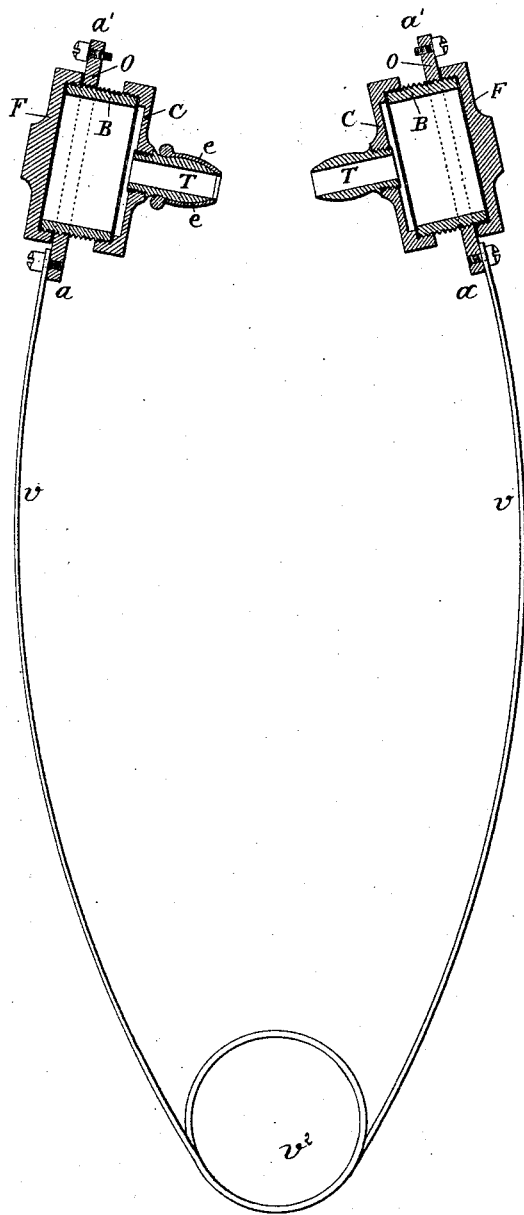


(No Model.)

E. J. P. MERCADIER.  
BI-TELEPHONE.

No. 454,138.

Patented June 16, 1891.



Witnesses:  
E. R. Bolton  
E. H. Stentavant.

Inventor:  
Ernest Jules Pierre Mercadier  
By *Richardson*  
his Attorneys.

# UNITED STATES PATENT OFFICE.

ERNEST JULES PIERRE MERCADIER, OF PARIS, FRANCE.

## BI-TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 454,138, dated June 16, 1891.

Application filed February 27, 1891. Serial No. 383,054. (No model.)

*To all whom it may concern:*

Be it known that I, ERNEST JULES PIERRE MERCADIER, a citizen of the French Republic, residing at Paris, France, have invented certain new and useful Improvements in Bi-Telephones, of which the following is a full, clear, and exact description, reference being made to the accompanying drawing, the same representing a telephone embodying my invention.

My invention relates to an improvement in telephone-receivers, and has for its objects, first, to produce an apparatus for containing the operating parts of telephone-receivers, which shall be light enough to be carried while in use on the head of the operator, and, second, an improved means for securing the same in place.

With these objects in view I have devised the improvements specifically pointed out herein, which constitutes my improved apparatus, reference being made to the accompanying drawing.

In the said drawing, *v* is a wire or strip of resilient material, preferably metallic, bent at *v*<sup>2</sup> into a loop for the purpose of affording greater resiliency. Upon the ends of this yoke thus formed are mounted by means of screws metallic rings O, screw-threaded on the inside.

*a a'* are ears or lugs on the ring O, to which may be attached a wire, of aluminium or other light material, adapted to pass around the ear and hold the telephone more securely in place, the operation of which will be described hereinafter.

The apparatus for containing the operating parts of the telephone apparatus consists of the tubular casing B, of ebonite or other light material, screw-threaded on the outside and screwed into the ring O. On one end of the said casing is screwed a cap F, on the other a perforated cap C, the interior of which perforation is screw-threaded for the reception of the nipple T. This nipple is adapted for insertion into the ear, and is ordinarily covered with a rubber cover to lessen the friction against the orifice of the ear. The swelling *e* serves to effectually close the ear to ex-

ternal sounds. It will be observed that one of these boxes is mounted on each end of the yoke in the manner heretofore described. The nipple ends of each are directed inward to enter the ears of the user. Normally the apparatus is so arranged that the spring of the yoke holds the branches nearer together than the diameter of the head of an ordinary person. It will be readily seen that when the branches are pulled apart and the nipples inserted into the ears in the position adapted for use, the strain on the yoke will operate to hold the parts in operative position without making it necessary to use the hand to support it, and at the same time allowing the hands to be free to perform other functions.

By making the parts small and of light material, as described, the apparatus may be worn without inconvenience, it being well known that the proportioning of the various co-operating parts of a telephone apparatus, and not the size of the apparatus, is the essential thing. My minute apparatus, if it be well proportioned, will be as effective in its operation as a similar apparatus many times its size.

This organization of apparatus I have designated as a "bi-telephone."

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

In a bi-telephone, the combination of two separate tubular casings, each screw-threaded on its outside and having screwed thereon a cap at each end, one of said caps having a central perforation screw-threaded for the reception of a perforated nipple, one of said casings being mounted by means of a screw-threaded collar on either end of a resilient yoke, serving to press said nipples into the ears of the user to support the apparatus, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ERNEST JULES PIERRE MERCADIER.

Witnesses:

J. ARJOLER,

H. PIERQUIN,

U. S. Consulate-General.