

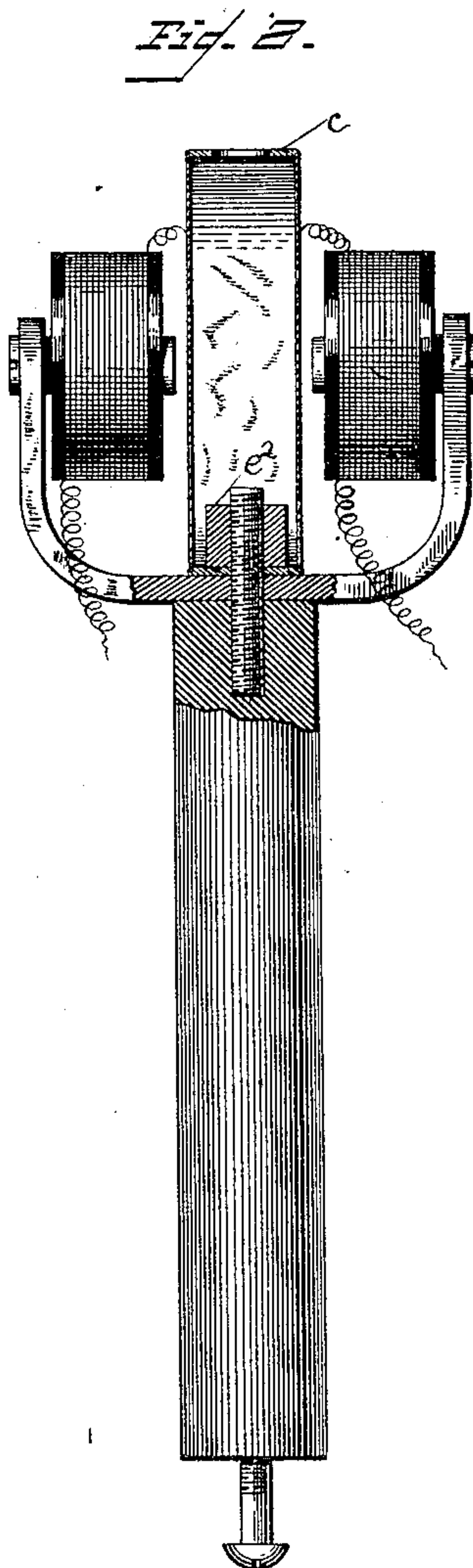
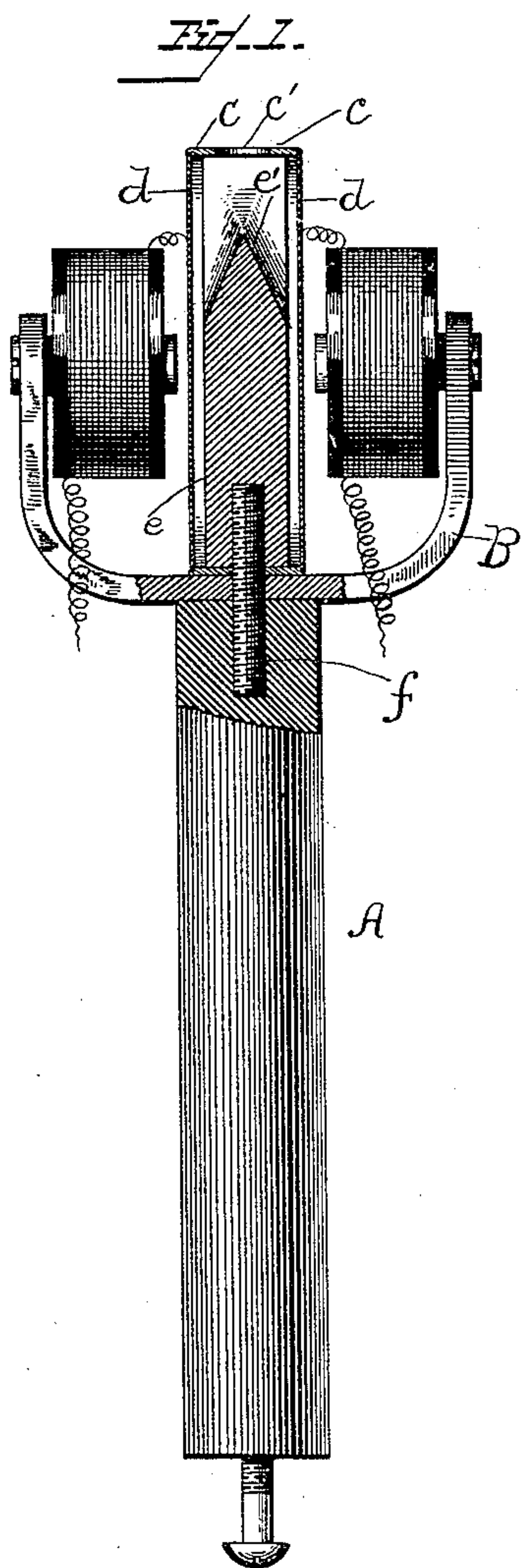
(No Model.)

W. C. TURNBULL.

TELEPHONE RECEIVER.

No. 344,333.

Patented June 22, 1886.



Witnesses
Wm. L. Glendon,
E. Davidson.

Inventor
Wm. C. Turnbull
By his Attorneys
Walden, Hopkins & Poffen

UNITED STATES PATENT OFFICE.

WILLIAM C. TURNBULL, OF BALTIMORE, MARYLAND.

TELEPHONE-RECEIVER.

SPECIFICATION forming part of Letters Patent No. 344,333, dated June 22, 1886.

Application filed February 26, 1886. Serial No. 193,348. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. TURNBULL, of Baltimore, in the State of Maryland, have invented an Improved Telephone-Receiver, of which the following is a specification.

The object of my invention is to produce a telephone-receiver which will clearly and distinctly reproduce transmitted speech or signals with improved effect.

In the accompanying drawings, Figure 1 is a view, partly in section, with the casing removed, of so much of the instrument as is necessary to illustrate my invention; and Fig. 2 is a similar view.

A represents a bar-magnet, which is to be arranged in the handle of the case of the instrument. On the end of this magnet is secured a soft-iron or magnetic pole-piece, B, having upright ends on which ordinary cores and electric bobbins are mounted, the ends being sufficiently far apart to permit of the arrangement between the cores of a drum, C, carrying two magnetic vibrating drum-heads, plates, or disks, *d*, upon which the cores respectively act. The drum C may be formed of a metal rim, *e*, in the outer edges of which the vibrating plates or disks *d* are respectively mounted in any suitable way. This drum may be formed with a solid center of hard rubber, vulcanized fiber, wood, or other suitable material, *e*, which is slightly narrower than the surrounding metallic band *e*, so as to leave vocalizing-chambers between the inner faces of the disks or plates and the sides of the block. The entire drum may be secured in place by a screw, *f*, which screws into the handle-magnet A and into the solid core or filling *e* of the drum, as clearly shown in Fig. 1.

In this form of instrument the core *e* is cut away on each side, as shown at *e'*, so as to form sound-passages which lead from the vocalizing-chamber on each side of the drum to a sound-aperture, *e'*, in the periphery of the drum, which is to be arranged opposite the opening in the casing. The instrument shown in Fig. 2 is of substantially similar construction, except that instead of making the drum with a core or filling the drum may be hollow, a post, *e''*, being provided therein for the reception of the screw which fastens the drum to the handle-magnet.

I am aware of the patent of Waite, No. 298,924, and the patent of Gray, No. 204,029, and I make no claim to the construction shown therein.

I claim as my invention—

1. The combination of a magnet, A, a pole-piece secured thereon having two upright portions, a core and bobbin on each end thereof, a drum arranged between said cores, and a vibrating plate on each face of the drum in suitable proximity to one of said cores.

2. The combination of a hollow drum formed of a rim, *e*, of metal or other suitable material, a vibrating plate which forms each side thereof, and a coil and core arranged in suitable proximity to each vibrating plate, but not in contact therewith.

In testimony whereof I have hereunto subscribed my name.

WILLIAM C. TURNBULL.

Witnesses:

GEO. McCaffray,
E. C. Davidson.