

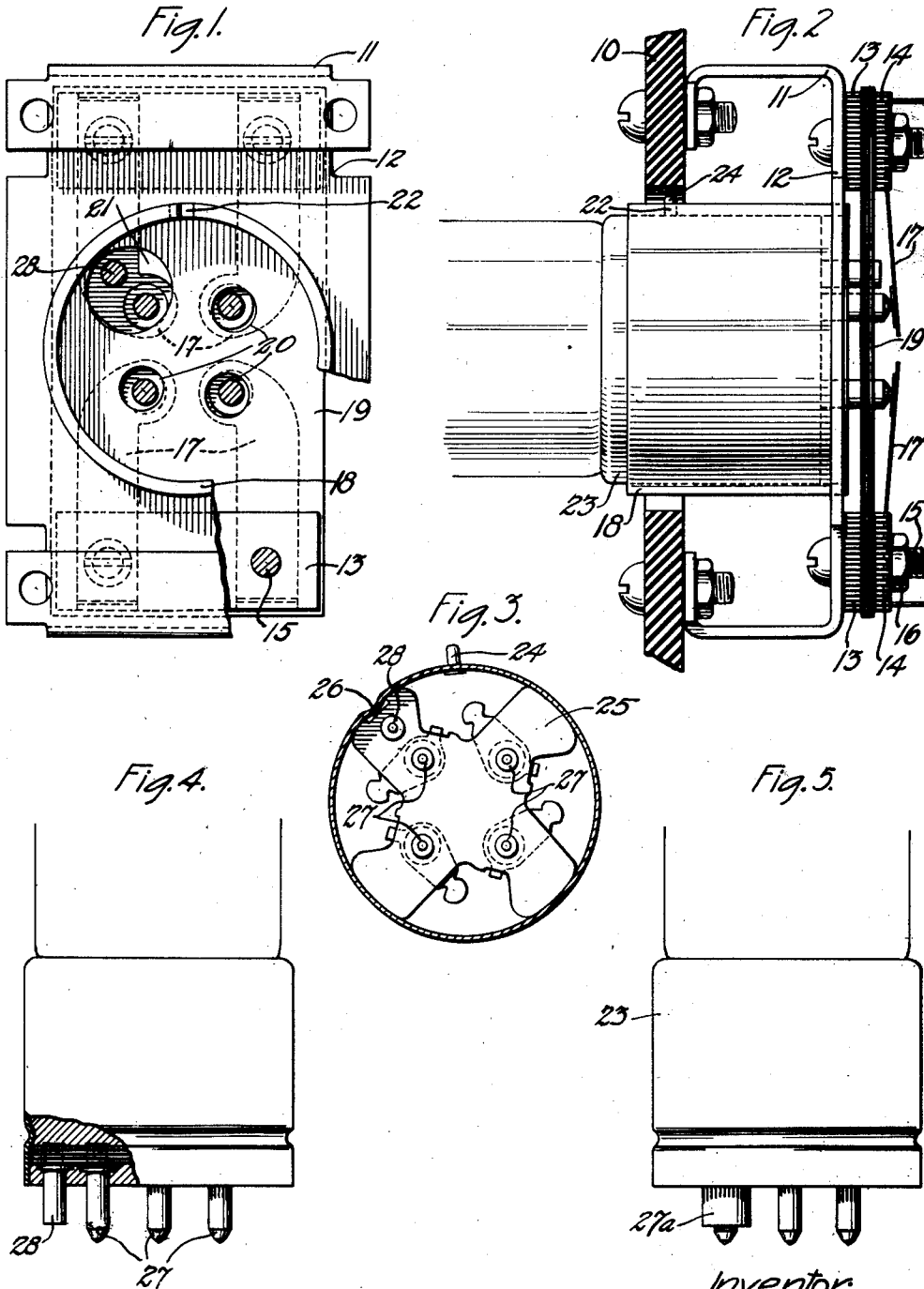
Nov. 6, 1928.

1,690,232

J. J. KUHN

VACUUM TUBE AND SOCKET

Filed July 1, 1922



Inventor:
John J. Kuhn.
by *Paul C. Palmer* Att'y

UNITED STATES PATENT OFFICE.

JOHN J. KUHN, OF ELIZABETH, NEW JERSEY, ASSIGNOR TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

VACUUM TUBE AND SOCKET.

Application filed July 1, 1922. Serial No. 572,259.

This invention relates to electron discharge devices and sockets therefor.

Heretofore, it has been customary to provide electron discharge devices having different electrical characteristics with bases of the same size and having the same arrangement of terminals. Sockets for these devices have, likewise, been made the same size so that any one of the afore-mentioned tubes could be inserted in the same socket. When, however, a socket has been connected in a circuit adapted for use with a type of electron discharge device having certain characteristics, it is desirable that the possibility of substituting a device having different characteristics be prevented.

An object of this invention is a base and socket structure, such as to prevent indiscriminate use of electron discharge devices having different characteristics in a socket.

Another object of the invention is a base and socket structure for electron discharge devices such that the base and socket are limited to use with each other.

Another object of this invention is to modify the base and socket structure of vacuum tubes so that tubes having certain characteristics are limited to use with certain sockets.

Another object of the invention is a vacuum tube socket which will receive vacuum tubes having certain characteristics and exclude tubes not having these characteristics.

Referring now to the drawings, Fig. 1 is a plan view, partially broken away of a socket with a tube inserted.

Fig. 2 is a vertical section through a socket attached to to a panel with a tube inserted therein.

Fig. 3 is a bottom view, partially in section, of a tube base.

Fig. 4 is a side elevation of a tube.

Fig. 5 is a side elevation of a different type of tube.

A panel 10 has attached thereto a bracket 11, a portion 12 of which is parallel to and spaced from the panel. A pair of strips 13 and 14 of insulating material are attached to each end of the portion 12 by means of the bolts 15 and nuts 16. A pair of contact members 17 are held against each of the outer strips 14 by means of the nuts 16 and have their free ends projecting beneath an aperture in the portion 12 of the bracket 11, the ends of the contact

members being arranged substantially at the corners of a square. A shell or sleeve 18 is arranged in the aperture in the portion 12 and projects therefrom through an aperture in the panel 10. A plate 19 of insulating material is arranged intermediate the end of the shell 18 and the contact members 17, its ends being clamped between the strips 13 and 14. This plate is provided with apertures substantially in alignment with the ends of the contact members 17, three of which apertures 20 are of the same size and the diameter of the fourth of which, 21, is of substantially greater area than any of the others. In the end of the shell 18, extending through the panel 10, is provided a bayonet slot 22.

A vacuum tube to be used in connection with this socket comprises a base composed of a shell 23 of proper diameter to fit within the sleeve 18 from the outer surface of which projects a pin 24, which is adapted to cooperate with the bayonet slot 22 to lock the tube in the socket. In the outer end of the shell is arranged a web 25, the angular position of which relative to the pin 24 is determined by the engagement of the indenture 26, on the interior of the shell, with a depression in one of the arms of the web 25. Carried by each arm of the web 25 are terminals 27, each of which is of small enough diameter to be received within any of the apertures 20 in the plate 19. On one of the arms of the web 25 is a selector pin 28 so arranged with respect to the adjacent terminal 27 that it can be received only through the aperture 21 of the plate 19.

In the tubes and sockets designed for use with each other, the selector pin 28 is arranged adjacent the particular terminal which will make its angular position with respect to the pin 24, correspond to the angular position of the aperture 21 with respect to the bayonet slot 22. The position of the selector pin and large aperture will be varied for tubes of different characteristics so that only the tube designed for use with the particular socket can be inserted therein.

In the modification disclosed in Fig. 5, the selector pin 28 is dispensed with and the terminal 27^a is of such diameter that it can be inserted only through the aperture 21.

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

this device without departing from the spirit of the invention as expressed in the following claim.

The invention claimed is:

- 5 In combination, a vacuum tube socket and a vacuum tube having terminal pins, means associated with said socket and tube for definitely positioning the tube relative to the socket consisting of a selector pin on the tube

adjacent one of the tube terminal pins and an insulating plate on the socket having a large aperture for receiving both said selector pin and the adjacent terminal pin and a number of smaller apertures for receiving only the other terminal pins. 10 15

In witness whereof, I hereunto subscribe my name this 23rd day of June, A. D. 1922.

JOHN J. KUHN.