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COMPLETE SPECIFICATION.

Improvements in Condensers for Wireless Telegraphy and other uses.

I WALTER WENTWORTH MASSIE, Mechanical and Electrical Engineer, of No 4 Market Square, Providence, County of Providence, State of Rhode Island, United States of America, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and
5 ascertained in and by the following statement:—

This invention relates to condensers. I do not limit the use of the condenser to any particular field, but have found it of peculiar utility in conjunction with a wireless telegraphic system.

10 The condenser, hereinafter described, involves one or more glass plates upon the opposite surfaces of which are attached tin-foil sheets in such a way as to leave a margin surrounding each sheet. I desire to state at this point that I use the term tin-foil in a generic sense to include equivalent conducting surfaces and the same applies to the term glass, although such substance serves as a satisfactory dielectric.

15 By virtue of my invention the tin foil sheets or equivalent conducting mediums, cannot be oxidized and therefore their life is prolonged. I also provide for the firm, solid engagement between the contacts and the tin-foil sheets and an adjustable engagement so as to bring the contents against different portions of the tin foil sheets. I also prevent brush discharge.

20 In the present instance I attach to opposite sides of a glass plate, or equivalent dielectric, tin-foil sheets in such a way that there will be a margin around the sheets. These margins I coat or paint with asphaltum varnish, which I find practically eliminates brush discharge, which is very important, in that I am enabled to secure sharp and accurate tuning effects when the condenser is used
25 in connection with a wireless telegraphic system. I consider within the scope of my invention substances of a nature equivalent to asphaltum varnish whereby the elimination of brush discharge is assured.

In the drawing accompanying and forming a part of this specification, I have selected for illustration a simple form of embodiment including my invention which I will set forth in detail in the following description. I do not,
30 however, limit myself to the disclosure thus made for material variations may be adopted within the scope of my claims.

The condenser represented is particularly arranged for mounting upon a wall. Its glass plates and the tin-foil sheets upon opposite surfaces thereof
35 can be placed within a crate or box, should occasion require, these being matters of simple detail and immaterial.

In said drawings:—

Fig. 1 is a front view of a condenser including my invention.

40 Fig. 2 is a side elevation of said condenser; and Figure 3 is a top plan view of the same.

Like characters refer to like parts throughout the several figures of the drawings.

In Fig. 1, I have shown two base brackets each denoted by 2, and which may be secured in any desired way to a wall or other structure. These base
45 brackets are separated apart a suitable distance and rigidly support blocks, each designated by 3, of some suitable non-conducting material. Two side

[Price 8d.]



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brackets are shown at 2¹ and as rigidly carrying blocks, as 3¹. The upper faces of the base blocks 3 and the side faces of the side blocks 3¹, are notched or slotted to receive the glass plates 4.

The several blocks space the glass plates apart at the proper intervals, while the base ones uphold the plates.

Any number of glass plates 4 may be provided, and, as a matter of fact, the invention is capable of being efficiently carried into effect with the use of but one. To the opposite faces of the glass plates 4 I attach permanently, in some suitable way, say, by cement, tin-foil sheets each designated by 5. The superficial area of the tin-foil sheets is less than that of the glass plates and the parts are so united that there will be a marginal portion about each tin-foil sheet, as clearly represented in Fig. 1. I apply to this marginal portion asphaltum varnish. The exposed surface of the glass is thoroughly covered. The plate with the asphaltum varnish coated surface will not absorb moisture by reason of which brush discharge is almost wholly avoided. The value of this is obvious in telegraphic uses as in such a case I can obtain sharp and accurate tuning effects.

The contacts for the tin-foil sheets are each designated by 6, and they are of resilient construction so that they can be maintained solidly against the outer or exposed surfaces of the tin-foil sheet. I ordinarily make them of thin spring brass. By the use of contacts of the kind set forth I avoid oxidation which causes sparking and the burning up of the foil. I am enabled by the use of the contacts therefore to prolong materially the life of the condenser.

The contacts are shown as carried by bodies, each designated by 7. The bodies may be of any desirable form. They are represented as consisting of rods having enlargements at their outer ends to prevent brush discharge or leakage thereat. These enlargements are shown as knobs or spheres, each being designated by 7¹.

The yieldable or spring contacts 6 are, it will be understood, located at the inner ends of the rods 7.

The intermediate contacts, or those which do not bear against the outer faces of the outermost plates constitute the branches or arms of forks at the inner ends of the cooperating rods 7. The several rods 7 have a longitudinal motion through binding posts or screws, each designated by 8, rigidly associated with metallic strips, as 9, fastened to the upper sides of the two side brackets 3¹. By reason of the longitudinal movement of the rods 7 they can be moved inward or outward to bring the contacts 6, carried thereby, against different parts of the tin-foil sheets—that is to say, I provide for the adjustment of said contacts. The rods 7 also have a movement sufficient to carry the contacts 6 out of engagement with the cooperating tin foil sheets, so that, by manipulating one or more of the rods to carry their contacts away from the cooperating tin foil sheets, the capacity of the condenser can be lowered. In other words, I provide for a variation in capacity of the condenser.

In addition to the binding posts 8 upon the conducting strips 9, each of the latter also carries a post, as 10, to which wires, or other conductors, may be connected.

The device, as will be obvious, is of simple construction; it can be inexpensively made; its components can be readily assembled, and when in such relation brush discharge is prevented, or reduced to the least possible extent. I am enabled to secure desirable effects as hereinbefore stated, in the art of wireless telegraphy.

Other advantages of the condenser are manifest and will be obvious to those skilled in the art.

It will be evident that the condenser involves a glass plate or plurality of glass plates, to the opposite faces of which are attached tin foil sheets. Means are provided for carrying the plate or these plates and maintaining them in

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parallelism. The plate carrying means also support the rods provided at their inner ends with contacts.

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

1. A condenser for wireless telegraphy and other use comprising one or more glass or equivalent dielectric plates upon the opposite surfaces of which are attached tin foil sheets or equivalent conducting surface in such a way as to
10 cover or more or less to leave a margin to each sheet, prepared or constructed and supported, mounted and arranged in parallelism, substantially as and for the purpose set forth.

2. A condenser of the type claimed in Claim 1 having sets of rods provided with contacts and supports for said rods, the rods being adjustable to carry
15 the contacts into and out of engagement with the tin foil sheets.

3. A condenser of the kind stated in Claim 1, comprising base and side brackets, conducting strips supported by the side brackets, and rods longitudinally adjustably supported by the conducting strips and provided with
20 contacts to engage the tin foil sheets, substantially as set forth.

4. A condenser having glass plates, foil sheets and rods of the kind referred to in Claim 1, some arranged between the plates and others outside of the
25 plates, the intermediate rods having bifurcated resilient portions, the branches of which bear against the intermediate tin foil sheets, and the outer rods having single resilient portions to bear against the outer tin foil sheets.

5. A condenser of the kind claimed in Claim 1 having its glass plates arranged
30 in parallelism, suitably mounted notched base and side blocks of insulating material, the notches in which receive the plates, binding posts upon the side blocks, and rods adjustably related with the binding posts, having enlargements at their outer ends and resilient portions at their inner ends to engage against the tin foil sheets.

Dated the 20th day of February 1906.

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

Fig. 1.

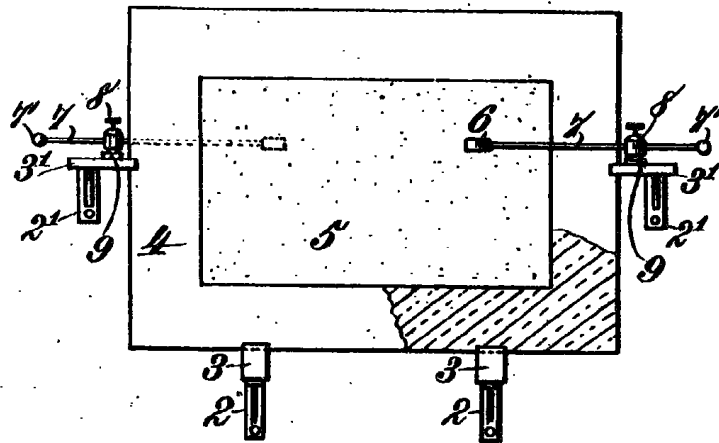


Fig. 2.

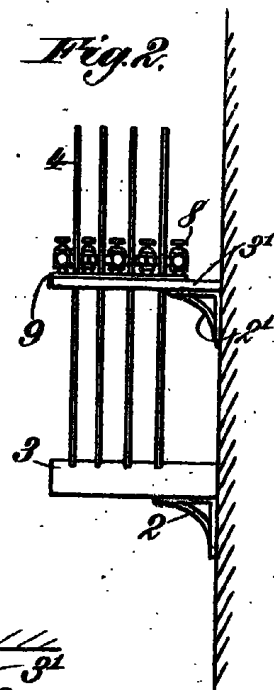
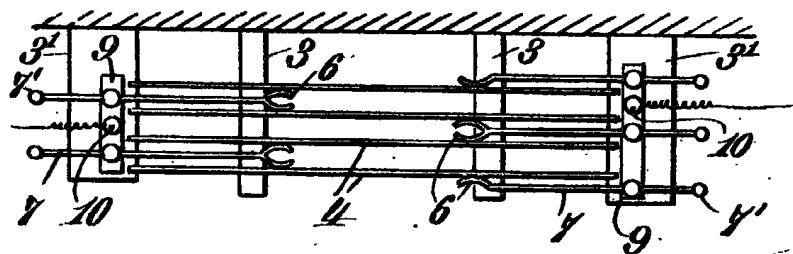


Fig. 3.



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