

UNITED STATES PATENT OFFICE

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ELECTRICAL SOCKET

Clarence Willans Heath, Nottinghamshire, England, assignor to United-Carr Fastener Corporation, Cambridge, Mass.

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2 Claims. (Cl. 173-323)

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This invention relates to holders for thermionic valves, plugs and other electrical devices having projecting pins.

It is an object of the present invention to provide a holder having means adapted to ensure good electrical contact of the inserted pins with the contacts of the holder.

According to the present invention a holder for thermionic valves, plugs or other electrical devices comprises an upper plate of insulating material having apertures to receive the valve or plug pins, and at least one lower plate of insulating material, a resilient metal contact arm being disposed beneath each pin aperture with its upper end in rubbing engagement with a bush or guide member of insulating material, the arrangement being such that an inserted pin is guided to engage the contact arm which by its resiliency bears on the pin to make an efficient electrical contact therewith.

To enable the invention to be fully understood it will now be described with reference to the accompanying drawings, in which:

Fig. 1 is a sectional elevation on an enlarged scale of a thermionic valve holder embodying one form of the invention,

Fig. 2 is a plan view thereof,

Fig. 3 is a plan view of the bush with two contacts indicated by dot-dash lines, and

Fig. 4 is a side elevation of the bush shown in Fig. 3.

As shown in the accompanying drawings the valve holder comprises an upper plate 1 of insulating material having a central aperture 2 and a series of valve pin apertures 3. Spaced from the plate 1 are provided a pair of lower plates 4, 5 formed of insulating material and each having a central aperture aligned with the aperture 2 through which extends a central rectangular socket 6. A series of resilient metallic contacts are provided comprising arms 7 extending between the pair of plates 4, 5 and the plate 1, an arm 7 being located beneath each aperture 3. The contacts are secured by clamping the portions 8 between the plates 4, 5 and bending the ends 9 to form wiring tags.

A bush 10 of insulating material is located beneath the plate 1, the bush having a rectangular aperture 11 into which the central rectangular body portion of the socket 6 is entered to assemble the bush with the socket.

The bush is preferably formed of resilient material, such as for example polyethylene or polyvinyl chloride, and comprises an outer wall consisting of sloping surfaces 12, 13 which form a V having its apex at 14.

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As shown in Fig. 1 the contact arms 7 are bent adjacent to the free end to form a V-shape providing a portion 7a, inclined toward the bush 10, and a portion 7b inclined away from the bush. The apices of the V's formed by the bush walls and contact arm are arranged in abutment to form a throat through which the projecting pins of the valve or plug device are adapted to be inserted to make electrical engagement with the contact arms.

When a thermionic valve is mounted on the holder, its projecting pins are inserted into the apertures 3 and extend between the contact arms and the bush to make electrical connection with the arm. Should the valve pins be slightly distorted or misaligned, the pin will engage the wall 12 and be guided into engagement with the arms 7.

When a resilient bush is provided an added advantage results in that the resiliency of the bush tends to exert a pressure on an inverted valve pin opposite and equal to that exerted on the pin by the resilient contact arm 7 and accordingly the pin is held in a state of equilibrium and there is little tendency for the pin to become loose, or to be broken away from the valve base due to unequal lateral thrust.

The bush is provided with a series of ribs 15 which divide the outer wall of the bush into a series of compartments each of which is adapted to receive a contact 7, the ribs 15 accordingly form walls screening adjacent contacts from one another.

The socket 6 is adapted to secure the superposed plates together, the holder being assembled by first fitting the plates 4 and 5 with the pre-assembled contact arms 7, over the socket so that the plate 5 rests on a shoulder on the socket; the guide bush 10 is then fitted over the socket 6 to form a spacer between the plate 1 and the pair of plates 4, 5. The plate 1 rests on a shoulder at the upper end of the socket and the outer flanges 6a are turned over the upper face of the plate 1 to secure the parts together.

I claim:

1. A holder for thermionic valves, electrical plugs, and like electrical devices having connector pins, said holder comprising a central socket member, a pair of plates of insulating material secured to said central socket member adjacent one end thereof, a plate of insulating material secured to an opposite end of said socket member in spaced superposed relation to said pair of plates and provided with a series of pin-receiving apertures, a resilient guide bush of insulating material surrounding said socket member and extending

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between said apertured plate and said pair of plates, said bush having guide portions, each of said guide portions having outwardly sloping walls extending from opposite ends of said bush to form a V and meeting at an apex, and a series of electrical contacts, each having a vase secured between said pair of plates and a resilient strip arm portion extending toward said apertured plate and bent to form a V with an apex in abutment with the apex of the sloping walls of an adjacent one of said guide portions providing with said sloping walls a V-shaped throat for receiving a connector pin inserted into an adjacent one of pin-receiving apertures and causing electrical engagement between said pin and said arm.

2. A holder for thermionic valves, electrical plugs, and like electrical devices having connector pins, said holder comprising a central socket member, a pair of plates of insulating material secured to said central socket member adjacent one end thereof, a plate of insulating material secured to an opposite end of said socket member in spaced superposed relation to said pair of plates and provided with a series of pin-receiving apertures, a guide bush of insulating material surrounding said socket member and extending between said apertured plate and said pair of plates, said bush having a guide portion disposed adjacent one of said pin-receiving apertures, said

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guide portion having outwardly sloping walls extending from opposite ends of said bush to form a V and meeting at an apex, and an electrical contact having a base clamped between said pair of plates and a resilient strip arm portion extending toward said apertured plate and bent to form a V with an apex in abutment with the apex of the sloping walls of said guide portion providing therewith a V-shaped throat for receiving a connector pin inserted into said adjacent pin-receiving aperture and causing electrical engagement between said pin and said arm.

CLARENCE WILLANS HEATH.

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