July 14, 1931. J. E. STEINBERG 1,814,458

TELEPHONE TRANSMITTER SILENCER

Filed July 28, 1930

FIG.1

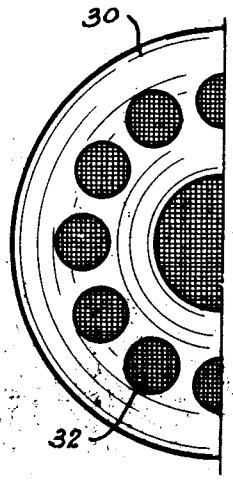

FIG.2

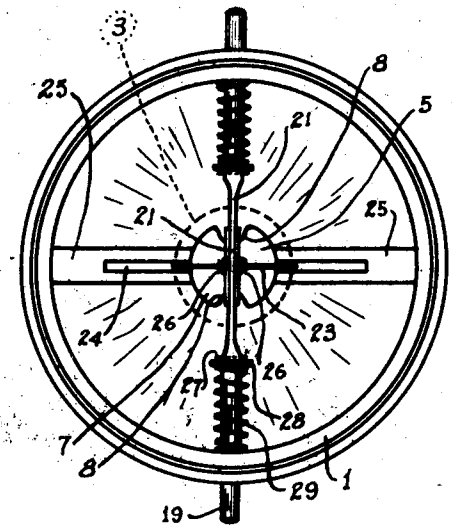

FIG.3

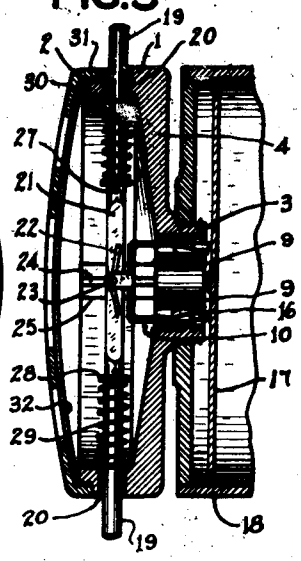

FIG.4

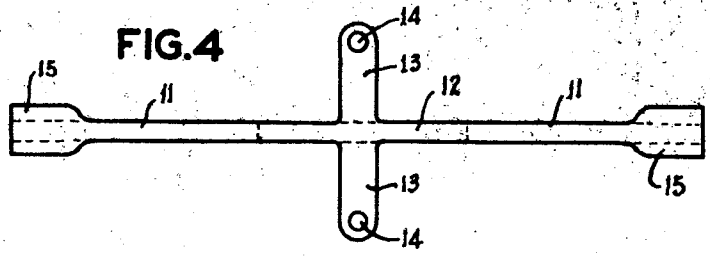

FIG.5

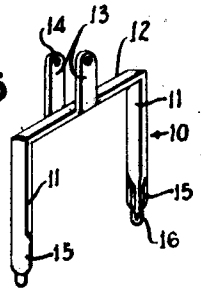

FIG.6

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UNITED STATES PATENT OFFICE

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TELEPHONE TRANSMITTER SILENCER

Application filed July 28, 1930. Serial No. 471,126.

My invention relates to a silencer for telephone transmitters.

The objects of my invention are to provide a device of this class which is new, novel, practical and of utility; which will be extremely simple in construction; which may be easily and quickly attached to any telephone transmitter without change in the transmitter; which will be cheap in manufacture; which will be neat and pleasing in appearance; which will be positive in action; which will eliminate noises within a room from entering the transmitter in the room and being conveyed to the receiver of the same telephone; which will have exterior projections, any of which will act to silence the transmitter; and, which will be efficient in accomplishing all the purposes for which it is intended.

Many times at the present, it is rendered difficult to hear a party at the other end of a telephone line due to the fact that noises in the receiving room are conveyed through the transmitter to the receiver in the room. Applicant's device is designed to prevent this difficulty. It is also designed so that it may be operated by a person with the hand which is holding the receiver or with the hand which is holding the telephone.

With these and other objects in view as will more fully appear, my invention consists in the construction, novel features and combination of parts hereinafter more fully described, pointed out in the claims hereto appended, and illustrated in the accompanying one-sheet drawing, of which,

Figure 1 is a fragmentary elevational view of the front cap of the device;

Fig. 2 is an elevational view of the device with the cap removed.

Fig. 3 is an elevational sectional view through the device installed upon a usual telephone transmitter.

Fig. 4 is a plane view of a portion of the device showing its development;

Fig. 5 is a perspective view of the portion of the device shown in Fig. 4 after it has been formed; and,

Fig. 6 is a perspective view of one of the diaphragm contacting members.

Like characters of reference designate like parts in all the figures.

It is understood that various changes in the form, proportion, size, shape, weight and other details of construction, within the scope of my invention may be resorted to without departing from the spirit or broad principle of my invention and without sacrificing any of the advantages thereof; and it is also understood that the drawings are to be interpreted as being illustrative and not restrictive.

One practical embodiment of the invention as illustrated in the drawings comprises:

A cup shaped member 1 having an annular exteriorly threaded flange 2 upon its front face, and having an exteriorly threaded projection 3 upon its back 4. Said back 4 is provided with a bore or perforation 5 which extends from the interior of said member outwardly through said projection 3. Said perforation 5 is not circular in form but is formed by two wing shaped apertures 6 and 7 between which hemispherical projections 8 are located. Said projections 8 are each bored as shown at 9.

A substantially U-shaped member 10 having downstanding legs 11 and a cross-member 12, and having a pair of upstanding parallel strap members 13 located upon said cross-member 12 is provided with legs 11 extending into and through said perforations 9 in said projections 8. Said strap members 13 are each alinedly perforated as shown at 14 and said legs 11 are formed with hollow cylindrical sockets 15 at the lower end of each. Said sockets 15 are each adapted to rigidly embrace a diaphragm contacting member 16, best shown in Fig. 6. Said member 16 will preferably be made of some resilient substance such as rubber or the like and will be attached within said socket 15 in any usual manner such as gluing or cementing. As may best be seen in Fig. 3 said member 10 extends slightly outward through the cavity of said cup shaped member 1. Said member 10 is provided as a means for causing said members 16 to selectively contact a usual diaphragm 17 of a usual telephone transmitter 18. As a means for actuating said member

10 to move forward or away from said diaphragm 17, I provide a rod 19 which extends transversely through alined perforations 20 in opposite sides of said cup shaped member 1. Said rod 20 is a length sufficient to extend slightly past the periphery of said member 1 on each of its sides and centrally is flattened as shown at 21. Said flattened portion 21 extends between said strap members 13 of member 10 and is provided centrally with a transverse slot 22. Said slot 22 is not a straight slot but has its central portion nearer that edge of said flat portion 21 which is most remote from portion 12 of said member 10. A pin 23 is provided through said perforations 14 in members 13 and also through slot 22 and the ends of said pin 23 rest snugly yet movably within slots 24 in a web 25 which is provided integrally across said cup shaped member 1. Transverse pins 26 which prevent the longitudinal movement of said pin 23 in said perforation 14 and said slot 22 are provided through said pin 23.

Said rod 19 is further provided adjacent each end of said flat portion 21 with transverse pins 27 against which is placed washers 28 which act as a means for seating one end of a compression spring 29, the other end of which bears against the interior wall of said member 1. A plurally perforated cap 30 having an interiorly threaded annular flange 31 is threadedly disposed upon said flange 2 of said member 1 for forming a cover to the cup shaped member 1. A screen 32 is provided between said flange 2 and said cap 30 over the entire inside face of said cap 30.

The assembly of the device is described as follows:

Contact member 16 will be dipped in glue or some cementatious substance and placed in socket 15 of legs 11 of said member 10. Said legs 11 will then be inserted within said perforations 9. Pins 27 and washers 28 and springs 29 will be installed upon said rod 19. One end of rod 19 will be inserted through one of the alined perforations in the side of said member 1 until the other end of the rod may be slipped into the cup shaped member and then slid outwardly through the other one of said alined perforations. This will bring said parallel strip members 13 into position to embrace the flat portion 21 of said rod 19. Pin 23 will then be inserted through perforations 14 and through said slot 22, and the transverse pins 26 will be installed. This will bring said pin 23 to rest within said slots 24 in said web 25. Cap 30 will then receive said screen 32 after which it will be threaded upon flange 2 of said member 1. This will complete the assembly of the device.

In installing the device upon transmitter 18, the usual mouth piece of the transmitter will be removed and projection 3 will be threaded into the usual opening thereof. This will complete the installation of the device. In operation manual pressure exerted upon either end of said rod 19 will cause said member 10 to be forced into contact with said diaphragm 17 by the action of said slot 22 upon said pin 23. Said slot 24 in web 25 will prevent any transverse movement of said pin 23, but will permit the movement of said pin toward or away from said diaphragm 17. When said members 16 are forced into contact with said diaphragm 17 the vibration of the diaphragm due to sounds in the room will be stopped. Consequently the diaphragm will not act to transmit any sound whatever.

Obviously, the invention is susceptible of embodiment in forms other than that which is illustrated in the accompanying drawings and described herein, and applicable for uses and purposes other than as detailed, and I therefore consider as my own all such modications and adaptations and other uses of the form of the device herein described as fairly fall within the scope of my invention.

Having thus described my invention, what is claimed and desired to be secured by Letters Patent, is:

1. A transmitter silencer embodying an open faced cup-shaped member having an aperture through its rear wall, said wall adapted to connect the diaphragm casing of a sound transmitter, a transverse rod extending through and projecting outwardly from said member, and means for contacting the transmitter diaphragm upon longitudinal movement of said rod.

2. A transmitter silencer embodying an open faced cup-shaped member having an aperture through its rear wall, said wall adapted to connect the diaphragm casing of a sound transmitter, a transverse rod extending through and projecting outwardly from said member, a plurally perforated cap for said open face, and means for contacting the transmitter diaphragm upon longitudinal movement of said rod.

3. A transmitter silencer embodying an open faced cup-shaped member having an aperture through its rear wall, said wall adapted to connect the diaphragm casing of a sound transmitter, a transverse rod extending through and projecting outwardly from said member, means for contacting the transmitter diaphragm upon longitudinal movement of said rod, and means for normally holding said contacting means away from said diaphragm.

4. Organization as described in claim 1, in which said contacting means comprises a substantially U-shaped member having its legs extending through perforations in the rear wall of said cup-shaped member and having its leg connecting member slidably engaging a deformed slot in said transverse rod.

5. Organization as described in claim 3, in which said holding means comprises a trans-

verse pin through said rod, a washer and a compression spring adjacent each end portion of said rod and within said cup shaped member, one end of each of said springs seated upon one of said washers, their other ends bearing against the inner wall of said cup-shaped member.

JAMES EVERETT STEINBERG.