

Aug. 17, 1965

J. H. ANDERSEN ET AL
MULTIUNIT ELECTRIC TERMINAL AND INDICATOR PANEL
ASSEMBLY AND COMPONENTS

3,201,786

Filed June 12, 1961

2 Sheets-Sheet 1

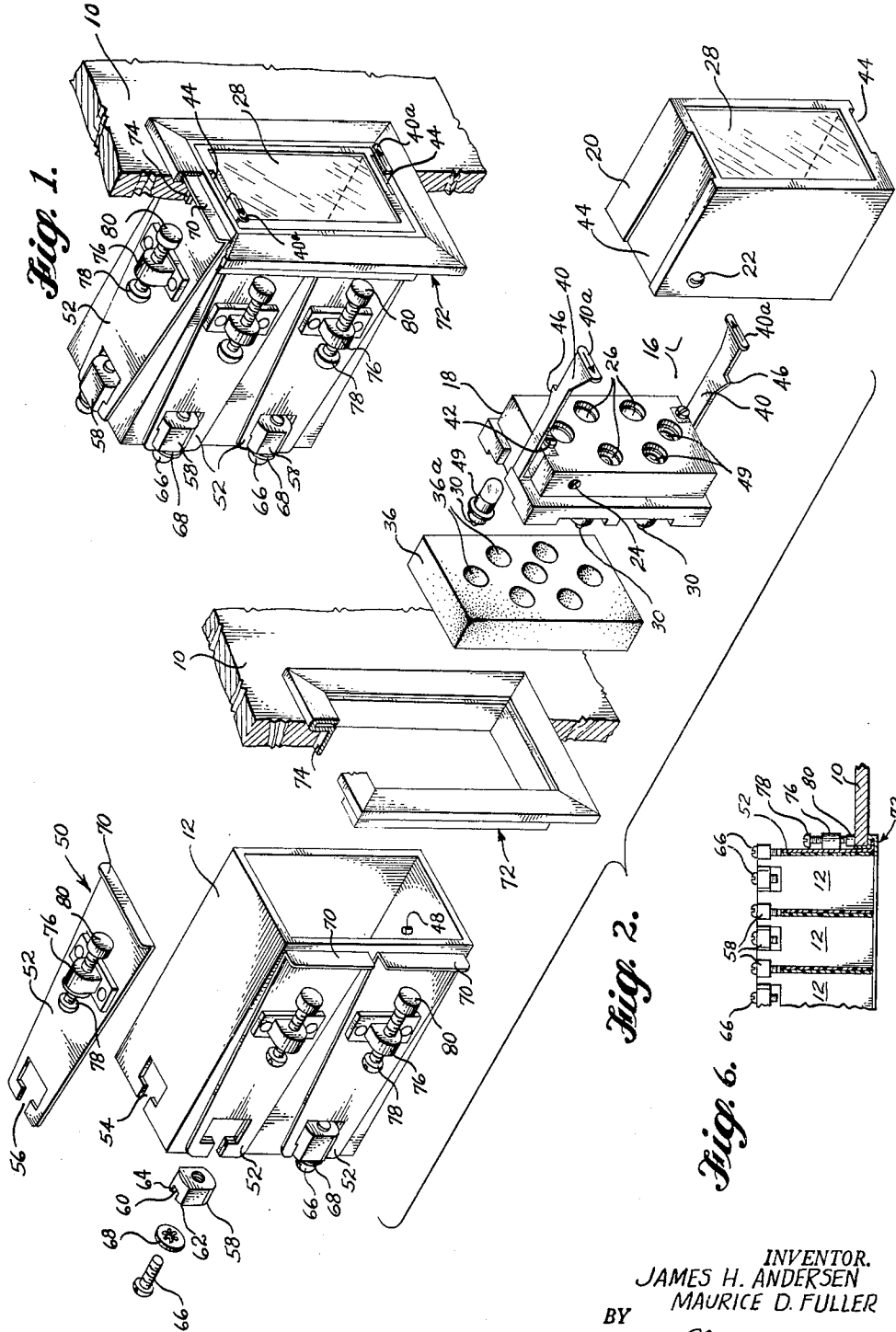


Fig. 2.

Fig. 6.

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2 Sheets-Sheet 2

Fig. 3.

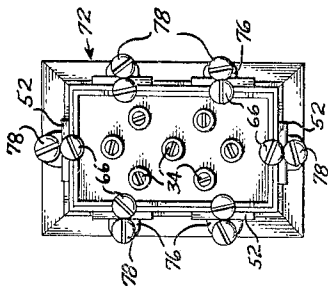


Fig. 4.

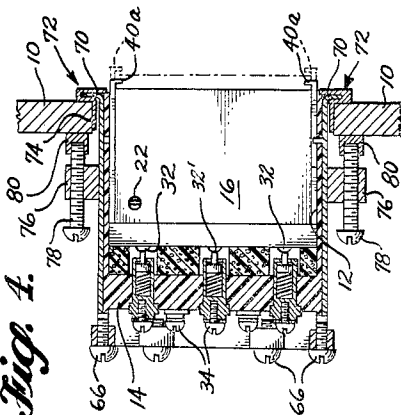


Fig. 5.

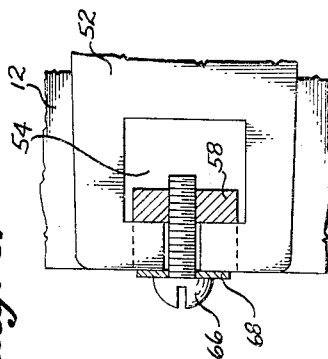


Fig. 9.

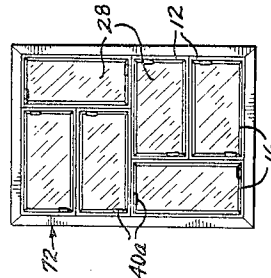


Fig. 8.

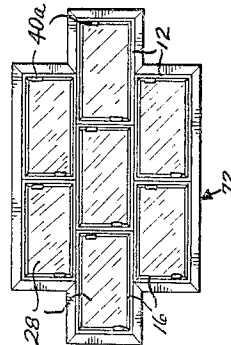
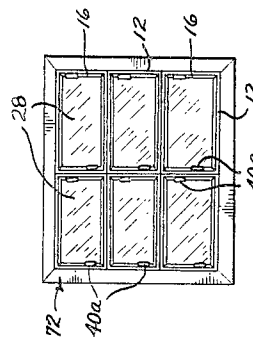


Fig. 7.



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MULTIUNIT ELECTRIC TERMINAL AND INDICATOR PANEL ASSEMBLY AND COMPONENTS

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This invention relates to improvements in the construction of indicator and electric terminal assemblies and components thereof, and more particularly concerns panel assemblies wherein one or more individual indicator or electric terminal units are mounted in an opening in a supporting panel. One application of the invention, for example, relates to airplane indicator panels in which a number of lamp-illuminated indicator units are grouped in selected arrangements. The invention is herein illustratively described by reference to the presently preferred embodiment thereof; however, it will be recognized that certain modifications and changes therein with respect to details may be made without departing from the underlying essentials involved.

An important object of the invention is to provide improved mounting and supporting structures and components for multiunit terminal panel assemblies and the like, which are of practicable, economical form, adapted for use in a wide variety of applications, compact, and quickly and easily assembled and disassembled without specialized tooling requirements.

A related object is to provide improved indicator structures of the described type which are highly compact, adapted for modular dimensioning, and versatile in terms of the wide variety of arrangements of units within a panel opening which may be achieved in order to satisfy different design requirements (i.e., by arranging the units in rows and columns, staggered with different orientations of the broad and narrow width dimensions, etc.).

A further object is to provide improved apparatus of the type described wherein the parts are of simple, rugged construction and suited for long and trouble-free operation.

Still another object is to provide improved indicator unit structures in which individual units, or merely the lamp devices within those units, are readily removed and replaced without disturbing the adjacent units or, in the case of lamp device removal only, the associated housing, thereby greatly expediting and facilitating checking and repairing of circuits, replacement of defective lamps, etc.

Still another object is an improved indicator panel assembly in which any or all of the individual units are conveniently mountable and removable by use of a single tool, preferably an ordinary screwdriver, and wherein the securing elements are readily and directly accessible for this purpose from space directly behind the panel without necessity for awkward maneuvering and manipulations of the tool.

Yet another object is an improved securing system and means by which individual indicator units are secured together and by which the peripherally located units within a group of such units mounted in an indicator panel opening are secured to the edges of the panel at the opening. The novel multipurpose securing means employed herein has general application to the securing together of any of different mutually superposed elements, and is not necessarily restricted in application to lamp device housings as herein disclosed.

A related object of the invention is to provide a novel securing means by which two mutually superposed elements may be fastened together, especially plate-like elements, by use of a single securing screw accessible at and operated from one end of the elements.

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It is a specific object to provide a novel means for securing an indicator unit to the edge of a panel by operation of a clamp screw accessible from the rear of the panel, and a cooperable front edging strip which closes off and improves the appearance of the front of the panel by covering the interface and edges of the panel opening and adjacent indicator unit sides. This edging strip, preferably of a plastic material, such as nylon, also serves as a gasket which is slightly compressed as the securing clamp elements are tightened and thereby assures a uniformly tight and vibration-resistant connection of the units to the panel.

A further object is an improved latching means operable to hold an indicator lamp device or the like releasably to and within a lamp device housing. The improved latching means comprises inconspicuous, protected, yet conveniently accessible operating elements which are so formed as to occupy negligible space within a compact lamp unit housing and so as to permit direct actuation thereof conveniently from the front of the panel. These latching elements in conjunction with the manner in which the lamp devices are mounted in their housings permit easy removal of individual lamp devices without disturbing adjacent units or the housings themselves.

Still another object is to provide an improved lamp type indicator unit or other plug-and-socket electric terminal assembly having a novel means both for sealing around the terminal contact elements and for initially so ejecting the lamp device partially from its seated position when its latching means are released as to permit easily grasping the lamp device for complete removal.

While the invention is herein illustratively described in the form of a multiunit electric lamp-type indicator panel assembly and components thereof, it will be appreciated that certain features have application in other devices as well.

In accordance with the invention in one aspect an open-end housing receives a complementally formed lamp device normally latched in seated position in the housing by novel latch means comprising elongated, resilient, edge-wise-actuatable latch arms which project forwardly through narrow spaces formed between housing and lamp device to the front end of the housing for manual operating accessibility. A related feature resides in the interpositioning of an apertured elastomeric material pad between the interior end wall of the housing and the base wall of the indicator lamp device, such pad being apertured to pass electrical contact elements. This resilient pad is compressed in the seated position of the indicator unit in the housing, and thereby forms a moisture seal surrounding the electric terminal contacts, as well as serving as a means to partially eject the indicator unit, enabling it to be grasped conveniently upon release of the latch means.

Other features reside in the novel means for securing together a plurality of superposed elements, such as the adjacent sides of indicator unit housings, or one such side and a cooperating indicator unit mounting bracket, such means featuring coincident slots formed in said elements, each having a relatively narrow entrance portion and a relatively wide base portion connected thereto through a transitional portion, with a first fastener element preferably in the form of a grooved nut lodged in the base portion and drawn over the adjacent transitional portions of the elements preferably by means of a screw engaging the nut and reacting against the end edges of the superposed elements. By such a means mutually adjacent indicator units are secured together in the novel indicator panel assemblies. Furthermore, by such a means a novel panel-engaging mounting means, incorporating still other features of the invention, is secured to

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the peripherally exposed side of each peripherally located indicator unit of a group of such units mounted within a panel opening. The novel mounting bracket extends through a gap between the edge of the panel opening and the adjacent side of the indicator unit and carries an outwardly directed flange between which and a clamp screw carried by the mounting bracket the indicator panel is clamped in order to hold the units in position therein.

These and other features, objects and advantages of the invention will become more fully evident from the following description thereof by reference to the accompanying drawings.

FIGURE 1 is a perspective view of a single indicator unit mounted in a panel, portions of which are broken away to illustrate certain features of the invention.

FIGURE 2 is an exploded isometric view showing certain of the components employed in the installation of FIGURE 1.

FIGURE 3 is a rear end view of the indicator unit shown in FIGURE 1.

FIGURE 4 is a transverse sectional view taken through a vertical longitudinal midplane in FIGURE 1.

FIGURE 5 is an enlarged detail illustrating the novel securing means by which mutually superposed elements are fastened together.

FIGURE 6 is a detail view illustrating the securing means applied to the joining together of individual indicator units in side-to-side series relationship and of the peripherally located unit to the panel opening edge.

FIGURES 7, 8 and 9 are views illustrating representative arrangements of modular dimension indicator units in panel openings.

In the drawings the indicator panel 10 has an opening therein of any suitable shape and size to accommodate one or more indicator units arranged in any desired manner within the opening. In FIGURES 1 to 4 for convenience in illustration the opening is shown to be of a size and shape to accommodate only a single indicator unit of rectangular proportions. This indicator comprises a tubular housing device 12, preferably of rectangular cross section, having an inner end wall or base 14. A complementally formed tubular indicator device 16 is removably insertable into the housing, into seated position therein. The indicator device comprises a base 18 and a lamp cover or shell 20 secured to the base by means of one or more screws 22 engageable in threaded holes 24 formed in the sides of the base 18. The base has a plurality of electric lamp sockets 26 formed therein to receive lamp bulbs 49 which are enclosed within the base 18. The outer end wall of cover 20 forms an indicator screen 28 upon which suitable indicia may be formed or projected optically, depending upon the medium of display. Lamp base terminals 30 are adapted to engage cooperable contact elements 32, shown to be of a spring reacting type, mounted in the housing inner end wall or base 14, while common contact is established through an additional contact element 32' also spring loaded. Binding posts 34 on the projecting ends of elements 32 (and 32') are provided for securing electric circuit conductors (not shown) to the contact elements.

An elastically compressible pad 36 of an elastomeric sealing material is interposed between the indicator device base 18 and the housing device base 14 and is compressed with the indicator device in seated position within the housing. This elastomeric pad, which may comprise foamed unicellular neoprene or other elastomeric material, has apertures 36a therein which pass the projecting contact elements 32. The pad, under compression, forms a moisture seal around the interengaged contact elements 30, 32, with the indicator device seated in the housing.

In order to hold the indicator device 15 seated in the housing, a pair of beryllium copper resilient strips or other resilient metal latch arms 40 are carried at opposite sides of the indicator device. These latch arms comprise elongated flat members which are turned at right angles at their inner ends, which ends are secured by clamp

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fasteners 42 to the base 18. Shallow grooves 44 in the side walls of the shell 20 accommodate the latch arms and provide spaces for edgewise transverse actuating movement of these arms with the indicator device inserted in the housing. Small knobs 40a on the outer ends of the latch arms project just clear of the front face of the assembled indicator, as shown in FIGURE 1, where they are accessible for manual actuation of the arms. Teeth 46 formed on the respective latch arms intermediate their ends are adapted to engage the locking pins 48 mounted on the inner side walls of the housing 12. These teeth have sloping edges facing inwardly of the housing which engage the locking pins 48 as the indicator unit is inserted into the housing and thereby deflect the arms in order to permit the teeth to pass the pins. Transversely oriented outer teeth edges, facing outwardly along the latch arms engage the respective pins to hold the indicator device in seated position. When the latch arms are deflected manually in order to disengage the teeth from the associated pins 48, the compressed elastic pad 36 expands and ejects the indicator device a short distance from its seated position, enabling it to be grasped conveniently for removal from the housing.

The housing itself, 12, is normally not removed from the indicator panel merely in order to test the circuit at the lamp sockets, nor to replace a burned-out lamp. Instead, in order to replace a lamp, the latch elements are actuated and the indicator device 15 only is removed, whereupon the lamps 49 may be removed directly from their sockets at the back side of the base 18.

In order to secure an indicator unit in the panel opening, one or more mounting brackets 50 are provided which individually comprise plate-like members 52 adapted for superpositioning on an adjacent side of the housing 12. Coincident slots 54 and 56 formed in the housing wall and plate-like element 52 at the inner (i.e., rear) ends thereof have narrow entrance portions and widened base portions interconnected or joined by an abrupt transition preferably of approximately 90 degrees. A nut 58 is initially placed in the widened base portions of the coincident slots, such nut having a transverse groove 60 formed in one end thereof, which groove forms spaced abutments 62 and 64 between which the transitional portions of the superposed elements are received when the screw 66, which threads into the nut through the entrances of the coincident slots, is tightened. Such tightening of the screw draws the nut endwise (away from the back side of the panel) toward the registered ends of the plate-like element 52 and the housing wall by reaction of the screw head against such ends. A lock washer 68 holds the tightened screw against loosening.

The forward ends of the individual plate-like elements 52 extend through the gap or gaps between the housing wall(s) and the adjacent edge(s) of the panel opening and carry an outturned flange 70 which overlaps the panel edge. Preferably a molding or edging strip 72 having a channel portion receiving this flange directly abuts the outer face of the panel and has an inwardly extending flange 74 which is received in the gap between the edge of the panel and the adjacent side of the plate-like element. A mounting post 76 on the side of the plate-like element 52 carries a clamp screw 78 having a bearing element 80 on the tip thereof, between which and the flange 70 the panel is clamped when the screw is tightened. Since the bracket 50 is secured to the side of the housing 12 and since the bracket in turn is secured by clamping action to the edge of the panel adjacent the opening, the housing itself is firmly secured to the panel. Similar brackets may be provided on all sides of the housing unit in order to engage all sides of the panel adjacent the opening therein. The outer side of the channel portion of edging 72 is wider than the inner side thereof so as to cover over the marginal edges of the adjacent indicator units. Use of the edging or bead strip 72 simplifies installation by eliminating a critical dimension requirement for the panel opening.

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Thus, with indicator units of modular construction wherein the width in one dimension is approximately twice (or approximately some other whole number multiple) that in another dimension, a single bracket 50 may be provided on each of the narrow sides at a central location and one or more brackets at modular spacing may be provided on each of the broad sides of the unit to match up with the single central bracket mentioned, as depicted in the drawings. As seen best in FIGURE 6, the same screw-and-nut securing means 66, 58 may be used to secure indicator units together as is used to secure indicator units together as is used to secure an outer or peripherally presented side of a peripherally located indicator unit to its associated mounting bracket 52. Of course, the mounting brackets themselves are used only for securing the indicator units to the edges of the panel opening and are not required in order to secure indicator units to each other.

FIGURES 7, 8 and 9 illustrate different arrangements of modularly dimensioned indicator units in various types of panel openings. With modularly dimensioned indicators, it will be evident that any of many varied arrangements are possible. The units may be arranged in rows and columns or in staggered or offset relationship and may be oriented differently in different locations suiting requirements of different applications. Moreover, the indicator units may be of different shapes and sizes if desired, still utilizing the principles of construction and arrangement herein disclosed.

It will be evident furthermore that the objectives of the invention set forth hereinabove are met by the improved indicator structures and components. The screws 66 and 78 are all accessible directly from the rear side of the assembly and a screwdriver may be used to release any one or more indicators without disturbing the others. In order to complete a panel assembly the first step conveniently may be to place the marginal beading or molding strip 72 in the opening, whereupon it is convenient to secure the mounting bracket flanges 70 in the groove in the molding, in which such flanges may fit snugly and be tentatively retained. Alternatively, certain of the brackets may first be secured to the sides of the housing unit or units 12, and thereafter clamped in the panel opening. Inasmuch as there are often a maze of electric wires leading to and from the bases of the indicator units in a large panel assembly, the novel securing means operated solely by a screwdriver, which may be applied and withdrawn while held perpendicularly to the panel, greatly facilitates gaining direct access to the individual fastening elements. Also, the convenience of checking individual circuit points or changing lamps entirely from the front side of the panel, simply by removing the indicator devices 16 in each instance, is a further advantage.

These and other aspects of the invention will be recognized by those skilled in the art on the basis of the foregoing disclosure of the presently preferred embodiment.

We claim as our invention:

1. An indicator assembly comprising an open-end housing device, a complementally formed indicator device removably insertable into the housing device into seated position therein through its open end, said indicator and housing devices having cooperable electric terminal elements therein, the inserted indicator device having an outer-end display face and having oppositely situated side faces spaced slightly inwardly from the respectively adjacent housing inner side faces, and internally contained manually disengageable latch means operable to hold the indicator device seated in the housing device, including at least one resiliently acting elongated latch arm having an inner end portion secured to one of the devices to project therefrom lengthwise through and along one side space between such devices to be manually accessible at the open end of the housing device, said latch arm being adapted for manual actuation by deflection of the

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arm parallel to said side face, said latch means further including a latch element carried by the arm and a cooperable latch element carried by the other of said devices to be engaged by the arm-carried latch element accompanying seating movement of the indicator device, and adapted to be disengaged manually by such arm deflection.

2. The indicator assembly defined in claim 1, wherein the latch means includes two oppositely situated latch arms comprising resilient material strips and having inner end portions secured to one of the devices and relatively thin and wide elongated portions which project from said inner end portions lengthwise through and along the respective side spaces between such devices to be accessible for manual actuation at the open end of the housing device to permit latch actuation by transverse deflection of the arms in their respective planes parallel to said side faces, the arm-carried latch elements being carried by one side edge of each arm body portion intermediate its ends.

3. The indicator assembly defined in claim 2, wherein the arms are carried by the indicator device and each arm-carried latch element comprises a projecting tooth formation having a gradually sloping edge facing inwardly of the housing device and an abrupt opposite edge facing outwardly of the housing device, said tooth formation being engageable with the associated latch element in the housing device to deflect the tooth formation in passing as the indicator device approaches seated position.

4. The indicator assembly defined in claim 3, further comprising resilient means carried by one device and compressed by engagement of the other device in the final phase of seating the indicator device, whereby the latter is partially ejected from the housing device by recoil of such resilient means upon releasing the latch elements.

5. The indicator assembly defined in claim 4, wherein the indicator device includes an inner end wall and at least one electric lamp socket with a terminal contact element, comprising the indicator device terminal element, contactable at the inner end wall of such device, the housing device has an inner end wall which carries at least one cooperable contact element, comprising the housing device terminal elements, engageable with the lamp socket contact element by seating of the indicator device, one of said contact elements being an element which projects from the associated inner end wall, and the last-mentioned resilient means comprises a pad of elastomeric material apertured to pass the projecting contact element and being resiliently compressed between the inner end walls with the indicator device seated.

6. A plug and socket electrical assembly comprising an open-end socket device, a complementally formed plug device removably insertable into the socket device into seated position therein through its open end, the inserted plug device having an outer-end utilization means and having oppositely situated side faces spaced slightly inwardly from the respectively adjacent socket inner side faces, and internally contained manually disengageable latch means operable to hold the plug device seated in the socket device, including a pair of resiliently acting elongated latch arms having inner end portions secured to one of the devices to project therefrom lengthwise through and along the side spaces between such devices to be accessible for manual actuation at the open end of the socket device to permit latch actuation by deflection of the arms parallel to said side faces, said latch means further including a latch element carried by each arm and cooperable latch elements carried by the other of said devices to be engaged by the respective arm-carried latch elements accompanying seating movement of the plug device, and to be disengaged manually by such arm deflection.

7. The plug and socket assembly defined in claim 6, wherein the plug device includes an inner end wall and at least one electric connector with a terminal contact element contactable at the inner end wall of such device, the

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socket device has an inner end wall which carries at least one cooperable contact element engageable with the electric connector contact element by seating of the plug device, one of said contact elements being an element which projects from the associated inner end wall, and the last-mentioned resilient means comprises a pad of elastomeric material apertured to pass the projecting contact element and being resiliently compressed between the inner end walls with the plug device seated.

8. An electrical circuit terminal panel assembly, comprising a support panel having an opening therein, an electrical circuit terminal unit positioned in said opening with one side element of said unit separated by a short gap from one edge of the panel opening, mounting bracket means releasably mounting the unit in such position, comprising a plate-like element superposed on said one side element and having one end positioned substantially in registry with one end of said unit side element and extending from said one end through said gap from a first side of the panel, and immediately beyond said gap having a transversely projecting element overlapping the opposite side of the panel at said edge, clamp means on the plate-like element adjacent the first side of the panel, cooperable with said transversely projecting element to clamp the panel's edge releasably therebetween, and securing means to secure the plate-like element and unit side element together in mutually superposed relationship, such latter means comprising substantially coincident slots formed in each, having a relatively narrow entrance portion extending inwardly through a transitional portion into a relatively wide base portion, a first fastener member insertable into the slot base portions through an open side thereof and having transversely spaced abutments projecting endwise from one end thereof, between which abutments the superposed elements at opposite sides of the slot transitional portion are receivable by advancing such fastener member endwise to a seat in a sense from the base toward the entrance portion of the slots, and a cooperable fastener member securably engageable with the first fastener member by projection of the second fastener member through the slot entrance portions from the outer end thereof opposite the slot base portions.

9. The combination defined in claim 8, wherein the transversely projecting element comprises a plate-like flange, and an edging strip formation including an inner flange portion lodged in the gap between said panel edge and the adjacent face of the plate-like member, and an outer channel portion joined transversely to the flange portion and receiving the plate-like flange therein, said channel having an inner side interposed between said plate-like flange and the panel, and an outer side covering the plate-like flange and lapping marginally over the end of the unit.

10. The combination defined in claim 8, wherein registered ends of the elements have extreme end edge portions inwardly from the edge of which the respective slots are directed, wherein the slots widen abruptly, at a transition angle of at least approximately ninety degrees, from the entrance portion to the base portion thereof, and wherein the second fastener member has an enlarged outer end portion and is operable when engaged with the first fastener member to apply outwardly directed force on the latter member in its seated position, by reaction of said enlarged outer end portion against said edge.

11. The combination defined in claim 10, wherein the second fastener member comprises a machine type screw having a head which comprises the enlarged outer end portion, and wherein the first fastener member comprises an internally threaded nut having one end grooved transversely to form the abutments, on opposite sides of the groove.

12. The combination defined in claim 11, wherein the depth of the groove substantially equals the depth of the slot entrance portion from said edge to said transition, and wherein the clamp means comprises a post member mounted on the outer face of the plate-like member, and

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a clamp screw threaded transversely through said post member and having an end element adapted to bear against the first side of the panel.

13. An indicator panel assembly, comprising a support panel having an opening therein, a plurality of indicator units having electric terminal elements therein, said units being positioned generally behind such panel with indicator faces disposed generally in the plane of said opening, at least some of said indicator elements being peripherally located within said opening, a peripherally located one of said units having an outer side element separated by a small space from one edge of the panel opening, mutually adjacent units having mutually superposed side elements, mounting bracket means releasably mounting a peripherally located unit in the panel opening, comprising a plate-like element superposed on said outer side element and having one end positioned substantially in registry with one end of said unit outer side element and extending from said one end through said small space from the back side of the panel, and immediately beyond said space having a transversely projecting element overlapping the front side of the panel at said edge, clamp means on the plate-like element adjacent the back side of the panel, cooperable with said transversely projecting element to clamp the panel's edge releasably therebetween, and similar securing means to secure the respective mutually superposed elements together, and thereby secure the units to each other and to the panel, each such securing means comprising substantially coincident slots formed in each said side element, having a relatively narrow entrance portion extending inwardly through a transitional portion into a relatively wide base portion, a first fastener member insertable into the slot base portions of two adjacent side elements through an open side thereof and having transversely spaced abutments projecting endwise from one end thereof, between which abutments the superposed elements at opposite sides of the slot transitional portion are receivable by advancing such fastener member endwise to a seat in a sense from the base toward the entrance portion of the slots, and a second cooperable fastener member securably engageable with the first fastener member by projection of the second fastener member through the slot entrance portions from the outer end thereof opposite the slot base portions.

14. The combination defined in claim 13, wherein registered ends of the side elements have extreme end edge portions inwardly from the edge of which the respective slots are directed, wherein the slots widen abruptly, at a transition angle of at least approximately ninety degrees, from the entrance portion to the base portion thereof, and wherein the second fastener member has an enlarged outer end portion and is operable when engaged with the first fastener member to apply outwardly directed force on the latter member in its seated position, by reaction of said enlarged outer end portion against said edge.

15. The combination defined in claim 14, wherein the second fastener member comprises a machine type screw having a head which comprises the enlarged outer end portion, and wherein the first fastener member comprises an internally threaded nut having one end grooved transversely to form the abutments, on opposite sides of the groove.

16. The combination defined in claim 13, wherein all the peripherally located indicator unit outer side elements are similarly releasably mounted on the panel, and wherein the transversely projecting element of each securing means therefor comprises a plate-like flange, and an edging strip formation including an inner flange portion lodged in the gap between said panel edge and the adjacent face of the plate-like member, and an outer channel portion joined transversely to the flange portion and receiving the plate-like flange therein, said channel having an inner side interposed between said plate-like

flange and the panel, and an outer side covering the plate-like flange and lapping marginally over the end of the unit.

17. The combination defined in claim 13, wherein the indicator units are of generally rectangular cross section and of modularly related dimensions permitting arranging the same in various patterns within a given opening space, one dimension of each unit being substantially a whole number multiple of the other dimension thereof.

18. The combination defined in claim 17, wherein the whole number exceeds "one," and wherein the relatively narrow side elements of each unit have one of the afore-said slots, centrally located across the width thereof, and the relatively wider side elements each have a number of such slots equal to said whole number, whereby the units may be arranged selectively with broad sides superposed on either broad or narrow sides in various modular pattern relationships.

19. An indicator panel assembly, comprising a support panel having an opening therein, a plurality of indicator units having electric terminal elements therein, said units being positioned generally behind such panel with indicator faces disposed generally in the plane of said opening, at least some of said indicator elements being peripherally located within said opening, one of said peripherally located units having an outer side element separated by a small space from one edge of the panel opening and with side elements of mutually adjacent units being mutually superposed, mounting bracket means releasably mounting the peripherally located unit in the panel opening, comprising a plate-like element superposed on said outer side element and having one end positioned substantially in registry with one end of said unit outer side element and extending from said one end through said small space from the back side of the panel, and immediately beyond said space having a transversely projecting element overlapping the front side of the panel at said edge, clamp means on the plate-like element adjacent the back side of the panel, cooperable with said transversely projecting element to clamp the panel's edge releasably therebetween and a plurality of releasable securing means interconnecting adjacent side elements of said superposed units and interconnecting said plate-like element with said outer side element.

20. An indicator panel assembly comprising a support panel having an opening therein, an indicator unit having an electrical terminal element therein, and being positioned in said opening with one side element of said unit separated by a small space from one edge of the panel opening, mounting bracket means releasably mounting the unit in such position comprising a plate-like element superposed on said one side element and having one end extending through said space from a first side of the panel, and immediately outward from said space, said plate-like element having a transversely projecting portion overlapping the opposite side of the panel at said edge, clamp means on the plate-like element adjacent the first side of the panel, cooperable with the panel and said trans-

versely projecting portion to clamp the panel's edge releasably therebetween, and securing means releasably securing the plate-like element and unit side element together in mutually superposed relationship.

21. The assembly defined in claim 20, wherein the clamp means comprises a post member mounted on the outer face of the plate-like member, and a clamp screw threaded transversely through said post member and having an end element adapted to bear against the first side of the panel.

22. The assembly defined in claim 21, wherein the transversely projecting portion comprises a plate-like flange, and an edging strip formation including an inner flange portion lodged in the space between said panel edge and the adjacent face of the plate-like member, and an outer channel portion joined transversely to the flange portion and receiving the plate-like flange therein, said channel having an inner side interposed between said plate-like flange and the panel, and an outer side covering the plate-like flange and lapping marginally over the end of the unit.

23. An indicator assembly comprising an open-end housing device, an indicator device removably insertable into the housing device into seated position therein by relative longitudinal movement therebetween, said devices respectively having transversely extending base surfaces disposed in proximate substantially parallel relationship with the devices seated together, cooperating electric terminal means correspondingly positioned in the respective base surfaces for interengagement by such seating, a pad of elastomeric sealing material interposed between and substantially covering said base surfaces in mutual contact therewith and apertured to pass the electric terminal means, the thickness of said pad exceeding the spacing between the surfaces to be resiliently compressed by such seating, thereby to form a moisture seal around the aperture, and latch means carried by the respective devices, operable to hold the indicator device seated with such pad compressed.

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