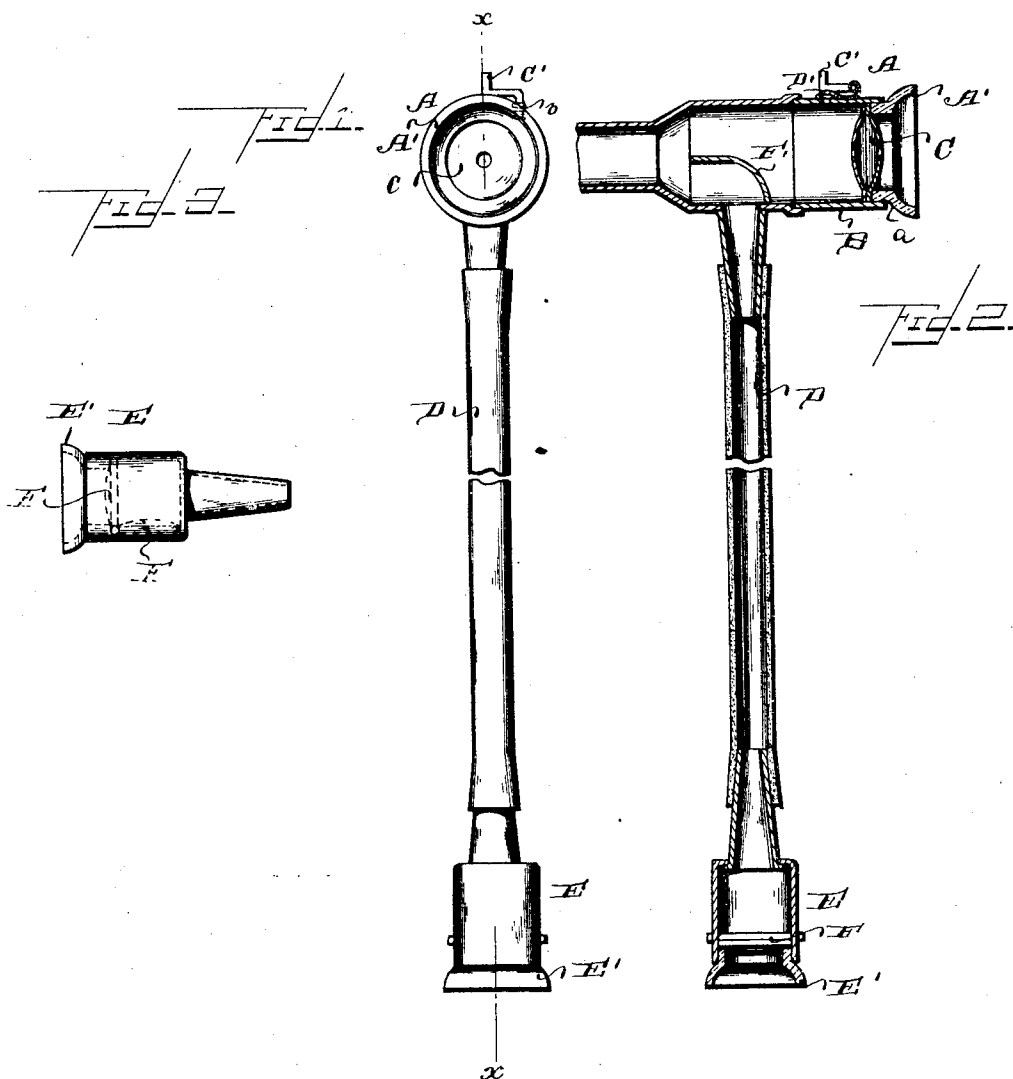


(No Model.)

C. A. BARTLIFF
SPEAKING TUBE.

No. 501,486.

Patented July 18, 1893.



Witnesses:

Jesse Heller.
Phil. C. Masi.

Inventor.

C. A. Bartliff
by E. W. Anderson
his Attorney.

UNITED STATES PATENT OFFICE.

CHARLES A. BARTLIFF, OF MEMPHIS, TENNESSEE.

SPEAKING-TUBE.

SPECIFICATION forming part of Letters Patent No. 501,486, dated July 18, 1893.

Application filed August 30, 1892. Serial No. 444,504. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. BARTLIFF, a citizen of the Dominion of Canada, and a resident of Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Tube-Telephones; and I do 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a front view of the invention. Fig. 2 is a vertical section of same taken on line *xx*, and Fig. 3 is a detail view of the ear piece.

This invention has relation to certain new and useful improvements in non-electric or tube telephones; and it consists in the novel construction and combination of parts, all as hereinafter specified.

The object I have in view in this invention is to provide, in connection with the speaking phone or transmitter, an improved ear phone attachment; also to provide the transmitter with an improved shield or deflector, by means of which the passage of the currents of air through the different parts of the instrument are properly regulated.

Referring to the accompanying drawings, the letter A designates the speaking phone or transmitter, having a flaring mouthpiece A' and connected at its inner, reduced end *a*, with the tube B, which leads to the desired point of communication.

C is a round tin whistle having a central perforation, and of the same diameter as that of the interior of the phone, closing outwardly against the mouthpiece A'. Said whistle is hinged at one side to a crank-shaped handle C', which projects through at the side and is intended to operate the whistle. A small spring *b* keeps the whistle normally closed.

Leading outwardly from the bottom rear portion of the phone A, is a flexible tube D, preferably about two feet in length, and on the opposite end of this flexible tube is an ear phone E, having a funnel-shaped ear piece E', and a shut off diaphragm or trap F which is hinged at one side just back of the ear piece.

When the ear phone is hanging down, and not in use, this trap will be kept closed by gravity, but when the phone is raised to the ear, said trap will fall back into the position shown by the dotted lines in Fig. 3, leaving the phone open.

In the speaking phone A is a thin curved plate, or sounding shield F', which projects upwardly into the inner portion of the phone, but does not entirely close it.

It will be understood that the other end of the line tube is provided with apparatus exactly similar to that above described.

The operation is as follows: Supposing the office of a factory or other building to be connected by a separate phone with each room or floor thereof, and a person in one of the rooms desires to communicate with the office. By a half turn of the crank C', the whistle C is swung open, and the operator blows into the speaking phone, sounding the whistle in the office, and turning up the usual indicator D', so that the operator in the office may know which phone is calling him. As soon as the operator above has sounded the call he allows the whistle in the speaking phone (which has been turned back while giving the call) to close. He then takes up the ear phone and places it to his ear, awaiting answer. As soon as the whistle is sounded in the office, the operator there closes the indicator and proceeds to answer the call. The only time it is required to open the whistle, is when a call is to be given. With the whistle closed, the operators can stand a foot or more away from the speaking phones and hear every word as distinctly as though both were in the same room. The object of the trap F, which keeps the ear phone closed when the latter is hanging down, is to prevent the forced air, when a call is given from the other end, from striking under the sounding shield in the speaking tube, and escaping without sounding the whistle. The sounding shield F' serves a double purpose. It serves to throw the sound from the speaking tube directly into the line tubes, and also to throw the sound from the line tube into the flexible tube and ear phone. A great defect of the speaking tubes commonly in use, lies in the fact that it is necessary to constantly change from mouth to ear at the phone, and vice versa, in order to carry

on a conversation. This is obviated by the ear phone attachments above described. With the old style, it also often happens that both operators will have their mouths or ears to the phones, making it difficult to carry on a continuous conversation.

It will be apparent that where buildings are already fitted up with speaking tubes, the old style of phones may be removed from the tubes and my invention applied with but little trouble or expense.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In a non-electric telephone or speaking tube, the combination with the speaking phone, its hinged whistle and indicator, of the flexible ear tube connected at one end to the lower portion of said speaking phone, an ear phone on the opposite end of said flexible tube, a hinged gravity trap in said ear phone, and normally closing the orifice therein, and a shield or deflector located within said speaking phone at the juncture therewith of said flexible tube, substantially as specified.

2. In a non-electric telephone or speaking tube, the combination with a line tube, and a speaking phone or transmitter connected thereto, of a flexible ear tube attachment connected at one end to the lower inner portion of said speaking phone or transmitter, an ear phone on the opposite end of said flexible tube, a hinged shut-off trap or diaphragm in said ear phone, and normally closing the orifice therein, and a curved deflector or shield within said speaking phone or transmitter at the juncture therewith of the line and ear tubes, said shield or deflector forming two separate passages opening at one end in said line tube, and at their other ends leading one into the mouthpiece of said speaking phone or transmitter, and the other into said ear tube, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES A. BARTLIFF.

Witnesses:

E. T. BARTLIFF,
L. H. ANTHONY.