(No Model.)

N. G. WARTH.

TELEPHONE SUPPORT.

No. 299,300. Patented May 27, 1884.

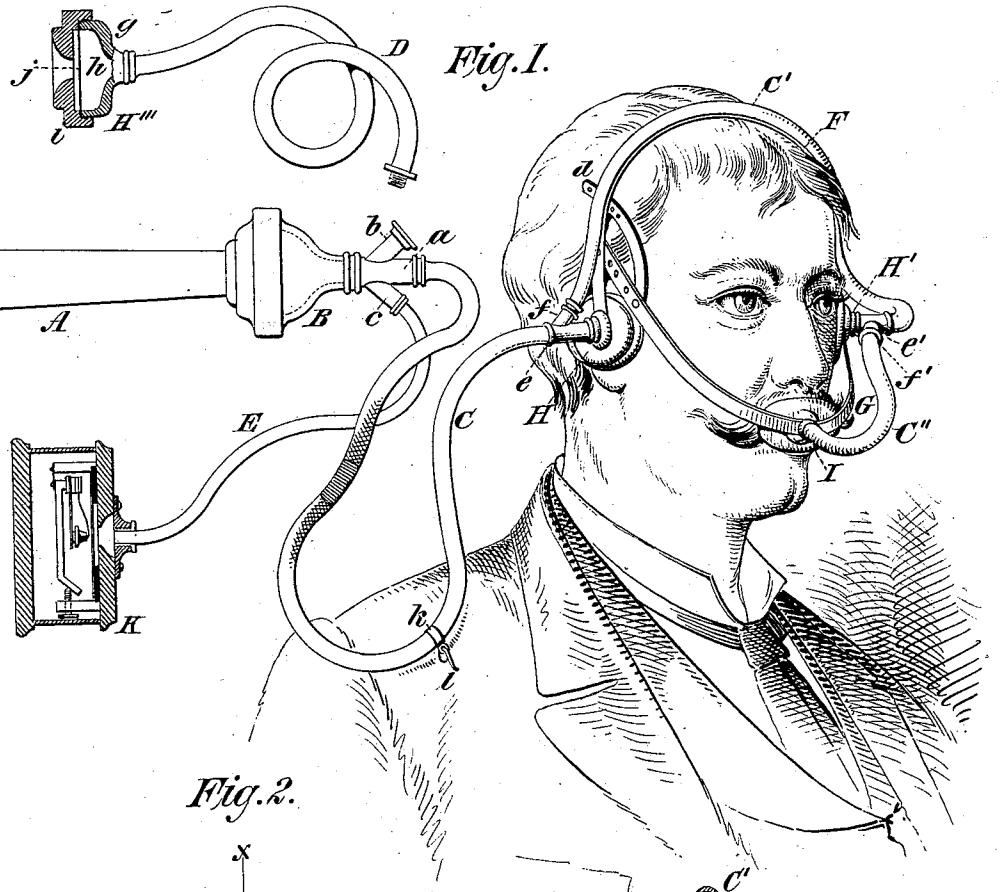


Fig. 1.

Fig. 2.

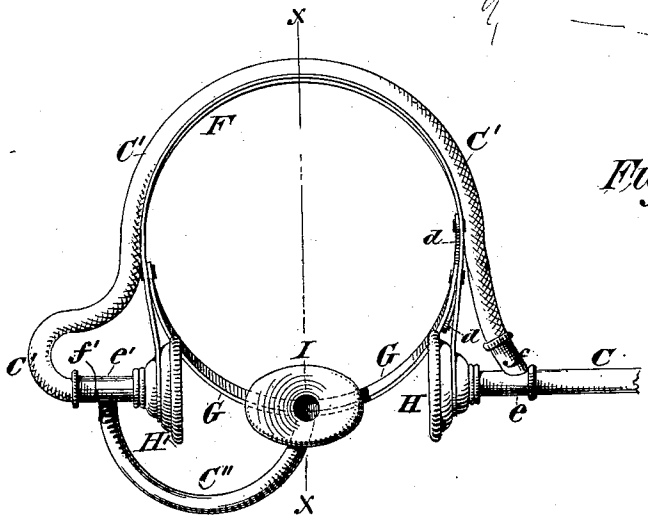
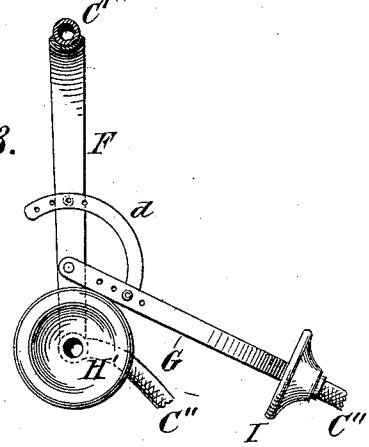


Fig. 3.



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UNITED STATES PATENT OFFICE.

NATHANIEL G. WARTH, OF CANTON, OHIO.

TELEPHONE-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 299,300, dated May 27, 1884.

Application filed February 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, NATHANIEL G. WARTH, of Canton, Stark county, Ohio, have invented a new and Improved Telephone-Support, of which the following is a full, clear, and exact description.

My invention relates to improvements in telephone-supports; and it consists in ear-pieces and a mouth-piece attached to an adjustable frame, and connected with each other and with the receiving and transmitting telephones by flexible tubes, the object being to enable a central-office operator to listen and converse while the hands are left free to manipulate the switch-board.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view, partly in section, of the apparatus, showing the manner in which it is applied. Fig. 2 is a detail view of the head-piece, and Fig. 3 is a vertical transverse section taken on the line *x x* in Fig. 2.

The receiving-telephone A, of ordinary well-known construction, is supported in a fixed position, and is provided with a mouth-piece extension, B, having three branch tubes, *a b c*, for receiving flexible tubes C D E. A curved spring, F, of approximately semicircular form, is jointed to a similar spring, G, and these two springs are maintained in a fixed position in relation to each other by the curved brace *d*, which is made adjustable by having several holes, through any one of which a screw may be inserted in the spring F. At the end of the spring G there are several holes for receiving a screw which enters the end of the brace *d*. This provision for adjustment is required to adapt the apparatus to the heads of different users.

Attached to the ends of the curved spring F are ear-pieces H H′, provided, respectively, with tubes *e e′*, having branches *f f′*. The tube *e* of the ear-piece H communicates by means of the flexible tube C with the central tube, *a*, of the extension B on the receiving-telephone, and a tube, C′, connected with the branch *f*, communicates with the tube *e′* of the ear-piece H′, and the branch *f′* of the said tube communicates by means of the flexible tube C″ with a mouth-piece, I, secured to the center of the spring G. By means of this arrangement of the curved springs F G, the ear-pieces and the mouth-piece are held in position for use. The branch *c* of the extension B is connected by a flexible tube, E, with the telephone-transmitter K. An ear-piece, H‴, similar to the ear-pieces H H′, is provided with a flexible tube, D, by which it may be connected with a branch, *b*, of the extension B, to enable a second person to listen. The ear-piece consists of a diaphragm-cell, *g*, having a resonant chamber, *h*, and a chambered cap, *i*, provided with a small central orifice for the escape of sound.

In the cell *g* is mounted a diaphragm, *j*, made of a very thin plate of mica or other similar material, and capable of being moved by the vibrations of the air in the flexible tubes, the air itself being vibrated by the movement of the diaphragm in the receiver A.

Sounds produced by the receiver-diaphragm are communicated to the ear through the extension B, tubes C C′, and the ear-pieces H H′, and speech uttered in the mouth-piece I affects not only the transmitter through the pipes C^2, C′, C, and E, but also the receiver, which thus acts as a transmitter also, and augments the volume of sound transmitted. Should the impulses transmitted through the tubes be so violent as to affect the transmitter unfavorably, the tube D may be removed from the branch *b*, allowing a part of the sound to escape through the branch.

To prevent any accidental jerking of the apparatus from the head of the user, I have placed a ring, *k*, on the flexible pipe C, and provided a hook or clasp-pin, *l*, by which the tube may be attached to the clothing at the shoulder. The flexible tube is formed upon or within a wire spiral to prevent kinking.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the receiving-telephone A, of two ear-pieces, H H′, the curved spring F, for holding the said ear-pieces to the ears, and the tubes C C′, connecting the ear-pieces and receiver, as described.

2. The combination of the ear-pieces H H′ and mouth-piece I with the frame composed of the curved springs F G and brace *d*, as described.

3. The combination, with the receiving-telephone A and transmitting-telephone K, of the ear-pieces H H′, mouth-piece I, and the connecting-tubes C, C′, C″, and E, as described.

4. The combination, with the receiving-telephone A, provided with the extension B, having branches *a b c*, and the transmitting-telephone K, of the ear-pieces H H′ H‴, the ear-piece H‴ being provided with the diaphragm *j*, the mouth-piece I, and the connecting-tubes C C′ C″ D E, substantially as herein shown and described.

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Witnesses:

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