

July 12, 1938.

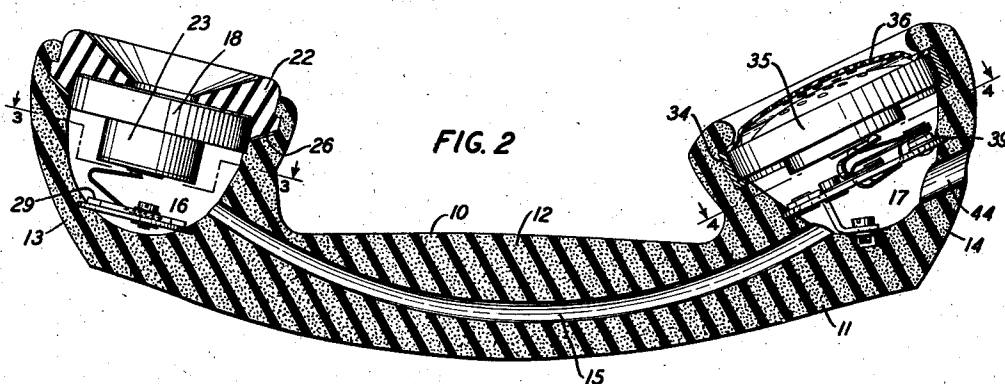
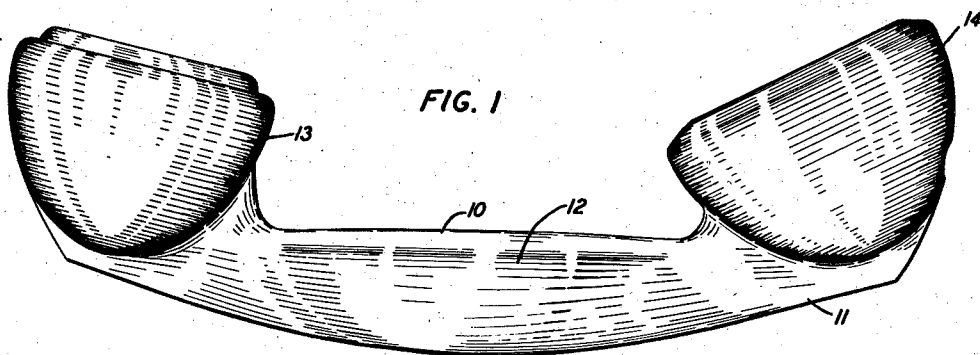
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2,123,177

ACOUSTIC DEVICE

Filed Sept. 26, 1936

2 Sheets-Sheet 1



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FIG. 3

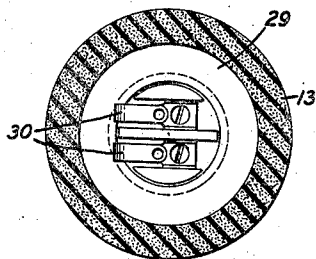


FIG. 4

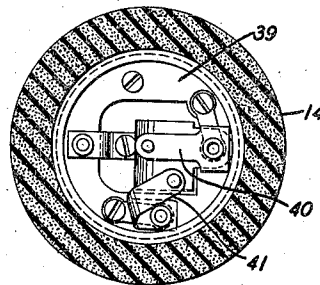
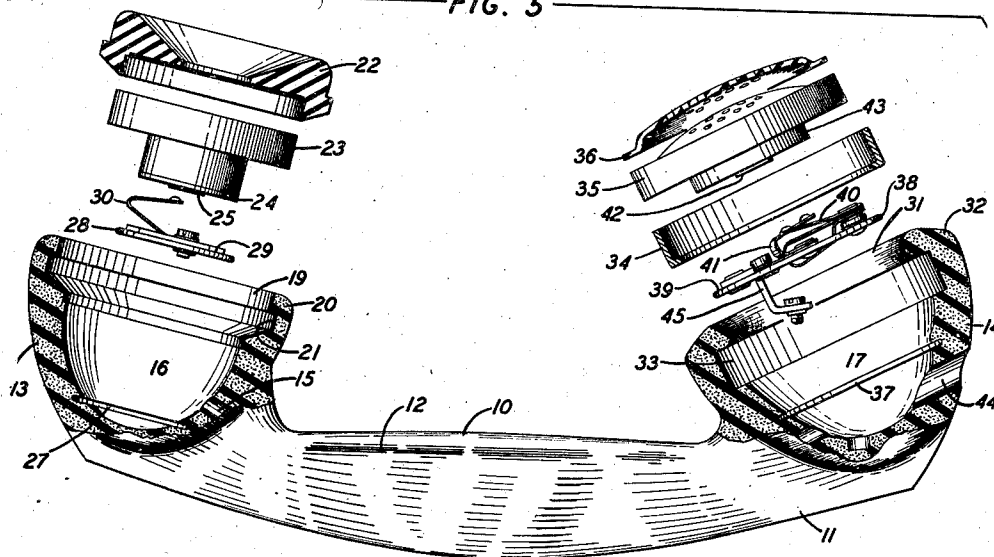


FIG. 5



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2,123,177

ACOUSTIC DEVICE

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Application September 26, 1936, Serial No. 102,697

3 Claims. (Cl. 179—103)

This invention relates to acoustic devices and, more particularly, to a hand telephone or telephone handset.

An object of the invention is to simplify the structure and to facilitate the assembly and disassembly of hand telephones.

A feature of this invention comprises housing or enclosing a sound wave translating unit and a contact-supporting carrier, plate or disc in a case of flexible material, the unit and disc being held in relative position by the contraction of the case material about them.

Another feature comprises housing or enclosing a sound wave translating unit and a contact-supporting carrier, plate or disc in a case of flexible material, the unit and disc being held in relative position by the contraction of the case material about their peripheral portions.

Still another feature comprises housing or enclosing a sound wave translating unit and a contact-supporting carrier, plate or disc in a case of flexible material, the inner surface of the case wall containing a pair of grooves into which the unit and disc are adapted to be forced to be held in spaced position with the contacts on the disc in engagement with the terminals on the unit.

A further feature comprises forming the common support of a handset telephone of flexible material, such as rubber, the end portions containing recesses for the reception of a receiver unit, a transmitter unit, and contact-supporting carriers or discs, the wall portions defining the recesses each having a pair of spaced grooves for the reception of the peripheral portions of a unit and a disc.

A more complete understanding of this invention will be obtained from the detailed description that follows, read with reference to the appended drawings, wherein:

Fig. 1 is a side view of a hand telephone or telephone handset embodying this invention;

Fig. 2 is a cross-sectional view of the device of Fig. 1;

Fig. 3 is a cross-sectional view of the receiver end of the device of Fig. 1, taken along the line 3—3 of Fig. 2;

Fig. 4 is a cross-sectional view of the transmitter end of the device of Fig. 1, taken along the line 4—4 of Fig. 2; and

Fig. 5 is a broken-away, exploded view of the device of Fig. 1.

The acoustic device of this invention comprises a hand telephone or telephone handset, designated generally 10. It comprises a unitary support 11, preferably of a resilient, flexible, or shock absorb-

ing material, for example, rubber, having a handle or hand grip portion 12 and enlarged, recessed or hollow end portions 13, 14.

The handle 12 is hollow, containing a substantially circular-sectioned passage 15 that connects the recesses 16, 17 of the end portions, and provides a passageway for telephone conductors (not shown).

The recess 16 is adapted to receive and house a unitary telephone receiver assembly 18. The open end 19 is defined by a substantially annular, flexible flange portion, or a resilient, distendable or extensible wall portion 20, containing a substantially annular groove 21, the internal dimensions of the flange portion being slightly smaller than the external dimensions of the unitary receiver 18, which includes an ear-piece or centrally apertured cap member 22 and a receiver unit 23 having suitably insulatively spaced terminals or contacts 24, 25. The receiver 18 is insertable in the open end 19 by stretching the flexible portion 20 so that the rim portion 26 of the receiver is positioned in the groove 21, the flexible flange contracting about the receiver and maintaining it in position in the open end 19. At or near its bottom or lowermost portion, the recess 16 contains a shallow groove 27 adapted to receive the rim or peripheral portion 28 of a circular disc or plate 29, of insulating material, that constitutes a carrier or support for terminal or contact springs 30 for engagement with the terminals of the receiver unit. The internal dimensions of the groove are slightly smaller than the dimensions of the insulating plate which, before the insertion of the receiver 18 in the groove 21, is forced into the groove 27 and held therein by the contraction of end portion material about it. When the receiver and the terminal plate are in position, the springs 30 are under compression and make good electrical contact with the terminals of the receiver unit.

The open end 31 of the recess 17 is defined by a substantially annular, flexible flange or resilient, distendable or extensible wall portion 32 containing an annular groove 33. The internal dimensions of the flange portion 32 are slightly smaller than the external dimensions of the protective metallic ring 34 surrounding the transmitter unit 35. The transmitter unit may be of the granular carbon type, for example, as shown in A. F. Bennett et al. Patent 2,042,822, issued June 2, 1936, and be provided with an apertured protector plate 36. The assembly of the transmitter unit, protector ring and protector plate is inserted in the groove 33 by stretching the flexible flange, which

contracts about the assembly to maintain it securely in position. At or near its bottom or lowermost part, the recess 17 is provided with a shallow groove 37 adapted to receive the rim or peripheral portion 38 of a circular disc or plate 39, of insulating material, that constitutes a carrier or support for contact springs 40, 41, for engagement, under compression, with the insulatively spaced terminals or contacts 42, 43 of the transmitter unit. Before the insertion of the transmitter assembly, the plate 39, which is of slightly greater dimensions than the groove 37, is forced into the groove 37, the material defining the groove contracting about the disc to hold it securely in position. The conductors of the telephone cord (not shown) that extends inwardly through the opening 44, are connected to the ends of the contact springs 30, 40, 41 that are secured to the plates 29, 39. The stay-terminal of the cord may be attached to the lug 45.

Although this invention has been disclosed with reference to a single embodiment thereof, it is to be understood that it is not limited thereto but by the scope of the appended claims only.

What is claimed is:

1. An acoustic device comprising a sound wave translating unit including a terminal, a case of flexible material having an open end portion in which the unit is positioned and held in place by the contraction of the case material about its peripheral portion, said case having a groove in its inner surface adjacent said unit, spring contact means opposite said terminal, and a disc

of insulating material having its peripheral portion disposed in said groove and held therein by the contraction of the case material, said disc supporting said contact means in engagement with said terminal.

2. An acoustic device comprising a case of flexible material having an open end portion, said case having two grooves in its inner surface, a sound wave translating unit including a terminal in said case with a peripheral portion in one of said grooves, resilient contact means for engagement with said terminal, and a carrier member for said means with its peripheral portion positioned in the other of said grooves and compressing said resilient contact means against said terminal.

3. A telephone handset comprising a transmitter unit, a receiver unit, each of said units including a terminal, an elongated common support for said units, said support being of a flexible material and having distendable cup portions at each end to receive said units, each cup portion having an internal groove adjacent its open end in which a peripheral portion of a unit is disposed and a second internal groove adjacent its closed end, a resilient contact member adjacent each of said terminals, and a carrier member frictionally fitted in each of said second grooves and supporting the corresponding contact member in intimate engagement with the terminal thereadjacent.

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