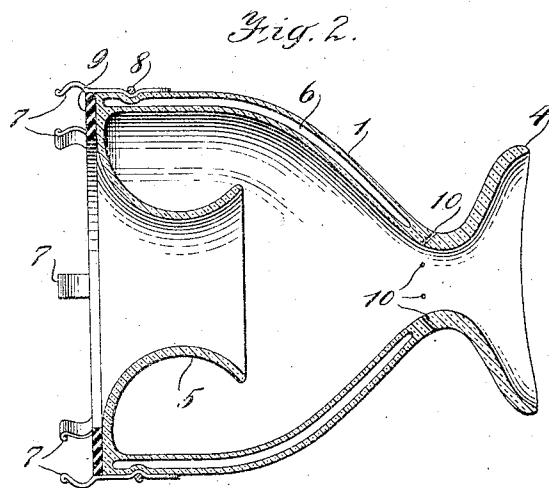
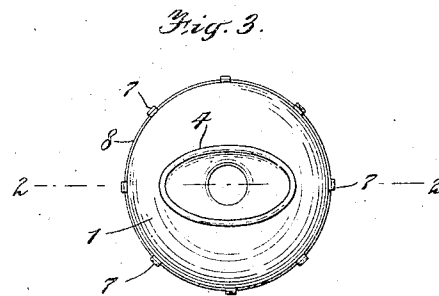
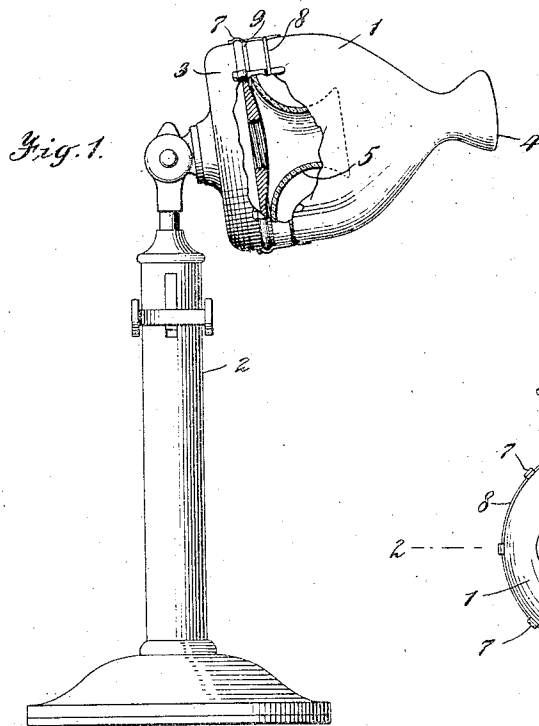


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TELEPHONE MUFFLER.
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1,058,120.

Patented Apr. 8, 1913



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UNITED STATES PATENT OFFICE.

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TELEPHONE-MUFFLER.

1,058,120.

Specification of Letters Patent.

Patented Apr. 8, 1913.

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To all whom it may concern:

Be it known that I, MAXIMILIAN WEIL, a citizen of the United States, residing in New York city, county of New York, and State of New York, have invented a new and useful Improvement in Telephone-Mufflers, of which the following is a specification.

This invention relates to means whereby a person may talk into a telephone transmitter without being heard by others in the same room. It is based on the principle that sound waves require a ponderable, elastic medium for their transmission, and consequently cannot pass through a space wherein there is a vacuum.

The device, which is preferably in the nature of an attachment, accordingly comprises a muffler, hood or chamber having double walls with a vacuum between, together with a mouthpiece formed so as to prevent sound waves passing directly from the mouth into the outside atmosphere. Consequently, the sound waves emanating from the mouth can only enter the muffler, and there they are absolutely prevented from penetrating the vacuum-jacketed walls.

In the accompanying drawings showing an illustrative embodiment of the invention: Figure 1 is a side elevation of a transmitter with the muffler attached, portions being broken away; Fig. 2 is a section on the line 2—2 of Fig. 3; and Fig. 3 is a front elevation of the muffler.

The muffler 1 is preferably constructed as an attachment capable of being applied to existing transmitters, one of which is illustrated and designated 2. It comprises a tube or hood or chamber open at the back, where it is applied to the front wall of the diaphragm case 3, and provided at the front with a mouthpiece 4 made so as to conform approximately to the mouth of the speaker, that is to say, of a size and shape to receive fairly closely the average human mouth or lips. At the back the walls are preferably reëntrant so as to form a flaring sound-collector 5 projecting forward from the usual opening or group of openings in the front wall of the diaphragm case into the interior of the chamber formed by the muffler when seated against said wall. When the device is constructed in this manner it will be observed that it is necessary to remove the usual telephone mouthpiece

before applying the attachment. The walls of the muffler are made double with a vacuum in the space 6 between. Preferably the mouthpiece 4 and the sound-collector 5 are solid. The device as just described may be made of glass or other suitable material, and it may be all in one piece or otherwise. The shape may be varied, but it is preferably narrowest at the throat of the mouthpiece, whence it widens out, being at the back of approximately the same diameter as the diaphragm case.

The muffler is attached to the diaphragm case by a plurality of suitable spring fingers 7, which project rearward and are formed to spring over and embrace the sides of such case, the device being thus adaptable to transmitters of varying dimensions and forms. The said fingers are preferably carried by a wire 8 which encircles the rear end of the muffler and is seated in a groove or embedded in the surface of the material. A gasket 9 of rubber or other suitable material is interposed between the rear end of the muffler and the diaphragm case, so as to make a sound-proof and air-proof joint. Pin-hole openings 10 are formed through the walls of the muffler at the region of the throat for the purpose of relieving any excess of pressure that may exist in the speaking chamber during talking.

In use the speaker talks with his mouth well within the mouthpiece. The majority of the sound waves are propagated forward and are directed to the center of the diaphragm by the collector 5. In part, however, they strike against the side walls of the muffler and were these solid the sound would penetrate through them and would be audible in the room, but since a vacuum is interposed all of these sound waves are reflected and none are allowed to pass through. Such divergent sound waves may be reflected a number of times within the muffler and may eventually reach the diaphragm but for the most part will be dissipated in heat. Consequently it is impossible for others in the room to overhear what the person telephoning says.

What is claimed as new is:

1. A muffler attachment for telephone transmitters having a mouthpiece and vacuum-jacketed walls.

2. In a telephone transmitter, the combination with a diaphragm case, of a speak-

ing chamber communicating therewith and adapted to receive and prevent the escape of the sound waves of speech, being provided with vacuum-jacketed walls and a mouth-
 5 piece constructed to approximately conform to the mouth of the speaker.

3. A muffler or hood adapted to be attached to the front of the diaphragm case of a telephone transmitter having vacuum-
 10 jacketed walls; a mouthpiece at the front, and a reëntrant sound-collector at the back.

4. A muffler or hood having vacuum-jacketed walls and a mouthpiece, being adapted to seat against the front of the diaphragm case of a telephone transmitter and
 15 provided with attaching means to embrace the sides thereof.

5. A vacuum-jacketed muffler for attachment to telephone transmitters having rear-

ward projecting spring fingers adapted to
 20 clasp the sides of the diaphragm case.

6. An attachment for telephone transmitters, the same comprising a vacuum-jacketed hood to be applied to the front of the diaphragm case, an encircling wire seated in
 25 the outer surface of said hood, and spring attaching members carried by said wire.

7. The combination of a muffler having a mouthpiece and vacuum-jacketed walls and adapted to be applied against the front of
 30 the diaphragm case of a telephone transmitter, means for attaching it thereto, and a gasket for interposition between the muffler and the front wall of the diaphragm case.

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