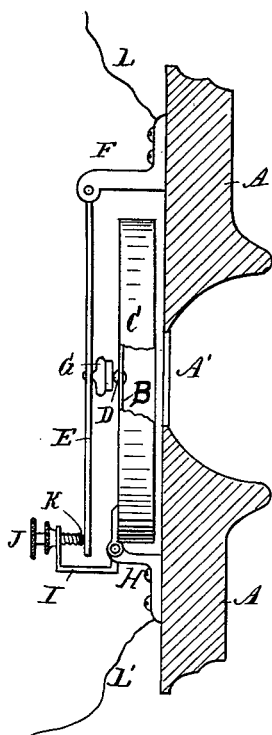


(No Model.)

W. R. COLE.  
TELEPHONE TRANSMITTER.

No. 386,965.

Patented July 31, 1888.



Attest:  
John Schuman.  
*[Signature]*

Inventor:  
William R. Cole.  
by his atty  
*[Signature]*

# UNITED STATES PATENT OFFICE.

WILLIAM R. COLE, OF DETROIT, MICHIGAN, ASSIGNOR TO HIMSELF, FRANK G. SMITH, AND GEORGE W. MOORE, TRUSTEES, OF SAME PLACE.

## TELEPHONE-TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 386,965, dated July 31, 1888.

Application filed May 10, 1886. Serial No. 201,640. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM R. COLE, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Telephone-Transmitters; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in the construction and operation of telephone-transmitters. Its object is to improve the articulation in the receiving-instrument; and it is so constructed that while it is very sensitive to the voice or rather to the vibrations of the air caused by the voice it is not susceptible to jars or other noises, such as affect transmitters in which the necessary adjustment is secured by the employment of springs.

The invention consists in the peculiar manner of supporting the diaphragm, the combination of said diaphragm with a suspended bar carrying an electrode, and various combinations of the parts, as more fully herein-after described.

In the drawings, wherein my invention is shown in sectional diagram, A represents the base or front, in vertical central section, and having the usual central orifice, A', through which to speak.

B is the diaphragm having the ring C securely fastened to its outer edge and having an electrode, D, fastened to its center.

H is a bracket or support secured to the rear face of the base, and to which the diaphragm is hinged in such a manner that such diaphragm, unless restrained, will fall away from said base.

F is another bracket secured to the rear face of the base immediately opposite the bracket H, so that when the whole device is in an operative position the bracket H will point upward and the bracket F will point downward on the same vertical line. To the bracket F is hinged the bar E, upon which an electrode,

G, is fastened at the proper point to come into constant contact with the electrode D on the diaphragm, the requisite pressure or adjustment being had through the thumb-screw J passing through the yoke I and engaging against the rear face of the bar E. The incoming current is through the wire L, bracket F, and bar E to the electrode G, thence through the electrode D, diaphragm B, and bracket H, to the outgoing wire L'. The point of the set-screw J is provided with an insulated point, K, and this is preferably of soft rubber.

The ring secured to the periphery of the diaphragm is for the purpose of concentrating the sound-waves toward the center of the diaphragm to increase the vibration at that point; and to prevent such sound-waves escaping at the outer edge of the diaphragm this diaphragm is so hinged that when standing perpendicular it is nearly balanced, but so that unless held in place by contact or resting against the electrode on the bar it would fall to the rearward on its hinge. So it will readily be seen that gravity alone will always keep the two electrodes in contact, the weight or pressure in said contact being regulated, as desired, by the set-screw, and the diaphragm does not move from its position when in operation, or under the undulations of the several waves caused by speaking into the instrument.

What I claim as my invention is—

In a microphone-transmitter, the following elements: a base having a central orifice, a diaphragm (having a flange-ring secured to its periphery and an electrode centrally secured to its rear face) hinged at its lower edge to the base by means of a bracket, a bar (carrying an electrode) hinged at its upper end, and an insulated set-screw, the parts being constructed, combined, and arranged relatively to each other substantially as set forth.

W. R. COLE.

Witnesses:

H. S. SPRAGUE,  
JOHN SCHUMAN.