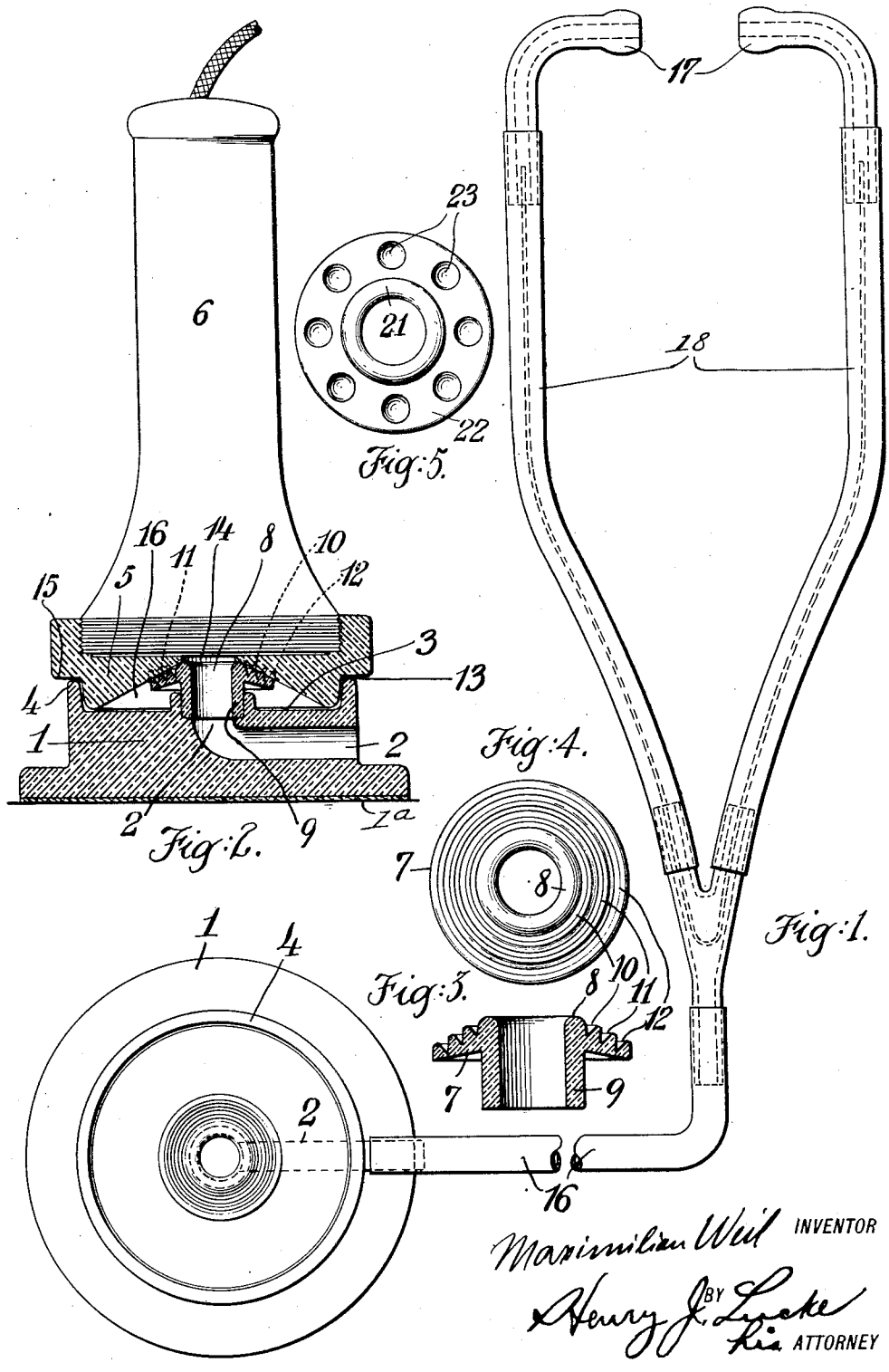
M. WEIL.

COMMUNICATION RECEIVING APPARATUS.

APPLICATION FILED OCT. 19, 1916.

1,302,887. Patented May 6, 1919.



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COMMUNICATION-RECEIVING APPARATUS.

1,302,887. Specification of Letters Patent. Patented May 6, 1919.

Application filed October 19, 1916. Serial No. 126,516.

To all whom it may concern:

Be it known that I, MAXIMILIAN WEIL, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Communication-Receiving Apparatus, of which the following is a specification.

This invention relates to communication receiving apparatus.

More particularly, the invention is directed to improved apparatus for use with a telephone receiver and comprising a support for the receiver and provided with an acoustic passage, combined with means for automatically effecting a complete seal between the receiver and the acoustic passage.

In the more preferred forms of the invention, the sealing with the telephone receiver is attained by means of sealing means comprising a central seal adapted to engage the cap of the telephone receiver substantially immediately adjacent the cap opening and supplementary coöperating seals are afforded by air-containing recesses or pockets disposed laterally of said central seal. Usually the central and laterally disposed seals are made of unitary material, such as of highly resilient rubber or the like. Hereinafter, I set forth two specific forms of the invention, one showing the laterally disposed seals effected by annular recesses or pockets arranged concentrically with a central circular seal, said annular seals being preferably arranged along a downwardly extending incline corresponding generally to the concavity of the receiver cap. The other form comprises recesses or pockets of more or less circular construction and arranged to similarly coact with the concave cap of the telephone receiver.

The sealing means is constructed to attain the object of precluding the formation of any hollow space in communication with the sound conveying passage, to thereby prevent resonance of any certain tone or tones or other interference with the tones composing the conveyed conversation or the relative intensity of the same. The invention has also the objects of enabling the telephone receiver to be placed on the support and sealing means with more or less carelessness while insuring commercially perfect conveyance of the conversation, thereby increasing the rapidity of operation of the use of the invention; also to construct the sealing means to effect universal self-adjustment such as in the event of the usual accumulation of dirt, grease or the like on the telephone cap, or the chipping off or breakage of any effective portion of the telephone cap.

Another object of the invention is to enable telephone conversation to be received while leaving both hands of the hearer free to make a record or notes of the conversation, to refer to papers or documents or the like, or to perform any other act which may be desired by the hearer.

Other objects and features of the invention will be apparent to those skilled in the art from the following description and accompanying drawings, in which—

Figure 1 is a top plan view of a preferred form of my invention;

Fig. 2 is a vertical central section of the support and the sealing means of Fig. 1, and showing the use with a telephone receiver (with its cap in central section);

Figs. 3 and 4 are respectively central sectional and top plan views of the sealing means of Fig. 1, on a somewhat enlarged scale; and

Fig. 5 is a top plan view of another form of sealing means.

Referring to Figs. 1 to 4, the support 1 is shown as circular and having its base adapted to rest on a desk, table or the like, for which purpose the bottom face may be covered with felt 1^a. The acoustic passage 2 in the support 1 extends from a lateral face to the center of the upper face 3 of the support 1. The upper face 3 may be provided with suitable means such as the protruding edge 4 to prevent the receiver from toppling off of the support 1, in circumstances of being unduly struck or jarred.

The sealing means shown in Figs. 1 to 4, comprises the laterally and circularly extending sealing portion 7 surrounding the circularly extending central seal 8, said parts being preferably made of unitary material such as highly resilient rubber or the like. The base portion 9 of the sealing means is adapted to be inserted within a suitable seat at the upper extremity of the acoustic passage 2. Said lateral portion 7 of the sealing means is normally of a construction conforming generally to the cap of the telephone receiver. As shown, for a concave telephone cap, the sealing portion 7 comprises an upper surface which is inter-

cepted by any desired number of circularly and downwardly extending recesses or pockets, shown in the particular instance as three in number and designated 10, 11, 12. Each such recess or pocket is of sufficient content so that the inclosed volume of air effects a quasi "suction" action and seals the jointure with the telephone cap 5 over the indicated area laterally of the central seal 8. The effective edge of the central seal 8 of the sealing means is constructed to seal substantially the immediate edge of the opening 14 in the telephone cap 5.

When the telephone receiver is placed in inverted position onto the support 1, the concave cap 5 of the receiver engages and forces downwardly the lateral portion 7 of the sealing means, creating the "suction" action by the several pockets 10, 11, 12. Such action is preferably effected by the cap 5 engaging and displacing initially the outermost portions of the seal portion 7 and then successively displacing the more central portions of the seal portion 7, until the closing of the central seal 8 is attained. The construction of the lateral sealing portion 7 and the operation of the same is indicated by the dotted lines in Fig. 2 and reference numbers 10, 11, 12. This sealing action is augmented by the high degree of resiliency of the sealing means.

It will be clear that the inclination relative to the horizon, either upwardly or downwardly, of the lateral portion will be determined by the construction of the face of the telephone receiver and by the desired degree of counter pressure due to the resiliency of the lateral sealing portion.

It will be noted that the weight of the receiver is utilized in obtaining the desired automatic or self sealing action of the sealing means, which effect is enhanced by providing the clearance 13 between the top of the edge 4 of the support 1 and the telephone cap 5 and otherwise preventing the telephone receiver 6 from being supported other than by engagement of the telephone cap 5 with sealing means.

The result of the above construction is that the seal immediately about the telephone opening 14 is effectively made and maintained upon merely placing the telephone receiver in proper inverted position, which action is automatically effected in cooperation with the laterally disposed sealing recesses or pockets.

The sound conveying passage 2 of the support 1 is connected by preferably yieldable tubing 16 with the binaurals 17 provided with the adjustable retaining wire 18. The cross section of the passage 2 and that of the tubing and all other passage portions between the telephone opening 14 and the extremities of the binaurals are determined as small as possible to attain the desired intensity dependent somewhat upon the total length of the passage from the receiver to the ears of the hearer.

It will be noted that the acoustic passage extending from the telephone receiver to the ends of the ears of the hearer is free from any space or inclosure of whatever character which would cause resonance of any tone or tones or which would amplify or diminish any tone or tones relative to other tones, or otherwise interfere with the uniform intensity of the conversation or other communication conveyed by the communication receiving telephone apparatus.

In the form of the invention shown in Fig. 5, the central seal 21 is adapted to seal the telephone opening substantially immediately at its edge, similar to the aforesaid central seal 8, and the laterally disposed sealing portion 22 is provided with the supplemental spaced lateral seals 23, shown as substantially circular, coöperating with the central seal 20 similarly to the aforesaid lateral annular seals 10, 11, 12.

In addition to the above described coöperating action of the supplemental seal or seals in creating and maintaining the central sealing of the telephone receiver the said supplemental seals by reason of their frictional relationship to the telephone cap, act also as the retaining means for maintaining the receiver in proper relation to the sealing means and support generally in the event of the receiver being jarred or being accidentally struck.

The acoustic passage from the sealing means to the binaurals, or equivalent, is preferably made of a constant diameter or cross section.

It will be noted that the support and sealing means do not possess any sounding box or amplifier effect, but on the contrary, serve as means for effectually conveying the sounds transmitted by the telephone receiver with a uniform intensity which is impossible with the telephone receiver directly and in addition permit the free use of both hands to make notes, or to refer to papers or the like, or to perform such other acts as may be desired.

It will also be noted that clamps or any other fastening means for the receiver are obviated and that the mere placing of the receiver freely onto the sealing means automatically effects the desired objects of the invention. The support for the receiver, according to the invention, is effected by solely yieldable material, whereby the receiver does not come into contact with any hard, *i. e.*, solid or other sound-conducting material.

It will be also observed that the compressible material for sealing and supporting the telephone receiver and also the support for such compressible material are air

proof and sound proof, to thereby exclude egress of any sound waves from the acoustic passage means of the device and also to prevent hissing and roaring effects in the ears of the hearer, and further that the support is sound-proofed by means of felt or equivalent to preclude entry of sounds or noises through the support into the acoustic passage means of the device.

Whereas I have described the invention by reference to specific forms thereof it will be understood that many changes and modifications may be made without departing from the invention defined by the appended claims.

I claim.

1. A self-sealing support for a telephone receiver comprising in combination a base provided with an acoustic passage and sealing means supported by said base and having an inner sealing means protruding vertically above said base and further having supplemental sealing means extending laterally of said inner sealing means, said sealing means having an opening communicating with acoustic passage, friction means disposed on said supplemental sealing means laterally of said opening and an acoustic passage means communicating with said opening.

2. The combination with binaurals, of a self-sealing support for a telephone receiver when in inverted position comprising a base provided with a non-resonant acoustic passage and sealing means having an inner sealing means extending vertically above said base to fully support the receiver and having an opening disposed immediately adjacent said inner sealing means and communicating with said passage, said sealing means further comprising recesses disposed laterally of said inner sealing means and adapted to be closed by a face of the telephone receiver, and acoustic passage means connecting said binaurals with said acoustic passage.

3. The combination with binaurals, of a support for a telephone receiver when in inverted position comprising a base provided with a restricted acoustic passage and sealing means of resilient material, a portion of which protrudes vertically above said base and provided with an opening adapted to register with the opening in the telephone receiver, said resilient material extending laterally of said vertically protruding portion along a non-rectilinear path and adapted to engage the telephone receiver at spaced distances, and acoustic passage means connecting said acoustic passage with said binaurals.

4. A self-sealing support for telephone receivers comprising a base provided with an acoustic passage, sealing means of resilient material comprising an inner sealing member protruding vertically above said base, a supplemental sealing member extending laterally of said inner sealing member, said inner sealing member having an opening, and friction means disposed on said supplemental sealing member laterally of said opening, said acoustic passage communicating with said opening.

5. A support for telephone receivers comprising a base provided with an acoustic passage, sealing means comprising an inner sealing member having an opening communicating with said acoustic passage, a supplemental sealing member having friction means disposed on the effective face thereof and laterally of said opening.

6. The combination of means for supporting a telephone receiver by engagement with the face cap of a telephone receiver, said supporting means being provided with an acoustic passage having an opening and means for sealing the opening of the telephone cap with the opening of said acoustic passage, said means comprising a central, protruding portion of resilient material and another portion of resilient material extending laterally of said central portion and provided at its upper face with a recess.

7. The combination of means for supporting a telephone receiver by engagement with the face cap of a telephone receiver, said supporting means being provided with an acoustic passage having an opening and means for sealing the opening of the telephone cap with the opening of said acoustic passage, said means comprising a central, protruding portion of resilient material and another portion of resilient material extending laterally of said central portion and provided at its upper face with a plurality of spaced recesses.

8. A non-resonant self-sealing support for telephone receivers comprising a base provided with an acoustic passage and sealing means comprising an inner sealing member having an opening communicating with said passage and further comprising a supplemental sealing member extending laterally of said said inner sealing member and a plurality of spaced friction means disposed on said supplemental sealing member.

9. A support for a telephone receiver having a curved cap comprising a base provided with an acoustic passage and sealing means comprising an inner sealing member provided with an opening and further comprising a supplemental sealing member extending laterally and in a non-horizontal direction from said inner sealing member and friction means disposed on said supplemental sealing member.

10. A support for telephone receivers comprising a base provided with an acoustic passage, and sealing means comprising a circularly extending inner sealing member

having an opening communicating with said acoustic passage, and further comprising a supplemental sealing member disposed laterally of said inner sealing member, said inner sealing and said supplemental sealing member being integral.

11. A support for telephone receivers comprising a base having an acoustic passage and sealing means formed of compressible material mounted at an extremity of said acoustic passage, said sealing means comprising an inner sealing portion having an opening communicating with said passage and further comprising a supplemental sealing portion extending laterally of said inner sealing portion and friction means disposed laterally of said opening.

In testimony whereof I have signed this specification.

MAXIMILIAN WEIL.