

(No Model.)

A. F. CONGDON.

TELEPHONE.

No. 303,809.

Patented Aug. 19, 1884.

FIG. 1.

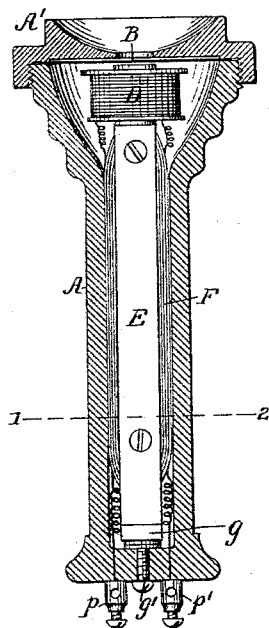


FIG. 2.

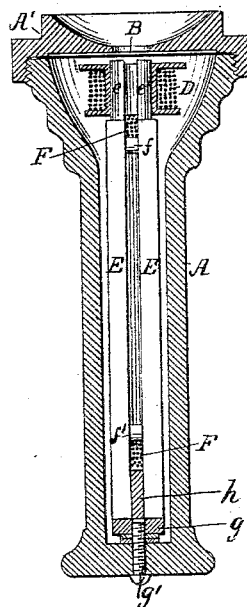
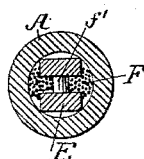


FIG. 3.



Witnesses.  
James F. Tobin  
John E. Parver

Inventor  
Albert F. Congdon  
by his Atty  
Howson & Co.

# UNITED STATES PATENT OFFICE.

ALBERT F. CONGDON, OF PHILADELPHIA, ASSIGNOR TO WILLIAM RENNY-  
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## TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 303,809, dated August 19, 1884.

Application filed March 5, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT F. CONGDON, of Philadelphia, Pennsylvania, have invented certain Improvements in Telephones, of which  
5 the following is a specification.

My invention consists of an improved construction of receiving-telephone, as more fully described hereinafter.

In the accompanying drawings, Figure 1 is  
10 a vertical section through the case of my improved telephonic receiver. Fig. 2 is a vertical section of the instrument at right angles to that of Fig. 1, and Fig. 3 is a section on the line 1 2.

15 A is the inclosing-case, which may be of any desired shape, and provided with the usual perforated screw-cap, A', forming the ear-piece and inclosing the diaphragm B.

The electro-magnet E is of the horseshoe  
20 type, the two polar extremities *e e'* being surrounded by the same coil D. Between the two legs of the horseshoe, behind the coil D, I wind longitudinally a coil, F, over transverse pins *f f'*, the two coils being in the same  
25 circuit and having their terminals connected to the usual binding-posts, *p p'*.

The pin *f*, I prefer to make of some non-magnetic material; but the pin *f'* is magnetic, or has a magnetic ferrule forming the bend of  
30 the horseshoe, which, as usual, is a permanent magnet as well as an electro-magnet. The connecting-piece *g*, into which passes the retaining-screw *g'*, forms part of the permanent magnet, while the spacing-block *h* may or may  
35 not be of magnetic material, as desired. A

telephonic receiver constructed as described, and provided with the coil F, wound round the bend of the horseshoe and along the legs, I have found to be much more efficient and to  
40 give better results than without the coil. Indeed, I have obtained satisfactory results in reproducing speech with the coil F only in circuit, the coil D being removed; but the use of the two combined is the best.

I claim as my invention—

1. The combination of the case and dia-  
45 phragm of a receiving-telephone with a horseshoe-magnet having a coil wound over the bend and longitudinally of the legs of the horseshoe, substantially as set forth.

2. The combination of the case and dia-  
50 phragm of a receiving-telephone with a horseshoe-magnet having one coil around its polar extremities and another wound over the bend and longitudinally of the legs of the horseshoe, 55 substantially as described.

3. The combination of the case and dia-  
phragm of a receiving-telephone with a horseshoe-magnet having one coil wound around its  
60 polar extremities and another wound over the bend of the horseshoe, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT F. CONGDON.

Witnesses:

JOHN E. PARKER,  
HARRY SMITH.