

July 6, 1926.

E. MINGE

1,591,177

RADIO CONDENSER

Filed May 22, 1922

2 Sheets-Sheet 1

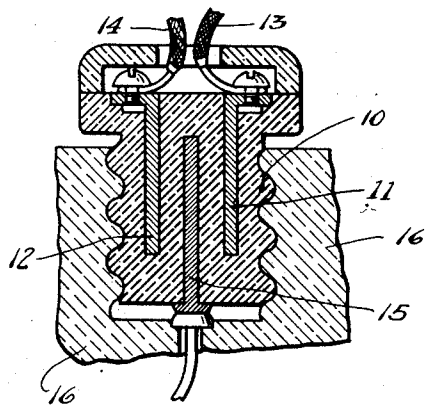


Fig. 1

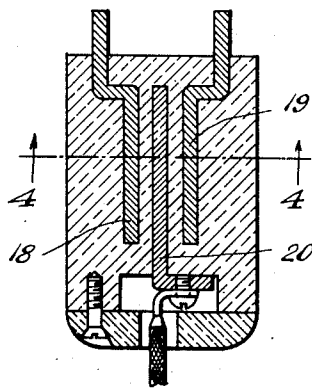


Fig. 3

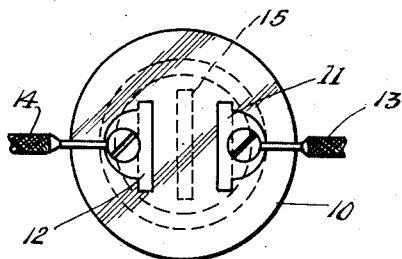


Fig. 2

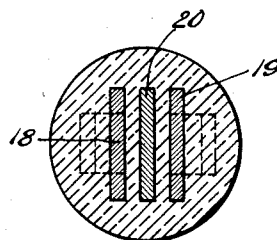


Fig. 4

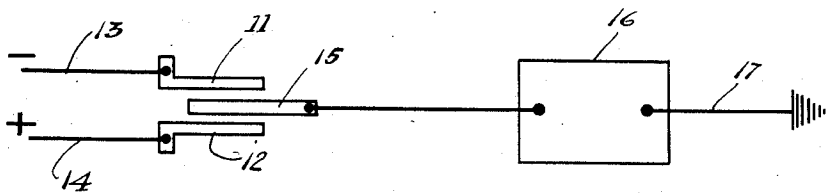


Fig. 5

Witnesses:

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2 Sheets-Sheet 2

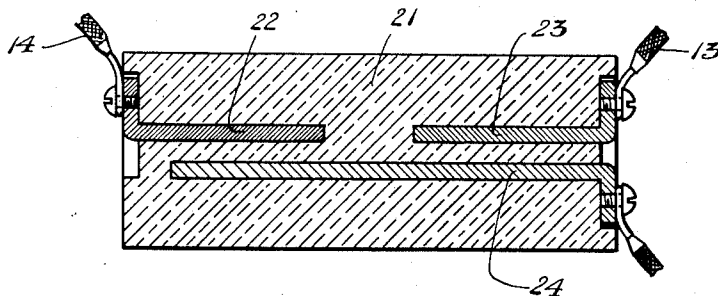


Fig. 6

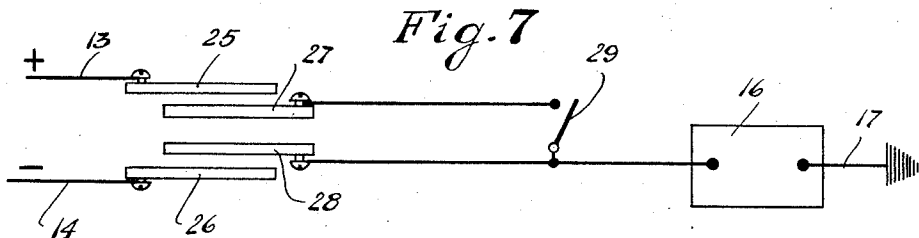


Fig. 7

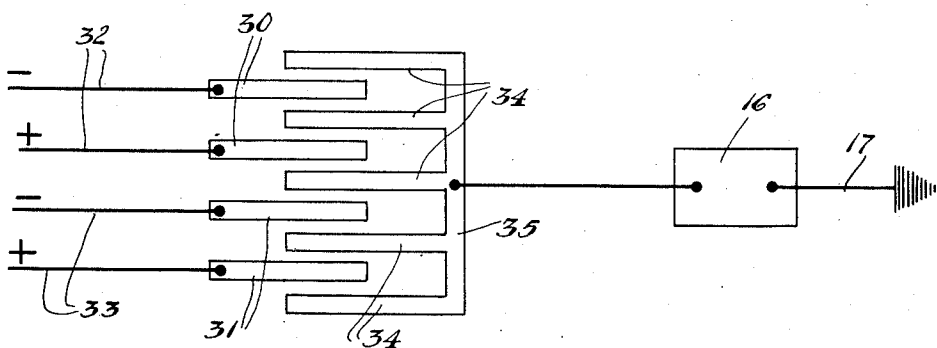


Fig. 8

Witnesses:

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Inventor

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UNITED STATES PATENT OFFICE.

EINAR MINGE, OF CHICAGO, ILLINOIS.

RADIOCONDENSER.

Application filed May 22, 1922. Serial No. 562,571.

This invention relates to radio condensers and more particularly to condensers of a type adapted to be connected to light, telephone, telegraph and other wired circuits so as to draw off or collect only the high frequency waves present therein, without interference with, or by, the local currents with low frequency waves in said circuits.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Fig. 1, is a sectional view of one embodiment of the invention,

Fig. 2, is a top plan view of the form of invention shown in Fig. 1, with the cap removed,

Fig. 3, is a sectional view of a slightly different embodiment of the invention,

Fig. 4, is a sectional view of the device shown in Fig. 3, on the line 4—4 thereof,

Fig. 5, is a diagrammatic view of the invention showing how same is connected with a wired circuit and with an ordinary radio receiving outfit,

Fig. 6, is a modified form of the invention,

Fig. 7, is a diagrammatic view of another modification of the invention, and

Fig. 8, is a diagrammatic view of still another modification of the invention.

The invention contemplates the use of light, telephone, telegraph or other similar wired circuits, in place of the antennæ ordinarily provided, for the purpose of intercepting radio waves, a filtering device being connected to one of such circuits in such manner that only the high frequency waves are drawn off, while the low frequency waves, or the direct current, of such circuits cannot pass said filter, the local currents therein being entirely unaffected by the filter, and high frequency waves, or vice versa.

The filter or condenser used in connection with the invention is preferably made up in the form of a plug, as shown at 10 in Fig. 1, such plug being constructed of any suitable dielectric material, such as hard rubber, glass, mica, etc., there being spaced metal sheets or strips 11 and 12 imbedded therein as shown, the strip 11 being adapted for connection with one pole 13, and the strip 12 with the other pole 14, of a light, telephone,

telegraph or other suitable wired circuits, as illustrated diagrammatically in Fig. 5.

A third metallic strip 15 is imbedded in the plug 10 between the strips 11 and 12, being insulated from the strips 11 and 12 by the material of which the plug is made, such strip being connected to an ordinary radio receiving set indicated at 16 in the drawings, said receiving set 16, of course, being grounded as shown at 17 in any suitable manner. The plug 10, as shown in Fig. 1, is adapted to be threaded into the socket ordinarily provided in a receiving set like 16, but it will be understood that such plug by slightly altering same may be equally well adapted to be threaded into an electric light socket and connected to the receiving set 16 by any suitable means, slight variations of this character being within the spirit of my invention.

In Fig. 3 is illustrated a plug similar to that shown in Fig. 1, having metal strips 18, 19 and 20 imbedded therein in substantially the same manner as for the plug above described; only that the strips 18 and 19 are angularly bent and project beyond the ends of the plug so as to be adapted for engagement with an ordinary form of socket (not shown), having corresponding apertures which resiliently retain the angular projections therein.

The construction shown in Fig. 6 shows a slightly different arrangement of the condenser, there being provided a block 21 of dielectric material in which is embedded a pair of metallic strips 22 and 23, such strips being oppositely disposed end to end, as shown, and being adapted for connection to the pole 13 and the pole 14, respectively, of a wired circuit such as shown in Fig. 5. Disposed beneath and substantially parallel with the strip 23 is a third strip 24, such strip being adapted for connection to a receiving set such as shown at 16 in Fig. 5.

Fig. 7 shows diagrammatically a modification of the invention in which a variable capacity is effected. Such construction consists of metallic plates 25 and 26 adapted to be connected to the poles 13 and 14, respectively, of a wired circuit, as above described. Disposed between the strips 25 and 26, and insulated therefrom and each other by dielectric material, preferably is a pair of metallic plates 27 and 28, connected in parallel with a receiving set of the ordinary type indicated at 16, there being a switch 29 inter-

posed in such connection for cutting out one of the strips from the circuit, if desired.

Fig. 8 shows diagrammatically a plurality of metallic strips 30 and 31 preferably connected to circuits 32 and 33, respectively; or if desired, the strips 30 and 31 might be connected to a single circuit. Disposed between the strips 30 and 31 are strips 34, as shown, such strips preferably having their outer ends connected by bar 35, the bar 35 being connected to a receiving set like 16 of an ordinary type, the purpose of this construction of course being intended for increasing the effectiveness of the condenser.

It will be understood that the constructions illustrated in the diagrammatic views may be embodied in plugs of suitable kinds, such as those shown in Figures 1 to 4 and 6, and in a similar manner.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and

modifications as come within the scope of the appended claims.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A device of the type described comprising a condenser plug arranged and adapted for connection with the socket of a wired circuit and being provided with a plurality of separate plates insulated from each other, and plate means positioned between and insulated from said separate plates and being arranged for connection to a radio receiving apparatus.

2. A device of the type described comprising a condenser plug arranged to be mounted in an electric light socket and being provided with a plurality of separate plates insulated from each other and a plurality of plates positioned between and insulated from said separate plates and from each other and being arranged for connection to a radio receiving apparatus.

In testimony whereof I have signed my name to this specification.

EINAR MINGE.