Oct. 9, 1928. 1,687,293

J. W. H. HANLEY

RADIO LOUD SPEAKER

Filed March 22, 1927



Fig. 1.

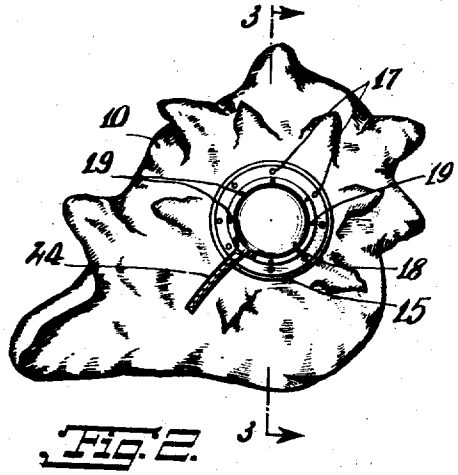


Fig. 2.

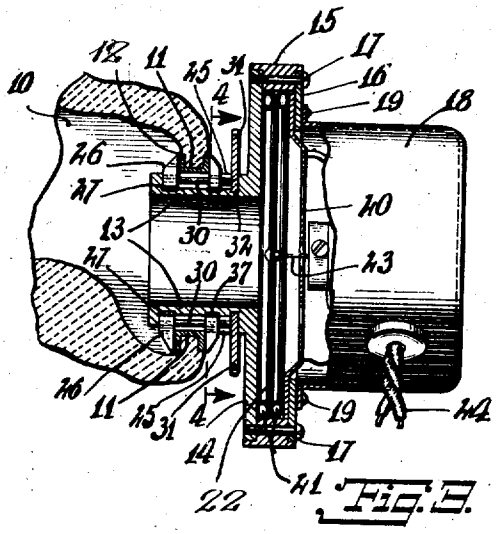


Fig. 3.

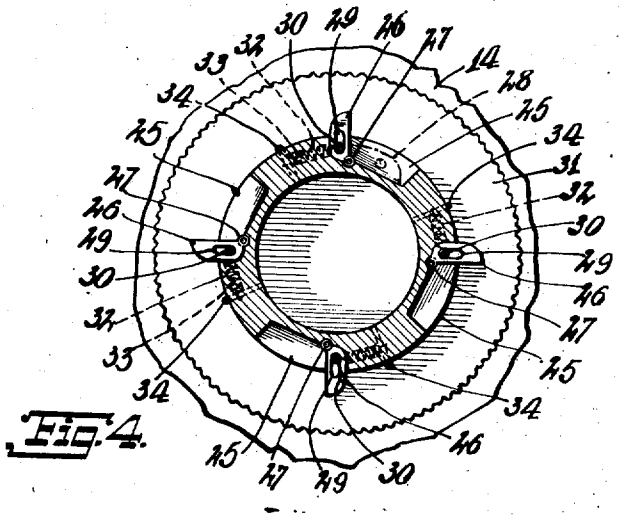


Fig. 4.

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UNITED STATES PATENT OFFICE.

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RADIO LOUD SPEAKER.

Application filed March 22, 1927. Serial No. 177,432.

This invention relates generally to radio devices, and has more particular reference to a radio loud speaking unit.

The invention has for an object the provision of an improved radio loud speaking unit which will be of novel construction and which can be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

Referring to the drawing forming a material part of this disclosure:

Fig. 1 is a front elevational view of a device constructed according to this invention.

Fig. 2 is a side elevational view thereof.

Fig. 3 is a fragmentary, partly sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a vertical sectional view taken on the line 4—4 of Fig. 3.

The reference numeral 10 indicates generally a conch shell formed with a side aperture 11, and has forced over the edges thereof a gasket 12, preferably of rubber. A cylindrical member 13 is integral with a cover 14 separated by washer 15 from an edge cover 16. The screws 17 serve to hold parts 14, 15, and 16 together. The edge cover 16 has a central cover 18 secured thereto by the rivets 19. A perforated partition 20 rests against the inner side of the edge cover 16, and housed between the edges of this partition and the cover 14 is a pair of diaphragm supporters 21, supporting a diaphragm 22 connected by rod 23 to means housed in central cover 18, and not shown on the drawing, for vibrating the diaphragm 22 as controlled by a varying current received through wires 24 suitably connected to a radio receiving set.

The outside diameter of cylindrical member 13 is such that it fits into gasket 12. Formed in the outer side of cylindrical member 13 are a number of recesses 25, and in each recess a pair of latch members 26 are hingedly mounted as at 27, so that in extended position these latch members engage the opposite sides of the gasket 12, and in closed position they lie within the recesses, as shown in dash lines at 28. Each latch member is formed with an elongated slot 29 through which pins 30 pass. The pins 30 project from disc 31 rotatably mounted in groove 32 in member 13. The edge of disc 31 is knurled to facilitate turning. A cavity 32 communicates with each of the recesses 25, and housed in these cavities are tension springs 33 fastened to the rear of the cavity by pins 34, the outer ends of the springs 33 being attached to the pins 30, and normally urge the disc 31 and pins 30 to such position that the latches 26 are extended.

The conch shell may be disengaged from the rest of the device by manually turning disc 31, against the restraining action of springs 33, lowering the latches 26, and thus permitting of sliding the conch shell 10 and attached gasket 12 from the cylindrical member 13. Any conch shell of any size, providing it has the correct size, aperture 11, may be re-attached to the rest of the device as is obvious from the operation of the various parts.

While I have illustrated and described my invention with some degree of particularity, I realize that in practice various alterations therein may be made. I therefore reserve the right and privilege of changing the details of construction or otherwise altering the arrangement of the correlated parts without departing from the spirit or the scope of the appended claims.

Having thus described my invention what I claim as new and desire to secure by United States Letters Patent is:

1. A radio loud speaking unit attachment for conch shells having a side aperture with a gasket forced on the edges thereof, comprising a loud speaking unit, a cylindrical member projecting therefrom, and engageable in the gasket, recesses formed in the outer side of the cylindrical member, a pair of latches hingedly mounted in each recess, and engageable with the sides of the gasket when in extended position, the latches being formed with elongated apertures, pins passing through the apertures, a disc supporting the pins, the said disc being rotatably mounted on the cylindrical member, the said cylindrical member being formed with cavities communicating with the recesses, and tension springs housed in the cavities, and engaged with the pins.

2. A device of the class described comprising a conch shell having a side aperture therein, a gasket disposed around the edge of said side aperture, a radio loud speaking unit comprising a cylindrical extension disposed within said gasket, latch mechanism

pivotally mounted on said cylindrical extension comprising an extension adapted to be disposed within said shell and to engage the inner surface of said gasket and an extension adapted to engage the outer surface of said gasket, and means comprising springs attached to said cylindrical extension and to said extensions for resiliently retaining said latch mechanism in extended position for preventing separation of said shell and said loud speaker.

3. A device of the class described comprising a conch shell having a side aperture therein, a gasket disposed around the edge of said side aperture, a radio loud speaking unit comprising a cylindrical extension disposed within said gasket, latch mechanism pivotally mounted on said cylindrical extension comprising an extension adapted to be disposed within said shell and to engage the inner surface of said gasket and an extension adapted to engage the outer surface of said gasket, means comprising springs attached to said cylindrical extension and to said extensions for resiliently retaining said latch mechanism in extended position for preventing separation of said shell and said loud speaker, and means for rotating said latch mechanism comprising a washer journaled on said cylinder and a pin disposed through slots in said extension for rotating the same against the action of said spring to render said cylindrical extension separable from said shell.

4. A device of the class described comprising a sound amplifying member having an aperture in the side thereof, a radio loud speaking unit comprising a tubular extension disposed in said aperture, latch mechanism comprising pairs of spaced apart extensions pivotally mounted on said tubular extension, the outermost extension of each of said pairs of extensions being adapted to be disposed within said amplifying member adjacent the inner surface thereof and the innermost extension thereof being adapted to be positioned adjacent the outer surface of said amplifying member, springs attached to said extensions for rotating the same outwardly from said tubular extension, and means comprising a washer journaled on said tubular extension and connected with each of said pairs of extensions for rotating the same inwardly relative to said tubular extension to permit separation of said loud speaking unit and said amplifying member.

5. A device of the class described comprising a conch shell having an aperture in the side thereof, a loud speaking unit comprising a tubular member disposed within said aperture, a plurality of fingers pivotally attached to said tubular member adapted to be positioned within said shell, and a plurality of springs each attached at one end to said tubular member and at their other end to said fingers for retaining the same disposed outwardly from said tubular member to prevent separation of the latter from said shell.

6. A device of the class described comprising a conch shell having an aperture in the side thereof, a loud speaking unit comprising a tubular member disposed within said aperture, a plurality of fingers pivotally attached to said aperture, a plurality of fingers pivotally attached to said tubular member adapted to be positioned within said shell, a plurality of springs each attached at one end to said tubular member and at their other end to said fingers for retaining the same disposed outwardly from said tubular member to prevent separation of the latter from said shell, and a washer rotatively mounted on said tubular member and operatively connected with each of said fingers adapted to rotate said fingers against the action of said spring for permitting separation of said shell and tubular member.

In testimony whereof I have affixed my signature.

JOHN W. H. HANLEY.