

Aug. 15, 1933.

F. L. SOBOCINSKI

1,922,335

AERIAL ELIMINATOR

Filed Aug. 7, 1931

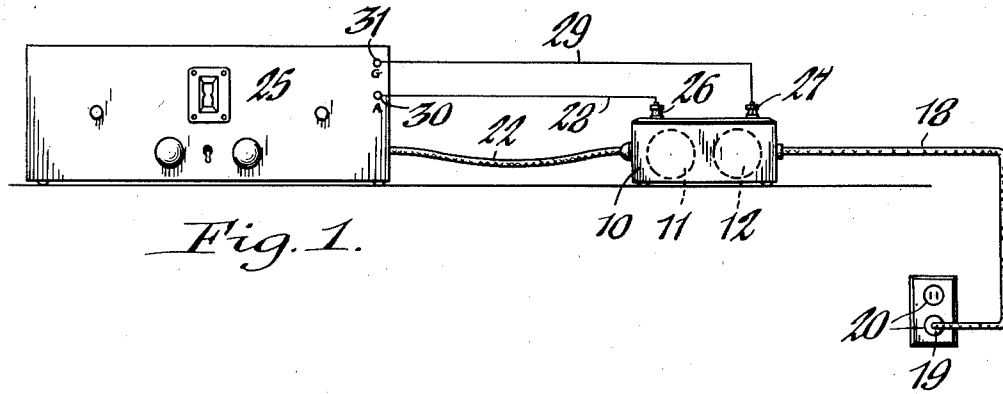


Fig. 2.

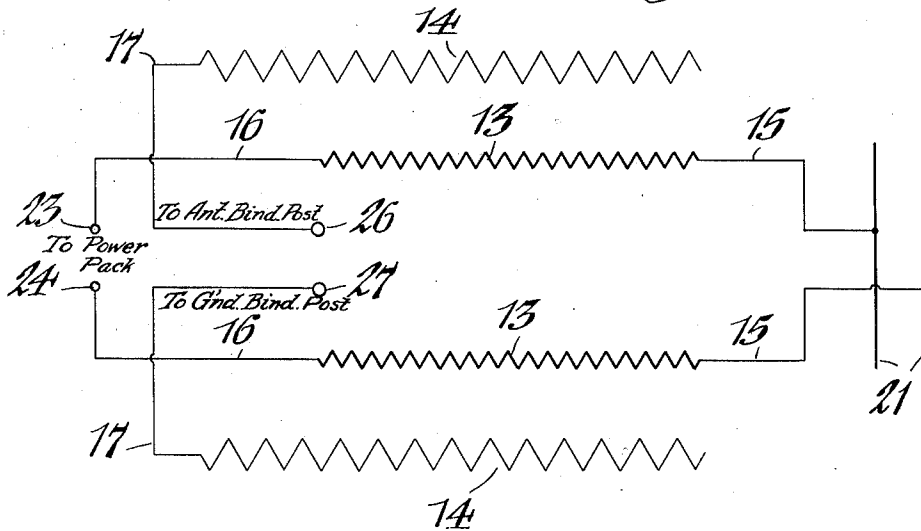
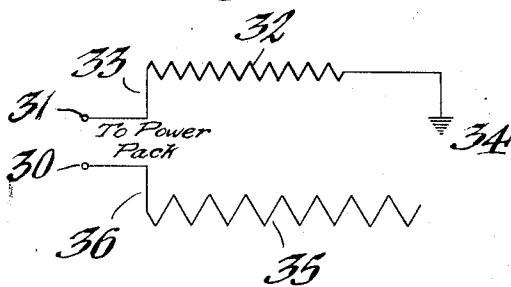


Fig. 3.



Inventor,
Felix L. Sobocinski,
by Walter P. Geyer
Attorney.

UNITED STATES PATENT OFFICE

1,922,335

AERIAL ELIMINATOR

Felix L. Sobocinski, Buffalo, N. Y., assignor of
one-half to Frank Wojtowicz, Buffalo, N. Y.

Application August 7, 1931. Serial No. 555,724

2 Claims. (Cl. 179—2.5)

This invention relates to wireless telegraphy or wireless telephony, and more particularly to radio wave receivers commonly known as antenna eliminators.

It is an object of the present invention to provide an electric wave receiver which replaces the usual aerial or antenna, and can be employed with radio receiving sets of various types.

Another object is the provision of a wave receiver which can be connected to an electric lighting power circuit, and which will operate efficiently.

A further object of the invention is the provision of a wave receiver which can be connected to an electric power or lighting alternate current circuit employed for operating alternating current radio receiving sets.

A still further object is to provide a simple, compact and inexpensive aerial eliminator which is designed to reduce to a minimum power line and atmospheric interference in the operation of radio receiving apparatus.

In the accompanying drawing:—

Figure 1 is a side elevation showing the invention connected to a radio receiving apparatus. Figure 2 is a wiring diagram of a preferred embodiment of the invention. Figure 3 is a wiring diagram of a modification.

Referring to the drawing, the numeral 10 indicates a cabinet or casing of suitable construction within which are suitably arranged spools or coils 11, 12, each having an insulated primary winding 13 and an insulated, secondary inductive winding 14 thereon. In practice, the two windings are wound in layers side by side about the core of the spools 11, 12, the ends 15, 16 of the primary windings 13 leading from the respective coils, as seen in Figure 2. One end 17 of each of the secondary windings leads from its respective coil 14 while its opposite end is dead, the same being in the beginning of the winding or in the first layer thereof. A suitable double strand cable 18 is preferably employed for carrying the lead wires 15 of the respective primary windings 13, the free ends of said wires being connected to the terminals of a plug 19 of suitable construction which is adapted to be electrically connected to a domestic electric light socket 20 included in an alternating current power line 21. The other ends 16 of the primary windings 13 extend through a cable 22 and are connected to the usual power terminals 23, 24, respectively, of the radio receiving apparatus indicated at 25. Preferably, the secondary coils 14 contain a greater length of wire than the primary coils 13.

It will be noted that the primary coils 13 are connected in series with the power line circuit 21, and that the power terminals of the receiving set are connected to the power circuit through the medium of these coils.

The ends 17 of the secondary windings are connected to terminal posts 26, 27 provided on the cabinet 10 and these posts are in turn connected by wires 28 and 29, respectively, with the antenna and ground posts 30 and 31 of the radio receiving set 25.

In operation, the wires 16 leading from the primary windings 13 of the respective coils 11 and 12 are connected through their cable 22 to the power terminals 23, 24 of the radio receiving apparatus 25, and the wires 15 of the primary windings are connected through their cable 18 and plug 19 with the electric light socket 20 connected to a suitable source of alternating current. The wires 28 and 29, leading from the secondary windings 14, are connected, respectively, to the antenna post 30 and ground post 31 of the radio receiving set. The radio receiving apparatus is now ready to be operated in the usual manner. It will be observed that by the use of the present invention the usual ground and aerial for the radio set are eliminated, the current for operating the set passing through the primary coils 13 with the result that the radio frequency current is induced into the secondary coil 14 and from thence to the set. If desired, say for receiving distant broadcasting stations, the lead wires 28 from the secondary coil terminals may both be connected to the aerial post 30 of the set and a separate ground wire connected to the ground post 31 thereof.

This improved aerial eliminator for radio receiving sets dispenses with the need for the usual in-door or out-door aerial, it is manifestly simple, compact and durable in construction, it effectually reduces to a minimum power line and atmospheric interference, thereby promoting better reception, and it is so designed that it may, if desired, be conveniently built into the set and form a part of the chassis thereof.

In the modification of the invention shown in Figure 3 but one coil is employed, the primary winding 32 being connected at one end by the wire 33 to the ground terminal 31 of the radio receiving set, while the other end is grounded, as indicated at 34. The secondary winding 35 is disposed in induced relation to the primary winding 32, and is connected at one end by the wire 36 to the antenna terminal 30 of the radio receiving set, the other end 35 being dead. This

modification is preferably employed on radio receiving sets which require a source of direct current, such as a battery, for operation, and in this connection it is adapted for sets installed in automobiles.

I claim as my invention:

1. An aerial eliminator for electric radio receiving sets comprising, in combination with a source of electrical energy, two coils each including a primary winding connected to said source of electrical energy and with the power line of the set, and a secondary winding in inductive relation to the primary winding, the secondary winding of one coil being connected at one end to the antenna connection of the radio receiving

apparatus and the companion winding of the other coil being connected at one end to the ground connection of said apparatus, the other end of said secondary winding being dead.

2. An aerial eliminator for electric radio receiving sets, comprising two coils, each including primary and secondary windings disposed in induced relation, the primary windings being connected to the power line and power terminals of the set, respectively, and the secondary windings being dead at one end and connected at their other ends to the antenna and ground posts of the set, respectively.

FELIX L. SOBOCINSKI.

20

95

25

100

30

105

35

110

40

115

45

120

50

125

55

130

60

135

65

140

70

145

75

150