

(No Model.)

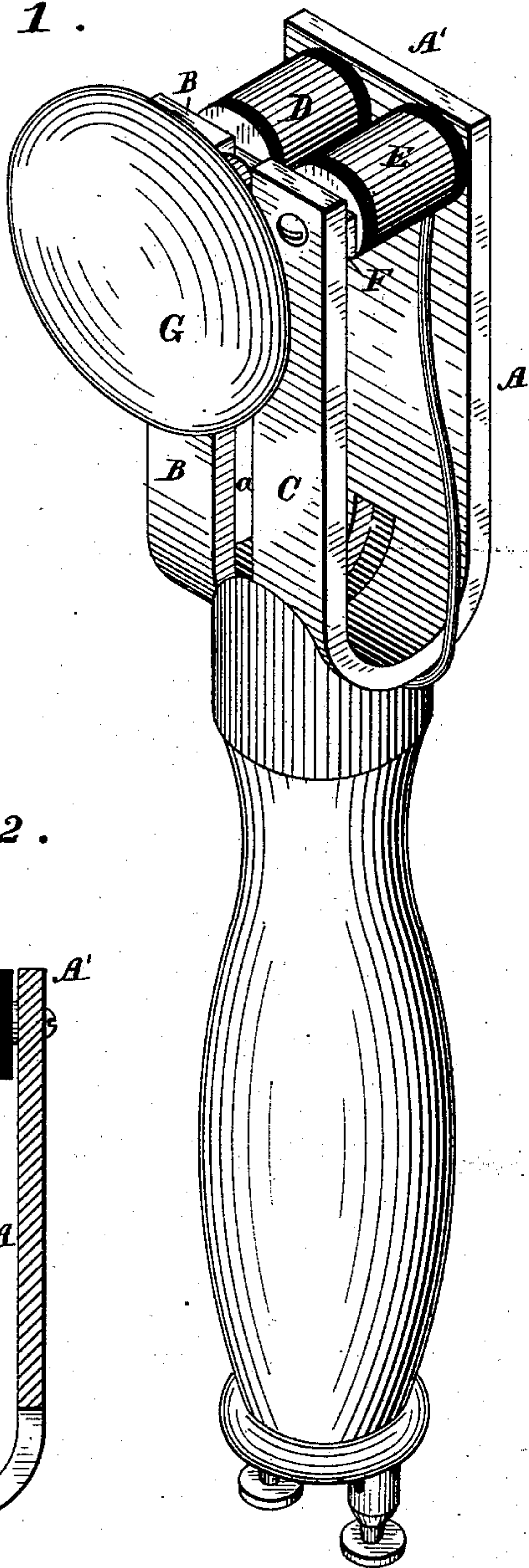
T. J. PERRIN.

TELEPHONE.

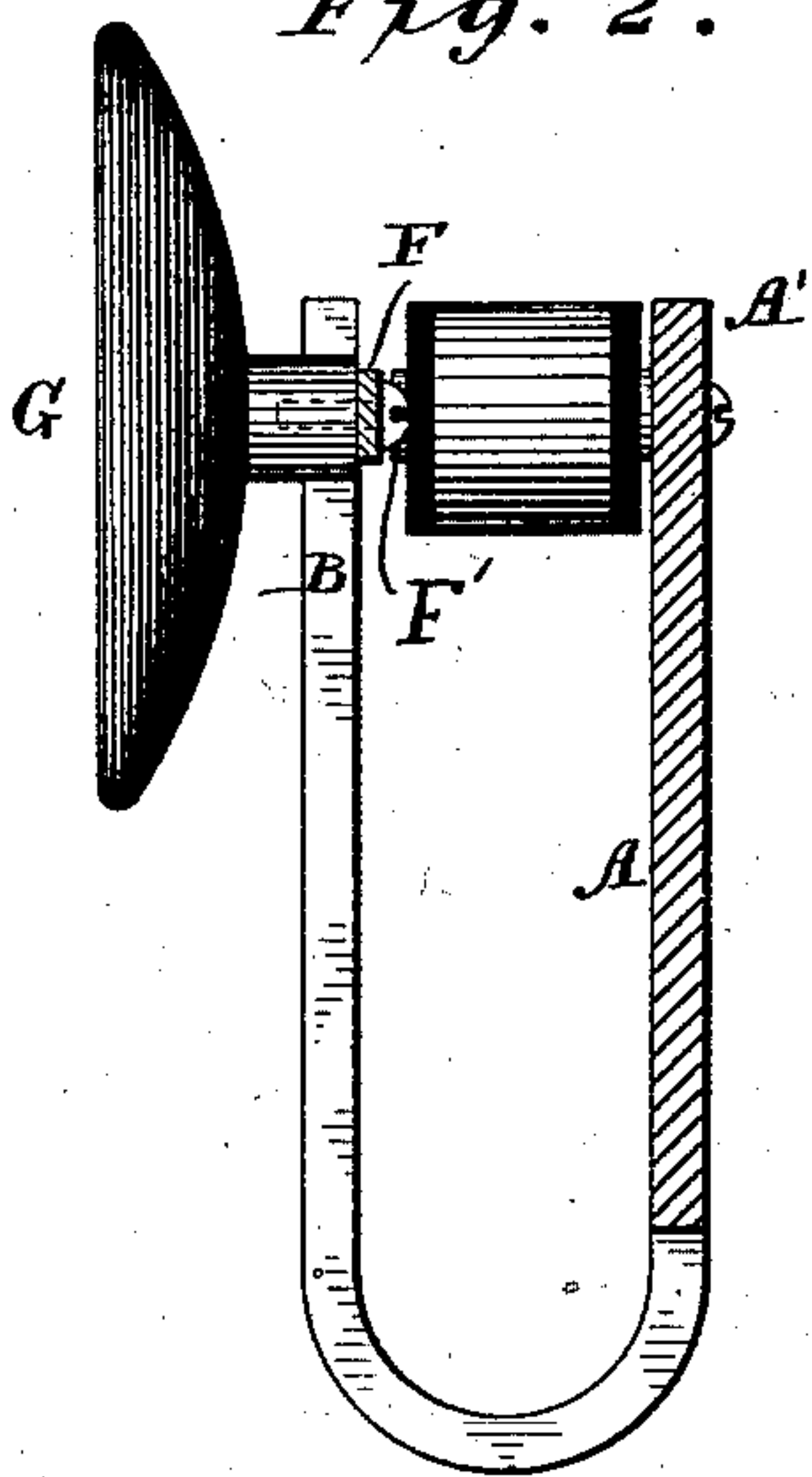
No. 316,816.

Patented Apr. 28, 1885.

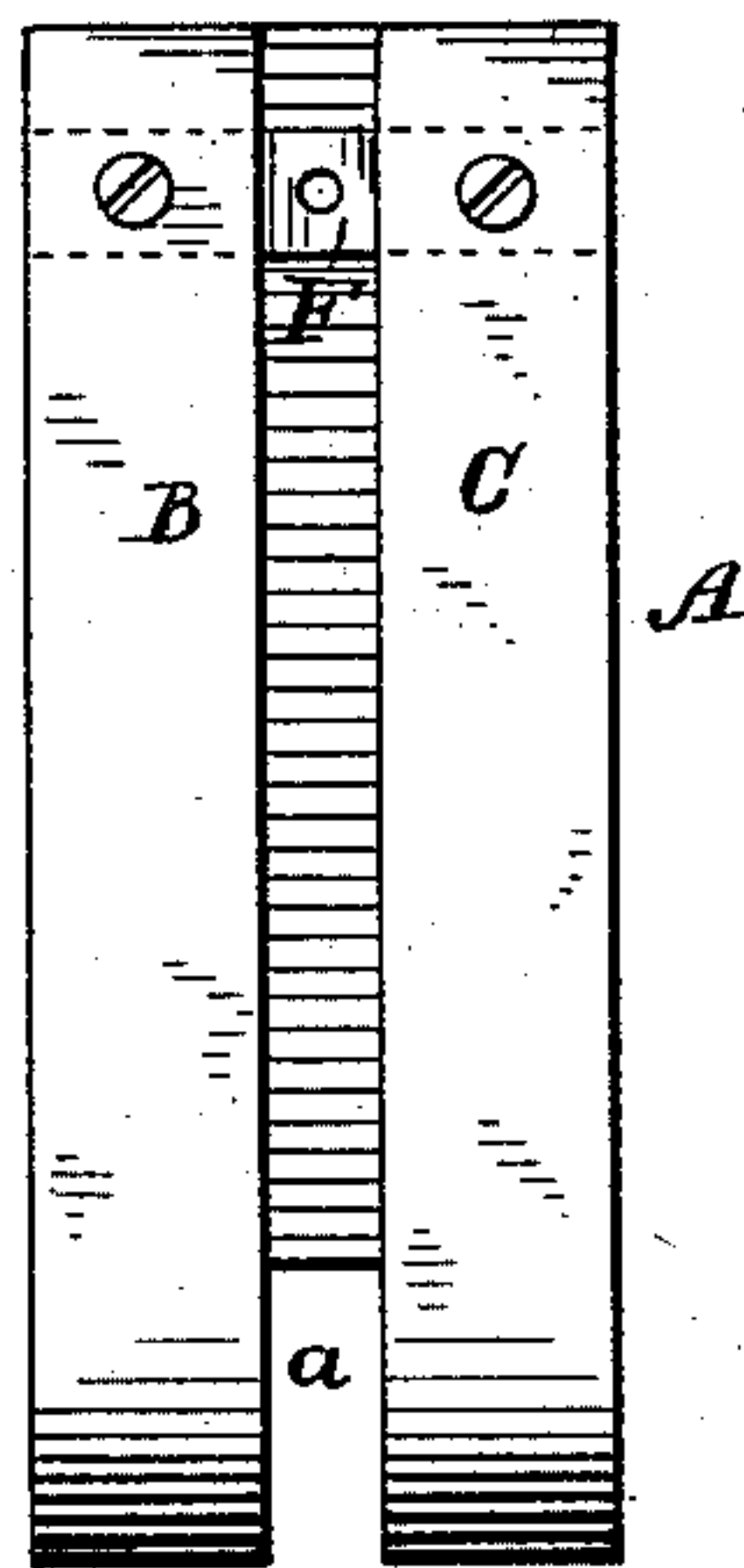
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES

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INVENTOR

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# UNITED STATES PATENT OFFICE.

THOMAS J. PERRIN, OF BROOKLYN, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE NATIONAL IMPROVED TELEPHONE COMPANY, OF NEW ORLEANS, LOUISIANA.

## TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 316,816, dated April 28, 1885.

Application filed July 25, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS J. PERRIN, of Brooklyn, in the county of Kings and State of New York, have invented certain new and  
5 useful Improvements in Telephone-Receivers, of which the following is a specification.

My invention relates to that class of instruments in which the receiver electro-magnet is mounted on one leg of a U-shaped magnet or  
10 metallic support, the opposite end of which carries the ear-piece and serves as or carries the armature for the receiver-magnet.

The object of the invention is to improve the construction of this class of instruments,  
15 so that the transmitted speech will be reproduced with greater distinctness.

In constructing my instrument I prefer to employ a permanent magnet as the support.

In the accompanying drawings, Figure 1 is  
20 a perspective view of my improved instrument; Fig. 2, a side view, partly in section, of the permanent magnet, showing the receiver-magnet and ear-piece mounted thereon, and Fig. 3 is a detail front view of the permanent  
25 magnet.

The permanent magnet A is preferably made of a comparatively broad strip of steel of about the proportions illustrated in the drawings. A wide longitudinal slot, *a*, is cut in  
30 the magnet from one end to a point preferably beyond its center, as clearly illustrated in the drawings. This may be done either before or after the bending of the magnet into its U shape.

The coils D E, which are connected in the telephone-circuit, are mounted upon cores which are bolted to the solid end A' of the permanent magnet A, the poles of the magnets or ends of the cores being opposite the  
35 vibrating sections or legs B C of the magnet. The vibrating ends B C of the magnet are connected by a soft-iron cross-piece, F, which constitutes an armature for the electro-magnets D E and carries the ear-piece G, which  
40 is bolted to it between the vibrating legs B C by means of a screw-bolt, F', as clearly shown in Fig. 2 of the drawings. The armature-piece F is preferably thin enough to permit the two legs B C of the permanent magnet to  
45 vibrate to a certain extent independently of

each other. As will be perceived, the organization is such that the magnets D E act upon the vibrating legs B C, and these each transfers its motion or imparts corresponding vibration to the ear-piece G. This method of  
55 operation constitutes one of the principal features of my invention—that is, a magnet having a pole divided into sections and so arranged with the proper coils that the vibration of each section is conveyed to one ear-  
60 piece. This ear-piece may consist of a concave disk of wood or other material, as is customary in this class of telephones.

The telephone above described is more especially designed for use in connection with  
65 my improved system of telephony set forth in application No. 138,774, filed July 24, 1884, and when used in that system the magnets D E will be made of different resistances, for the purpose set forth in that application. The  
70 telephone, however, is not limited to such a construction or such a use.

I claim as my invention—

1. The combination of the magnet or support A, an electro-magnet mounted on one end  
75 thereof, the opposite independently-vibrating ends or legs of said magnet or support, a connection between said legs, and an ear-piece mounted on said connection.

2. The combination, substantially as set  
80 forth, of the permanent magnet or support A, electro-magnets D E, mounted on the solid end thereof, independently-vibrating legs or sections of said magnet arranged opposite the poles of the electro-magnet, an armature-piece  
85 connecting said vibrating legs, and an ear-piece mounted on said armature.

3. The combination of the slotted permanent magnet A, bent in the middle into U  
90 shape, substantially as shown, the electro-magnets carried by the solid end of said permanent magnet, the vibrating legs or sections of said permanent magnet, and an ear-piece common to both of said legs.

In testimony whereof I have hereunto sub-  
95 scribed my name.

THOMAS J. PERRIN.

Witnesses:

L. C. YOUNG,  
NELLIE L. HOLMES.