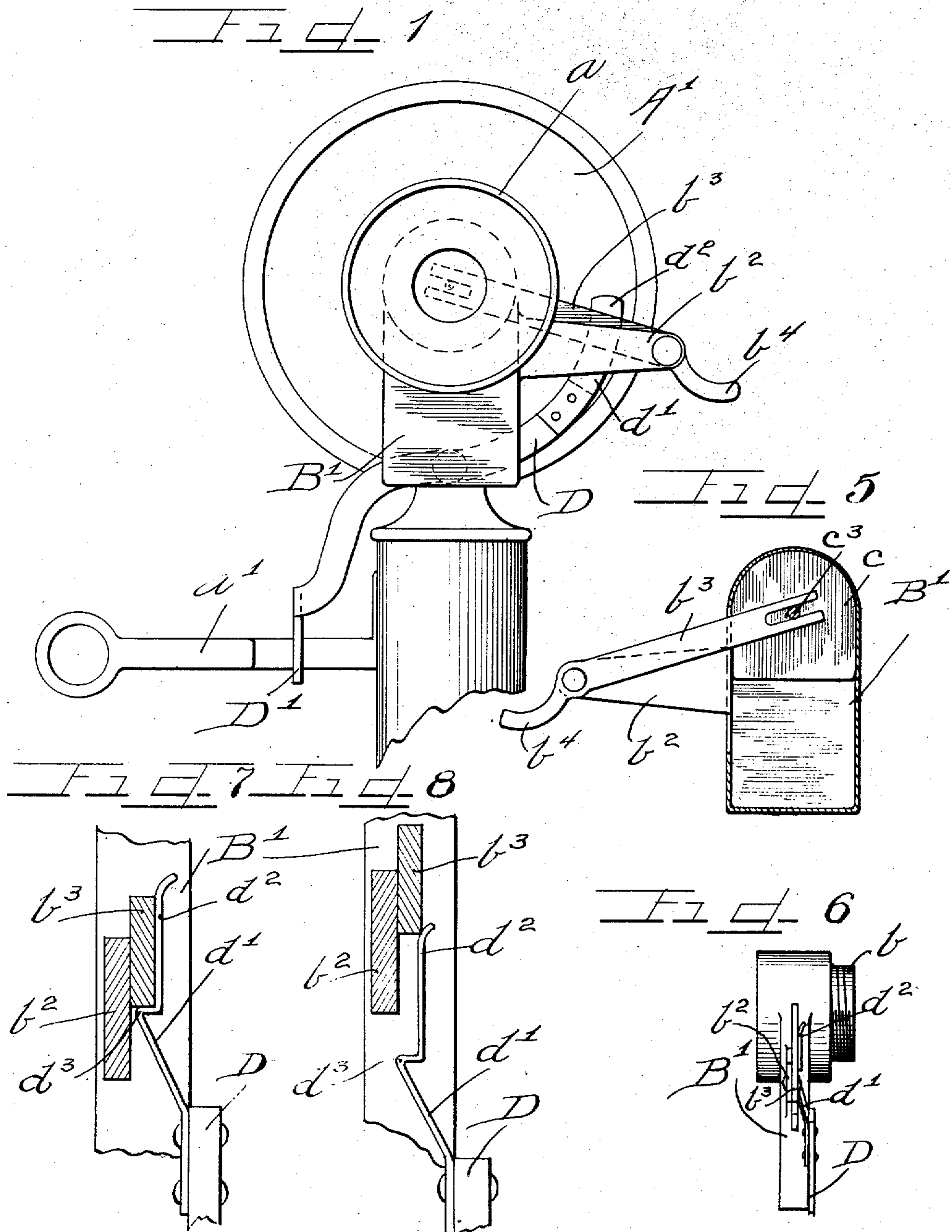


F. M. ALLEN.  
STERILIZING AND MUFFLING SHIELD FOR TELEPHONES.  
APPLICATION FILED APR. 9, 1908.

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Patented Apr. 12, 1910.

2 SHEETS—SHEET 1.



Witnesses

J. H. Angell.  
J. W. Hannah

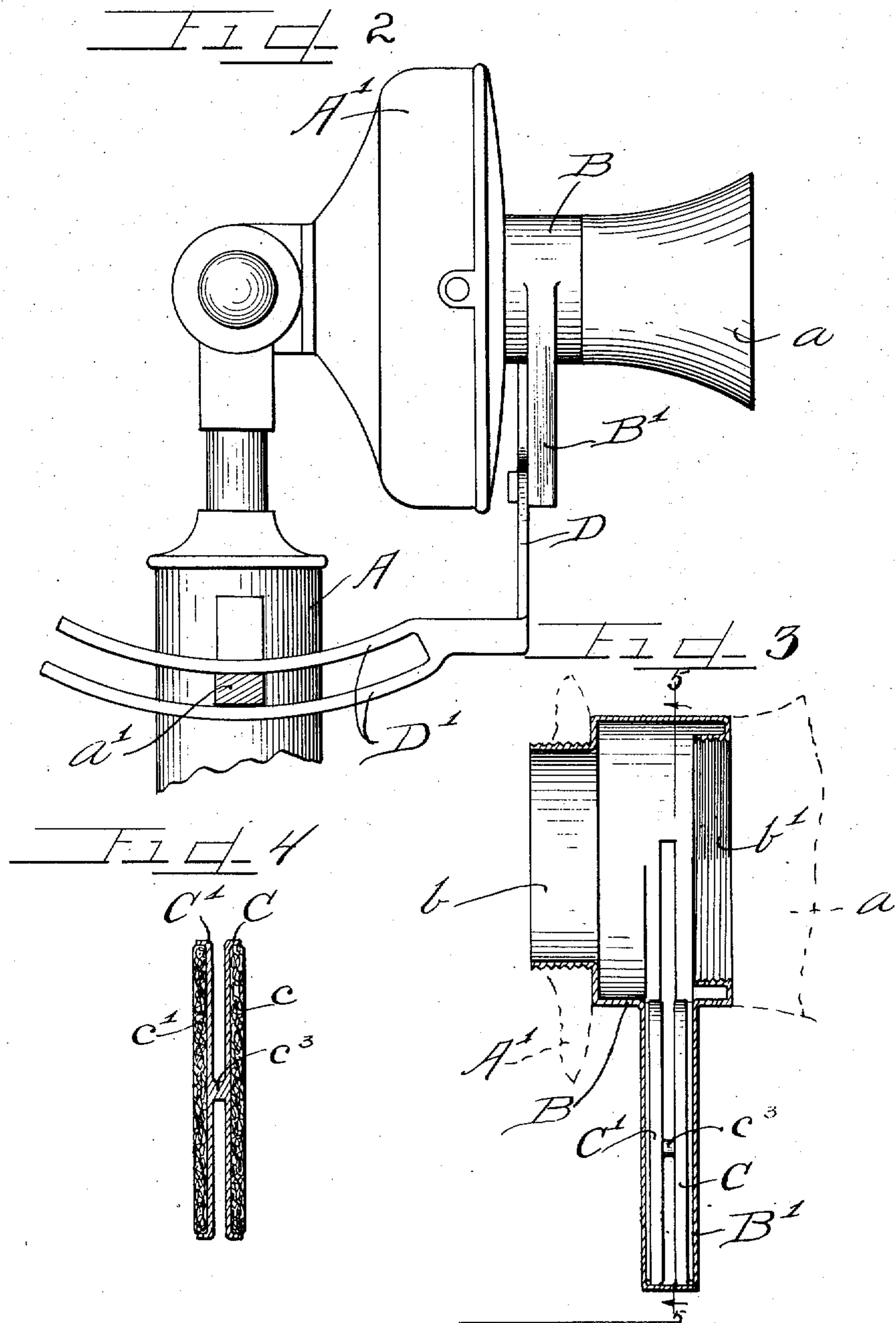
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# UNITED STATES PATENT OFFICE.

FLORENCE M. ALLEN, OF CHICAGO, ILLINOIS.

STERILIZING AND MUFFLING SHIELD FOR TELEPHONES.

954,909.

Specification of Letters Patent.

Patented Apr. 12, 1910.

Application filed April 9, 1908. Serial No. 428,014.

*To all whom it may concern:*

Be it known that I, FLORENCE M. ALLEN, a citizen of the United States, and a resident of the city of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Sterilizing and Muffling Shields for Telephones; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Unquestionably, few telephones whether in public or private use, are maintained in a sanitary condition. The organic exhalations from the mouths of the various users of the telephone soon form a deposit within the transmitter mouth piece and this in turn upon examination is found to be teeming with bacteria, among which may be recognized the characteristic bacteria of almost any of the diseases which afflict mankind. Numerous devices have been proposed to remedy this unsanitary and disgusting condition, none of which, however, it would appear have come into any considerable or extended use. In consequence, the sterilizing of transmitters has been very generally neglected and unquestionably much disease has been occasioned thereby. Another important requirement of the telephone, is a device whereby the user of the telephone may, if he prefers, close the transmitter temporarily while the receiver is in use, to prevent the speaker at the other end of the line hearing any conversation at the receiving end of the line. For this purpose various cut out devices have come into use to some extent, all of which, however, require the use of one hand continually while in operation.

The object of this invention is to afford a muffler for the transmitter of a telephone which is capable of instant adjustment while receiving to close the transmitter of the same instrument thereby preventing the speaker from hearing any sound from the receiving end of the line.

It is a further object of the invention to afford a construction of the class described in which a sterilizing agent is adapted to be swung into position to thoroughly fumigate and sterilize the transmitter during the entire period the receiver is hanging upon the receiver arm of the telephone and which is instantly and automatically moved out of

position to obstruct, the transmitter when the receiver is lifted from the arm.

It is a further object of the invention to afford a construction by the use of which the person receiving the message may manually adjust the sterilizing shutter to close the transmitter without interfering with the efficiency of the telephone and without necessitating the continuous use of one hand to hold the muffler in closed position.

The invention consists in the matters hereinafter described and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 is a front elevation of a transmitter embodying my invention. Fig. 2 is a side elevation thereof with the arms shown in section. Fig. 3 is a central vertical section of the shutter holder. Fig. 4 is a central transverse section of the double, muffler and sterilizing shutter. Fig. 5 is a section taken on line 5—5 of Fig. 3. Fig. 6 is a reduced side elevation of the shutter casing showing the engagement of the levers thereon. Figs. 7 and 8 illustrate different adjustments of the manually operated shifting lever on the shutter.

As shown in the drawings: A indicates the standard, of a telephone, and A', the transmitter pivotally engaged thereon.

a, indicates the mouth piece of the transmitter and a' the receiver hook or arm.

Threaded into the transmitter is the shutter casing shown as a whole by B, and into which the mouth piece a, is threaded, so that said casing is secured immediately in front of the diaphragm and affords the connection between the mouth-piece and the transmitter proper. Said casing, as shown, comprises a cylindric upper portion, which may be constructed of stamped or pressed metal, or in any other manner or of any suitable material and provided, as shown, with an outwardly directed threaded flange b, adapted to be threaded into the transmitter A'. At its opposite end said cylindric portion of the casing is provided with an inwardly directed threaded flange b', into which the mouth piece a is threaded. Said casing extends downwardly below the cylindric portion thereof to afford a chamber to contain the shutter when removed from before the transmitter and, as shown, said downward extension is of a width equal to the diameter of the cylindric portion of the casing and is provided with a slot opening through the edge thereof remote from the

receiver arm  $a'$ , as shown in Figs. 2, 3, and 5, adapted to receive the adjusting arm  $b^3$  therein. Slidable in said casing and shaped to conform to the same to entirely close the aperture to the diaphragm of the transmitter are two connected, oppositely facing flanged disks  $C-C'$ , which, on their outer sides are provided each with a pad of absorbent material  $c-c'$ , adapted to carry the antiseptic or sterilizing agent, of which any of several well known preparations may be used. On the side of the casing adjacent the slot is provided an outwardly extended arm  $b^2$ , on which the adjusting arm  $b^3$  is pivotally engaged. Said arm or lever  $b^3$ , is provided with a forked end, which engages a central pin or connection  $c^3$ , between said muffler plates and the outer end  $b^4$ , of said adjusting arm or lever  $b^3$  beyond the pivot is shaped to be conveniently engaged manually to permit the shutter to be manually elevated, as shown in Fig. 1, to close the transmitter. Pivotaly engaged on said casing at the lower end thereof is a lever D, the lower end  $D'$  of which extends downwardly and transversely the standard and is provided with a segment shaped slot therein, as shown in Fig. 2, concentric with the central pivot pin on which the transmitter is engaged on the standard. The receiver arm or hook  $a'$  extends through said slot, the upper end of said lever D, extends in beyond the standard A, and close beneath the rigid arm  $b^2$ , and lever  $b^3$ , and as shown in Figs. 6, 7 and 8, a shouldered leaf spring  $d'$ , is engaged thereon at its upper end and extends inwardly toward and into position to engage the lever  $b^3$ . As shown, said leaf spring at its upper end is provided with a resilient tongue,  $d^2$ , adapted to press somewhat lightly against the arm or lever  $b^3$ , to support the same in elevated position, as shown in Fig. 1, when the sterilizing muffler has been elevated manually to close the transmitter.

The operation is as follows: Inasmuch as the segment shaped slot in the lever D, is concentric with the pivot, it is clearly quite immaterial what the adjustment of the transmitter on its standard, inasmuch as movement of the transmitter produces a corresponding movement of the lever, which also is concentric with the pivot. Inasmuch as the lower end of the lever D, is positively engaged on the receiver arm or hook,  $a'$ , and the outer end thereof extends on the opposite side of the casing into relation with the levers  $b^3$ , it follows that upward movement of the receiving arm when the receiver is lifted acts to move the free end of said arm downwardly, carrying the shutter  $C-C'$  downwardly opening the transmitter for use. Should it be desired to temporarily close the transmitter while receiving, the operator may instantly accomplish this by press-

ing downwardly on the end  $b^4$  of the lever  $b^3$ . This throws the shutter upwardly, as shown in Fig. 5, and in dotted lines in Fig. 1, the free end of the spring  $d^2$  supporting the shutter in position to close the transmitter. When it is desired to again open the transmitter, the lever is, of course actuated to permit the shutter to fall to normal position, or should the receiver be hung up on the hook or arm, the upper end of the lever D, swings upwardly until the shoulder  $d^3$ , on said leaf spring bears against the under side of the lever  $b^3$ , as shown in Figs. 6 and 7, supporting the shutter in position to close the transmitter.

Of course, it is evident that in every instance, when first removing the receiver from the hook, the transmitter is fully opened by the upward movement of the receiver arm and it is also evident that the transmitter may remain open or may be closed by the operator without necessitating the continuous use of one hand for holding the transmitter closed.

During the entire period of use or non-use of the transmitter, it is subjected to the fumes or emanations from the antiseptic or sterilizing pads carried on both sides of the shutter, and in consequence not only the diaphragm is so treated, but as well the mouthpiece of the transmitter, thus at all times maintaining the instrument in a perfectly sanitary condition and affording the additional and very important advantage of increasing the secrecy and privacy of the use of the telephone.

I have described but one construction embodying my invention. I therefore do not purpose limiting this application for patent otherwise than necessitated by the prior art, as many details of construction and arrangement may be varied without departing from the principles of this invention.

I claim as my invention:

1. The combination with a telephone transmitter and the receiver arm or hook of a shutter comprising oppositely facing disks positioned to close the transmitter when the receiver is supported on said arm and to open said transmitter when the receiver is removed and antiseptic and sterilizing agents carried on each disk of the shutter.

2. The combination with a telephone transmitter and the receiver arm or hook of a slidable shutter and operative connections between the arm and shutter comprising in part a spring adapted to actuate the shutter, to close the transmitter when the receiver is supported on the arm and to open said transmitter when the receiver is removed.

3. The combination of a telephone transmitter and the receiver arm or hook of a shutter slidably supported to close the transmitter when the receiver is supported on said arm and to open said transmitter

when the receiver is removed from the arm and antiseptic and sterilizing pads carried on oppositely disposed faces of the shutter.

4. The combination with a telephone transmitter and the receiver arm or hook of a shutter supported to close the transmitter when the receiver is supported on said arm, and to open said transmitter when the receiver is elevated, a lever carried on the transmitter and engaging said arm at one end and at the other adapted to actuate the shutter and means for moving said shutter independently of said lever.

5. The combination with a telephone transmitter and the receiver arm or hook of a shutter movable to close the transmitter when the receiver is supported on the arm, to open said transmitter when the receiver is lifted, antiseptic and sterilizing agents carried on the shutter and a lever operatively connected with said hook or arm and disconnected from the shutter but adapted to actuate the same.

6. In a device of the class described the combination with a telephone, its receiver, transmitter and receiver hook of antiseptic and sterilizing shutters supported and connected to close the transmitter when the receiver is supported on the hook and to sterilize both the diaphragm and mouth piece and resilient means for supporting the shutters in closed position both when the receiver is on or off of the hook.

7. In a device of the class described the combination with a telephone, its receiver, transmitter and receiver hook of an antiseptic and sterilizing shutter adapted to close the transmitter when the receiver is supported on the receiver hook, a lever adapted to be manually actuated to elevate the shutter and close the transmitter while the receiver is in use, a lever operatively connected with the receiver arm or hook and acting to yieldingly support the shutter when manually elevated to close the transmitter and adapted to elevate said shutter to close the transmitter when the receiver is on the arm.

8. In a device of the class described the combination with a transmitter, receiver and receiver hook of a casing interposed between the transmitter and the mouthpiece therefor, oppositely facing antiseptic pads supported in said casing, operative connections between the same and the receiver arm, whereby the transmitter is closed by said

pads when the receiver is in position on the arm, and acting to open the transmitter when the receiver is removed.

9. In a device of the class described a one piece, metallic casing having an inwardly directed threaded flange and an outwardly directed threaded flange, a reciprocating sterilizing shutter in the casing and a pivotal member for holding the shutter to close the casing when the receiver is either on or off of the receiver hook.

10. As an article of manufacture a casing provided with a flange adapted to be engaged to a transmitter, and a flange adapted to receive a mouth piece, said casing having an integral extension providing a chamber, a shutter in the chamber comprising disks and a sterilizing pad secured to each disk said shutter adapted to be adjusted out of the extension into the casing for closing the transmitter.

11. A shield for telephones comprising a casing provided with tubular flanges, one threaded internally and the other externally, a chamber communicating with the casing and a shutter in the chamber adapted to reciprocate to shut off communication between the two flanges or vice versa.

12. In a device of the class described a connection adapted to engage in a transmitter and to engage a mouth piece, a shutter in the connection, and a pivotally supported lever, one end adjustably connected with a receiver hook and a lever actuated by the opposite end of the first named lever, said second named lever adjustably connected with the shutter.

13. In a device of the class described the combination with a transmitter and a receiver of a casing adapted for attachment to the transmitter, a shutter therein having a plurality of sterilized faces, a lever pivoted to actuate the shutter and adapted for manual or automatic actuation and means adapted to automatically actuate the shutter to close and open the same and to support the shutter in closed position when said shutter is manually closed.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

FLORENCE M. ALLEN.

Witnesses:

C. W. HILLS,  
K. E. HANNAH.