(No Model.)

W. BURNLEY.

TELEPHONE.

No. 436,335. Patented Sept. 16, 1890.

Fig. 1.

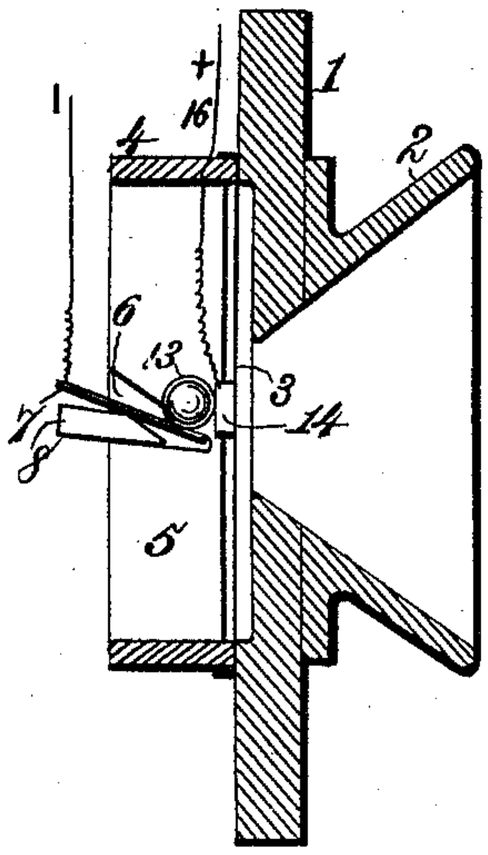


Fig. 2.

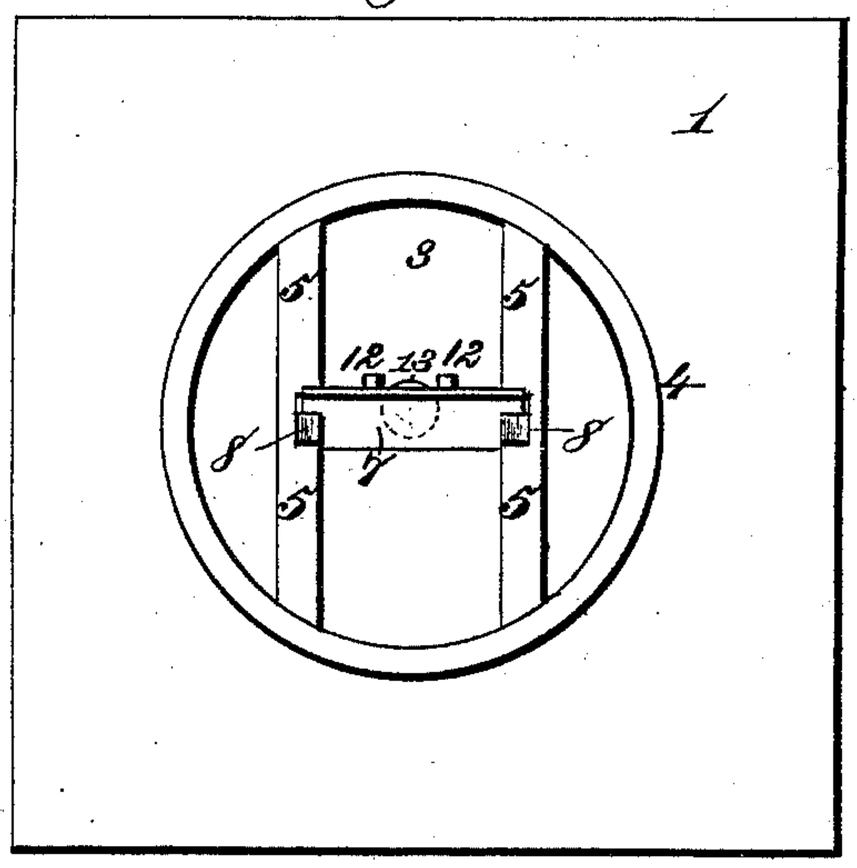


Fig. 3.

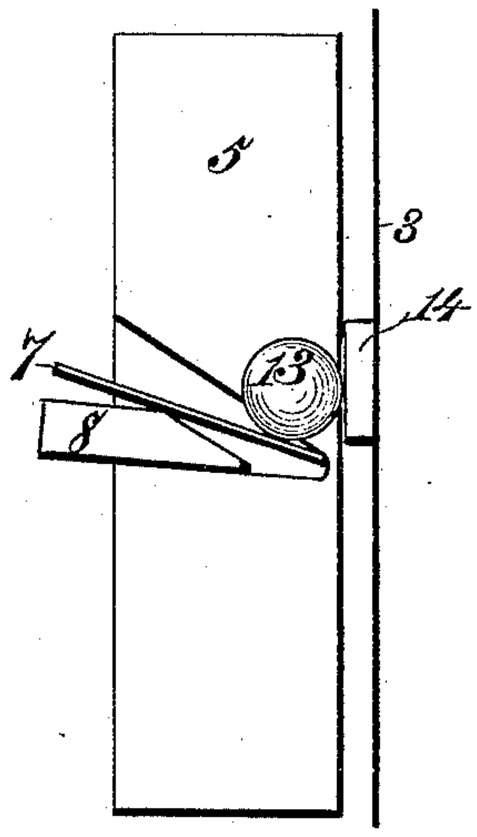


Fig. 4.

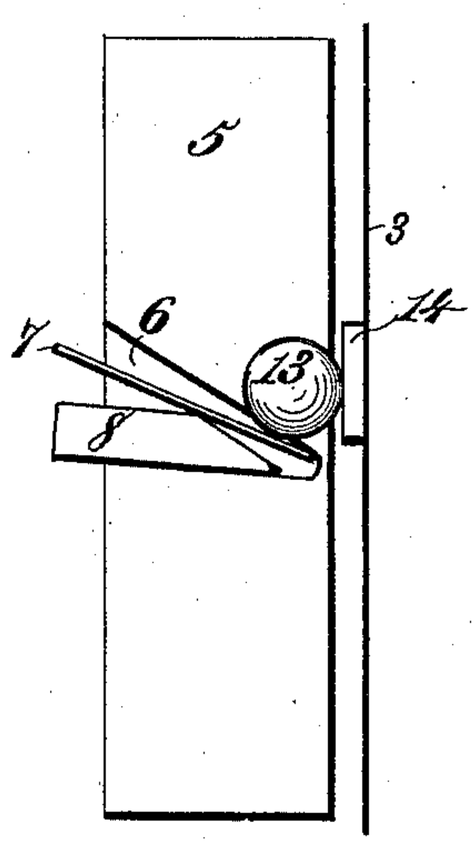


Fig. 5.

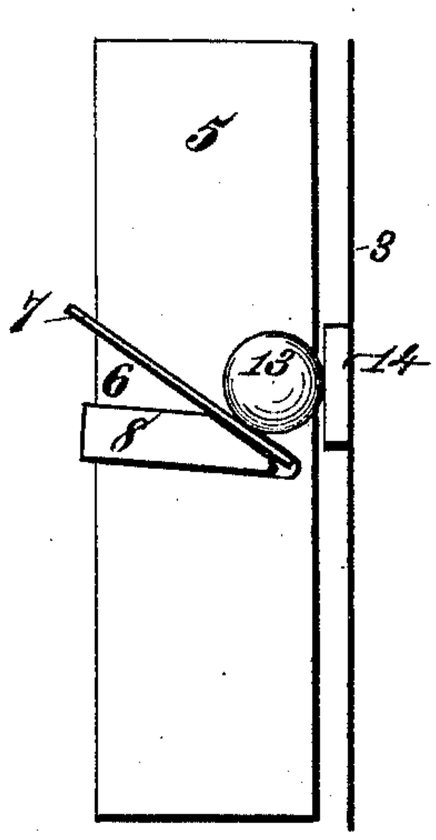
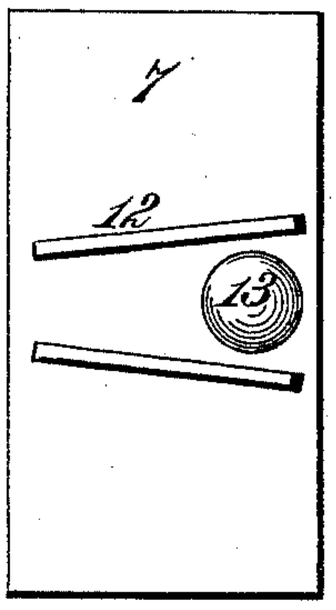


Fig. 6.



Witnesses.
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J. A. Rutherford.

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.

SPECIFICATION forming part of Letters Patent No. 436,335, dated September 16, 1890.

Application filed August 11, 1887. Serial No. 246,722. (No model.)

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 telephone-transmitters in which a loose gravitating electrode is supported upon an adjustable inclined plane and makes contact with a diaphragm electrode.

The object of the invention is to provide simple and effective means for supporting the inclined electrode-supporting plate and changing its angle of inclination in order to vary the initial contact-pressure between the loose and diaphragm electrodes.

To these ends the invention consists in the construction and combination of parts, which will be hereinafter more fully described, and then set forth in the claims.

In the accompanying drawings, Figure 1 is a vertical longitudinal section of a telephone-transmitter embodying my improvements. Fig. 2 is a rear view of the inclined adjustable plate, the diaphragm, and supporting-frame. Figs. 3, 4, and 5 represent different portions of the inclined frame. Fig. 6 is a top view of the inclined plane and ball-electrode.

The reference-numeral 1 designates the frame or casing of my telephone-transmitter, having a suitable mouth-piece 2 for concentrating the sound-waves upon the diaphragm 3. This diaphragm is secured to or held by a circular rim 4, which is attached to the frame or casing. To the inner surface or circumference of this rim are glued or otherwise secured two parallel bars or vertical standards 5. In the adjoining faces of these bars or standards are made grooves 6, which serve to receive and retain an inclined metal plate or platform 7. These grooves are made of a wedge form, and they are closed at their rear ends adjoining the diaphragm, these closed ends being carried out to form rounded surfaces, which serve as a bearing for the inclined metal plate 7.

Beneath the inclined plate in each of the grooves 6, made in the bars or standards 5, is located a wedge-shaped key 8. These keys are smaller than the grooves in which they are fitted, and they can be moved in and out to vary the inclination of the plate 7. It will be seen that in order to attain such effect the inclined plate must be supported upon the wedges or keys in such manner that when the same are in the position seen in Fig. 3 the plate 7 has the least inclination. By pushing in the wedges, as is shown in Figs. 4 and 5, the angle of the inclined plate is increased. Thus it is evident that by drawing out the wedges or keys from the grooves the plate is lowered, and when the wedges are pushed in the plate is raised at the rear in order to give it a greater angle of inclination relatively to the diaphragm.

It is obvious that by causing the inclined plate to have a bearing in the rear or narrowed portion of the groove in the standard, the lowermost position of the plate simply turns as a pivot and is never raised or lowered. The plate 7 is made of metal, and upon its upper surface are applied two strips or ribs 12, which serve as a guideway for a loose spherical electrode 13 and prevent the latter from rolling off the plate. The electrode 13 is a carbon ball, and it co-operates with another electrode 14, applied to the diaphragm, and it is obvious that the contact between the electrodes is caused solely by the gravity of the loose rolling ball or electrode. The circuit-connections are effected by the wires 16 and 17, leading, respectively, from the diaphragm-electrode 14, and the inclined metal plate serving as a support for the rolling electrode.

It is evident that by raising the inclined plate, or giving it a greater angle than is seen in Fig. 3, the contact-pressure between the electrodes is increased or varied, which is essential to obtain the proper adjustment of the parts to conform to the strength of the current force and amplitude of sound-vibrations and other conditions of the circuit.

I do not desire to claim herein anything but the special devices shown for holding and adjusting the inclined plane and supporting the loose electrode, since I have already ob-

tained a patent for a telephone-transmitter containing a broad claim for means for varying the angle of the inclined plane in order to change the contact-pressure between loose and diaphragm electrodes.

Having thus described my invention, what I claim is—

1. In a telephone-transmitter, the combination of a diaphragm, standards 5, having wedge-shaped grooves 6 closed at their rear ends, and the plate 7, seated in the groove 6 and bearing against the closed ends thereof, and the electrode 13, and wedges 8, substantially as herein set forth.

2. In a telephone-transmitter, the combination of the standards or supports having wedge-shaped grooves, the inclined plate seated in and adapted to swing in said grooves, and the sliding wedges or keys for changing the angles of the inclined plate, with the diaphragm, its electrode, and the loose electrode supported upon the inclined plate, substantially as herein set forth.

3. In a telephone-transmitter, the combination, with a diaphragm and its electrode, of an inclined plane or platform, ribs applied to its top surface to form guard-rails and a guideway, and a loose spherical electrode placed between said guard-rails and making contact with the diaphragm-electrode, substantially as herein set forth.

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

WILLIAM BURNLEY.

Witnesses:
C. C. HALL,
E. C. HORTON.