

April 13, 1937.

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2,076,771

RADIO RECEIVER CONSTRUCTION

Filed June 27, 1936

2 Sheets-Sheet 1

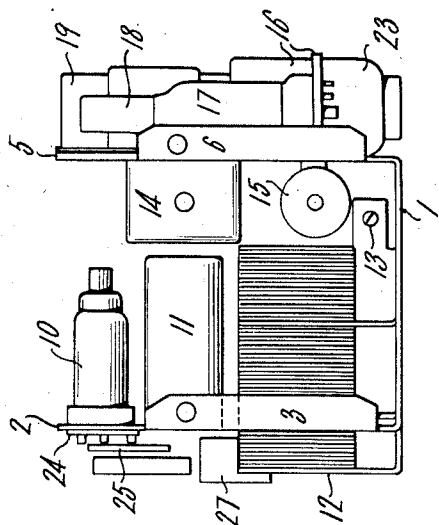


Fig. 2.

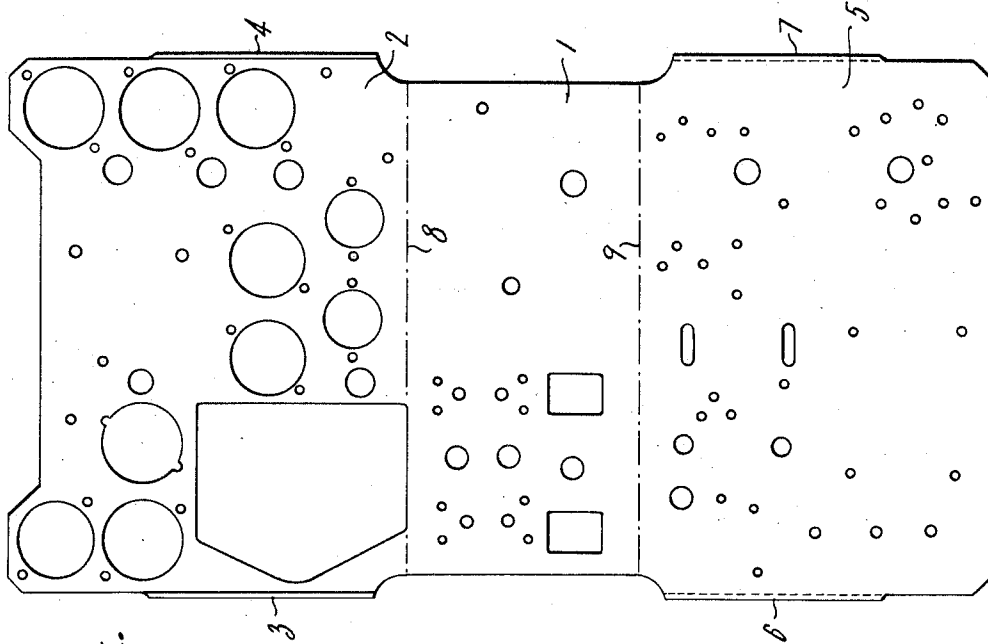


Fig. 1.

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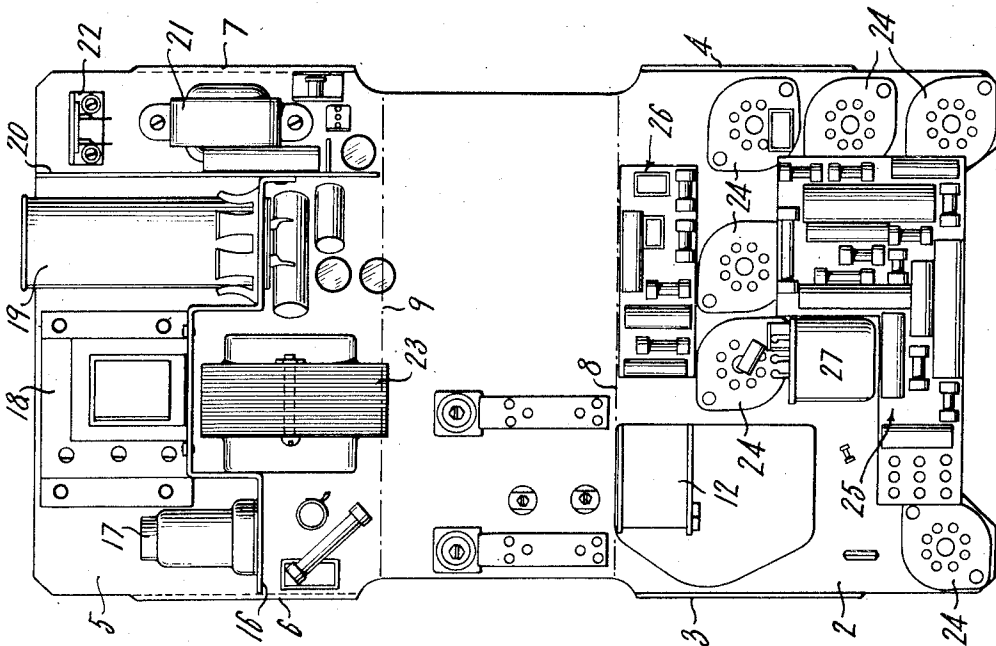
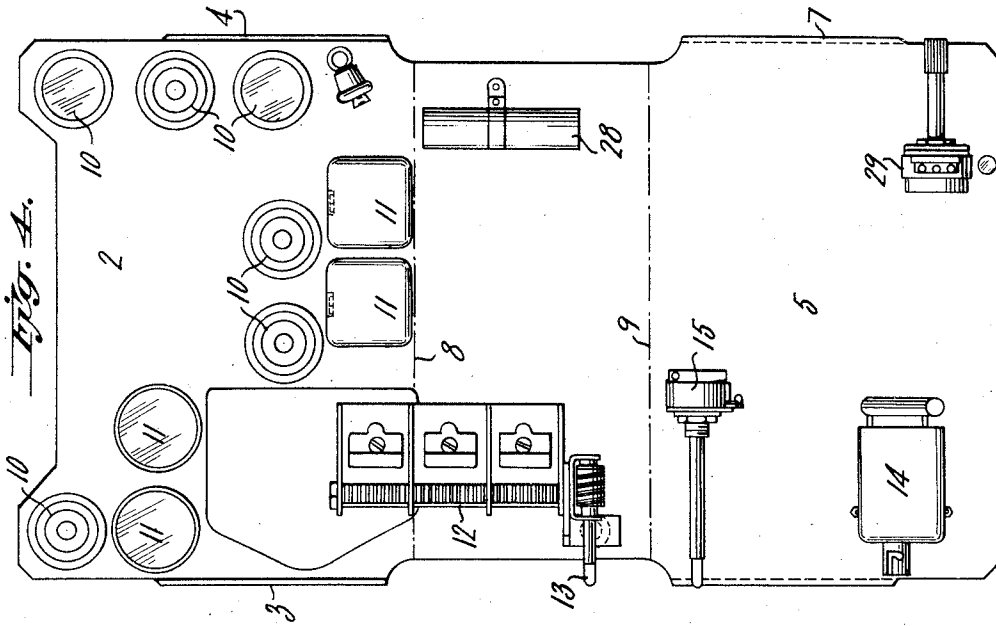
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RADIO RECEIVER CONSTRUCTION

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2 Sheets-Sheet 2



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RADIO RECEIVER CONSTRUCTION

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Application June 27, 1936, Serial No. 87,687

2 Claims. (Cl. 250—16)

This invention relates to radio receivers and more particularly to the chassis construction wherein a more compact and economical assembly may be provided.

5 The usual method of radio receiver construction is to provide a relatively flat base plate to which is attached the component receiver parts in vertical position. The area of the base plate is necessarily quite large with this form of construction since the one member supports the majority
10 of the parts.

An object of the present invention, therefore, is to provide a chassis construction for radio receivers which shall more efficiently utilize the
15 available space.

Another object is to provide a chassis construction for receivers which is more efficient in shielding the component parts against magnetic and electrical interaction.

20 Still another object is to provide a receiver chassis construction which is more economical in manufacture and accessible for servicing.

Other objects and advantages will in part be specifically stated and in part be obvious when the following specification is read in connection
25 with the drawings, in which:

Fig. 1 is a top plan view of a punched chassis blank according to the present invention; Fig. 2 is an end view showing the chassis blank as bent in final form and the placement of receiver parts thereon; Fig. 3 is a simplified plan view showing the placement of parts as viewed from the underside of Fig. 2, and with the U-shaped chassis member bent flat; and Fig. 4 is a view similar to
30 Fig. 3 and shows a top plan view with the chassis theoretically flattened out.

Although the construction as illustrated and described is especially applicable to automobile receivers where considerations of bulk are of primary importance, the accompanying advantage of light weight and accessibility of wiring connections will also be found desirable in the smaller type of household receivers.

Referring in more detail to Fig. 1, the numeral 1 indicates generally a sheet metal stamping comprising the chassis prior to bending. The upper section 2 of the stamping as shown is provided with the holes for receiving tube sockets, coils, and other parts. At either side of the section 2 are upwardly extending flanges 3 and 4, by which the completed receiver may be attached to a suitable casing. The proper openings for riveting and subsequent adjustment of parts are shown on the middle section, and the lower
55 section. Downwardly extending flanges 6 and

7 are provided at the sides of the lower section 5 which cooperate with the previously mentioned flanges 3 and 4 in securing the completed receiver to a casing. The upper section 2 of the stamping is bent upwardly toward the observer along the dotted line 8, and the lower section 5 is similarly bent upwardly along the dotted line 9. After the bending operation the stamping 1 is substantially U-shaped as shown in Fig. 2, with the sections 2 and 5 comprising the legs of the U, and will hereinafter be referred to as the U-shaped chassis. The leg 2 of the chassis is fitted with tube sockets across the proper openings and carries the receiver tubes horizontally as illustrated by tube 10 in Fig. 2. Likewise the coils comprising the radio frequency and intermediate frequency stages are contained in horizontally extending shield cans, one of which is indicated by 11 in Fig. 2. A three-section variable condenser 12 is mounted on the bottom web portion of the chassis and has a section extending through the irregular shaped opening in leg 2 as shown in Fig. 1. A drive member 13 operates the condenser. The inner surface of the leg 5 carries an antenna coupler 14 and a volume control resistance 15. On the outer surface of the leg 5 is mounted a bracket 16 which carries the majority of the B voltage and power supply equipment. With this form of construction the leg 5 serves as an effective shield to prevent the electrical disturbances originating in the power supply unit from affecting the radio frequency stages which are carried by the leg 2.

The placement of the respective parts of the power supply unit and of the receiver components carried on the outer surface of leg 2 are shown in Fig. 3. In order to simplify the drawings, Fig. 3 represents the appearance of the receiver shown in Fig. 2 provided the legs 2 and 5 were flattened outwardly and the receiver viewed from beneath. The bracket 16 is shown as mounted on the outer surface of leg 5, and supports a rectifier tube 17, filter choke 18, and vibrator 19. An outwardly extending shield partition 20 protects the output transformer 21 and speaker connector 22 from the effects of the vibrator 19. The power transformer 23 is positioned in the upward bow of the bracket 16 directly under the choke 18 and so is shielded from magnetic linkage with the other susceptible components. The other elements shown comprise filter condensers and resistors which are included in the circuits in known manner and need not be specifically indicated. Mounted on the outer side of the leg 2 are shown tube sockets 24 and
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pre-wired resistor panels 25 and 26. The oscillator coil assembly is carried in a shield can 27.

It will be seen that this mode of construction allows an extremely compact receiver, and yet one in which the bulk of the wiring connections are on the outside and so are completely accessible for repair or adjustment requirements.

Fig. 4 is a simplified top plan view of the receiver when the chassis is flattened out as described in connection with Fig. 3. Tubes are indicated generally as 10, and the coils as 11. A tubular condenser 28 is shown as positioned on the central web portion of the chassis with the variable condenser 12. A tone control resistance 29 is carried on the inner surface of the leg 5 together with the antenna coupling 14 and volume control 15.

When the receiver is installed in a casing, the cover thereof may carry a loudspeaker in the customary manner, and the speaker field coil and magnet will be received in the space which may be observed at the central portion of the leg 2 as shown in Fig. 4.

It will be apparent that many modifications and changes may be made by anyone skilled in the art without departing from the spirit and

scope of the invention as set forth in the following claims.

We claim:

1. In a radio receiver, a U-shaped chassis member, one leg of said member having a plurality of apertures therein, vacuum tubes and coils mounted adjacent the apertures to extend transversely across the said member and having the terminals thereof projecting from the outer surface of said leg, supporting means on the outer surface of the opposite leg of said chassis member, and power supply components mounted on said supporting means.

2. In a radio receiver, a U-shaped chassis member having one leg with a plurality of apertures therein, sockets extending across said apertures, a plurality of vacuum tubes mounted in said sockets and extending horizontally from the inner surface of said leg, wiring connections for said tubes carried on the outer surface of said leg, a support mounted on the outer surface of the opposite leg of said chassis member, and power supply components mounted on said support.

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