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TELEPHONE RECEIVER

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3 Claims. (Cl. 179-114)

This invention relates to telephone receivers and more particularly to a terminal arrangement for the energizing coil therefor.

An object of this invention is to facilitate connection between the conductors and the energizing coil of a telephone receiver.

Another object of this invention is to prevent grounding of the terminals against the receiver casing.

10 A feature of this invention resides in a terminal arrangement for a telephone receiver which comprises a disc of insulating material having a recess in which a metal strip is positioned and secured at one end. A terminal of a telephone conductor is positioned in the recess and prevented from shifting by the raised portion of the disc.

15 Another feature of this invention resides in a terminal arrangement in which one end of the metal strip is secured to the insulating disc while the other end is attached to a termination of an energizing coil extending through an opening in the disc.

20 A further feature of this invention resides in the combination of a telephone receiver comprising a unit receptacle, a magnetic core therein, an energizing winding about the core, and a terminal disc of insulating material associated with the receptacle, such terminal disc carrying a metallic terminal secured in a recess of the disc.

25 A further feature of this invention resides in the combination of a telephone receiver comprising a receptacle and a terminal arrangement for the receiver. The terminal arrangement 30 comprises a pair of insulating discs, on opposite sides of the base of the receptacle the discs being held together by an insulated bushing extending through the receptacle. The bushing acts as a conducting terminal and the outer insulating disc has a recess therein in which a conductor cord terminal is held.

35 A more complete understanding of this invention will be obtained from the detailed description which follows taken in conjunction with the accompanying drawings, wherein:

Fig. 1 is a cross-sectional view of a telephone receiver embodying the terminal arrangement of this invention;

40 Fig. 2 is a rear plan view of the receiver unit along the line 2-2 of Fig. 1;

Fig. 3 is a front plan-view of the complete receiver along the line 3-3 of Fig. 1, the energizing coil being removed;

55 Fig. 4 is a side view of the receiver unit showing a cross-section along the line 4-4 of Fig. 2; and

Fig. 5 is an exploded view in perspective of the receiver assembly of this invention with portions broken away to illustrate the relation of the elements of the receiver of this invention.

The telephone receiver embodying this invention comprises a unitary receptacle of cup-shaped formation of magnetic material having a base portion 1, an annular outer pole or rim 2 and a central, cylindrical, internally threaded, hub portion 3. A magnetic diaphragm 4 is supported at its periphery on the annular pole 2. A magnetic shunt cap or cover 5 having a central sound passage 6 is held clamped against the peripheral portion of the diaphragm by a flanged clamping ring 7. This ring has an internally threaded portion 8 engaging the externally threaded portion 9 of the annular pole 2. A center pole piece 10 of the receiver is adjustable in position and comprises an externally threaded cylindrical-shaped member of magnetic material which engages the inner surface of the hub 3 forming therewith the receiver core. A screw-head 11 formed on the pole piece 10 permits ready adjustment of the pole piece 10 whereby a screw-driver or like instrument may be used as an adjusting tool. When the desired separation between the rim of the pole piece 10 and the diaphragm has been attained, the screw-head 11 may be sealed, for example, with wax 12. An energizing coil 13 surrounds the hub 3.

Within the receptacle, encircling the hub 3 and lying on the inner surface of the base portion 1 is a plate, block, or disc 16 of insulating material. This disc contains a plurality of apertures 17, two of which are on the same diameter. These apertures are in alignment with a like number of apertures or passages 18 in the base portion 1. A bushing 19, of insulating material, is inserted in each of two of the apertures 18. On the outer surface of the base portion 1 is another plate, disc or block 21 which has a central aperture 22 to allow insertion, removal or adjustment of the center pole piece 10. The plate 21 has four other apertures, the apertures 23 being in alignment with the diametrically opposed apertures in the plate 16 and base portion 1, and the apertures 24, of a diameter slightly greater than the energizing coil leads 25, lining up with the superposed apertures in plate 16 and base portion 1. The plate 21 has an elongated recess 26 extending from each aperture 23 for a purpose to be hereinafter pointed out. The plates or discs 16 and 21 and the receptacle are held together by 110

metallic bushing 27, internally threaded to receive screws 28 and spun over at each end to securely hold the parts together. The spun-over end 29 of each bushing holds firmly in place one end of an arcuate metallic strip 30, positioned in the recess 26. The other end of the strip 30 extends out to a point adjacent one of the apertures 24. A lead 25 from the coil 13 is soldered or otherwise firmly secured to the free end of each strip 30.

10 A metallic cover or casing 31 encloses the terminal end of the receiver and is held in position by an eccentrically positioned fastening screw 32 threading into a tapped drilling 33 in the base portion 1 of the receptacle.

15 The receiver may be connected in a telephone or other circuit by conductors or cords 34, 34. These cords are terminated in cord tips or terminals 35, 35 which are disposed one in each recess 26 which provides a seating surface therefor.

20 Each recess 26 is of such depth and width that if the cord tip, which normally is held firmly in place by the screw 28, should loosen and tend to turn, its sideways movement will be limited by the lateral walls of the recess defining portion 36 of the plate 21 to prevent the cord tip from contacting with the cover and thereby grounding on the casing.

Although the features of this invention have been disclosed with reference to a specific embodiment, it is to be understood, of course, that various modifications may be made in the details of construction without departing from the scope of this invention as defined in the appended claims.

What is claimed is:

35 1. The combination in a telephone receiver comprising a casing, a magnetic core, an energizing coil on said core, a terminal arrangement for said winding comprising an apertured disc of insulating material secured to said casing, a

metallic strip carried by said disc, said strip being secured thereto at one end and having its other end free, but adjacent the aperture in said disc, and a connection from said winding within said casing through said aperture to the free end of the strip.

2. A receiver unit comprising a metallic cup-shaped receptacle, an energizing coil supported therein, an insulating disc within said receptacle and insulating the coil therefrom, an external insulating disc on said receptacle, elongated metallic terminal strips on said outer disc, common means for rigidly fastening together one end of each strip, said discs and receptacle, and connections from said coil extending through apertures in said discs and receptacle and attached to the other and free ends of said terminal strips.

3. A telephone receiver comprising a metallic casing having an annular peripheral portion and a planar base portion, a disc of insulating material in said casing on the inner surface of and substantially coextensive with said base portion, said disc and said base portion having aligned apertures for the passage of coil leads, a coil within said casing and supported on said disc, said coil having a pair of leads, another disc of insulating material on the outside surface of said base portion and substantially coextensive therewith, said outer disc having a pair of elongated recesses therein and a pair of apertures for the passage of the coil leads, elongated metallic strips in said recesses, and means for securing together said discs, casing, and one end of each of said strips, said means constituting the receiver terminals, the other and free ends of said strips being adjacent the coil lead apertures in the outer disc, said coil leads being terminated outside of the casing at the free ends of said strips.

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