

O. DURDLE.
 MEANS FOR SUPPORTING ELECTRODES IN IONIC TUBES.
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Fig. 1.

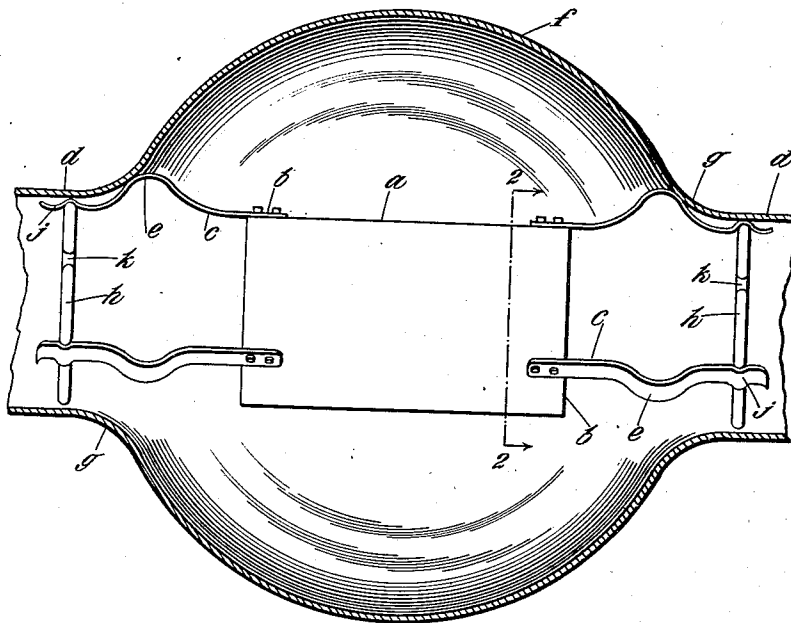
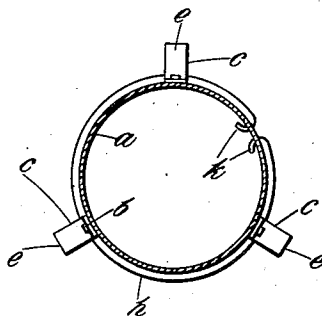


Fig. 2.



WITNESSES

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MEANS FOR SUPPORTING ELECTRODES IN IONIC TUBES.

1,304,282.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, OSWALD DURDLÉ, a subject of the King of Great Britain, residing at London, England, have invented new and useful Means for Supporting Electrodes in Ionic Tubes, of which the following is a specification.

This invention relates to means for supporting electrodes within ionic tubes such as are used more particularly in wireless telegraphy, and has for its object to provide improved supporting means for a substantially cylindrical anode which is supported from both ends of the ionic tube.

According to the present invention the anode cylinder is provided at each end with a set of longitudinally-extending pliable fingers each of a length sufficient to reach some distance within the neck of the tube at that end; each finger being adapted to so engage, from within the bulb, the annular shoulder presented by the junction of the bulb with the corresponding neck of the tube as to prevent displacement of the anode in the direction of its axis; while the terminal portions of all the fingers of a set are held radially separated in contact with the inner surface of the neck by means of an expanding spring locking-ring which is introduced through the neck and is adapted by its elasticity to become interlocked with the several fingers near their free ends.

One embodiment of the invention is illustrated in the accompanying drawings, wherein Figure 1 is a side elevation, partly in section, of an ionic tube showing its cylindrical anode supported in the improved manner; Fig. 2 being a cross-section on the line 2—2 of Fig. 1, the tube itself being omitted. All such elements or details of the general structure of the ionic tube as are not directly related to the present invention are omitted from the drawings.

In the form of the invention illustrated in the drawings, the anode cylinder *a* has riveted to it at *b*, near each of its ends, a set of three flat strips *c*, *c*, *c* of pliable metal which extend substantially parallel to the axis of the cylinder and are spaced at equal intervals apart around its circumference, the strips of each set being of such length as to extend well within the neck *d*, of the tube at that end. In the course of its length each finger of a set is outwardly bowed at *e* so as to be adapted, when the anode is in position

within the bulb *f*, to engage the annular shoulder *g* at the junction of the bulb with the corresponding neck *d* of the tube; while the spring locking-ring *h* whereby the terminal portions of the fingers *c* of the set are held radially separated in contact with the inner surface of the corresponding neck *d*, is received in an outward corrugation *j* provided on each finger near its extremity.

Each neck *d* of the tube has an internal diameter sufficient to give passage to the anode cylinder *a*, the outwardly-bowed portions *e* of the fingers *c* touching a circle larger than that of the neck, with whose inner surface the outward corrugation *j* on each finger is adapted to contact; the fingers being capable of yielding in the inward direction during their passage through the neck. The spring locking-ring *h* is constituted by a length of spring wire bent to form an open annulus which tends to expand to an effective diameter greater than that of the neck; while the ends of the wire forming the locking-ring are preferably directed inward as at *k* so as to facilitate the contraction of the ring during its insertion within and removal from operative position within the neck of the tube.

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 what I claim is:—

1. Means for supporting a substantially cylindrical anode in an ionic tube, consisting in the combination of two sets of pliable fingers attached to the anode and extending longitudinally therefrom in opposite directions respectively, said fingers being adapted to so engage the annular shoulders presented by the junction of the bulb with the respective necks of the tube as to prevent displacement of the anode in the direction of its axis, and a pair of expanding spring locking-rings adapted to be interlocked with the terminal portions of the fingers of the respective sets and to hold the fingers of each set radially separated in contact with the inner surface of the corresponding neck of the tube, substantially as set forth.

2. The combination of an ionic tube, an anode therein, resilient fingers extending in opposite directions from said anode, said fingers extending into the necks of said tube and having portions cooperating with said tube to prevent displacement of said anode

in an axial direction and means whereby said fingers are pressed outwardly into locking engagement with the inner surfaces of said necks.

5 3. The combination of an ionic tube, an anode therein, resilient means located at opposite ends of said anode and engaging said tube whereby axial displacement of said anode is prevented and independent locking
10 means whereby said resilient means is forced outwardly into locking engagement with said tube.

4. The combination of an ionic tube, an anode therein, means connected with said
15 anode and cooperating with said tube to prevent axial displacement of said anode and independent means whereby said first-named means is locked in engagement with said tube.

20 5. The combination of an ionic tube, an

anode therein, resilient devices located at opposite ends of said anode and cooperating with said tube to prevent axial displacement of said anode and independent expandable rings arranged to force said devices
25 outwardly into locking engagement with said tube.

6. The combination of an ionic tube having a main portion and a pair of tubular
necks extending therefrom, an anode in said
30 main portion, independent groups of resilient members carried by said anode and extending into said necks in resilient frictional engagement therewith whereby said anode is
35 supported in said main portion, and projections on said members cooperating with said main portion to maintain said anode against displacement in an axial direction.

OSWALD DURDLE.