March 23, 1937. P. S. BESHORE 2,074,887

MIDGET RADIO RECEIVER

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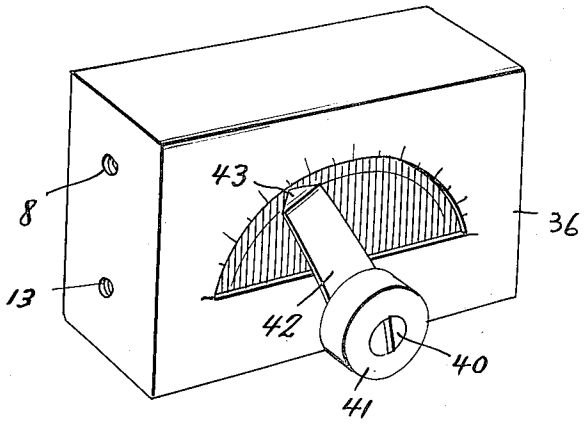


Fig. 1.

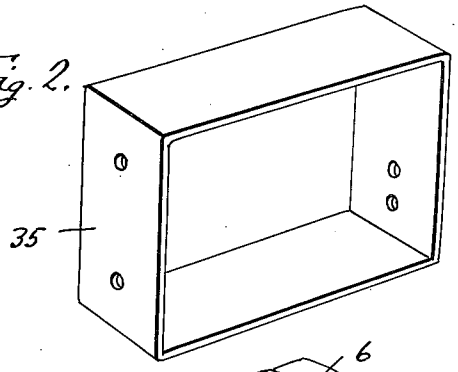


Fig. 2.

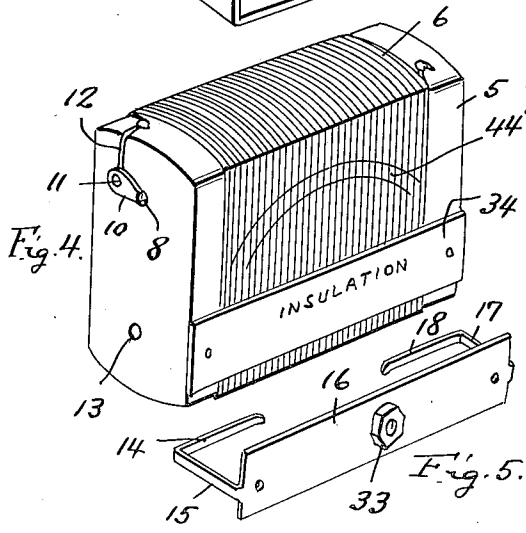


Fig. 4.

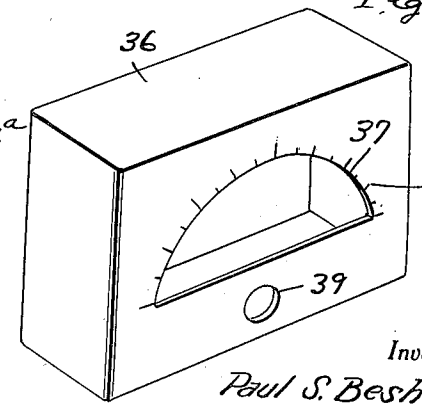


Fig. 3.

Fig. 5.

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Fig. 6.

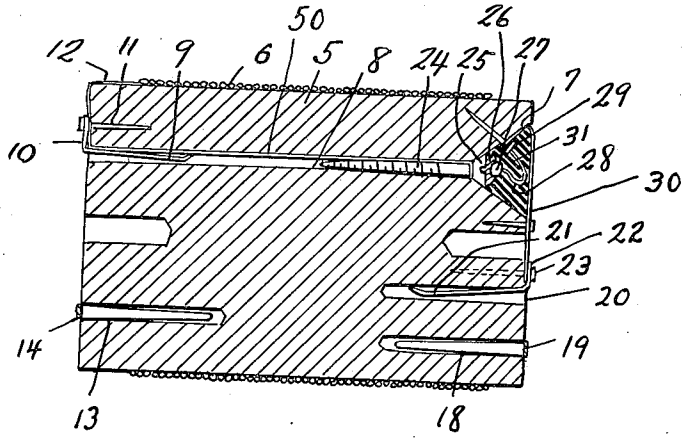
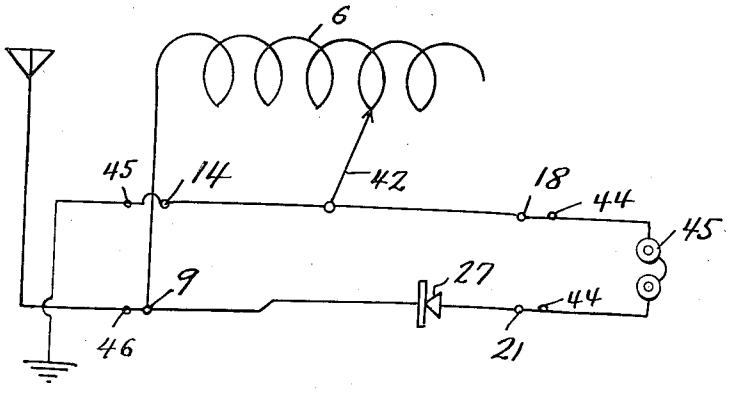


Fig. 7.



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UNITED STATES PATENT OFFICE

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MIDGET RADIO RECEIVER

Paul S. Beshore, Kearney, Nebr.

Application March 5, 1936, Serial No. 67,391

5 Claims. (Cl. 250—14)

This invention appertains to new and useful improvements in the general art of radiant energy and more particularly to a radio receiver of the crystal type.

The principal object of the present invention is to provide a receiver of very small proportions so that the same can actually be placed in the user's pocket and carried about from place to place with ease.

Another important object of the invention is to provide a midget type receiver of the crystal type wherein the crystal is fixed, thus eliminating the requirement of readjustment.

Another important object of the invention is to provide a midget radio receiver which involves only one adjustment for reception.

Other important objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawings:

Figure 1 represents a perspective view of the instrument.

Figure 2 represents a perspective view of one section of the case.

Figure 3 represents a perspective view of the top section of the case.

Figure 4 represents a perspective view of the coil block.

Figure 5 is a perspective view of the front plate and associated contact fingers.

Figure 6 is a longitudinal sectional view through the coil plug.

Figure 7 is a diagrammatic view disclosing the electrical connection between the electrical devices involved.

Referring to the drawings wherein like numerals designate like parts, it can be seen that numeral 5 represents a rectangular shaped block of substantially rectangular shape in cross section, the same having an enamel wire coil 6 wound thereon for a major portion of its length. One end of the block 5 (which may be wood or some dielectric composition) has a recess 7 therein from the bottom of which extends a bore 8 entirely through the block and having a spring contact finger 9 protruding thereinto. This finger has a laterally disposed lug 10 at its outer end secured by a small brad 11 to the adjacent end of the block 5 and from this lug 10 extends the jumper 12 to the adjacent end of the coil 6, the opposite end of the coil 6 being free.

At the same end of the block 5 as the contact finger 9 is the short bore 13 having the spring contact finger 14 protruding therein, this finger 14 extending laterally from the arm 15 at one end of the front plate 16, which front plate is of current conductive material. The opposite end of the plate 16 is provided with the arm 17 and a contact finger 18 extending inwardly from the arm 17 which protrudes into the short bore 19 at the opposite end of the block 5, while adjacent this short bore 19 is the short bore 20 in which is located the spring contact finger 21 having a lug 22 at its outer end secured to the block by a brad 23.

Disposed through the recess 7 and driven into the bore 8 is the screw 24, the head 25 of which has a solder deposit 26 thereon in which a sensitive crystal 27 is embedded. A cat's whisker 28 secured in place by a brad 29 engages this crystal 27 and as is shown in Figure 6, a jumper 30 extends from the spring contact finger 21 to this brad 29. A deposit of pitch 31 or some other suitable material is placed in this recess 7 so as to seal and retain the parts in the recess 7 in the definite position shown so that the cat's whisker cannot become displaced from the tested sensitized portion of the crystal.

A front plate 16 is provided with a nut 33 thereon and this plate 16 is secured over the plate of insulation 34 located on the front of the block 5.

A cardboard or bakelite container consists of the bottom section 35 for receiving the block 5 and the slip type cover 36 which engages over the sides of the bottom section 35.

The top of the cover 36 is provided with a semicircular shaped opening 37 around the curved edge of which are suitable graduations 38. An opening 39 is located in the top of the cover 36 through which the screw 40 of the knob 41 extends to engage into the nut 33 on the plate 16. The contactor 42 which extends laterally from this screw 40 has the laterally disposed contact 43 on its free end for wiping engagement with the arcuate shaped cleared portion 44a of the coil 6.

Openings are formed in the ends of the sections 35, 36 of the housing so that the plugs 44—44 of an ear phone 45 can be plugged into the opening 19—20 to engage the contact fingers 18—21, and an antenna plug 46 and a ground plug 45 engaged into the opening 13—8 to engage the contact fingers 14—9 respectively.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having thus described the invention, what is claimed as new is:

1. In a radio receiver, a body having the property of insulation, a tuning coil on the body, a strip of insulation and a metallic strip disposed across the coil and having their ends secured to the body, and a contactor held against the metallic strip and shaped to engage with the coil for tuning purposes.

2. In a radio receiver, a body having the property of insulation, a tuning coil on the body, a strip of insulation disposed across the coil and having its ends secured to the body, and a contactor secured against the strip and shaped to engage with the coil for tuning purposes, said body having recesses therein, a conductor strip disposed along the outside of the strip of insulation, said contactor being carried by the conductor strip, and spring contact members disposed into the recesses and connected to said conductor strip, said spring contact members and recesses defining electrical sockets.

3. In a radio receiver, a body having the property of insulation, a tuning coil on the body, a strip of insulation disposed across the coil and having its ends secured to the body, and a contactor secured against the strip and shaped to engage with the coil for tuning purposes, said body having recesses therein, a conductor strip disposed along the outside of the strip of insulation, said conductor strip being electrically connected with the contactor and provided with spring contact members extending therefrom and into said recesses to cooperate with the recesses to define electrical sockets.

4. In a radio receiver, a tuning coil core having the property of insulation, said core having a recess therein, a fixed detector mounted in the recess, and a sealing material embedding a portion of the detector to hold the same in adjusted position, said fixed detector consisting of a screw driven into the inner wall of the said detector recess and having a detector crystal fastened thereto, and a contact member disposed against the crystal at a sensitized place thereon, said crystal and contact member being embedded in said sealing material.

5. In a radio receiver, a tuning coil core having the property of insulation, said core having a recess therein, a fixed detector mounted in said recess, and a sealing material embedding a portion of the detector to hold the same in adjusted position, said fixed detector consisting of a conductor embedded in the wall of said detector recess and having a detector crystal electrically connected thereto, and a contact member disposed against the crystal at a sensitized place thereon, said crystal and contact member being embedded in said sealing material.

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