

No. 688,676.

Patented Dec. 10, 1901.

W. S. PACA.
TELEPHONE.

(Application filed Jan. 20, 1897.)

(No Model.)

Fig. 1.

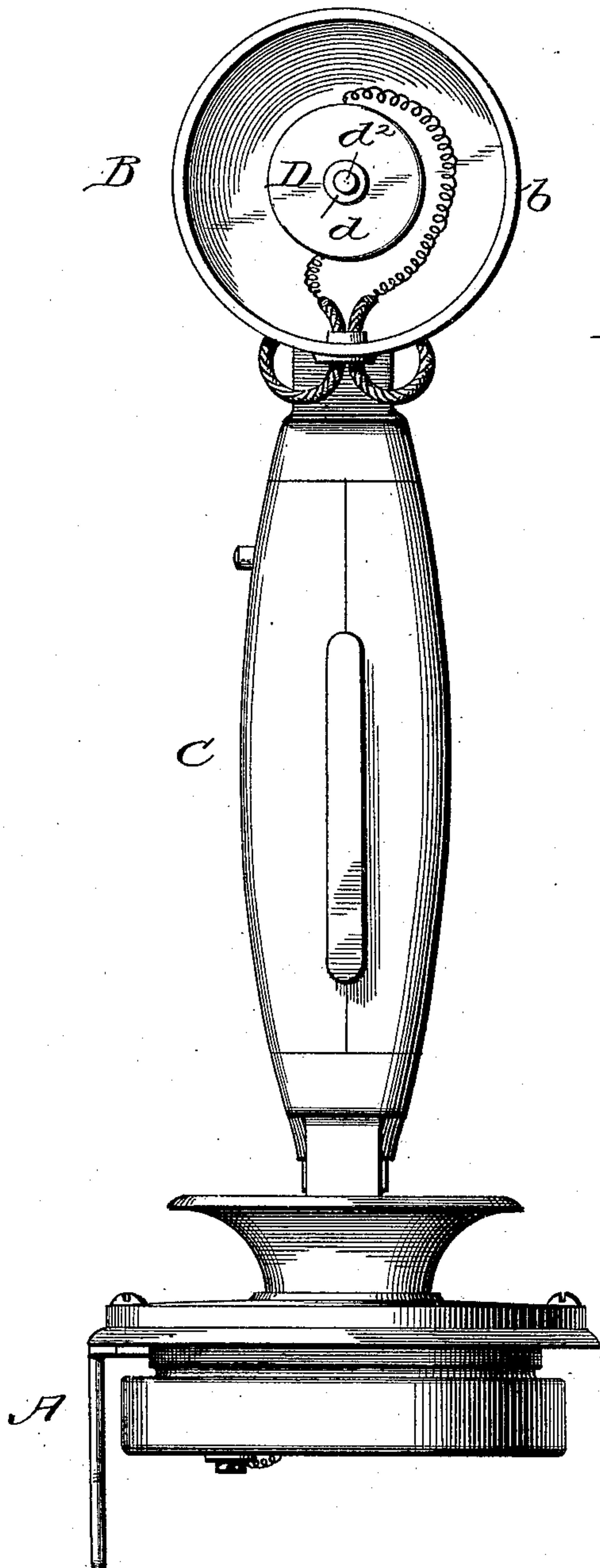
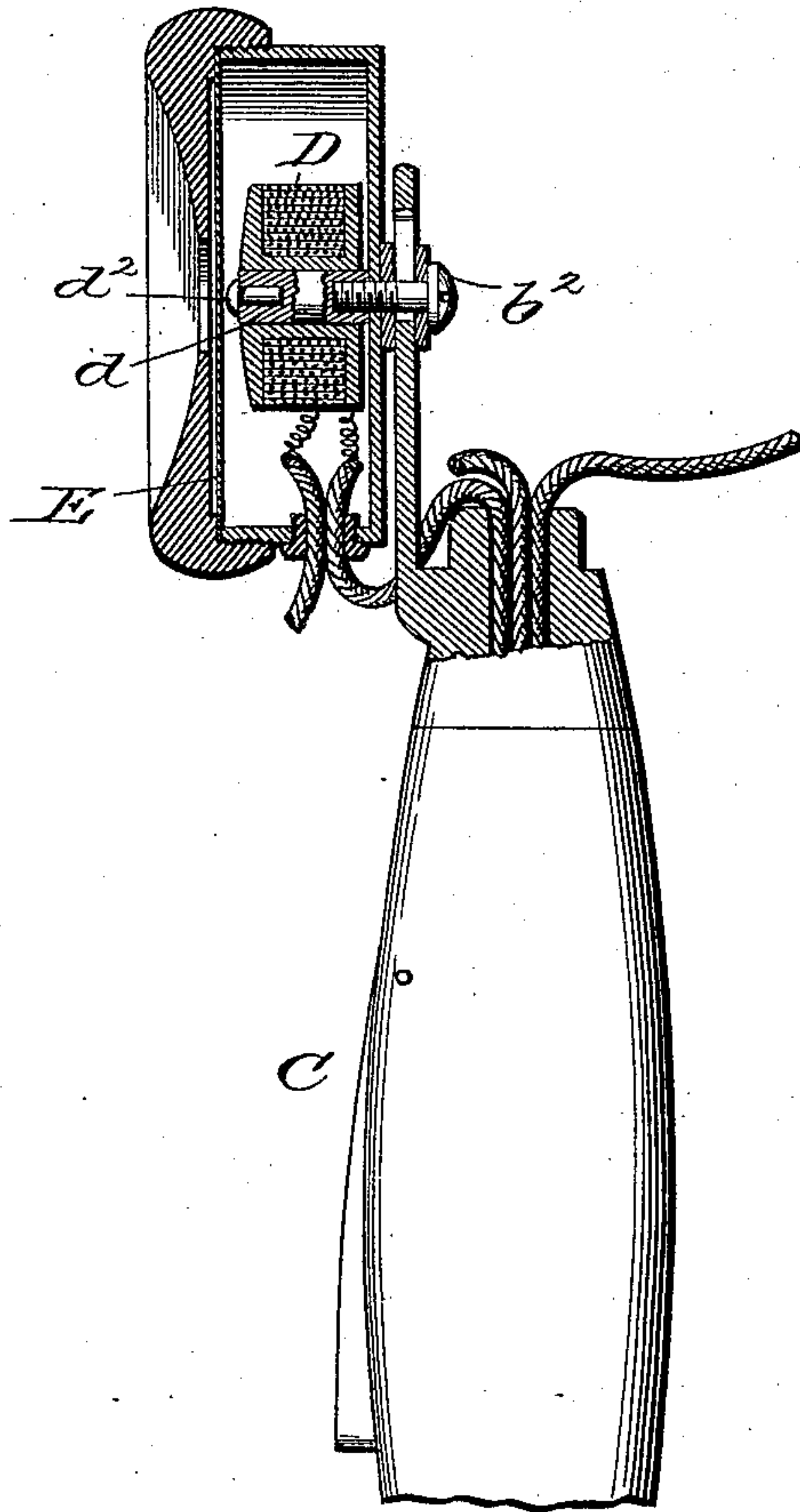


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM S. PACA, OF BALTIMORE, MARYLAND.

TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 688,676, dated December 10, 1901.

Application filed January 20, 1897. Serial No. 619,947. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. PACA, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Telephones; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to telephones.

The object is to produce a telephone-receiver of simple and economical construction in which the annoyance of objectionably loud or blurred sounds caused by excessive currents shall be greatly diminished or entirely obviated.

A further object is to produce a telephone-receiver in which the excessive vibration of the diaphragm shall be checked or damped without interfering with the normal vibrations thereof.

With these objects in view the invention consists in providing the telephone-receiver, which may be of any approved or preferred type, with a damper secured to the core of the electromagnet and adapted to act as a cushion for the diaphragm in order to damp the latter and diminish the amplitude of its excessive vibrations.

The invention consists, further, in the novel construction and arrangement of parts, as fully set forth in the following description, and pointed out in the claims appended thereto.

In the accompanying drawings, forming a part of this specification, and in which like letters of reference indicate corresponding parts, Figure 1 is a view in front elevation of a transmitter and receiver, the cap or cover of the receiver being removed to show the location of the electromagnet therein, the damper carried by the electromagnet, and the wires leading thereto from the transmitter. Fig. 2 is a view in vertical section through the receiver, showing more particularly the relative arrangement of the parts thereof.

Referring to the drawings, A designates any suitable form of transmitter, B the receiver, and C a handle or handpiece connecting the transmitter and the receiver.

As the transmitter and handpiece do not constitute any part of the present invention

any description thereof other than to show their connection with the receiver is deemed unnecessary.

The casing or shell *b* of the receiver is secured to the handpiece by means of a screw *b*², which latter enters the core *d* of the electromagnet D, as shown in Fig. 2, and thereby holds both the casing and the magnet in position. The core of the electromagnet is provided at that end opposite the diaphragm E with an opening in which is fitted a damper *d*², which is fixed with relation to the core and to the diaphragm and may be made of any suitable material—such as felt, leather, soft rubber, or an equivalent—and is, in this instance, provided with a flattened head against which the diaphragm will make contact lightly when the receiver is in use. The damper will extend beyond the face of the core of the magnet a sufficient distance to keep the diaphragm from contacting with the core proper of the magnet, but will not in any respect interfere with the proper attraction between the diaphragm and the core, the effect being merely to limit the vibration of the diaphragm, and thus prevent objectionably-loud sounds being produced in the ear of the user caused by excessive currents in the electromagnet and overcome any buzzing or blurring in the receiver.

It is to be understood that the receiver herein described may be used independently of the particular transmitter here shown, and that I do not therefore limit myself to this arrangement of connected parts. Also, although I have described a particular form of telephone-receiver to which my invention is applied, I do not wish to be understood as limiting myself to that construction, as my invention is equally applicable to a receiver of any well-known type. It is further to be understood that while I have described my damper as set into a recess in the end of the core of the electromagnet I do not confine myself to that particular mode of attachment, as the damper may be secured to the core in any suitable manner.

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

1. In a telephone-receiver, the combination with an electromagnet and a diaphragm

mounted in a suitable casing, of a yielding damper secured to and carried by the end of the core of said magnet next the diaphragm, said damper being resilient and compressible
5 under the action of the diaphragm, and adapted to damp the excessive vibrations of the same, substantially as described.

2. In a telephone-receiver, the combination with an electromagnet and a diaphragm
10 mounted in a suitable casing, of a damper composed of resilient material secured to and carried by the end of the core of said magnet next the diaphragm, said damper being compressible under the action of the diaphragm
15 and adapted to limit the excessive vibrations of the same, substantially as described.

3. In a telephone-receiver, an electromag-

net and a diaphragm mounted in a suitable casing, the end of the core of said magnet adjacent to the diaphragm being provided 20 with a chamber, a damper composed of resilient material secured in said chamber and projecting beyond the end of said core, said damper being compressible under the action of the diaphragm and adapted to limit the ex- 25 cessive vibrations of the same, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM S. PACA.

Witnesses:

HARRY W. RODGERS,
CARROLL T. BOND.