

May 10, 1927.

1,628,183

P. L. PENDLETON
ELECTRICAL MOUNTING OR CONNECTER

Filed Jan. 24, 1923

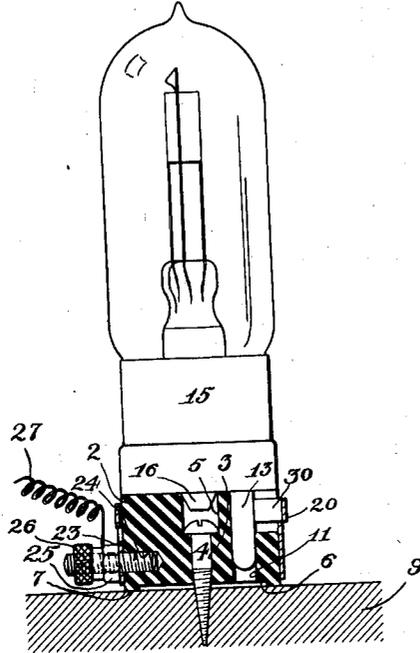


Fig. 1.

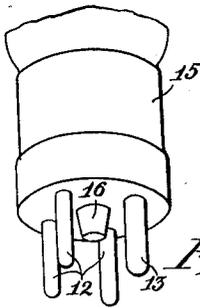


Fig. 4.

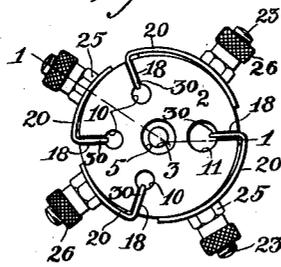


Fig. 2.

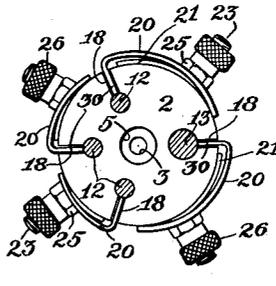


Fig. 3.

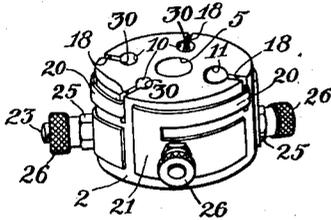


Fig. 5.

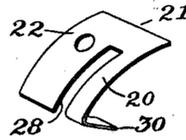


Fig. 6.

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UNITED STATES PATENT OFFICE.

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ELECTRICAL MOUNTING OR CONNECTER.

Application filed January 24, 1923. Serial No. 614,559.

This invention relates to improvements in electrical receptacles or mounting for holding vacuum tubes, bulbs or the like, and connecting them in circuit with the apparatus with which they are used.

One object of the invention is to provide a simple, compact receptacle or mounting for the tube or bulb which is more economical to manufacture and more efficient in use.

Another object of the invention is to provide a mounting having its electrical contacts arranged for more secure engagement with the terminals of the tube and less liable to become loosened and rendered inefficient for the purpose required.

Another object of the invention is to provide a device in which the parts may be more quickly and conveniently assembled and are less liable to become displaced or damaged in use.

Further objects of the improvement are set forth in the following specification which describes a preferred embodiment of the invention as illustrated by the accompanying drawings. In the drawings:

Fig. 1 is a sectional view of the improved mounting, taken in the vertical plane of its axis on the line 1—1 of Fig. 2, and illustrating a vacuum tube as applied thereto;

Fig. 2, a plan view of the mounting showing its electrical contacts;

Fig. 3, a similar view showing the terminal prongs or plugs of the tube in section in their sockets to illustrate the manner in which the contacts engage therewith;

Fig. 4, a perspective view of the base of the vacuum tube showing its terminals;

Fig. 5, a view in perspective of the complete receptacle or mounting; and

Fig. 6, a perspective view of one of the contact-elements of the device.

Referring to the drawings, the preferred form of my invention as herein shown comprises a cylindrical block 2 of insulating material such as hard rubber, composition, fiber or the equivalent. At the center of the block 2 is a hole 3 for the insertion of a screw, bolt or other fastening element, the head of the screw 4 being received in a counterbore 5. The bottom of the block 2 is preferably recessed at 6 to provide an annular rim 7 surrounding its periphery and adapted to seat against the base or other support 9 to which the mounting is attached by means of the screw 4. Spaced around

the axis of the block 2 are a plurality of bores 10 and 11, adapted to receive the prong-like terminals 12 and 13 which project from the base of the vacuum tube 15 to be held in the mounting. The tube or bulb 15 may be of any preferred type as usually employed in radio apparatus, and in its present form there are four terminals on its base. At the center of the base of the tube 15 is a tapered projection 16 adapted to seat in the axial counterbore 5 of the block 2 to assist in centering the tube thereon.

In certain types of vacuum tubes the terminal prongs or contacts at the base are made of different sizes to provide for the proper placing of the tube in relation to the respective contacts of the different electrical circuits with which the tube is to be connected. As herein shown, one terminal 13 is of larger diameter than the other prongs 12, and one of the bores 11 of the block 2 is correspondingly larger than the other bores 10. Due to this provision the tube 15 must invariably be placed in a certain definite relation to the contacts of the mounting before its prongs can be entered in the bores therein so that each terminal will be engaged with its respective contact of the several circuits of the electrical system. It is noted, however, that in some types of vacuum tubes all of the terminal prongs are of the same size, in which case the bores in the plug 2 are made of uniform diameter and any other suitable indexing means may be employed for registering the terminals with their respective contacts.

Referring particularly to Figs. 2, 3 and 5, the sides of the block or mounting 2 are provided with substantially radial slits 18 cut through from its periphery into the several bores 10 and 11. The slits 18 are cut to a depth of substantially one third the height or thickness of the block and are adapted to receive the contact-fingers 20 which project therethrough into the bores 10 and 11 to engage with the prongs 12 and 13 on the tube 15.

The contact-fingers 20 are preferably constructed as strips of sheet-metal forming portions of arcuate shaped plates 21, shown in detail in Fig. 6. The plates 21 are adapted to conform to the curved sides of the block 2 and their main portions 22 are fas-

tened thereagainst by means of screws or studs 23 threaded into tapped holes 24 in the block, see Fig. 1. The studs 23 serve a double purpose in providing binding-posts for the wires or conductors connected to the contacts of the mounting; a nut 25 being applied to each stud to tighten the plate 21 against the block 2, while a finger-nut 26 on the outer end of the stud furnishes the binding-means for the wire 27. To form the contact-fingers 20 the plates 21 are slitted longitudinally at 28 and the metal in the finger or strip 20 thus cut away is left somewhat longer than the main portion of the plate. The end of the strip 20 is then bent inwardly in a radial direction to form the contact point 30 which projects through the slit 18 in the block 2 to engage with the prongs of the tube 15.

Referring to Fig. 2 the fingers 20 are preferably sprung slightly outwardly away from the surface of the block 2 and their points 30 are of sufficient length to adapt them to enter some distance into the bores 10 and 11 in the block. When the tube 15 is placed in position on the mounting by entering its prongs 12 and 13 in their respective bores 10 and 11 the rounded ends of the prongs will engage the ends of the contact-points 20 and force the fingers 20 radially outward against their inherent spring tension. The fingers 20 may be spring-tempered to insure their permanent resiliency whereby they maintain a firm pressure on the sides of the tube terminals 12 and 13, and in this way a more secure and efficient electrical connection is provided.

It will be observed from the above description that my invention provides an extremely simple, inexpensive fitting or mounting for the purpose specified. My improved mounting is small in compass and particularly neat in appearance, and comprises only three different parts, the central block 2, contact-plates 21, and the binding-posts 23, all of which are economical to manufacture and convenient to assemble, besides providing for greater security of engagement between the several electrical contacts. The parts of the mounting are proof against damage or displacement and the complete device is more durable in use and less liable to derangement than similar devices heretofore employed in the art.

It is obvious that my improved mounting

is adapted for various uses as an electrical connector and may be applied to other purposes than that herein specified. Likewise, the construction and arrangement of the parts of the device may be varied without departing from the spirit or scope of the invention. Therefore, without limiting myself in this respect, I claim:

1. An electrical receptacle comprising a block of insulating-material provided with parallel holes for receiving the terminals of a vacuum tube, said block having slits leading from its outer surface into the holes and extending longitudinally thereof, and strips of conducting-material fastened to the outside of the block and provided with spring fingers having their ends projecting through the slits and radially into the holes in the block.

2. An electrical receptacle comprising a block of insulating-material provided with a plurality of parallel holes for the terminals of a vacuum tube, said block having slits cut through from its outer surface and communicating with the holes longitudinally thereof, and metal contact-elements fastened to the sides of the block and having portions bent to project through the slits and radially into the holes to adapt them to engage with the terminals held therein.

3. An electrical receptacle comprising a block of insulating material provided with a plurality of parallel holes for receiving the terminals of a vacuum tube, said block having slits cut through its sides to intersect the holes therein longitudinally thereof, and metal plates fastened to the sides of the block and formed with spring contact-fingers bent to project through the slits to enter the holes radially thereof.

4. An electrical mounting comprising a block of insulating material provided with a plurality of holes for the terminals of a vacuum tube, and having slits leading from the sides of the block into the holes, sheet-metal plates fitted to the sides of the block and slitted to provide spring-fingers having their terminals bent to project through the slits into the holes in the block, and screws extending through the plates to fasten them to the sides of the block while also serving as binding-posts for the wiring connections.

In testimony whereof I affix my signature.

PYAM L. PENDLETON.