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H. GERNSBACK

EAR CUSHION

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Fig. 1

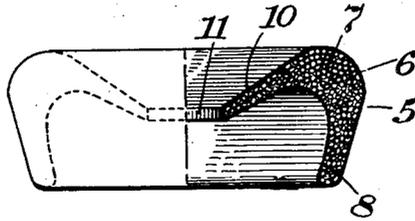


Fig. 2

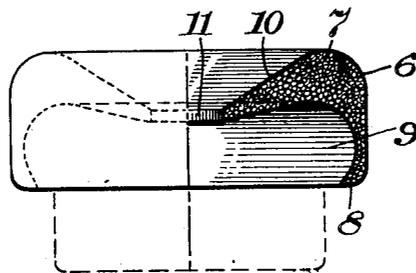
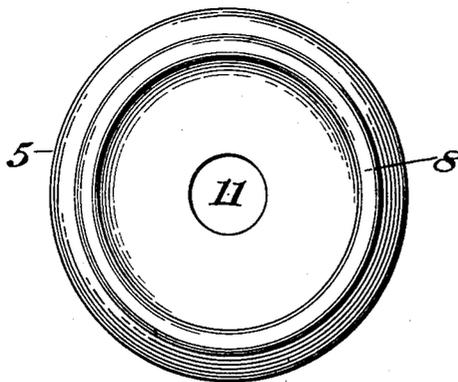


Fig. 3



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EAR CUSHION.

Application filed December 28, 1923. Serial No. 683,129.

To all whom it may concern:

Be it known that I, HUGO GERNSBACK, a citizen of the United States of America, and a resident of New York city, county and State of New York, have invented certain new and useful Improvements in Ear Cushions, of which the following is a specification.

The objects of this invention are to provide an ear cushion for telephone receivers and the like which can be readily applied to the receiver and will fit closely thereto, without adding materially to the bulk of the same; which will be highly resilient and therefore afford the desired cushioning effect and fit closely to the ear so as to exclude external sounds; and which in addition to the foregoing, will be of small size, light weight and neat appearance.

In the accomplishment of the foregoing certain novel features of structure and material are employed, as will appear from the following specification and claims.

The drawing accompanying and forming part of this specification illustrates a practical and preferred embodiment of the invention, wherein:

Figure 1 is a part sectional view of the ear pad or cushion in the natural unflexed condition.

Figure 2 is a part sectional view showing the pad stretched over and applied to the ear cap of a telephone receiver.

Figure 3 is a rear view of the cushion.

One of the special features of the invention is that the device in its entirety is made of but a single piece of highly resilient porous sponge rubber 5. This spongy material provides elasticity in a high degree and the porosity of the material gives the desired quality of lightness and affords a certain amount of ventilation so that the device, while fitting closely to the ear is both light and cool. In molding this material, a surface skin such as indicated at 6 is produced which gives the device a definite finished form, prevents it from tearing when being stretched over the ear cap of the receiver and makes it durable in use. This surface skin also gives the device a smooth finished appearance and prevents the pores from absorbing dirt and moisture.

The maximum cushioning effect is provided by making the rim portion of the device quite thick, as indicated at 7 and by forming the same with a rearwardly pro-

jecting flange 8 convergent in the shape of a truncated cone. This conical extension or flange is of less than the actual diameter of the ear cap to which the cushion is applied so that in stretching it to pass over the ear cap, such as the one indicated at 9 in Figure 2, said flange will act as a succession of levers swinging outwardly, as in Figure 1, forcing the spongy material forwardly into a thicker cushion directly over the rim of the ear cap and at the same time pressing the inwardly tapering front wall part 10 all the more closely into engagement with the cupped face of the ear cap.

When thus expanded over the receiver cap, the rearwardly tapered flange of the pad becomes substantially cylindrical in external outline and because of the squeezing action described, whereby most of the porous material is forced forwardly, it is thinned out and is therefore of but slightly larger diameter than the ear cap itself.

The features described in addition to making the pad small and compact and locating the bulk of the cushioning material at the rim where it is needed, also make the pad hug closely and fit snugly to the ear cap, causing it to adapt and fit itself exactly to the contour of the cap. This prevents the formation of air pockets between the cap and cushion and appears to improve the acoustical qualities of the receiver, possibly by absorbing some of the mechanical stresses or vibrations, particularly when the receiver is rigidly held, as when the same is used in a loud speaker.

The tapering front wall of the pad is shown as having a perforation 11 at the center of the same as large or larger than the sound opening or openings in the ear cap. The flexing of this wall against the face of the ear cap and the "bunching" of the spongy material about the rim provides a cavity in the face of the pad of ample size to comfortably fit the ear of the user.

The surface skin holds these tapering front and side walls in shape and causes them to lie flat and snug against the front and about the rim of the ear cap and this also aids in effecting the bunching of the material into the thickened annular rim cushion.

As the complete device is made in but one single piece, manufacture is reduced to a simple, inexpensive matter and there are no parts to work loose or become separated

through rough usage. If the device becomes soiled it can be easily washed without injury. The pads are so light and so small that they can be used with the ordinary head sets without adding appreciably to the weight or bulk of the same.

What I claim is:

1. An ear cushion for telephone receivers and the like comprising in its entirety a single piece of highly elastic sponge rubber having a thickened rim with an inwardly tapered perforated front wall to lie flat against the front face of the receiver cap and a tapered rearwardly extending flange to be stretched over the rim of the receiver cap, said flange being of initially truncated conical shape and adapted in the outward stretching of the same over the ear cap rim to be thinned out and to force the elastic porous material forwardly into the thickened rim portion of the pad.

2. An ear cushion for telephone receivers and the like comprising in its entirety a single piece of highly elastic soft rubber having a raised rim with an inwardly tapered perforated front wall to lie flat against the front face of the receiver cap and a tapered rearwardly extending flange to be stretched over the rim of the receiver cap, said flange being of initially truncated conical outline and adapted in the outward stretching of the same over the ear rim to be thinned out and to force the elastic material forwardly toward the raised rim portion of the pad, the entire exterior and interior of the flanged cushion having an integral elastic surface, giving a smooth definite form to the device and governing the stretching of the material.

In witness whereof, I have hereunto set my hand this 20th day of December, 1923.
HUGO GERNSBACK.