



DELEGATURA PROPIEDAD INDUSTRIAL

División de Nuevas Creaciones

PCT
SOLICITUD

PATENTE DE INVENCION

ENTRADA EN FASE NACIONAL

21. **EXPEDIENTE No.**

05-32033

54. **TITULO**

RECEPTACULO TRIPLE/SEXTUPLE

51. **CLASIFICACION INTERNACIONAL**

H01R 25/00

71. **SOLICITANTE**

LEVITON MANUFACTURING CO., INC.

DOMICILIO

LITTLE NECK, NY 11362, ESTADOS UNIDOS DE AMERICA

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PETITORIO

AS 96 647



SECRETARÍA DE INDUSTRIA Y COMERCIO
Radical: 05 85328.2 02052986 Folios 75
Fecha (MC): 2003-04-08 16:51:12
Trámite: 611 PCT-PATENT 579 FASE LNCI 411 PRESENTAC
Dependencia: 2823 DIVISION DE NUEVAS CREACIONES

FORMULARIO UNICO DE SOLICITUD DE PATENTE

PCT

ENTRADA EN FASE NACIONAL

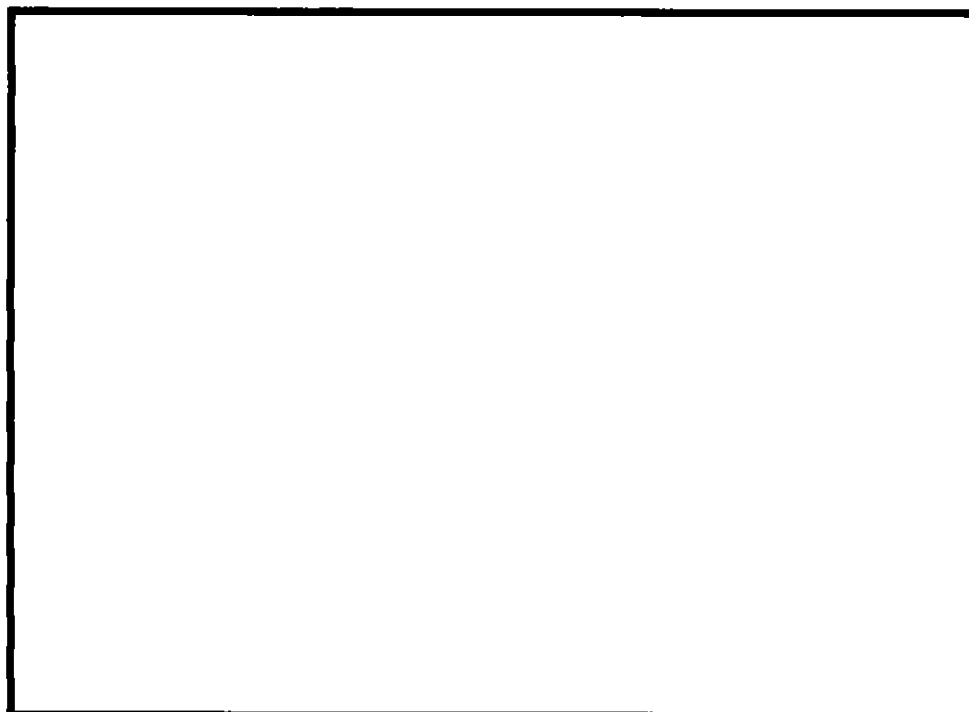
1 SOLICITUD DE			
☒ Patente de Invención		☐ Patente de Modelo de Utilidad	
☐ Capítulo I		☒ Capítulo II	
2 SOLICITANTE (71)	Nombre: LEVITON MANUFACTURING CO., INC Dirección 59-25 Little Neck Parkway, Little Neck, NY 11362, Estados Unidos de América Nacionalidad o Domicilio Estados Unidos Lugar de Construcción Estados Unidos Teléfono: Fax: E-mail	IDENTIFICACION CC ☐ NIT ☐ C.E. ☐ Otro ☐ Cual _____ Número _____	
3 REPRESENTANTE O APODERADO	Nombre JUAN PABLO CADENA SARMIENTO Dirección Cra. 7 No. 16-56 Piso 9 Teléfono: 380-2200 Fax: 380-2700 E-mail	IDENTIFICACION CC ☒ NIT ☐ C.E. ☐ Otro ☐ Cual _____ Número <u>80 410 337</u> TP <u>57492</u>	
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5 PCT (86) Solicitud Internacional No <u>PCT/US2003/029090</u> Fecha <u>16-09-2003</u> Publicación Internacional No <u>WO 2004/027798 A2</u> Fecha <u>01-04-2004</u>			
Título (54): <u>RECEPTÁCULO TRIPLE/SEXTUPLE</u>			
7 Clasificación Internacional (51) <u>H01R466</u>			
8 Prioridad	(33) País de Origen	(32) Fecha	(31) Número de Solicitud
SI ☒ NO ☐	<u>US</u>	<u>17-09-2002</u>	<u>10/245.159</u>
9 Comprobante de pago No. <u>10514657</u> Fecha <u>20/04/2005</u>			
Instrucciones para el diligenciamiento del presente formulario, ver reverso de esta página			

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ANEXOS

- ☒ Comprobante de pago de la tasa de presentación de la solicitud. \$443.000
- ☐ Documento que acredite la existencia y representación legal cuando el solicitante sea persona jurídica.
- ☐ Poderes, si fuere el caso.
- ☐ Documento de cesión del inventor al solicitante o a su causante.
- ☐ Declaraciones
- ☒ Copia de la solicitud internacional. (Resumen, descripción, reivindicaciones, dibujos)
- ☒ Traducción de la solicitud internacional al castellano. (Resumen, descripción, reivindicaciones, dibujos)
- ☐ Copia del examen preliminar efectuado por la IPEA.
- ☐ Traducción del examen preliminar efectuado por la IPEA.
- ☐ De ser el caso, copia del contrato de acceso.
- ☐ De ser el caso, documento que acredite la licencia o autorización de uso de conocimientos tradicionales de las comunidades indígenas.
- ☐ De ser el caso, certificado de depósito del material biológico.
- ☐ Arte final 12x12.
- ☐ De ser el caso, información sobre otras solicitudes de patente o títulos obtenidos en el extranjero por el mismo titular o su causante, relacionadas parcial o totalmente con la invención de esta solicitud.
- ☒ Otros: Tarjeta de propietarios.

11 FIGURA CARACTERÍSTICA:



12. Sobre la concesión de la patente:

NOMBRE: JUAN PABLO CADEYAS ARMENTO

FIRMA: [Firma manuscrita]

CÓDIGO: 1037 de Usatón (NP. 57492 del C.S.J.)

Instrucciones para la presentación de los anexos, ver reverso de esta página.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 05 - 14,657
FECHA : FEBRERO 24 DE 2005

SUPERINDUSTRIA Y COMERCIO
Radicacion : 05030833 00000000 Folios: 75
Fecha (MSD): 2005-02-04 16:51:42
Tramite : 611 PCT-PATENT 375 CATE LANC 411 PRESENTAC
Dependencia: 2820 DIVISION DE NUEVAS CREACIONES

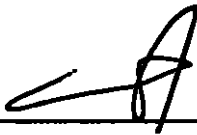
***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
BRIGARD & CASTRO LTDA	CONSIGNACION	BANCO POPULAR	050-00110-6	28030949	24/02/2005	19,983,000.00

***** CONCEPTO *****

CANT. RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1 50005-01-01 SOLICITUDES	1 TRAMITES DE SOL. DE PATENTE DE IN	443,000.00
	TOTAL :	\$ 443,000.00

SOM: CUATROCIENTOS CUARENTA Y TRES MIL PESOS

RESPONSABLE : 

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

AS: 16647

54

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
1 April 2004 (01.04.2004)

PCT

(10) International Publication Number
WO 2004/027798 A2

- (51) International Patent Classification: H01H (74) Agents: SUTTON, Paul, J. et al.; Greenberg Traurig, LLP, 885 Third Avenue, New York, NY 10022 (US).
- (21) International Application Number: PCT/US2003/029090 (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KR, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 16 September 2003 (16.09.2003) (25) Filing Language: English (26) Publication Language: English
- (30) Priority Date: 10/245,159 17 September 2002 (17.09.2002) US (71) Applicant: LEVITON MANUFACTURING CO., INC. [US/US]; 59-25 Little Neck Parkway, Little Neck, NY 11362 (US). (84) Designated States (regional): ARIPO patent (GH, GM, KR, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TO).
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[Continued on next page]

(54) Title: TRIPLEX/SIXPLEX RECEPTACLE



(57) Abstract: There is disclosed a single unit triplex receptacle having three sockets that can be mounted in a single box, does not require separate interconnecting wiring and can be covered by a single wall plate. There is also disclosed a single unit sixplex receptacle having six sockets that can be mounted in a double box, does not require separate interconnecting wiring and can be covered by a single wall plate.



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TRIPLEX/SIXPLEX RECEPTACLE

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates generally to the field of wiring devices installed in boxes mounted in building walls and more particularly to a single unit triplex receptacle which can be placed in a standard single box; and, to a single unit sixplex receptacle which can be placed in two standard single boxes ganged together.

Description of the Prior Art

It is currently possible to mount a duplex receptacle in a single gem box. It is also possible to mount two duplex receptacles side by side in two boxes joined together or in an enlarged box which can accept two duplex receptacles. The two duplex receptacles must then be wired together to enable them to function as four receptacles. There is no single unit that can be mounted in a single box in a wall that can receive more than two plugs. Neither is there a single unit that can be mounted in a double box in a wall that can receive more than four plugs. A need exists for a single unit having more than two receptacles or sockets that can be mounted in a single box. A need also exists for a single unit having more than four receptacles or sockets that can be mounted in a double box and does not require separate interconnecting wiring.

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SUMMARY OF THE INVENTION

There is disclosed a single unit triplex receptacle having three sockets that can be mounted in a single box, does not require separate interconnecting wiring and can be covered by a single wall plate. There is also disclosed a single unit sixplex receptacle having six sockets that can be mounted in a double box, does not require separate interconnecting wiring and can be covered by a single wall plate.

The foregoing has outlined, rather broadly, the preferred feature of the present invention so that those skilled in the art may better understand the detailed description of the invention that follows. Additional features of the invention will be described hereinafter that form the subject of the claims of the invention. Those skilled in the art should appreciate that they can readily use the disclosed conception and specific embodiment as a basis for designing or modifying other structures for carrying out the same purposes of the present invention and that such other structures do not depart from the spirit and scope of the invention in its broadest form.

BRIEF DESCRIPTION OF THE DRAWINGS

Other aspects, features, and advantages of the present invention will become more fully apparent from the following detailed description, the appended claim, and the accompanying drawings in which similar elements are given similar reference numerals.

Fig. 1 is an isometric view of a single unit triplex receptacle which can be mounted in a single box and a wall plate in accordance with the principles of the invention;

Fig. 2 is an exploded view of the single box, alignment plate, triplex receptacle and wall plate in accordance with the principles of the invention;

Fig. 3 is an exploded view of the alignment plate, triplex receptacle and wall plate illustrating in detail the captive member attached to the end of the ground strap of the receptacle;

Fig. 4 is an exploded view of the triplex receptacle;

Fig. 5 is a view looking at the top member 72 from bus 80 as shown in Fig. 4;

Fig. 6 is a view looking into the intermediate member 74 from bus 80 as shown in Fig. 4;

Fig. 7 is a view looking at the bottom of intermediate member 74 from bus 82 as shown in Fig. 4;

Fig. 8 is a view looking at the top of bottom member 76 from bus 82 as shown in Fig. 4;

Fig. 9 is a front perspective view of the wall plate;

Figs. 10A-10D are views along 10A-10A through 10D-10D of Fig. 9;

Fig. 11 is a side sectional view of the wall plate taken along the line 11-11 of Fig. 9;

Fig. 12 is a side sectional view of the wall plate of Fig. 9 installed on a ground strap and alignment plate;

Fig. 13 is a fragmentary enlarged side elevation of the latching pawl of the captive member engaging the saw-tooth rack of the wall plate;

Fig. 14 is a fragmentary, enlarged side elevation in section of the wall plate and tab of the alignment plate to indicate how the two components can be separated following latching;

Fig. 15 is an exploded view of a ganged box, a wall plate and alignment plate for two triplex receptacles or a single sixplex receptacle.

Fig. 16 is a view of a single unit sixplex receptacle and a wall plate;

Fig. 17 is an exploded view of the alignment plate, a sixplex receptacle and a wall plate; and,

Fig. 18 is an exploded view of the sixplex receptacle.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to Fig. 1, there is illustrated a triplex receptacle 20 located within a wall plate 22 in accordance with the principles of the invention. Triplex receptacle 20 is intended for 15 Amp. 125 V AC and according to NEMA specification 5-15R, where each individual receptacle has two slot openings 24 and 26 for receiving the flat blades of a suitable plug and a semi-circular ground blade opening 28. The opening 26 is larger than the opening 24 so that a two blade plug can only be inserted in one way to maintain the correct electrical polarization. The larger slot is connected to the neutral conductor and by maintaining the correct polarization, the external metal parts of appliances such as toasters, TV's etc. can be grounded through the neutral conductor. The presence of the semi-circular ground blade makes insertion with the wrong polarity impossible.

Referring to Fig. 2, there is shown an exploded view of a single box 30, a single unit triplex receptacle 44, an attachment plate 42 and cover plate 22. Initially, in the field, a suitable aperture is cut into a wall to provide access for mounting box 30 to a stud 32, or to permit installation of a suitable box to an adjacent stud or directly to the material of the wall (such as plasterboard). The box 30 is a single gem box. The box 30 is made of metal or plastic, has one or more openings in its sides or back to permit the introduction of electrical cables into the interior of the box 30 and has mounting means 34 to permit the box to be anchored to the adjacent stud 32. The box supports pairs of mounting ears 36. Each mounting ear contains a threaded aperture 38 to which can be fastened the mounting screws 44 of the triplex receptacle 20. In the normal order of assembly, electrical cables are passed through knock out openings 40 to the interior of the box. The ends of the electrical cables are stripped of insulation and attached to contacts on the side or rear of the body of the receptacle 20. After the electrical cables are attached to contacts on the side or rear of the body of the receptacle, the body of the receptacle is inserted into the alignment plate 42 and is then pushed into the box until the back of the alignment plate 42 touches the top of the box 30. The receptacle and the alignment plate are now attached to the box by means of screws 44 that pass through clearance openings such as elongated slots 46 in the alignment plate 42 and are threaded into openings 38 in ears 36. Thereafter, wall plate 22 is placed over the assembly of the receptacle 20, the alignment plate 42 and the box 30.

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Referring to Fig 3, the alignment plate 42, which can be composed of metal such as cold rolled steel of the like, supports a centrally located rectangular opening 48 sized to accept the body of the receptacle 20. Centrally located at each end of the rectangular opening and contiguous with the opening 48 are two clearance openings 46 which provide clearance for mounting screws 44 which are used to secure the receptacle 20 and alignment plate 42 to the box. Located beyond the outer edge of each clearance opening 46 is an alignment pin 50. The alignment pins are provided to engage openings 66 located in captive members 52 which are attached to the ends or lugs 54 of the ground strap 56 by screws, rivets etc. Alignment plate 42 supports a tab 58 that projects outward from the lower end and is used to facilitate removal of a wall plate from around the receptacle. The outside dimensions of the alignment plate are such that it can extend beyond at least one dimension of the box to which the receptacle and plate is attached. It is to be noted that the alignment plate 42 illustrated in Fig. 3 is for the single unit triplex receptacle here disclosed.

Continuing with Fig. 3, there is illustrated a new improved single unit triplex receptacle 20 which can fit within a single box. Receptacle 20 supports a ground strap having a lug 54 at each end which is attached to captive members 52 by means of screws, rivets, spot welds or the like. Each lug 54 can be rectangular in shape and contains two openings 60, 62. Opening 60 is a clearance opening for mounting screw 44 which is normally provided by the manufacturer of the receptacle for attaching the receptacle to the box. The distance between centers of openings 60 in lugs 54 on the ground strap is equal to the distance between the centers of openings 38 in ears 36 of box 30 to allow mounting screws 44 in openings 60 to engage and be held captive by the threaded openings 60. Clearance openings 46 in the alignment plate 42 are clearance openings for mounting screws 44. Openings 62 in the lugs 54 are clearance openings for alignment pins 50 of alignment plate 42.

Continuing with Fig. 3, captive member 52 can be composed of phosphor bronze, spring brass, spring steel or the like and is securely attached to lugs 54. Captive member 52 contains a first opening 64 which is aligned with opening 60 in the lug and a second opening 66 which is aligned with opening 62 in the lug. Opening 60 can be oval, square or rectangular in shape to allow mounting screw 44 to be positioned off center. A centrally located projection 68 extends into opening 64 and is bent at a slight downward angle toward the body of the switch to engage and hold loosely captive the threaded body of mounting screw 44.

Engagement of projection 68 with screw 44 provides a good electrical connection between the ground strap of the receptacle, the screw 44 and the box to insure that the receptacle is connected to ground. Screw 44, which passes through opening 64 of the capture member 60 of the lug and opening 46 of the alignment plate 42, threads into opening 38 of the box to hold the receptacle and alignment plate to the box. Openings 64 and 60 are sized to allow the screw 44 to move laterally to compensate for slight misalignments that may occur. Opening 66 in captive member 52 is substantially circular and supports three inwardly projecting members bent upward at a slight angle away from the receptacle body. The ends of the three projecting members form an opening slightly smaller than the diameter of alignment pins 50 on alignment plate 42 and are designed to flex slightly as the alignment pin is inserted into opening 66 from the rear. When the alignment pin is inserted into opening 66, the three ends of the projecting members frictionally engage and hold captive the alignment pins to prevent the easy removal of the alignment pins from the captive member. Located at the end of captive member 52 are two tabs 70. The end of each tab has a double bend similar to a 360 degree sine curve and are provided to hold the wall plate in place by engaging indents on the inside ends of the cover plate.

Referring to Fig. 4, there is illustrated an exploded view of the single unit triplex receptacle 20. Receptacle 20 has a top member 72, an intermediate member 74, a bottom member 76 and a ground strap 78. Positioned between the top member and the intermediate member is bus 80 having three contacts, one for each of the three receptacles, for receiving the flat blade of a plug which is to be connected to the neutral conductor. Positioned between the intermediate member and the bottom member is bus 82 having three contacts, one for each of the three receptacles, for receiving the flat blade of a plug which is to be connected to the phase conductor. Positioned below the bottom member 76 is the ground strap 78 having three ground contacts, one for each of the three receptacles, for receiving the ground blade of a plug.

Fig. 5 is a plan view of the bottom of top member 72 looking up from bus 80; Fig. 6 is a plan view of the top of intermediate member 74 looking down from bus 80; Fig. 7 is a plan view of the bottom of intermediate member 74 looking up from bus 82; and, Fig. 8 is a plan view of the bottom member 76 looking down from bus 82.

Returning to Fig. 4, bus 80 supports a terminal with a screw 92 for receiving the neutral wire conductor and three contacts for receiving flat blades of a plug. Intermediate

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member 74 is composed of insulating material having on its top surface various partitions selectively spaced to provide separate compartments some of which contain openings to provide a serpentine passageway for receiving bus 80. Bus 80 is shaped to follow a serpentine path around and thru the various partitions in the top of intermediate member 74 to position the commonly connected three contacts in compartments 94, 96, 98 and screw terminal 92 in opening 100. Referring to Figs. 5 and 6, when intermediate member 74 is assembled to top member 72, the three contacts of bus 80 are located in compartments 106, 94 and 96 of intermediate member and below the openings 26 of each of the three receptacles in the top member. Referring to Fig. 6, the bottom surface of intermediate member 74 is substantially flat and supports openings 102, 104, and 106 for receiving contacts of bus 82 from the bottom of the member. Intermediate member 74 also contains thru openings 91, 93 and 95 for receiving ground contacts on the ground strap 78. Bus 82 supports a screw terminal 110 for receiving a wire conductor. Bus 82 follows a serpentine path along the flat bottom surface of intermediate member 74 to position the commonly connected contacts in openings 102, 104, and 106 and screw terminal in opening 108. Bus 80 is electrically isolated from bus 82 by the insulating bottom surface or floor of intermediate member 74.

Bottom member 76 is adapted to be attached to the bottom of intermediate member 74 and supports openings 112, 114 and 116 for receiving ground contacts. Referring to Fig. 4, when the top, intermediate and bottom members are assembled together, openings 116, 114 and 118 in the bottom member are aligned with openings 95, 93 and 91 respectively in the intermediate member to position the ground contacts behind the ground openings 28 in the top member. In a similar manner, when the receptacle is assembled, openings 104, 106 and 102 are aligned with openings in the top member to position the contacts of bus 82 beneath openings 26 in the top member. Ground strap 78 is composed of conductive material such as iron or steel and is electrically connected to and supports three ground contacts. Ground strap 78 also supports screw terminal 124 for connecting the receptacle ground contacts to an electrical ground.

To assemble the triplex receptacle, the bus 80 and its contacts is placed in the top of intermediate member 74, the bus 82 and its contacts is placed on the bottom of intermediate member, and the intermediate member is then assembled to top member. The bottom member 76 is then positioned next to the bottom of intermediate member over the bus 82 and the

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ground strap is coupled to the assembled parts. In the assembled receptacle, the contacts which are located behind the openings 24 of each socket are connected to a common bus; the contacts located behind openings 26 of each socket are connected to a common bus; and the contacts located behind the openings 28 of each socket are connected to the ground strap of the receptacle.

To connect the single unit receptacle having three sockets to a box, the electrical cables in a box are stripped of insulation and are attached to terminals on the side or back of the receptacle. The alignment plate is then attached to the receptacle from the back. Initially, after the wires are attached to the receptacle, the alignment plate is held vertically in front of the receptacle and parallel to the receptacle. The top of the receptacle is now tilted downward from its vertical position until it is horizontal and, while in its horizontal position, the end of the receptacle that was initially up is passed through opening 48 of the alignment plate which is in its vertical position. After the receptacle is passed completely through the opening of the alignment plate, the receptacle is tilted back to its initial vertical position. At this time the alignment plate and the receptacle are now moved toward each other until the front face of the alignment plate contacts the back face of the lugs 54 on the ends of the ground strap. As the alignment plate approaches the lugs, alignment pins 50 of the alignment plate pass through openings 62 in the lugs and enter openings 66 in captive members 52. As the alignment pins enter the openings 66, they force the upwardly bent projections to spread apart to allow the alignment pins to fully enter openings 66. The ends of the upwardly bent projections engage and hold captive the alignment pins 50. The receptacle, which is now attached to the alignment plate and is connected to the electrical wires, is inserted into the box. As the receptacle is inserted into the box, screws 44 located in openings 64 of the captive member and clearance opening 46 in alignment plate are aligned with and threaded into openings 38 of the box to hold both the alignment plate and receptacle to the box. The head of screw 44 is larger than opening 64 and 60 and, therefore, holds receptacle 20 and alignment plate 42 captive to the box.

The wall plate is now placed over the receptacle. Referring to Fig. 3, each captive member 52 supports at least two projecting latching pawls 70. Each pawl has a double curve similar to a three hundred sixty degree sine curve. After the receptacle 20 is attached to the alignment plate 42, the two latching pawls 70 of captive member 52 are located on either side

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of a tab 58 on the alignment plate. Tab 58 functions as a tool pivot point to allow an attached wall plate 22 to be removed from around the receptacle. A slot in the lower edge of the wall plate 22 provides access for the insertion of a small flat tool such as a screw driver to facilitate removal of the wall plate from the receptacle.

The width of the face of the single unit receptacle having three sockets is approximately 60% of the width of the wall plate (see Fig. 9) along the horizontal axis and approximately 53% of the length of the wall plate along the vertical axis. For the triplex receptacle, the wall plate is substantially 4.92 inches in length by 3.28 inches in width and has a rectangular opening for receiving the receptacle that is substantially 2.82 inches in length by 1.83 inches in width. The width of the wall plate varies depending upon how many boxes are ganged together and the number of triplex receptacles that are to be located in side-by-side relationship in boxes that are ganged. The front surface of the wall plate has a complex contoured shape where the edge of the wall plate at the rectangular opening for a triplex receptacle is further from the wall than the outer edge of the cover plate. More specifically, referring to Fig. 10, there is illustrated a view along the line 10B-10B of Fig. 9 of a portion of the front surface, along the horizontal centerline, between point K, the outer right edge, and point L, the inner edge of the opening for the receptacle. As illustrated in Fig. 10B, the surface lies between two profile boundaries 0.002 inches apart, perpendicular to datum plane A, equally disposed about the true profile and positioned with respect to a datum plane. The basic dimensions and the profile tolerance establish a tolerance zone to control the shape and size of the surface. The surface is 0.726 inches in length. Within that length, a contour is defined by the dimensions of equidistant points which are 0.0726 inches apart. Each dimension indicates that point's distance to define datum plane A, the back (flat) surface of the cover plate, which begins at point K. Moving from left to right, the dimensions increase from 0.228 to 0.287 inches. This progression indicates a contour of increasing height, positive first differential, when the points are connected by individual splines. The points are not connected by a single arc and the rate at which the contour height increases is not constant. The rate of height increase of the individual splines decreases from left to right, and the second differential of the contour is negative. That is, the difference between the first point's distance dimension and the second is larger than the difference between the second and the third, etc. Thus, the surface has a contour of positive first differential and negative second

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differential, comprised of a combination of splines drawn between points of varying distance from a datum plane. This description substantially describes most of the wall plate's contours for sections along lines 10A-10A, 10D-10D, and 10E-10E of Fig. 9. Section along line 10C-10C, which runs along the vertical centerline of the wall plate defines a surface having a positive first differential and zero second differential, comprised of a combination of splines drawn between points of varying distance from a datum plane. This contour has zero second differential because the rate of height increase of the individual splines is constant; the difference between any two sequential point dimensions is at a uniform spacing of 0.0037 inches.

The contour along the width of the front of the triplex receptacle face is flat and the contour along the length of the triplex receptacle has a constant radius of substantially 30.724 inches. The shape of the front of the receptacle face allows for the proper seating of an inserted plug. The wall plate has no exposed mounting screws or other visible metal hardware. When the wall plate is attached to the receptacle, the only visible parts are the wall plate 22 and the receptacle.

Referring to Figs. 11-14, placed in the bottom end wall 200 of wall plate 22 is a slot 202 which provides access to the tab 58 on the alignment plate as seen in Fig. 14. A small, flat tool blade such as a screw driver blade 204 is moved through slot 202 in end wall 200 to contact both the outer surface of tab 58 and the back wall of slot 202. By moving the blade 204 in a counterclockwise direction using the back wall of slot 202 as a fulcrum, the force applied to tab 58 will separate wall plate 22 from the receptacle. To attach wall plate 22 to the receptacle, the pawls 70 of captive member 52 are made to engage saw-tooth shaped racks 206 located on the inner surfaces of the end walls 200 of wall plate 22. There are two racks on the top and bottom end walls 200. Each rack 206 contains a number of saw-tooth shaped teeth 208 each having an inclined front face 210 and a vertical back face 212. As seen in Fig. 13, as latching pawl 70 engages the inclined front face 210, the pawl deflects in a counterclockwise direction and moves past the tip of the first tooth 214. Once pawl 70 is past the tip of tooth 214, it can return to its initial position and take a position between the vertical back face 212 of first tooth 214 and the inclined front face 210 of a second tooth 214. This operation can be repeated as many times as needed to position the bottom edges of wall plate 22 as close to the wall as possible. Since each of the racks 206 and pawls 70 are independently operated, it is

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possible to locate the wall plate 22 to closely follow the wall contour, even when the wall is not flat. This ability to follow the wall contour is even more appreciated where the wall plate 22 is large, such as with a wall plate that is required to cover four ganged boxes where a receptacle is located in side by side relationship with switches.

Once the latching pawl 70 returns to its original position, any attempt to dislodge the wall plate 22 from the pawl 70 which is mechanically attached to the receptacle becomes difficult. However, since tool 204 can apply a great deal of force to tab 58, it is possible to separate the pawl 70 from engagement with the teeth and thus the receptacle from the cover plate.

Referring to Fig. 15, there is illustrated two boxes joined together to provide a double box, an alignment plate 358 and a wall plate for two triplex receptacles positioned side by side in the double box. It is to be noted that there is no partition or dividing member located in the wall plate opening to separate the two receptacles. The two triplex receptacles can be placed in the double ganged box 360 made up of two single ganged boxes and joined by fasteners 362 extending through the threaded apertures 364 of two joining ears. Alignment plate 358 has a single opening 360 for receiving two triplex receptacles, four clearance openings 372 and four alignment pins 370.

Looking at the wall plate 338, there can be three racks 346 on the interior of the top and bottom end walls 348 for receiving four pawls where the center rack is sized to receive one pawl from each receptacle. Also, there can be two tabs 320, one for each triplex receptacle, which will be accessible via slots 352 in the bottom end wall 348 of wall plate 338. Because of the independent operation of the pawls of the captive members with their respective racks 346, the wall plate 338 is able to compensate somewhat for lack of flatness of the wall around the receptacle.

Referring to Fig. 16, there is illustrated an isometric view of a single unit receptacle having six sockets 420 and wall plate 338 in accordance with the principles of the invention. As with the triplex receptacle, the sixplex receptacle 420 is intended for 15 Amp. 125 V AC and according to NEMA specification 5-15R, where each individual receptacle has two flat blade openings 494 and 496 for receiving the flat blades of a suitable plug and a semi-circular opening 498 for a ground blade. The opening 494 is larger than the opening 496 so that a two blade plug can only be inserted in one way to maintain the correct electrical polarization. The

26 17

larger slot is connected to the neutral conductor and by maintaining the correct polarization, the external metal parts of appliances such as toasters, TV's etc. can be grounded through the neutral conductor. The presence of the ground blade makes insertion of a plug with the wrong polarity impossible.

Referring to Fig. 17, there is illustrated an exploded view of the sixplex receptacle, and the alignment plate 358 and the wall plate 338 for the sixplex receptacle. Initially, during installation, a suitable aperture is cut into a wall to provide access for two boxes (see Fig. 15) joined together to form a single double size box mounted to a stud, or to permit installation of a suitable box to an adjacent stud or directly to the material of the wall (such as plasterboard). The double box consists of two single gem boxes joined together. The double box is large enough to accept a single unit sixplex receptacle having six sockets here disclosed. The box is made of metal or plastic, has one or more openings in its sides or back to permit the introduction of electrical cables into the interior of the box and has mounting means to permit the box to be anchored to an adjacent stud. The box supports pairs of mounting ears each having a threaded aperture to which is fastened the mounting screws of the receptacle 420. During assembly, electrical cables are passed through knock out openings to the interior of the box. The ends of the electrical cables are stripped of insulation and attached to contacts on the side or rear of the body of the receptacle 420. After the electrical cables are attached to contacts on the side or rear of the body of the receptacle, the receptacle is attached to the top side of the alignment plate 358, and the body of the receptacle is pushed into the box until the alignment plate 358 touches the top of the box. At this time, the receptacle and the alignment plate are attached to the box by means of screws 444 that pass through clearance openings such as elongated slots 446 and threaded into openings in ears of the box to mount receptacle 420 to the box. Thereafter, wall plate 338 is placed over the receptacle 420, the alignment plate 358 and the box.

Referring to Fig. 17, the alignment plate 358 and the wall plate 338 shown is for use with a single unit receptacle having six sockets and are similar to the alignment plate and wall plate shown in Fig. 15. Continuing with Fig. 17, there is illustrated a new improved single unit receptacle 420 having six sockets which can fit within a double box. The sixplex receptacle 420 supports two ground straps 456 each having a lug 454 at each end which provides support for captive members 452 by means of screws, rivets, spot welds or the like.

X 18

Each ground strap 456 with its captive member 452 is similar to the ground strap and captive member shown in Fig. 3 and, therefore, in the interest of brevity, the details of their construction and operation will not again be repeated.

Referring to Fig. 18, there is illustrated an exploded view of a sixplex receptacle having a top member 472, intermediate member 474 consisting of two sections 469, which can be the same part rotated 180°, a bottom member 476 and a ground strap 484 consisting of two sections 486 and 488. Positioned between the top member 472 and the two intermediate members 474 is bus 480 having a six contacts, one for each of the six sockets in the top member for receiving the flat blade of a plug which is to be connected to a neutral conductor. Positioned between the two intermediate members 474 and the bottom member 476 is bus 482 having six contacts, one for each of the six sockets for receiving the flat blade of a plug which is to be connected to a phase conductor. Positioned below the bottom member 476 is the ground strap 484 consisting of two sections 486, 488 which are electrically connected together and support six ground contacts, one for each socket for receiving the ground blade of a plug which is to be connected to ground.

The top member 472 of the sixplex receptacle is a single structure having, on its top surface, six sockets each of which contains three openings, one for the phase line, one for the neutral line, and one for the ground line. The top member of the sixplex receptacle can be considered to be two top members 72 of the triplex receptacle (see Fig. 4) joined together to form a single member. Thus, the bottom surface of the top member 472, looking up from bus 480 is similar to the bottom surface of two top members joined together to form a single unit and, thus, supports partitions selectively positioned to provide compartments which communicate with the openings of the various sockets in the top surface and provides passageways for accommodating the bus 480 having six contacts. Thus, the top member 472 of the sixplex receptacle can be considered to be two top members of the triplex receptacle shown in Fig. 4 positioned side by side and molded as a single unit. Continuing with Fig. 18, intermediate members 474 consists of two individual sections 479 each of which is similar to intermediate section 74 of the triplex receptacle shown in Fig. 4.

Bus 480 consists of two sections 483 and 485 electrically connected via a conductive bridge with a common screw terminal where each section is similar to bus 80 of the triplex receptacle shown in Fig. 4. The bus is connected to six contacts for receiving the flat blades

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of a plug which are to be connected to the neutral conductor. Each section 469 of intermediate member 474 is similar to intermediate member 74 of the triplex receptacle and, thus, the top of each section 469 contains various partitions selectively spaced to provide a serpentine passageway for receiving the bus 480 having six contacts. More specifically, bus 480 follows a serpentine path around and thru the various partitions in the top of sections 469 to position the commonly connected contacts in openings which communicate with openings in the top member 472 designated to receive the flat blade of a plug which is to be connected to the neutral conductor 494. As with intermediate member 74, the bottom surface of each section 469 of intermediate member 474 is substantially flat and supports openings for receiving six contacts of the phase bus 482. Bus 482 can be considered to consist of two halves where each half is similar to bus 82 of the triplex receptacle shown in Fig. 4. The two halves of bus 482 are connected together by a conductive bridge and supports six contacts for receiving flat blades which are to be connected to the phase conductor. Bus 482 also supports two screw terminals either of which can be connected to the phase conductor. Bus 482 follows a serpentine path along the flat bottom surface of the two sections of intermediate member 474 to position the commonly connected contacts below openings in the member 470 designated to receive the flat blade of a plug which is to be connected to the phase conductor. Bus 480 is electrically isolated from bus 482 by the bottom surfaces of the two sections of intermediate member 474.

Bottom member 476, is a single member similar to the two bottom members 76 of the triplex receptacle and joined together to form a single member. Member 476 is adapted to fit over the bottom of the two sections of intermediate member 474 and contains six openings for receiving the six contacts of the ground strap 484. Ground strap 484 consists of two sections 486 and 488, each of which is similar to the ground strap 78 of the triplex receptacle and connected together by a conductive bridge. Ground strap 484 supports six ground contacts which are positioned to fit in various openings in the different members of the receptacle which allow the ground contacts to be positioned below openings in the top member 470 designated to receive the half-round blade of a plug which is to be connected to ground. The ground strap 438 supports one screw terminal, either of which can be connected to an electrical ground.

Assembly of the sixplex receptacle is basically similar to the assembly of the triplex receptacle. The main difference is that the assembled sixplex receptacle is connected to two boxes ganged together instead of one box and the alignment plate and wall plate (see Fig. 15) are sized to accommodate the sixplex receptacle. In addition, the various buses and top, intermediate and bottom members of the sixplex receptacle are sized to provide a receptacle having six sockets rather than three sockets.

While there has been shown and described and pointed out the fundamental novel features of the invention as applied to the preferred embodiments, it will be understood that various omissions and substitutions and changes of the form and details of the devices illustrated and in their operation may be made by those skilled in the art without departing from the spirit of the invention.



What is claimed is:

- 1. A receptacle having a body and a top member adapted to be mounted in a wall box wherein the top member has openings for receiving the blades of more than two plugs.**
- 2. The receptacle of claim 1 wherein the top member has openings for receiving the blades of at least three plugs.**
- 3. The receptacle of claim 2 wherein the body of the receptacle can be mounted in a single box.**
- 4. The receptacle of claim 3 wherein the openings in the top member for receiving the blades of at least three plugs comprises at least two openings for each plug wherein one of the two openings is larger than the other.**
- 5. The receptacle of claim 4 wherein contacts are located behind each opening for receiving the blades of the at least three plugs and wherein the contacts located behind the larger openings are coupled electrically to each other via a bus.**
- 6. The receptacle of claim 5 wherein the contacts located behind each of the smaller of the two openings are coupled electrically to each other via a second bus.**
- 7. The receptacle of claim 4 wherein the openings in the top member for receiving the blades of the at least three plugs comprises a third opening.**
- 8. The receptacle of claim 7 wherein a contact is located behind each third opening and each contact behind each third opening is coupled electrically to each other and to a contact on the body of the receptacle.**
- 9. The receptacle of claim 8 wherein each third opening in the top member is a semi-circular opening for receiving a ground blade of a plug.**
- 10. The receptacle of claim 1 wherein the surface of the top member is uninterrupted.**

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11. The receptacle of claim 1 further comprising mounting means for coupling the receptacle to at least a single box.

12. The receptacle of claim 1 wherein the top member has openings for receiving the blades of at least six plugs.

13. The receptacle of claim 12 wherein the body of the receptacle can be mounted in a double box.

14. The receptacle of claim 13 wherein the openings in the top member for receiving the blades of at least six plugs comprises at least two openings for each plug wherein one of the two openings is larger than the other.

15. The receptacle of claim 14 wherein contacts are located behind each opening for receiving the blades of the at least six plugs and wherein the contacts located behind the larger openings are coupled electrically to each other via a bus.

16. The receptacle of claim 15 wherein the contacts located behind each of the smaller of the two openings are coupled electrically to each other via a second bus.

17. The receptacle of claim 14 wherein the openings in the top member for receiving the blades of the at least six plugs comprises a third opening.

18. The receptacle of claim 17 wherein a contact is located behind each third opening and each contact located behind the third opening is coupled electrically to each other and to a contact on the body of the receptacle.

19. The receptacle of claim 18 wherein each third opening in the top member is a semi-circular opening for receiving a ground blade of a plug.

20. The receptacle of claim 12 wherein the surface of the top member is uninterrupted.

21. The receptacle of claim 12 further comprising mounting means for coupling the receptacle to at least a double box.

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ABSTRACT OF THE DISCLOSURE

There is disclosed a single unit triplex receptacle having three sockets that can be mounted in a single box, does not require separate interconnecting wiring and can be covered by a single wall plate. There is also disclosed a single unit sixplex receptacle having six sockets that can be mounted in a double box, does not require separate interconnecting wiring and can be covered by a single wall plate.

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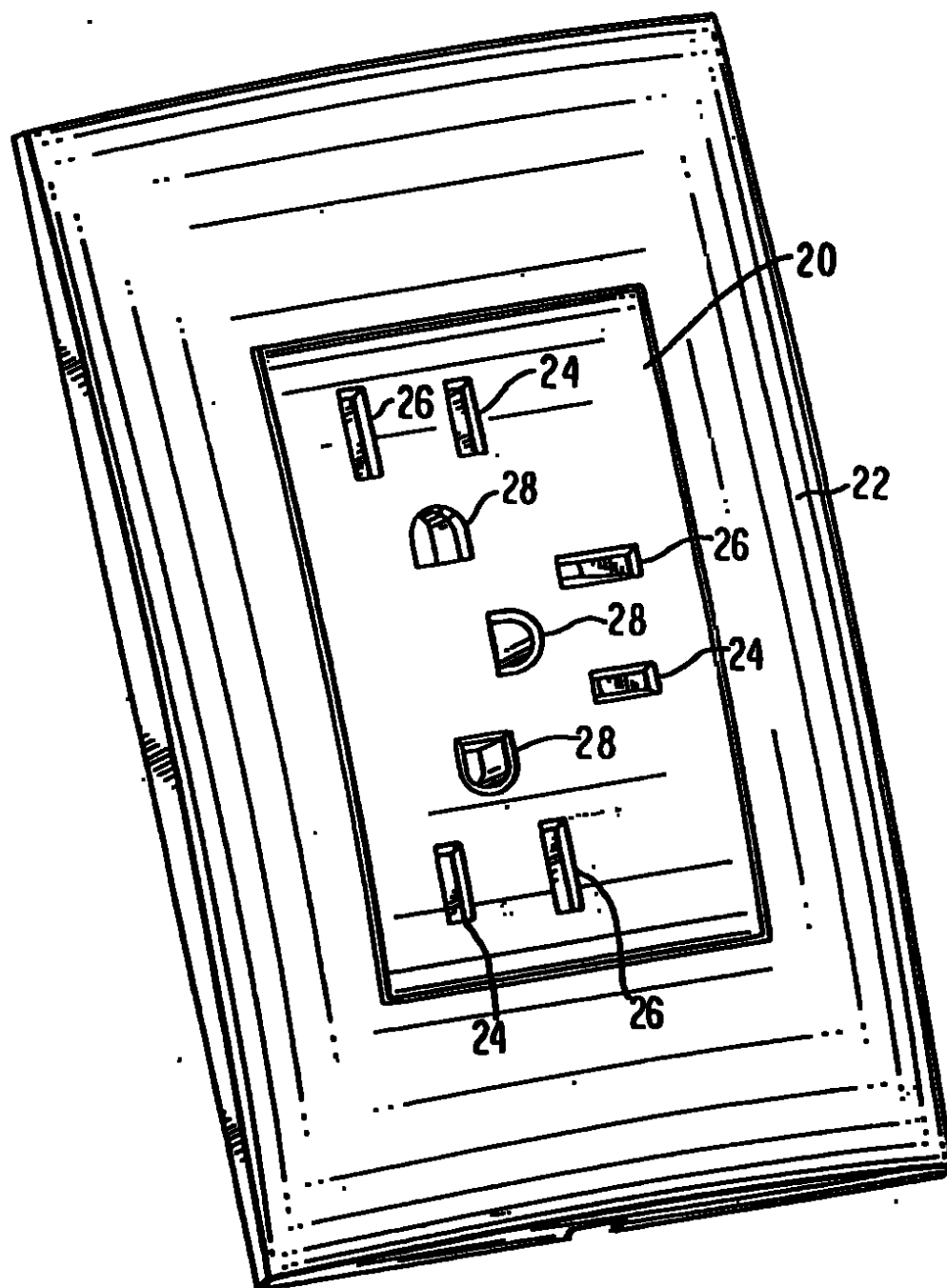
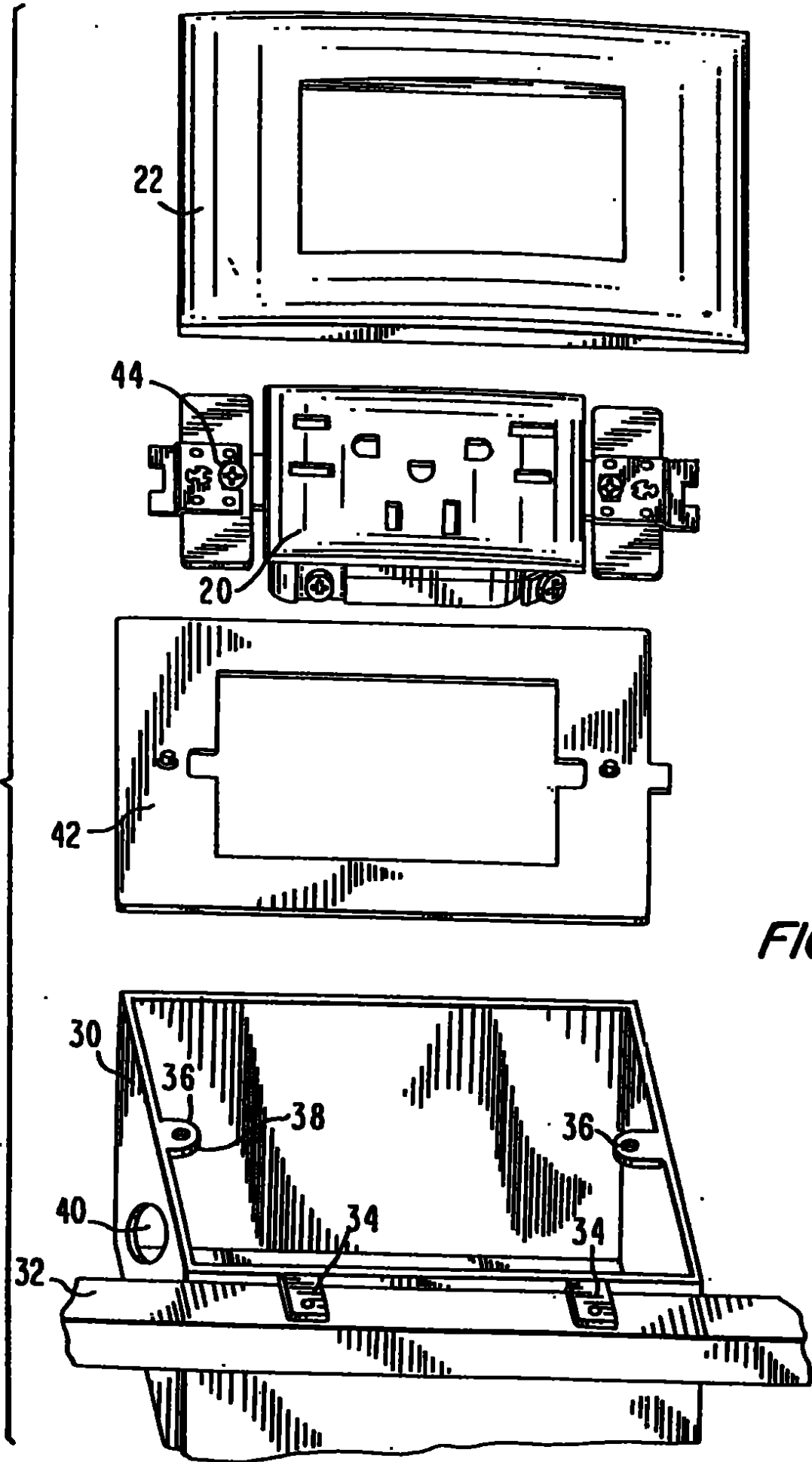


FIG. 1

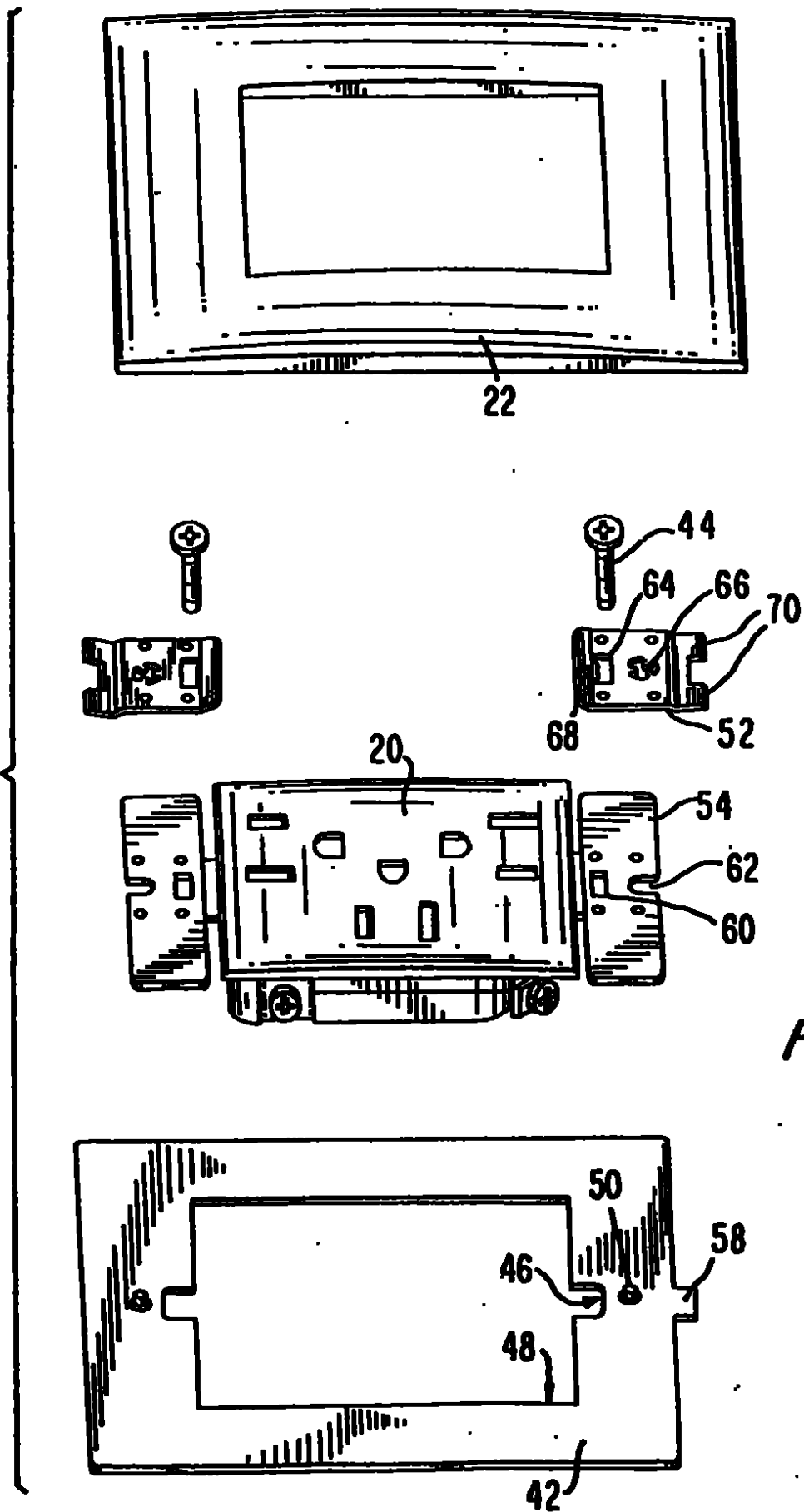
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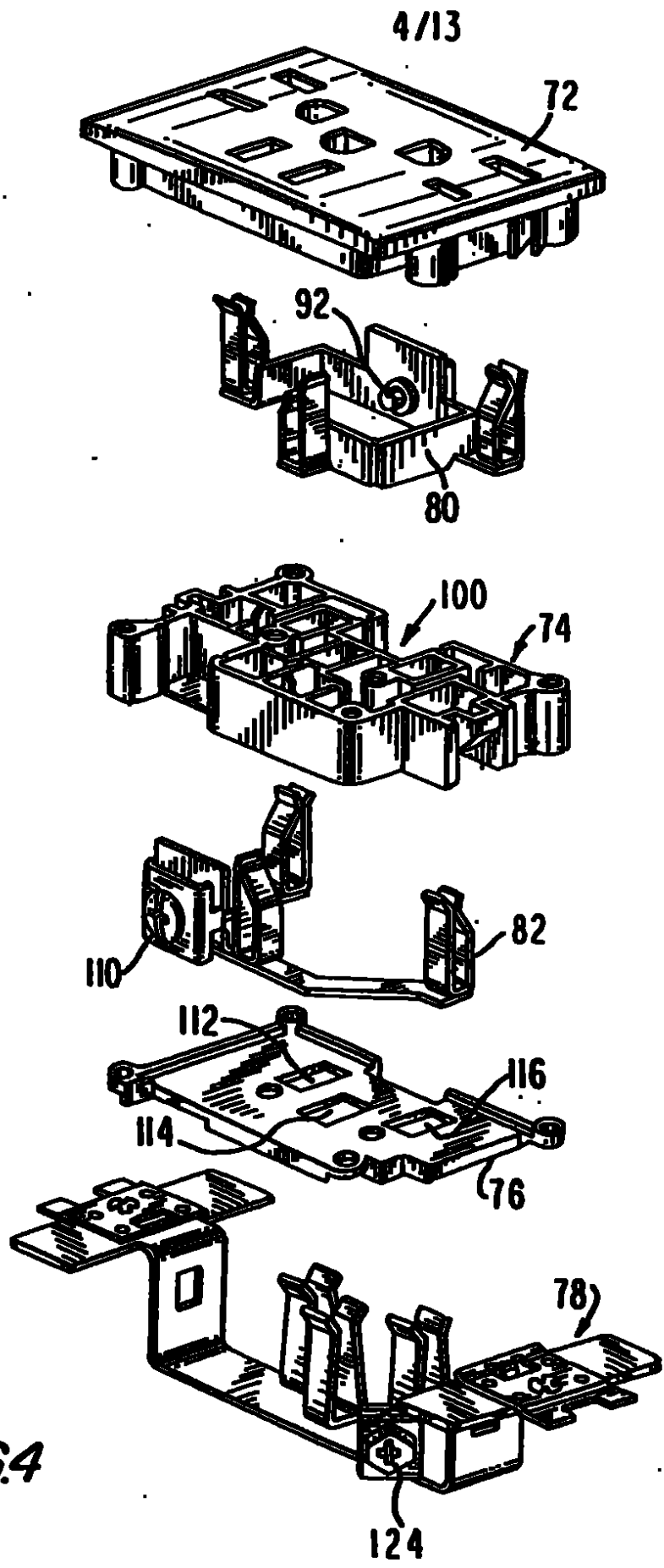


FIG.4

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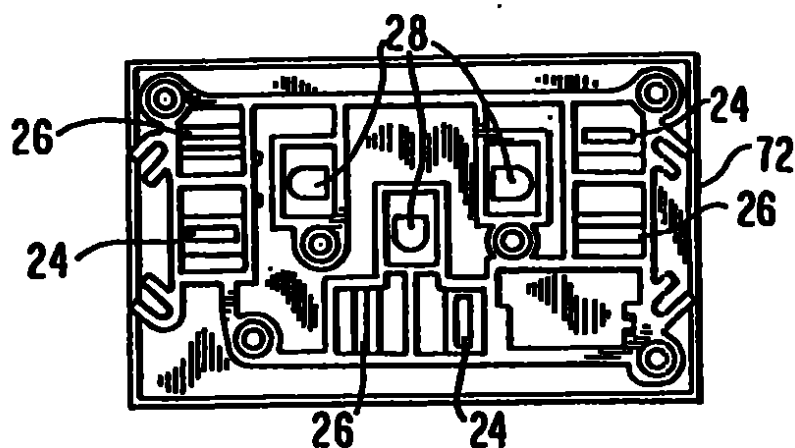


FIG. 5

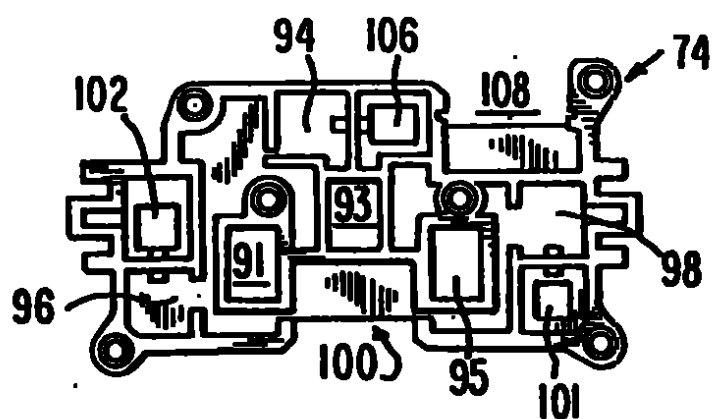


FIG. 6

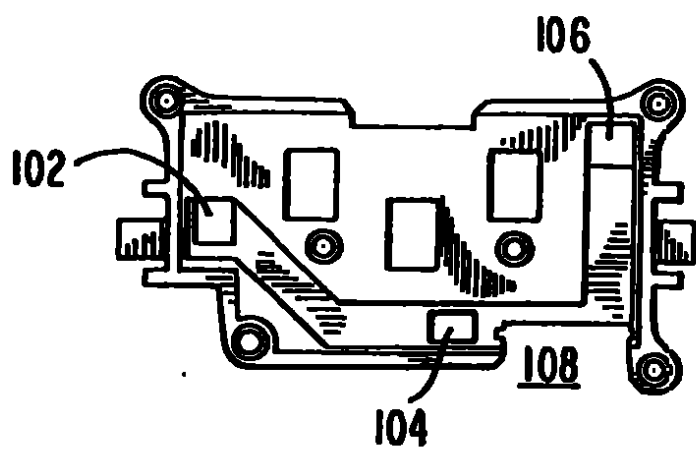


FIG. 7

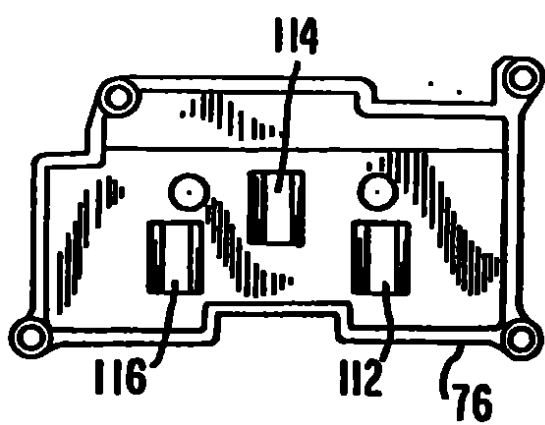


FIG. 8

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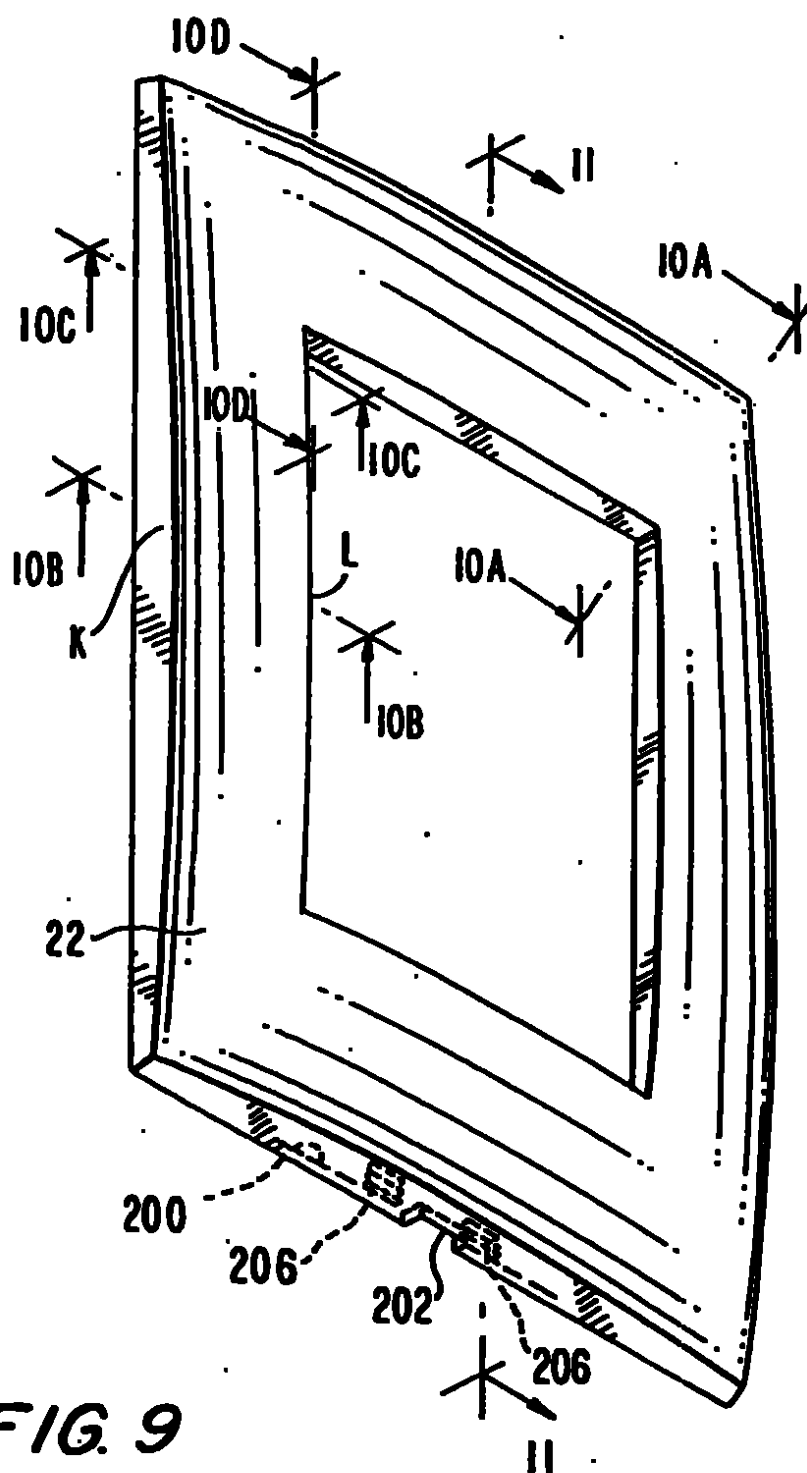


FIG. 9

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FIG. 10A

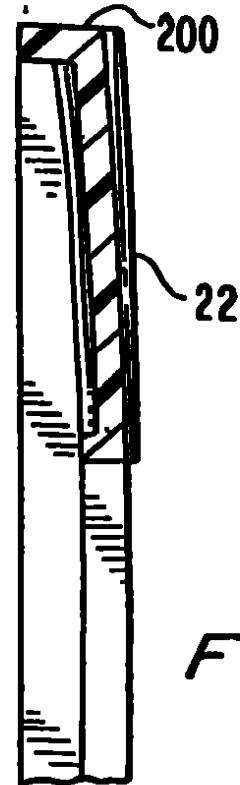
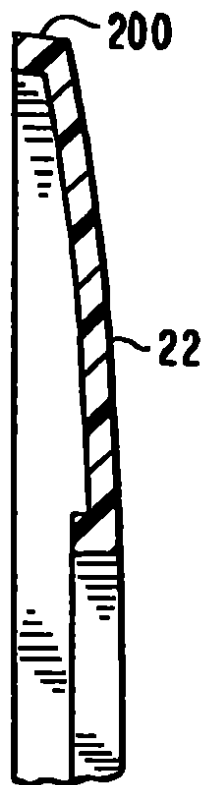


FIG. 10D

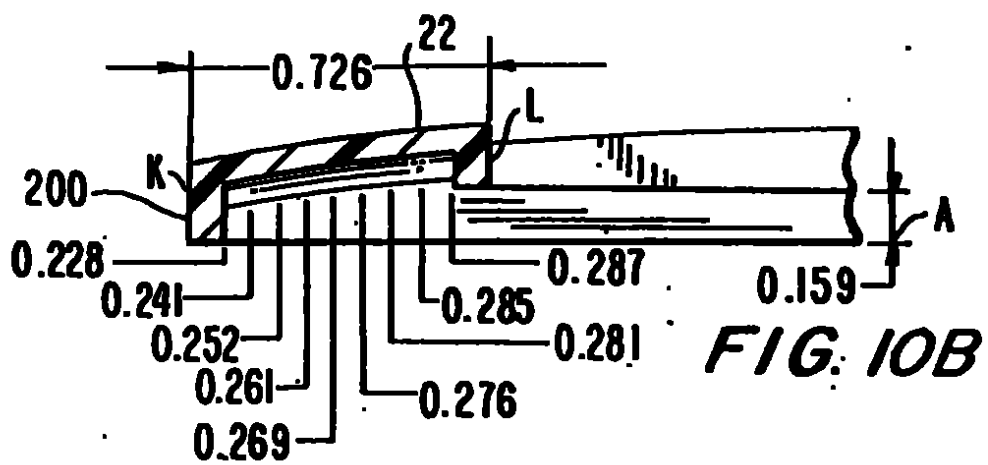
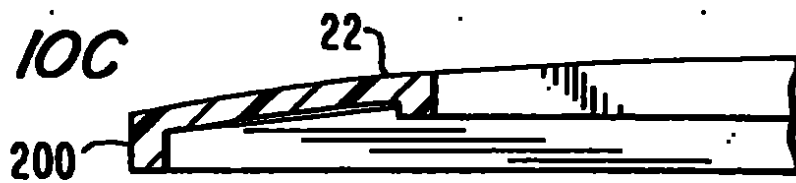


FIG. 10B

FIG. 10C



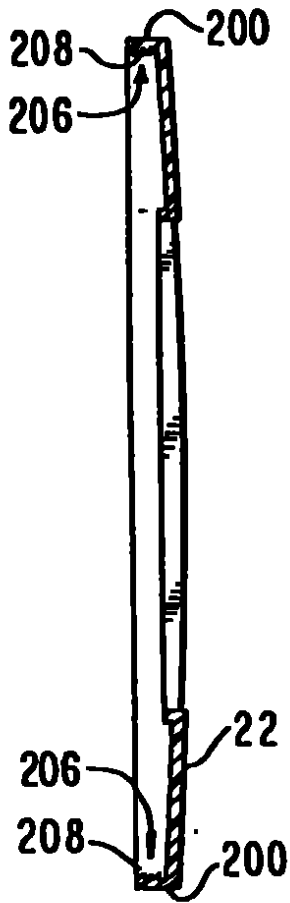


FIG. 11

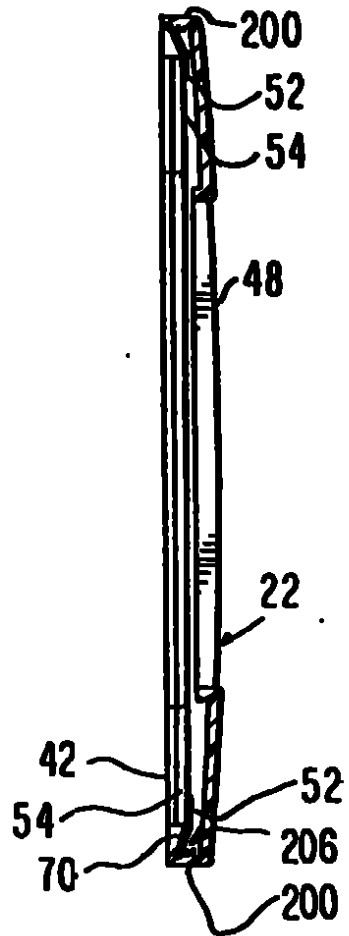


FIG. 12

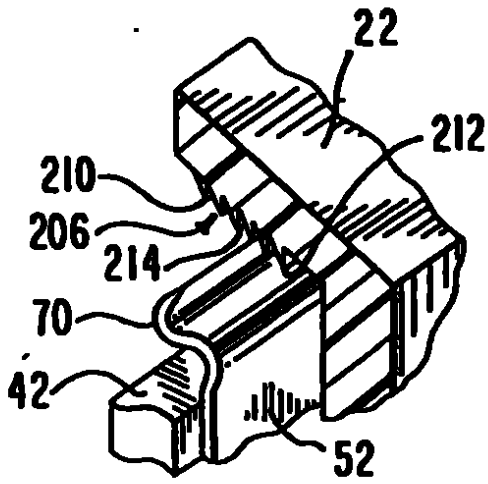


FIG. 13

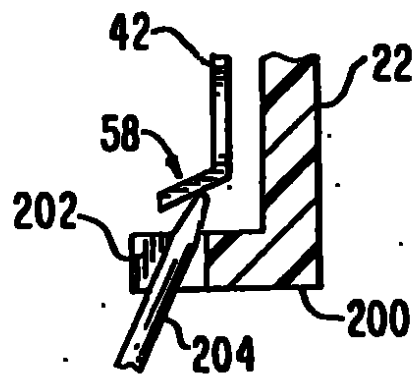
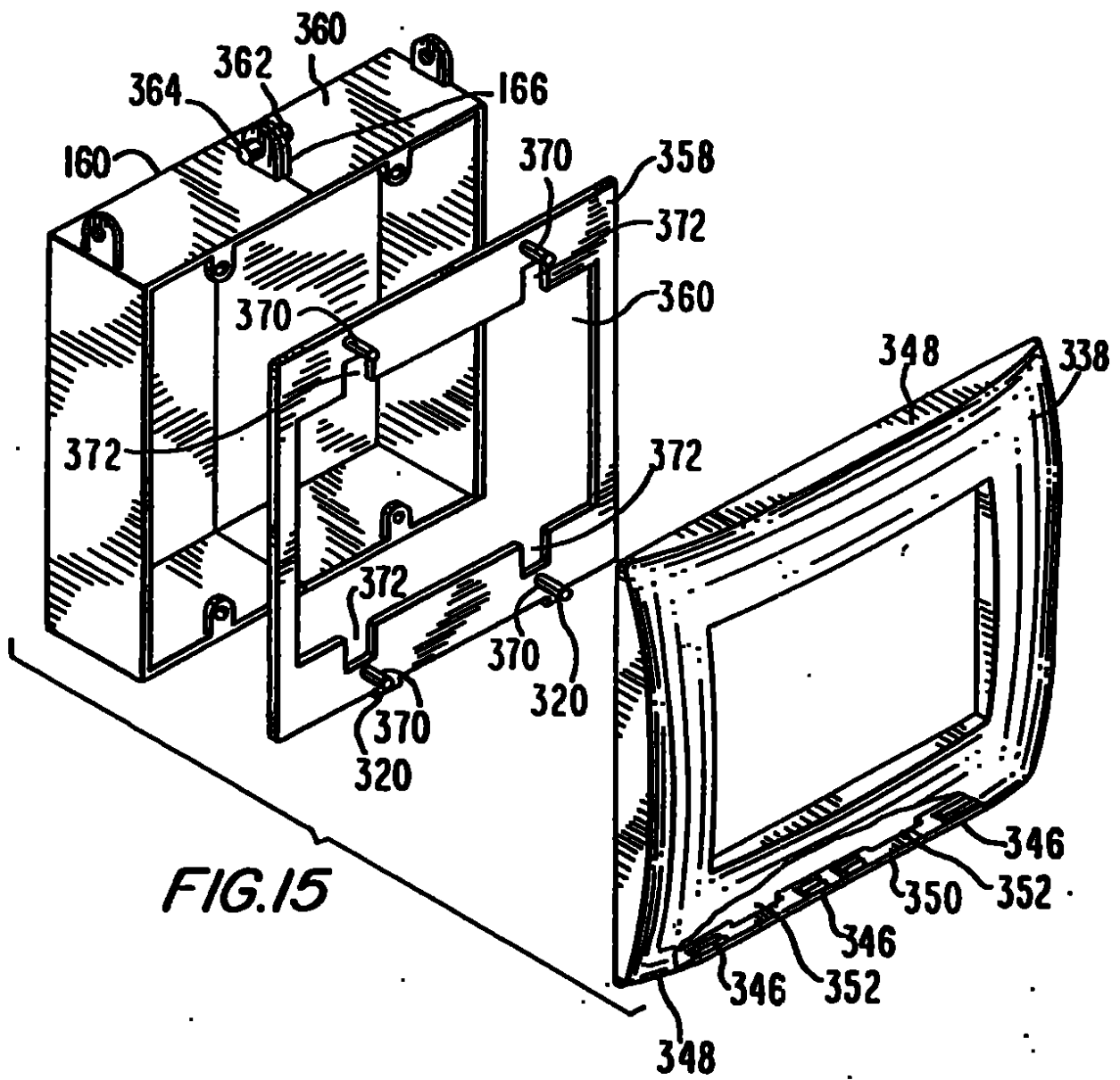


FIG. 14

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31 34

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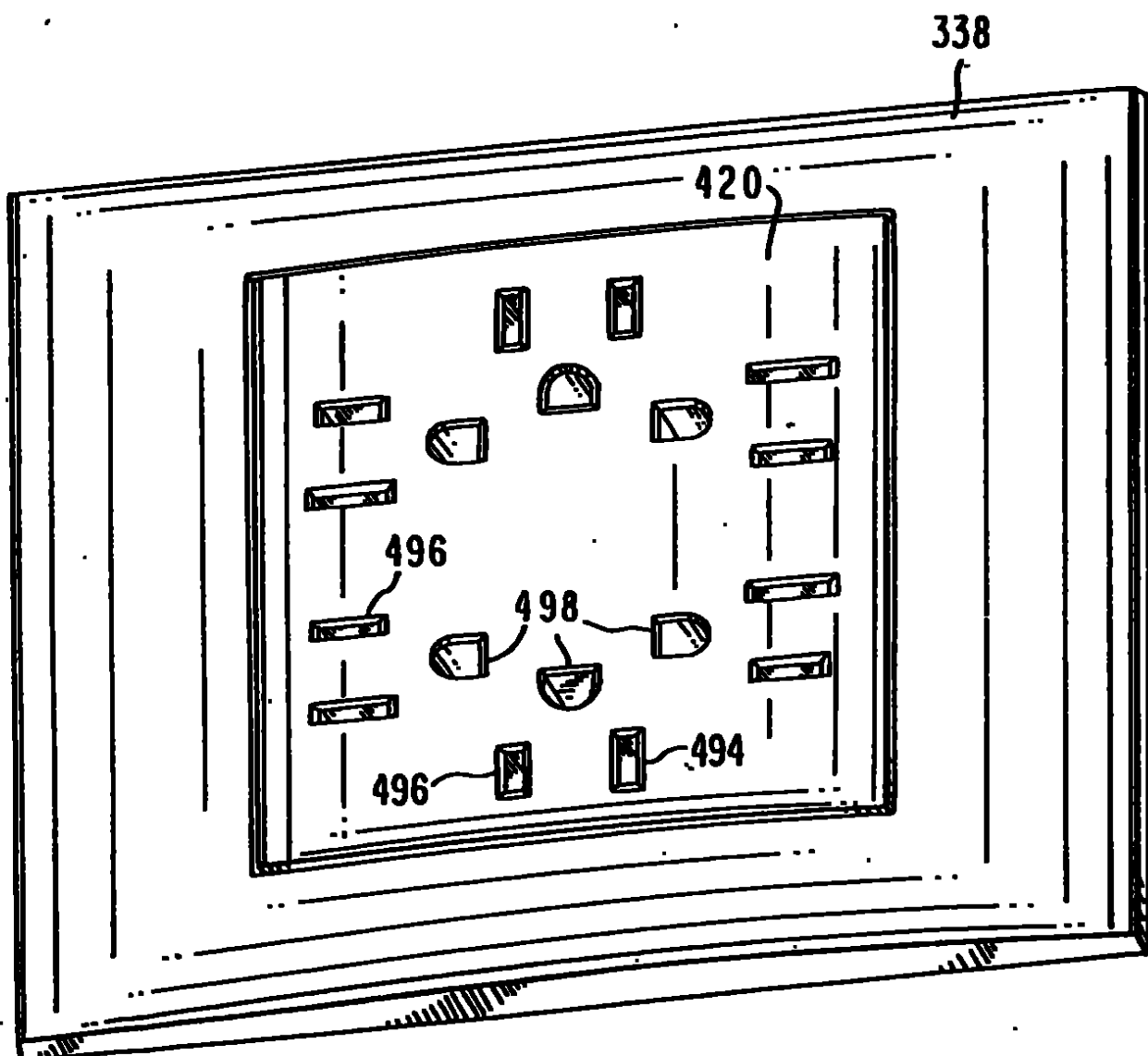


FIG. 16

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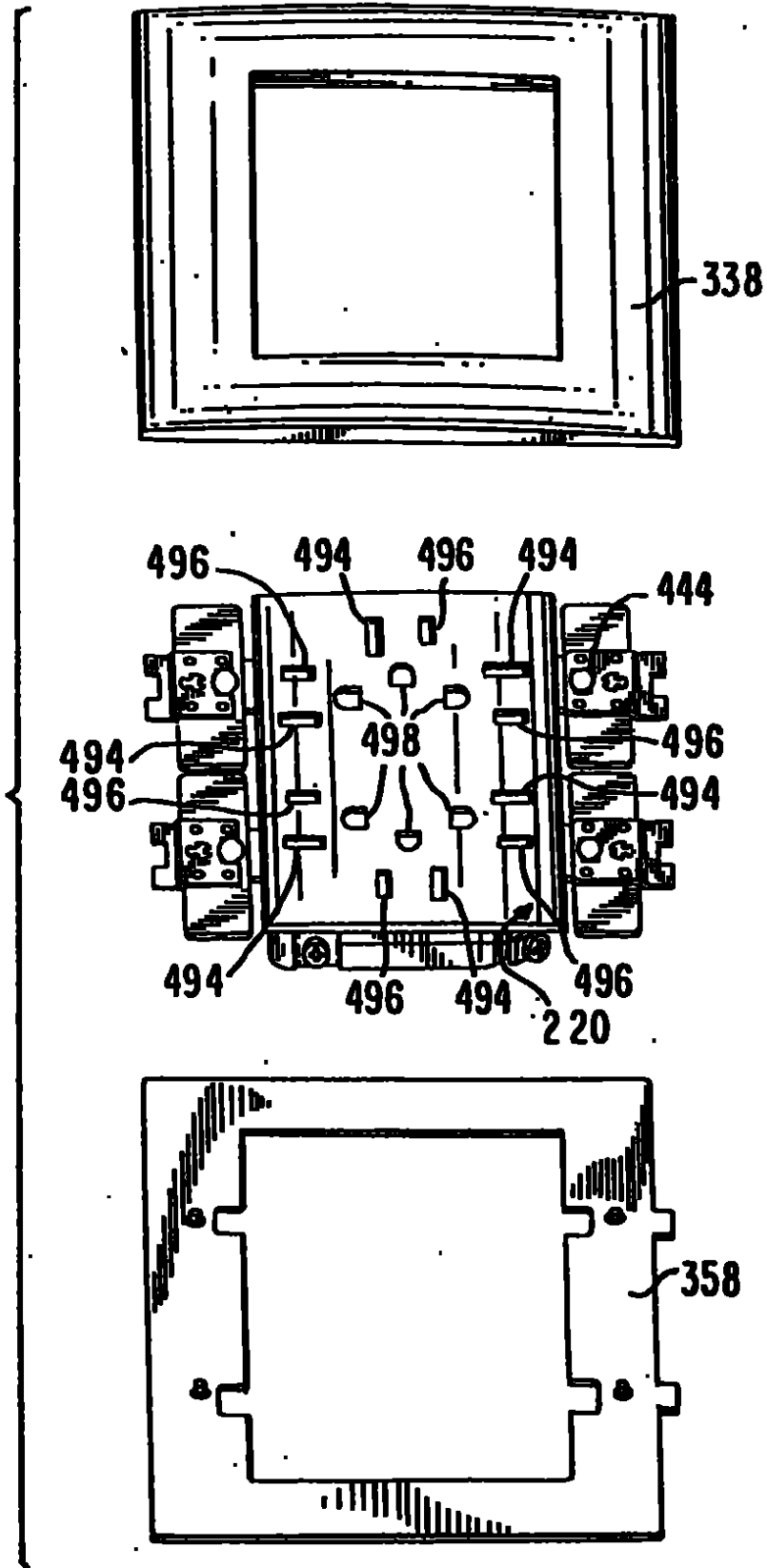


FIG. 17

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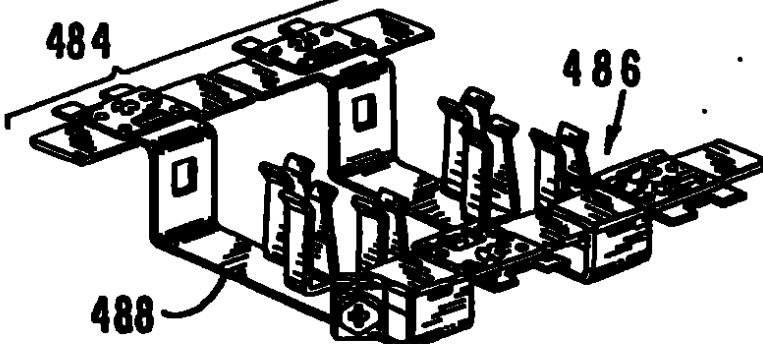
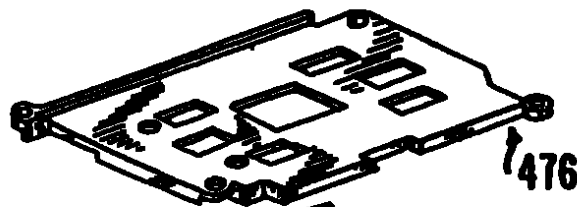
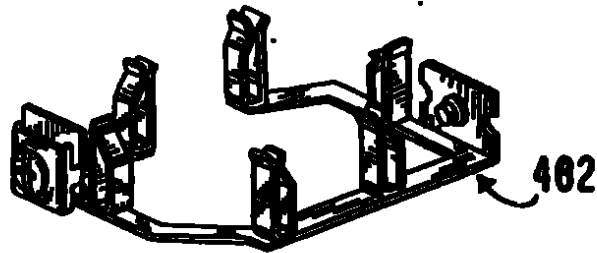
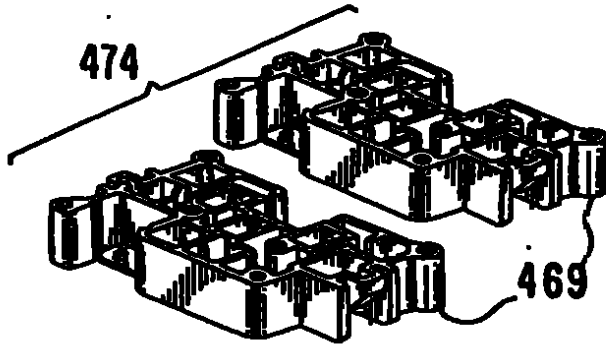
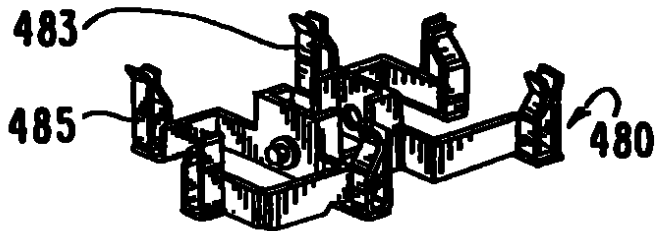
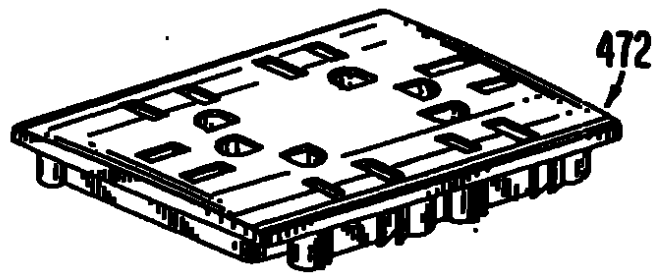


FIG. 18

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(12) SOLICITUD INTERNACIONAL PUBLICADA SEGÚN EL TRATADO DE COOPERACIÓN INTERNACIONAL EN MATERIA DE PATENTES (PCT)

(19) Organización Mundial de Propiedad Intelectual
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(43) Fecha de Publicación Internacional
1 de Abril de 2004 (01.04.2004)



(10) Número de Publicación Internacional

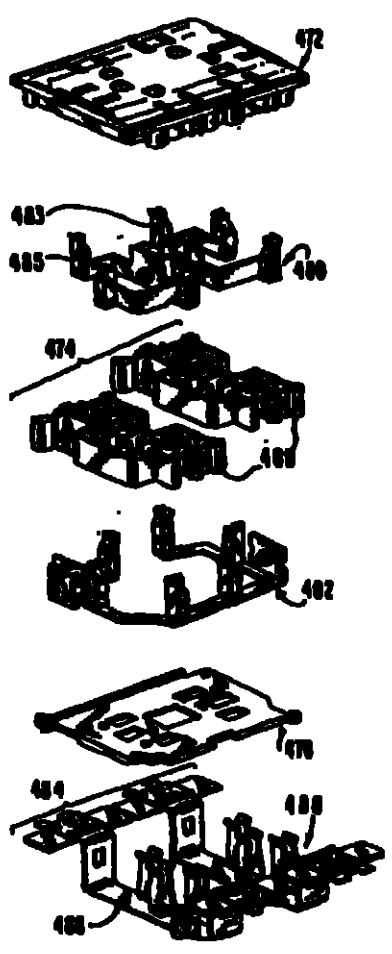
PCT

WO 2004/027798 A2

- (51) Clasificación Internacional de Patentes⁷: H01H (74) Agente: SUTTON, Paul, J. et al.; Greenberg Traurig, LLP, 885 Third Avenue, New York, NY 10022 (US).
- (21) No. Solicitud Internacional: PCT/US2003/028090 (81) Países designados (nacional): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) Fecha de Presentación Internacional:
16 de septiembre de 2003 (16.09.2003) (84) Países designados (regional): Patente ARIPO (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Patente Eursiática (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Patente Europea (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), Patente OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (25) Idioma de Presentación: Inglés
- (26) Idioma de Publicación: Inglés
- (30) Datos relativos a la Prioridad:
10/245,159 17 de septiembre de 2002 (17.09.2002) US
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[Continúa en la página siguiente]

(54) Título: RECEPTÁCULO TRIPLE/SÉXTUPLE



(57) Extracto: Se divulga un receptáculo triple de unidad sencilla con tres tomacorrientes, que puede montarse en una caja individual, no requiere cableado separado de interconexión y puede taparse con una tapa única de pared. Se divulga asimismo un receptáculo séxtuple de unidad sencilla con seis tomacorrientes, que puede montarse en una caja doble, no requiere cableado separado de interconexión y puede taparse con una placa única de pared.

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Publicado:

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RECEPTÁCULO TRIPLE/SÉXTUPLE

ANTECEDENTES DE LA INVENCION

Campo de la Invención

La presente invención se refiere generalmente al campo de dispositivos de cableado, instalados en cajas montadas en muros de edificaciones y, más particularmente, a un receptáculo triple de unidad sencilla, que puede ponerse en una caja individual estándar; y a un receptáculo séxtuple de unidad sencilla, que puede ponerse en dos cajas individuales estándar combinadas una con otra.

Descripción del Arte Previo

En la actualidad es posible montar un receptáculo dúplex en una caja de distribución individual. Igualmente es posible montar dos receptáculos dúplex, en paralelo, en dos cajas acopladas una con otra o en una caja ampliada, que puede admitir dos receptáculos dúplex. Los dos receptáculos dúplex tienen que cablearse entonces conjuntamente para permitirles funcionar como cuatro receptáculos. No existe una unidad sencilla, que pueda montarse en una caja individual en un muro y alojar más de dos enchufes. Tampoco existe una unidad sencilla, que pueda montarse en una caja doble en un muro, que pueda alojar más de cuatro enchufes. Subsiste una necesidad de una unidad sencilla, con más de dos receptáculos o tomacorrientes, que puedan montarse en una caja individual. Subsiste asimismo una necesidad de una unidad sencilla, con más de cuatro receptáculos o tomacorrientes, que pueda montarse en una caja doble y no requiera cableado separado de interconexión.

SUMARIO DE LA INVENCION

Se divulga un receptáculo triple de unidad sencilla, con tres tomacorrientes, que puede montarse en una caja individual, no requiere

44 40

cableado separado de interconexión y puede cubrirse con una sola tapa de pared. Se divulga asimismo un receptáculo séxtuple de unidad sencilla, con seis tomacorrientes, que puede montarse en una caja doble, no requiere cableado separado de interconexión y puede cubrirse con una sola tapa de pared.

El párrafo anterior ha descrito más bien a grandes rasgos la característica preferida de la presente invención, de modo que aquellas personas expertas en el arte pueden entender mejor la descripción detallada de la invención, que sigue a continuación. A partir de este momento se describirán características adicionales de la invención que forman el asunto de las reivindicaciones de la invención. Aquellas personas expertas en el arte deben observar que pueden usar fácilmente el concepto divulgado y la incorporación específica como base para diseñar o modificar otras estructuras para llevar a cabo los mismos propósitos de la presente invención, y que tales otras estructuras no se apartan del espíritu y el ámbito de la invención en su forma más amplia.

BREVE DESCRIPCIÓN DE LOS DIBUJOS

Otros aspectos, características y ventajas de la presente invención se harán evidentes más completamente a partir de la siguiente descripción detallada, las reivindicaciones anexas y los dibujos acompañantes en los cuales, a elementos similares, se asignan numerales de referencia similares.

Fig. 1 es una vista isométrica de un receptáculo triple de unidad sencilla, que puede montarse en una caja individual, y una tapa de pared, de acuerdo con los principios de la invención;

Fig. 2 es una vista explotada de la caja individual, la placa de alineación, el receptáculo triple y la tapa de pared, de acuerdo con los principios de la invención;

Fig. 3 es una vista explotada de la placa de alineación, el receptáculo triple y la tapa de pared, que ilustran en detalle el elemento prisionero asegurado al extremo del fleje de puesta a tierra del receptáculo;

Fig. 4 es una vista explotada del receptáculo triple;

Fig. 5 es una vista que mira al elemento superior 72 desde el bus 80 como se muestra en Fig. 4;

Fig. 6 es una vista que mira al interior del elemento intermedio 74 desde el bus 80 como se muestra en Fig. 4;

Fig. 7 es una vista que mira a la parte inferior del elemento intermedio 74 desde el bus 82 como se muestra en Fig. 4;

Fig. 8 es una vista que mira a la parte superior del elemento inferior 76 desde el bus 82 como se muestra en Fig. 4;

Fig. 9 es una vista frontal en perspectiva de la tapa de pared;

Figs. 10A-10D son vistas a lo largo de 10A-10A a 10D-10D de Fig. 9;

Fig. 11 es una vista de corte lateral de la tapa de pared tomada a lo largo de la línea 11-11 de Fig. 9;

Fig. 12 es una vista de corte lateral de la tapa de pared de Fig. 9 instalada en un fleje de puesta a tierra y una placa de alineación;

Fig. 13 es un alzado lateral ampliado, fragmentario, del trinquete de bloqueo del elemento prisionero que engrana la cremallera de dientes de sierra de la tapa de pared;

Fig. 14 es un alzado lateral ampliado, fragmentario, en corte de la tapa de pared y la pestaña de la placa de alineación para indicar cómo pueden separarse los dos componentes luego de haberlos asegurado;

Fig. 15 es una vista explotada de una caja combinada, una tapa de pared y una placa de alineación para dos receptáculos triples o un receptáculo séxtuple único.

Fig. 16 es una vista de un receptáculo séxtuple de unidad sencilla y una tapa de pared;

Fig. 17 es una vista explotada de la placa de alineación, un receptáculo séxtuple y una tapa de pared; y,

Fig. 18 es una vista explotada del receptáculo séxtuple.

DESCRIPCIÓN DE LA INCORPORACIÓN PREFERIDA

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Con referencia a Fig. 1, se ilustra un receptáculo triple 20 localizado en una tapa de pared 22, de acuerdo con los principios de la invención. El receptáculo triple 20 está previsto para AC 125 V 15 amperios y de acuerdo con la especificación NEMA (Asociación Nacional de Fabricantes Eléctricos) 5-15R, en donde cada receptáculo individual presenta dos ranuras 24 y 26, para alojar las cuchillas planas de un enchufe apropiado, y una ranura de cuchilla semi-redonda de puesta a tierra 28. La ranura 26 es más grande que la ranura 24, de modo que sólo pueda insertarse un enchufe de dos cuchillas en un solo sentido para mantener la polarización eléctrica correcta. La ranura más grande se conecta al conductor neutro y, manteniendo la polarización correcta, las partes metálicas externas de electrodomésticos tales como tostadoras, televisores, etc., pueden conectarse a tierra mediante el conductor neutro. La presencia de la cuchilla semi-redonda de puesta a tierra hace imposible insertar el enchufe con la polaridad errónea.

Con referencia a Fig. 2, se muestra una vista explotada de una caja individual 30, un receptáculo triple de unidad sencilla 44, una placa de sujeción 42 y una tapa 22. Inicialmente, en campo, se practica un orificio apropiado en un muro para facilitar el acceso de la caja de montaje 30 a un travesaño 32, o para permitir la instalación de una caja apropiada a un travesaño adyacente, o directamente, al material de la pared (tal como cartón yeso). La caja 30 es una caja de distribución individual. La caja 30 se fabrica de metal o plástico, dispone de uno o más orificios en sus lados o en la parte posterior para permitir la introducción de cables eléctricos al interior de la caja 30 y cuenta con medios de montaje 34 para permitir el anclaje de la caja al travesaño adyacente 32. La caja presenta unos pares de orejas de montaje 36. Cada oreja de montaje incluye un orificio roscado 38, en el cual pueden atornillarse los tornillos de montaje 44 del receptáculo triple 20. En el orden normal de ensamblado, los cables eléctricos se pasan al interior de la caja a través de orificios 40 perforados en ella. Se pela el

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aislamiento de los extremos de los cables eléctricos y éstos se aseguran a los contactos en un lado o en la parte posterior del cuerpo del receptáculo 20. Una vez asegurados los cables eléctricos a los contactos a un lado o en la parte posterior del cuerpo del receptáculo, el cuerpo del receptáculo se inserta en la placa de alineación 42 y, a continuación, se empuja a presión en la caja hasta que la parte posterior de la placa de alineación 42 contacte la parte superior de la caja 30. El receptáculo y la placa de alineación están ahora unidos a la caja por medio de los tornillos 44 que atraviesan las aberturas de tolerancia, tales como las ranuras alargadas 46, en la placa de alineación 42 y se roscan en los orificios 38 dispuestos en las orejas 36. Seguidamente, la tapa de pared 22 se pone sobre el ensamble del receptáculo 20, la placa de alineación 42 y la caja 30.

Con referencia a Fig. 3, la placa de alineación 42, que puede fabricarse de metal, tal como acero laminado en frío o similares, incluye una abertura rectangular centralmente localizada 48, dimensionada para alojar el cuerpo del receptáculo 20. Localizadas centralmente a cada extremo de la abertura rectangular y contiguas con la abertura 48 se encuentran dos aberturas de tolerancia 46 que proporcionan tolerancia para los tornillos de montaje 44, que se usan para sujetar el receptáculo 20 y la placa de alineación 42 a la caja. Localizado más allá del borde exterior de cada abertura de tolerancia 46 se halla un pasador de alineación 50. Los pasadores de alineación se proveen para encajar con los orificios 66 localizados en los elementos prisioneros 52, que se unen a los extremos o asas 54 del fleje de puesta a tierra 56 mediante tornillós, remaches etc. La placa de alineación 42 incluye una pestaña 58, que se proyecta hacia afuera del extremo inferior y se utiliza para facilitar el retiro de una tapa de pared del perímetro del receptáculo. Las dimensiones exteriores de la placa de alineación son tales que puedan proyectarse más allá de por lo menos una dimensión de la caja, a la cual se unen el receptáculo y la placa. Hay que anotar que la placa de alineación 42 ilustrada en Fig. 3 está prevista para el receptáculo triple de unidad sencilla divulgado aquí.

Continuando con Fig. 3, se ilustra un receptáculo triple, mejorado, de unidad sencilla 20, que puede caber en la caja individual. El receptáculo 20 incluye un fleje de puesta a tierra con un asa 54 en cada extremo, la cual se une a los elementos prisioneros 52 por medio de tornillos, remaches, puntos de soldadura o similares. Cada asa 54 puede ser de forma rectangular y contiene dos aberturas 60, 62. La abertura 60 es una abertura de tolerancia para el tornillo de montaje 44, el cual se suministra normalmente por el fabricante del receptáculo para asegurar el receptáculo a la caja. La distancia entre centros de las aberturas 60 en las asas 54 en el fleje de puesta a tierra es igual a la distancia entre centros de los orificios 38 en las orejas 36 de la caja 30, para permitir que los tornillos de montaje 44 encajen en las aberturas 60 y se mantengan aprisionados por las aberturas roscadas 60. Las aberturas de tolerancia 46 en la placa de alineación 42 son aberturas de tolerancia para los tornillos de montaje 44. Las aberturas 62 en las asas 54 son aberturas de tolerancia para los pasadores de alineación 50 de la placa de alineación 42.

Continuando con Fig. 3, el elemento prisionero 52 puede fabricarse de bronce fosforado, bronce elástico, acero elástico o similares y se asegura firmemente a las asas 54. El elemento prisionero 52 contiene una primera abertura 64 que se alinea con la abertura 60 en el asa y una segunda abertura 66 que se alinea con la abertura 62 en el asa. La abertura 60 puede ser de forma oval, cuadrada o rectangular para permitir situar excéntricamente el tornillo de montaje 44. Una saliente localizada en el centro 68 se proyecta en la abertura 64 y se dobla en un ángulo ligeramente descendente hacia el cuerpo del tornillo para encajar y mantener aprisionado sin tensiones excesivas el cuerpo roscado del tornillo de montaje 44. El encaje de la saliente 68 con el tornillo 44 proporciona una excelente conexión eléctrica entre el fleje de puesta a tierra del receptáculo, el tornillo 44 y la caja, para garantizar que el receptáculo quede conectado a tierra. El tornillo 44, que pasa a través de la abertura 64 del elemento de captura 60 del asa y la abertura 46 de la placa de alineación 42, se atornilla en el orificio 38 de la caja para asegurar el receptáculo y la placa de

alineación a la caja. Las aberturas 64 y 60 están dimensionadas para permitir que el tornillo 44 se mueva lateralmente, con el fin de compensar ligeras desalineaciones que puedan ocurrir. La abertura 66 en el elemento prisionero 52 es sustancialmente redonda e incluye tres elementos proyectados hacia adentro, doblados hacia arriba en un ligero ángulo, que se alejan del cuerpo del receptáculo. Los extremos de los tres elementos proyectados forman una abertura ligeramente menor que el diámetro de los pasadores de alineación 50 en la placa de alineación 42 y están diseñados para doblarse ligeramente cuando el pasador de alineación se inserta en la abertura 66 desde la parte posterior. Cuando el pasador de alineación se inserta en la abertura 66, los tres extremos de los elementos proyectados encajan a fricción y mantienen aprisionados los pasadores de alineación para impedir que los pasadores de alineación se retiren con facilidad del elemento prisionero. Localizadas en el extremo del elemento prisionero 52 hay dos pestañas 70. El extremo de cada pestaña tiene un pliegue doble similar a una curva sinusoidal de 360 grados y se dispone para mantener la tapa de pared en su sitio mediante escotaduras de enganche en los extremos interiores de la placa de cubierta.

Con referencia a Fig. 4, se ilustra una vista explotada del receptáculo triple de unidad sencilla 20. El receptáculo 20 tiene un elemento superior 72, un elemento intermedio 74, un elemento inferior 76 y un fleje de puesta a tierra 78. Situado entre el elemento superior y el elemento intermedio se halla el bus 80 que incluye tres contactos, uno por cada uno de los tres receptáculos, para alojar la cuchilla plana de un enchufe que va a conectarse al conductor neutro. Situado entre el elemento intermedio y el elemento inferior se encuentra el bus 82 que incluye tres contactos, uno por cada uno de los tres receptáculos, para alojar la cuchilla plana de un enchufe que va a conectarse al conductor de fase. Situado debajo del elemento inferior 76 se halla el fleje de puesta a tierra 78 que presenta tres contactos a tierra, uno por cada uno de los tres receptáculos, para alojar la cuchilla de puesta a tierra de un enchufe.

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Fig. 5 es una vista en planta de la parte inferior del elemento superior 72 mirando hacia arriba desde el bus 80; Fig. 6 es una vista en planta de la parte superior del elemento intermedio 74 mirando hacia abajo desde el bus 80; Fig. 7 es una vista en planta de la parte inferior del elemento intermedio 74 mirando hacia arriba desde el bus 82; y, Fig. 8 es una vista en planta del elemento inferior 76 mirando hacia abajo desde el bus 82.

Volviendo a Fig. 4, el bus 80 incluye una terminal con un tornillo 92 para recibir el conductor de alambre neutro y tres contactos para alojar las cuchillas las planas de un enchufe. El elemento intermedio 74 se compone de material aislante con varias particiones en su cara superior, selectivamente espaciadas para proporcionar compartimientos separados, algunos de los cuales contienen aberturas para facilitar un pasaje sinuoso para alojar el bus 80. El bus 80 se configura para seguir un trayecto sinuoso alrededor y a través de las distintas particiones en la parte superior del elemento intermedio 74 para ubicar los tres contactos comúnmente conectados en los compartimientos 94, 96, 98 y la terminal del tornillo 92 en la abertura 100. Con referencia a Figs. 5 y 6, cuando el elemento intermedio 74 se ensambla al elemento superior 72, los tres contactos del bus 80 se ubican en los compartimientos 106, 94 y 96 del elemento intermedio y debajo de las ranuras 26 de cada uno de los tres receptáculos en el elemento superior. Con referencia a Fig. 6, la superficie inferior del elemento intermedio 74 es sustancialmente plana e incluye las aberturas 102, 104 y 106 para alojar contactos del bus 82 desde la parte inferior del elemento. El elemento intermedio 74 contiene además aberturas pasantes 91, 93 y 95 para alojar contactos a tierra en el fleje de puesta a tierra 78. El bus 82 incluye una terminal de tornillo 110 para recibir un conductor de alambre. El bus 82 sigue un trayecto sinuoso a lo largo de la superficie inferior del elemento intermedio 74 para ubicar los contactos comúnmente conectados en las aberturas 102, 104 y 106 y la terminal de tornillo en la abertura 108. El bus 80 está aislado eléctricamente del 82 por la superficie inferior aislante o el piso del elemento intermedio 74.

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El elemento inferior 76 está adaptado para asegurarse a la base del elemento intermedio 74 e incluye las aberturas 112, 114 y 116 para alojar los contactos de puesta a tierra. Con referencia a Fig. 4, cuando los elementos superior, intermedio e inferior se ensamblan, las aberturas 116, 114 y 118 en el elemento inferior se alinean con las aberturas 95, 93 y 91, respectivamente, en el elemento intermedio para ubicar los contactos a tierra detrás de las ranuras de puesta a tierra 28 en el elemento superior. De forma similar, cuando se ensambla el receptáculo, las aberturas 104, 106 y 102 se alinean con las aberturas en el elemento superior para ubicar los contactos del bus 82 debajo de las ranuras 26 en el elemento superior. El fleje de puesta a tierra 78 se compone de un material conductor, tal como hierro o acero, y se conecta eléctricamente a los tres contactos a tierra incluidos por él. El fleje de puesta a tierra 78 incluye asimismo la terminal de tornillo 124 para conectar los contactos a tierra del receptáculo a una conexión eléctrica a tierra.

Para ensamblar el receptáculo triple, el bus 80 y sus contactos se ponen en la parte superior del elemento intermedio 74; el bus 82 y sus contactos se ponen en la parte inferior del elemento intermedio; y el elemento intermedio se ensambla entonces al elemento superior. A continuación, el elemento inferior 76 se ubica junto a la parte inferior del elemento intermedio sobre el bus 82, y el fleje de puesta a tierra se acopla a las partes ensambladas. En el receptáculo ensamblado, los contactos localizados detrás de las ranuras 24 de cada tomacorriente se conectan a un bus común; los contactos localizados detrás de las ranuras 26 de cada tomacorriente se conectan a un bus común; y los contactos localizados detrás de las ranuras 28 de cada tomacorriente se conectan al fleje de puesta a tierra del receptáculo.

Para conectar a una caja el receptáculo de unidad sencilla con tres tomacorrientes, se les pela el aislamiento a los cables eléctricos de la caja y se conectan a las terminales situadas a los lados o atrás del receptáculo. La placa de alineación se asegura entonces al receptáculo desde la parte posterior. Inicialmente, una vez conectados los alambres al receptáculo, la

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placa de alineación se sostiene verticalmente delante del receptáculo y paralela al receptáculo. La parte superior del receptáculo se inclina entonces hacia abajo desde su posición vertical hasta que quede horizontal y, mientras se encuentra en su posición horizontal, el extremo del receptáculo, que inicialmente estaba hacia arriba, se pasa a través de la abertura 48 de la placa de alineación, que está en su posición vertical. Una vez que se pasa completamente el receptáculo a través de la abertura de la placa de alineación, el receptáculo se inclina de regreso a su posición vertical inicial. En este momento la placa de alineación y el receptáculo se mueven ahora la una hacia el otro hasta que la cara frontal de la placa de alineación haga contacto con la cara posterior de las asas 54 en los extremos del fleje de puesta a tierra. A medida que la placa de alineación se aproxima a las asas, los pasadores de alineación 50 de la placa de alineación pasan a través de las aberturas 62 en las asas y penetran en las aberturas 66 en los elementos prisioneros 52. A medida que los pasadores de alineación penetran en las aberturas 66, éstos fuerzan a las proyecciones dobladas hacia arriba a separarse para permitir que los pasadores de alineación penetren completamente en las aberturas 66. Los extremos de las proyecciones dobladas hacia arriba encajan y mantienen aprisionados los pasadores de alineación 50. El receptáculo, el cual está ahora asegurado a la placa de alineación y conectado a los alambres eléctricos, se inserta en la caja. A medida que el receptáculo se inserta en la caja, los tornillos 44 localizados en las aberturas 64 del elemento prisionero y la abertura de tolerancia 46 en la placa de alineación se alinean con, y se atornillan en, los orificios 38 de la caja para sujetar la placa de alineación y el receptáculo a la caja. La cabeza del tornillo 44 es más grande que la abertura 64 y 60 y, por lo tanto, mantiene el receptáculo 20 y la placa de alineación 42 asegurados a la caja.

La tapa de pared se pone ahora sobre el receptáculo. Con referencia a Fig. 3, cada elemento prisionero 52 presenta por lo menos dos trinquetes de bloqueo, saledizos, 70. Cada trinquete tiene una curva doble similar a una curva sinusoidal de trescientos sesenta grados. Una vez acoplado el

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receptáculo 20 a la placa de alineación 42, los dos trinquetes de bloqueo 70 del elemento prisionero 52 se sitúan a cada lado de una pestaña 58 en la placa de alineación. La pestaña 58 funciona como un punto pivote de una herramienta para permitir el retiro del receptáculo de una tapa de pared 22 acoplada a él. Una ranura en el borde inferior de la tapa de pared 22 brinda acceso para la inserción de una herramienta plana pequeña, tal como un destornillador, para facilitar el retiro de la tapa de pared del receptáculo.

El ancho de la cara del receptáculo de unidad sencilla con tres tomacorrientes es aproximadamente 60% del ancho de la tapa de pared (véase Fig. 9) a lo largo del eje horizontal y aproximadamente 53% del largo de la tapa de pared a lo largo del eje vertical. Para el receptáculo triple, la tapa de pared tiene sustancialmente 4.92 pulgadas de largo por 3.28 pulgadas de ancho y dispone de una abertura rectangular para alojar el receptáculo, el cual mide sustancialmente 2.82 pulgadas de largo por 1.83 pulgadas de ancho. El ancho de la tapa de pared varía dependiendo de cuántas cajas se combinen y del número de receptáculos triples que vayan a ubicarse en relación paralela en las cajas combinadas. La superficie frontal de la tapa de pared tiene una forma de contorno complejo, en donde el borde de la tapa de pared en la abertura rectangular, prevista para un receptáculo triple, está más alejado de la pared que el borde exterior de la placa de cubierta. Más específicamente, con referencia a Fig. 10, se ilustra una vista de la línea 10B-10B de Fig. 9 de una porción de la superficie frontal, a lo largo de la línea central horizontal, entre el punto K, el borde exterior derecho y el punto L, el borde interior de la abertura prevista para el receptáculo. Como se ilustra en Fig. 10B, la superficie se sitúa a 0.002 pulgadas de distancia entre dos demarcaciones de perfil, perpendicular al plano de referencia A, igualmente dispuesta sobre el verdadero perfil y situada con respecto a un plano de referencia. Las dimensiones básicas y la tolerancia del perfil establecen una zona de tolerancia para controlar la forma y tamaño de la superficie. La superficie mide 0.726 pulgadas de largo. Con esa longitud se define un contorno por las dimensiones de puntos equidistantes distanciados 0.0726 pulgadas. Cada dimensión indica

la distancia de ese punto para definir el plano de referencia A, la superficie (plana) posterior de la placa de cubierta, que comienza en el punto K. Moviéndose de izquierda a derecha, las dimensiones aumentan de 0.228 a 0.287 pulgadas. Esta progresión indica un contorno de altura creciente, primer diferencial positivo, cuando los puntos se conectan por curvas suaves individuales. Los puntos no están conectados por un solo arco y la tasa a la cual aumenta la altura del contorno no es constante. La tasa de incremento de la altura de las curvas suaves individuales disminuye de izquierda a derecha y el segundo diferencial del contorno es negativo. Es decir, la diferencia entre la dimensión de la distancia del primer punto y el segundo es mayor que la diferencia entre el segundo y el tercero, etc. Por consiguiente, la superficie tiene un contorno de primer diferencial positivo y un segundo diferencial negativo, compuesto de una combinación de curvas suaves trazadas entre puntos de distancia variable con respecto a un plano de referencia. Esta descripción define sustancialmente la mayoría de los contornos de las placas de pared de las secciones a lo largo de las líneas 10A-10A, 10D-10D, y 10E-10E de Fig. 9. La sección a lo largo de la línea 10C-10C, que transcurre a lo largo de la línea central vertical de la tapa de pared define una superficie que presenta un primer diferencial positivo y un segundo diferencial cero, compuesto de una combinación de curvas suaves trazadas entre puntos de distancia variable de un plano de referencia. Este contorno tiene un segundo diferencial cero, porque la tasa de incremento de la altura de las curvas suaves individuales es constante; la diferencia entre dimensiones de dos puntos consecutivos cualesquiera se encuentra en un espaciado uniforme de 0.0037 pulgadas.

El contorno a lo largo del ancho de la parte frontal de la cara del receptáculo triple es plano y el contorno a lo largo de la longitud del receptáculo triple tiene un radio constante de sustancialmente 30.724 pulgadas. La forma de la parte frontal de la cara del receptáculo permite el asiento apropiado de un enchufe insertado. La tapa de pared no deja al descubierto tornillos de montaje u otros herrajes visibles de metal. Cuando

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la tapa de pared se acopla al receptáculo, las únicas partes visibles son la tapa de pared 22 y el receptáculo.

Con referencia a Figs. 11-14, localizada en la pared extrema de la parte inferior 200 de la tapa de pared 22 hay una ranura 202 que permite el acceso a la pestaña 58 en la placa de alineación, como se observa en Fig. 14. Una cuchilla de una herramienta plana pequeña, tal como la pala de un destornillador 204, se introduce a través de la ranura 202 en la pared extrema 200 para contactar la superficie exterior de la pestaña 58 y la pared posterior de la ranura 202. Al mover la cuchilla 204 en un sentido contrario a las manecillas del reloj, usando la pared posterior de la ranura 202 como un punto de apoyo, la fuerza aplicada a la pestaña 58 separará la tapa de pared 22 del receptáculo. Para asegurar la tapa de pared 22 al receptáculo, los trinquetes 70 del elemento prisionero 52 se fabrican para encajar las cremalleras en forma de dientes de sierra 206, localizadas en las superficies internas de las paredes finales 200 de la tapa de pared 22. Hay dos cremalleras en las paredes finales superiores e inferiores 200. Cada cremallera 206 contiene un número de dientes configurados como los dientes de una sierra 208, cada uno con una cara frontal inclinada 210 y una cara posterior vertical 212. Como se observa en Fig. 13, cuando el trinquete de bloqueo 70 encaja la cara frontal inclinada 210, el trinquete se curva en un sentido contrario a las manecillas del reloj y se desplaza más allá de la punta del primer diente 214. Una vez el trinquete 70 pasa la punta del diente 214, puede regresar a su posición inicial y ocupa una posición entre la cara posterior vertical 212 del primer diente 214 y la cara frontal inclinada 210 de un segundo diente 214. Esta operación puede repetirse tantas veces como sea necesario para ubicar los bordes inferiores de la tapa de pared 22 tan cerca a la pared como sea posible. Puesto que cada una de las cremalleras 206 y los trinquetes 70 se operan independientemente, es posible ubicar la tapa de pared 22 para que siga estrechamente el contorno de la pared, incluso cuando la pared no es plana. Esta capacidad de seguir el contorno de la pared se observa aún más donde la tapa de pared 22 es grande, tal como con una tapa de pared requerida para cubrir cuatro cajas

combinadas, donde un receptáculo se ubica en relación paralela con tornillos.

Una vez el trinquete de bloqueo 70 regresa a su posición inicial, se dificulta cualquier intento de desprender la tapa de pared 22 del trinquete 70, que se acopla mecánicamente al receptáculo. No obstante, puesto que la herramienta 204 puede aplicar una fuerza considerable a la pestaña 58, es posible desacoplar el trinquete 70 de los dientes y, por consiguiente, el receptáculo de la tapa de cubierta.

Con referencia a Fig. 15, se ilustran dos cajas acopladas para proveer una caja doble, una placa de alineación 358 y una tapa de pared para dos receptáculos triples, ubicados uno al lado del otro en la caja doble. Hay que observar que no existe partición o elemento divisor localizado en la abertura de la tapa de pared para separar los dos receptáculos. Los dos receptáculos triples pueden ubicarse en la caja combinada doble 360, conformada por dos cajas individuales combinadas y acopladas por los sujetadores 362, que se proyectan a través de los orificios roscados 364 de las dos orejas de unión. La placa de alineación 358 tiene una abertura única 360 para alojar dos receptáculos triples, cuatro aberturas de tolerancia 372 y cuatro pasadores de alineación 370.

Mirando a la tapa de pared 338, puede haber tres cremalleras 346 en el interior de las paredes finales superiores e interiores 348 para alojar cuatro trinquetes, dimensionándose la cremallera central para alojar un trinquete de cada receptáculo. Además, puede haber dos pestañas 320, una para cada receptáculo triple, que serán accesibles mediante muescas 352 en la pared extrema inferior 348 de la tapa de pared 338. Debido a que los trinquetes operan independientemente de los elementos prisioneros con sus respectivas cremalleras 346, la tapa de pared 338 está en capacidad de compensar en parte la ausencia de nivel de la pared alrededor del receptáculo.

Con referencia a Fig. 16, se ilustra una vista isométrica de un receptáculo de unidad sencilla que presenta seis tomacorrientes 420 y una tapa de pared 338, de acuerdo con los principios de la invención. Al igual

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que el receptáculo triple, el receptáculo séxtuple 420 está previsto para AC 125 V 15 amperios y, de acuerdo con la especificación NEMA 5-15R, donde cada receptáculo individual tiene dos ranuras de cuchilla plana 494 y 496 para alojar las cuchillas planas de un enchufe apropiado y una ranura semi-redonda 498 para la cuchilla de puesta a tierra. La ranura 494 es más grande que la ranura 496, de modo que pueda insertarse en un solo sentido únicamente un enchufe de dos cuchillas para mantener la polarización eléctrica correcta. La ranura más grande se conecta al conductor neutro y, manteniendo la polarización correcta, las partes metálicas externas de electrodomésticos, tales como tostadoras, televisores, etc., pueden conectarse a tierra a través del conductor neutro. La presencia de la cuchilla de puesta a tierra hace imposible la inserción de un enchufe con la polaridad incorrecta.

Con referencia a Fig. 17, se ilustra una vista explotada del receptáculo séxtuple y la placa de alineación 358 y la tapa de pared 338 para el receptáculo séxtuple. Inicialmente, durante la instalación, se practica un orificio apropiado en un muro para brindar acceso a dos cajas (véase Fig. 15), unidas para formar un caja individual de tamaño doble, montada en un travesaño, o para permitir la instalación de una caja apropiada a un travesaño adyacente o, directamente, al material de la pared (tal como cartón yeso). La caja doble consta de dos cajas de distribución individuales combinadas. La caja doble es lo suficientemente grande para admitir un receptáculo sencillo de caja individual con seis tomacorrientes, divulgado aquí. La caja se elabora de metal o plástico, tiene uno o más orificios a sus lados o atrás para permitir la introducción de cables eléctricos al interior de la caja y dispone de medios de montaje para posibilitar el anclaje de la caja a un travesaño adyacente. La caja incluye unos pares de orejas de montaje, cada una con un orificio roscado, al cual se aseguran los tornillos de montaje del receptáculo 420. Durante el ensamble, se pasan cables eléctricos al interior de la caja a través de orificios practicados en ella. Se pela el aislamiento de los extremos de los cables eléctricos y éstos se unen a los contactos situados a los lados o en la parte posterior del

cuerpo del receptáculo 420. Una vez conectados los cables eléctricos a los contactos situados a los lados o en la parte posterior del cuerpo del receptáculo, el receptáculo se fija a la parte superior de la placa de alineación 358, y el cuerpo del receptáculo se empuja dentro de la caja hasta que la placa de alineación 358 contacte la parte superior de la caja. En este momento, el receptáculo y la placa de alineación se aseguran a la caja por medio de los tornillos 444, que atraviesan aberturas de tolerancia, tales como ranuras alargadas 446, y se atornillan en orificios practicados en orejas de la caja para montar el receptáculo 420 a la caja. Seguidamente, la tapa de pared 338 se superpone al receptáculo 420, a la placa de alineación 358 y a la caja.

Con referencia a Fig. 17, la placa de alineación 358 y la tapa de pared 338 mostradas se usan con un receptáculo de unidad sencilla con seis tomacorrientes y son similares a la placa de alineación y la tapa de pared representadas en Fig. 15. Continuando con Fig. 17, se ilustra un novedoso receptáculo mejorado, de unidad sencilla, 420 con seis tomacorrientes, que pueden caber en una caja doble. El receptáculo séxtuple 420 incluye dos flejes de puesta a tierra 456, cada uno con una asa 454 en cada extremo que sirve de soporte a los elementos prisioneros 452 mediante tornillos, remaches, puntos de soldadura, o similares. Cada fleje de puesta a tierra 456 con su elemento prisionero 452 es similar al fleje de puesta a tierra y al elemento prisionero representados en Fig. 3 y, por lo tanto, en interés de la brevedad, no volverán a repetirse los detalles de su construcción y operación.

Con referencia a Fig. 18, se ilustra una vista explotada de un receptáculo séxtuple con un elemento superior 472, un elemento intermedio 474 compuesto de dos secciones 469, que puede ser la misma parte rotada 180°, un elemento inferior 476 y un fleje de puesta a tierra 484 que consta de dos secciones 486 y 488. Situado entre el elemento superior 472 y los dos elementos intermedios 474 se encuentra el bus 480 que exhibe seis contactos, uno por cada uno de los seis tomacorrientes en el elemento superior para alojar la cuchilla plana de un enchufe que va a conectarse a un

conductor neutro. Situado entre los dos elementos intermedios 474 y el elemento inferior 476 se halla el bus 482 con seis contactos, uno por cada uno de los seis tomacorrientes para alojar la cuchilla plana de un enchufe que va a conectarse a un conductor de fase. Situado debajo del elemento inferior 476 está el fleje de puesta a tierra 484 conformado por dos secciones 486, 488 que se conectan eléctricamente entre sí e incluyen seis contactos a tierra, uno por cada tomacorriente para alojar la cuchilla de puesta a tierra de un enchufe que va a conectarse a tierra.

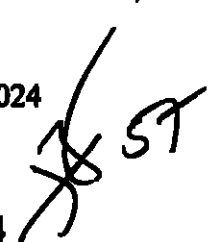
El elemento superior 472 del receptáculo séxtuple es una estructura única que presenta, en su cara superior, seis tomacorrientes cada uno de los cuales incluye tres ranuras, una para la línea de fase, una para la línea neutra y una para la línea de puesta a tierra. Se puede considerar que el elemento superior del receptáculo séxtuple lo constituyen dos elementos superiores 72 de receptáculo triple (véase Fig. 4), unidos para formar un solo elemento. Por consiguiente, la superficie inferior del elemento superior 472, mirándola hacia arriba desde el bus 480, es similar a la superficie inferior de dos elementos superiores unidos para formar una unidad sencilla y, por consiguiente, incluye particiones situadas selectivamente para proporcionar compartimientos, que comunican con las ranuras de los distintos tomacorrientes en la cara superior, y provee pasajes para acomodar el bus 480 con seis contactos. Por consiguiente, puede considerarse que el elemento superior 472 del receptáculo séxtuple lo componen dos elementos superiores del receptáculo triple mostrado en Fig. 4, situado uno al lado del otro, y moldeados como unidad sencilla. Continuando con Fig. 18, los elementos intermedios 474 constan de dos secciones individuales 469, cada una de las cuales es similar a la sección intermedia 74 del receptáculo triple mostrado en Fig. 4.

El bus 480 consta de dos secciones 483 y 485 conectadas eléctricamente mediante un puente conductor con una terminal de tornillo común, donde cada sección es similar al bus 80 del receptáculo triple mostrado en Fig. 4. El bus se conecta a seis contactos para alojar las cuchillas planas de un enchufe que va a conectarse al conductor neutro.

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Cada sección 469 del elemento intermedio 474 es similar al elemento intermedio 74 del receptáculo triple y, por consiguiente, la parte superior de cada sección 469 contiene varias particiones selectivamente espaciadas para proporcionar un pasaje sinuoso para alojar el bus 480 con seis contactos. Más específicamente, el bus 480 sigue un trayecto sinuoso alrededor y a través de las diferentes particiones en la parte superior de las secciones 469 para situar los contactos comúnmente conectados en las aberturas que se comunican con las ranuras en el elemento superior 472, diseñadas para alojar la cuchilla plana de un enchufe que va a conectarse al conductor neutro 494. Al igual que con el elemento intermedio 74, la superficie inferior de cada sección 469 del elemento intermedio 474 es sustancialmente plana y presenta aberturas para alojar seis contactos del bus de fase 482. Puede considerarse que el bus 482 consta de dos mitades, donde cada mitad es similar al bus 82 del receptáculo triple mostrado en Fig. 4. Las dos mitades del bus 482 se conectan entre sí por un puente conductor e incluyen seis contactos para alojar las cuchillas planas que van a conectarse al conductor de fase. El bus 482 presenta igualmente dos terminales de tornillo, cualquiera de las cuales puede conectarse al conductor de fase. El bus 482 sigue un trayecto sinuoso a lo largo de la superficie inferior de las dos secciones del elemento intermedio 474 para ubicar los contactos, comúnmente conectados, debajo de las ranuras en el elemento 472, diseñadas para alojar la cuchilla plana de un enchufe que va a conectarse al conductor de fase. El bus 480 se aísla eléctricamente del bus 482 por las superficies inferiores de las dos secciones del elemento intermedio 474.

El elemento inferior 476, es un miembro único similar a los dos elementos inferiores 76 del receptáculo triple, y unidos entre sí para formar un solo elemento. El elemento 476 se adapta para encajar sobre la parte inferior de las dos secciones del elemento intermedio 474 y contiene seis aberturas para alojar los seis contactos del fleje de puesta a tierra 484. El fleje de puesta a tierra 484 consta de dos secciones 486 y 488, cada una de las cuales es similar al fleje de puesta a tierra 78 del receptáculo triple y se



conectan entre sí por un puente conductor. El fleje de conexión a tierra 484 incluye seis contactos a tierra, situados para encajar en las diferentes aberturas en los distintos elementos del receptáculo, que permiten ubicar los contactos de puesta a tierra debajo de las ranuras en el elemento superior 472, diseñadas para alojar la cuchilla semi-redonda de un enchufe, que va a conectarse a tierra. El fleje de puesta a tierra 484 presenta terminales de tornillo, cualquiera de las cuales puede conectarse a una toma eléctrica a tierra.

El ensamble del receptáculo séxtuple es básicamente similar al ensamble del receptáculo triple. La principal diferencia radica en que el receptáculo séxtuple se conecta a dos cajas combinadas, en lugar de una sola caja, y la placa de alineación y la tapa de pared (véase Fig. 15) se dimensionan para acomodar el receptáculo séxtuple. Adicionalmente, los diferentes buses y los elementos superior, intermedio e inferior del receptáculo séxtuple se dimensionan para proporcionar un receptáculo con seis tomacorrientes, en vez de tres tomacorrientes.

Aunque se han mostrado, descrito y destacado las características novedosas fundamentales de la invención, tal como se aplican a las incorporaciones preferidas, se entenderá que las personas expertas en el arte pueden hacer varias omisiones, sustituciones y modificaciones de la forma y detalles de los dispositivos ilustrados en su operación, sin apartarse del espíritu de la invención.

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Lo que se reivindica es:

1. Un receptáculo que tiene un cuerpo y un elemento superior adaptados para montarse en una caja de pared, en donde el elemento superior exhibe ranuras para alojar las cuchillas de más de dos enchufes.

2. El receptáculo de la reivindicación 1, en donde el elemento superior exhibe ranuras para alojar las cuchillas de por lo menos tres enchufes.

3. El receptáculo de la reivindicación 2, en donde el cuerpo del receptáculo puede montarse en una caja individual.

4. El receptáculo de la reivindicación 3, en donde las ranuras en el elemento superior para alojar las cuchillas de por lo menos tres enchufes comprenden por lo menos dos ranuras para cada enchufe, en donde una de las dos ranuras es más grande que la otra.

5. El receptáculo de la reivindicación 4, en donde se localizan contactos detrás de cada ranura para alojar las cuchillas de los por lo menos tres enchufes y en donde los contactos localizados detrás de las ranuras más grandes se acoplan eléctricamente entre sí por medio de un bus.

6. El receptáculo de la reivindicación 5, en donde los contactos localizados detrás de cada una de la más pequeña de las dos ranuras se acoplan eléctricamente entre sí por medio de un segundo bus.

7. El receptáculo de la reivindicación 4, en donde las ranuras en el elemento superior para alojar las cuchillas de los por lo menos tres enchufes comprenden una tercera ranura.

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8. El receptáculo de la reivindicación 7, en donde un contacto se localiza detrás de cada tercera ranura y cada contacto detrás de cada tercera ranura se acoplan eléctricamente entre sí a un contacto en el cuerpo del receptáculo.

9. El receptáculo de la reivindicación 8, en donde cada tercera ranura en el elemento superior es una ranura semi-redonda para alojar una cuchilla de puesta a tierra de un enchufe.

10. El receptáculo de la reivindicación 1, en donde la superficie del elemento superior es continua.

11. El receptáculo de la reivindicación 1, que comprende además medios de montaje para acoplar el receptáculo a por lo menos una caja individual.

12. El receptáculo de la reivindicación 1, en donde el elemento superior presenta ranuras para alojar las cuchillas de por lo menos seis enchufes.

13. El receptáculo de la reivindicación 12, en donde el cuerpo del receptáculo puede montarse en una caja doble.

14. El receptáculo de la reivindicación 13, en donde las ranuras en el elemento superior para alojar las cuchillas de por lo menos seis enchufes comprende por lo menos dos ranuras para cada enchufe, en donde una de las dos ranuras es más grande que la otra.

15. El receptáculo de la reivindicación 14, en donde se localizan contactos detrás de cada ranura para alojar las cuchillas de los por lo menos seis enchufes y en donde los contactos localizados detrás de las ranuras más grandes se acoplan eléctricamente entre sí por medio de un bus.

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16. El receptáculo de la reivindicación 15, en donde los contactos localizados detrás de cada una de la más pequeña de las dos ranuras se acoplan eléctricamente entre sí por medio de un segundo bus.

17. El receptáculo de la reivindicación 14, en donde las ranuras en el elemento superior para alojar las cuchillas de los por lo menos seis enchufes comprenden una tercera ranura.

18. El receptáculo de la reivindicación 17, en donde un contacto se localiza detrás de cada tercera ranura y cada contacto localizado detrás de la tercera ranura se acopla eléctricamente entre sí y a un contacto en el cuerpo del receptáculo.

19. El receptáculo de la reivindicación 18, en donde cada tercera ranura en el elemento superior es una ranura semi-redonda para alojar una cuchilla de puesta a tierra de un enchufe.

20. El receptáculo de la reivindicación 12, en donde la superficie del elemento superior es continua.

21. El receptáculo de la reivindicación 12, que comprende además medios de montaje para acoplar el receptáculo a por lo menos una caja doble.

EXTRACTO DE LA DIVULGACIÓN

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Se divulga un receptáculo triple de unidad sencilla con tres tomacorrientes, que puede montarse en una caja individual, no requiere cableado separado de interconexión y puede taparse con una tapa única de pared. Se divulga asimismo un receptáculo séxtuple de unidad sencilla con seis tomacorrientes, que puede montarse en una caja doble, no requiere cableado separado de interconexión y puede taparse con una tapa única de pared.

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

for receiving Office use only

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference
(if desired) (12 characters maximum) 02672024PCTBox No. I TITLE OF INVENTION
TRIPLEX/SIXPLEX RECEPTACLE

Box No. II APPLICANT

☐ This person is also inventor

Name and address: (Family name followed by given names for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this box is the applicant's State (that is, country) of residence (if no State of residence is indicated below.)

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718-281-8549

Teleprinter No.

Applicant's registration No. with the Office

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USState (that is, country) of residence:
US

This person is applicant for the purposes of: ☒ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address: (Family name followed by given names for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this box is the applicant's State (that is, country) of residence (if no State of residence is indicated below.)

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This person is:

☐ applicant only☐ applicant and inventor☒ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

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USState (that is, country) of residence:
US

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

☒ Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:

☒ agent ☐ common representative

Name and address: (Family name followed by given names for a legal entity, full official designation. The address must include postal code and name of country.)

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Magidoff, Barry G.
Nardese, Claude
Weles, Eli
of Greenberg Traurig, LLP
885 Third Avenue
New York, New York 10022
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Telephone No.
212-801-2108Facsimile No.
212-688-2449

Teleprinter No.

Agent's registration No. with the Office

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Continuation of Box No. III FURTHER APPLICANTS AND/OR (FURTHER) INVENTOR(S)

If none of the following sub-boxes is used, this sheet should not to be included in the request.

Name and address: (Family name followed by given names for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

Zacharevitz, Steve
60 Highland Avenue
Northport, New York 11768
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This person is:

- ☐ applicant only
☐ applicant and inventor
☒ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:
US

State (that is, country) of residence:
US

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given names for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
☐ applicant and inventor
☐ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given names for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
☐ applicant and inventor
☐ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given names for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

- ☐ applicant only
☐ applicant and inventor
☐ inventor only (If this check-box is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box

☐ Further applicants and/or (further) inventors are indicated on another continuation sheet.

Box No. V DESIGNATION OF STATES

Mark the applicable check-boxes below; at least one must be marked.

The following designations are hereby made under Rule 4.9(a):

Regional Patent

- ☒ **AP** **ARIPO Patent:** GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, MZ Mozambique, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZM Zambia, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT (if other kind of protection or treatment desired, specify on dotted line)
- ☒ **EA** **Eurasian Patent:** AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ **EP** **European Patent:** AT Austria, BE Belgium, BG Bulgaria, CH & LI Switzerland and Liechtenstein, CY Cyprus, CZ Czech Republic, DE Germany, DK Denmark, EE Estonia, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, HU Hungary, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, RO Romania, SE Sweden, SI Slovenia, SK Slovakia, TR Turkey, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ **OA** **OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GQ Equatorial Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

National Patent (if other kind of protection or treatment desired, specify on dotted line):

- | | | |
|--|---|--|
| ☒ AE United Arab Emirates | ☐ HR Croatia | ☐ OM Oman |
| ☐ AG Antigua and Barbuda | ☐ HU Hungary | ☐ PG Papua New Guinea |
| ☐ AL Albania | ☐ ID Indonesia | ☐ PH Philippines |
| ☐ AM Armenia | ☐ IL Israel | ☐ PL Poland |
| ☐ AT Austria | ☐ IN India | ☐ PT Portugal |
| ☐ AU Australia | ☐ IS Iceland | ☐ RO Romania |
| ☐ AZ Azerbaijan | ☐ JP Japan | ☐ RU Russian Federation |
| ☐ BA Bosnia and Herzegovina | ☐ KE Kenya | ☐ SC Seychelles |
| ☐ BB Barbados | ☐ KG Kyrgyzstan | ☐ SD Sudan |
| ☐ BG Bulgaria | ☐ KP Democratic People's Republic of Korea | ☐ SE Sweden |
| ☐ BR Brazil | ☐ KR Republic of Korea | ☐ SG Singapore |
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| ☐ BZ Belize | ☐ LC Saint Lucia | ☐ SL Sierra Leone |
| ☐ CA Canada | ☐ LK Sri Lanka | ☐ SY Syrian Arab Republic |
| ☐ CH & LI Switzerland and Liechtenstein | ☐ LR Liberia | ☐ TJ Tajikistan |
| ☐ CN China | ☐ LS Lesotho | ☐ TM Turkmenistan |
| ☐ CO Colombia | ☐ LT Lithuania | ☐ TN Tunisia |
| ☐ CR Costa Rica | ☐ LU Luxembourg | ☐ TR Turkey |
| ☐ CU Cuba | ☐ LV Latvia | ☐ TT Trinidad and Tobago |
| ☐ CZ Czech Republic | ☐ MA Morocco | ☐ TZ United Republic of Tanzania |
| ☐ DE Germany | ☐ MD Republic of Moldova | ☐ UA Ukraine |
| ☐ DK Denmark | ☐ MG Madagascar | ☐ UG Uganda |
| ☐ DM Dominica | ☐ MK The former Yugoslav Republic of Macedonia | ☐ US United States of America |
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| ☐ GB United Kingdom | ☐ NO Norway | ☐ ZM Zambia |
| ☐ GD Grenada | ☐ NZ New Zealand | ☐ ZW Zimbabwe |
| ☐ GE Georgia | | |
| ☐ GH Ghana | | |
| ☐ GM Gambia | | |

Check-boxes below reserved for designating States which have become party to the PCT after issuance of this sheet:

- ☒ **EG** **Egypt**

Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

Box No. VI PRIORITY CLAIM

The priority of the following earlier application(s) is hereby claimed:

Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country or Member of WTO	regional application: regional Office	international application: receiving Office
item (1) 17 September 2002	10/245,150	US		
item (2)				
item (3)				
item (4)				
item (5)				

☐ Further priority claims are indicated in the Supplemental Box.

The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of this international application is the receiving Office) identified above as:

☐ all items ☒ item (1) ☐ item (2) ☐ item (3) ☐ item (4) ☐ item (5) ☐ other, see Supplemental Box

* Where the earlier application is an ARIPO application, indicate at least one country party to the Paris Convention for the Protection of Industrial Property or one Member of the World Trade Organization for which that earlier application was filed (Rule 4.10(b)(ii)):

Box No. VII INTERNATIONAL SEARCHING AUTHORITY

Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):

ISA/ .US

Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):

Date (day/month/year) Number Country (or regional Office)

Box No. VIII DECLARATIONS

The following declarations are contained in Boxes Nos. VIII (i) to (v) (mark the applicable check-boxes below and indicate in the right column the number of each type of declaration):

Number of declarations

- | | | |
|---|--|---|
| ☐ Box No. VIII (i) | Declaration as to the identity of the inventor | : |
| ☐ Box No. VIII (ii) | Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent | : |
| ☐ Box No. VIII (iii) | Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application | : |
| ☐ Box No. VIII (iv) | Declaration of inventorship (only for the purposes of the designation of the United States of America) | : |
| ☐ Box No. VIII (v) | Declaration as to non-prejudicial disclosures or exceptions to lack of novelty | : |

Box No. IX CHECK LIST: LANGUAGE OF FILING

This international application contains:

(a) In paper form, the following number of sheets:

request (including declaration sheets) : 5
 description (excluding sequence listings and/or tables related thereto) : 18
 claims : 2
 abstract : 1
 drawings : 13

Sub-total number of sheets : 37

sequence listings :

tables related thereto :

(for both, actual number of sheets if filed in paper form, whether or not also filed in computer readable form; see (c) below)

Total number of sheets : 37

(b) ☐ only in computer readable form (Section 801(a)(i))(i) ☐ sequence listings(ii) ☐ tables related thereto(c) ☐ also in computer readable form (Section 801(a)(ii))(i) ☐ sequence listings(ii) ☐ tables related thereto

Type and number of carriers (diskette, CD-ROM, CD-R or other) on which are contained the

☐ sequence listings:☐ tables related thereto:

(additional copies to be indicated under items 9(ii) and/or 10(ii), in right column)

This international application is accompanied by the following item(s) (mark the applicable check-boxes below and indicate in right column the number of each item):

1. ☒ fee calculation sheet : 66
 2. ☒ original separate power of attorney :
 3. ☐ original general power of attorney :
 4. ☐ copy of general power of attorney; reference number, if any: :
 5. ☐ statement explaining lack of signature :
 6. ☐ priority document(s) identified in Box No. VI as item(s): :
 7. ☐ translation of international application into (language): :
 8. ☐ separate indications concerning deposited microorganism or other biological material :
 9. ☐ sequence listings in computer readable form (indicate type and number of carriers) :
 (i) ☐ copy submitted for the purposes of international search under Rule 13ter only (and not as part of the international application) :
 (ii) ☐ (only where check-box (b)(i) or (c)(i) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Rule 13ter :
 (iii) ☐ together with relevant statement as to the identity of the copy or copies with the sequence listings mentioned in left column :
 10. ☐ tables in computer readable form related to sequence listings (indicate type and number of carriers) :
 (i) ☐ copy submitted for the purposes of international search under Section 802(b-quater) only (and not as part of the international application) :
 (ii) ☐ (only where check-box (b)(ii) or (c)(ii) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Section 802(b-quater) :
 (iii) ☐ together with relevant statement as to the identity of the copy or copies with the tables mentioned in left column :
 11. ☒ other (specify): Transmittal Letter to the US Receiving Office :

Number of items

Figure of the drawings which should accompany the abstract: 18

Language of filing of the international application: English

Box No. X SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).


 Paul J. Sutton, of Greenberg Traurig, LLP

For receiving Office use only		2. Drawings: ☐ received: ☐ not received:
1. Date of actual receipt of the purported international application:		
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:		
4. Date of timely receipt of the required corrections under PCT Article 11(2):		
5. International Searching Authority (if two or more are competent): ISA/	6. ☐ Transmittal of search copy delayed until search fee is paid	

For International Bureau use only

Date of receipt of the record copy by the International Bureau:

INTERNATIONAL SEARCH REPORT

International application No. **67**

PCT/US03/25090

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : HD12 4/66

US CL : 439/107

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 439/107, 535

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
none

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
none

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3,327,277 A (RAMSING et al) 20 June 1967, see entire document	1-11
Y		12-21

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"B" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"Z"

document member of the same patent family

Date of the actual completion of the international search

23 May 2004 (23.05.2004)

Date of mailing of the international search report

06 JUL 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1430
Alexandria, Virginia 22313-1430

Facsimile No. (703)305-3230

Authorized officer

Gary F Paumen

Telephone No. 703-305-3431

PATENT COOPERATION TREATY

68

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

NOTIFICATION OF RECEIPT
OF DEMAND BY COMPETENT INTERNATIONAL
PRELIMINARY EXAMINING AUTHORITY

(PCT Rules 59.3(e) and 61.1(b), first sentence
and Administrative Instructions, Section 601(e))

To:

PAUL J. SUTON
GREENBERG TRAURIG, LLP
885 THIRD AVENUE
NEW YORK, NEW YORK 10022

Date of mailing
(day/month/year)

20 JUL 2004

Applicant's or agent's file reference

02872024PCT

IMPORTANT NOTIFICATION

International application No.

PCT/US03/28080

International filing date (day/month/year)

16 Sep 2003

Priority date (day/month/year)

17 Sep 2002

Applicant

LEVITON MANUFACTURING CO., INC.

1. The applicant is hereby notified that this International Preliminary Examining Authority considers the following date as the date of receipt of the demand for international preliminary examination of the international application:

16 Apr 2004

2. That date of receipt is:



the actual date of receipt of the demand by this Authority (Rule 61.1(b)).



the actual date of receipt of the demand on behalf of this Authority (Rule 59.3(e)).



the date on which this Authority has, in response to the invitation to correct defects in the demand (Form PCT/IPEA/404), received the required corrections.

3. ☐ ATTENTION: That date of receipt is AFTER the expiration of 19 months from the priority date. Consequently, the election(s) made in the demand does (do) not have the effect of postponing the entry into the national phase until 30 months from the priority date (or later in some Offices) (Article 39(1)). Therefore, the acts for entry into the national phase must be performed within 20 months from the priority date (or later in some Offices) (Article 22). For details, see the PCT Applicant's Guide, Volume II.



(If applicable) This notification confirms the information given by telephone, facsimile transmission or in person on:

4. Only where paragraph 3 applies, a copy of this notification has been sent to the International Bureau.

Name and mailing address of the IPEA/
Mail Stop PCT, Commissioner for Patents
P.O. Box 1450, Alexandria, VA 22313-1450

Facsimile No. 703-305-3230

Form PCT/IPEA/402 (July 1998)

Authorized official
Stacy Duncan

Telephone No. (703) 844-2992 605-1537

Nhu Thuy Tran

✓

PATENT COOPERATION TREATY

69

From the RECEIVING OFFICE

To: PAUL J. SUTTON GREENBERG TRAURIG, LLP 885 THIRD AVENUE NEW YORK, NEW YORK 10022		PCT NOTIFICATION OF THE INTERNATIONAL APPLICATION NUMBER AND OF THE INTERNATIONAL FILING DATE (PCT Rule 20.5(c))	
		Date of mailing (day/month/year) 20 Oct 2003	
Applicant's or agent's file reference 02672024PCT		IMPORTANT NOTIFICATION	
International application No. PCT/US03/29090	International filing date (day/month/year) 16 Sep 2003	Priority date (day/month/year) 17 Sep 2002	
Applicant LEVITON MANUFACTURING CO., INC.			
Title of the invention TRIPLEX/SUXPLEX RECEPTACLE			

1. The applicant is hereby notified that the international application has been accorded the international application number and the international filing date indicated above.	
2. The applicant is further notified that the record copy of the international application:	
☒ was transmitted to the International Bureau on 20 Oct 2003 ☐ has not yet been transmitted to the International Bureau for the reason indicated below and a copy of this notification has been sent to the International Bureau*: ☐ because the necessary national security clearance has not yet been obtained. ☐ because reason is not specified:	
* The International Bureau monitors the transmittal of the record copy by the receiving Office and will notify the applicant (with Form PCT/IB/301) of its receipt. Should the record copy not have been received by the expiration of 14 months from the priority date, the International Bureau will notify the applicant (Rule 22.1(c)).	
3. FOREIGN TRANSMITTAL LICENSE INFORMATION Completed by: <u>NT</u>	
☐ Additional license for foreign transmittal not required. This subject matter is covered by a license already granted or the equivalent U.S. national application. Refer to that license for information concerning its scope. ☐ License for foreign transmittal not required. 37 CFR 5.11(e)(1) or 37 CFR 5.11(e)(2). However, a license may be required for additional subject matter. See 37 CFR 5.15(b). ☒ Foreign transmittal license granted. 35 U.S.C. 184; 37 CFR 5.11 on 16 Oct 2003: ☒ 37 CFR 5.15(a) ☐ 37 CFR 5.15(b)	
Name and mailing address of the receiving Office Mail Stop PCT, Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 Facsimile No. 703-305-3230	Authorized officer Nhu Thuy Tran Telephone No. 703-806-1537

From the INTERNATIONAL BUREAU

PCT

NOTICE INFORMING THE APPLICANT OF THE
COMMUNICATION OF THE INTERNATIONAL
APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

To:

70
SUTTON, Paul, J.
Greenberg Traurig, LLP
885 Third Avenue
New York, NY 10022
ETATS-UNIS D'AMERIQUEDate of mailing (day/month/year)
01 April 2004 (01.04.2004)Applicant's or agent's file reference
02672024PCT

IMPORTANT NOTICE

International application No.
PCT/US2003/029090International filing date (day/month/year)
16 September 2003 (16.09.2003)Priority date (day/month/year)
17 September 2002 (17.09.2002)

Applicant

LEVITON MANUFACTURING CO., INC.

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this notice:

AU, AZ, BY, CH, CN, CO, DZ, EP, HU, JP, KG, KP, KR, MD, MK, MZ, RU, TM

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

AE, AG, AL, AM, AP, AT, BA, BB, BG, BR, BZ, CA, CR, CU, CZ, DE, DK, DM, EA, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, ID, IL, IN, IS, KE, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MG, MN, MW, MX, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, SC, SD, SE, SG, SK, SL, SY, TJ, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this notice is a copy of the international application as published by the International Bureau on 01 April 2004 (01.04.2004) under No. WO 2004/027788

4. **TIME LIMITS** for filing a demand for international preliminary examination and for entry into the national phase

The applicable time limit for entering the national phase will, subject to what is said in the following paragraph, be 30 MONTHS from the priority date, not only in respect of any elected Office if a demand for international preliminary examination is filed before the expiration of 19 months from the priority date, but also in respect of any designated Office. In the absence of filing of such demand, where Article 22(1) as modified with effect from 1 April 2002 applies in respect of that designated Office. For further details, see *PCT Gazette* No. 44/2001 of 1 November 2001, pages 19926, 19932 and 19934, as well as the *PCT Newsletter*, October and November 2001 and February 2002 issues.

In practice, time limits other than the 30-month time limit will continue to apply, for various periods of time, in respect of certain designated or elected Offices. For regular updates on the applicable time limits (20, 21, 30 or 31 months, or other time limit), Office by Office, refer to the *PCT Gazette*, the *PCT Newsletter* and the *PCT Applicant's Guide*, Volume II, National Chapters, all available from WIPO's Internet site, at <http://www.wipo.int/pct/en/index.html>.

For filing a demand for international preliminary examination, see the *PCT Applicant's Guide*, Volume I/A, Chapter IX. Only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination (at present, all PCT Contracting States are bound by Chapter II).

It is the applicant's sole responsibility to monitor all these time limits.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Gijsbertus Beljer - Carlos Roy

Facsimile No.(41-22) 740.14.35

Telephone No.(41-22) 338.91.11

X *71*

OCTOBER 27, 2003

PTAS

Chief Financial Officer and Chief Administrative Officer
Washington, DC 20231
www.uspto.gov

GREENBERG TRAURIG, LLP
PAUL J. SUTTON
885 THIRD AVENUE
NEW YORK, NY 10022



102453563A

**UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT**

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 05/19/2003

REEL/FRAME: 014075/0169
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:
ODDSEN, DENNIS

DOC DATE: 03/31/2003

ASSIGNOR:
ZACHAREVITZ, STEVE

DOC DATE: 03/31/2003

ASSIGNEE:
LEVITON MANUFACTURING CO., INC.
59-25 LITTLE NECK PARKWAY
LITTLE NECK, NEW YORK 11362

SERIAL NUMBER: 10245159
PATENT NUMBER:

FILING DATE: 09/17/2002
ISSUE DATE:

THERESA FREDERICK, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

05-21-2003

Pat No.: 0267-001-2024

EET

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

Tab settings → → → ▼ ▼

102453563

To the Honorable Director of the United States Patent and Trademark Office: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):
Dennis Oddsen
Steve Zacharevitz

5-19-03

Additional names(s) of conveying party(ies)

☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Other _____

Execution Date: March 31, 2003

2. Name and address of receiving party(ies):

Name: Leviton Manufacturing Co., Inc.

Internal Address: _____

Street Address: 59-25 Little Neck Parkway

City: Little Neck

State: NY

ZIP: 11362

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent numbers(s):

If this document is being filed together with a new application, the execution date of the application is: _____

A. Patent Application No.(s)

10/245,159

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Paul J. Sutton, Esq.

Internal Address: _____

Street Address: GREENBERG TRAURIG, LLP

885 Third Avenue

City: New York

State: NY

ZIP: 10022

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41):.....\$ 40.00

- ☐ Enclosed - Any excess or insufficiency should be credited or debited to deposit account
☒ Authorized to be charged to deposit account

8. Deposit account number:
██████████

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Paul J. Sutton

Name of Person Signing

Signature

May 14, 2003

Date

Total number of pages including cover sheet, attachments, and document: 3

Mail documents to be recorded with required cover sheet information to:

Mail Stop Assignment Recordation Services

Director of the United States Patent and Trademark Office, P.O. Box 1480, Alexandria, VA 22313-1480

ASSIGNMENT

74 73

WHEREAS, WE, Dennis ODDSEN and Steve ZACHAREVITZ, citizens of the United States of America, residing respectively at 54 Peterborough Drive, Eatons Neck, NY 11768; and 60 Highland Avenue, Northport, NY 11768, hereinafter called "Assignors", have made certain inventions in TRIPLEX/SIXPLEX RECEPTACLE, described in a specification filed by us on September 17, 2002 and which has been granted Serial No. 10/245,159; and

WHEREAS, LEVITON MANUFACTURING CO., INC., a Delaware corporation, with a place of business at 59-25 Little Neck Parkway, Little Neck, NY 11362, hereinbelow called "Assignee", is desirous of securing an undivided One Hundred Percent (100%) of the entire right, title and interest in and to the said inventions, applications and Letters Patent, when granted, and in and to any divisions, continuations, continuations-in-part, improvements, reissues or extensions that may be made or granted on any of them;

NOW, THEREFORE, BE IT KNOWN that for and in consideration of the sum of One Dollar (\$1.00) to us in hand paid by the said Assignee, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said Assignors, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over unto the said Assignee, its successors and assigns, an undivided One Hundred Percent (100%) of the entire right, title and interest throughout the world in and to the said inventions, applications and Letters Patent, when granted, and in and to any divisions, continuations, continuations-in-part, improvements, reissues or extensions that may be made or granted on any of them;

TO HAVE AND TO HOLD the same to the full end of the term or terms for which said Letters Patent may be granted, as fully and completely as the same might be held by us had this sale and assignment not been made.

For the consideration aforesaid, we hereby covenant and agree to and with the said Assignee, its successors and assigns that whenever its counsel or representative, or the counsel or representative of its successors or assigns, shall advise that formal application papers must be executed or an amendment to, or a division of, or any other proceeding or action in connection with said application or inventions, including interference proceedings, is lawful and desirable, or that a reissue or continuation, continuation-in-part or extension of said Letters Patent is lawful and desirable, we will sign all papers and drawings, take all rightful oaths and affidavits, and do all acts necessary or required to be done for the reissue or continuation, continuation-in-part or extension of same, and will do all acts necessary or required to secure to the said Assignee, its successors and assigns, the title to and full benefit of all rights hereby

assigned, without charge to said Assignee or its successors or assigns, but at its or their expense.

AND the Commissioner of Patents and Trademarks is requested to issue the said Letters Patent, when granted, in accordance with this sale and assignment.

For the consideration aforesaid, we have sold, assigned, transferred and set over and by these presents do sell, assign, transfer and set over unto the said Assignee, its successors and assigns, or the nominees of any of them, an undivided One Hundred Percent (100%) of the entire right, title and interest in and to any and all Letters Patent for said inventions which may be granted in countries foreign to the United States, and in and to any applications for Letters Patent which may be filed for said inventions in countries foreign to the United States, and in and to the inventions described in said applications; and we hereby authorize and empower said Assignee and its successors, assigns or nominees, to apply for Letters Patent or other form of protection on said inventions in its own name or in the name of its successors, assigns or nominees, in any or all countries where it may desire to file such applications, and where said applications may be filed by another other than the inventor, and we hereby covenant and agree to sign all papers and drawings, take all rightful oaths, execute all rightful affidavits, and do all acts necessary or required to be done for the procurement and maintenance of Letters Patent or other form of protection for said inventions in countries foreign to the United States, and for further investing or confirming the right and title thereto in the Assignee, its successors, assigns or nominees, but at its or their expense.

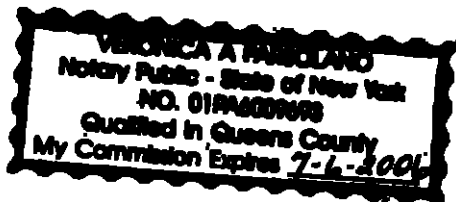

Dennis ODDSEN


Steve ZACHAREVITZ

STATE OF NEW YORK)
) ss.:
COUNTY OF QUEENS)

On this 31 day of MARCH, 2023 before me personally appeared Dennis ODDSEN and Steve ZACHAREVITZ, to me personally known, and who signed the foregoing instrument in my presence, and duly acknowledged the same to be their free act and deed.

Veronica A. Parsolano
Notary Public



REQUISITOS NECESARIOS PARA PRESENTACION Y AGILIZACION DEL TRAMITE

		USUARIO	RADICADOR
PATENTE DE INVENCION ✓			
MODELO DE UTILIDAD			
Indicación de que se solicita la concesión de una patente.	()	()	()
Datos de identificación del solicitante o de la persona que se presenta la solicitud.	()	()	()
Descripción de la invención.	()	()	()
Dibujos de ser estos pertinentes. ✗	()	()	()
Comprobante de Pago de las tasas establecidas.	()	()	()
COMPLETA ()		INCOMPLETA ()	()
DISEÑO INDUSTRIAL ()			
Indicación de que se solicita el registro de Diseño Industrial	()	()	()
Datos de identificación del solicitante o de la persona que presenta la solicitud.	()	()	()
Representación gráfica o fotográfica del Diseño Industrial o muestra del Material que incorpora el diseño.	()	()	()
Comprobante de pago de las tasas establecidas	()	()	()
COMPLETA ()		INCOMPLETA ()	()
ESQUEMA DE TRAZADO ()			
Indicación de que solicita el registro de un Esquema de trazado.	()	()	()
Datos de identificación del solicitante o de la persona que presenta La solicitud.	()	()	()
Representación gráfica del esquema de trazado	()	()	()
Comprobante de pago de las tasas establecidas.	()	()	()
COMPLETA ()		INCOMPLETA ()	()

Firma Responsable: *Abdón M Neiva*

Fecha:

28

Industria y Comercio
SUPERINTENDENCIA

2020
Bogotá, D.C.,

76

Doctor:
JUAN PABLO CADENA SARMIENTO
LEVITON MANUFACTURING CO., INC.
Solicitante

Oficio N° 10007

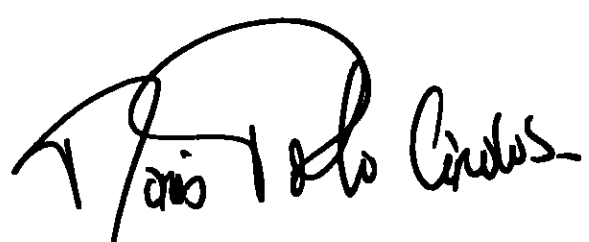
ASUNTO:	Radicación N°	05-32033
	Solicitud internacional	PCT/US2003/029090
	Fecha limite inicio fase nacional	17/04/2005
	Trámite	011
	Evento	379
	Actuación	430
	Folios	001

Como resultado del examen de forma, realizado con fundamento en el artículo 38 de la Decisión 486 de la Comisión de la Comunidad Andina, artículo 27 del Tratado de Cooperación en Materia de Patentes (PCT), regla 51 bis del Reglamento y Circular Única de la Superintendencia de Industria y Comercio, se le comunica que:

- Si fuere el caso, el solicitante debe adjuntar la traducción de los anexos del reporte de examen preliminar internacional (Art. 36.2.b) del tratado PCT).
- La solicitud no contiene la copia del documento en que consta la cesión del derecho a la patente del inventor al solicitante o a su causante. (Art. 26-k) Decisión 486).
- La solicitud no contiene el poder debidamente otorgado, con el lleno de los requisitos exigidos por los artículos 63 y subsiguientes del Código de Procedimiento Civil. Adicionalmente, deberá presentar el documento que acredita la existencia y representación legal de la sociedad solicitante, cuando ésta fuere persona jurídica.

En cumplimiento de lo dispuesto por el artículo 39 de la Decisión 486, se le requiere para que dentro del término de dos meses siguientes a la fecha de notificación del presente oficio, complete los requisitos anteriormente enunciados. En caso de no dar cumplimiento al presente requerimiento, la solicitud se considerará abandonada y perderá su prelación.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Única N° 10 de 2001.



DORIS ELENA POLO CORDOBA
Jefe de la División de Nuevas Creaciones. (E)

El anterior requerimiento fue notificado por fijación en lista de fecha, 27 MAYO 2005
202030

Carrera 13 No. 27-00 Piso 5 y 10
Commutador: 334 12 21-2-3-4
Fax: 281 31 25 e-mail: info@ic.gov.co
Santa Fe de Bogotá D.C. - Colombia