

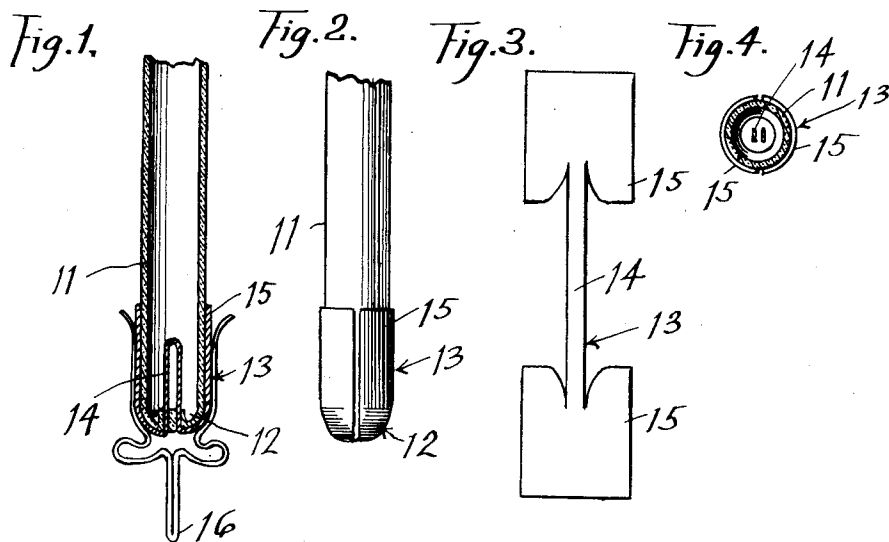
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H. HARASE

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GAS AND VACUUM TUBE ELECTRODE

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GAS AND VACUUM TUBE ELECTRODE

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This invention relates to improvements in gas and vacuum tube electrodes, neon tube and argon tube electrodes, and to the electrodes of electric signs and any inert gas tubes.

The objects of this invention are, to provide a more simple and inexpensive contact terminal, to provide a contact terminal adapted for use with various forms of spring contacts, to provide a contact terminal wherein a single member can be used with several sizes of tubes, and to provide a contact member which will not generate any sparks within the tube, but which permits an even and sparkless flow of the energizing current.

To attain these objects and advantages, I construct the contact terminal with a single strip of suitable metal, preferably of copper, in which the interior terminal portion is in the form of a loop, and the outer contact portions are integral therewith.

The preferred form in which my invention may be embodied in practice, and which I have so far found to be the most practical in use, and which involves no change in the form of the tube, is shown in the accompanying drawings, in which:

Figure 1 is a sectional detail view of a contact terminal embodying my invention. Fig. 2 is an exterior view of the same. Fig. 3 is a detail of a blank adapted to form the contact member. Fig. 4 is a sectional plan showing the contact member in the end of the tube.

Referring in detail to the drawings, the vacuum tube 11, has a sealed end 12. The contact member 13 is formed with a central loop portion 14, which extends within the tube, and the outer extremities 15, which are formed to cover the outer end of the tube. The one piece contact member 13 is adapted to contact with any spring contact member 16. The drawings illustrate a single terminal, and any gas or vacuum tube of the character set forth, will be provided at each end with a contact terminal.

By constructing the interior discharging contact member in the form of a loop, I prevent uneven flow of the electric current and

prevent sparking within the tube. The sections of the contact member passing through the end of the tube, are spaced apart, thereby allowing a perfect seal to be made. The one piece contact member and contact portions insure perfect electrical connection with the corresponding contact elements of an electrode socket.

A single size of the contact member may be employed for the construction of a number of sizes of gas and vacuum tubes. No bulge, enlargement, or other variation, is required in the gas or vacuum tube, when the present contact member is employed in making the terminals thereof.

It is to be understood that the contact member may be varied in thickness and sectional area in accordance with the character of the gas or vacuum tube or electrical device to which it may be applied, and in accordance with the power and voltage of the energizing electrical current. By forming the contact portion in the two sections as shown, I provide for expansion and contraction of the tube, and other minor variations thereof.

What is claimed is:

1. An electrode terminal for gas and vacuum tubes, comprising a single piece of suitable metal having a narrow central section bent to form a loop, the loop being disposed within the tube, and broader extremities forming the outer contact section, the intermediate portion of the piece of metal being sealed through the walls of the tube.

2. An electrode terminal for gas and vacuum tubes, comprising a single piece of suitable metal having a narrow central section bent to form a positive or negative current discharging element, the bent section being disposed within the tube, and broad extremities forming the outer contact section on the exterior of the tube, the intermediate portion of the metal terminal element being sealed through the walls of the tube.

3. An electrode terminal for gas and vacuum tubes, comprising a single piece of suitable metal having a narrow central portion bent to form a loop, the loop section being disposed within the interior of the vacuum

tube, and broad extremities on the piece of metal bent to cover the end of the vacuum tube and forming an outer contact section thereon, the intermediate portion of the metal terminal element being sealed through the walls of the tube.

4. An electrode terminal for gas and vacuum tubes, comprising a sealed end of the tube, a single piece of suitable metal having a narrow central portion bent to form a loop, the loop forming the interior discharging portion of the terminal, and broad extremities on the piece of metal disposed on and conforming with the end of the tube and forming the outer contact section, the sections of the loop being spaced apart on passing through the sealed end of the tube.

5. In an electrode terminal for gas and vacuum tubes, a sealed end of the tube, a contact member of suitable metal disposed on the outer end of the tube, and a loop integral with the outer contact member, and extending through the sealed end and into the interior of the tube.

In testimony whereof, I hereunto affix my signature.

HANZABURO HARASE.

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