

(No Model.)

2 Sheets—Sheet 1.

C. A. BARTLIFF.
SPEAKING TUBE APPARATUS.

No. 550,121.

Patented Nov. 19, 1895.

Fig. 1

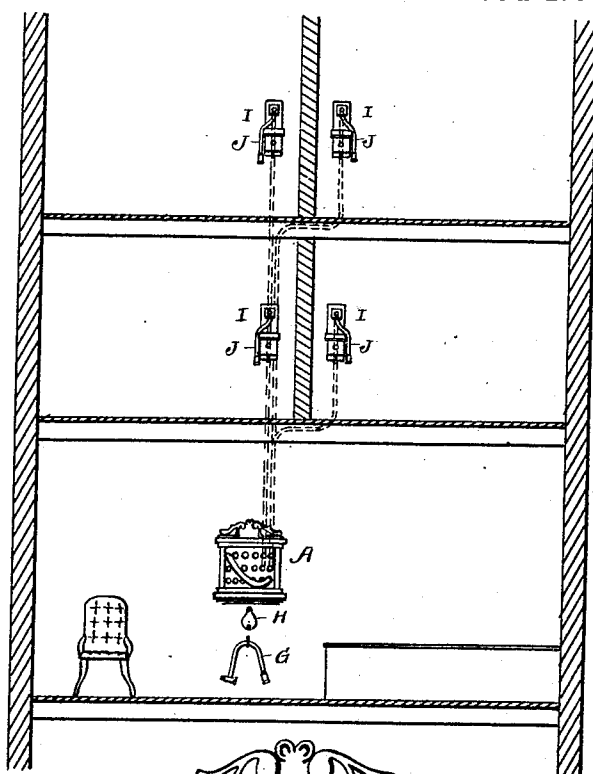


Fig. 6.



Fig. 2.

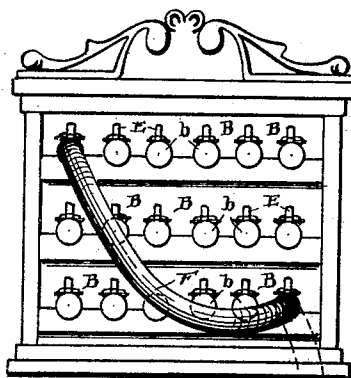
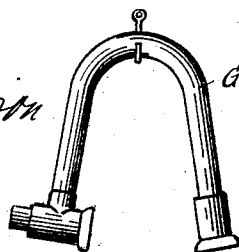
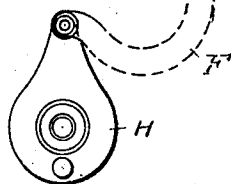


Fig. 7.



WITNESSES

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Fig. 3.

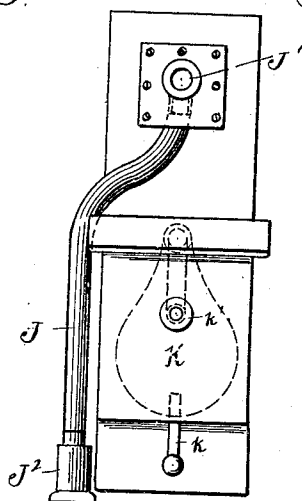


Fig. 4.

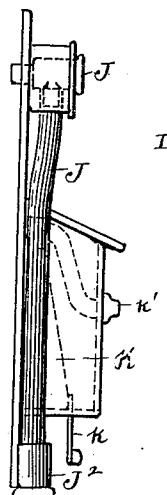
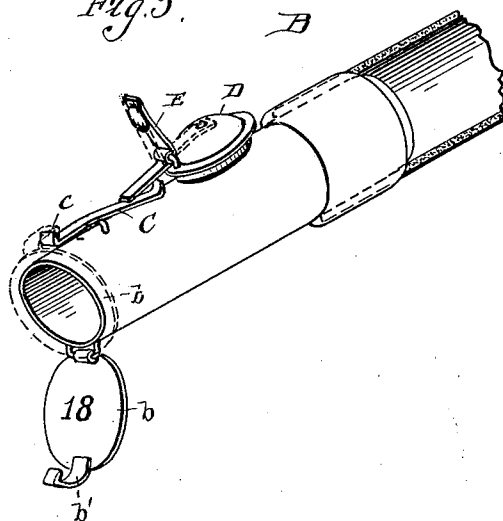


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES A. BARTLIFF, OF MEMPHIS, TENNESSEE.

SPEAKING-TUBE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 550,121, dated November 19, 1895.

Application filed March 15, 1895. Serial No. 541,917. (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-Telephone Apparatus; 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 sectional view of a building, the invention being applied thereto. Fig. 2 is a face view of the annunciator and devices used therewith located at central station. Fig. 3 is a face view of phone located in different rooms. Fig. 4 is a side view of same. Fig. 5 is a perspective view of indicator and signal device. Fig. 6 is a section through bellows. Fig. 7 is a detail view of tube F.

This invention relates to certain new and useful improvements in non-electric or tube telephone apparatus, and is designed to afford a telephonic system of this character which will meet the requirement for a means of ready communication between the different rooms of a building.

With this object in view the invention consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the appended claims.

The invention is especially adapted for use in office buildings and hotels, although it may be employed wherever such devices are needed.

For convenience in describing the invention it will be supposed that it is applied to a hotel wherein each room is supplied with an instrument or "phone" connected by a tube with an office or station to which all the tubes run and which is preferably located in the central portion of the building, especially if the building be a large one.

Referring to the accompanying drawings, the letter A designates an annunciator and exchange, which is located in the central room or office of the building and to which all the

tubes from the various rooms lead, each tube having an indicator and signal device B. This device consists of a short tube fitted to the end of the speaking-tube and closed at its outer end by a cap *b*, which is hinged to the lower edge of the tube, being held normally closed by the engagement of a hook *b'* at its upper edge with a catch projection *c* of a small lever C, pivoted on the upper side of the tube. The outer end of the tube is usually cut off obliquely, so that the cap stands in a position to more readily fall by gravity when released.

D is a whistle which is supported on the tube B, with which it communicates through a small opening.

E is an indicator, which consists of a small right-angled piece pivoted upon the edge of the whistle, one of its arms, which is provided with some distinguishing mark, normally lying over the opening of the whistle.

F designates a piece of flexible tubing, whose ends are fitted with a nose *f* to be inserted in the mouth of any of the tubes B and in this manner make continuous connection between any two tubes. Each of the caps *b* is marked with a number denoting the room to which its tube leads.

The operation of this part of the invention is as follows: When the occupant of a room—No. 18, for instance—desires to communicate with room No. 1, he signals the attendant at the central station by blowing in his end of the tube. This sounds the whistle D of that particular indicator and at the same time throws up the arm of the indicator E, thus both notifying the attendant of a call and informing him from what room it comes. The attendant then depresses the outer arm of the lever C, which releases the cap *b* and the latter falls and opens the tube. When the indicator E was thrown up by the call, its vertical arm was thrown over onto this lever C, and when said lever is operated to release the cap the indicator is thereby returned to its normal position. The attendant now takes a phone G, which hangs in convenient position, and which is preferably an instrument like that described in my Patent No. 501,487, dated July 18, 1893, and inserts the heel of the mouth portion thereof in the open

tube, applying the ear attachment to his ear, and calls to the occupant of room 18 to know his wishes. Ascertaining that he wishes to communicate with room 1, which may be the office of the hotel, he removes the phone G and taking the tube F he inserts one end in the tube of room 1, the cap of which he opens, and signals the occupant of that room. He then joins the other end of the tube F to the tube of room 18 and the desired communication is complete. When the parties have finished talking, they indicate the fact by blowing in the tubes, which notifies the attendant, who removes the tube F and closes the caps. When such signal is given, the indicators are again thrown up; but when the caps are closed the levers C are rocked to throw said indicators back into position for the next call.

The attendant in signaling any room may of course use his mouth; but this practice is objectionable, for the reason that it moistens the walls of the tubes and retards the sound-waves. I therefore provide below the annunciator a bellows H, whose exhaust-opening is fitted with a valve *h* and rubber nozzle *h'*, which is adapted to fit the nose of the tube F. In making the signal to any room the attendant merely connects one end of the tube F with that room, places the other end on the nozzle *h'*, and works the bellows.

The device A, when desired, may be used as an annunciator only, the exchange feature being omitted.

I will now describe the instrument or phone with which the individual rooms are supplied.

I designate a case, which in appearance is very similar to the telephone-boxes in common use. To the upper portion of this case extends the tube J from the central station, having a mouthpiece *J'* and flexible ear-tube attachment *J''*, similar to those of the instrument described and claimed in my said patent. The lower portion of the case incloses a bellows K, similar to the one above referred to, its lever *k* and exhaust-nozzle *k'* projecting through the case, the one at the bottom and the other in front, as indicated in Fig. 4. To signal the central station, the person places the ear-piece of the flexible attachment *J''* over the nozzle *k'* and works the bellows, after which he places the ear-piece to his ear for the reply.

The case may be omitted, if preferred, the

operative parts being supported directly on the wall of the room.

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

1. The signal and indicator for tube telephones, comprising a small tube fitted to the end of the line tube, a hinged gravity opened cap for closing the end of said small tube, the whistle thereon, the angular pivoted indicator arm, and the pivoted lever having a catch which normally holds the said cap closed, and upon which the indicator is arranged to fall when the whistle is sounded, substantially as specified.

2. The herein described exchange and annunciator, for tube telephones, wherein the ends of the tubes from several different apartments are grouped at a common station, consisting of a series of numbered hinged caps closing the ends of said tubes and arranged to fall by gravity when released, a whistle on the end portion of each tube, said whistles being independent of the hinged caps, an indicator in connection with each whistle, and a flexible tube arranged to connect any two tubes of the group when the caps thereof are open, substantially as specified.

3. The combination with the annunciator and its flexible tube adapted to connect the ends of any two tubes leading to said annunciator, of a bellows suitably supported with relation to said annunciator, and having an exhaust nozzle fitted to receive one end of said tube, substantially as specified.

4. The combination with a speaking tube of a bellows normally disconnected from said tube, and having a valved exhaust, and a nozzle at said exhaust fitted for the mouth of said speaking tube, substantially as specified.

5. The combination with a speaking tube having a mouth piece and a flexible ear tube attachment fitted with an ear piece, of a bellows supported in suitable relation to said mouth piece and having its exhaust provided with a nozzle which is fitted to receive the said ear piece, substantially as specified.

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

CHARLES A. BARTLIFF.

Witnesses:

PHILIP C. MASO,
GEORGE H. PARMELEE.