May 7, 1940. E. F. ANDREWS 2,199,555

RADIO RECEIVER

Original Filed Oct. 27, 1932 2 Sheets-Sheet 1

Fig. 1

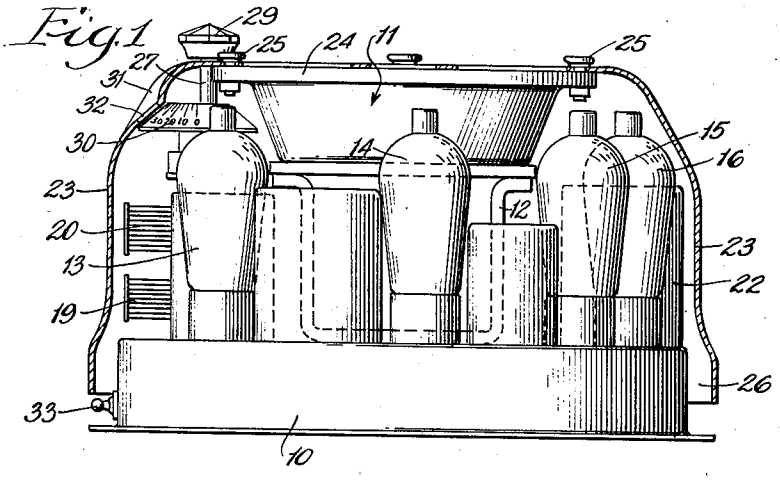
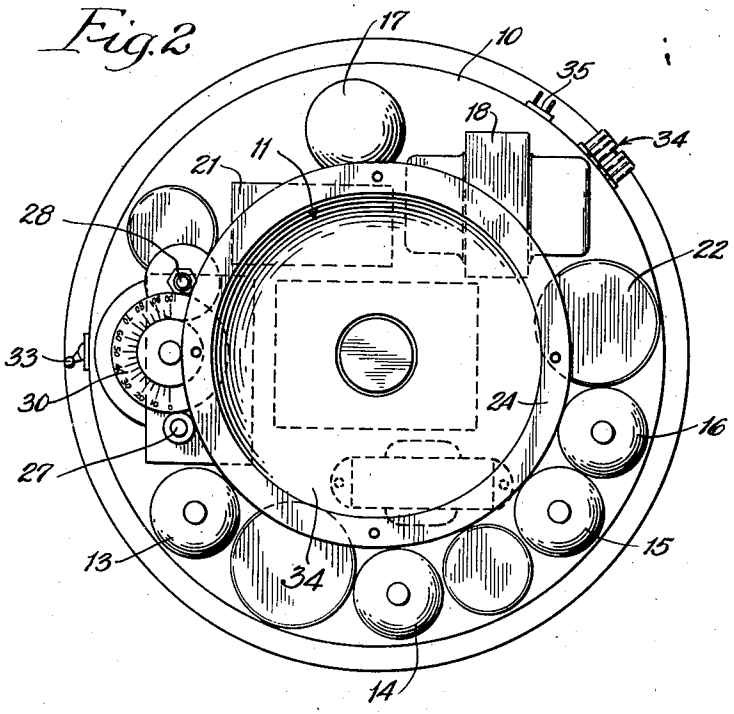


Fig. 2



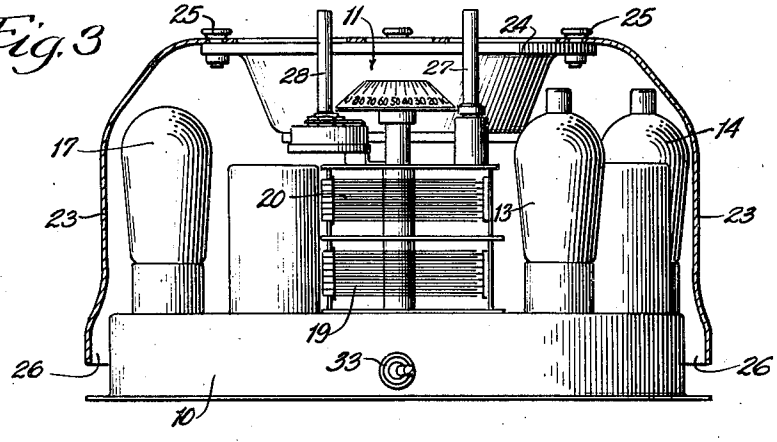
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Original Filed Oct. 27, 1932 2 Sheets-Sheet 2

Fig. 3



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UNITED STATES PATENT OFFICE

2,199,555

RADIO RECEIVER

Edward F. Andrews, Chicago, Ill.

Original application October 27, 1932, Serial No. 639,821. Divided and this application April 21, 1937, Serial No. 138,155

2 Claims. (Cl. 250—14)

This application is divided from my copending application, Serial No. 639,821, filed October 27, 1932, Patent 2,103,135, issued December 21, 1937.

This invention relates to radio receivers and has for its principal object the provision of a compact radio receiver in which a loud speaker is advantageously located with respect to the tubes and other radio devices.

A further object of my invention is to provide a radio set which is compact, readily portable and of pleasing appearance.

A further object of my invention is to provide a radio set of small compact structure with the controls so placed as to be adapted for easy operation either in the automobile or home.

A further object of my invention is to provide a self-contained radio set which will be easy to manufacture and which is compact while having its component parts easily accessible.

A further object of my invention is to provide a radio set so constructed that it is adapted to be placed on a table, it being small and low so as not to interfere unduly with other objects placed on the table.

The invention will be fully understood from the following description of a preferred embodiment thereof taken in conjunction with the accompanying drawings, in which:

Figure 1 is an elevation of the receiver, the housing thereof being shown in section;

Fig. 2 is a plan view thereof with the cover removed; and

Fig. 3 is an elevational view of the receiver, as viewed from another angle, the housing thereof being shown in section.

Referring to the drawings, the receiver comprises a base 10 which is preferably circular and in the form of an inverted dish. The under side of this base accommodates the wiring and various small parts such as resistors and by-pass condensers. A loud speaker 11, of generally flaring form and having a conical diaphragm 34 is mounted in the center of the base with the apex of the cone pointed toward the base. Suitable spacers may be employed between the field magnet or pot 12 of the speaker and the base 10, if necessary, to bring the rim 24 of the speaker cone to a suitable height to accommodate the tubes and other apparatus mounted on the base therebeneath.

The component parts of the radio set, such as the tubes 13, 14, 15, 16 and 17, transformer 18, condensers 19 and 20, filter condensers 21, and interrupter 22, are mounted on the base in the space available around the speaker field magnet or pot. The tubes and their associated coupling transformers are mounted at the periphery of the base with their axes perpendicular to the base.

A decorative cover 23, adapted to be supported by the rim 24 of the speaker 11, is placed over the set. The cover may be fastened to the rim 24 by a number of screws 25 having decorative heads. The top surface of the cover 23 is perforated to permit egress of sound from the speaker cone. The cover 23 extends downwardly to a point somewhat above the lower edge of the base 10 and somewhat below the upper surface thereof. The diameter of the cover 23 at this point is somewhat greater than the diameter of the base 10 so as to provide an annular opening 26 to permit egress of sound from the under side of the speaker. In this manner the cover 23 forms an effective baffle for the speaker.

A shaft 27 for operating the condensers 19 and 20 and volume control shaft 28 project above the top of the cover 23 through suitable openings therein. Knobs 29 are carried by shafts 27 and 28 and are adapted to be easily removed. Thus it will be seen that to obtain access to the set for replacement of tubes or adjustment, the screws 25 and knobs 29 are removed and cover 23 lifted off the set.

A rotating scale 30, preferably of frustro-conical shape, is carried by the shaft carrying the condensers 19 and 20. The portion of the cover 23 adjacent the scale 30 is dished as at 31, and an opening 32 is provided for convenient observation of the scale by the operator. The switch 33 for turning the set on and off is suitably mounted on the base 10 below the cover 23.

The connections to the set may suitably be made by a group of contacts 34' which may also be mounted on the base 10. An antenna connection 35 is also mounted on the base.

The radio receiver may be used with any desired radio circuit, and the radio devices located around the speaker and including the thermionic tubes 13, 14, 15, 16, and 17, are intended to be illustrative only, being the major radio devices employed in the receiver, fully described in the aforesaid Patent 2,103,135.

Although the invention has been described in connection with the specific details of a preferred embodiment thereof, it must be understood that such details are not intended to be limitative of the invention except in so far as set forth in the accompanying claims.

Having thus described my invention, I declare that what I claim is:

1. A radio receiver comprising a speaker with an outwardly directed conical diaphragm, a platform base on the apical side of said diaphragm, said speaker being mounted on the platform base, a plurality of radio devices mounted on the platform base, located substantially between the inner and outer ends of the speaker and arranged around, and in close proximity to the diaphragm and occupying at least part of the space between the diaphragm and the platform base, and a skirt mounted on the speaker at the marginal edge of the conical diaphragm depending therefrom to enclose said radio devices and providing a relatively narrow annular air space between the lower edge of said skirt and platform base.

2. A radio receiver comprising a speaker with an outwardly directed conical diaphragm, a platform base on the apical side of said diaphragm, said speaker being mounted on the platform base, a plurality of radio devices mounted on the platform base, located substantially between the inner and outer ends of the speaker and arranged around, and in close proximity to the diaphragm and occupying at least part of the space between the diaphragm and the platform base, and outoutwardly and downwardly curving skirt mounted on the speaker at the marginal edge of the conical diaphragm enclosing said radio devices, the lower edge of said skirt being in spaced relation to the platform base to provide a relatively narrow annular air space therebetween.

EDWARD F. ANDREWS.