

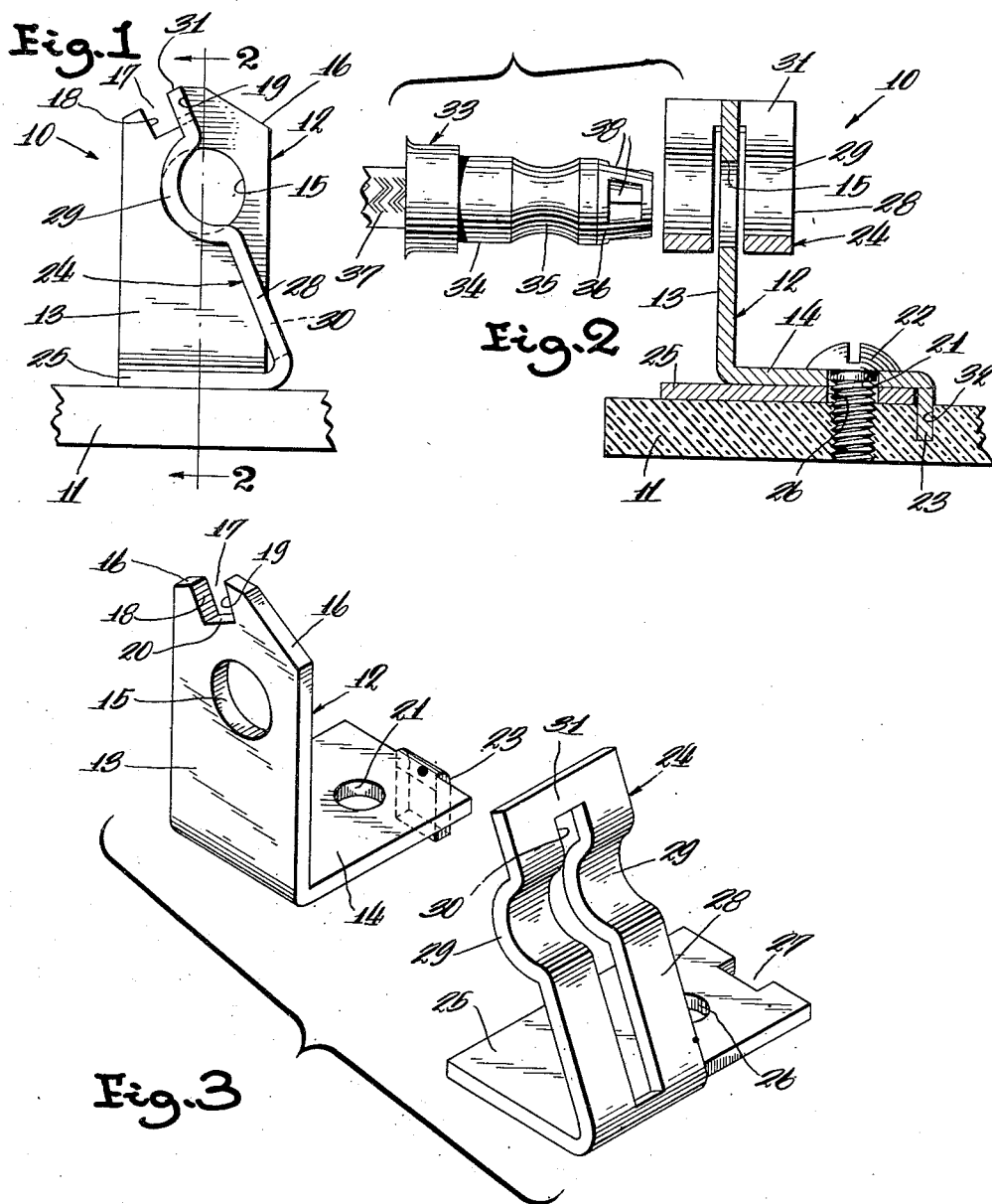
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ELECTRICAL CONNECTION MEANS

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## ELECTRICAL CONNECTION MEANS

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My invention relates to electrical connection means, and more particularly to means for receiving conductor terminals of the snap type, and the principal object of my invention is to provide new and improved electrical connection means of these types.

In the drawing accompanying this specification and forming a part of this application, I have shown, for purposes of illustration, one form which my invention may assume, and in this drawing:

Figure 1 is an elevational view of the embodiment of my invention,

Figure 2 is a section taken on the line 2—2 of Figure 1, and including, in addition, a plug conductor terminal adapted to cooperate therewith, and

Figure 3 is a perspective view of the parts comprising the embodiment shown in Figures 1 and 2, the parts being shown in disassembled relation.

The embodiment of my invention herein shown comprises a terminal post 10, suitably mounted on a base 11. The terminal post 10 includes a body 12, here shown as made of sheet metal stock, bent in a generally right angular formation. The body 12 includes a generally vertical wall 13, and a generally horizontal wall 14, the latter wall serving as a foot for the body 12, and being integral with the vertical wall 13 and extending at right angles from the lower end thereof.

The terminal post 10 is provided with a plug terminal receiving recess, here shown as including a circular aperture 15 formed in the vertical wall 13. The top part of the vertical wall 13 is provided with downwardly slanting surfaces 16, and as shown in Figures 1 and 3, the left hand surface 16 is provided with a recess 17, having marginal walls 18 and 19, and a bottom wall 20. The horizontal wall 14 is provided with an aperture 21, spaced from the vertical wall 13, and adapted for the reception of suitable fastening means, here shown to be a screw 22 passing through the aperture 21, and having its screw-threaded end engageable with a screw-threaded aperture formed in the base 11. A margin of the horizontal wall 14 is provided with a downwardly struck projection 23 for a purpose to hereinafter appear.

Biasing means 24 are provided for cooperation with the body 12, and comprise a generally plane elongated horizontal wall 25, formed with an aperture 26 and a slot 27. Extending angularly upwardly from a portion of a longitudinal margin of the horizontal wall 25, and integral therewith,

is a generally plane leg 28, provided with a curved portion 29, here shown to be substantially semi-cylindrical, and disposed intermediate the free end of the leg 28 and the junction of this leg with the horizontal wall 25. The leg 28 is also provided with a relatively narrow slot 30, preferably of a width to freely pass the thickness of the vertical wall 13 of the body 12, and extending from a point adjacent the junction of the leg 28 with the horizontal wall 25, to a point short of the free end of the leg 28, forming at this end a spanning or abutting surface 31.

Referring to Figure 3, the parts comprising the terminal post 10 may be assembled by tilting the top of the body 12 to the right and threading the vertical wall 13 thereof through the slot 30 formed in the leg 28 of the biasing means 24, until the slot 17 in the vertical wall 13 is adjacent the abutting surface 31 of the leg 28. The biasing member 24 is then shifted relative to the body 12 so that the abutting surface 31 is disposed in the slot 17, and then rotated so that the horizontal wall 14 of the body 12 overlies the horizontal wall 25 of the biasing means 24.

It will be appreciated that the body 12 and biasing means 24 have been preformed so that apertures 21 and 26, formed respectively in the horizontal walls 14 and 25, are in alignment and the struck down portion 23 is closely accommodated in the slot 27. With the parts in this position, the screw 22 is inserted through the aligned apertures 21 and 26, and the screw-threaded end thereof is engaged with the screw-threaded aperture in the base 11. To prevent the terminal post 10 from turning about the screw 22, the upper surface of the base 11 is provided with a recess 32 to closely accommodate that part of the struck down portion 23 projecting from the horizontal wall 25.

As shown in Figure 1, the leg 28 of the biasing means 24 is adapted to swing about the portion of the biasing means adjacent the junction of the leg 28 with the horizontal wall 25. The leg 28 is yieldably urged to the right, and movement in this direction is opposed by contact of the abutting surface 31 with the marginal wall 19 of the slot 17. The leg 28 may be sprung to the left, and movement in this direction is limited by contact of the abutting surface 31 with the marginal wall 18 of the slot 17. The marginal walls 18 and 19 of the slot 17 have been spaced so that the end of the leg 28 of the biasing means 24 will be positively stopped thereby, before the elastic limit of the metal forming the biasing means 24 is reached. The curved portion 29 of

the leg 28, when the biasing means 24 is assembled with the body 12, cooperates with a part of the aperture 15 to form a recess smaller in area than the area of the aperture 15. However, the leg 28 may be moved so that curved portion 29 will expose the full area of the aperture 15, and in this position the curved portion 29 is substantially concentric with the aperture 15.

In Figure 2 is shown a plug conductor terminal 33 adapted to cooperate with the terminal post 10, and comprising a generally cylindrical portion 34 provided with an annular furrow 35 and a frusto-conical end 36. A conductor 37, disposed within the plug conductor terminal 33, may be fastened thereto, as by swedging, indicated by the swedge indentations 38 in the frusto-conical end 36.

To move the plug conductor terminal 33 to operative position with respect to the terminal post 10, the frusto-conical end 36 is inserted into the aperture 15, initial insertion causing the tapered surfaces of the frusto-conical end to engage the curved portion 29 and marginal walls of the recess 15 and cam the leg 28 of the biasing means 24 to the left, as viewed in Figure 1. Further insertion will align the annular furrow 35 with the aperture 15 and the curved portion 29 of the leg 28 will force the plug conductor to snap into the aperture 15, with the surface of the annular furrow 35 in engagement with the marginal wall of the aperture 15. It will be appreciated that the plug conductor terminal 33 may be withdrawn from operative engagement with the terminal post 10 by pressing on the free end of the leg 28 to move the leg to the left. The plug conductor terminal 33 may also be withdrawn by pulling thereupon, this force causing the curved surfaces of the annular furrow 35 to cam the leg 28 to the left to permit withdrawal of the plug conductor terminal 33. The plug conductor terminal 33 may also be inserted by moving the leg 28 clear of the aperture 15, inserting the plug conductor, and then letting the leg 28 spring back to engagement with the plug conductor, but regardless of the manner of insertion or withdrawal, it will be evident that the leg 28 is positively stopped, in both directions of movement, so that it cannot be sprung past the elastic limit and take on a new set.

From the foregoing it will be apparent to those skilled in the art that the illustrated embodiment of my invention provides a new and improved elec-

trical contact and connection means, economical in construction and assembly, and accordingly, accomplishes at least the principal object of my invention. It further will be obvious to those skilled in the art that the illustrated embodiment of my invention may be variously changed and modified without departing from the spirit of my invention, or sacrificing all of the advantages thereof, and that accordingly, the disclosure herein is illustrative only, and my invention is not limited thereto.

I claim:

1. Receptacle means, comprising: a wall, having an aperture for receiving a conductor terminal, and having also a recess formed in a marginal surface; and a sheet metal member, having a part fixed with respect to said wall, and a leg provided with a slot terminating short of the extremity of said leg, said slot being proportioned to receive said wall, and said leg being constructed and arranged to move transversely with respect to said aperture, the extremity of said leg being engageable with spaced margins of said wall recess to limit movement of said leg.

2. Receptacle means, comprising: a wall, having an aperture for receiving a conductor terminal, and having also a recess formed in a marginal surface; and a sheet metal member, having a part fixed with respect to said wall, and a leg provided with a slot terminating short of the extremity of said leg, said slot being proportioned to receive said wall, and said leg being constructed and arranged to move transversely with respect to said aperture, the extremity of said leg having a portion movable within the confines of said wall recess and engageable with the spaced margins thereof whereby to limit movement of said leg in two directions.

3. Receptacle means, consisting of a first member having an aperture for receiving a conductor terminal, and having also a recess provided with at least two marginal surfaces, and a second member, having a part fixed with respect to said first member, and a leg provided with an opening terminating short of the extremity of said leg, said opening being proportioned to receive said first member, and said leg being constructed and arranged to move transversely with respect to said aperture, the extremity of said leg being engageable with the said two marginal surfaces of said recess to limit movement of said leg.

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