March 30, 1954 E. G. PFISTER 2,673,969

MULTIPLE ELECTRIC SOCKET

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3 Sheets-Sheet 1

FIG. 1

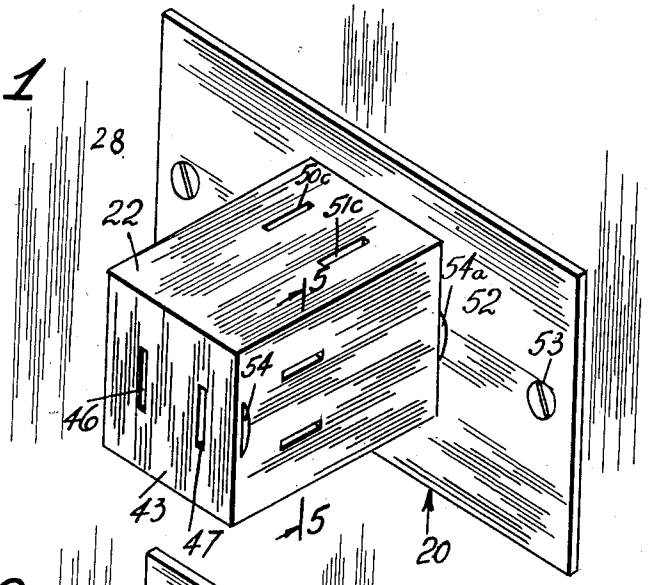


FIG. 2

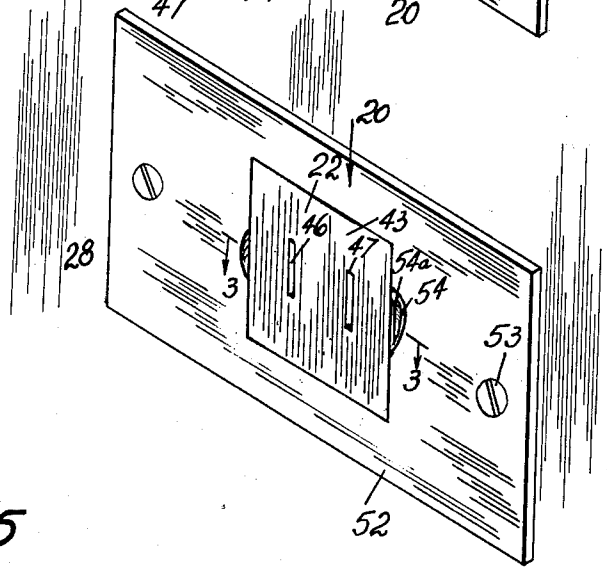
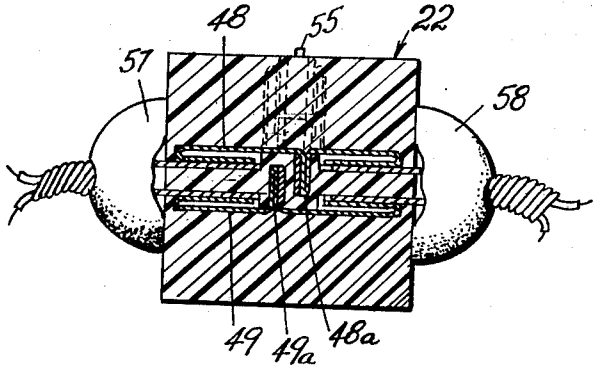


FIG. 5



INVENTOR:
EDWARD G. PFISTER,
BY: Julian J. Wittal
his ATTORNEY.

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FIG. 3

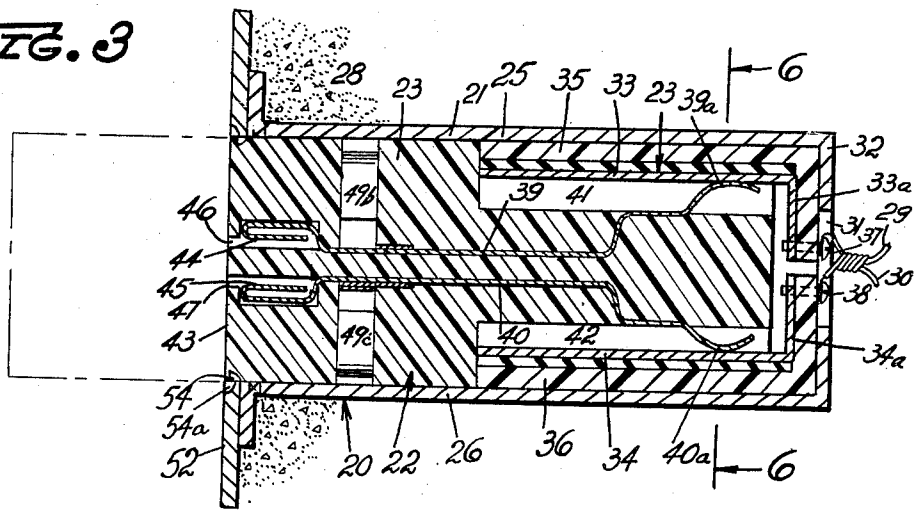


FIG. 6

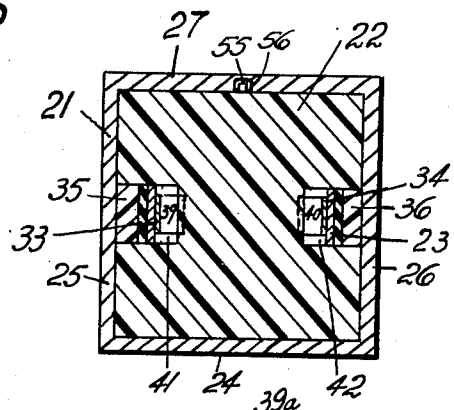
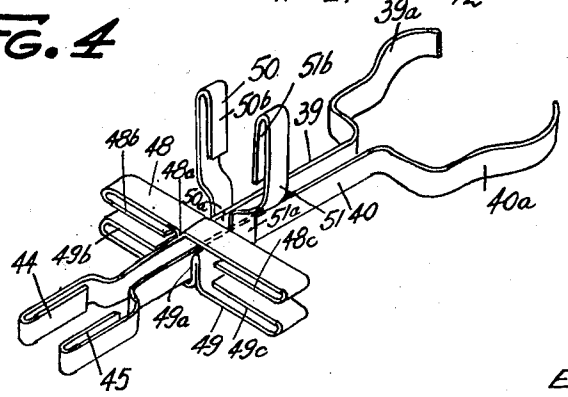


FIG. 4



INVENTOR:
EDWARD G. PFISTER,
BY: Julius J. Wittel,
his ATTORNEY.

March 30, 1954 E. G. PFISTER 2,673,969

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Filed July 16, 1949

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FIG. 7

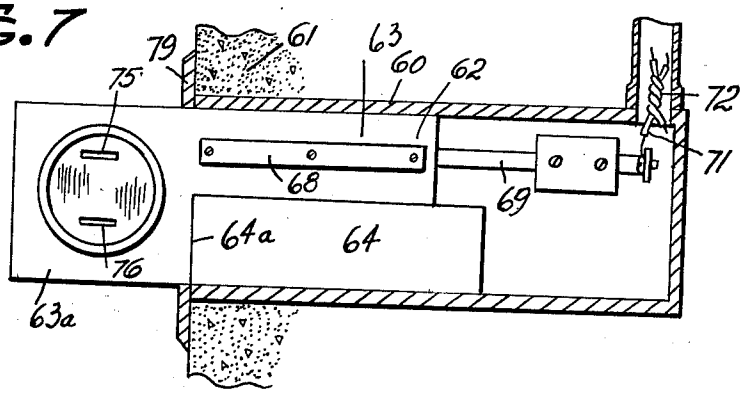


FIG. 8

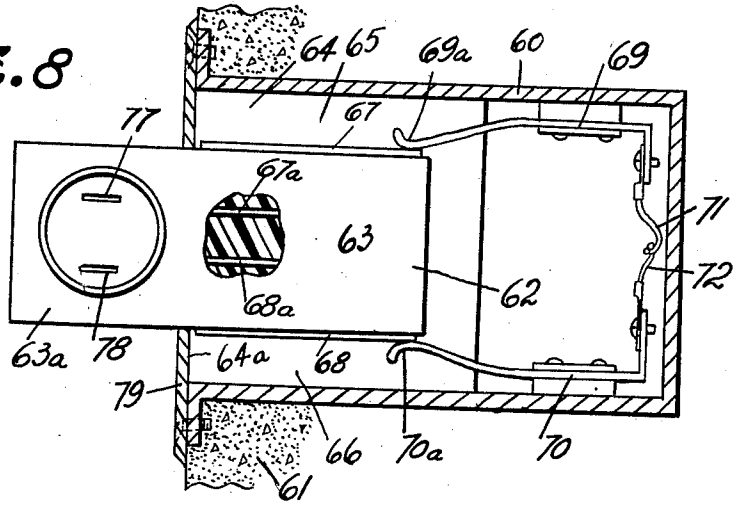
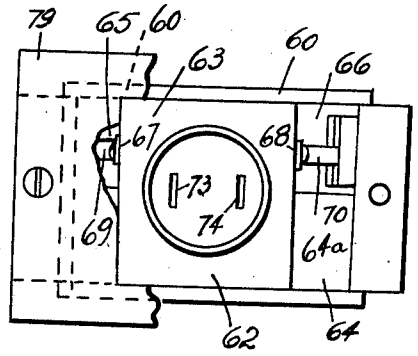


FIG. 9



INVENTOR.
EDWARD G. PFISTER
BY: Julian J. Wittal
his ATTORNEY.

Patented Mar. 30, 1954

2,673,969

UNITED STATES PATENT OFFICE

2,673,969

MULTIPLE ELECTRIC SOCKET

Edward G. Pfister, New York, N. Y.

Application July 16, 1949, Serial No. 105,139

2 Claims. (Cl. 339—157)

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This invention relates to connections or sockets in a wall or the like for electric circuits, and has for its main object to provide a novel improved construction of a sliding electric socket of the character mentioned, whereby the same may be used, in the various positions into which it may slide inwardly or outwardly of the wall or the like, for a single one or for a plurality of electric plugs and circuits, as desired.

Another object of this invention is to provide improved novel means whereby such sliding combination or multiple socket will receive current from the usual source thereof in the wall or the like and distribute it to the multiple of circuits which may be plugged into said sliding socket.

Still a further object of this invention is to provide a device of the character indicated in which the current receiving means may also act as guides for the socket in its sliding movements.

Further objects of this invention will be apparent as the specification of the same proceeds or will be pointed out therein.

In the drawings forming a part of this specification and accompanying the same;

Fig. 1 is a perspective view of a preferred embodiment of my invention, the sliding member thereof shown in an outwardly pulled position adapted to receive several plugs, while

Fig. 2 is a similar perspective view of the same in a withdrawn position where it appears as a usual electric wall socket to be used for one plug;

Fig. 3 is a horizontal sectional view of my device, the section being taken on the line 3—3 of Fig. 2;

Fig. 4 is a perspective view showing a preferred arrangement of conductors for the various sockets arranged in my sliding member, the parts being spaced apart more widely than in actual use, for the sake of clearness;

Fig. 5 is a sectional view on the line 5—5 of Fig. 1;

Fig. 6 is a sectional view on the line 6—6 of Fig. 3;

Fig. 7 is an elevational view, partly in section, of a modified embodiment of my device;

Fig. 8 is a plan view of the same, partly in section, and

Fig. 9 is a front view of said modification, portions of the same being broken away.

Referring now to the drawings in detail by characters of reference, the numeral 20 indicates the preferred embodiment of my device, in general, the same being composed of three main elements; a casing or box, generally indicated by the numeral 21, a socket member, or block, 22, slidable therein, and an electric contact member in said box, generally indicated by the numeral 23.

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The box or casing 21 may have a bottom 24, left hand and right hand side walls 25 and 26, and a top 27, and the same may be made of sheet metal, or any other appropriate material, like plastic, or other electrically non-conducting material.

As has been mentioned, the preferred use of my invention is as a wall socket, and the box 21 will be built into a wall 28, the front of the same preferably being flush with the front of the wall. As it is well known, the electric conductors 29 and 30 to the two poles of a source of current are arranged in the wall and in my device their terminations are carried into or through opening 31 in the back wall 32 of the casing or box 21.

Electrically insulated left hand and right hand conductor bars 33 and 34 are arranged on the respective side walls 25 and 26 of the box stretching forwardly from the rear thereof to a limited extent, and in the embodiment shown, the conductor bars are set on two horizontal projections or ledges 35 and 36.

In this embodiment the conductor bars are continued angularly on the rear wall of the box, as at 33a and 34a, and then electrically connected to the respective wires 29 and 30, as by the screws 37 and 38. A block 22 of electrically non-conductive material is set into the box 21, as has been mentioned, and, in the embodiment shown, two vertically set electro-conductive strips or bars 39 and 40 are embedded in the block 22, their rear portions ending in spring terminations 39a and 40a adapted to ride with strong frictional spring contacts on the respective conductor bars 33 and 34.

Horizontal grooves 41 and 42 are provided on the left and right sides, in the rear portion, of the block 22, said block being adapted to ride on the respective projections or ledges 35 and 36 through said grooves 41 and 42, said grooves also permitting a free play for the spring terminations 39a and 40a of the conductor bars 39 and 40. The said conductor bars may reach to near the front surface 43 of the block 22 and terminate in spring contact pieces 44 and 45 set into respective recesses 46 and 47 adapted to receive the prongs of respective electric plugs, as indicated in Fig. 5, for side sockets on the block 22. As also indicated in Figs. 3, 4 and 5, two horizontal transverse conductor strips 48 and 49 are arranged in the block 22, the strip 48 being electrically connected to the main conductor strip 39 and the strip 49 electrically connected to the

main conductor strip 40, as indicated at 48a and 49a. These two transverse conductor strips will terminate in spring contacts 48b and 49b and 48c and 49c, respectively, forming the two side contacts for respective plugs 57 and 58, as indicated in Fig. 5, the prongs of the plugs entering respective recesses in the insulating block 22 similar to the front recesses 46 and 47, as will be understood and as also shown in Fig. 5.

Two upwardly projecting further conductor strips 50 and 51 may also be arranged, shown to the rear of but closely to the horizontal strips 48 and 49, in the conductor block 22, being electrically connected to the respective main conductor strips 39 and 40, as at 50a and 51a, and terminating in the resilient contact pieces 50b and 51b, which may be used for a plug connection on the top of the block 22, the recesses for which being indicated at 59c and 51c in Fig. 1.

A front ornamental and securing plate 52 may also be employed in my device, secured on the wall, as by the screws 53, and indentations 54 (Figs. 1, 2 and 3) may be added at the front of the sides of the block 22 by which it may be grasped by the fingers of the user when it is desired to pull the same out of the socket. For this purpose the device may be made in such a manner that even in the innermost position of the block 22, the indentations 54 will be exposed (Fig. 2) as by indentations 54a in the plate 52.

Any appropriate means may be employed to prevent an entire freeing or pulling out of the block 22 from the casing 21, that is, to limit its forward movement. One such method may consist in providing a pin 55 in the top of the block 22 and an appropriate groove 56 in the top 27 of the casing in which said pin may forwardly and rearwardly ride (Figs. 5 and 6). The groove 56 will be as long as necessary for the inward and outward movement of the block 22 thereby providing limits to said movement.

At 57 and 58 two plugs are indicated applied at the two sides of the multiple socket block 22.

In Figs. 7 to 9, a modification of my device is illustrated. In this modification a box or casing 60 is employed in an appropriate recess in the wall 61 in which is riding a non-conductor block 62. The block in this embodiment, however, has a narrower upper part 63 and a wider lower part 64. The lower part rides, easily fitting, in the lower part of the box 60, while the upper part is recessed therefrom and leaves the left and right free spaces 65 and 66 between the same and the respective sides of the box. Left hand and right hand bars 67 and 68 are secured on the sides of the narrower upper portion 63 of the block 62, and rear conductor bars 69 and 70 are employed on the side of the box electrically connected to the respective wires 71 and 72 in the wall. The front terminations 69a and 70a of the bars 69 and 70 are free swinging springs riding on the respective bars 67 and 68 of the insulator block 63, and in this manner the electric current is conducted into them. Any appropriate conductor strips 67a and 68a may be embedded in the insulator block 63, and the front, plug receiving, terminations and recesses 73 and 74 for the front of the device, and 75 and 76 for the sides, and 77 and 78 for the top may be provided in the front portion 63a of the block, connected to the main conductor strips 67a and 68a in the manner described earlier in connection with the preferred embodiment of my device.

The front plate 79 here also may be secured on the wall permitting the outward movement only of the narrowed front block portion 63a therethrough and acting as a limit for the forward movement when the wider lower and rear part 64 will reach the same by its front face 64a in the forward movement of the block.

As has been mentioned, the arrangement of the electrical connections in the sliding block 22 as indicated in Fig. 4, as there shown in a semi-diagrammatical and somewhat exaggerated manner as to the distances between the parts. When actually building the device, the horizontal transverse outlet strips 48 and 49 may be set very close to the front outlets 44 and 45, and, similarly, the transverse vertical outlets 50 and 51 may also be set very close to the rest whereby the various outlets in the front of the sliding block 22 will be arranged in a very compact manner and a relatively small amount of sliding of the block outwardly will be sufficient to expose all the various outlets.

It is also understood that if it is desired, additional outlets may be built in the block and, obviously, downwardly open additional vertical transverse strips may be added in a similar manner as the upward strips 50 and 51 secured to the base conductor bars or strips 39 and 40, whereby, five outlets will be provided instead of the four now shown in the drawing.

It also will be understood by those versed in this art that the vertical transverse outlets 50 and 51 may be secured by any appropriate manner on the respective horizontal transverse conductor strips 48 and 49 whereby a still more compact construction may be attained. So for instance, the strip 50 may be secured on the top of strip 48 while the strip 51 may be secured on the underside of the lower strip 49 or on the main conductor strip 40 and then bent in an appropriate manner over the strip 48 and so upwardly to cooperate with the strip 50. Of course the strip 51 in this construction will be bent in such a manner as to avoid any contact with the rest of the conductors.

While I have shown preferred embodiments of my invention, it is to be understood that changes and variations may be resorted to in the elements, combinations and construction of my invention, and I reserve my rights to such changes and variations as are within the spirit of this specification, and the scope of the claims hereunto appended.

What I claim as new and want to protect by Letters Patent of the United States, is:

1. In a wall socket for electric circuits having a recess in the wall a casing in said recess and a block of electrically insulating material outwardly and inwardly slidable in said casing, the combination, of two conductor bars at the two sides of the casing connected to the two poles of a source of current in the wall, two conductor bars in said block opposite to the respective bars in the casing, and in electrical contact therewith in all the phases of the sliding movement of said block, a plurality of electrical connector sockets in the front and the sides of said block connected to the respective conductor bars therein and exposed in a predetermined manner and numbers in the various positions of the block, longitudinal projections being provided on the walls of the casing, said conductor bars for the casing being secured thereon, and said block having corresponding grooves with its bars therein whereby said projections with the conductor bars thereon will act as a guide in the movements of the block, while conducting the current thereinto.

2. In a wall socket for electric circuits having a recess in the wall and an insulating block inwardly and outwardly axially slidable in said recess, the combination, of an elongated conductor bar at each side of the recess, said bars being connected to the two poles of a source of current in the wall, two axial main strips of conductor material in said insulating block, a portion thereof being exposed on the respective sides of the block adapted to ride in an electrically contacted manner on said bars on the sides of the recess, two socket proper recesses in the front of said insulator block, the front terminations of said conductor strips reaching into said recesses and formed therein into contact members for prongs of an electric plug, pairs of socket recesses in the sides of said insulator block being adapted to be exposed to a desired extent when the block is moved outwardly, secondary conductor strips set into said insulator block transversely to said main axial conductor strips, the terminations of said secondary conductor strips reaching into said side socket recesses and formed therein into contact members for prongs of electric plugs, said transverse strips being electrically connected to said

axial main strips, said axial strips being of flat spring material, the rear exposed portion thereof being formed into a spring to ride on said bars in the recess, the front ends thereof being folded doubled and thereby forming said contact members for electric plugs and said transverse conductor strips also being flat spring material bridging the main axial conductor strips in pairs, their terminations being folded doubled so as to form said side contact members for prongs of electric plugs, one transverse strip in each pair being secured to one respective main axial conductor strip for said electric contact therewith and being electrically insulated from the other main conductor strip.

EDWARD G. PFISTER.

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