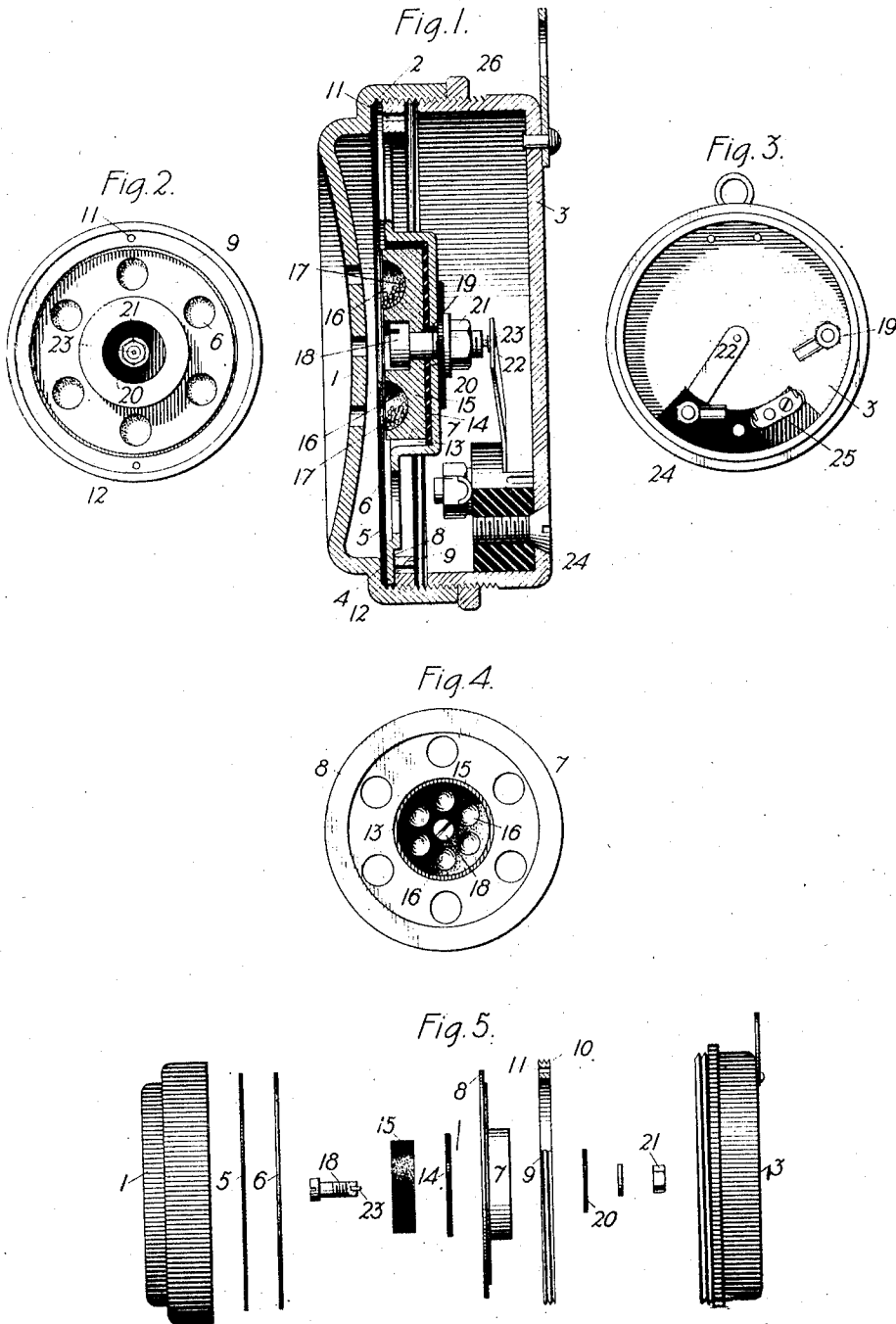


H. E. SHREEVE.
MICROPHONE.
APPLICATION FILED SEPT. 2, 1909.

1,026,057.

Patented May 14, 1912.



Witnesses:
Irving Mac Donald.
Frederick V. Hollenbeck.

Inventor.
Herbert E. Shreeve
by *S. C. Sanner* Att'y.

UNITED STATES PATENT OFFICE.

HERBERT E. SHREEVE, OF WYOMING, NEW JERSEY; ASSIGNOR TO WESTERN ELECTRIC COMPANY, OF NEW YORK, N. Y., A CORPORATION OF ILLINOIS.

MICROPHONE.

1,026,057.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HERBERT E. SHREEVE, citizen of the United States, residing at Wyoming, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Microphones, of which the following is a full, clear, concise, and exact description.

This invention relates to microphone transmitters, a type particularly adapted for use in combination with a sensitive receiver for the purpose of aiding deaf persons to hear.

The object is to provide an instrument of this character which will be simple, compact, cheap to manufacture and efficient in use, having comparatively few parts, which are assembled in such manner as to be readily accessible for purposes of repair, adjustment or substitution of parts.

The invention consists in certain details of construction and combinations of parts, as will be hereinafter set forth by reference to the accompanying drawings, wherein—

Figure 1 is a vertical sectional view of the instrument with the parts assembled; Fig. 2 is a rear view of the cap with the bridge secured in place; Fig. 3 is a front view of the back plate showing the terminal connections; Fig. 4 is a front view of the bridge; Fig. 5 shows the various elements which go to make up the transmitter, (excepting the granular carbon) showing said parts in the relative positions they assume when assembled.

A concave circular cap or face plate 1, perforated at its center, is provided upon its interior with threads 2, with which threads a casing or back plate 3, exteriorly threaded, is adapted to engage. Upon the interior face of said cap, a peripheral raised portion 4, forming a rim, is provided, upon which is adapted to rest a mica diaphragm 5. Lying flush with said mica diaphragm is the front electrode, which in the present instance is a thin carbon diaphragm 6. The bridge 7 is provided with a depressed portion 8 for engagement with said carbon diaphragm 6, and upon this depressed portion an annulus 9, threaded upon its exterior, as at 10, is adapted to engage with the threaded portion 2 of said cap and clamp said bridge 7, carbon diaphragm 6 and mica diaphragm 5 to said rim or raised portion 4 of the cap. The ring 9 has holes

11, 12, diametrically opposite each other, with which a special tool is adapted to engage in screwing down said ring and thereby clamping said parts to the cap 1. The center of said bridge 7 is provided with a recess 13, preferably annular, at the bottom of which is secured upon an insulating washer 14 the rear electrode, in the form of a circular carbon block, 15, the construction and arrangement being such that the face of said block projects slightly above the surrounding surface of said bridge and is clear and free from the sides of said recess. Ranged around the center of said carbon block 15 is a series of hemispherical cavities 16, having highly polished faces and being partially filled with a conducting medium 17, in the present instance, granular carbon. The relative position of said carbon block 15 with respect to said diaphragm 6 is such that while the said block does not actually contact with said diaphragm, yet they are so intimate that the carbon granules contained in said cavities will not escape, but are held therein by said diaphragm. A bolt 18, passing through an opening 19 in the center of said carbon block 15 and through the insulating washers 14 and 20 on either side of the base of said annular recess, is secured in the bottom of said recess by a nut 21 on the under side of the base of said recess. The head of said bolt 18 lies slightly below the face of said carbon block.

Bearing against and making electrical connection with a platinum point 23 secured to the projecting end of said bolt is a platinum tipped spring 22, anchored at its opposite end to a terminal block 24. Secured upon the casing 3 is a post 19 to which a conductor leading from the other circuit terminal of the instrument may be attached. The connecting lug 25 may also, if desired, be mounted on the terminal block 24. A locking ring 26 is provided on the casing with which the cap 1 is adapted to engage at the limit of its movement.

Having thus described my invention, I claim:

1. In a microphone, the combination with a mouthpiece, of a movable electrode and a bridge clamped against the inner face of said mouthpiece by an adjustable annulus, a plurality of openings in said bridge, a fixed electrode secured in a recess in said

bridge with its face in intimate relation to, but not actually touching, said movable electrode, a depression in said fixed electrode, granular material partially filling said depression and held therein by contact with said movable electrode, a back plate or casing adapted to be removably secured to said mouthpiece, and a locking ring for said parts.

2. In a microphone, the combination with a cap forming the mouthpiece, said cap being interiorly threaded and having a raised rim near the periphery of its interior face, a mica diaphragm resting upon said rim, a thin carbon diaphragm adapted to lie flush with said mica diaphragm, a metallic bridge provided with a series of openings, the periphery of said bridge resting upon said carbon diaphragm, a threaded ring adapted to clamp said diaphragms and bridge to said cap, an annular recess in the

center of said bridge, a carbon block secured in said recess with its face in intimate juxtaposition to said carbon diaphragm, a plurality of hemispherical cavities in the face of said block, the surfaces of said cavities being highly polished, each of said cavities containing carbon granules held therein by contact with said diaphragm, a back plate or casing adapted for screw threaded engagement with said face plate, a terminal block in said back plate and having mounted thereon the leading-in wires, and a locking ring for maintaining permanent the adjustment of said front and back plate.

In witness whereof, I hereunto subscribe my name this 31st day of August A. D., 1909.

HERBERT E. SHREEVE.

Witnesses:

IRVING MACDONALD,
EDGAR F. BEAUBIEN.