Feb. 27, 1962 F. W. FORK 3,023,265

ELECTRICAL CONNECTOR ENCLOSURE

Filed June 13, 1960 3 Sheets-Sheet 1

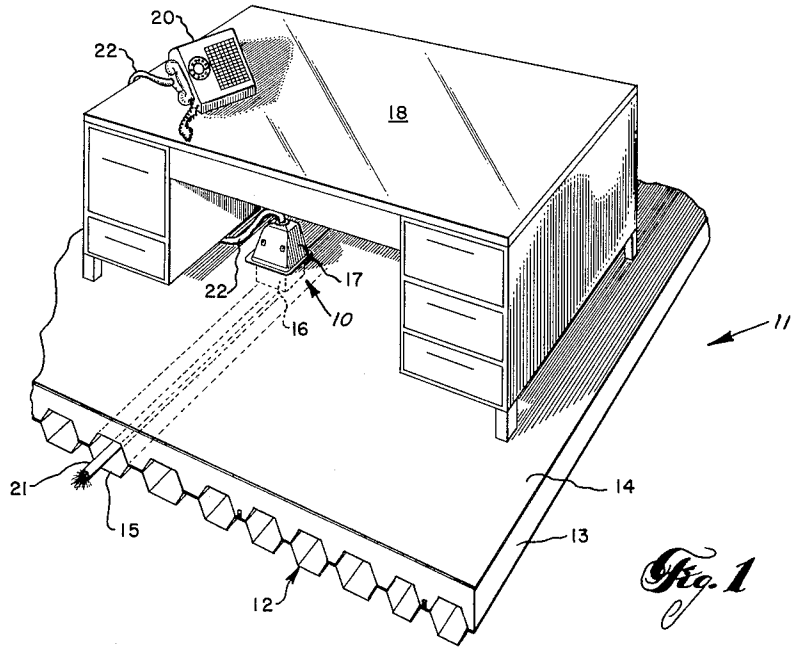


Fig. 1

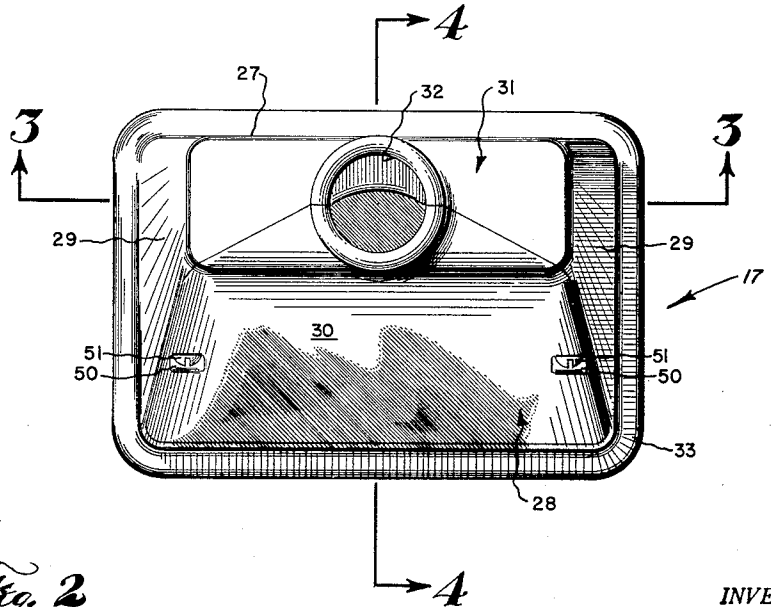


Fig. 2

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Fig. 3

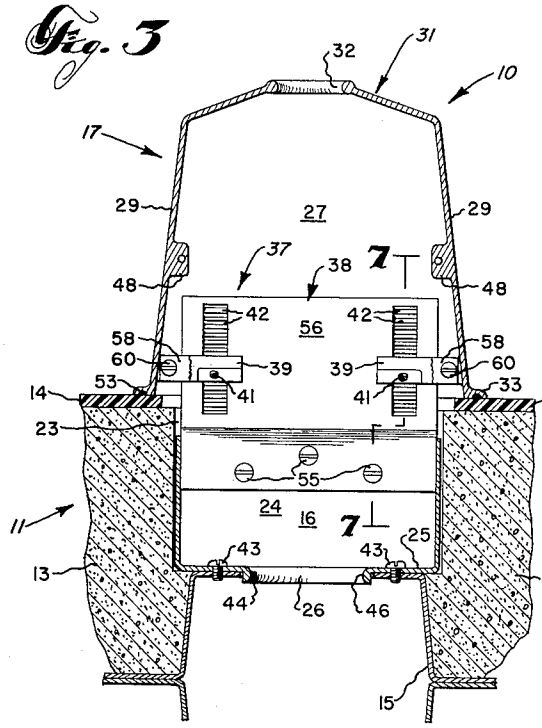
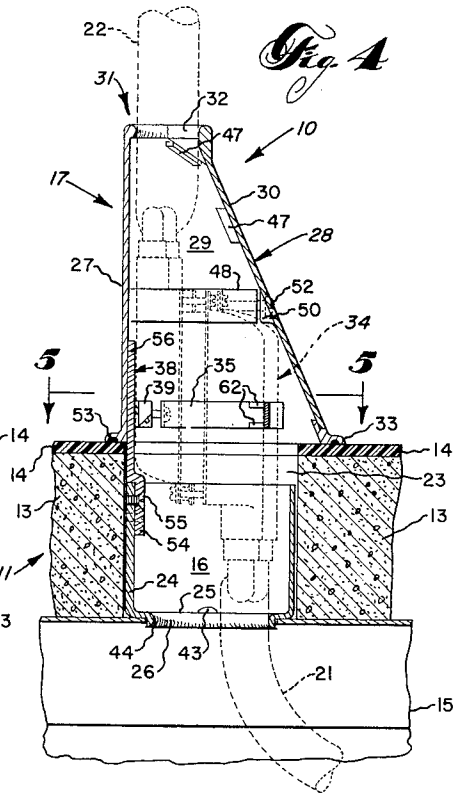


Fig. 4



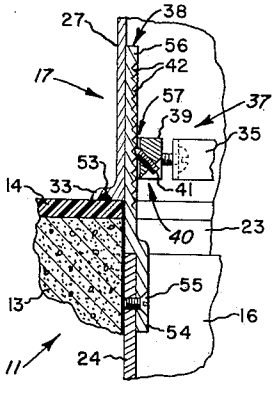


Fig. 7

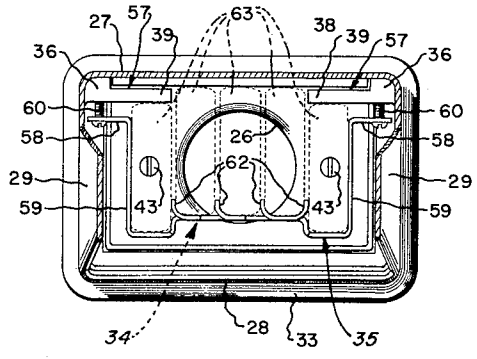


Fig. 5

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ELECTRICAL CONNECTOR ENCLOSURE

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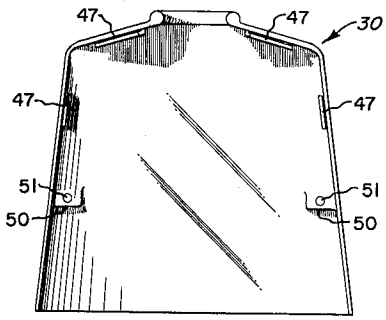


Fig. 6

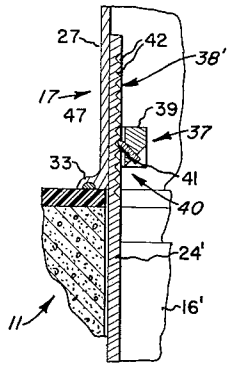


Fig. 8

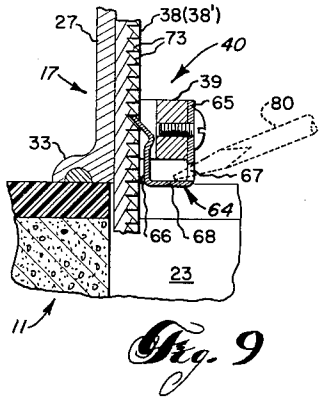


Fig. 9

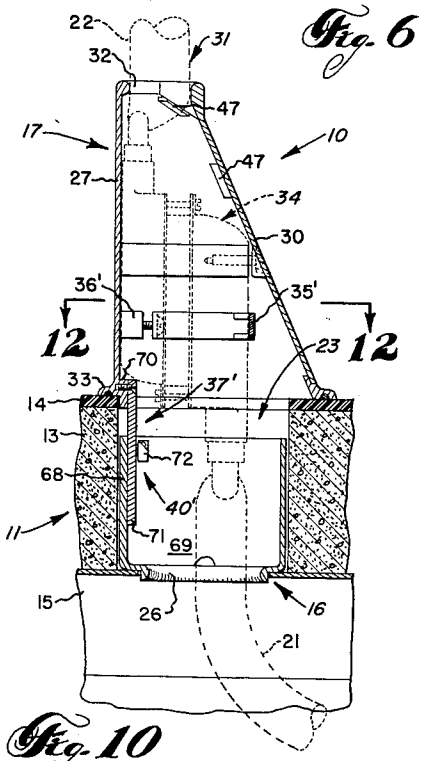


Fig. 10

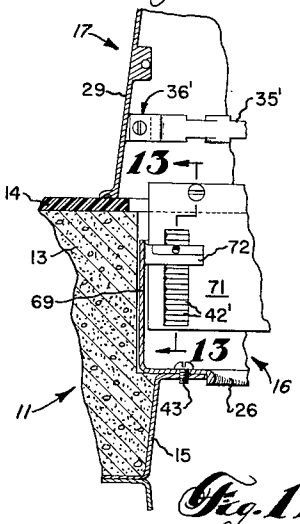


Fig. 11

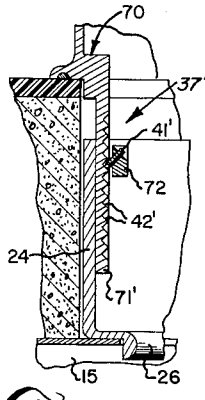


Fig. 14

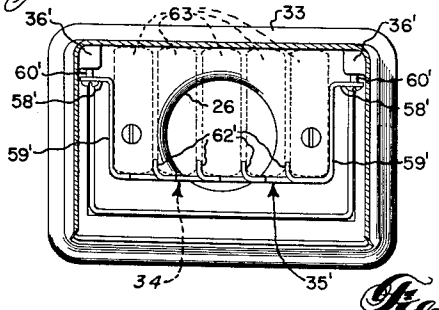


Fig. 12

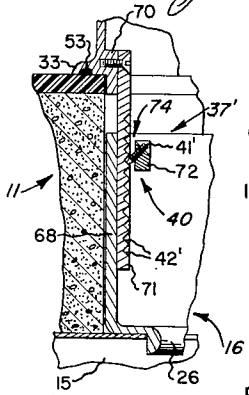


Fig. 13

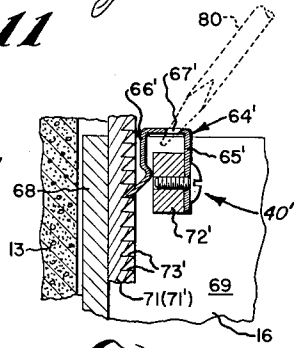


Fig. 15

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United States Patent Office 3,023,265
Patented Feb. 27, 1962

3,023,265

ELECTRICAL CONNECTOR ENCLOSURE

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Filed June 13, 1960, Ser. No. 35,514
13 Claims. (Cl. 174—48)

This invention relates to an electrical connector enclosure. More particularly this invention relates to an electrical connector enclosure for use in combination with an electrical raceway disposed beneath a floor or wall of a building.

A recent advance in the field of communication is the development of the multistation telephone set. This set permits the answering, originating, signaling or holding of calls. Because of the many stations and functions controlled by this set the signals carrying cable leading to the set contains a multitude of wires. At present they number as high as 200.

In order to simplify the installation of these sets, the signals carrying cable is split into a running cord and a mounting cord. The running cord extends from the terminal station, through an electrical raceway and to a point adjacent the telephone. The mounting cord is connected to the running cord and leads into the telephone set.

A special electrical connector is used in joining the running cord to the mounting cord. This connector consists of a 50-point female receptacle and a 50-point male plug. The large number of wires carried by the split cable necessitates the use of several female receptacles with the mounting cord and an equal number of male plugs with the running cord. Therefore when the telephone installer has properly wired the multistation telephone set, he completes the installation by joining each of the 50-point units.

The connector, as presently constructed, provides a small, compact unit which, for trouble-free service, must not be subjected to jarring impacts. In many installations, however, the connector is permitted to lie on the floor exposed to possible impacts from kicking or moving furniture and to water damage by careless floor cleaning operations. Other installations permit the connector to hang freely exposing it to impacts with the adjacent furniture or the desk. Further the furniture is again subject to marring. Still other installations provide some protection for the connector by fastening it to the desk. However, this does not provide complete protection. Further, in all of these installations the connector has an unattractive exposed appearance which detracts from the pleasing interior decorating scheme of the office space.

The enclosure of this invention provides an attractive, efficient solution to the problems. Nevertheless, it should be evident to anyone skilled in the art that other connectors such as the common subterminal connecting blocks or units may also be housed by the present enclosure.

The principal object of this invention is to provide an enclosure completely protecting an electrical connector from impacts.

Another object of this invention is to provide an enclosure that is watertight when installed thereby preventing moisture damage to the connector.

A further object of this invention is to provide an enclosure that is adaptable to a variety of floor thicknesses.

A still further object of this invention is to provide an enclosure whose interior is easily accessible to the worker.

Still another object of this invention is to provide an enclosure that is easily and quickly installed or removed.

A further object of this invention is to provide a connector enclosure that has a pleasing appearance and a low silhouette.

These and other objects and advantages of the present invention will become apparent from the following detailed description by reference to the accompanying drawings in which:

FIGURE 1 is a fragmentary perspective view of a building floor showing the adaptation of the present electrical connector housing in combination with a telephone outlet;

FIGURE 2 is a plan view of the present electrical connector housing;

FIGURE 3 is a cross-sectional view taken along the line 3—3 of FIGURE 2;

FIGURE 4 is a cross-sectional view taken along the line 4—4 of FIGURE 2;

FIGURE 5 is a cross-sectional view taken along the line 5—5 of FIGURE 4 illustrating the retainer of FIGURES 3, 4 with an included electrical connector shown in phantom outline;

FIGURE 6 is a side elevation of the inner surface of the connector cover showing assembly lugs;

FIGURE 7 is a fragmentary cross-sectional view taken along the line 7—7 of FIGURE 3 showing the preferred embodiment of assembly means;

FIGURE 8 is a fragmentary cross-sectional view similar to FIGURE 7 and illustrating alternative assembly means;

FIGURE 9 is a fragmentary cross-sectional view illustrating a further alternative assembly means;

FIGURE 10 is a cross-sectional view similar to FIGURE 4 illustrating an alternative embodiment of this invention;

FIGURE 11 is a fragmentary cross-sectional view similar to FIGURE 3 further illustrating the alternative embodiment of FIGURE 10;

FIGURE 12 is a cross-sectional view taken along the line 12—12 of FIGURE 10 similar to FIGURE 6 and showing the retainer of FIGURES 10 and 11 with an included electrical connector shown in phantom outline;

FIGURE 13 is a cross-sectional view taken along the line 13—13 of FIGURE 11 showing the assembly means;

FIGURE 14 is a cross-sectional view similar to FIGURE 13 illustrating alternative assembly means; and

FIGURE 15 is a fragmentary cross-sectional view illustrating a further alternative assembly means.

Preferred Embodiment of the Connector Enclosure

Illustrated in FIGURE 1 is an enclosure **10** of this invention adapted to a floor **11** of a building. In this instance the floor **11** is composed of a cellular metal flooring **12**, a layer of concrete **13** and a decorative floor covering **14**. An electrical raceway is provided by a cell **15** of the cellular metal flooring **12**. The enclosure **10** includes a base cup **16** disposed within the concrete **13**. The base cup **16** is secured to and communicates with the cell **15**. The enclosure **10** further includes an exposed casing **17** resting on the floor covering **14** and positioned above the base cup **16**. The base cup **16** and the exposed casing **17** may be fabricated from metals such as aluminum and steel or from plastic materials.

To further illustrate the utilization of the enclosure **10**, a desk **18** is shown resting on the floor **11**. A multistation telephone **20** is shown on the desk **18**. A running cord **21** extends through the cell **15** and enters the base cup **16**. A mounting cord **22** extends from the top of the enclosure **10** and enters the telephone **20**. A multipoint electrical connector (not shown in FIGURE 1) used to connect the running cord **21** to the mounting cord **22** is protectively retained within the enclosure **10**.

The enclosure **10** has been illustrated with its base cup **16** positioned transversely of the cell **15** but it should be

understood that the base cup 16 instead could be longitudinally aligned with the cell 15.

The preferred embodiment of this invention is illustrated in FIGURES 2 to 7 inclusive. The base cup 16 rests within a cavity 23 in the concrete 13. The base cup 16 includes a cup rear wall 24 which presents a flat surface and a bottom wall 25 which is secured to the top of cell 15. The bottom wall 25 includes a cable passageway 26 that communicates with the interior of the cell 15.

The truncated pyramid shaped exposed casing 17 comprises tapered side walls including a casing rear wall 27, a casing front wall 28 and casing side walls 29. The casing 17 further includes a removable cover plate 30, a top 31 having a central cable aperture 32 and a flanged base 33 adapted to rest on the floor 11.

Within the exposed casing 17, retaining means are provided to secure an electrical connector 34, shown in phantom outline (FIGURES 4 and 5), comprising a connector clamping member 35 secured to a pair of inwardly projecting boss members 36.

An assembly means for securing the exposed casing 17 to the base cup 16 includes a fastening means 37 and a securing means 40. The fastening means 37 comprises a flat vertical extension or tongue 38 extending from the cup rear wall 24 and lugs 39 projecting inwardly from the casing side walls 29. The tongue 38 and the lugs 39 are correlative and form locking members which fasten the exposed casing 17 to the base cup 16.

The securing means 40 maintains the tongue 38 in a rigid relation with the lugs 39. Included in the securing means 40 is a removable fastener which in the preferred embodiment is a screw 41. The screw 41 is threadedly engaged in lugs 39 and upwardly engages horizontal grooves 42 in the tongue 38.

The cup bottom wall 25 is secured to the top of cell 15 preferably in electrically grounded relation by cup fasteners such as screws 43. The cable passageway 26, which communicates with the interior of cell 15, is provided with a peripheral downwardly depending lip 44 extending into the cell 15. The lip 44 has a rounded inner surface 46 which prevents injuring the running cord 21.

The removable cover plate 30, forming a greater portion of the casing front wall 28, also forms a part of the casing top 31 and defines a part of the cable aperture 32. Thus with the cover plate 30 removed the mounting cord 22 is positioned in the casing half portion of cable aperture 32. The replacement of the cover plate 30 completes the cable aperture 32 thereby peripherally clamping the mounting cord 22. In order to align cover plate 30 on casing 17, assembly lugs 47 are provided on the inner surface of the removable cover plate 30 at its top and sides. Assembly lugs 47 are placed so as to engage the inner surface of the casing top 31 and the casing side walls 29.

The exposed casing 17 is provided with a cover fastener receiving boss 48 projecting from each of the casing side walls 29. The cover plate 30 is further provided with a pair of inwardly projecting depression 50 adjacent its sides and each including a cover fastener aperture 51. A cover fastener such as a screw 52 extends through each cover fastener aperture 51 and is threadedly engaged in fastener receiving boss 48 to secure the removable cover plate 30 to the exposed casing 17.

The flanged base 33 includes a continuous groove 53 located in its bottom surface. The groove 53 is adapted to receive a suitable sealant material such as putty or a rubber gasket which coacts with the flanged base 33 to form a watertight seal.

The tongue 38 is a Z-shaped member having a lower leg 54 secured to the upper portion of the cup rear wall 24 by a plurality of tongue fasteners such as screws 55. The upper leg 56 of tongue 38 forms an extension of the cup rear wall 24. The lugs 39 forming a part of boss members 36 extend inwardly to define recesses 57. The tongue 38 projects above the level of the floor 11 and fits into the recesses 57.

The screw 41, in each of the lugs 39, engages an appropriate groove of the horizontal grooves 42 in the tongue 38. The screw 41 serves to frictionally engage the tongue 38 with the casing rear wall 27. Also because of the upward slope of the screw 41 the flanged base 33 of the exposed casing 17 is forced into compressive contact with the floor 11. In this manner a seal is formed by compression of the sealant material in the continuous groove 53.

It will be noted that a plurality of horizontal grooves 42 are provided in the tongue 38. Moreover the screw 41 can engage any of the horizontal grooves 42 thereby making the connector enclosure 10 adaptable to a variety of floor thicknesses.

Further, the tongue 38 is replaceable with tongues of varying lengths thereby further increasing the variety of floor thicknesses to which the connector enclosure 10 is adaptable.

Referring in particular to FIGURE 5, the clamping member 35 is substantially U-shaped and has a flange 58 extending from each leg 59. A clamp fastener 60 extends through each flange 58 and is threadedly engaged in boss member 36. The clamping member 35 preferably further includes a plurality of spacer members 62 projecting inwardly from the web portion of clamping member 35 intermediate the legs 59. The multipoint electrical connector 34, whose cross-section is shown in phantom outline, includes a plurality of multicontact elements 63. The spacer members 62 maintain the elements 63 spaced from each other as the clamping member 35 as a whole retains the entire connector 34 in a fixed position.

Alternative Elements

An alternative embodiment of the fastening means 37 is illustrated in FIGURE 8. A base cup 16' includes an extended cup rear wall 24' whose upper portion forms a tongue 38'. The tongue 38' projects above the level of the floor 11 and engages the recesses 47 formed in part by the lugs 39. In the manner already described the screw 41 frictionally engages the tongue 38' to the inner surface of the casing rear wall 27. Also the flanged base 33 of the exposed casing 17 is forced into compressive contact with the floor 11 by virtue of the upward slope of the screw 41.

An alternative embodiment of the securing means 40 is illustrated in FIGURE 9 wherein the removable fastener is a spring member 64 (rather than the screw 41 previously described). The spring member 64 is substantially U-shaped and has a first vertical leg 65 detachably secured to the lug 39'. A second vertical leg 66 is S-shaped and has its extreme edge engaged in one of the horizontal grooves 73. The member 38 (38') is so numbered to indicate that either tongue 38 or tongue 38' may be used in this construction. A horizontally oriented rectangular aperture 67 is cut in the lower portion of leg 65 and is arranged to receive the point of a screwdriver 80, in the position shown in phantom outline. The aperture 67 is provided for that situation wherein the flanged base 33 rests on the floor 11 but is not in compressive contact with the floor 11 while legs 66 engage one of the horizontal grooves 73. By forcefully raising the handle of the screwdriver 80, the engaged edge of each leg 66 is forced downwardly to engage the next lower of the horizontal grooves 73 to achieve the desired compressive contact. In the manner earlier described, the tongue 38 (38') is forced into frictional engagement with the inner surface of casing rear wall 27. Also the flanged base 33 of the exposed casing 17 is forced into compressive contact with the floor 11.

Installation of the Preferred Embodiment of the Connector Enclosure

Once the cavity 23 and an opening into the cell 15 have been cut, the base cup 16 is dropped into place and secured to the cell 15. The running cord 21 is then

threaded through the cable passageway **26** and back through the cell **15**. The running cord half of connector **34** is next passed through the opening defined by the flanged base **33** and is allowed to rest on the floor **11**. A suitable sealant is applied to the groove **53** and the recesses **57** of the exposed casing **17** are fitted over the tongue **38** of the base cup **16**. Thereupon the casing **17** is pressed to the floor. The screws **41** are then tightened securing the exposed casing **17** to the base cup **16** and in compressive uniform contact with the floor **11**. The mounting cord portion of connector **34** is then engaged with the running cord portion. The clamping member **35** is properly fitted over the connector **34** and secured to the casing **17** by the clamping fasteners **60**. The mounting cord **22** is positioned in the casing portion of cable aperture **32**. The cover plate **30** is secured to the casing **17** thus completing the cable aperture **32** and clamping the mounting cord **22**. The connector **34** is now protectively enclosed and securely retained within the exposed casing **17** and the base cup **16**.

Alternative Embodiment of the Connector Enclosure

An alternative embodiment of the connector enclosure **10** is illustrated in FIGURES 10 to 13 inclusive. Corresponding numerals are employed to identify corresponding elements heretofore described. In this embodiment the base cup **16** includes a cup rear wall **68** which presents a flat surface and cup side walls **69**. The base cup **16** rests in the cavity **23** and communicates with and is secured to the cell **15**. The casing side wall **29** includes an inwardly projecting boss member **36'**. A rectangular horizontal boss **70** projects below the flanged base **33** and is part of and oriented with the bottom of casing rear wall **27**.

The assembly means for securing the base cup **16** to the exposed casing **17** includes a fastening means **37'** and a securing means **40'**. The fastening means **37'** comprises a flat vertical extension or tongue **71** detachably secured to the rectangular boss **70** and lugs **72** projecting inwardly from the cup side walls **69**. The lugs **72** are spaced from the cup rear wall **68** and extend inwardly to define recesses **74**. The tongue **71** projects below the level of the floor **11** and fits into the recesses **74**.

The securing means **40'** maintains the tongue **71** is a fixed relation with the lugs **72**. The securing means **40'** includes a removable fastener which is a screw **41'**. A screw **41'** is threadedly engaged in each of the lugs **72** and downwardly engages horizontal grooves **42'** in the tongue **71**.

The screw **41'** engages an appropriate groove of the horizontal grooves **42'** and serves to frictionally engage the tongue **71** with the cup rear wall **68**. Also because of the slope of the screw **41'**, the flanged base **33** of the exposed casing **17** is forced into compressive contact with the floor **11** thereby causing a seal to be formed by the compression of suitable sealant material in the continuous groove **53**.

It will be noted that a plurality of horizontal grooves **42'** are provided in the tongue **71**. Moreover the screw **41'** can engage any of the horizontal grooves **42'** thereby making the connector enclosure **10** adaptable to a variety of floor thicknesses. Further the tongue **71** is replaceable with tongues of varying lengths thereby further increasing the variety of floor thicknesses to which the connector enclosure **10** is adaptable.

Referring in particular to FIGURE 12 the clamping member **35'** is similar to clamping member **35** (FIGURE 5). The clamping member **35'** differs from the clamping member **35** in that its web portion intermediate the legs **59'** is flat thereby maintaining the multicontact elements **63** in side-by-side relation. The method of clamping the connector **34** in a fixed position to the lugs **36** and the function of the inwardly projecting spacer members **62'** is otherwise the same for both elements.

Alternative Elements

An alternative embodiment of the fastening means **37'** is illustrated in FIGURE 14. In this embodiment a tongue **71'** forms an integral extension from the rectangular boss **70**. The engagement of the tongue **71'** with the lugs **72** and the function of screws **41'** are similar in all respects to that already described.

An alternative embodiment of the securing means **40'** is illustrated in FIGURE 15 where in the removable fastener is a spring member **64'**. The spring member **64'** is similar to the spring member **64** of FIGURE 9 and differs only in the top-to-bottom orientation and the placement of the rectangular aperture **67'**. Similarly the horizontal grooves **73'** correspond to the horizontal grooves **73** of FIGURE 9 and differ only in their top-to-bottom orientation in the member **71** (**71'**). The member **71** (**71'**) is so numbered to indicate that either the tongue **71** or the tongue **71'** may be used in this construction. The spring member **64'** is inverted in this instance and has the first vertical leg **65'** detachably secured to the lug **72'**. The second vertical leg **66'** being S-shaped has its lower extreme edge engaged in one of the horizontal grooves **73'** in the tongue **71** (**71'**).

The rectangular aperture **67'** is located in that portion of the spring member **64'** intermediate the legs **65'**, **66'** and adjacent the leg **65'**. The rectangular aperture **67'** is arranged to receive the point of a screwdriver **80** in the position illustrated in phantom outline. The aperture **67'** is provided for that situation wherein the flanged base **33** rests on the floor **11** but is not in compressive contact with the floor **11** while leg **66'** engages one of the horizontal grooves **73'**.

By forcefully lowering the handle of the screwdriver **80** the engaged edge of the leg **66'** is forced upwardly to engage the next highest of the horizontal grooves **73'**. In this manner the tongue **71** (**71'**) is forced into frictional engagement with the inner surface of the cup rear wall **68**. Also the flanged base of the exposed casing **17** is forced into compressive contact with the floor **11**.

Installation of the Alternative Embodiment of the Connector Enclosure

The installation of the alternative embodiment of the present connector enclosure is similar to that of the preferred embodiment. The alternative embodiment differs only in that the tongue **71** of the exposed casing **17** is fitted into the recesses **74** of the base cup **16**. Whereas in the preferred embodiment the recesses **57** of the exposed casing **17** are fitted over the tongue **38** of the base cup **16**.

From the foregoing description it will be apparent that the present invention provides an enclosure that protects an electrical connector by rigidly retaining it and completely enclosing it. The present enclosure is adaptable to a variety of floor thicknesses and is easily and quickly installed. Furthermore the present enclosure may be installed in a wall of a building or in any flat surface. It should be noted that the mounting cord **22** is allowed to bend only outside of the exposed casing **17**. Therefore each connection within each of the multicontact elements **63** is protected from being broken by bending of the mounting cord.

According to the provisions of the patent statutes, I have explained the principle, preferred embodiment and mode of operation of my invention and have illustrated and described what I now consider to represent its best embodiment. However, I desire to have it understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

I claim:

1. An electrical connector enclosure adaptable for use in combination with an electrical raceway positioned beneath an interior flat surface of a building including a

base cup and an exposed casing, said base cup having cup side walls and having a bottom wall maintained in fixed relation to said electrical raceway, a cable passageway in said bottom wall communicating with said electrical raceway, said cup side walls having at least one flat surface, said exposed casing having a flanged base adapted to rest upon said interior flat surface and having casing side walls, a portion of the said casing side walls being removable as a cover plate to permit access to the interior of the casing, a cable aperture at the top of said exposed casing, fastening means for securing said exposed casing to said base cup including a vertical locking plate extending between the said flat surface of the said cup side walls and one of the said casing side walls, said vertical locking plate being normally secured to one of the said side walls and being engaged over a vertical surface thereof with the other of said side walls, lug means secured with respect to the said other of said side walls, and means for securing the said vertical locking plate with respect to the said lugs whereby the said flanged base is compressively engaged with the said interior flat surface.

2. The enclosure of claim 1 including a sealing means comprising a continuous groove in the bottom surface of the said base flange adapted to receive a sealant material for maintaining a liquid-tight seal at the juncture of the said base flange and the said flat surface.

3. An electrical connector enclosure for use in combination with an electrical raceway positioned beneath a floor of a building including a base cup and an exposed casing, said base cup having cup side walls and having a bottom wall maintained in fixed relation to said electrical raceway, a cable passageway in said bottom wall communicating with said electrical raceway, said cup side walls having at least one flat surface, said exposed casing having a flanged base adapted to rest upon said floor and casing side walls, a portion of the said casing side walls being removable as a cover plate to permit access to the interior of the said exposed casing, a cable aperture at the top of said exposed casing, fastening means for securing said exposed casing to said base cup including a flat vertical extension of said flat surface projecting above the level of said floor, horizontal grooves in said extension, inwardly projecting lugs from said casing side walls which receive said extension, a removable fastener sloping upwardly from said lugs and resiliently upwardly engaging said horizontal grooves to secure said base cup and said exposed casing in fixed relation whereby said flanged base is compressively engaged with the said floor.

4. The enclosure of claim 3 wherein the said flat vertical extension is a continuation of the said flat surface of the said cup side walls.

5. The enclosure of claim 3 wherein the said flat vertical extension is a plate detachably secured to the said flat surface of the said cup side walls.

6. The enclosure of claim 3 wherein the said removable fastener is a screw threadedly engaged in the said lugs and sloping upwardly to engage one of the said horizontal grooves of the said flat vertical extension.

7. The enclosure of claim 3 wherein the said removable fastener comprised a U-shaped spring member having one leg secured to the said lugs and the other leg engaging one of the said horizontal grooves of the said flat vertical extension.

8. An electrical connector enclosure for use in combination with an electrical raceway positioned beneath a floor of a building including a base cup and an exposed casing, said base cup having cup side walls and having a bottom wall maintained in fixed relation to said electrical raceway, a cable passageway in said bottom wall communicating with said electrical raceway, said cup side walls having at least one flat surface, said exposed casing having a flanged base adapted to rest upon said floor and casing side walls, a portion of the said casing side walls being removable as a cover plate to permit access to the interior of the said exposed casing, a cable aperture at the top of said exposed casing, fastening means for securing said exposed casing to said base cup including a flat vertical extension of said casing side walls projecting below the level of the said floor, horizontal grooves in said extension, inwardly projecting lugs from said cup side walls which receive said extension, a removable fastener sloping downwardly from said lugs and resiliently downwardly engaging said horizontal grooves to secure said base cup and said exposed casing in a fixed relation whereby said flanged base is compressively engaged with the said floor.

9. The enclosure of claim 8 wherein the said flat vertical extension is a continuation of one of the said casing side walls.

10. The enclosure of claim 8 wherein the said flat vertical extension is a plate detachably secured to one of the said casing side walls.

11. The enclosure of claim 8 wherein the said removable fastener is a screw threadedly engaged in the said lugs and sloping downwardly to engage one of the said horizontal grooves of the said flat vertical extension.

12. The enclosure of claim 8 wherein the said removable fastener comprises a U-shaped spring member having one leg secured to the said lugs and the other leg engaging one of the said horizontal grooves of the said flat vertical extension.

13. In an electrical connector enclosure, the combination comprising a base cup and a casing, said base cup having cup side walls and a bottom wall, a cable passageway in said bottom wall, said cup side walls having at least one flat surface; said casing having a flanged base and casing side walls, a portion of said casing side walls being removable as a cover plate to permit access to the interior of the said casing, a cable aperture at the top of said casing; fastening means for securing the said casing to the said base cup including a vertical locking plate extending between the said flat surface of the said cup side walls and one of the said casing side walls, said vertical locking plate being normally secured to one of said side walls and being engaged over a vertical surface thereof with the other of said side walls, lug means secured with respect to the said other of said side walls, and means for securing the said vertical locking plate with respect to the said lugs.

References Cited in the file of this patent

UNITED STATES PATENTS

1,774,740	Walker	Sept. 2, 1930
1,907,661	Phillips	May 9, 1933
2,029,393	Sargent	Feb. 4, 1936
2,738,892	Wiesmann	Mar. 20, 1956