(No Model.)

2 Sheets—Sheet 1.

J. LOWTH.

TELEPHONE.

No. 309,475.

Patented Dec. 16, 1884.

Fig. 1.

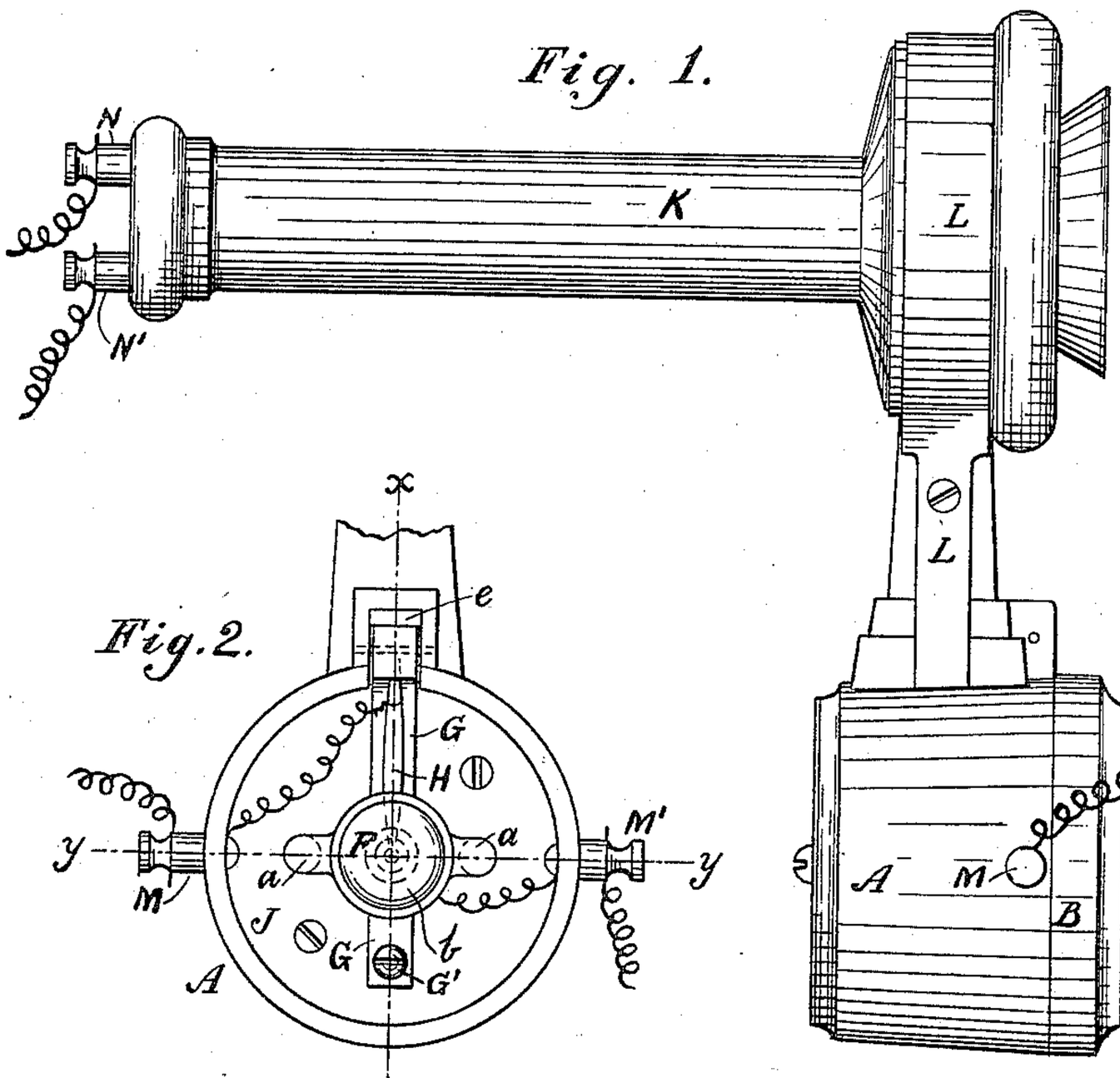


Fig. 2.

Fig. 3.

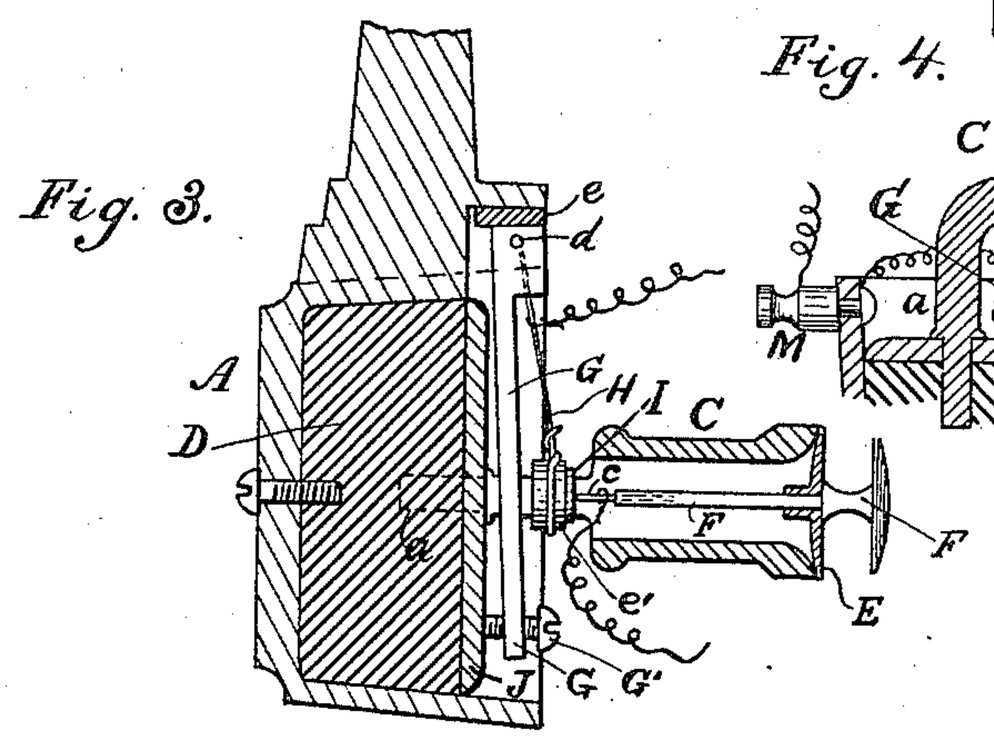
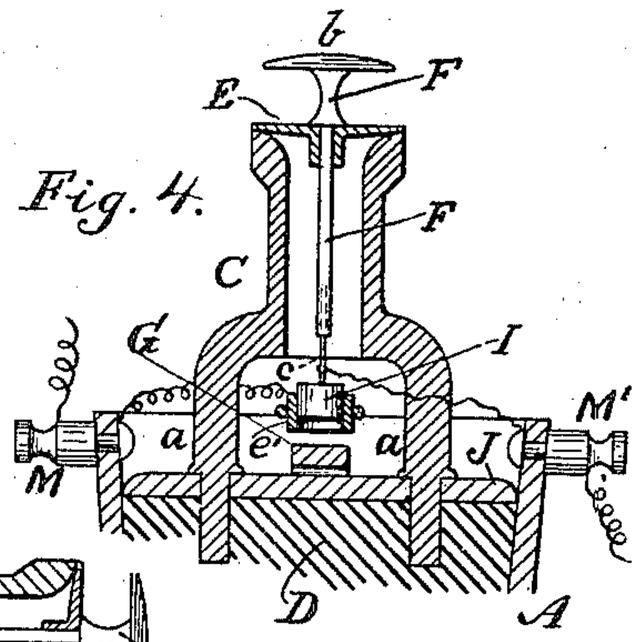


Fig. 4.



Witnesses:
J. B. Halpenny.
F. F. Morse

Inventor:
James Lowth.
per F. F. Warner—
his Attorney.

(No Model.)

2 Sheets—Sheet 2.

J. LOWTH.

TELEPHONE.

No. 309,475. Patented Dec. 16, 1884.

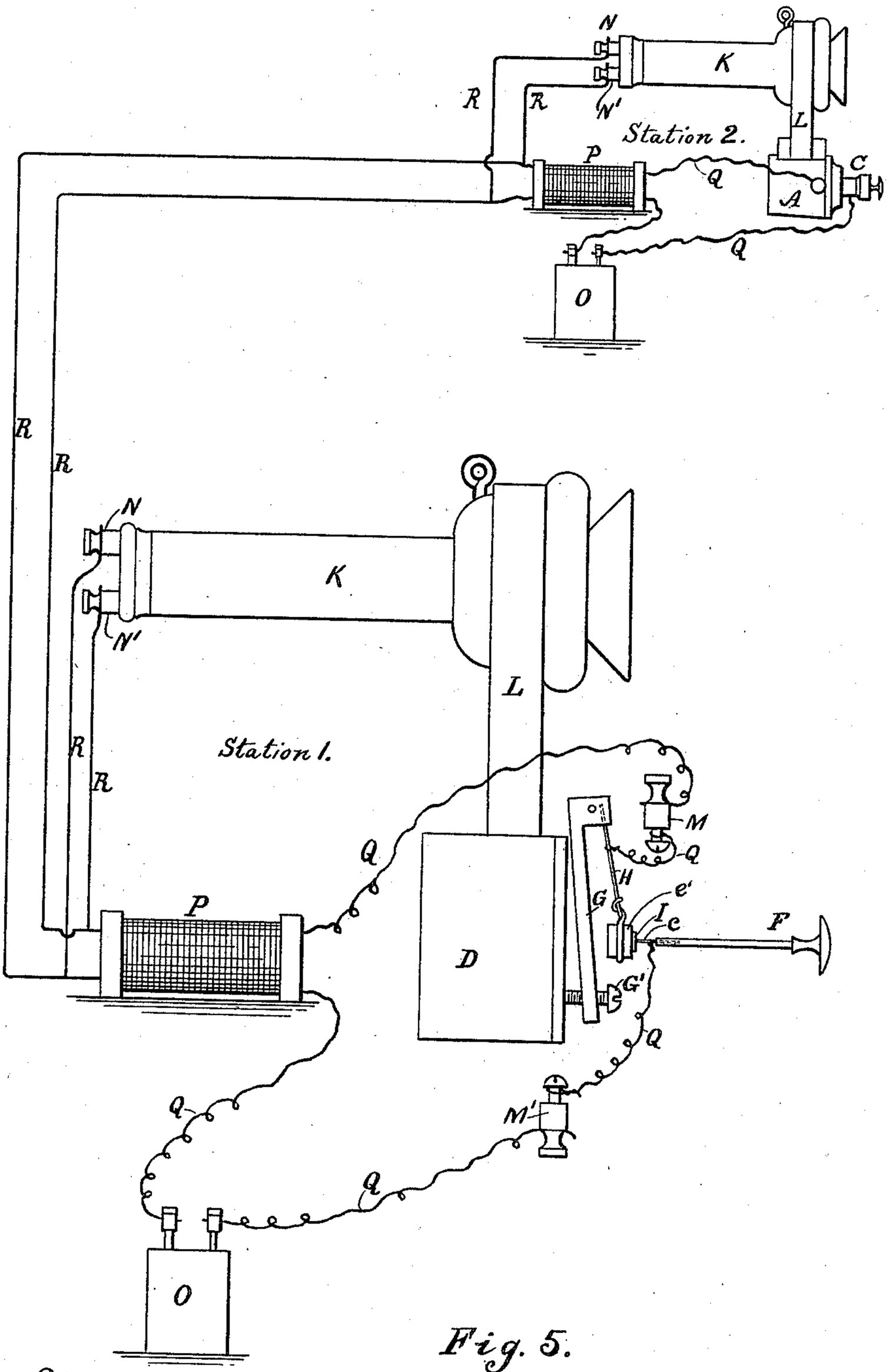


Fig. 5.

Witnesses:
J. B. Halpenny.
P. D. Morse

Inventor:
James Lowth
per F. F. Warner.
his Attorney.

UNITED STATES PATENT OFFICE.

JAMES LOWTH, OF CHICAGO, ILLINOIS.

TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 309,475, dated December 16, 1884.

Application filed July 19, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES LOWTH, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Telephones, of which the following, in connection with the accompanying drawings, is a specification.

In the drawings, Figure 1 is a side representation of a telephonic transmitter and receiver embodying my improvements. Fig. 2 is a detail, the same being an end view of the transmitter as seen when its cap is removed. Fig. 3 is a section in the plane of the line *x x* of Fig. 2. Fig. 4 is a section in the plane of the line *y y* of Fig. 2, and Fig. 5 is a chart or diagram more fully showing the relation of the parts of the instrument to each other and the circuits.

Like letters of reference indicate like parts.

In two other cases filed by me, and now pending in the United States Patent Office, are shown and described, respectively, a magneto and a battery telephone adapted to work by the transmission, through the medium of a vibrating rod to the diaphragm in one case and to the electrodes in the other case, of the muscular vibrations or exterior bodily movements of the speaker.

The subject-matter of invention embodied in this case relates to certain improvements merely in apparatus or telephonic contrivances adapted to work on this same principle; and my present invention may be properly said to consist in certain novel devices and combinations of devices applicable more especially to a battery-transmitter telephone working on the said principle.

A represents the transmitter box or case.

B is a cap on the case A.

C is a hollow or tubular extension forming a part of the case and projecting beyond the cap B. I load or partly fill the case A with lead or other comparatively heavy filling, D, to increase the inertia of the case or to deaden or prevent vibrations which might otherwise affect it, as will hereinafter more fully appear, and to deaden or prevent similar vibrations in the extension C, I construct the latter with legs *a a*, which enter the filling D.

E is a support or cover attached to the outer end of the extension C, and made, in the example shown, of wood. The cover E is sufficiently thin to be somewhat vibratory, flexible, or yielding at its central portion, and F is a stethoscopical vibrator applied to and passing through the cover E. The vibrator F consists of a slender rod having on its outer end a button or presser, *b*, and on its inner end a point or needle-like extension, *c*, made by preference of platinum.

G is an arm or lever pivoted at one end, as at *d*, to the case, and G′ is a screw passing through a threaded hole in the other end of the said lever, and resting on or against the case. A small block or piece of rubber or other spring, *e*, serves to hold the said lever in such position that the point of the said screw will always bear on its seat or rest.

H is a metallic spring, inserted at one end into the lever G, and carrying on its other end an annulet of lead, *e′*, in which is arranged a piece of carbon, I, located for contact with the point *c*. It will be perceived that by turning the screw G′ the carbon may be held with greater or less pressure against the said point, as may be desirable or necessary.

J is a disk covering the weight D.

K is a receiver such as have heretofore been used for the purpose for which telephonic receivers are usually employed, and a particular description thereof is therefore unnecessary.

L is a yoke connecting the receiver to the transmitter. The position of the transmitter with relation to the receiver is such that the button *b* may be held in contact with the speaker's throat, so as to be affected by the muscular vibrations accompanying the utterance of words or sounds at the same time that the receiver is held, in the usual manner, at or near his ear, to enable him to receive a message or hear a sound from a distance.

M and M′ are binding-posts on the transmitter, and N and N′ are binding-posts on the receiver.

O is a battery.

P is an induction-coil, Q the primary circuit, and R the line.

The circuit, as will now be perceived, is as follows: The primary circuit proceeds from the battery to or into and forming a part of the coil P, and, passing thence to and through

the post M to the spring H, passes thence to the annulet *e'* and electrode I. From the electrode I it passes to the electrode *c*, thence to and through the post M', and thence to the battery. Thus far in describing the primary circuit I have had reference to the group of parts assembled at "station 1," as indicated in the chart or diagram; but an apparatus such as now described and a like primary circuit are located at "station 2." The line R passes out of the coil P, at station 1, to and into the coil at station 2, and also to the posts N and N', respectively, on the receivers at both stations, as shown.

Instead of making a complete metallic circuit, the line may be grounded in the usual manner.

To use this apparatus, I place the receiver at the ear in the usual manner, thus bringing the button *b* lightly in contact with that part of the throat near or a little below the chin, or in the vicinity of the larynx. Station 2 having been called in any well-known way, I wait for an answer, and then speak what I wish to communicate, and the message will be delivered to station 2 to one holding the instruments there located in the manner already described. A reply to my message may be returned in like manner.

In the telephones shown and described in the applications heretofore filed by me the stethoscopical vibrator is rendered yielding by means of a soft-rubber band stretched across the outer end of the extension C, which latter in the cases referred to was also adapted to serve as a handle. The said vibrator was also comparatively large and heavy, and so was the case. There was some liability, therefore, that the vibrator might not vibrate truly under all circumstances, and I have therefore made it, as well as the case, much lighter, and by employing a comparatively stiff though vibratory cover, E, (to which the vibrator F may be rigidly attached,) and by loading the case in the manner described, I produce inertia in all the parts, excepting those which should be vibratory, and the vibrations are therefore more true and perfect, as the electrodes are thus acted upon without being disturbed by false vibrations, which might otherwise be imparted from the case; also, by making the cover and vibrator light the latter responds quickly to the muscular vibrations of the speaker.

A very convenient combined arrangement of the parts results from connecting the transmitter and receiver to each other, so that both may be handled and used together in the manner described.

As I have in the cases heretofore filed by me shown and described and also claimed both the mode of operating telephones by the bodily movement of exterior parts of the body and certain broad features of construction designed to carry into effect said mode of operation, I wish it to be understood that the said mode of operation and certain features of construction indispensable to a telephone designed to work according to said mode and common to this application and those heretofore filed are disclaimed in this case, and that having now so fully shown and described the features of improvement that constitute the subject-matter of this case that those skilled in the art can understand and practice my present invention,

What I claim herein as new, and desire to secure by Letters Patent, is—

1. In a telephonic apparatus, the combination, with the transmitter-case, a stethoscopical vibrator, and the electrodes arranged in connection with the latter, of a comparatively hard or stiff but vibratory support for said vibrator, the whole arranged and operating substantially as and for the purposes described.

2. In combination with the other necessary parts of a telephonic transmitter, a loaded or comparatively heavy case, substantially such as specified, and a stethoscopic vibrator, the whole constructed and arranged to operate in the manner and for the purpose described.

3. In combination with the other necessary parts of a telephone, the loaded or heavy case A, a vibrating cover, E, a vibrator, F, and the electrodes, all substantially as and for the purposes set forth.

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

JAMES LOWTH.

Witnesses:
F. F. WARNER,
J. B. HALPENNY.