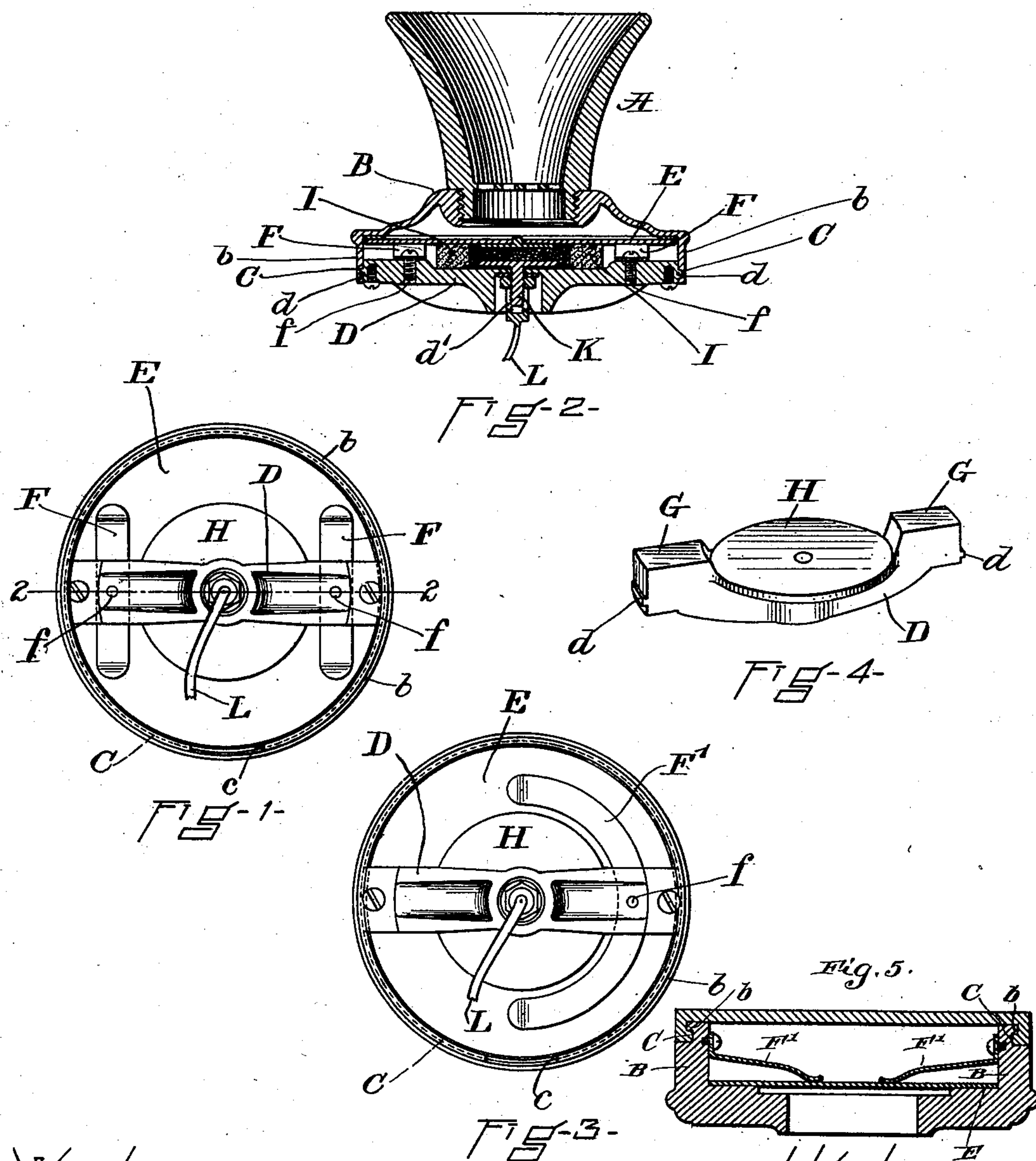


No. 720,085.

PATENTED FEB. 10, 1903.

F. S. TUCKER.
TELEPHONE TRANSMITTER.
APPLICATION FILED JULY 5, 1902.

NO MODEL.



WITNESSES:
Fred C. Chamberlain,
Henry C. Thomson

INVENTOR:
Frank S. Tucker.

UNITED STATES PATENT OFFICE.

FRANK S. TUCKER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO ELECTRIC GAS LIGHTING COMPANY, OF BOSTON, MASSACHUSETTS.

TELEPHONE-TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 720,085, dated February 10, 1903.

Application filed July 5, 1902. Serial No. 114,360. (No model.)

To all whom it may concern:

Be it known that I, FRANK S. TUCKER, of Boston, Massachusetts, have invented a new and useful Improvement in Telephone-Transmitters, of which the following is a specification.

My invention relates to the combination of the receptacle for the carbon granules, the back strap or bridge, the diaphragm, and means of retaining the diaphragm.

My invention consists in certain novelties of structure in, as well as a novel combination of, the parts.

My invention will be plain from the accompanying drawings, in which—

Figure 1 is a plan view. Fig. 2 is a vertical section on the line 2 2 of Fig. 1, and Figs. 3 and 4 are details of modified forms. Fig. 5 is a section showing certain modifications.

In the drawings, A is an ordinary form of the mouthpiece, and B the casing, which is constructed with a raised part or rim *b*, on the interior (or, if desired, on the exterior) of which rim is a groove C to receive the ends of the bridge, the rim itself being slotted or partly broken away therefor at *c* down to the groove. If the groove is exterior, the ends of the bridge must of course be constructed to turn over the exterior of the part or rim *b*, as shown in Fig. 5. Within casing B rests diaphragm E.

D is a back strap or bridge, its ends *d d* being formed into tongues adapted to slide in the groove C, (this groove being shown as interior,) to which one tongue is admitted by the slot at *c*.

F F are two curving springs, preferably pivoted to the bridge at *f* at their centers and may have their extremities slightly turned over to bear upon the diaphragm E. This construction will be plain from Figs. 1 and 2. It will be seen that when the one tongue of the bridge D is admitted to the groove C and the other tongue by slot *c* the turned-up ends of the springs F F will bear against the diaphragm, while the bridge can be moved into any position desired upon the same. The advantage of the springs F F, pivoted to the bridge, is that a constant spring-pressure will better hold the diaphragm. In place of the springs F F one spring of proper shape may

be used, as shown in Fig. 3, or in place of any springs depending portions G G, Fig. 4, from the bridge D may be used to bear upon the diaphragm; but in this case the relations of parts, the length of the depending portions, and the distance from the groove C to the diaphragm will have to be accurately adjusted in order that the pressure may be uniform. It is also evident that I may use the bridge without either the precise springs F F or the single modification F of Fig. 3 or the depending solid portions G G, Fig. 4, by tapping springs F' F' of slightly-different form upon the interior surface of the rim and bent so that their ends may bear upon the diaphragm, as shown in Fig. 5 and as is a well-known arrangement in several varieties of transmitters.

It will be understood that the exact form of the bridge D is immaterial, the form shown in Figs. 1 and 2 being proper, in which the center part of the bridge is laterally expanded into a circular cap H, fitting over the carbon-receptacle I, (preferably a ring of soft fiber,) in which the granulated carbon is held. Connection is made with the granulated carbon by a small screw-post K, (which extends up through the central cut-away portion or well *d'*, as shown,) which screw-post passes through the bridge D and connects with the line-wire L. The structure or form of this carbon-receptacle I and of its connection with the wire is no part of my invention, as various diversities of it are well known. I have made it of a ring of soft fiber resting upon diaphragm E, the carbon being contained therein between the diaphragm E and cap H.

Having described my invention, what I desire to protect by Letters Patent is—

1. In a telephone-transmitter, in combination with a mouthpiece A, a casing B, an up-turned part or rim *b*, a groove C upon said rim, a slot *c* above said groove, a diaphragm E, resting in said casing, a carbon-receptacle resting upon the diaphragm, and a bridge having ends adapted to slide in groove C, and means for holding the diaphragm in position.

2. In a telephone-transmitter, in combination with a mouthpiece A, a casing B, an up-

turned rim *b* thereon, a groove *C* upon the interior of said rim, a slot *c* above said groove, a diaphragm *E* resting in said casing, a carbon-receptacle, a bridge *D*, and one or more
5 springs *F*, pivoted beneath the bridge and resting against the diaphragm; substantially as described and shown.

3. In a telephone-transmitter, a casing having an upturned part, adapted to support a
10 diaphragm, a groove upon the upturned part of the casing, a bridge-piece having its extremities adapted to slide in said groove, a

slot in said upturned part to admit one end of said bridge to said groove, a diaphragm resting in said casing, a carbon-receptacle re- 15
tained between said diaphragm and bridge-piece, and means to hold said diaphragm in position; substantially as described.

In witness whereof I hereunto set my hand this 2d day of July, 1902.

FRANK S. TUCKER.

In presence of—

FRED C. CHAMBERLIN,
HENRY C. THOMSON.