

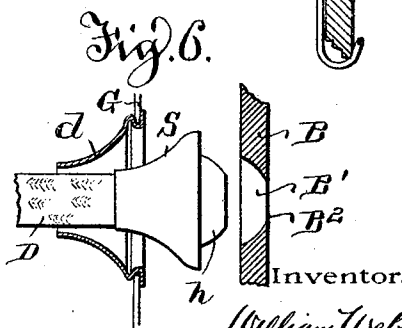
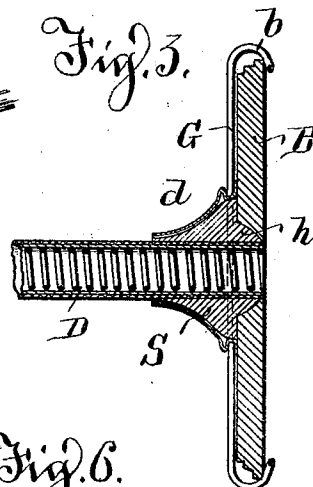
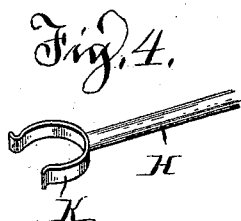
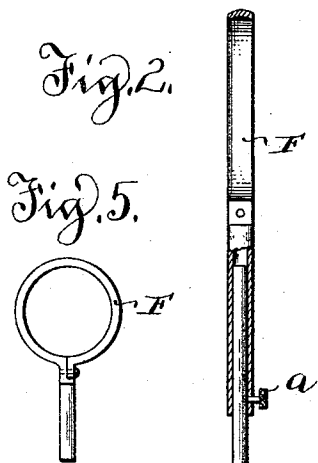
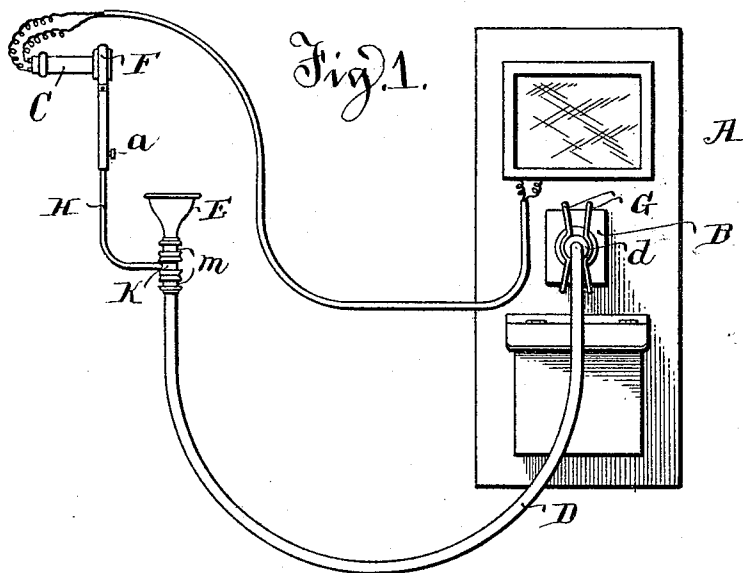
(No Model.)

W. WEBER.

SPEAKING ATTACHMENT FOR TELEPHONES.

No. 520,467.

Patented May 29, 1894.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM WEBER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO GEORGE WEBER, OF SAME PLACE.

SPEAKING ATTACHMENT FOR TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 520,467, dated May 29, 1894.

Application filed February 15, 1894. Serial No. 500,193. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WEBER, a citizen of the United States, residing in the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Auxiliary Speaking Attachments for Telephones, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to auxiliary attachments to be applied to and connect the receiving and transmitting boxes of a telephone, and consists of improvements upon the device for that purpose heretofore patented to myself and George Weber by Letters Patent of the United States No. 509,061, dated November 21, 1893; and my present invention consists of improvements thereon hereinafter described, having for their object to prevent the flexible tube becoming twisted, and also to enable the mouth piece of the speaking tube to be brought closer to or farther from the receiving diaphragm of the telephone by adjusting devices between the shank of the speaking tube and the supporting arm therefor.

In the accompanying drawings illustrating my invention, Figure 1 is an elevation of my improved device showing its application to the transmitting box and receiver of the telephone. Fig. 2 is a side view partly in section, of the connecting arm between the mouth piece and the supporting ring for the telephone receiver. Fig. 3 is a section of the transmitter end of my auxiliary attachment showing the means for maintaining the end of the flexible tube against the diaphragm in the transmitter box in such a manner that the tube may turn freely without becoming twisted. Fig. 4 is an elevation of part of the adjusting mechanism between the mouth of the speaking tube and the arm connecting it with the receiving phone. Fig. 5 is a side elevation of the clamp end of the arm maintaining the speaking tube mouth-piece. Fig. 6 is a view partly in section, of the same parts as are shown in Fig. 3, but with the parts separated to show their construction and relative arrangement.

As described in the former patent referred

to, the main object or purpose of the device, is to enable the sound waves of the speaker's voice to be projected directly against the diaphragm of the transmitting, irrespective of the position of the speaker relatively thereto, and this was accomplished by a flexible tube maintained rigidly at one end over the said transmitting diaphragm, the other end being connected to a speaking tube mouth piece, rigidly attached to an arm terminating in a clamp adapted to hold the receiving diaphragm of the telephone. The defects in that device were a want of adjustability of distance between the speaking tube mouth piece and the receiving diaphragm, the two being at all times inseparably connected; and also, owing to the rigid connection between the flexible tube and the transmitting diaphragm, the tube was constantly twisted and consequently injured and rendered less useful for the purpose contemplated. My present invention overcomes both these defects. The ordinary telephone box A, is provided with a transmitting diaphragm box B, the face of the box having an oval recess B', intended to more or less collect the sound waves, and at the base of this recess or immediately back of the same, is placed the transmitting diaphragm B². The flexible tube D is secured within the central opening in an end block S having a projection *h* thereon fitting the recess B' in the face of the transmitting box B. Instead of the spring clamp G shown and described in the previous patent, I provide a clamp G having a projecting hollow cone shaped center *d* adapted in shape to fit loosely over the similar shaped end piece S on the tube, and having clamp wires G whereby the apparatus is held on the transmitting box B by means of the curved ends *b* passing over the top and bottom edges of the transmitting box (see Figs. 1 and 3). The result is that the end block S on which the delivery end of the flexible tube is mounted is free to rotate within the hollow cone-shaped end *d* of the clamp, and hence there can be no twisting of the flexible tube D while at the same time the open end of the tube is always held contiguous to and in the same plane with the diaphragm of the transmitting box of the telephone because the end block S conforms

in shape to the cone shaped center of the maintaining clamp, and hence there can be no axial displacement of the former relatively to the transmitting diaphragm of the telephone. The metallic arm H connecting the clamp F, in which the receiving diaphragm holder C is held, is made in two parts, and operates sleeve-like at its clamp end, and fastened to an adjusted point by means of a set screw *a*. At its lower end the arm H terminates in a spring clamp K (see Fig. 4) which is thus adapted to grasp the shank of the mouth-piece; but in the construction of the device I insert the tubular end of the mouth piece into the flexible tube, and slip a tubular sleeve M over both, the latter being provided with a series of annular recesses *m m* adapted in size to receive the arms of the clamp K, and by this means, the mouth piece is made vertically adjustable.

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

1. As an auxiliary attachment for telephones, adapted to connect the receiving and transmitting diaphragms thereof, a flexible speaking tube, a rigid arm connected at one end to the mouth piece thereof and termi-

nating at its other end in a clamping ring adapted to hold the receiving telephone, and means to maintain the delivery end of the flexible tube contiguous to the transmitting diaphragm, consisting of a hollow cone shaped clamp and an end block conforming in shape thereto and adapted to be rotated therein; substantially as described.

2. As an auxiliary attachment for telephones, operating to connect the receiving and transmitting diaphragms thereof, a flexible tube with means to maintain its delivery end contiguous to the transmitting diaphragm, and its other end secured around the shank of a mouth-piece, a sleeve M surrounding the tube and provided with a series of annular recesses *m, m*; an arm H provided at one end with a spring clamp K adapted to enter said recesses *m*, and at the other end provided with means to maintain the receiving telephone; substantially as described.

In testimony whereof I have hereunto affixed my signature this 2d day of February, A. D. 1894.

WILLIAM WEBER.

Witnesses:

FRANK S. BUSSEY,
A. T. FENTON.