

SPECIFICATION

Improvements in or relating to plug pins

Description of invention

Plug pins of the kind which are rectangular in cross-section are conventionally formed from solid metal (e.g. brass) by cropping from a continuous sheet of appropriate thickness and cross-section, or by severing from a continuous length of solid extruded metal.

According to this invention, there is provided a plug pin of the kind comprising a pin shank of generally rectangular cross-section, a tip of the shank being of reduced cross-section to facilitate the insertion of the pin into an electric socket aperture, the plug pin having been formed by a deep drawn pressing operation, and the shank having an interior cavity extending therein.

The plug pin thus comprises a shank having an exterior surface which, in use, is engaged in the aperture of an electric socket, which is unbroken, and which has an interior cavity extending thereinto.

Preferably the pin comprises an adjustable terminal member, by which wiring may be secured to the pin, at least part of the terminal member, when the pin is in use, extending into the interior cavity of the shank. Preferably the pin comprises a terminal block desirably being of relatively robust construction (e.g. being of solid metal) conveniently being provided with a screw-threaded aperture into which the terminal member, which may be in the form of a screw, may be inserted and by the use of which electrical contact between the pin and such wiring may be established.

The terminal block may be secured to the shank of the pin by for example, welding, or may be secured to the shank by the use of screw threaded means, which conveniently is afforded by the screw used to establish electrical contact between the pin and such wiring.

The shank may comprise a terminal portion which is larger at least in one cross-sectional dimension than the remainder of the shank, in which the terminal block is or may be located.

The invention will become clearer, from the following detailed description, to be read with reference to the accompanying drawings, of four plug pins which are embodiments of the invention, and which have been selected to illustrate the invention by way of example.

In the accompanying drawings:

Figures 1 and 2 are respectively side sectional and end elevational views of the first embodiment;

Figures 3 and 4 are respectively side and front sectional views of the second embodiment;

Figure 5 is a view showing a modified section of the second embodiment;

Figures 6 and 7 are respectively side sectional and front sectional views of the third embodiment;

Figures 8, 9 and 10 are respectively a side

sectional, front and end elevational views of the fourth embodiment of the invention.

The plug pin which is the first embodiment of this invention comprises a pin shank 6 having a major portion 8 of generally rectangular cross-section which, in use, is engaged in the aperture of an electric socket, the tip of the shank being of reduced cross-section, as shown in the drawings, to facilitate the insertion of the pin into an electric socket aperture. A terminal portion 10 of the shank is larger than the major portion 8 in at least one cross-sectional dimension. The shank of the pin is manufactured by a deep drawn pressing operation, being provided with an interior cavity 12 and a continuous exterior surface 14.

The pin which is the first embodiment of this invention also comprises an adjustable terminal member, afforded by a threaded screw 16, which is threadedly received in and extends through an aperture 18 afforded in the terminal portion 10 to the interior cavity 12 of the pin. The screw 16 may be loosened to permit an electric wire to be wound around the shank thereof, and subsequently tightened to clamp the electric wire against a clamping member 20 mounted on the screw.

The pin which is the second embodiment of this invention (see Figures 3 and 4) is generally similar to the first embodiment and comprises a shank 26, formed of metal by a deep drawn pressing operation, being afforded with an interior cavity 32, and a terminal block 36 of metal, afforded with a tongue 38, and two transverse and intersecting bores 40, 42, the latter of which being threaded to receive an adjustable clamping screw 44. The tongue 38 of the block 36 is inserted into the interior cavity 32 of the pin shank. By loosening of the screw 44, electric wiring may be inserted into the bore 40, and clamped therein by subsequent tightening of the screw 44.

In a modified form of the second embodiment illustrated in Figure 5, the cross-section of the shank 26 of the pin is altered in the region thereof remote from the leading end portion, more securely to accommodate a complementarily-shaped tongue 38 afforded on the block 36.

In the third embodiment illustrated in Figures 6 and 7, the shank 46 of the pin is likewise of generally rectangular cross-section being formed of metal by a deep drawn pressing operation, comprising a major portion 48 having cross-sectional dimensions which will permit the major portion to be inserted into the aperture of an electric socket, a tip of reduced cross-section to facilitate the insertion of the pin into the electric socket aperture, and a terminal portion 50 larger than the major portion 48 in at least one cross-sectional dimension.

Located within that part of the interior cavity 52 of the pin shank which is afforded by the terminal portion 50 is a terminal block 56, which is secured within said portion of the interior cavity by a subsequent "peening over" of lips 58, 58. The terminal block 56 is afforded with transverse,

intersecting bores 60, 62, the latter of which being threaded to receive an adjustable terminal member afforded by a screw 64. The bore 60 is aligned with a through bore 54 extending through the side walls of the terminal portion 50, and by loosening of the screw 64 and inserting an electric wire through the bores 54 and 60, and subsequently tightening the screw 64, an electric wire may be clamped in conductive engagement with the pin 46.

The pin which is the fourth embodiment of this invention is similar to the third embodiment, other than as regards the terminal block which is, in the case of the fourth embodiment, in the form of a rectangular nut 76 loosely located within that portion of the interior cavity 72 afforded by the terminal portion 70 of the pin shank. A screw 84 extends through an aperture 74 in one wall of the terminal portion, and is threadedly engaged with the rectangular nut 76. By loosening of the screw 84, an electric wire may be wrapped around the shank of the screw 84, and by tightening of the screw 84 may be clamped against the said wall of the terminal portion 70 of the pin shank.

25 Claims

1. A plug pin of the kind comprising a pin shank of generally rectangular cross-section, a tip of the shank being of reduced cross-section to facilitate the insertion of the pin into an electric socket aperture, the plug pin having been formed by a deep drawn pressing operation, and the shank having an interior cavity extending therein.

2. A plug pin according to Claim 1 comprising an adjustable terminal member, by which wiring may be secured to the pin.

3. A plug pin according to Claim 2 wherein the

terminal member comprises a screw which is threadedly received in an aperture in the wall of the shank.

4. A plug pin according to Claim 2 comprising a terminal block fixedly secured relative to the shank of the pin, the terminal member being provided by a screw which may be threadedly received in an aperture of the terminal block.

5. A plug pin according to Claim 4 wherein the terminal block is fixedly secured to the shank of the pin by welding, or adhesively securing, or the like, of a portion of the terminal block to the part of the pin shank.

6. A plug pin according to Claim 4 wherein the terminal block is fixedly secured to the pin of the shank by deformation of a part of the pin shank subsequent to the insertion of the terminal block or part thereof into the interior cavity.

7. A plug pin according to Claim 2 wherein the terminal member is provided by a screw, and the plug pin comprises a terminal block which is retained within or partly within the interior cavity by said screw which passes through an aperture in the wall of the shank into threaded engagement with the terminal block.

8. A plug pin according to any one of the preceding claims wherein the shank comprises an inner-end terminal portion which is larger in at least one cross-sectional dimension than the majority of the shank.

9. A plug pin constructed and arranged substantially as hereinbefore described, with reference to (a) Figures 1 and 2, (b) to Figures 3 and 4, or as modified by Figure 5; (c) Figures 6 and 7, or (d) Figures 8, 9 and 10 of the accompanying drawings.



intersecting bores 60, 62, the latter of which being threaded to receive an adjustable terminal member afforded by a screw 64. The bore 60 is aligned with a through bore 54 extending through the side walls of the terminal portion 50, and by loosening of the screw 64 and inserting an electric wire through the bores 54 and 60, and subsequently tightening the screw 64, an electric wire may be clamped in conductive engagement with the pin 46.

The pin which is the fourth embodiment of this invention is similar to the third embodiment, other than as regards the terminal block which is, in the case of the fourth embodiment, in the form of a rectangular nut 76 loosely located within that portion of the interior cavity 72 afforded by the terminal portion 70 of the pin shank. A screw 84 extends through an aperture 74 in one wall of the terminal portion, and is threadedly engaged with the rectangular nut 76. By loosening of the screw 84, an electric wire may be wrapped around the shank of the screw 84, and by tightening of the screw 84 may be clamped against the said wall of the terminal portion 70 of the pin shank.

25 Claims

1. A plug pin of the kind comprising a pin shank of generally rectangular cross-section, a tip of the shank being of reduced cross-section to facilitate the insertion of the pin into an electric socket aperture, the plug pin having been formed by a deep drawn pressing operation, and the shank having an interior cavity extending therein.

2. A plug pin according to Claim 1 comprising an adjustable terminal member, by which wiring may be secured to the pin.

3. A plug pin according to Claim 2 wherein the

terminal member comprises a screw which is threadedly received in an aperture in the wall of the shank.

4. A plug pin according to Claim 2 comprising a terminal block fixedly secured relative to the shank of the pin, the terminal member being provided by a screw which may be threadedly received in an aperture of the terminal block.

5. A plug pin according to Claim 4 wherein the terminal block is fixedly secured to the shank of the pin by welding, or adhesively securing, or the like, of a portion of the terminal block to the part of the pin shank.

6. A plug pin according to Claim 4 wherein the terminal block is fixedly secured to the pin of the shank by deformation of a part of the pin shank subsequent to the insertion of the terminal block or part thereof into the interior cavity.

7. A plug pin according to Claim 2 wherein the terminal member is provided by a screw, and the plug pin comprises a terminal block which is retained within or partly within the interior cavity by said screw which passes through an aperture in the wall of the shank into threaded engagement with the terminal block.

8. A plug pin according to any one of the preceding claims wherein the shank comprises an inner-end terminal portion which is larger in at least one cross-sectional dimension than the majority of the shank.

9. A plug pin constructed and arranged substantially as hereinbefore described, with reference to (a) Figures 1 and 2, (b) to Figures 3 and 4, or as modified by Figure 5; (c) Figures 6 and 7, or (d) Figures 8, 9 and 10 of the accompanying drawings.