March 12, 1929. M. MEYERSON 1,704,899

TELEPHONE MUFFLER

Filed July 24, 1925

Fig. 1.

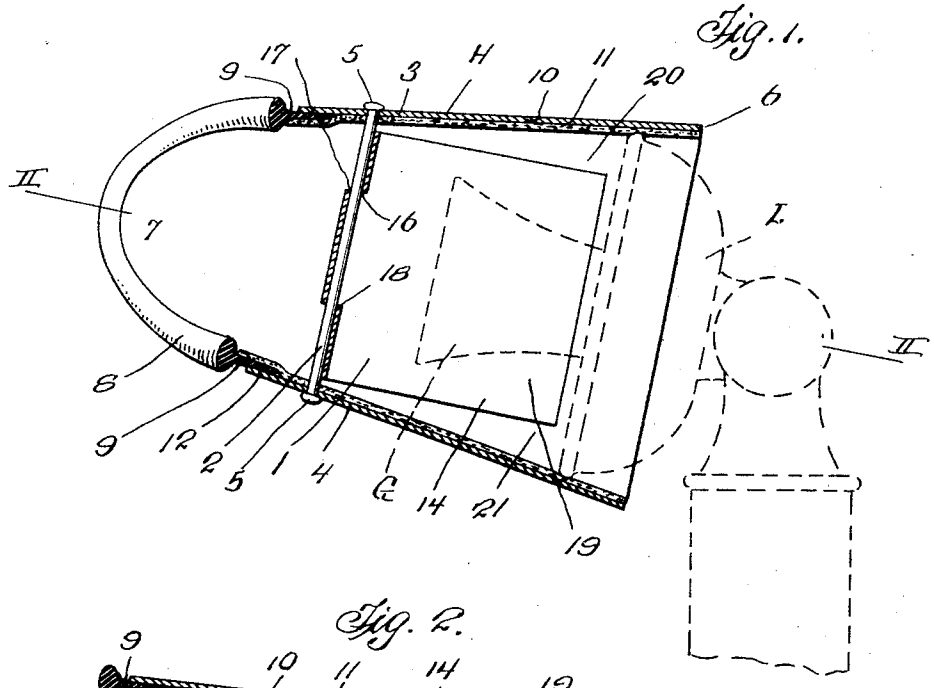
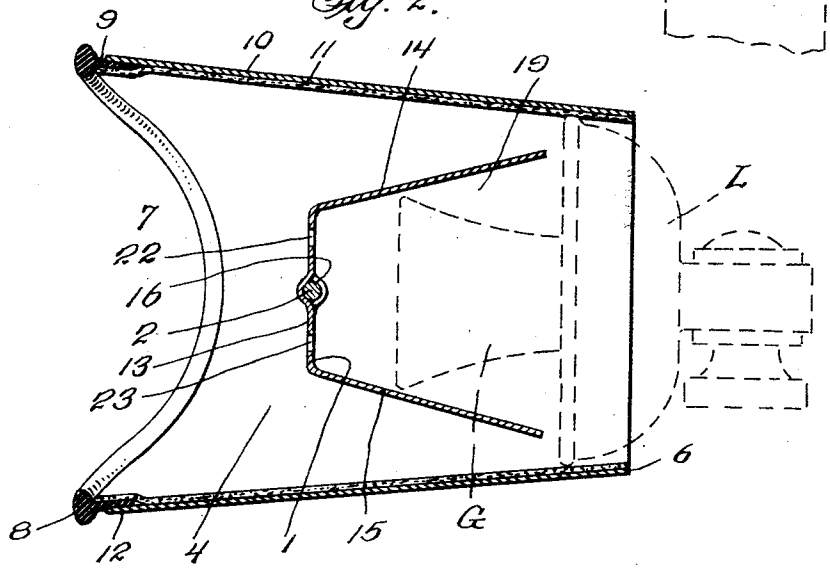


Fig. 2.



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TELEPHONE MUFFLER.

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This invention relates to a sound proof mouth piece for telephones and an object of the invention is to provide a simple, cheap and efficient mouth piece which will not only be of attractive and ornamental appearance but which may be quickly and easily attached in operative position over the transmitter casing and mouth piece of a standard telephone set.

A further object is to so construct the device that it will provide, by the inherent resiliency and flexibility of its main body portion, a suitable gripping action against the transmitter casing so as to retain itself firmly in attached operative position.

A further object is to so shape the device that when in operative position it will provide a portion of suitable contour to closely fit about a speaker's mouth without interferring with ordinary lip movements, and will also provide a sound box portion of appropriate shape to efficiently receive and convey sounds from the mouth of the speaker into the mouth piece of the transmitter.

A further object is to provide an efficient form of deflector element arranged within the present mouth piece of a character to modulate the sounds passing from the mouth of a speaker toward the standard mouth piece and to so deflect and direct the sound waves as to cause the same to reach the standard mouth piece with a minimum of distortion.

A further object is to provide a portion to rest against the speaker's face, and to construct this portion so that it will be capable of a suitable easy movement relative to the main body portion and thus not interfere with the movements of the speaker's features during conversation.

Other objects and aims of the invention, more or less specific than those referred to above, will be in part obvious and in part pointed out in the course of the following description of the elements, combinations, arrangements of parts and applications of principles constituting the invention, and the scope of protection contemplated will be indicated in the appended claims.

In the accompanying drawings which are to be taken as a part of this specification, and in which I have shown merely a preferred form of embodiment of the invention:—

Fig. 1 is a vertical longitudinal central sectional view through a mouth piece constructed in accordance with this invention, and

Fig. 2 is a similar sectional view taken at right angles to the view of Fig. 1, namely upon the plane of line II—II of Fig. 1.

Referring to the drawings for describing in detail the structure therein shown the reference character L indicates, by dotted lines, the transmitter casing of a standard telephone transmitter set, the same including the usual standard mouth piece G projecting forwardly from the flat face of the casing L.

The mouth piece comprising the present invention consists of a main body portion H within which is arranged a sound deflector or partition member 1. The body portion is of tubular form and the deflector 1 is arranged interiorly thereof, being supported upon a vertical cross rod 2 which extends between the upper and lower walls 3 and 4 of the body and has its opposite ends connected with said walls and retained in position by suitable heads or other retaining means thereon as 5.

The rear end portion as 6 of the tubular body in use is circular and is of a size to fit snugly over the outer-most circumferential portion of the transmitter casing L.

The forward end portion as 7 of the tubular body in use is of a general oval contour, being relatively wide in a horizontal plane and relatively narrow in a vertical plane. This forward end portion is suitably curved to conform to the features of a speaker and is provided with a cushion element 8 extending entirely around the edge portion so that the surface of said cushion element only will come into contact with the face of a speaker surrounding the speaker's mouth and entirely free from the speaker's nose.

The cushion 8 may be formed of any suitable material, as for instance a soft felt or velvet like material and it is preferably connected with the adjacent edge portion of the body H by a relatively thin neck like portion 9 so that that portion of the cushion which rests against the speaker's face in use will be capable of a considerable amount of easy movement relative to the body H and so that that portion of the cushion 8 which is in engagement with the speaker's face will be capable of moving in common with the speaker's features and thus not interfere with the easy pronunciation of sounds by the speaker, while at the same time effectually closing the joint between the mouth piece and the speaker's face so that no sound can pass outwardly through said joint.

The body portion H may be made of any suitable material but preferably consists of an appropriately shaped sheet or piece of light fiber-board or other like sound deadening material as 10, the inner surface being preferably covered with a layer as 11 of soft felt or other appropriate finishing and sound insulating material.

The lining material 11 preferably extends throughout the length of the body H so that a portion thereof stands in position between the fiber-board 10 and the surface of the transmitter casing L and thus provides a firm and sound proof joint between the fiber-board and the transmitter casing.

At the forward end of the body the lining 11 preferably extends over the portion as 12 of the cushion element 8 and thus completes an attractive and efficient joint of the cushion element with the body.

The sound deflector 1 consists preferably of a single piece of fiber-board or other non-resonant material bent into U shape and arranged so that the connecting portion as 13 of the U stands in front of the standard mouth piece G while the opposite legs as 14 and 15 of the U stand in position straddling the mouth piece G. The portion 13 is formed with a bearing opening 16 therethrough by which it is connected with the rod 2, the bearing 16 being formed by providing two horizontal slits as 17 and 18 in the material of the deflector and of spreading the material adjacent said slits so that the portions between the slits stands at one side of the rod while the portions below and above the slits stand at the opposite side of the rod, as clearly illustrated in the drawings.

It is noted that in use the horizontal width of the present mouth piece at the forward end 7 is relatively greater than at the rear end fitting over the transmitter casing, whereas the vertical width at the forward end is relatively less than at the rear end fitting over the transmitter casing. In this way there is provided a proper width and contour at the forward end for fitting to the speaker's features and a sound box portion 19 rearwardly of the rod 2 increasing in vertical width rearwardly of said rod and decreasing in horizontal width rearwardly of said rod.

The piece of material from which the sound deflector 1 is formed is preferably uniformly rectangular throughout so that the relation of the legs 14 and 15 thereof to the peculiarly changing contour of the rearward portion of the body H provides triangular openings as 20 and 21 above and below said legs through which the sound waves from the speaker's mouth traverse on their way to the standard mouth piece G, these openings being of progressively increasing size rearwardly so that the main volume of sound will pass through them in regions closely adjacent to the forward face of the transmitter casing and then move forwardly within the sound box 19 and finally enter the open end of the standard mouth piece.

The forward portion 13 of the sound deflector may be provided with one or more suitable apertures as 22 and 23 therethrough for the passage of a certain amount of sound directly from the speaker's mouth and into the mouth piece G.

It has been found in practice that by providing sound passages as herein shown and described the sound waves eminating from the speaker's mouth are conveyed to the transmitter G in such manner as to satisfactorily eliminate the interference and confusion of such waves as is usually incident to telephone mouth piece structures providing a substantially sealed sound chamber between the speaker's mouth and the transmitter mouth piece G. It appears probable that the small amount of sound passing directly through the openings 22 and 23 are so influenced by the sounds which traverse the relatively tortuous paths through the openings 20 and 21 as to enable the former to effect efficient transmission through the telephone without detrimental action of the latter.

It is noted further that in the manufacture of this improved mouth piece the body H is originally substantially a perfectly cylindrical element. In attaching the rod 5 the cylindrical contour is changed to an oval contour which is substantially uniform throughout the length of the body, and it is in this condition that the device is marketed and reaches the user. In attaching the device onto his transmitter casing the user flexes the rearward portion of the body, by pressure against its parts of greatest width, so as to make the rear end portion suitably circular to admit of its passage over and onto the circular surface of the transmitter casing L. Thereafter the inherent tendency of the material of the rearward portion of the body to return to its normal oval contour produces resilient pressure against the upper and lower portions of the transmitter casing L which causes the edge portion of the transmitter casing to become embedded in the lining material 11 so as thus to firmly retain the improved mouth piece in operative position upon the transmitter casing, it being understood of course that the material of which the body H is formed is suitably flexible and resilient to afford the effects described.

As many changes could be made in this construction without departing from the scope of the invention as defined in the following claims, it is intended that all matter contained in the above description or shown in the accompanying drawings, shall be interpreted as illustrative only and not in a limiting sense.

For instance it is intended that the body

H may be made to be permanently of the shape as illustrated in the drawings in which case no flexing of the material of the body will be utilized for retaining it connected with the transmitter casing. The closeness of fit of the rear end portion upon the annular surface of the transmitter casing will suffice in this event.

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

1. A muffler intended for attachment to a standard telephone transmitter casing of circular exterior contour, said muffler comprising a tubular flexible resilient member normally of oval contour, and being adapted to be sprung from oval to circular cross section at one point to thereby receive the transmitter casing and provide a friction grip for itself upon said transmitter casing.

2. A muffler intended for attachment to a standard telephone transmitter casing of circular exterior contour, said muffler comprising a tubular flexible resilient member normally of oval contour, one end of said tubular member being curved to conform to the facial contour of a speaker and said tubular member being adapted to be sprung so that its opposite end will receive the transmitter casing and closely hug the circular surface of said transmitter casing and thereby frictionally retain the muffler connected with the transmitter casing.

3. A muffler intended for attachment to a standard telephone transmitter casing, said muffler comprising a tubular flexible resilient member normally of oval contour, a rod extending transversely of said tubular member across the vertical diameter thereof and having heads to retain the walls of the tubular member from spreading apart adjacent said rod, the end portion of the tubular member at one side of said rod being intended to receive sound from a speaker's mouth, and the opposite end of said tubular member at the other side of said rod being adapted to be flexed and engaged over the telephone transmitter casing to thereby frictionally retain the muffler connected with the transmitter casing.

4. A muffler for a standard telephone transmitter, said muffler comprising a tubular body member oval at one end and circular at the other end, the first end being intended to receive sound from the speaker's mouth and the second end being adapted to fit over and engage upon the telephone transmitter casing, together with a sound deflector arranged within said muffler intermediate the ends thereof said sound deflector being of U shape and being arranged with the connecting portion of the U facing the first mentioned end and with the opposite legs of the U extending toward the second mentioned end in position to straddle the standard mouth piece of the transmitter.

5. A muffler intended for attachment to a standard telephone transmitter casing of circular exterior contour, said muffler comprising a tubular flexible resilient member, means extending diametrically between opposite wall parts of said member holding said member in normal oval contour, one end portion of said member being however adapted by its flexible and resilient character to be sprung from oval to circular cross section to thereby receive the transmitter casing and provide a friction grip for itself upon said transmitter casing, a deflector arranged within said muffler, and said deflector and the mentioned means for holding the muffler in normal oval contour having parts co-operative to support the deflector.

In testimony whereof I affix my signature.

MAX MEYERSON.