

PATENT SPECIFICATION



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COMPLETE SPECIFICATION

Improvements in Wireless Receiving Apparatus

We, FABBRICA ITALIANA MAGNETI MARELLI, an Italian Body Corporate, of 22, Corso Venezia, Milan, Italy, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The invention relates to radio-receiving apparatus and it has for its object an arrangement of the different elements permitting a reduction in the depth of the enclosing box or case, with the corresponding advantages from the acoustic point of view and permitting of taking into account the cooling requirements.

In apparatus of this type, it is known to give the loudspeaker a central position in the casing and to arrange the elements of the receiver around the loudspeaker.

On the other hand, it is known to align a certain number of the elements of the apparatus on an elongated support.

This invention comprises the combination of some of the elements mounted in groups arranged at the sides of the part of the loudspeaker which projects into the casing from its front panel with other elements mounted in a group of elongated form and of small width placed between the elements flanking the loudspeaker and the rear panel of the casing.

In this way, the casing has, in the direction of the axis of the loudspeaker, a dimension only a little greater than the length of the loudspeaker. Moreover, by arranging along the rear panel of the casing those elements which are liable to become heated, advantageous conditions are obtained from the point of view of cooling.

In the accompanying drawings,

Figure 1 is a front view of an apparatus according to the invention, the front panel of the cabinet being assumed to be removed,

Figure 2 is a section on the line 2—2 of Figure 1,

Figure 3 is a section on the line 3—3 of Figures 1 and 2, and

Figure 4 is a section on the line 4—4 of Figures 1 and 2.

In the apparatus shown on the

drawings, the different elements are mounted on a base plate 1 without the aid of an actual frame of the type generally adopted in wireless receiving apparatus. A loudspeaker 2 is mounted directly on the front panel 3 of the cabinet 4 enclosing the apparatus.

A unit 5 comprising the transformers 6 of the different stages of the wireless receiver and carrying the amplifying valves 7 arranged in a single row, is thin and elongated and is mounted on the base plate 1 along its rear edge. Owing to the arrangement of the different elements and the spacing between them, all harmful coupling is avoided and the dispersion of the heat evolved during operation is facilitated.

The apparatus comprises on its two sides groups of superposed elements flanking the loudspeaker. One of these groups comprises a mains transformer 8, on the upper part of which is mounted a rectifying valve 9. The other group is situated on the opposite side of the apparatus and comprises a lower box 10 enclosing the high-frequency windings and the wave changer controlled by a knob 11 projecting externally on the adjacent side of the cabinet. A box 12 containing the variable condensers is arranged on the box 10.

The tuning scale comprises a graduated dial 13 carried by two uprights 14. A pointer 15 moves over the dial 13, this pointer being controlled by an endless cord 16 passing over guide pulleys 17, over a pulley 18 which controls the variable condensers, and over a control pulley 19 adapted to be operated by a knob 20.

Other accessory devices, such for example as a volume regulator controlled by a button 21 may be mounted on the uprights 14. The dial 13 could also be situated directly on the cabinet and in this case only the transmission for the control of the pointer need be mounted on the uprights 14.

Owing to the aforesaid arrangement, the different elements of the apparatus may be built up and assembled in groups and may then be fixed in the cabinet

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carrying the loudspeaker, which permits of effecting a considerable saving owing to the fact that the frame is dispensed with. The different groups of devices surround the loudspeaker, which permits of reducing as far as is possible in view of other requirements the width of the cabinet in the direction of the axis of the loudspeaker, the advantage thus being obtained that the resonance of the cabinet at low frequencies is eliminated and its resonance at the highest frequencies is attenuated, whereby the operation of the apparatus is improved from the acoustical point of view.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. Radio-receiving apparatus having a loudspeaker mounted in a central position within a casing which contains the other elements of the receiver assembled in groups, characterised by the combination of some of the elements mounted in groups arranged at the sides of the part of the loudspeaker which projects into the casing from its front panel with other elements mounted in a group of elongated form and of slight width placed between the elements flanking the loudspeaker and the rear panel of the casing.

2. Apparatus according to Claim 1, characterised by the group arranged along the rear panel of the casing comprising the elements of the apparatus which require to be spaced apart one from the other and cooled, in particular medium-frequency transformers and amplifying

valves.

3. Apparatus according to Claim 1 or Claim 2, characterised by the elements arranged at the side of the loudspeaker comprising groups of elements superposed one on the other.

4. Apparatus as claimed in Claim 1, Claim 2 or Claim 3, characterised in that the high-frequency windings with the wave changer and the variable condensers on the one hand, and the mains transformer and the rectifying valve on the other hand are situated on either side of the loudspeaker.

5. Apparatus as claimed in any of Claims 1 to 4, characterised in that at least two uprights secured to the cabinet are situated one on each side of the loudspeaker and close to the front panel, said uprights supporting elements of the tuning scale group.

6. Apparatus as claimed in Claim 5, characterised in that the said uprights support the graduated tuning dial as well as the transmission for controlling the pointer therefor.

7. Apparatus as claimed in Claim 5 or 6, characterised in that the said uprights support other elements of the apparatus, preferably regulating members.

8. Radio receiving apparatus substantially as hereinbefore described and substantially as shown in the accompanying drawing.

Dated this 19th day of July, 1939.
FABBRICA ITALIANA MAGNETI
MARELLI,

Per Boulton, Wade & Tennant,
111/112, Hatton Garden, London, E.C.1,
Chartered Patent Agents.

[This Drawing is a reproduction of the Original on a reduced scale.]

