

(No Model.)

W. HADDEN.
TELEPHONE.

No. 312,842.

Patented Feb. 24, 1885.

Fig. 1.

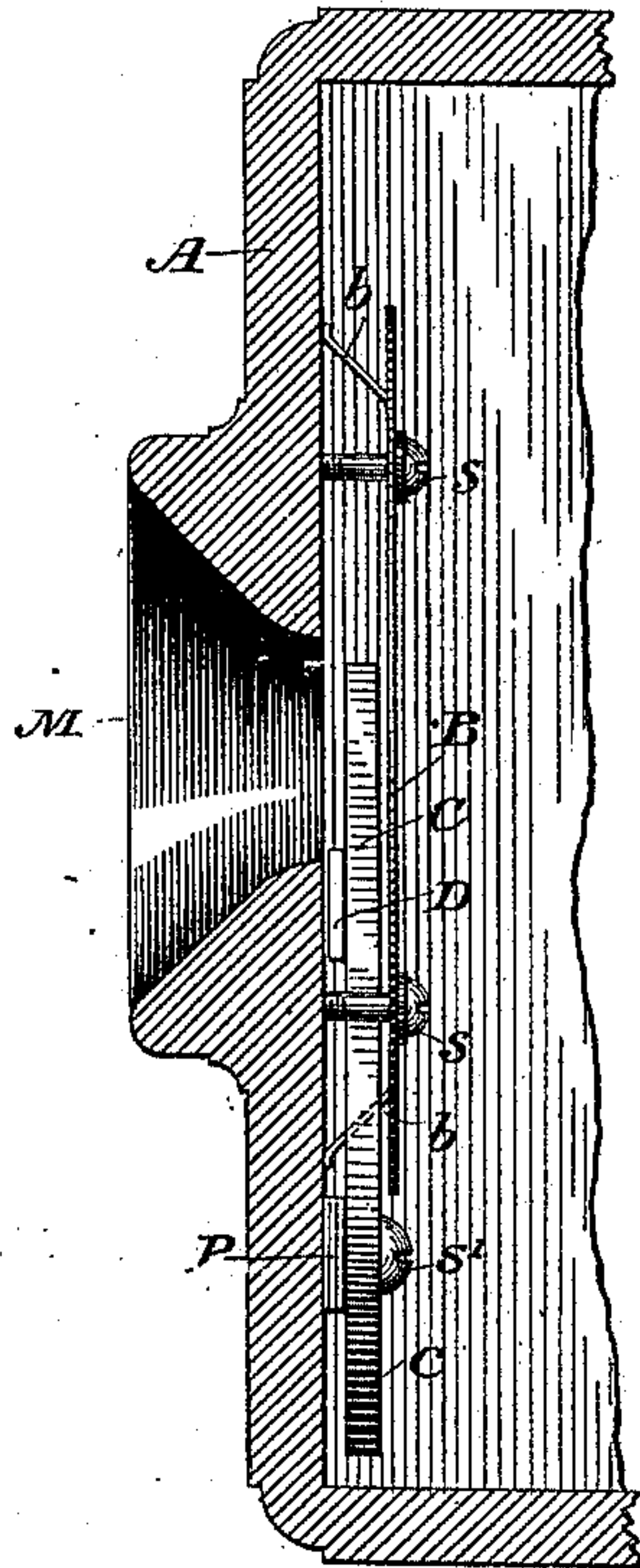
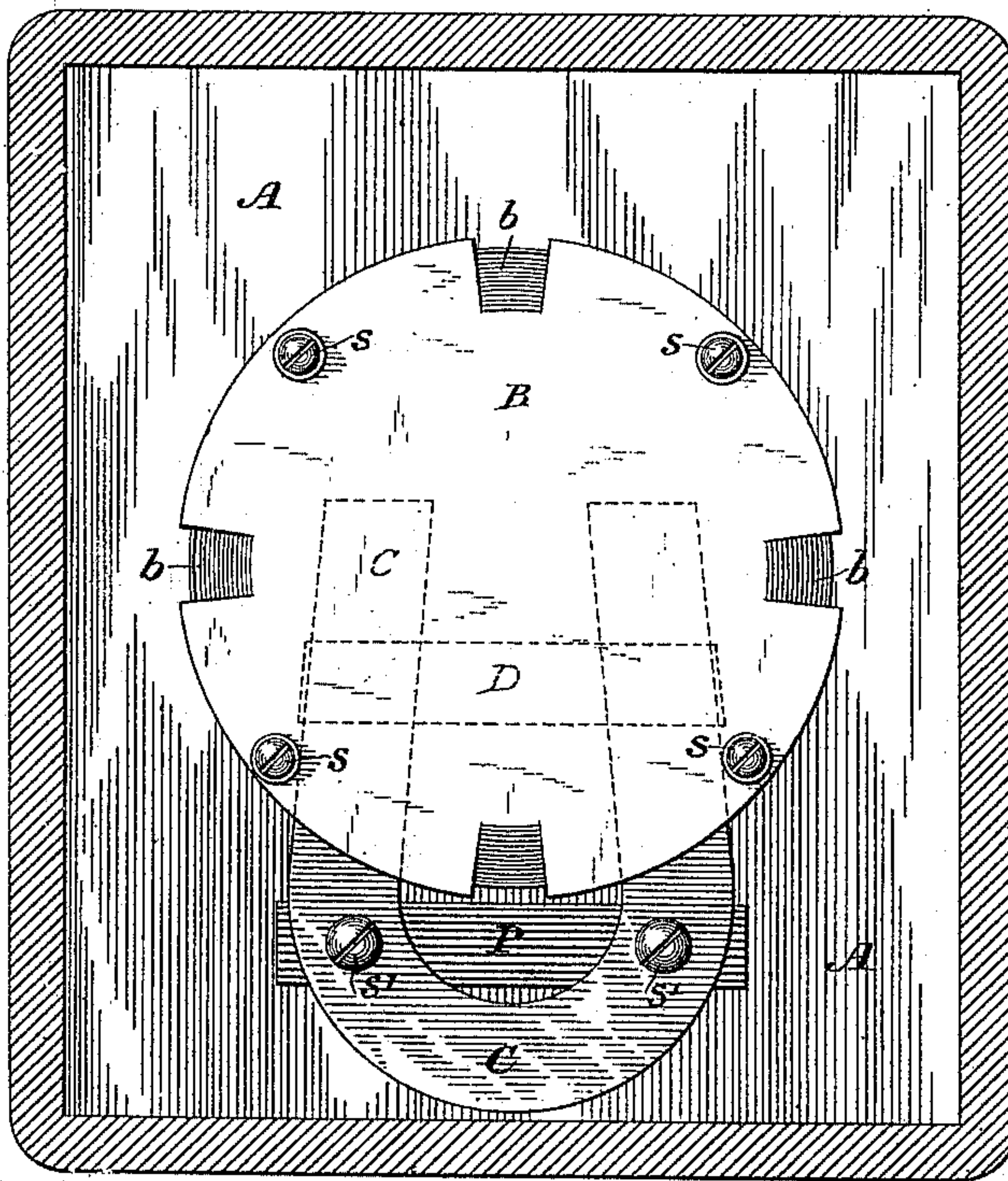


Fig. 2.



Witnesses

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WILLIAM HADDEN, OF BROOKLYN, NEW YORK.

TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 312,842, dated February 24, 1885.

Application filed June 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HADDEN, a citizen of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Telephones, of which the following is a specification.

My invention relates to that class of apparatus designed for the transmission of speech by electric impulses; and it relates especially to the method of regulating the intensity or amplitude of the vibrations of the diaphragms of these instruments.

In an application for Letters Patent of even date herewith, I have shown and claimed new means for attaching the diaphragm to a telephonic instrument, and in the drawings which accompany this specification, I have shown my device for dampening the vibrations of the diaphragm in connection with the form of diaphragm claimed in the other application.

My invention consists in the application of a permanent magnet to the instrument, in close proximity to the diaphragm, with its respective poles near the middle of the plate, and so placed that its armature or keeper may be moved to or away from the poles, thereby varying the effects of its magnetism upon the vibrations. Permanent magnets have been applied to the edges of a diaphragm for the purpose of affording a seat therefor. Instruments have been also constructed, in which one pole of a permanent magnet is presented to the center of the diaphragm, such magnet being adjustable to and from the diaphragm. Such organization, however, is not included or adapted to properly dampen the diaphragm of a transmitter, first because it is applied to the center of the diaphragm, and would therefore not only be in the path of the electrode-holder, but also would but imperfectly accomplish the result accomplished by applicant for the reason that the dampening of the diaphragm at one point only is found to be insufficient to break up the extraneous vibrations, as desired. It has also been proposed to employ a permanent magnet having both poles in proximity to the diaphragm the keeper of which supports the electrode. Not only is the function of this different from that of my organization, but the same result cannot be accomplished for the presence of the keeper at the poles prevents the magnet from acting upon the diaphragm.

In the drawings, Figure 1 is a vertical transverse section of the front of a telephonic instrument embodying my invention, and Fig. 2 is a back view of the same showing the position of the magnet and its keeper.

In the figures, A represents the front of the case; M, the mouth-piece, and B the diaphragm of magnetic material held to the case by the screws S S. Within the air-chamber between the diaphragm and the case is the horseshoe-magnet C. It is held to the case by the screws S' S', but separated therefrom by the piece P, so as to allow the armature or keeper D to be placed between the magnet and case. The space between the magnet and diaphragm may be adjusted by the screws S S, or in any convenient manner, and the dampening effect of the magnet upon the diaphragm may be varied by moving the keeper D to or away from the poles of the magnet until the best results are obtained.

It is evident that the relative position of the magnet and diaphragm may be varied considerably. Thus the magnet may be placed back of the diaphragm, instead of between it and the case, or it may be placed at right angles to it, instead of parallel with it. My invention is therefore not confined to the precise position shown in the drawings.

I claim as my invention—

1. The combination, substantially as hereinafore set forth, with the diaphragm of a telephonic transmitting-instrument, of a permanent magnet having both its poles presented to said diaphragm at points away from its center of vibration, and means, substantially such as described, for varying the attraction normally exerted by said magnet upon said diaphragm.

2. The combination, substantially as hereinafore set forth, in a telephonic transmitting-instrument, with the diaphragm of inductive metal, of a permanent magnet having both its poles in proximity thereto, and an adjustable keeper for said magnet, whereby the attraction normally exerted by said magnet upon the diaphragm may be varied.

In testimony whereof I have hereunto subscribed my name this 12th day of June, A. D. 1884.

WILLIAM HADDEN.

Witnesses:

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