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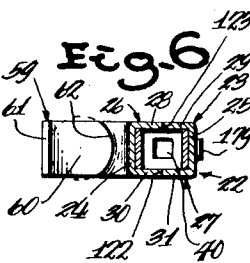
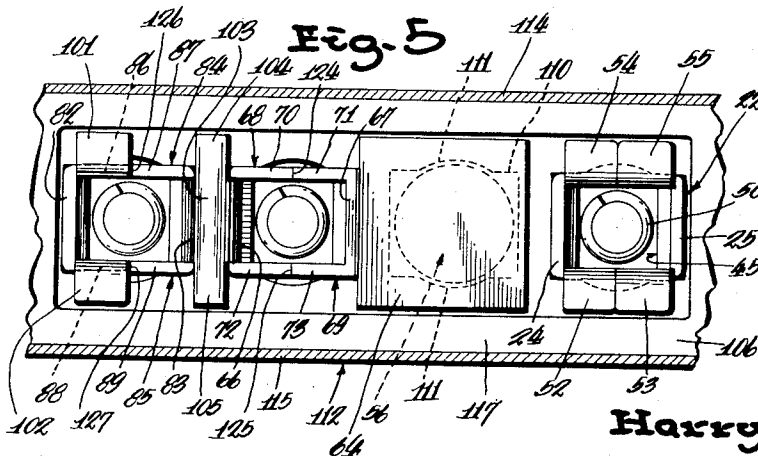
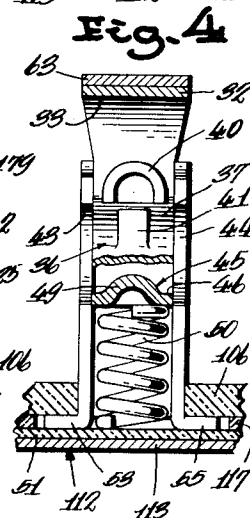
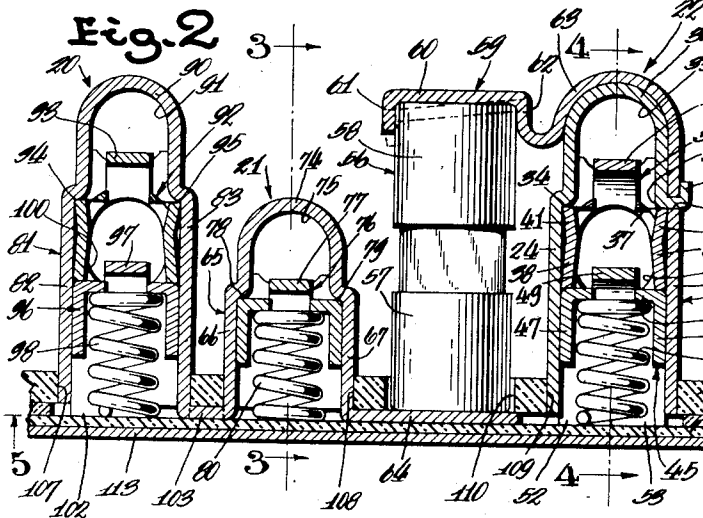
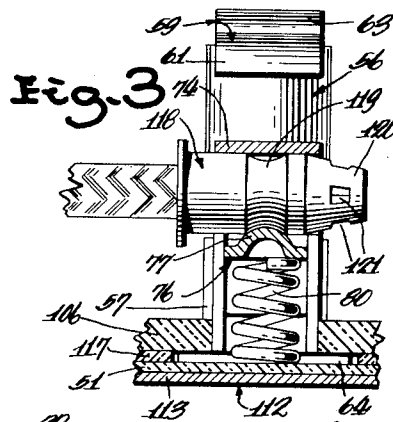
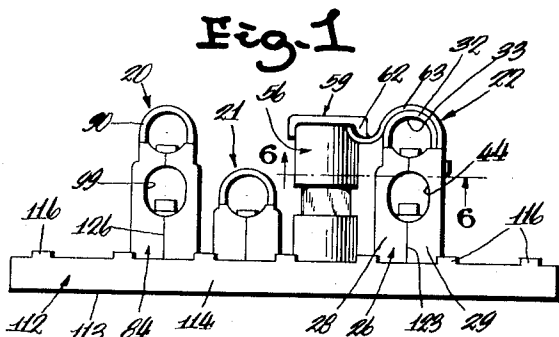
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2,145,163

ELECTRICAL CONNECTION MEANS

Original Filed May 31, 1935

2 Sheets-Sheet 1



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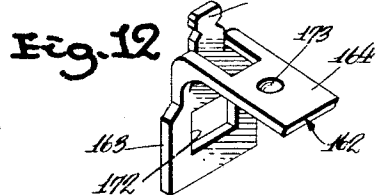
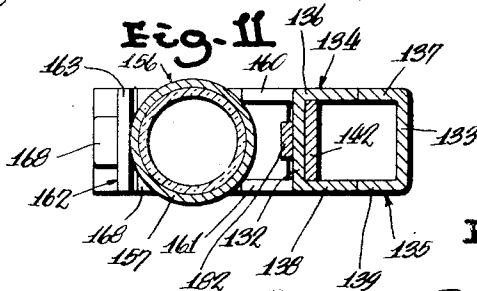
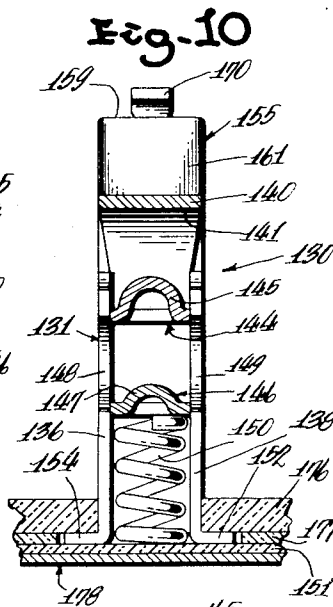
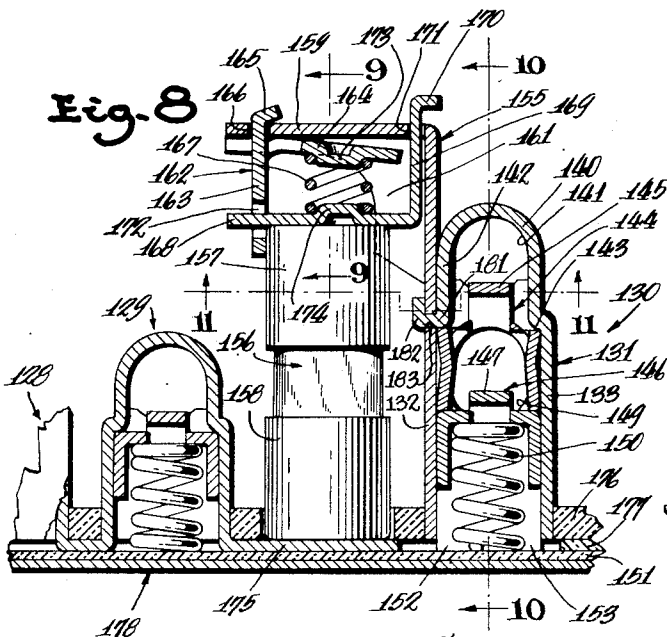
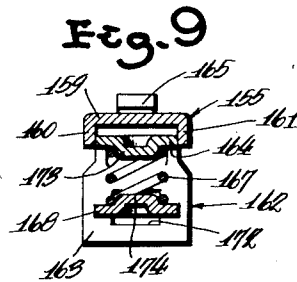
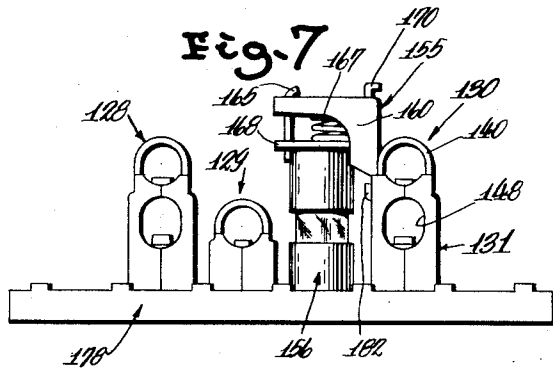
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2,145,163

ELECTRICAL CONNECTION MEANS

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2 Sheets-Sheet 2



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2,145,163

ELECTRICAL CONNECTION MEANS

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Application May 31, 1935, Serial No. 24,252
Renewed January 10, 1938

19 Claims. (Cl. 200—133)

My invention relates to electrical connection means, and more particularly to connection means and mountings for electric fuses, and the principal object of my invention is to provide new and improved connection means. In the drawings accompanying this specification and forming a part of this application, I have shown for purposes of illustration, several forms which my invention may assume. In these drawings:

Figure 1 is a side elevation of a connection means embodying my invention, mounted on a base,

Figure 2 is a longitudinal vertical sectional view of the connection means shown in Figure 1, the base being shown fragmentarily,

Figure 3 is a sectional view, partly fragmentary, taken on the line 3—3 of Figure 2, looking in the direction of the arrows,

Figure 4 is a sectional view, partly fragmentary, taken on the line 4—4 of Figure 2, looking in the direction of the arrows,

Figure 5 is a horizontal sectional view taken on the line 5—5 of Figure 2, looking in the direction of the arrows,

Figure 6 is a sectional view taken on the line 6—6 of Figure 1, looking in the direction of the arrows,

Figure 7 is a side elevation of another embodiment of my invention,

Figure 8 is a fragmentary longitudinal vertical sectional view of the embodiment shown in Figure 7,

Figure 9 is a sectional view taken on the line 9—9 of Figure 8, looking in the direction of the arrows,

Figure 10 is a sectional view taken on the line 10—10 of Figure 8, looking in the direction of the arrows,

Figure 11 is a sectional view taken on the line 11—11 of Figure 8, looking in the direction of the arrows, and

Figure 12 is a perspective view of a detail.

The embodiment of my invention illustrated in Figures 1 through 6 comprises three terminal posts 20, 21, 22, adapted to receive conductor terminals. The terminal post 22 comprises a tubular body portion 23 of generally oblong rectangular section having opposite walls 24, 25 and opposite walls 26, 27 at right angles to the walls 24, 25. The wall 26 is made in halves, one half 28 being integral with the wall 24 and the other half 29 being integral with the wall 25. The wall 27 is made in halves, one half 30 being integral with the wall 24 and the other half 31 being integral with the wall 25. Integral with the wall 24 is a

U-shaped loop 32 forming an aperture 33. The right hand leg of the loop 32 has its outer surface disposed in contact with the inside surface of the wall 25 near the top of that wall. The lower end 35 of the right hand leg of the loop 32 is adapted to form a shoulder which is on the same level as a shoulder 34 extending inwardly from near the top of the wall 24. The end 35 of the loop 32 may be provided with a tongue 179 extending laterally therefrom, through an aperture 180 in the wall 25, the tongue having its end bent over against the wall 25 to clamp the loop 32 to the wall 25.

The shoulders 34, 35 serve to limit the upward movement of a U-shaped detent means 36. The detent means 36 has an arch-shaped bight 37 merging into legs 38, 39, fitting slidably within the tubular body portion 23. The detent means 36 is provided at the top of the bight 37 with a protuberance 40, here shown as of approximately semi-cylindrical form, which may be struck up out of the bight 37. The protuberance 40 has its cylindrical axis at right angles to the axis of the arch-shaped bight 37 and at right angles to the axis of the aperture 33, the protuberance 40 being cooperable with the aperture 33 and a conductor terminal insertable in that aperture. The detent means 36 is provided with two lateral projections 41, 42, which are desirably struck out from the opposite lateral surfaces of the detent means, and are adapted to engage the shoulders 34, 35.

The wall 26 is provided with a conductor terminal receiving aperture 44, formed by recessing the longitudinal abutting margins of the wall halves 28, 29, and the wall 27 is provided with a conductor terminal receiving aperture 43, formed by recessing the abutting longitudinal margins of the wall halves 30, 31. The apertures 43, 44 are in axial alinement. The upper inside surface of the arch-shaped bight 37 of the detent means 36 is in substantial alinement with the upper margins of the apertures 43, 44, and is adapted to serve as a seat for a conductor terminal inserted in the apertures 43, 44.

A U-shaped detent means 45 is provided for cooperation with the conductor terminal receiving apertures 43, 44 and a conductor terminal insertable therein. The detent means 45, in this instance, includes a bight 46 having a generally flat top surface, merging into the legs 47, 48 adapted to fit slidably within the tubular body portion 23. The bight 46 is provided with a protuberance 49, in this instance of approximately semi-cylindrical form, the axis of the cylinder

being at right angles to the common axis of the conductor terminal receiving apertures 43, 44.

Upward movement of the detent means 45 is limited by engagement of the bight 46 with the lower ends of the legs 38, 39 of the detent means 36. A spring 50 is provided for biasing the detent means 45 upwardly against the detent means 36, and hence biasing the detent means 36 against the shoulders 34, 35. The spring 50 is disposed within the tubular body 23 and has one end in engagement with the under surface of the bight 46 and the other end in engagement with an insulating plate 51.

The terminal post 22 is provided with feet 52, 53 formed by extensions on the wall halves 30, 31, bent outwardly at right angles from these wall halves. The terminal post 22 is also provided with feet 54, 55 formed by extensions of the wall halves 28, 29, bent outwardly at right angles from these wall halves. The bottoms of the feet 52, 53, 54, 55 are adapted to abut the top of the insulating plate 51. The terminal post 22 is held to the insulating plate 51, as will be hereinafter described.

The terminal post 22 is adapted to be electrically connected to and hold in position a cartridge fuse 56 having terminals, here shown as ferrules 57, 58. The ferrule 58 cooperates with a terminal clip 59 which in this instance comprises a flat portion 60 provided with two downwardly extending flanges 61, 62. The flange 61 is formed by bending the end of the clip at right angles to the flat portion 60, and the flange 61 may have plane outer and inner surfaces. On the other hand, the flange 62 is formed to have an inside surface which is arcuate, to generally accommodate the arcuate lateral surface of the ferrule 58, as may be seen in Figure 6, the ferrule 58 being there indicated in dotted lines. The arcuate flange 62 is integrally joined to a U-shaped loop 63 concentric with and overlying the loop 32, and forming an extension of the wall 25 of the terminal post 22. The fuse clip 59 is thus resiliently mounted, so that when the fuse 56 is removed the clip 59 will move downwardly and assume a position such for example as shown in dotted lines in Figure 2. It will therefore be apparent that the underside of the flat portion 60 of the fuse clip is adapted to engage the flat end of the ferrule 58, whereas the inside surface of the plane flange 61 engages the cylindrical surface of the ferrule 58 and biases the upper end of the fuse, by reason of the resilience of the loop 63 and the joint between it and the flange 62, into the arcuate seat formed by the inside surface of the arcuate flange 62.

The fuse clip 59 also biases the fuse downwardly so that the end of the ferrule 57 is pressed into engagement with a contact 64, here shown as a generally square plate.

The contact 64, in this instance, forms an integral part of the terminal post 21. The terminal post 21 comprises a tubular body 65 of generally rectangular oblong cross-section, having opposite walls 66, 67 and opposite walls 68, 69 at right angles to the walls 66, 67. The wall 68 is made in halves, one half 70 being integral with the wall 66, and the other half 71 being integral with the wall 67. The wall 69 is made in halves, one half 72 being integral with the wall 66, and the other half 73 being integral with the wall 67.

The walls 66, 67 are integrally joined at their upper ends by a U-shaped loop 74 providing an aperture 75. The wall 67 is integral with the contact 64 extending at right angles from the

lower end of the wall 67 extended. The contact 64 therefore also serves as a foot for the terminal post 21.

Cooperable with the aperture 75 and a conductor terminal insertable therein, is a detent means 76 having an approximately semi-cylindrical protuberance 77, the detent means 76 being also in other respects identical with the detent means 45 of the terminal post 22. However, the detent means 76 instead of having its upward movement limited by engagement with another detent means, as in the case of the detent means 45, has its upward movement limited by shoulders 78, 79 extending inwardly from the walls 66, 67 near the top of these walls and their junction with the loop 74. The detent means 76 is biased upwardly by means of a spring 80, one end of which engages the underside of the detent means 76, as in the case of the detent means 45, and the other end of which engages the insulating plate 51. It will be evident that the terminal post 21 is designed for the accommodation of but a single conductor terminal.

The terminal post 20 comprises a tubular body portion 81 of generally rectangular oblong cross-section having opposite walls 82, 83 and opposite walls 84, 85 at right angles to the walls 82, 83. The wall 84 is made in halves, one half 86 being integral with the wall 82, and the other half 87 being integral with the wall 83. The wall 85 is made in halves, one half 88 being integral with the wall 82, and the other half 89 being integral with the wall 83. The walls 82, 83 are integrally joined at their tops by a U-shaped loop 90 providing an aperture 91.

Cooperable with the aperture 91 and a conductor terminal insertable therein is a detent means 92 provided with an approximately semi-cylindrical protuberance 93. The detent means 92 is also in other respects identical with the detent means 36 of the terminal post 22. The detent means 92 has its upward movement limited by shoulders 94, 95 extending inwardly from the walls 82, 83 near the top of these walls.

The walls 84, 85 of the terminal post 20 are provided with conductor terminal receiving apertures 99, 100 formed respectively by recessing the longitudinal abutting margins of the wall halves 86, 87 and the wall halves 88, 89. The upper inside surface of the arch-shaped bight of the detent means 92 is in general alignment with the upper margin portions of the apertures 99, 100.

Cooperable with the apertures 99, 100 is a detent means 96 provided with a semi-cylindrical protuberance 97 and otherwise also identical with the detent means 45. The detent means 96, 92 are biased upwardly by a spring 98 engaging the under surface of the bight of the detent means 96, as already explained in connection with the terminal post 22. The other end of the spring 98 engages the insulating plate 51.

The terminal post 20 is provided with feet 101, 102 formed by extensions on the wall halves 86, 88 respectively, bent outwardly at right angles from these wall halves. The bottoms of the feet 101, 102 are adapted to engage the insulating plate 51.

The terminal posts 20, 21 are integrally joined by a bridge 103 extending at right angles between the lower end of the wall 83 of the terminal post 20 and the lower end of the wall 66 of the terminal post 21. The bridge 103 is provided with lateral extensions 104, 105 serving as additional feet, adapted to abut the insulating plate

51 and aiding in supporting both of the terminal posts 20, 21.

The terminal posts 20, 21, 22 may be held in position on the insulating plate 51 by an insulating plate 106 provided with apertures 107, 108, 109, spaced and formed so as to snugly receive the terminal posts 20, 21, 22. The insulating plate 106 consequently overlies the feet provided on these terminal posts. The insulating plate 106 is also provided with an aperture 110, adapted to receive the terminal 57 of the fuse. The fuse terminal 57 in this instance has a diameter somewhat greater than the width of one of the narrower walls of the terminal posts, such as the wall 24 of the terminal post 22, and the aperture 110 therefore has two of its opposite sides recessed to form the arcuate margins 111. If desired, the stock from which the insulating plate 106 is made, may be provided with equally spaced apertures, all of the form of the aperture 110, so that any one of these apertures may be used for the reception of a fuse terminal such as 57. The nature of the apertures obviously, however, depends upon the diameter of the fuse terminal.

The insulating plates 51 and 106 may be clamped together in any suitable manner, to hold the terminal posts 20, 21, 22. In this instance the plates 51, 106 are disposed in a metallic channel 112 having a bottom 113 and flanges 114, 115. The flanges are provided with fingers 116 which may be clinched over the top of the insulating plate 106 to firmly hold the parts together. If desired, a spacer 117 of approximately the same thickness as the feet of the terminal posts 20, 21, 22 may be provided between the insulating plates 51, 106.

The terminal posts such as 20 and 21, are clearly shown, described, and claimed in my Patent Number 2,122,030, dated June 28, 1938.

In Figure 3 is shown in what manner the terminal posts cooperate with a conductor terminal, a conductor terminal 118 being shown having an annular furrow 119 in a cylindrical portion of the conductor terminal. The conductor terminal is provided with a frusto-conical end 120, which is adapted to cam the detent means 76, downwards, and, as the conductor terminal 118 is inserted into the terminal receiving apertures, the protuberance 77 snaps into the furrow 119. The conductor terminal may be swedged to the conductor contained therein, as indicated by the swedge indentations 121.

It will of course be evident that conductor terminals such as 118 may be inserted and held by the respective detent means in any one or more or all of the conductor terminal receiving apertures of the terminal posts 20, 21, 22. Thus a variety of circuit connections may be made, and circuits completed which may or may not include the fuse 56 as may be desired.

It will be apparent that the terminal post 22 may be made of sheet metal, the body portion being completely formed in channel-shaped halves, one half including the loop 32 and the other half the loop 63, along with the fuse clip portion 59 completely formed as an extension of the loop 63, before the halves of the terminal post are brought together so that the longitudinal abutting edges of the channel-shaped halves form lines of registry 122, 123. The detent means 36, 45, which are also desirably made of sheet metal, and the spring 50, may then be positioned in the body of the terminal post 22, as already described. While the terminal post 22 is illustrated as made of two separate pieces of sheet metal, the terminal post

20 is made of a single piece of sheet metal and the terminal post 21 is also made of a single piece of sheet metal. Moreover the terminal posts 20, 21, together may be made of a single piece of sheet metal, as illustrated. The halves of the body of the terminal 21 are completely formed in the channel-shape hereinbefore described and the loop 74 is formed by bending the channel-shaped halves toward each other until the longitudinal edges meet in lines of registry 124, 125. The terminal post 20 is formed in the same manner, the longitudinal edges of the channel-shaped halves meeting in lines of registry 126, 127.

From the foregoing it will be evident that the number of terminal posts, the number of conductor terminal receiving apertures in any given post, the number of fuses and the arrangement of the posts and fuses may be greatly varied.

Referring now to the embodiment of my invention illustrated in Figure 7, there is here shown connection means comprising three terminal posts 128, 129, 130. The terminal post 130 comprises a tubular body portion 131 of generally oblong rectangular cross-section having opposite walls 132, 133 and opposite walls 134, 135, at right angles to the walls 132, 133. The wall 134 is made in halves, one half 136 being integral with the wall 132, and the other half 137 being integral with the wall 133. The wall 135 is made in halves, one half 138 being integral with the wall 132 and the other half 139 being integral with the wall 133. Integrally formed as an extension of the wall 133 is a U-shaped loop 140 providing an aperture 141. The left hand leg 142 of the loop 140 has its lower end 181 at the same level as a shoulder 143, extending inwardly from near the top of the wall 133. The left hand leg 142 of the loop 140 is of such width as to fit between the inside surfaces of the walls 136, 138, and the outer surface of the leg 142 lies against the inside surface of the wall 132. The leg 142 may be provided with a tongue 182 extending laterally therefrom, through an aperture 183 in the wall 132, the tongue having its end bent over against the wall 132 to clamp the loop 140 to the wall 132.

Detent means 144 is provided for cooperation with the aperture 141 and a conductor terminal which may be disposed therein. The detent means 144 includes a generally semi-cylindrical protuberance 145, and also in other respects the detent means 144 is identical with the detent means 36 of Figure 2. Upward motion of the detent means 144 is limited by engagement with the shoulders 143, 181. Detent means 146, having a semi-cylindrical protuberance 147 is provided, this detent means being otherwise also identical with the detent means 45 of Figure 2. The detent means 146 is cooperable with apertures 148, 149 and a conductor terminal insertable therethrough. The apertures 148, 149 are formed by recessing the longitudinal abutting edges of the wall halves of the walls 134, 135. The upper inside surface of the arch-shaped bight of the detent means 144 is related to these apertures in the manner already described in connection with the detent means 36 and the apertures 43, 44 of the terminal post 22 of Figures 1 through 6. A spring 150 is provided for biasing the detent means 146, 144 similarly to the action of the spring 50. The lower end of the spring 150 engages an insulating plate 151.

The wall halves 138, 139 are provided with extensions at their lower ends bent at right angles to these walls to form feet 152, 153. The wall

halves 138, 137 are similarly provided with feet, only one of which 154 is visible (see Figure 10).

The wall 132 of the body portion of the terminal post 130 is extended vertically upwardly, beyond the top of the loop 140 and has integrally formed therewith a bracket 155 extending at right angles from the wall 132. The bracket 155 serves to hold a cartridge fuse 156 having terminal ferrules 157, 158. The bracket 155 comprises a horizontal portion 159 provided with spaced webs 160, 161, in the form of flanges at the margins of the vertical and horizontal parts of the bracket 155.

Pivotaly depending from the horizontal part 159 of the bracket is a bell crank lever 162 having a downwardly extending arm 163 and a generally horizontally extending arm 164 slightly downwardly inclined to allow for some freedom of movement between it and the part 159 of the bracket. The bell crank 162 is pivoted to the horizontal part 159 of the bracket by providing a tongue 165, struck out from the arm 164, the tongue 165 passing through an aperture 166 in the horizontal portion 159 of the bracket and suitably bent over to retain the bell crank pivoted to the horizontal portion 159. The bell crank lever 162 is biased in a counterclockwise direction, as viewed in Figure 8, by means of a helical spring 167, one end of which bears against the underside of the arm 164 and the other end of which bears against the upper side of a lever 168.

The lever 168 has a portion 169 extending upwardly at right angles thereto and provided with a tongue 170 passing freely through an aperture 171 in the horizontal part 159 of the bracket. The tongue 170 is suitably bent over to prevent disengagement of the lever from the bracket. In the position of the parts as shown in Figure 8, the bent part of the tongue 170 is out of contact with the upper surface of the horizontal part 159 of the bracket.

The oppositely disposed faces of the arm 164 of the bell crank lever and of the lever 168 may be provided with generally cylindrical protuberances 173, 174, desirably struck out from the bodies of these parts, to serve as seats for retaining the spring 167 in position.

The underside of the lever 168 is shown in abutment with the upper end of the fuse terminal 157, and the spring 167 biases the lever 168, counterclockwise and bodily downwardly, against the fuse terminal, thereby biasing the other terminal 158 of the fuse downwardly against a contact 175. The spring 167 also biases the bell crank lever 162 in a counterclockwise direction, thereby causing the inside surface of the arm 163 to engage the left hand cylindrical margin of the ferrule 157 to bias the right hand cylindrical surface of the ferrule 157 against the seat formed by the margins of the spaced webs 160, 161 of the bracket 155, to hold the ferrule 157 against lateral displacement.

The end of the lever 168 is here shown as disposed freely through an aperture 172 in the arm 163 of the bell crank lever. The aperture 172 is longer vertically than the thickness of the lever 168 and in the position of the parts shown in Figure 8 the upper and lower surfaces of the lever 168 are out of contact with the upper and lower ends of the aperture 172, thus permitting the spring 167 to freely bias the lever 168 against the top of the ferrule 157 and also permitting upward movement of the lever 168 to remove the fuse 156. When the fuse is removed the end of the lever 168 engages the lower end of the

aperture 172 and the bent part of the tongue 170 engages the top of the horizontal part 159 of the bracket. The end of the lever 168 may be manually engaged to move it upwardly out of the way of the fuse terminal 157, either to enable removal or insertion of the fuse. The fuse may also be removed by moving the terminal 157 against the bell crank arm 163 thereby disengaging the right hand surface of the terminal 157 from its seat on the flanges 160, 161, the terminal 157 being then moved laterally at right angles to the first movement.

The contact 175 is, in this instance, identical with the contact 64 of the embodiment of Figures 1 through 6, and the terminal posts 128, 129 are identical with the terminal posts 20, 21. The terminal posts 128, 129, 130 are held to the insulating plate 151 by an apertured insulating plate 176 (a spacer 177 being interposed, if desired) clamped by a metallic channel 178, in the manner already described in connection with the embodiment of Figures 1 through 6. The insulating plate 176 is also provided with an aperture, exposing the contact 175, and serving as a lateral seat for the fuse terminal 158.

The mode of assembly of the embodiment of Figures 7 through 12 will be evident from the foregoing description and what has already been stated in connection with the embodiment of Figures 1 through 6.

From the foregoing it will be apparent to those skilled in the art that the illustrated embodiments of my invention provide new and improved electrical connection means, readily and conveniently constructed and assembled, and accordingly, accomplish at least the principal object of my invention. On the other hand, it also will be obvious to those skilled in the art that the illustrated embodiments of my invention may be variously changed and modified, or features thereof, singly or collectively, embodied in other combinations than those illustrated, without departing from the spirit of my invention, or sacrificing all of the advantages thereof, and particularly, that my invention is not limited to conductor terminals of the plug type, but that the term conductor terminal is to be considered generic, including for example merely a portion of the conductor wire itself, and that accordingly, the disclosure herein is illustrative only, and my invention is not limited thereto.

I claim:

1. In combination: a base; an electrical conductor terminal receiving means mounted on said base, and extending away from said base, provided with a plurality of conductor terminal receiving apertures; a fuse having terminals; contact means, carried by and extending laterally from said receiving means, spaced from said base, for engaging one terminal of said fuse; and a contact carried by said base and engaged by the other terminal of said fuse.

2. In combination: an insulating plate provided with a plurality of equidistantly-spaced similar apertures, a contact underlying one of said apertures; a plurality of conductor terminal receiving means disposed through others of said apertures; and a fuse having one terminal in contact with said contact.

3. In combination: a base; a plurality of electrical conductor terminal receiving means mounted on said base, one of said receiving means having a lateral extension underlying said base, and another of said receiving means having a lateral

extension overlying said base; and a fuse interposed between said lateral extensions.

4. In combination: a base; a plurality of connected electrical conductor terminal receiving means mounted on said base, one of said receiving means having a lateral extension underlying said base; at least one electrical conductor terminal receiving means disposed adjacent the lateral extension of said receiving means, having a lateral extension overlying said base; and a fuse interposed between said lateral extensions.

5. In combination: a base; a plurality of electrical conductor terminal receiving means mounted on said base, at least one pair of receiving means being disposed in cooperating relation, one having an abutment adjacent its longitudinal end, and the other having an abutment adjacent a longitudinal end spaced from said first named longitudinal end, said abutments being in generally aligned and spaced relation; and a fuse having opposite contacts in engagement with respective abutments and held in position by said engagement so that its longitudinal axis is generally parallel to the longitudinal axes of the said receiving means.

6. In combination: a base; a plurality of electrical conductor terminal receiving means mounted on said base, at least one pair of receiving means being disposed in cooperating relation, one having a resilient abutment adjacent its longitudinal end, and the other having an abutment adjacent a longitudinal end spaced from said first named longitudinal end, said abutments being in generally aligned and spaced relation; and a fuse having opposite contacts in engagement with respective abutments and yieldably held in position by the resiliency of said resilient abutment so that its longitudinal axis is generally parallel to the longitudinal axes of the said receiving means.

7. In combination: a base; an electrical conductor terminal receiving means mounted on said base, and being provided adjacent its unmounted end with an abutment; spring controlled retaining means cooperable with said abutment and independent of said receiving means; a contact carried by said base; and fuse means interposed between said abutment and said contact and yieldably held in operative position by said spring controlled retaining means.

8. In combination: a base; receiving means for receiving an electrical conductor terminal, said receiving means being tubular, and being mounted on said base and extending away from said base; a fuse having terminals; contact means, carried by and extending laterally from said receiving means, spaced from said base, for engaging one terminal of said fuse; and a contact carried by said base and engaged by the other terminal of said fuse.

9. In combination: a base; an electrical conductor terminal receiving means mounted on said base and extending away from said base, said receiving means having a lateral extension spaced from said base; contact means spaced from said lateral extension and disposed adjacent said base; and fuse means having its opposite terminals engaging said lateral extension and said contact means.

10. Electrical connection means, comprising: an insulating base, having an aperture; a first conductor-terminal receiving means mounted on said base, and having a lateral extension underlying said base and in alignment with said aperture; a second conductor-terminal receiving

means mounted on said base, and having a lateral extension overlying said base and in alignment with said aperture; and fuse means, disposed through said aperture, and having its opposite terminal ends respectively engaging said underlying and overlying lateral extensions.

11. Electrical connection means, comprising: a sheet-metal tubular body, one wall portion of said body being extended and constructed and arranged to provide a connection means, and an opposite wall portion being bent to loop-shape and having its extremity interlocking with a portion of said one wall to hold said wall portions relatively immovable, the loop of said opposite wall providing a recess for receiving a conductor terminal.

12. Electrical connection means, comprising: spaced walls, one of said walls having at least a portion bent toward the other of said walls to provide a recess for receiving a conductor terminal, the extremity of said bent portion being secured to said other wall, and providing an abutment adjacent said recess and extending inwardly toward said one wall; and biasing means, having a part movable toward and away from said recess, said biasing means being so constructed and arranged that said part is urged to position for yieldably engaging a conductor terminal disposed in said recess, said part engaging said abutment to limit its movement toward said recess.

13. Electrical connection means, comprising: a base; a sheet-metal body, mounted on said base and extending away from said base, said body having spaced walls, at least one wall being constructed and arranged to form a connection means spaced from said base and yieldably urged toward said base; a contact mounted on said base in general alignment with said connection; and fuse means, interposed between said connection and said contact.

14. Electrical connection means, comprising: a base; a plurality of conductor receiving means mounted on said base, said receiving means having connected portions adjacent said base to effect electrical connection of said receiving means; one of said receiving means having an extension disposed adjacent said base; a separate conductor receiving means, spaced from said plurality of receiving means, and having a part spaced from said extension; and fuse means, interposed between said part and said extension.

15. Electrical connection means, comprising: a body, having spaced walls, one wall having one portion bent to loop shape, the extremity of this portion interlocking with a portion of the other wall, holding adjacent parts of the walls relatively immovable, said loop providing a recess for receiving a conductor terminal, and said other wall being extended and constructed and arranged to provide a connection means.

16. In combination: a support, having at least three rectilinearly aligned apertures; conductor receiving means, respectively disposed in the extreme apertures, one having an extension underlying said support in line with the intermediate aperture, and the other having an extension overlying said support in line with said intermediate aperture; and fuse means, extending through said intermediate aperture, and interposed between said underlying and said overlying extensions.

17. Electrical connection means, comprising: a base; a sheet-metal body, mounted on said base, and having a recess for receiving a conductor

terminal; said body having spaced walls, at least one wall being constructed and arranged to form a connection means spaced from said base; detent means, slidably engaging said spaced walls, and being guided for movement toward and away from said recess by such sliding engagement; spring means, urging said detent means toward said recess; contact means, mounted adjacent said base; and fuse means, interposed between said connection means and said contact means.

18. Electrical connection means, comprising: a base; a sheet-metal body, carried by said base, and having generally opposite wall portions, one wall portion being extended and constructed and arranged to provide a connection means, and the opposite wall portion being bent to loop-shape and having its extremity connected to a portion of said one wall portion, the loop of said opposite wall portion providing a recess for receiving a conductor terminal; contact means, carried by said base in spaced relation with re-

spect to said connection means; and fuse means, interposed between said connection means and said contact means.

19. Electrical connection means, comprising: a base; a tubular sheet-metal body, having one end fastened to said base, a wall part adjacent the other end of said body being extended and constructed and arranged to provide a connection means; said body having a recess for receiving a conductor terminal; detent means, movable within said body in a direction toward and away from said recess; spring means within said body, urging said detent means in a direction toward said recess, so that said detent means yieldably engages a conductor terminal disposed within said recess; contact means, carried by said base in spaced relation with respect to said connection means; and fuse means, interposed between said connection means and said contact means.

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