

(No Model.)

E. A. SCHOETTEL.
Transmitting Telephone.

No. 237,633.

Patented Feb. 8, 1881.

Fig. 1

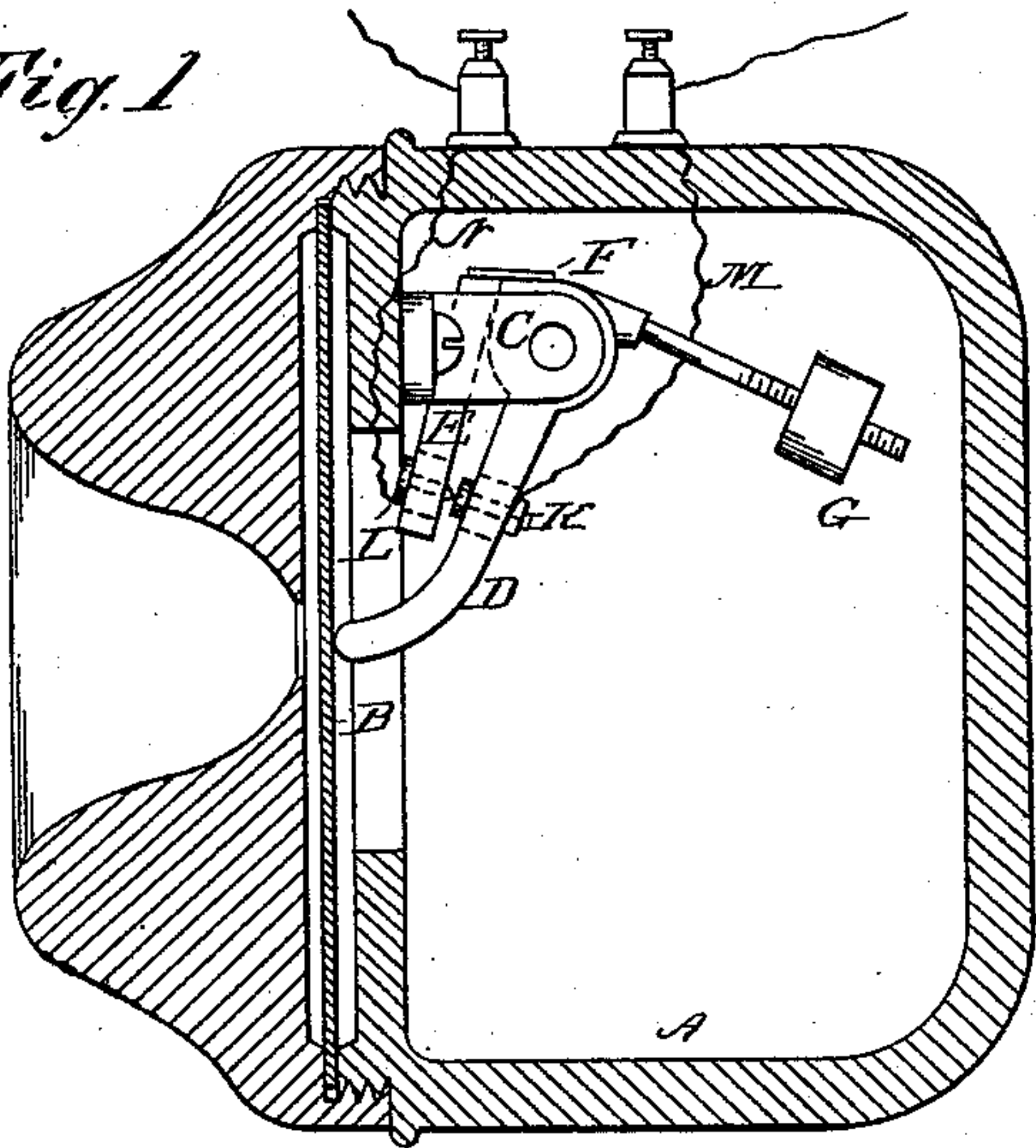


Fig. 4.

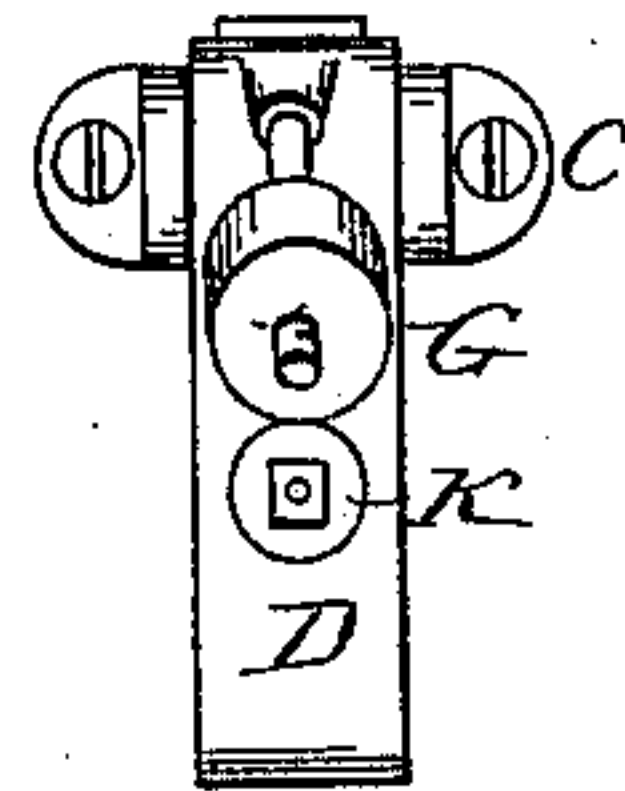


Fig. 2

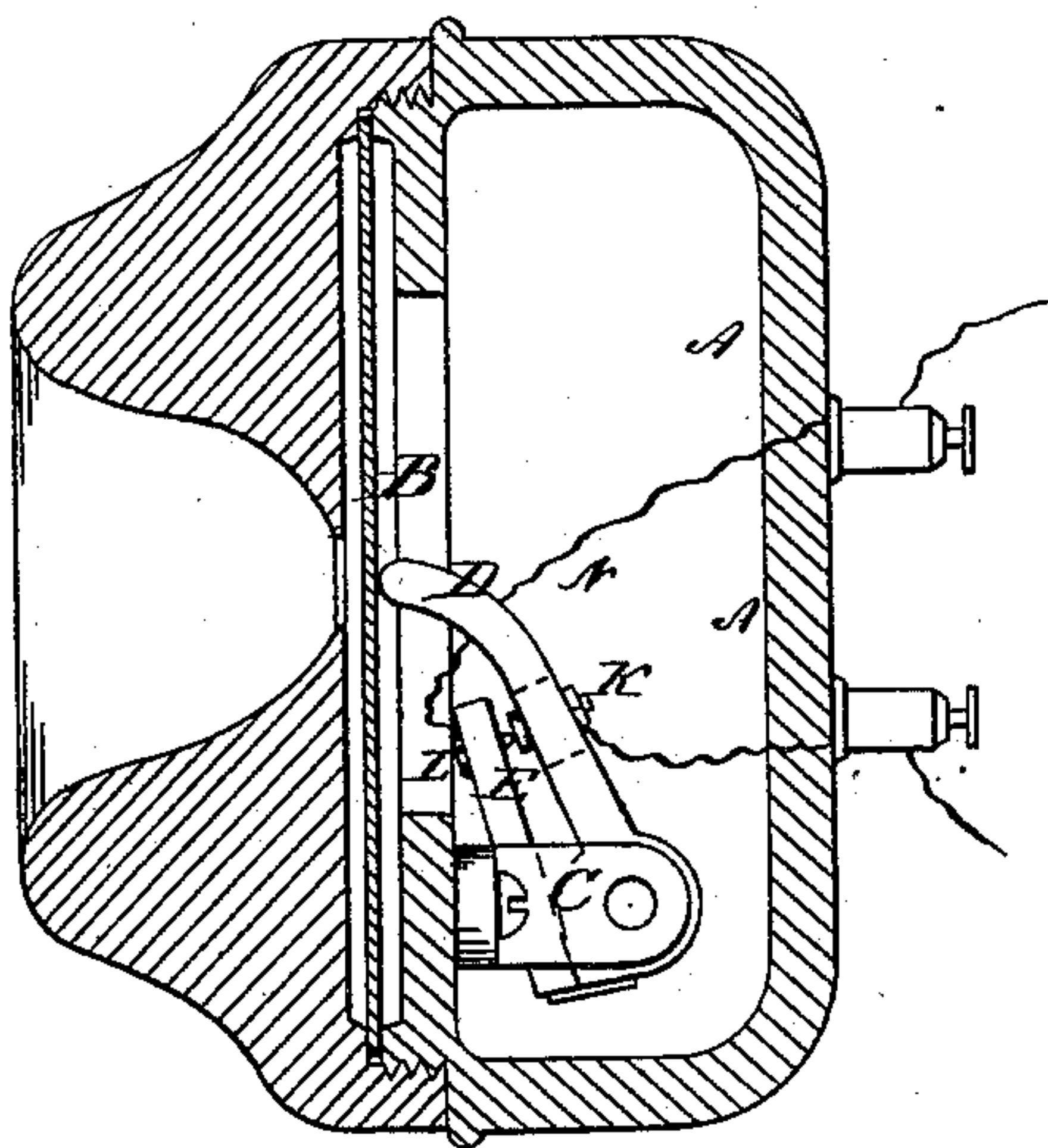
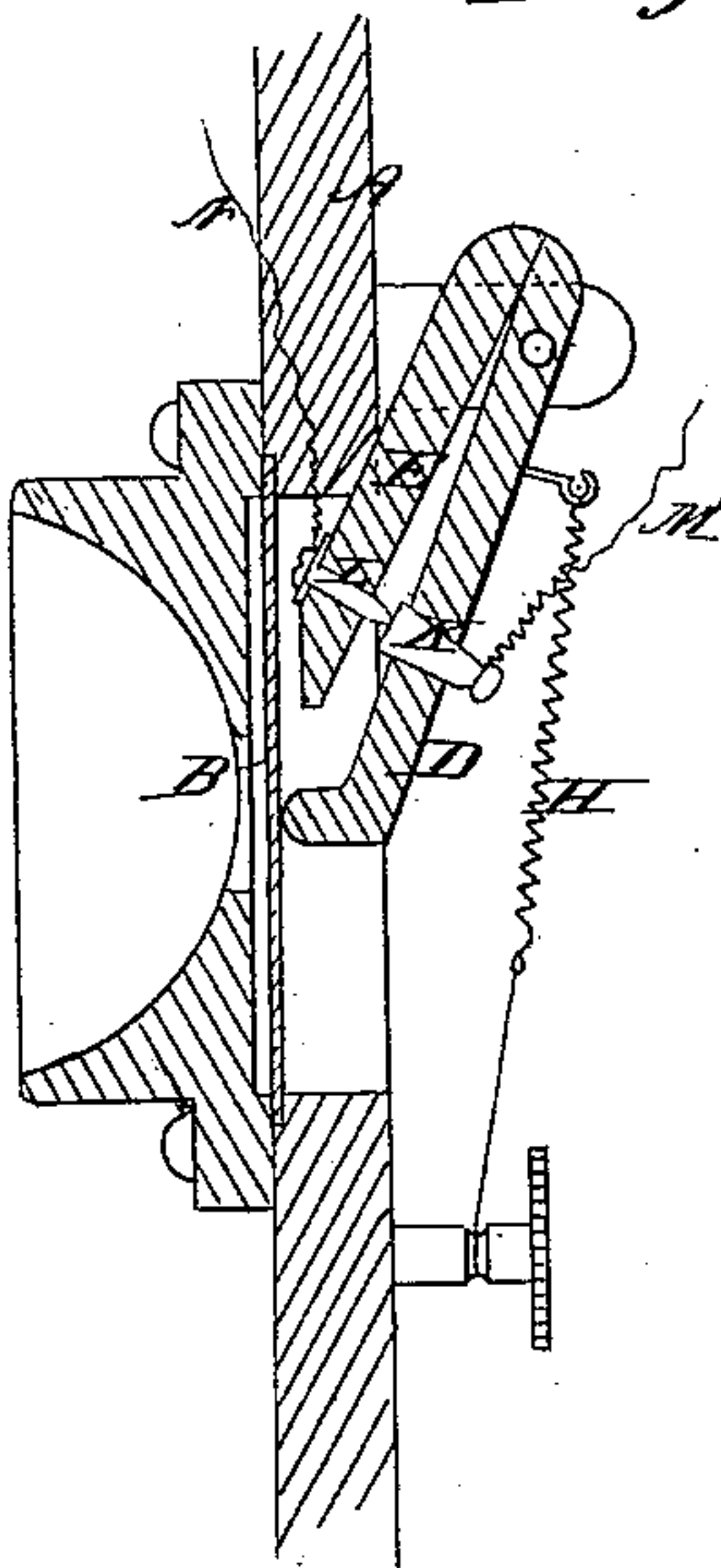


Fig. 3.



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TRANSMITTING-TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 237,633, dated February 8, 1881.

Application filed September 30, 1880. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. SCHOETTEL, of Brooklyn, in the county of Kings and State of New York, have invented certain new and
5 useful Improvements in Transmitting-Telephones; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and
10 use the same, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a vertical central section of telephone. Figs. 2 and 3 are similar sections of
15 modifications. Fig. 4 is a rear view of detail.

My invention has relation to transmitting or "carbon" telephones; and it consists in the novel construction hereinafter described and
20 claimed, the object being to provide an instrument made of materials which shall not generate such sonorous vibrations or local tones as usually impair distinctness of articulation, and which shall also be so constructed and framed that the contact-points cannot entirely sepa-
25 rate or break under ordinary usage, and will consequently remain intact and undisturbed, and unproductive of sparks, allowing larger batteries to be used in charging the primary of the induction-coil than would otherwise be
30 expedient.

Another object of my invention is to provide an instrument in which the contact-points will require no adjustment, but after being
35 once properly arranged will remain in proper position and relation, thus avoiding the necessity and annoyance of constant attention, to which many transmitting-telephones are liable.

The instrument embodying my improvements embraces a diaphragm of metal or other
40 suitable material, and it must be understood, as an essential condition, that the diaphragm is out of and forms no part of the electric circuit.

In the drawings, A designates the case or box of the instrument, to which the diaphragm B
45 is properly fitted. Above the latter is a bracket, C, which supports the contact-holders, consisting of the two pendent arms D E, which are made of hard rubber, wood, or other material, preferably non-metallic, which will be non-

resonant to such a degree that their vibration 50
will generate no such sonorous or foreign tones or sounds as will impair the distinctness of articulation, or be appreciable in the receiver. The arm D is pivoted to the bracket, while the
55 arm E is attached to the upper end of the arm D by a light flexible connection, F, which serves the purpose of a very yielding hinge, and allows the arm E an independent move-
60 ment, so that it may respond to the vibrations of the diaphragm.

Instead of having the arms D E made of separate pieces joined together by a flexible
65 connection, they may be made integral, the material of which they are composed being made very thin at the bend, so as to be flexible.

The lower end of arm D is curved inwardly toward the inner surface of the diaphragm, and is held lightly in contact therewith by
70 means of an adjustable counterpoise, G. In some cases a spring, H, may be used, instead of a weight, to maintain contact of arm D and diaphragm, as shown in Fig. 4; but the weight is preferable, being less liable to lose
75 adjustment or get out of order.

K L are the contacts, securely fitted in or to
75 the arms D E. The contacts may be of carbon or metal; but I prefer having one made of carbon and the other, say, of platinum. The contacts are held in mutual contact by the weight of the arm E alone, and their closeness
80 of impingement or degree of pressure disturbed by the vibrations of the arm D following those of the diaphragm.

As will be observed, the contacts do not
85 meet at an angle, but are in a direct line with each other; hence there is no sliding friction in their action, nor any grating or grinding effects. The variation in the electric current results from a clear variation in pressure.

Fig. 2 shows a modification in which the arms
90 D E are inverted, but their relations to each other and action are substantially the same as when they are pendent. In this modification the spring or weight for keeping the arm D in contact with the diaphragm may be dispensed
95 with.

By the terms "dull" or "non-resonant," as used in the claims, I mean non-productive of

metallic or foreign sounds, such as would be generated if the arms D E were made of metal, or if the diaphragm were part of the electric circuit. The arms D E, being made
5 of wood, hard rubber, or its equivalent, are practically dull in tone, or non-resonant. Their vibration will be simply responsive to the vibrations of the diaphragm, and there will be no ringing or prolonged tones.

10 Having described my invention, I claim—

1. The combination, with the diaphragm B, of the arms D E, supporting or holding the respective contacts, the arm E being sustained by the arm D, the contacts held in im-
15 pingement by gravity, free from sliding friction, and the arm D being in contact with the diaphragm, substantially as set forth.

2. In a telephonic transmitter or carbon tele-
20 phone, in which the diaphragm is isolated from the telephonic circuit, the combination of the arms D E and contacts K L, one of said arms being in contact with the diaphragm, substantially as specified.

3. In a telephonic transmitter or carbon tele-
25 phone, the combination, with the diaphragm and the contacts through which the current is varied, of the contact-supports, constructed of wood, hard rubber, or other suitable non-resonant or dull material, substantially as specified.

4. The combination, with the diaphragm and
30 suitable contact-holders, one of which is in contact with the diaphragm, of the contacts K L, held in impingement by gravity alone, and isolated in circuit from the diaphragm.

5. The combination, with the diaphragm B
35 and bracket C, of the arms D E and contacts K L, said diaphragm being isolated from the circuit, and the arms D E being flexibly connected together, substantially as described.

6. In combination with the diaphragm B,
40 contact-holders D E, and contacts K L, the bracket C, and a suitable weight or spring for keeping the diaphragm and arm D in contact, substantially as set forth.

7. In a telephonic transmitter or carbon tele-
45 phone, the combination, with the diaphragm B, isolated from the circuit, of the contacts K L, with their movable supports, one of which impinges against or is in communication with the diaphragm.
50

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

EDWARD ALFRED SCHOETTEL.

Witnesses:

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JOHN M. STEARNS.