Dec. 25, 1928. 1,696,406

F. S. MASLEY ET AL

RADIO TUBE SOCKET

Filed April 28, 1924

Fig. 1.

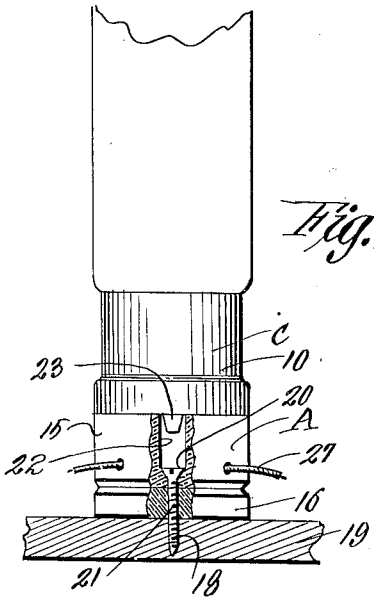


Fig. 4.

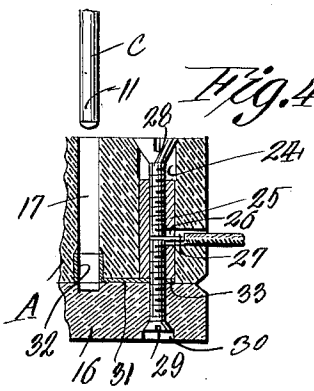


Fig. 5.

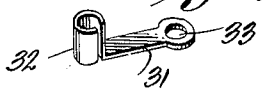


Fig. 2.

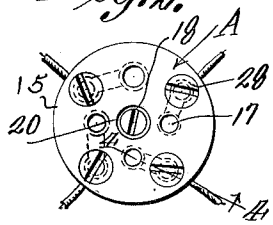


Fig. 9.

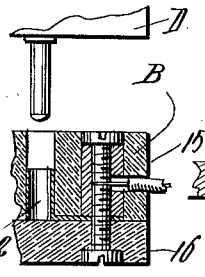


Fig. 6.

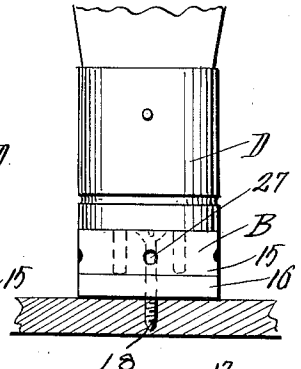


Fig. 3.

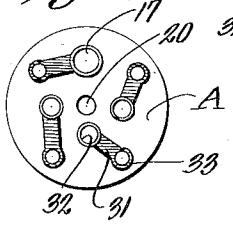


Fig. 8.

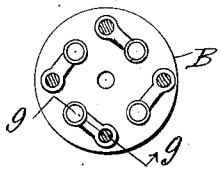
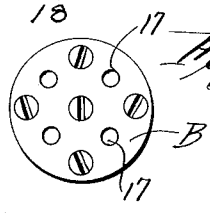


Fig. 7.



WITNESSES

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UNITED STATES PATENT OFFICE.

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RADIO TUBE SOCKET.

Application filed April 28, 1924. Serial No. 709,558.

This invention appertains to radio appliances and more particularly to sockets for audion detector and amplifying tubes.

The primary object of the present invention is to provide a novel audion tube socket of a compact structure, which will occupy a minimum amount of space and which can be easily secured to a panel or base block by the use of a single fastening element.

Another object of the present invention is the provision of a socket, which will be substantially of the same diameter as or of a smaller diameter than the tube base which is to be associated with the socket, the tube base being adapted to completely cover the outer face of the socket, whereby the socket will be effectively covered and protected from foreign elements, such as dust, dirt and the like.

A further object of the invention is the provision of a socket in which no metal connections are visible, and in which there are not loops to be connected by solder or the like, the terminal eyes being held in place by novel means forming a salient part of the socket.

A still further object of the invention is to provide an improved radio tube socket of the above character, which will be durable and efficient in use, one which will be simple and easy to manufacture, and one which can be placed upon the market at a small cost.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, in which drawings:

Figure 1 is a side elevation of the improved radio socket showing parts thereof broken away and a tube connected with said socket.

Figure 2 is a top plan view of the improved socket,

Figure 3 is a bottom plan view of the upper section of the socket,

Figure 4 is an enlarged fragmentary section through the socket taken on the line 4—4 of Figure 2 looking in the direction of the arrow,

Figure 5 is a detailed perspective view of one of the connector straps and socket sleeves,

Figure 6 is a side elevation of a slightly modified form of socket for a different type of tube, showing the tube connected with the socket,

Figure 7 is a top plan view of the modified type of socket,

Figure 8 is a bottom plan view of the upper section of the modified form of the socket, and

Figure 9 is an enlarged fragmentary section through the modified type of socket take on the line 9—9 of Figure 8.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letters A and B indicate two types of the improved socket, which are used for the two different types of tubes used most extensively by the trade, but it is to be understood that the sockets can be made for any preferred type of tube without departing from the spirit or the scope of this invention.

The socket A, as shown, is constructed for receiving a tube C, of the type known to the trade as the WD-11, in which the base 10 thereof is provided with socket pins 11 of different sizes so as to insure the placing of the tube in correct position in the base or socket.

As shown the socket A comprises an upper disk-shaped section 15 and a lower disk-shaped section 16 and both of these sections are formed of electric insulating material and the upper section is of a greater height or thickness than the lower section. As clearly shown the upper section 15 is provided at spaced points with socket openings 17 for the reception of the socket pins 11 of the tube C and these openings 17 are of a different size for receiving the different sized socket pins. These sections 15 and 16 are of substantially the same diameter as the diameter of the base and it is therefore obvious that when the tube is placed on the said socket that the entire upper face thereof will be completely covered and hid from view. The sections 15 and 16 of the socket are held together by the use of a screw 18 which is also employed for connecting the socket to a base or panel 19. As shown the axial center of the section 15 is provided with an opening 20 which communicates with an opening 21 formed in the axial center of the section 16. The opening 20 is enlarged in diameter adjacent to its outer

end as indicated by the reference character 22 for receiving the head of the screw 18. The axial opening 20 also receives the centering tit 23 formed on the lower face of the base 10 of the tube C. The section 15 intermediate the openings 17 are provided with enlarged openings 24 in which are fitted metallic electric conducting sleeves 25 the interior surfaces of which are provided with screw threads for a purpose, which will be hereinafter more fully described.

The electric conducting sleeves 25 are provided with radially extending openings 26 which communicate with openings 27 formed in the section 15 and which open out through the outer side surface thereof. These openings 27 and 26 are adapted to receive various wires leading to the socket and these wires are held in place by screws 28 and 29 which are threaded into the sleeves. The inner screws 29 are fitted into openings 30 formed in the base of the section 16 of the socket A and it can be seen that the heads of the screws 29 are countersunk within the lower face of the said section 16. These screws 29 also tend to hold the two sections of the socket A together and the screws also hold the conducting straps 31 and socket sleeves 32 in position. It is to be noted that the socket sleeves 32 and the conducting straps 31 are preferably formed of a single strip of metal and that the outer end of the conducting strap 31 terminates in an eye 33 through which is adapted to extend the screw 29 for holding the strap in place and for holding the strap in intimate contact with the sleeve 25. The socket sleeves 32 are fitted within the socket openings 17 as clearly shown in Figure 4 of the drawings and it is preferred to have these sleeves fitted in enlargements in the openings 17 whereby the inner surface of said socket sleeves will be flush with the walls of the said openings 17.

The socket B is constructed substantially in the same manner as the socket A with the exception that the socket openings 17 are formed all of the same size, in view of the fact that the pins of the type of tube for which the socket is made are all of the same size. The tube as indicated by the reference character D is of the type known to the trade as WD-12 or Cunningham Model C-300. It is to be also noted that in the socket B that the socket sleeves 32 are preferably formed of a greater length than the socket sleeves in the first form of socket.

From the foregoing description, it can be seen that we have provided an improved audion tube socket which is of an exceptionally simple and durable construction, and which will occupy a minimum amount of space when in use.

Changes in details may be made without departing from the spirit or the scope of this invention, but what we claim as new is:

1. A radio tube socket comprising a pair of solid circular sections formed of insulation, the outer section having a plurality of socket pin openings formed therein, bearing sleeves carried by the outer section, the sleeves having radially extending openings formed therein communicating with radially extending openings formed in the outer section, means for clamping a conducting wire to said sleeve, an electric conducting lug strap connected with said sleeve, socket sleeves formed on the lug straps and fitted in the socket pin openings, said lug straps being arranged between said sections, and means for connecting the sections together and to a support.

2. A radio tube socket comprising a body formed of insulation including a pair of separable solid disks, the outer disk having a plurality of pin sockets formed therein, socket sleeves fitted in the openings, socket straps formed on the sleeves arranged between the disks, the sections being provided with aligned openings between the socket openings, the outer section being provided with radially extending openings communicating with the last mentioned openings, electric conducting sleeves fitted within the openings arranged between the socket openings, holding screws extending through said sections and into said electric conducting sleeves, portions of the screws forming means for holding the conducting straps in place and in engagement with the electric conducting sleeves, the sections being provided with a single axially disposed fastening element in the receiving opening.

In testimony whereof they affix their signatures.

FRANK S. MASLEY.
ALBERT P. WASIL.