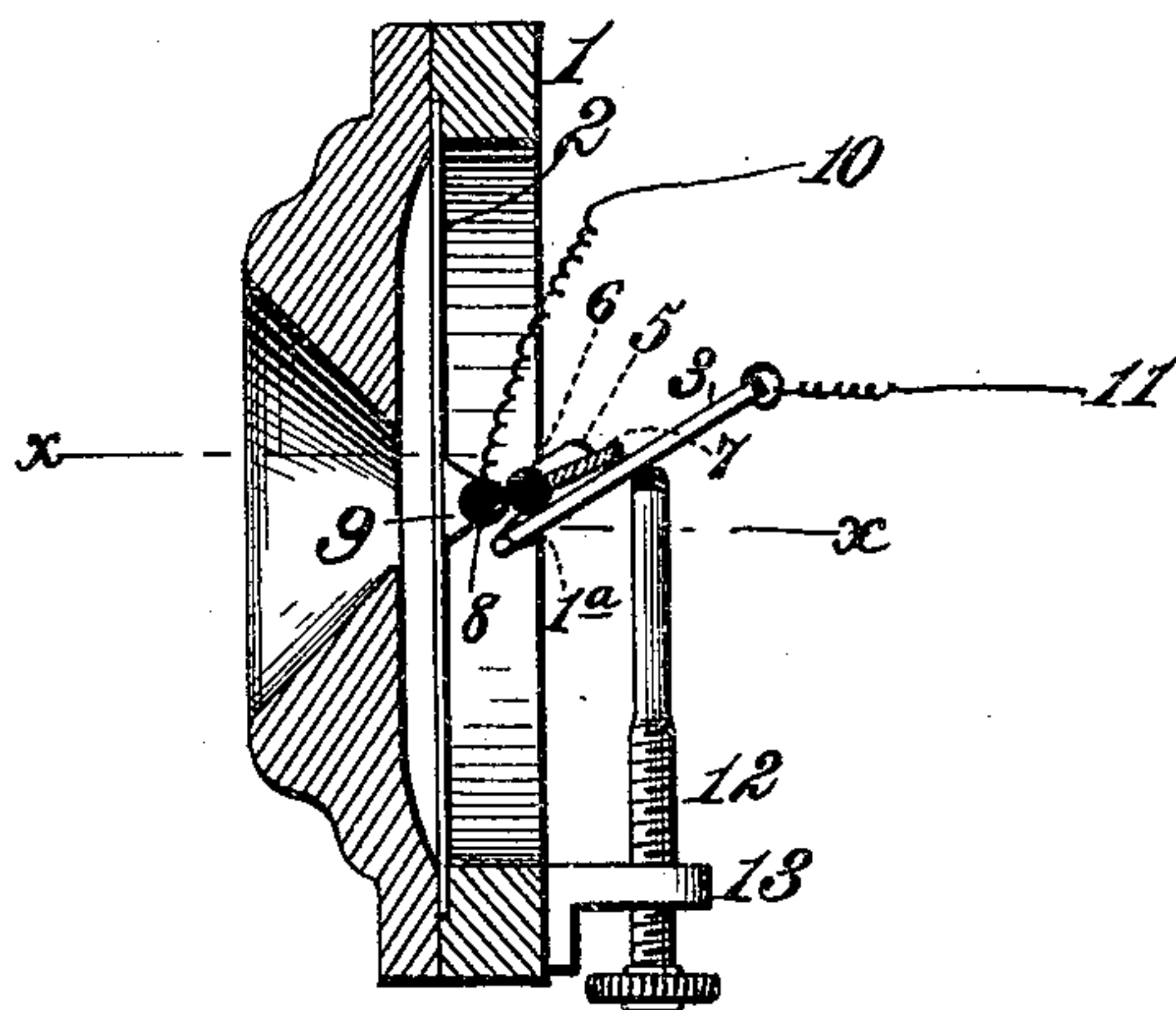


Fig. 2.

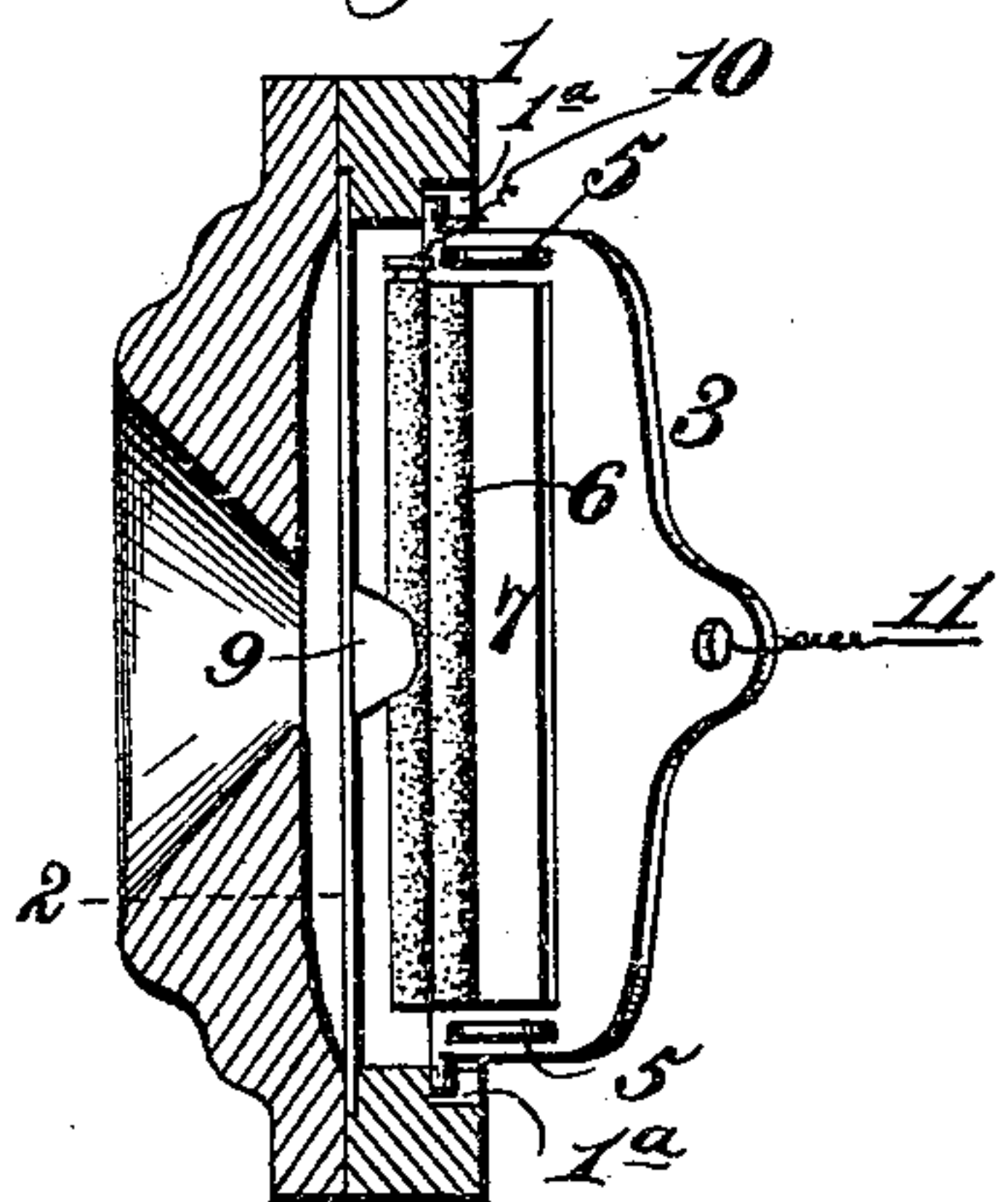
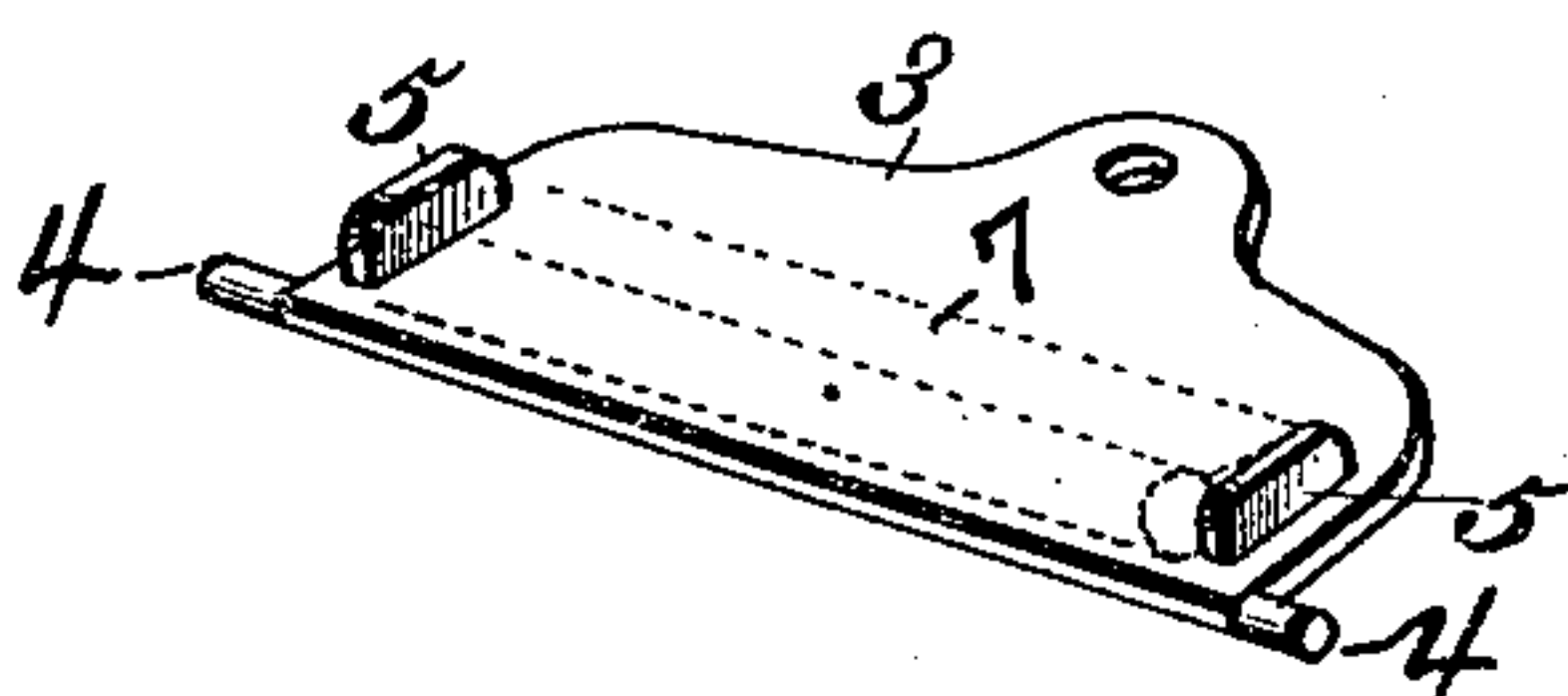


Fig. 3.



Witnesses,
Robert Gunnett,
Percy B. Hills.

Inventor,
William Burnley.
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM BURNLEY, OF NORTH EAST, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS TO CHARLES A. HITCHCOCK, OF SAME PLACE, AND LEWIS F. WATSON, OF WARREN, PENNSYLVANIA.

TELEPHONE-TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 353,536, dated November 30, 1886.

Application filed August 12, 1886. Serial No. 210,693. (No model.) Patented in England September 15, 1885, No. 10,750, and in France September 15, 1885, No. 171,195.

To all whom it may concern:

Be it known that I, WILLIAM BURNLEY, a citizen of the United States, residing at North East, in the county of Erie and State of Pennsylvania, have invented new and useful Improvements in Telephone-Transmitters, of which the following is a specification.

The present invention relates to that class of telephonic transmitters in which a tension-regulator for the electric current is set into action by sound-waves impinging against a diaphragm or vibrating body.

The object of the invention is to provide a simple and effective arrangement of devices, whereby the rise and fall of the electric tension or the changes in the electric current required to reproduce speech is effected by means of an electrode sliding freely on an inclined plane or table and co-operating with an electrode carried by a diaphragm. The inclined plane or table is pivoted to the frame or holder which carries the diaphragm, and is provided with means for changing its inclination to vary the contact-pressure between the electrode sliding thereon and the diaphragm-electrode. The adjusting device is a screw which impinges against and supports the platform in position, as will be hereinafter more fully described, and then set forth in the claims.

In the drawings, Figure 1 is a vertical section of a telephonic transmitter embodying my improvements. Fig. 2 is a horizontal section through the line *x x* of Fig. 1. Fig. 3 is a detail view of the pivoted platform or adjustable frame for the sliding electrode.

The reference numeral 1 denotes the wooden ring or frame for the support of the diaphragm 2. In the inner surface of this ring, which is disposed vertically, are formed opposite slots 1^a, having a downward inclination and opening at the back of the ring. These slots receive the pivots or trunnions 4 of the inclined plane or platform 3, shown in Fig. 3. This plane, which is composed of brass or a suitable conducting metal, is also provided with small lugs 5, adapted to hold the electrode 6 from lateral displacement. This electrode 6 is free

to slide on the inclined plane; and it consists of a carbon pencil to which is fastened, by glue or in any other suitable manner, a piece of glass, metal, wood, or other material, 7, which serves to weight the electrode and to preserve the contact-surface between it and another electrode, 8, carried by the diaphragm 2. The electrode 8 is also a carbon pencil of the same length as the pencil forming the electrode 6, and it is secured, by glue or otherwise, to a knob or projection, 9, on the rear of the diaphragm. An electric-circuit wire, 10, extends from the electrode 8, and another circuit-wire, 11, runs from the electrode 6 or from the apex of the inclined plane 3. When the pivots or trunnions of the latter are inserted in the slots 1^a of the frame 1, the plane is free to turn, and can be set at any angle required above a horizontal plane. A vertical set-screw, 12, is tapped through a lug, 13, on the ring 1, and its upper end impinges against and supports the plane 3 in its position. By adjusting this screw up or down the inclination of the plane may be varied to any desired degree within the limits of its movement. By such change of inclination of the plane 3 it follows that the degree of contact between the loose sliding electrode and the one carried by the diaphragm may be varied to any desired degree—for example, by causing the plane to approach the vertical the contact will be increased by the gravity of the loose electrode, which is a constant force, not subject to disturbances by expansion and contraction, as is the case when the adjustment is made by metallic connections.

It should be observed that the set-screw may have a rubber point to support the adjustable plane, in order to prevent short-circuiting when the screw is fitted in metallic supports. Furthermore, I desire it to be understood that the screw is not the only device which can be used for adjusting the inclined plane. I may use any other suitable device for varying the inclination of the plane which supports the loose electrodes.

I am aware that a loose gravitating electrode has heretofore been fitted on a fixed inclined plane of a telephonic transmitter, and

that an instrument of French origin has a glass tube secured to a telephone mouth-piece and connected with a jointed tubular stand to set the tube at different angles. In such instrument the glass tube contains a series of carbon balls or spherical electrodes which co-operate with an electrode carried by the diaphragm.

My instrument differs from the above, since I use a stationary support or holder for the diaphragm and a level or flat plane supporting a single loose electrode and pivotally connected with the diaphragm support or holder to set said plane at any desired angle in relation to the diaphragm support.

What I claim is—

1. In a telephonic transmitter, the combination, with the fixed supporting-frame and the diaphragm and its electrode carried thereby, of a platform pivotally connected with the fixed supporting-frame, the loose sliding gravitating electrode resting upon said pivoted platform and making contact with the dia-

phragm-electrode, and means for supporting the pivoted platform and varying its inclination in relation to the diaphragm, for the object herein stated.

2. In a telephonic transmitter, the combination, with the fixed supporting-frame and the diaphragm and its electrode, of a platform pivotally connected at one end with the fixed supporting-frame, the loose-sliding gravitating electrode resting upon the pivoted platform, and the vertical adjusting-screw mounted upon the fixed diaphragm-frame and bearing upon the free end of the pivoted platform for supporting the latter at different angles in relation to the diaphragm, for the object herein stated.

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

WILLIAM BURNLEY.

Witnesses:

G. A. HAMPSON,
I. T. BEECHER.