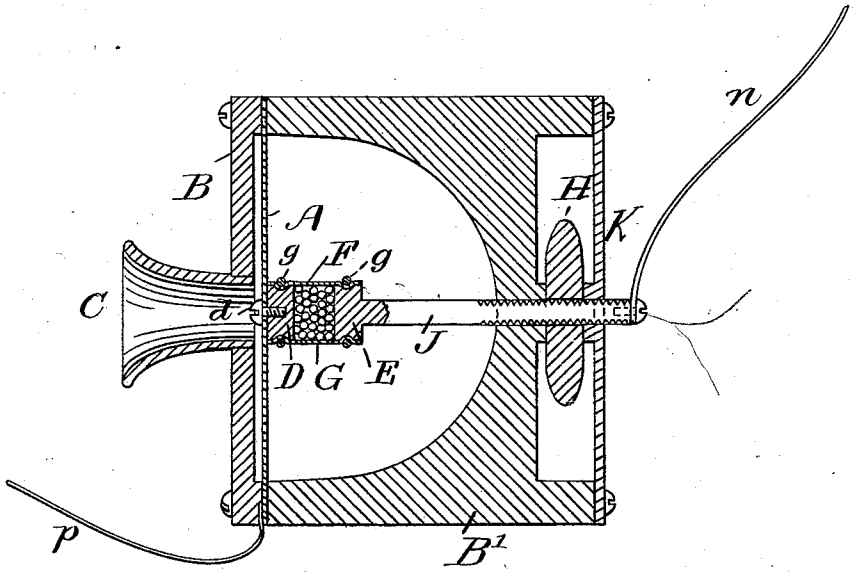
(No Model.)

E. BERLINER.

TELEPHONE TRANSMITTER.

No. 254,190. Patented Feb. 28, 1882.



Witnesses,
Geo. Willis Pierce
J. H. Cheever.

Inventor:
Emile Berliner

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

EMILE BERLINER, OF BOSTON, MASSACHUSETTS.

TELEPHONE-TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 254,190, dated February 28, 1882.

Application filed December 15, 1881. (No model.)

To all whom it may concern:

Be it known that I, EMILE BERLINER, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Telephone-Transmitters, of which the following is a specification.

This invention relates to that class of telephone-transmitters in which a button or similar inclosed mass of conducting material is interposed in the circuit of an electric current, and by letting sound-waves act upon the said button cause undulations in the said current.

My present invention consists in forming such buttons or masses of conducting pellets or globules—as, for instance, lead shot of a fine grade or any such well-rounded particles—which, when pressed together in the form of a button, will not shift.

I am aware that buttons have been made previously of loose conducting particles—iron or brass filings, or also crushed carbon; but in all these instances the irregularity in the form of each particle caused them to shift under the influence of continuous vibrations. To prevent this shifting is the object of this invention.

In the drawings, A is a metal diaphragm clamped in the usual manner between two blocks, B B′, as in an ordinary telephone, and provided with a mouth-piece, C.

D and E are brass blocks, connected to one another by an elastic tubing, F. This tubing is bound around the brass blocks by wires or bands *g g*. The space between D and E is filled with conducting-globules, of metal or other material—such as shot or similar well-rounded particles, G—which will not shift.

To the block E is fastened a square screw, J, which runs through the adjusting-nut H and frame K. By this arrangement the tubing F can be pulled out or pressed together, thereby adjusting the pressure with which the conducting-pellets bear against one another.

The block D is fixed to the diaphragm by a screw, *d*, and by means of conductors *p* and *n* this transmitter can be inclosed in a telephonic circuit, in which case by speaking into the mouth-piece C the pressure between the conducting pellets or globules in the mass G is varied in correspondence with each sound-wave according to well-known electrical laws.

I am aware that pellets of conducting material arranged in a tube one ball behind the other have been used ere this, and this I do not claim as my invention; but

What I do claim is—

A telephone-transmitter consisting essentially of a diaphragm, in combination with a button or mass of conducting pellets, globules, or similar well-rounded particles, which can be vibrated under the action of sound-waves, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 13th day of December, 1881.

EMILE BERLINER.

Witnesses:
GEO. WILLIS PIERCE,
J. H. CHEEVER.