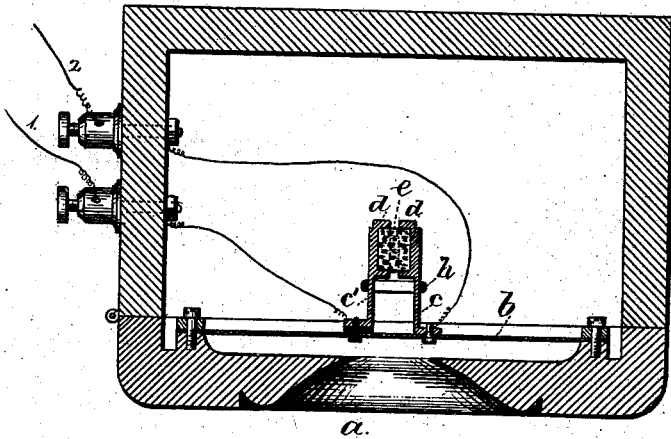


T. A. EDISON.
TELEPHONE.

No. 252,442.

Patented Jan. 17, 1882.



Witnesses,
S. L. Griffin
John Bruce

Inventor
Thomas A. Edison

UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF MENLO PARK, NEW JERSEY.

TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 252,442, dated January 17, 1882.

Application filed August 6, 1879.

To all whom it may concern:

Be it known that I, THOMAS ALVA EDISON, of Menlo Park, in the State of New Jersey, have invented an Improvement in Telephones, 5 of which the following is a specification.

In this telephone the button of finely-divided conducting material is between metal cups on arms secured to the diaphragm, and the pressure on the carbon button is varied by the outward movement of the diaphragm, causing the 10 ends of the arms to move slightly outward and lessen the pressure on the carbon, and this pressure is increased when the ends of the arms are brought toward each other by the return movement of the diaphragm. 15

In the drawing I have shown a horizontal section of the telephone. The mouth-piece *a* and diaphragm *b* are of usual character. *c c'* are metal arms or supports secured to the diaphragm *b*, and the ends of these arms are made as cups to receive the carbon button *e*. 20 One of these arms is insulated from said diaphragm, so that the current passes by wire 1, arm *c'*, carbon *e*, arm *c*, and wire 2 to line. 25 The ends of the arms or supports *c c'* are kept pressed against the ends of the carbon button either by the spring of the arms or by a rubber band, *h*, passed around the spring-arms.

When a sound-wave strikes the diaphragm

the diaphragm is bowed outwardly and causes 30 the ends of the arms to be farther apart than when the diaphragm is at rest; consequently the pressure on the carbon is lessened, and thus weakens the electric current passing over the line; but as the diaphragm returns to its 35 normal position the ends of the arms are again drawn toward each other, and increase the pressure on the carbon button, and the tension of the electric current on the line is also increased. Thus all the sound-waves striking the 40 diaphragm are translated into electric waves of corresponding character as to pitch and amplitude.

I employ a flat carbon of the character represented in other applications heretofore filed by 45 me.

I claim as my invention—

The combination, in a telephone, of a diaphragm, two spring-arms attached to the same, 50 one of which is insulated, a carbon button between the said arms, a contractile spring applied to the arms, and the circuit connections, substantially as set forth.

Signed by me this 4th day of August, 1879.

THOS. A. EDISON.

Witnesses:

S. L. GRIFFIN,
FRANK McLAUGHLIN.