Jan. 12, 1926. 1,569,639

G. H. STEVENSON

VACUUM TUBE SOCKET

Filed Dec. 6, 1920

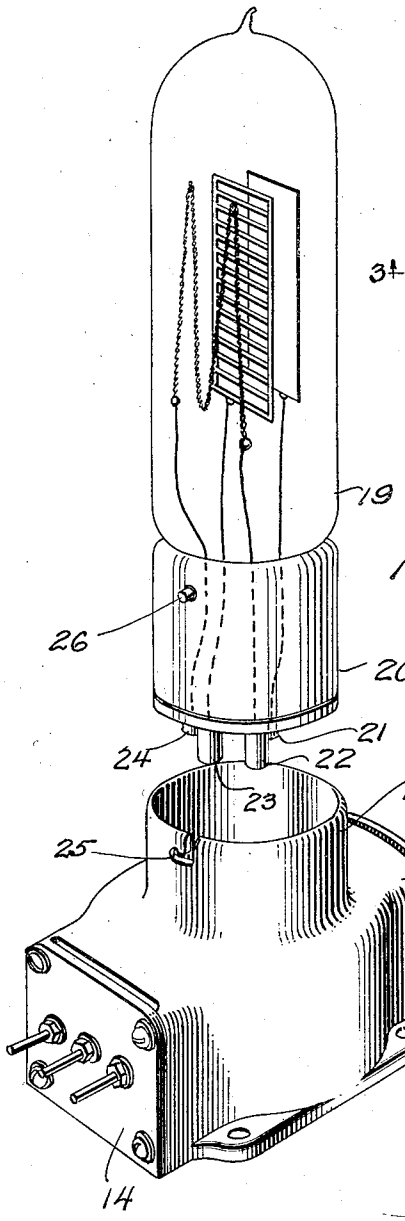



Fig. 1.

Fig. 2.

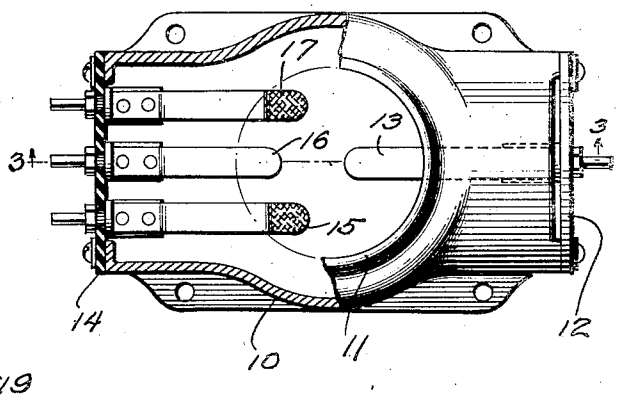
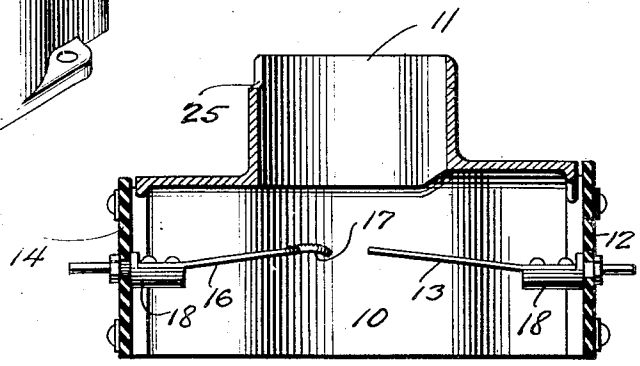



Fig. 3




Inventor:
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# UNITED STATES PATENT OFFICE.

GEORGE H. STEVENSON, OF RYE, NEW YORK, ASSIGNOR TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

## VACUUM-TUBE SOCKET.

Application filed December 6, 1920. Serial No. 428,541.

*To all whom it may concern:*

Be it known that I, GEORGE H. STEVENSON, a subject of the King of Great Britain (having taken out first papers in U. S.), residing at Rye, in the county of Westchester, State of New York, have invented certain new and useful Improvements in Vacuum-Tube Sockets, of which the following is a full, clear, concise, and exact description.

This invention relates to sockets for vacuum tubes and more especially to the arrangement of the contact members of a socket to be used in connection with vacuum tubes operating on high voltage, high frequency currents.

It is one object of this invention to provide a socket for vacuum tubes to be used in high frequency, high voltage circuits in which the various contact members are effectively insulated from each other. This object is accomplished by isolating the anode contact member from the other contact members thus providing an insulating space between it and the others greater than between any two of the remaining contact members.

An additional object of the invention is the provision of means for insuring good contact between the contact members and terminals of the cathode circuit. This object is accomplished by curving the free end of the contact member and roughening the surface thereof.

Other objects and features of this invention will be apparent from the following specification and appended claims.

This invention will be better understood by having reference to the following specification and accompanying drawings wherein Figure 1 is a perspective view of the socket and a vacuum tube, Figure 2 is the plan view partially broken away of the socket and Figure 3 is a section on the line 3—3 of Figure 2.

The socket comprises a casting 10 open at the bottom and at the ends and having a tubular member 11 extending from the top thereof. One end of the casting 10 is closed by a strip 12 of insulating material by which is supported a single contact member 13, one end of which extends beneath the opening in the tubular member. A strip 14 of insulating material closes the opposite end of the casting and supports the contact members 15, 16 and 17 each of which is arranged with one of its ends extending beneath the tubular member 11. Each of the contact members is supported on its strip by means of a terminal 18 which comprises a semi-cylindrical portion to which the contact member is riveted and a cylindrical portion extending through the strip of insulating material and being provided with a nut which may be tightened against the insulating strip to hold the terminal in place. The section of the cylindrical portion of the terminal in contact with the insulating strip is knurled to prevent rotation thereof in the strip. The inner ends of the contact members are arranged beneath the tubular member 11 in such a way that the contact member 13 which is adapted to engage the anode terminal of a vacuum tube is isolated from the rest. The contact members 15 and 17 are adapted to engage the cathode terminals of the vacuum tube and their inner ends are slightly curved and serrated. The contact member 16 is arranged to engage the grid terminal of the vacuum tube.

The tubular member 11 is adapted to receive a vacuum tube 19 having a base 20 through which projects the anode terminal 21, the cathode terminals 22 and 24 and the grid terminal 23 of which 21 is isolated from the other three. The terminals 21, 22, 23 and 24 are arranged to engage with the contact members 13, 15, 16 and 17 respectively. In the tubular member 11 is provided a bayonet slot 25 with which the pin 26 on the base 20 cooperates to hold the vacuum tube in the socket.

The isolation of the anode contact member 13 from the other contact members provides a sufficiently great insulating space therebetween to effectively prevent discharges from said anode contact member. The serrated condition of the ends of the cathode members 15 and 17 causes said ends to scrape the terminals 22 and 24 thereby cleaning the cathode terminals and the serrations, insuring the good contact between said member and said terminals necessary to carry the heavy current upon which tubes of this character are operated. Because of the fact that the portion of the terminal 18 which passes through the strip of insulating material is made cylindrical the concentration of dielectric stresses at the points of support of the contact member is avoided.

It is, of course, understood that various modifications may be made in the structural

features of this device without in any way departing from the spirit of the invention as defined in the appended claims.

What is claimed is:

1. A vacuum tube socket comprising an inverted U-shaped metal base having a tubular portion arising therefrom, a strip of insulating material attached to and closing each end of said base, three contact members supported by one of said insulating strips, two of said contact members being longer than the other, and a single contact member supported by the other insulating strip, said contact members projecting beneath said tubular portion.

2. A vacuum tube socket comprising an inverted U-shaped metal base having a tubular portion arising therefrom, a strip of insulating material attached to and closing each end of said base, a plurality of contact elements supported by one of said insulating strips, one of said contact members being shorter than the remainder and the free end of one of said contact members being roughened and a single contact member supported by said other insulating strip, each of said contact members projecting beneath said tubular portion.

In witness whereof, I hereunto subscribe my name this 26th day of November A. D., 1920.

GEORGE H. STEVENSON.