March 30, 1926. 1,579,156

J. H. SIEMANN

ELECTRICAL CONTACT FOR TERMINALS OF VACUUM TUBES

Filed May 2, 1924

Fig. 1.

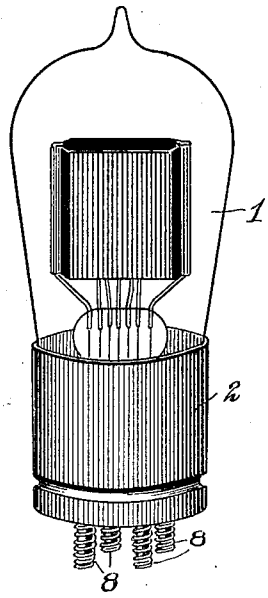


Fig. 2.

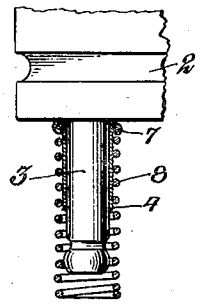


Fig. 3.

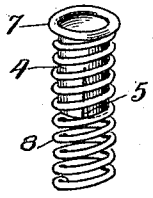


Fig. 4.

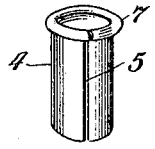
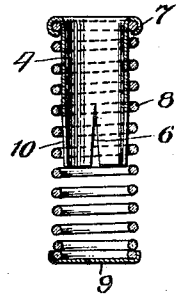


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

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ELECTRICAL CONTACT FOR TERMINALS OF VACUUM TUBES.

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To all whom it may concern:

Be it known that I, JOHN H. SIEMANN, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented new and Improved Electrical Contacts for Terminals of Vacuum Tubes, of which the following is a full, clear, and exact description.

This invention relates to electrical contacts for prongs of vacuum tubes. An object of the invention concerns the provision of means whereby a simple attachment to the ordinary prongs of a vacuum tube or similar device will always insure the making of a very substantial and sure contact between the prongs and the spring plates of the socket into which the tube may be inserted.

Another object concerns the provision of means whereby this attachment to the ordinary vacuum tube can be readily made by any one not particularly skilled in such work, and also to provide means whereby this attachment can be manufactured and sold at a very low figure.

The invention is illustrated in the drawings, of which—

Figure 1 is a side elevation of the tube with the invention applied:

Fig. 2 is an enlarged view of the lower end of the tube showing the device attached to one of the prongs;

Fig. 3 is a perspective view of the device by itself;

Fig. 4 is a perspective view of one of the sleeves; and

Fig. 5 is an enlarged sectional view of a modified form of the device.

The form of the invention shown in the drawings is a preferred form, although it is understood that modifications in the construction and arrangement of the parts and in the character of the materials used may be adopted without departing from the spirit of the invention as set forth in the appended claims.

Heretofore it has often been found the case that in inserting a vacuum tube into its socket the prongs on the tube do not always make a firm and sure contact with the spring fingers forming the prongs in the socket into which the tube is introduced. Sometimes these spring fingers get out of alinement or become bent back too far and as a consequence the tube does not function properly.

I provide, however, a simple resilient member, which can be slipped over or otherwise connected to the prongs of the tube, which will always insure a good, firm contact between the tube and socket terminals. In its general aspect the invention comprises a resilient member attached at one end to the prong of the tube and extending beyond the end of the terminal to form a spring or resilient contact member which will bear on the spring fingers of the socket and by reason of their resiliency will always make good contact therewith.

Another aspect of the invention includes the possible provision with the spring attachment of a sleeve to which one end of the spring is connected, this sleeve being adapted to be slipped easily over the end of the prongs of the vacuum tube to frictionally engage therewith so that the attachment ordinarily does not require being soldered to the vacuum tube stem.

The preferred embodiment of the invention as shown in the drawings is adapted to be attached to a vacuum tube 1 having a base portion 2 and a plurality of prongs such as 3 depending therefrom. In the preferred form of the invention I propose to slip a sleeve 4 of any suitable material, such as spring metal, over the end of any one or more of the prongs 3. This tube, as shown in Fig. 4, is preferably slotted, as at 5, along the whole length of the sleeve or only part way as shown at 6 in Fig. 5. Preferably this tube is made of spring material and of such diameter that it will frictionally engage with the prong 3 over which it is placed, and under ordinary conditions need not be soldered to said prong. Preferably I roll over the upper end 7 of said tube so as to thus engage, as shown in Figs. 2 and 5, the upper turn of a coil spring 8. This coil spring extends downwardly a suitable distance along the prong 3 and beyond the lower end of the prong. The idea of the device is to have the lower turns of the spring 8 contact with the usual spring fingers of the vacuum tube socket, acting as a resilient contact member which will always engage with the spring fingers even though they may not be quite in alignment or even though they may be bent away from their normal position.

As shown in Fig. 5, I may attach to

the bottom coil of the spring 8 a plate 9 which will act as the direct contact member with the fingers of the socket.

Preferably, in the form shown in Fig. 5, the lower end of the sleeve may be slightly tapered inwardly, as shown at 10, so as to make the grip between the sleeve and the vacuum tube stem 3 a little more positive. This device as shown in Figs. 3 and 5 can be made extremely economically and sold at a low figure. By buying a number of these, the ordinary radio fan can readily slip them on the prongs of his vacuum tubes when such tubes do not seem to make proper contact. If desired, of course the sleeves 4 can be soldered to the prongs 3 but this method is not necessary or desirable in most cases because then it is more difficult to remove the device from the prongs when desired.

What I claim is:—

1. A contact device for vacuum tube prongs, which comprises a sleeve adapted to be frictionally disposed over a prong, a coil spring fixed to said sleeve and surrounding the said sleeve, said spring extending below the lower end of the prong to make contact with the terminal of a vacuum tube socket.

2. A contact device for vacuum tube prongs, which comprises a slotted sleeve to be slipped over the prongs of the vacuum tube and to frictionally engage therewith, and a coil spring connected at one end to the sleeve and extending downwardly around the prong beyond the end thereof to make resilient contact.

3. A contact device for vacuum tube prongs, which comprises a slotted sleeve to be slipped over the prongs of the vacuum tube and to frictionally engage therewith, a coil spring connected at one end to the sleeve and extending downwardly around the prong beyond the end thereof to make resilient contact, and a cap fastened to the lower turn of said coil spring.

JNO. H. SIEMANN.