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W. C. WOOTTON

2,968,787

TUBE CONNECTOR

Filed Dec. 5, 1957

FIG. 1.

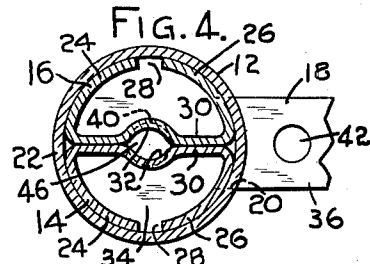
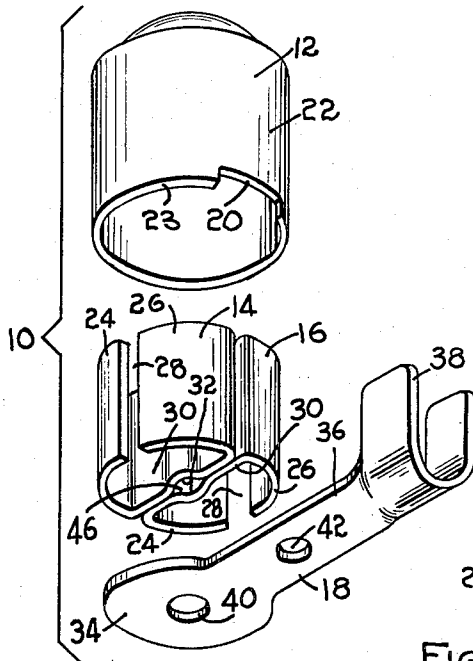


FIG. 5.

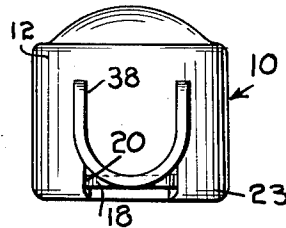


FIG. 6.

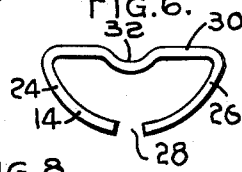


FIG. 7.

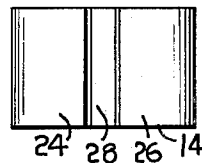


FIG. 8.

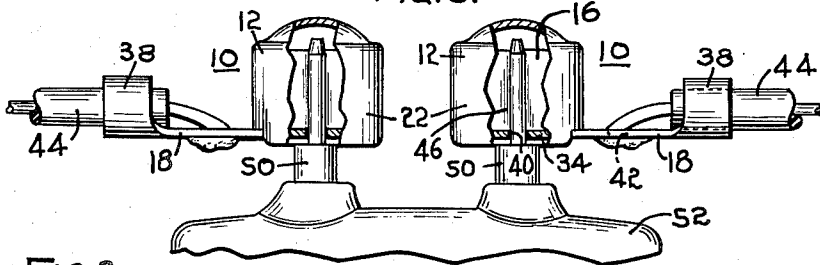


FIG. 2.

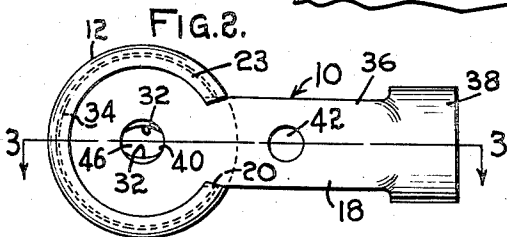


FIG. 3.

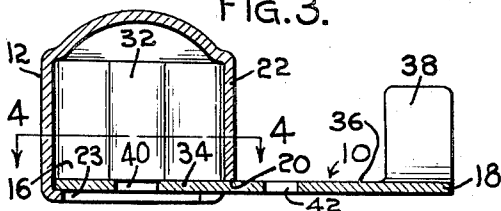
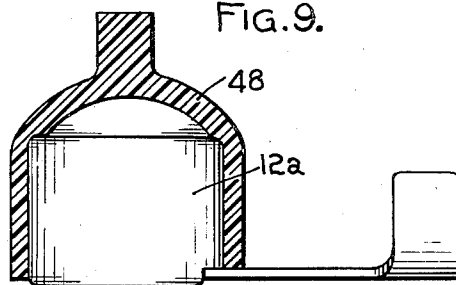


FIG. 9.



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2,968,787

TUBE CONNECTOR

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2 Claims. (Cl. 339—213)

This invention relates to electrical connectors and in particular refers to connectors of the type adapted to make external electrical connection to electron tubes or the like.

In high voltage radio or electronic circuits it is necessary to provide a connector to the end of a wire leading to the grid or plate terminal of a high voltage vacuum tube, and yet have a suitable rounded configuration to eliminate corona.

The object of this invention is to provide a connector assembly of improved construction especially suited to a wide range of tolerances in the tube contact diameter.

A further object of this invention is to provide a connector assembly having integral means for attachment to a lead wire.

Other objects of this invention will, in part, be obvious, and will, in part, appear hereinafter.

In the drawing:

Fig. 1 is a view in perspective showing the component parts axially aligned prior to assembly;

Fig. 2 is a bottom plan view of the assembly;

Fig. 3 is a view in section of the assembly taken on line 3—3 of Fig. 2;

Fig. 4 is a view in section taken on line 4—4 of Fig. 3;

Fig. 5 is a view of the assembly of Fig. 3 as seen from the right side;

Fig. 6 is a plan view of one of the contact elements;

Fig. 7 is a view in elevation of the contact element as shown in Fig. 6;

Fig. 8 is a view in elevation, partly in section of the application of the assembly to an electron tube; and

Fig. 9 is a view partly in section of a modified form of the assembly.

Referring to the drawing there is illustrated a tube connector 10, comprising a housing 12, resilient contact elements 14 and 16 and a bottom plate 18.

The housing 12 may be constructed from any suitable material but it is shown in the specific embodiment as constructed of metal and formed into a hollow cup-like form being open at its bottom with a notched portion 20 cut out of the wall 22 providing downwardly extending flange portions 23.

The contact elements 14 and 16 are formed of resilient sheet metal strips and are bent to a generally C-shaped form having two curved arms 24 and 26 separated by a gap 28 and a base portion 30. The base portion 30 is deformed in the direction of the gap 28 defining a semi-spherical indentation 32.

The bottom plate 18 comprises a circular portion 34 of slightly lesser cross sectional area than the interior of the housing 12 with an outwardly projecting arm 36 terminating in a wire receiving lug 38 struck upwardly from the arm and substantially perpendicular thereto. The circular portion 34 has an aperture 40 adapted to be axially aligned with the semi-spherical indentation 32 of

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the contact elements 14 and 16 when the bottom plate is assembled with the housing. A second aperture 42 is located at a medial portion of the arm 36 as a means for retaining an external wire 44.

To assemble the connector, the contact elements 14 and 16 are inserted within the housing 12 so that the base portions 30 are in a back to back relationship with the semi-spherical indentations 32 forming a prong receiving aperture 46 and the curved arms 24 and 26 resiliently bearing against the inner contour of the housing. The bottom plate 18 is fitted within the downwardly extending flange portions 23 with the arm 36 extending through the notched portion 20 of the wall 22. By bending the flange 23 over the edges of the bottom plate 18, the assembly will firmly be retained in position. The external wire 44 is clinched between the wire receiving lug 38 with a bare end soldered to the aperture 42 as shown in Fig. 8.

A modified form of the connector is shown in Fig. 9 in which the housing 12a is completely encapsulated within an organic polymer such as tetra-fluoro-ethylene 48 in such a manner as to completely insulate the device.

To install the connector, it is pressed onto a prong 50 of an electron tube 52 with the prong entering the aperture 40 of the bottom plate 18 which is axially aligned with the aperture 46, guiding the prong into engagement with the contact elements 14 and 16. It will readily be seen that due to the resilient characteristics of the contacts, the wall of the aperture 46 is adapted to care for variation in tube prong diameters.

Since certain other obvious modifications may be made in the device without departing from the scope of the invention, it is intended that all matters contained herein be interpreted in an illustrative and not in a limiting sense.

I claim:

1. An electrical connector comprising a domed housing having C-shaped resilient spring contact members disposed therein, base portions of said contact members lying in abutting relationship with the curvilinear portions following the inner contour of said housing, medial sections of said base portion being deformed to provide a cylindrical prong receiving opening and an apertured bottom member assembled with said housing at one end having means thereon to maintain electrical continuity to an external source.

2. An external contact for electron tubes comprising a cup shaped housing of insulating material, metal contact members disposed in said housing, each of said contact members being substantially C-shaped with two curved portions following the inner contours of the housing and a base portion connecting said curved portions, said base portions being disposed in a back to back relationship along the diameter of the housing with a medial portion of each base portion deformed to provide a prong receiving aperture therebetween, an apertured metal bottom member assembled with said housing, said member having integral wire attaching means disposed thereon.

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