

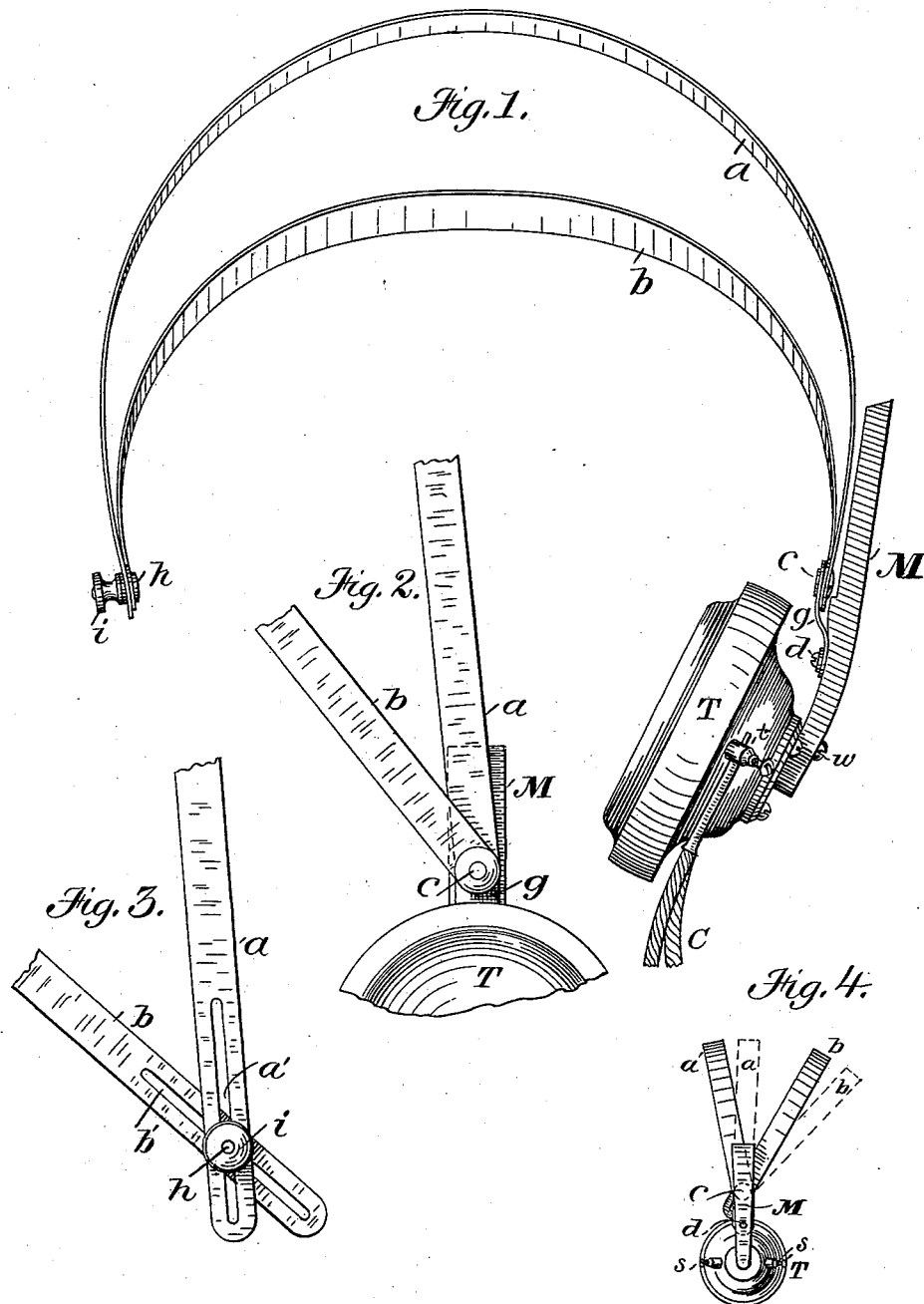
(No Model.)

W. L. RICHARDS.

OPERATOR'S RECEIVING TELEPHONE.

No. 304,667.

Patented Sept. 2, 1884.



Witnesses.  
Geo. Willis Pierce  
Fred J. Schwartz.

Inventor,  
Wilton L. Richards

# UNITED STATES PATENT OFFICE.

WILTON L. RICHARDS, OF MALDEN, ASSIGNOR TO THE AMERICAN BELL  
TELEPHONE COMPANY, OF BOSTON, MASSACHUSETTS.

## OPERATOR'S RECEIVING-TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 304,667, dated September 2, 1884.

Application filed May 31, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, WILTON L. RICHARDS, of Malden, in the county of Middlesex and State of Massachusetts, have invented certain  
5 Improvements in Operators' Receiving-Telephones, of which the following is a specification.

The object of my invention is to provide a compact telephone and support therefor of  
10 light weight but efficient power, adapted to be attached to the head of the wearer, whereby the telephone may be maintained in close juxtaposition to the ear, so as to leave both hands free, and thus enable the switch-board opera-  
15 tors of a telephone-exchange to increase the rapidity of their manipulations, and consequently improve the service. Such an instrument has become an absolute necessity in large exchanges, and in conjunction with the mul-  
20 tiple switch board and system, and in addition to the acceleration of the speed of manipulation, has an important function in relieving the operators themselves from the annoyance and physical labor of raising an ordinary  
25 receiving-telephone to the ear so frequently as would otherwise be necessary.

My invention, in pursuance of said object, consists in the combination of a receiving-telephone comprising a bar-magnet, an induction-helix therefor, a diaphragm, and an in-  
30 closing-case and ear-piece, with an adjustable spring attachment adapted to be supported upon the head, and adjusted to fit accurately and comfortably any size and conformation of  
35 head, and also capable of being so arranged as to distribute the weight in any preferred way, the whole being as light as possible consistent with perfect efficiency.

Prior to my invention several attempts have  
40 been made to provide a head-telephone which, besides having appliances for holding the ear-piece close to the ear, is easy to wear and perfectly serviceable; but from different causes they have not generally been found to give  
45 satisfaction; and reference as an acknowledgment of the state of the art is here made to Letters Patent No. 220,839, October 21, 1879, and No. 230,779, August 30, 1880, both issued to Andrew C. Hubbard.

50 In the drawings which accompany and form a part of this specification, Figure 1 is a per-

spective view of the complete instrument. Fig. 2 is a detail showing the adjustable connection of the supporting-springs in relation to the magnet as seen from the inside. Fig. 3  
55 is a detail showing the adjustment of the free end of the supporting-springs; and Fig. 4 is a side view of the apparatus when adapted for use, looking at the rear of the receiver.

Referring to the drawings, T is a receiving  
60 magneto-telephone, containing, as usual, a helix and diaphragm, and the pole-piece of the permanent magnet M, which pole-piece is attached to the magnet at right angles therewith, and surrounded by the helix or coil.  
65 The coil is connected by suitable terminal wires with the binding-screws *t*, to which an ordinary telephone-cord, C, communicating, by suitable connections, with the line-wires, may be attached, as shown. The magnet M is  
70 preferably of the permanent type, and extends upward, so as to be clear of the telephone-case and supporting-springs. It is fastened by a set-screw, *w*, to the case, and upon the removal of this screw the magnet may be entirely with-  
75 drawn from the said case, as the core is loosely fitted into the coil. A curved strap of copper, phosphor-bronze, or other suitable metal or alloy, is fastened, by one or more screws, *d*, to the inner surface of the magnet M, and to  
80 this strap, by a pivot-screw, *c*, the two springs *a* and *b*, of steel, brass, or phosphor-bronze, curved to conform, generally, to the shape of the human head, are secured in such a way  
85 that they are movable upon the said pivot-screw, and may be brought nearer to, or drawn farther away from, one another, as indicated by the dotted lines in Fig. 4. A slot, *a'*, is  
90 longitudinally cut in the free end of the spring *a*, and a similar slot, *b'*, is made in the free end of the spring *b*, and an adjusting-screw, *h*, provided with a nut, *i*, is inserted through the two slots, and may lock them together in any desired position, whereby the springs may be  
95 conveniently adjusted to the wearer.

In adapting this instrument to the  
the nut *i* is loosened and the springs placed over the head. The telephone T is then placed in suitable proximity to the ear, and the  
springs *a* and *b* adjusted to make any required  
100 angle with one another, to distribute the weight evenly and to enable the wearer to use

the instrument with comparative comfort. The nut *i* may then be screwed up, and the adjustment is complete so far as the individual wearer is concerned, and the instrument  
5 may be lifted from or restored to the head without further change. To adapt the same instrument to another wearer, it is only necessary to loosen the nut *i* and repeat the foregoing operation.

10 By my invention a light, and at the same time an efficacious, head-telephone is provided.

While I prefer a telephone of the shape shown and described, I do not of course limit myself thereto, since many other forms may be  
15 equally well combined with the separable and adjustable springs; and

I claim—

1. A head receiving-telephone combined with supporting-springs adjustable on a pivot  
20 with reference to one another, and provided with means for longitudinal adjustment, whereby the instrument may be fitted to the head of the wearer, substantially as described.

2. In combination with the telephone *T*, the  
25 adjustable spring-supports *a* and *b*, affixed to and adjustable laterally with reference to one another on the magnet *M*, and slotted at their free ends for the reception of the regulating-screw *h* and nut *i*, substantially as indicated, and for the purposes specified.  
30

3. The combination of the magneto receiving-telephone, a pair of supporting-springs therefor, adapted to clasp the head of the wearer, so as to hold the telephone against his ear, means, as indicated, for adjusting the  
35 said springs the required distance from one another, so as to distribute the weight evenly upon the head, and other means for adjusting the said springs longitudinally with respect to one another, whereby they may be fitted to  
40 any head, for the purpose described.

4. In a head-telephone, the supporting-springs attached to one another at both ends, and to the telephone at one end, and provided with the pivot-screw *c* at the telephone end,  
45 so that the center of the springs may be separated to any required position, and with the slots *a'* and *b'*, set-screw *h*, and nut *i* at the free end for longitudinal adjustment, as specified.  
50

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 27th day of May, 1884.

WILTON L. RICHARDS.

Witnesses:

GEO. WILLIS PIERCE,  
FRED J. F. SCHWARTZ.