

(No Model.)

E. C. PARKER.  
TELEPHONE.

No. 546,027.

Patented Sept. 10, 1895.

Fig.1.

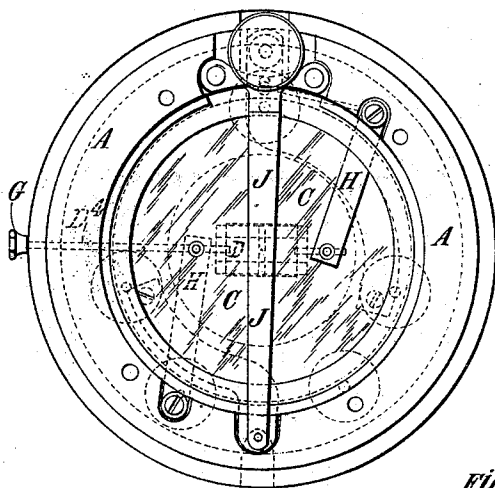


Fig.2.

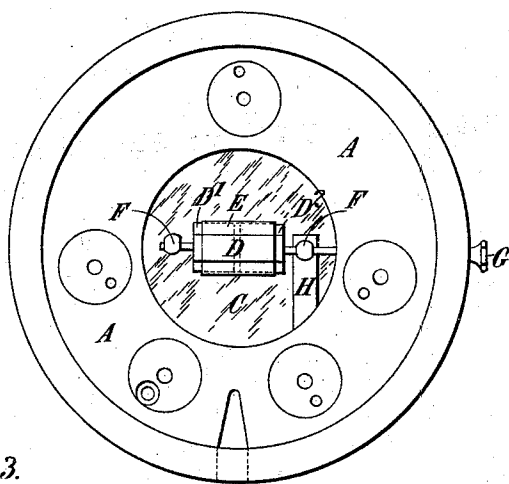


Fig.3.

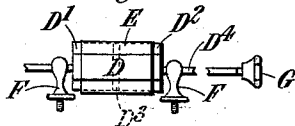


Fig.4.



Witnesses:

Arthur Ashley  
C. H. Thompson

Inventor:  
Edgar Charles Parker

By E. B. Clark  
Atty.

# UNITED STATES PATENT OFFICE.

EDGAR CHARLES PARKER, OF LONDON, ENGLAND, ASSIGNOR OF ONE-HALF  
TO JAMES RONALD WATSON, OF SAME PLACE.

## TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 546,027, dated September 10, 1895.

Application filed February 14, 1895. Serial No. 538,431. (No model.)

*To all whom it may concern:*

Be it known that I, EDGAR CHARLES PARKER, a subject of the Queen of Great Britain, residing at 35 Queen Victoria Street, London, England, 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.

My invention relates to improvements in telephones.

It has been found that in those telephone-transmitters in which granulated carbon is employed there is a tendency for the carbon granules to settle down close together or to pack after the telephone has been in use for some time. This is chiefly due to the vibrations of the diaphragm of the transmitter. In consequence of such packing the vibrations cease to act on the carbon granules to the same extent as they did before the packing, and consequently the loud-speaking capabilities of the telephone are seriously impaired. When such a condition of the carbon is arrived at, it has hitherto been usual to take down the telephone and shake it in order to loosen the carbon granules and thus restore the loud-speaking qualities of the telephone.

My invention relates to a simple means for restoring the loose condition of the carbon whenever required without necessitating the removal of the instrument. For this purpose I inclose the carbon in a holder which is capable of being rotated by means of a button or the like, so as to loosen and alter the relative position of the granules when required. By turning the holder from time to time, or whenever the tendency of the carbon to pack becomes apparent, the granules are thereby at once loosened.

In order that my invention may be clearly understood, I will now more fully describe the same with reference to the accompanying drawings, in which—

Figure 1 is a front elevation of a telephone transmitter constructed according to my invention, the front plate being removed. Fig. 2 is a rear elevation thereof. Figs. 3 and 4 are detail views of the carbon-holder, to be hereinafter described.

Like letters denote corresponding parts throughout the drawings.

A is is the transmitter.

C is a vibrating diaphragm, which is preferably constructed of mica. On the diaphragm C is mounted a rotatable carbon-holder D, which consists, preferably, of a polygonal tube of metal constructed in two halves D' and D<sup>2</sup>, Fig. 4, that are mechanically connected by some suitable insulating material, such as gold-beater's skin, as indicated at E, Fig. 3. The skin E is wrapped around the two parts D' and D<sup>2</sup> to form a complete tube, but at the same time leaving a short space D<sup>3</sup> between the inner ends of the two parts D' D<sup>2</sup>. The tube or holder after being nearly filled with carbon is mounted in bearings F F, attached to the back of the mica diaphragm, and is rotatable in the bearings just out of contact with the diaphragm. The spindle D<sup>4</sup> of the holder extends through the side of the transmitter-case and is furnished with a button G, by which the holder can be rotated. The two parts D' and D<sup>2</sup> of the carbon-holder D constitute the two electrodes of the transmitter A, which are connected by metal strips H H to the contact-screws of the instrument.

When the action of the instrument becomes impaired by reason of the packing of the carbon, all that need be done to loosen the same is to give a turn or two to the holder D by means of the button G. This will shake up and loosen the granules and render the operation of the telephone as perfect as before. I find it usually preferable to employ carbon fibers instead of granules in the holder D, as having less tendency to pack together.

What I claim is—

1. In a telephone transmitter the combination with the vibrating diaphragm of a rotatable carbon holder carried in bearings thereon, and carbon in said holder, substantially as and for the purpose specified.

2. In a telephone transmitter the combination with a vibrating diaphragm of a rotatable carbon holder mounted in bearings thereon and filled or partially filled with carbon fibers substantially as, and for the purpose, specified.

3. In a telephone transmitter the combina-

tion with the vibrating diaphragm of a rotatable carbon holder mounted in bearings thereon, the said holder being constructed in two parts joined together by insulating material, and carbon fibers in said holder, substantially as, and for the purposes, specified.

4. In a telephone transmitter the combination with the vibrating diaphragm of a rotatable carbon holder mounted in bearings thereon, the said holder being constructed in two

parts joined together by gold beater's skin placed around the two parts, and carbon fibers in said holder, substantially as, and for the purposes, specified.

In testimony whereof I have hereunto set my hand this 17th day of January, 1895.

EDGAR CHARLES PARKER.

Witnesses:

GEO. HARRISON,  
A. B. CROFTS.