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Lynch

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[54] **MOUNTING STRUCTURE FOR A CONNECTOR HOUSING**

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[52] **U.S. Cl.**..... **339/65**, 339/75 MP, 339/176 MP

[51] **Int. Cl.**..... **H01r 13/62**

[58] **Field of Search**..... 339/172, 65, 66, 75 MP, 339/176, MF, 176 MP; 317/101 DH

[56] **References Cited**

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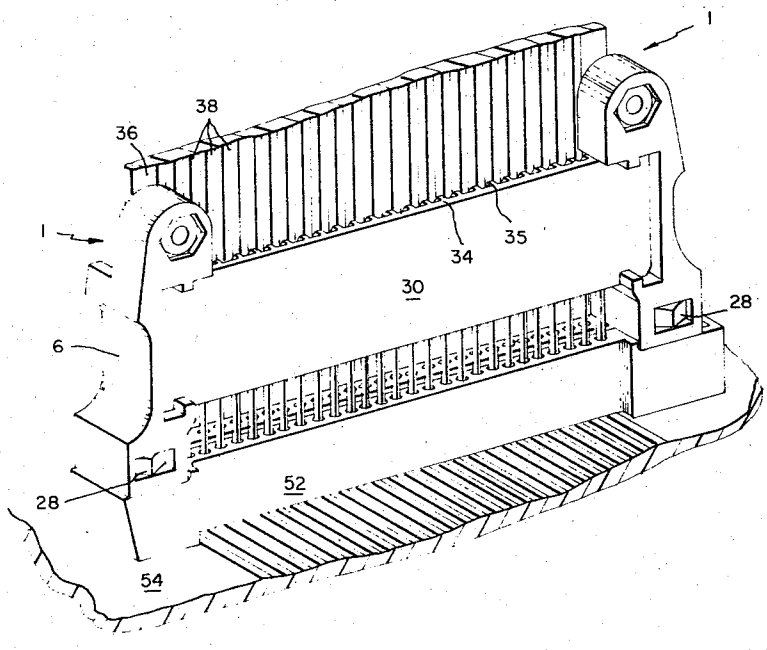
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Primary Examiner—Joseph H. McGlynn
Attorney, Agent, or Firm—Gerald K. Kita, Esq.

[57] **ABSTRACT**

The invention relates to a method and apparatus for mounting a connector housing to a substrate with a mounting bracket and for providing a card guide for a printed circuit board or card which is removably received by electrical contacts within the housing. The mounting structure for the housing is of one-piece, resiliently deformable construction having a pair of opposed jaws which grip an end portion of the connector housing. The jaws are connected by a resiliently deformable neck portion having a projection for aligning the jaws in position on the connector end portions and cooperating with the jaws to prevent accidental removal of the mounting bracket. A card guide channel is optionally provided on the mounting bracket. The mounting bracket is removably attached to the connector housing end portion without a need for separate fasteners.

17 Claims, 8 Drawing Figures



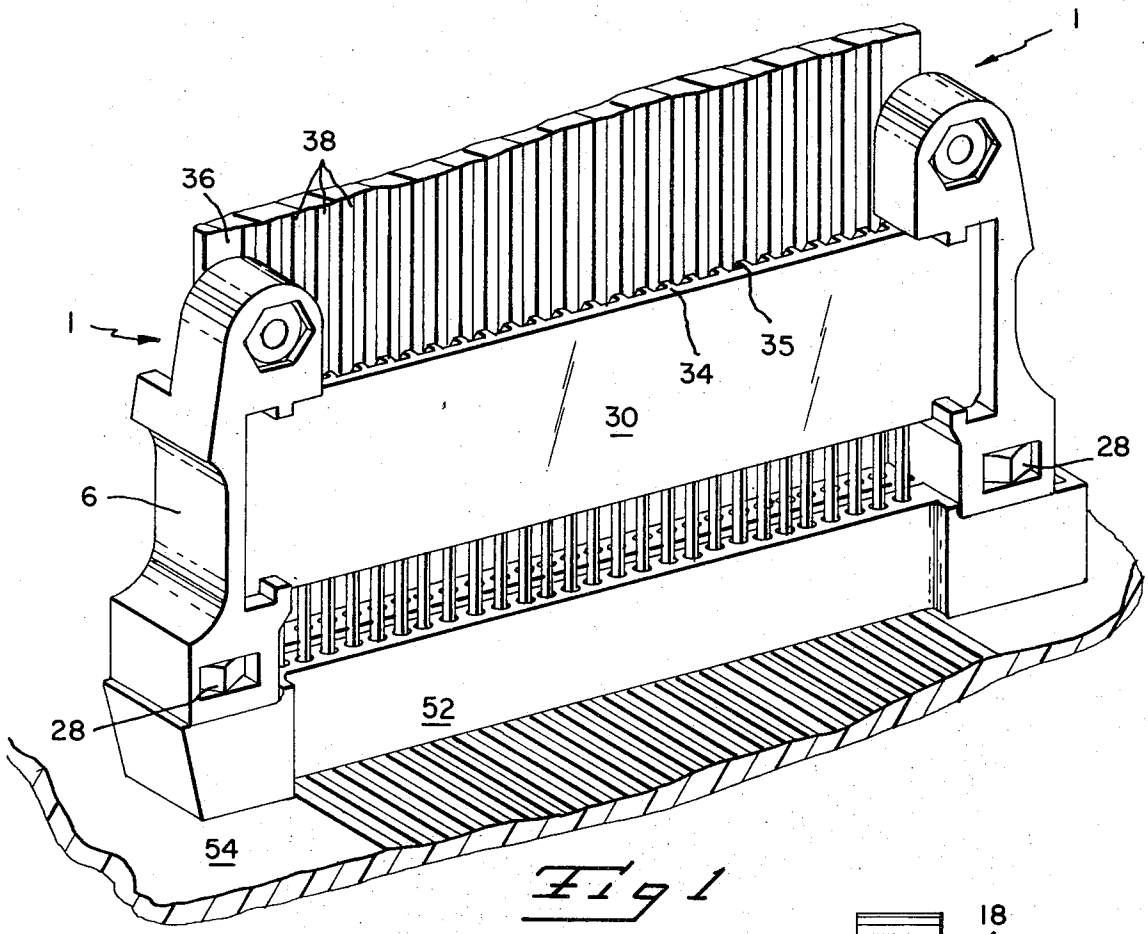


Fig 1

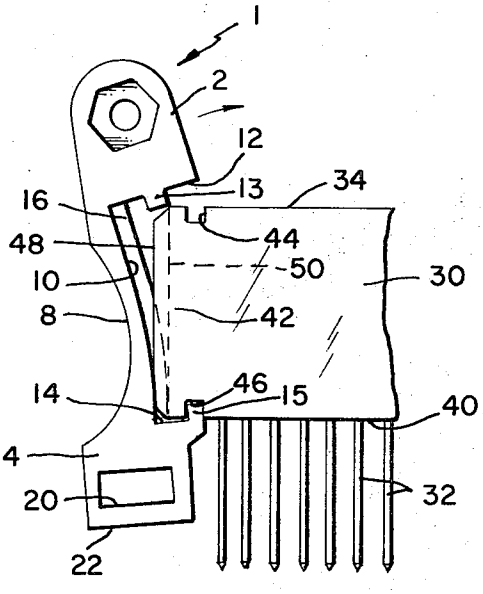


Fig 3

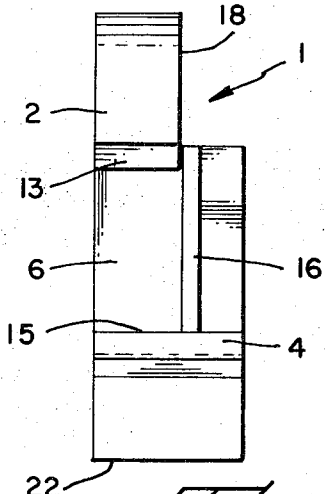


Fig 2

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Fig 4

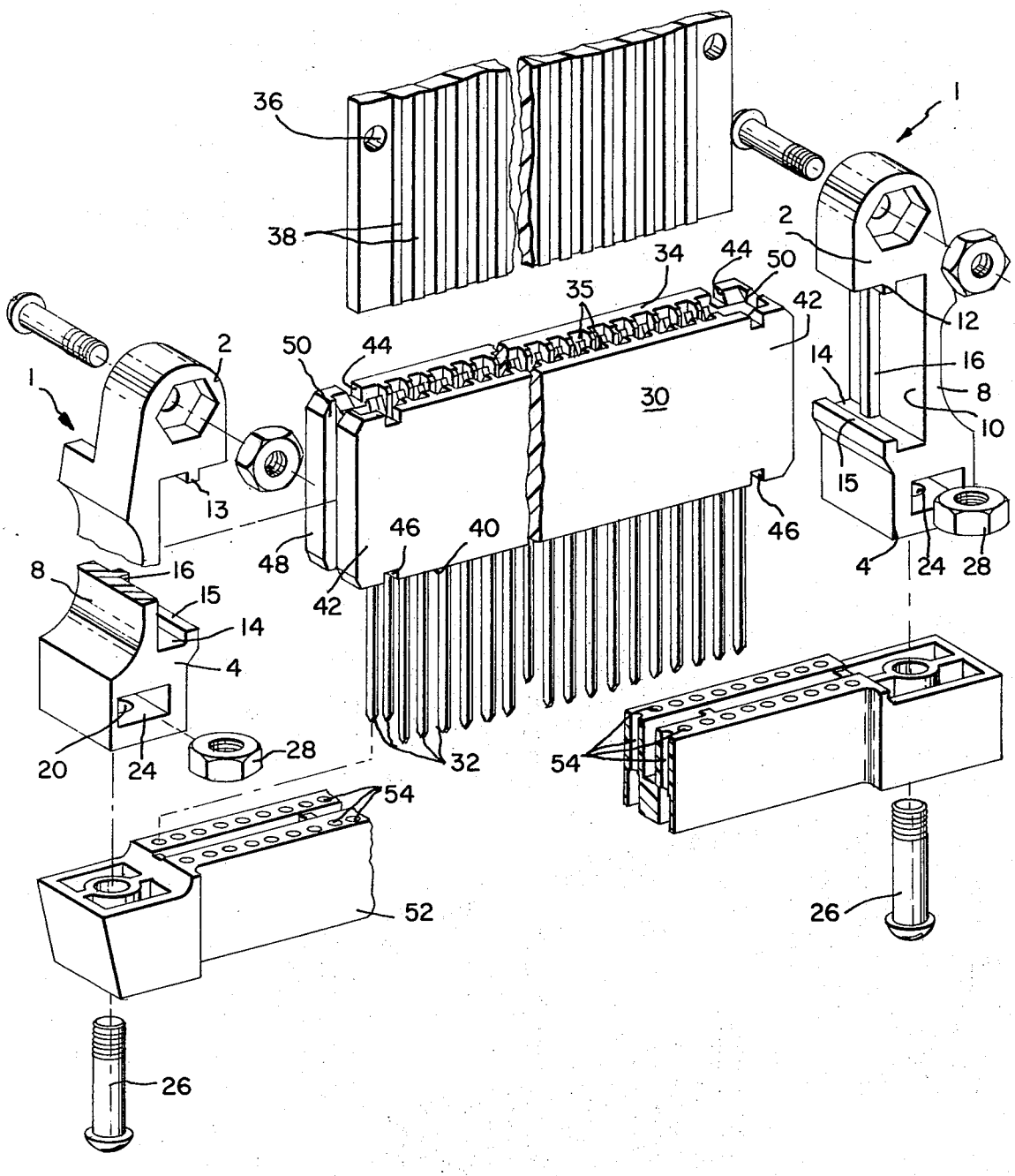
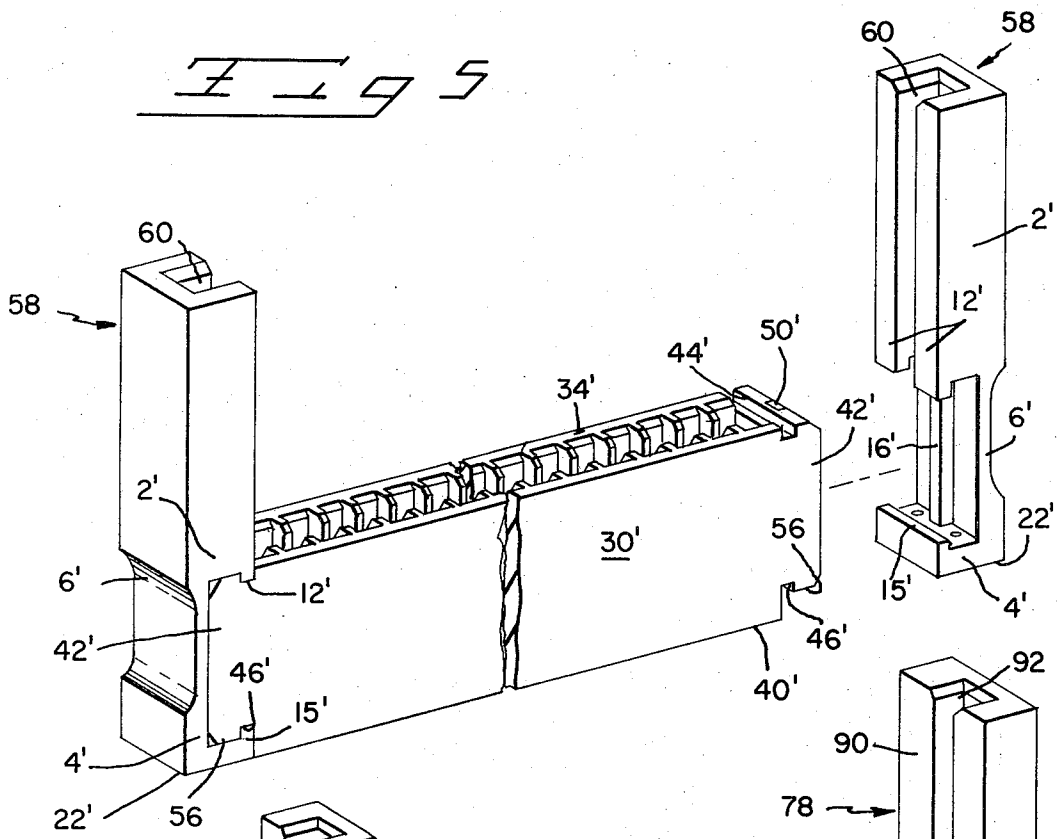

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Fig 5



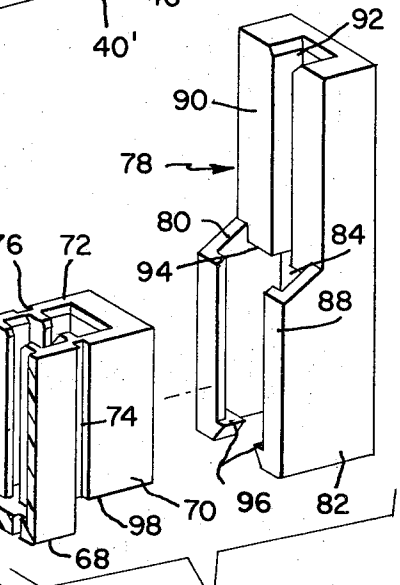
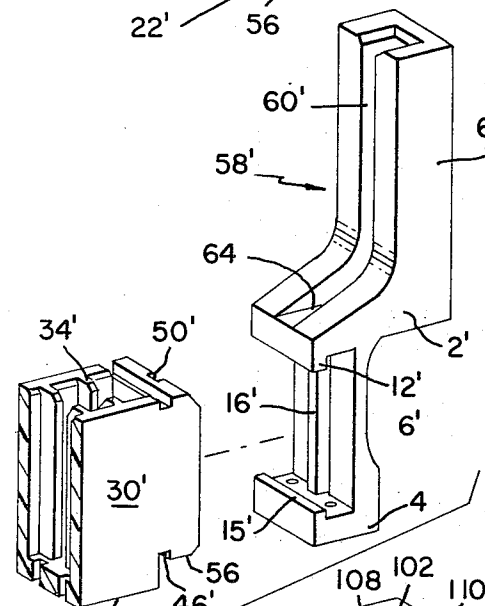


Fig 7



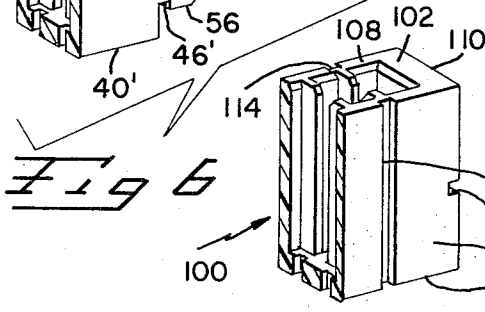


Fig 6

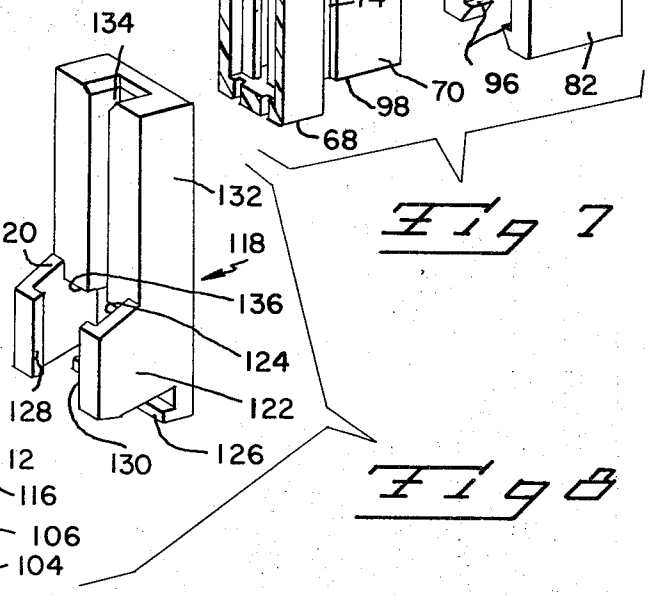


Fig 8

MOUNTING STRUCTURE FOR A CONNECTOR HOUSING

The present invention relates to a mounting bracket for an electrical connector housing, and more specifically, to a mounting bracket which is removably secured in fixed position on a connector housing without a need for separate fasteners, which mounting bracket is especially suited for providing a card guide thereon.

The invention further relates to a method for removably attaching a mounting bracket to a connector housing as well as to a method for providing a card guide on the removable bracket.

A feature of the present invention resides in a mounting bracket on a connector housing which is of one-piece design and which is removably connected to a connector housing by a gripping action without requiring additional fasteners. The one-piece mounting bracket is also suited for providing a card guide in proper registration on the connector housing in order to receive and guide a printed circuit board or card which is insertable in the connector housing.

It is therefore an object of the present invention to provide a mounting bracket for removably attaching a card guide to a connector housing.

Another object of the present invention is to provide method and apparatus for removably mounting a connector housing to a one-piece mounting bracket without the need for fasteners.

Another object of the present invention is to provide apparatus for removably attaching a card guide to a connector housing without a need for fasteners.

Another object of the present invention is to provide a method and apparatus for mounting a connector housing to a substrate with a one-piece mounting bracket removably secured in fixed position on the connector housing without a need for fasteners.

Other objects and many attendant advantages of the present invention will become apparent upon perusal of the following detailed description takin in conjunction with the accompanying drawings, wherein:

FIG. 1 is a fragmentary perspective of a preferred embodiment according to the present invention wherein a connector housing provided with a plurality of electrical post-type contacts partially receives a card guide therein and is mounted to a substrate by a pair of one-piece mounting brackets providing a card guide;

FIG. 2 is a fragmentary elevation illustrating assembly of the one-piece mounting bracket to the connector housing without a need for fasteners;

FIG. 3 is a fragmentary exploded perspective of the preferred embodiment as shown in FIG. 1;

FIG. 4 is a fragmentary perspective of a modification of the preferred embodiment as shown in FIG. 1 with parts shown in exploded configuration to illustrate the details of an alternative mounting bracket; and

FIGS. 5, 6, 7 and 8, each comprises a fragmentary perspective with parts in exploded configuration to illustrate the details of another alternative mounting bracket.

With more particular reference to FIGS. 1–4 of the drawings, generally indicated at 1 is a preferred embodiment of a mounting bracket according to the present invention. In FIGS. 1 and 4, a pair of mounting brackets are illustrated in cooperation. However, due to similarity between the brackets only one will be described in detail. Thus the mounting bracket 1 includes a pair of opposed jaw portions 2 and 4 in spaced relationship separated by a neck portion 6 characterized by a relatively thin arcuate surface 8 and a planar surface 10, defining the neck portion 6 with a relatively stiff, but resiliently deformable, relatively thin configuration as shown in FIG. 3. The jaw 2 includes an inverted generally planar gripping surface 12 having a depending inverted elongated generally rectangular projection 13 extending generally laterally of the longitudinal axis of the elongated neck portion 6. In similar fashion, the jaw 4 includes a planar gripping surface 14 provided thereon with an elongated generally rectangular projection 15 extending generally laterally of the longitudinal axis of the elongated neck portion 6 and generally in opposed spaced relationship with respect to the projection 13. The planar surface 10 is provided thereon with an elongated generally rectangular projection 16 extending substantially the longitudinal dimension of the neck portion 6 and spanning generally the distance between the opposed spaced jaws 2 and 4. As shown in FIG. 2, the projection 16 is generally located along the longitudinal center line of the neck portion 6 with the jaw portion 2 being offset with respect to the projection 16 and accordingly offset with respect to the center line or longitudinal axis of the neck portion 6. Since the jaw portion 2 is of smaller dimension than the jaw portion 4, the jaw portion 2 is also offset with respect to at least a portion of the jaw portion 4. The jaw portion 2 includes a planar bearing surface 18 which defines the offset configuration and provides a card guide as will be hereinafter explained in detail.

The jaw portion 4 is provided generally with a recess 20 extending generally laterally of the longitudinal axis of the neck portion 6. A bottom wall 22 of the jaw portion 4 is provided therethrough with an aperture 24 for receiving therein a threaded end of a threaded fastener 26. A nut 28 is removably contained within the recess 20 for securing to the fastener 26. As illustrated in FIGS. 1 and 4, an elongated connector housing of insulation material is indicated generally at 30 containing first and second rows of a plurality of aligned closely spaced post-type contacts. More particularly, the contacts include post portions 32 which protrude from and depend from the housing 30. The housing 30 also includes an encircling rim 34 on a pair of sidewalls 35 defining a central elongated recess which exposes the first and second rows of contacts contained therein. The end of a printed circuit board or card 36 is partially received within the connector housing. The card is additionally received between the first and second rows of contacts contained within the housing 30, with the contacts of one row impinged against plated pads, some of which are shown at 38 on one side of the card 36, and the other row of contacts impinging against similar plated pads on the other side of the card, not shown.

The rim 34 provides a gripping surface for a purpose to be hereinafter described in detail. The connector housing further includes a second rim 40 on a side opposed from the side defined by the rim 34, which rim 40 provides a second gripping surface for a purpose to be hereinafter explained in detail. The housing 30 is further characterized by end portions 42 spanning between the rim portions 34 and 40. A first recess 44 is provided laterally of the sidewalls 35 and in the rim 34 and in each of the end portions 42. A similar lateral recess 46 is provided laterally of the sidewalls 35, in the

rim 40 and in each of the end portions 42. Each terminal end 48 of a connector end portion 42 is provided with an elongated recess 50. As shown, the recesses 44, 46 and 50 are in the form of generally rectangular slots which correspond respectively to the rectangular configurations of the projections 13, 15 and 16 of a mounting bracket 1.

In operation, reference will be made to FIG. 3 taken in conjunction with FIG. 4. The mounting bracket 1 is of one-piece construction and fabricated from relatively stiff, resiliently deformable material preferably having electrical insulation properties. The relatively thin configuration of the neck portion 6 as defined by the adjacent surfaces 8 and 10 allow the mounting bracket to be deformed resiliently along the neck portion to resiliently pivot and separate the jaw portions 2 and 4 away from each other. This enables an end portion 42 of a connector 30 to be received between the resiliently separated jaw portions 2 and 4 as shown in FIG. 3. The terminal end portion 48 of the jaw is received against the surface 10 of the mounting bracket. The jaws 12 and 14 are allowed to pivot resiliently and return to their original positions. The rims 34 and 40 provide gripping surfaces which will be gripped respectively by the jaw surfaces 12 and 14, with the projection 13 in registration within the recess 44 and the projection 15 in registration within the recess 46. Since the mounting bracket is fabricated from a resilient material, a permanent resilient gripping action of the jaws 2 and 4 on the connector end portion 42 may be provided merely by an interference fit between the jaws and connector housing. If a loose fit between the bracket and the connector housing 42 is desired, this can be provided for by a clearance fit of the end portion between the jaw portions 2 and 4. In the case of a loose fit, the projections 13 and 15 will remain in registration within the respective recesses 44 and 46 to prevent inadvertent removal of the mounting brackets from the connector housing. As a further feature of the present invention, the projection 16 registers in the recess 50 provided in the terminal end 48 of the connector housing which aligns the bracket in proper location with respect to the housing 30. Thus as shown in FIG. 3, a preferred method of assembling a mounting bracket to the housing is shown. The projection 15 is placed in registration within the recess 46, together with the projection 16 in registration with the recess 50. The end portion 48 is received against the surface 10, and the neck portion is resiliently deformed as described to separate the jaw portions 2 and 4 and permit the jaw portions 2 and 4 to be pivotally separated in order to accept the end portion 42 of the connector housing 30. When the projection 13 is properly located with respect to the recess 44, the jaw portions 2 and 4 are allowed to pivotally return to their original positions and enable registration of the projection 13 within the recess 44. The projections 12 and 15 restrain the connector housing from motion in one orthogonal direction. The projection 16 restrains the housing from motion in another orthogonal direction. An advantage of the present invention resides in the projections 13, 15 and 16 cooperating and in registration within the respective recesses in order to prevent relative motion between the bracket and the connector housing in two orthogonal directions whether there is an interference fit or a relatively loose fit therebetween, or whether there is a gripping action present between the jaws and the connector housing 30.

As a further feature of the present invention, the jaw portion 2 is provided thereon with a card guide formed by the planar bearing surface 18 of the mounting bracket, which surface 18 is positioned properly on the connector housing by registration of the projection 16 within the recess 50. More particularly, the jaw portion 2 projects generally from the rim 34 of the housing 30 with the planar bearing surface 18 being placed adjacent to the connector housing recess defined by the sidewalls 35. When the card 36 is received in the housing recess, the planar surface 18 of the mounting bracket provides a card guide which registers against an edge margin of the card and mechanically supports the same. Additionally, the planar surface 18 provides a guiding surface for slidably receiving and guiding the edge margin of the card received in the connector housing.

As shown in FIGS. 1 and 4, the connector housing 30 is provided at each end portion 42 thereof with a mounting bracket removably assembled thereto as described.

Although the preferred embodiment of FIGS. 1 and 4 is particularly shown with mounting brackets fabricated in the mirror image of each other, this necessitates fabrication of two separate parts. It is contemplated by the present invention that the mounting bracket is capable of use in pairs without a need for a corresponding mirror image bracket. That is, two mounting brackets of the same design and without a need for a mirror image of each other may be applied over the end of a connector housing end portion 42. In this manner, the planar surfaces 18 of such mounting brackets will receive and engage on edge margins of opposite sides of the card 36, whereas in mounting brackets of mirror image the guide surfaces 18 will engage edge margins on the same side of the card 36 as shown in FIGS. 1 and 4. Elimination of a mirror image part results in the obvious advantages of fabricating duplicate mounting brackets of a single design which may be utilized at either end of the connector housing 30.

As shown in FIGS. 1 and 4, the threaded fasteners 26 cooperate with the nuts 28 to secure the mounting brackets to a contact holder 52 or a substrate 54, which substrate can be in the form of a printed circuit board. More specifically, the contact holder 52 is provided with a plurality of apertures 54 therein for receiving respective contacts 32 in order to protect the contacts from damage during shipment and handling. As shown in FIG. 1, the holder 52, together with the connector housing 30 and its mounting brackets 1, may be secured by the fasteners 26 to the substrate 54. However, in the usual application, the holder 52 is removed and discarded, and the fasteners 26 together with the nuts 28 secure the mounting brackets 1 directly onto the substrate 54 with the contact post portions 32 protruding through the substrate 54, for example, to provide a plurality of post-type contacts for electrically receiving point-to-point wiring. Thus the posts when inserted in a substrate may comprise a printed circuit board panel utilizing point-to-point wiring. By eliminating the fasteners 26, the posts themselves may be used to secure the connector housing on the substrate as described in U.S. Pat. application Ser. No. 193,366, filed Oct. 28, 1971.

With reference to FIG. 5 a modification of the present invention will be described in detail. A connector housing 30' similar in configuration to the connector housing 30 is provided with opposed rims 34' and 40' similar to the rims 34 and 40. An internal elongated recess is defined between the rims 34' and 40' for containing a plurality of electrical contacts 34, portions of which depend and protrude from the housing 30'. Each end portion 42' of the housing 30' is provided with the recesses 44' and 46' where a recess 50' is provided in each terminal end of the connector housing. The recesses 44', 46' and 50' are similar in configuration to the corresponding recesses 44, 46 and 50 heretofore described. As a modification, the rim 40' is recessed at each end thereof to provide a recessed rim portion as shown at 56, adjacent to a corresponding recess 46'. A modified mounting bracket is illustrated at 58 and is provided with a pair of opposed gripping jaws 2' and 4' connected together by an elongated relatively thin resiliently stiffly deformable neck portion 6', similar in configuration to the mounting bracket 1 heretofore described. Projections 12', 15' and 16 are provided respectively on the jaw portion 2', the jaw portion 4' and the neck portion 6'. Such projections are similar in configuration respectively to the projections 12, 15 and 16 heretofore described, and the jaw portions 2' and 4' register on the end portion 42' of the connector housing 30' either in gripping or relatively loose fit relationship on the rims as heretofore described in conjunction with the housing 30. In FIG. 5, the jaw portion 4' registers with the recessed portion 56 of the rim 40'. Otherwise the orthogonal restraint is similar as that described in conjunction with FIGS. 1–4.

The jaw portion 2' is not offset with respect to the neck portion 6' as is the jaw 2 of the bracket 1. The jaw portion 2' is provided thereon with a card guide which is in the form of an elongated channel 60, generally of U-shaped cross section having planar bearing surfaces and in communication and in alignment with the elongated recess provided in the connector housing 30'. The channel 60 intercepts the gripping surface, provided by the rim 34', and bifurcates the projection 12' and the jaw portion 2'. The proper registration of the projections 16' within a corresponding recess 50' properly aligns the channel 60 with the connector housing recess. As shown in FIG. 5, with two mounting brackets 58 properly assembled to the connector housing 30', the channels 60 thereof are in opposed relationship to receive therebetween a card for partial insertion within the connector housing recess. Thus the bearing surfaces of the channels slidably guide, receive and support a card inserted in the connector housing 30'. As a further feature of the invention, the bottom walls 22' of the mounting brackets 58 are flush with the rim 40' of the connector housing 30', enabling both the mounting brackets and the non-recessed portion of the rim 40' to be mounted in registration against a planar surface of a substrate such as a printed circuit board or the like. The contacts 34' thus may be mounted to the substrate and joined thereto in order to fixedly locate and anchor the connector housing 30' in place in accordance with the disclosure of U.S. Pat. application Ser. No. 193,366 filed Oct. 28, 1971.

As shown in FIG. 6, the connector housing 30' of FIG. 5 may be provided with a modified mounting bracket 58' which is similar in configuration to the mounting bracket 58 of FIG. 5 except for the following modifications. In this embodiment, the jaw portion 2' is provided thereon with a card guide portion in the form of a projecting portion 62 which is substantially offset from the neck portion 6', thereby rendering the jaw portion 2' with a generally L-shaped configuration. A channel 60' is provided in the offset portion 62 which is similar to the channel 60 heretofore described. In this case however the channel 60' terminates at 64 immediately adjacent to the jaw portion 2' and the projection 12' without bifurcating the same. With a pair of modified mounting brackets 58 applied to the end portions of a connector housing 30', opposed channel portions 60' are spaced apart a greater distance than are the opposed channels 60 as heretofore described in order to accept a relatively larger printed circuit board or card. The terminating portions 64 of the channel 60' provides a stop against which a portion of the wider printed circuit board impinges to limit insertion of the board or card into the housing 30'.

Another embodiment of the present invention will be described in conjunction with FIG. 7. An end portion of a connector housing is illustrated at 64. The housing is provided with opposed rims 66 and 68 between which extends a recess within the connector housing for receiving a plurality of electrical post-type contacts (not shown). Opposed sidewalls 70 and 72 of the connector housing 64 provide gripping surfaces and are provided with longitudinal slots or recesses 74 and 76 therein extending between the rims 68 and 66. A modified mounting bracket is illustrated at 78 and includes a pair of opposed jaws 80 and 82 connected together by a resiliently deformable neck portion 84. The jaw portion 80 includes an elongated generally rectangular projection 86 thereon, in opposed relationship with a similar projection 88 provided on the jaw 82. The jaws 80 and 82 are resiliently pivotable upon deformation of the neck portion 84 to receive the end portions 64 of the connector housing therebetween. In addition, the jaws 80 and 82 themselves are resiliently deformable to aid in their mutual separation in order to receive the connector housing therebetween. Each of the jaws 80 and 82 are provided thereon with a projecting card guide portion 90 having a longitudinal slot 92 therethrough defining a channel with planar bearing surfaces for receiving, guiding and supporting the edge margin of the card guide slidably received therein. Connected to and spanning between the jaw portions 80 and 82 is an inverted projection 94 defining an end portion of the card guide portion 90, which is bifurcated by the slot 92. In opposed spaced relationship from the projection 94 is another projection 96 connected between the opposed jaws 80 and 82. As shown, the projection 96 is also bifurcated and intercepts both of the projections 86 and 88.

To assemble the mounting bracket, the jaw portions grip the sidewalls, the projections 86 and 88 respectively register within the recesses 76 and 74 of the connector housing. The rim portions 66 and 68 of the connector housing provide additional gripping surfaces which are received between and are gripped by the projections 94 and 96. The card guide channel defined by the slot 92 will be maintained in desired alignment with the interior of the connector housing. The projections 86 and 88 restrain the connector housing from motion in one orthogonal direction, and the projections 94 and 96 cooperate to restrain the connector block from motion in a second orthogonal direction. This enables ei-

ther an interference fit of the connector housing sidewalls between the jaws **80** and **82,** or a clearance fit, in which case the jaws **80** and **82** do not grip the connector housing. Either an interference or clearance fit may be designed also between the rim portions **66** and **68** and the projections **94** and **96,** since the connector housing is restrained in two orthogonal directions.

A modification is illustrated in FIG. **8.** A modified connector housing end portion is illustrated generally at **100.** It includes opposed rims **102** and **104** with an interior card guide receptacle of the housing extending between said rims. Sidewalls **106** and **108** extend between the rims **102,** providing opposed gripping surfaces, and a terminal end **110** spans between the sidewalls **106** and **108** and also between the rims **102** and **104.** The sidewall **106** is provided with a generally rectangular recess **112** in the form of a slot extending between the rims **102** and **104.** In similar fashion, the sidewall **108** is provided with a similar recess **114** extending between the rims **102** and **104.** The terminal end **110** is provided with a generally rectangular recess or slot portion **116** providing a gripping surface extending between the sidewalls **106** and **108.** A mounting bracket is generally shown at **118** and includes a pair of opposed jaws **120** and **122** connected by a resiliently deformable relatively stiff neck portion **124.** The neck portion **124** is provided with a generally rectangular elongated projection **126** spanning the length of the neck portion **124** defined between the jaws **120** and **122,** with the projection **126** being disposed generally outside of the space between the opposed jaws **120** and **122.** The jaw portion **120** includes a generally rectangular elongated projection **128** thereon, which is in opposed spaced relationship with a similar projection **130** provided on the jaw **122.** Each of the jaws **120** and **122** are also stiffly resiliently deformable as is the neck portion **124** which allows resilient pivotal separation of the jaws **120** and **122** to receive therebetween the connector housing end portion **100.** In addition, each jaw, **120** and **122,** is connected to a card guide portion **132** having a longitudinal slot **134** therein defining a card guide channel with planar bearing surfaces for slidably receiving, supporting and guiding the edge margin of a printed circuit board or card therein. A projection **136** is connected between the jaws **120** and **122,** which projection **136** is in opposed spaced relationship with respect to the projection **126** and is bifurcated by the groove **134.** With the card guide **118** and the connector housing **100** assembled, the jaws **120** and **124** will be received over and grip the sidewalls **70** and **72** and the projections **128** and **130** will engage respectively in the grooves **114** and **112** to restrain the connector housing **100** from movement in one orthogonal direction. In addition, the projections **136** and **126** will grip respectively the rim **102** and the slot portion **116** to restrain the connector housing **100** from motion in a second orthogonal direction. With the connector housing thus restrained, either an interference or a relatively loose, clearance fit between the jaws **120** and **122** and the connector housing sidewalls **108** and **112** may be designed. Also a relatively loose, clearance fit or an interference fit between the projections **126** and **136** and the rim **102** and the slot **116** may be designed.

In all of the preferred embodiments, a mounting bracket has been described which is of one-piece construction and which is removably mounted to a connector housing without a need for separate fasteners. Each embodiment of the mounting bracket advantageously provides a card guide for use in conjunction with the connector housing and restrains the connector housing from motion in either of two mutually orthogonal directions allowing either a relatively loose fit or a resiliently gripped interference fit between the connector housing and the mounting bracket as desired.

Although preferred embodiments and modifications of the present invention are specifically disclosed in detail, other modifications and embodiments which would be obvious to an artisan are also intended to be covered within the spirit and scope of the appended claims, wherein What is claimed is:

1. In the combination of an electrical connector housing for receiving a card and removable brackets mounted on opposed end portions of the connector housing, wherein the connector housing is of dielectric material and is provided with a card receiving opening and a plurality of spaced elongated electrical contacts within the opening for mechanical and electrical engagement on a card received in said dielectric housing opening, the improvement comprising: each end portion of said connector housing having a first recessed portion provided in a first surface of said connector housing, each end portion of said connector housing having a second recessed portion provided in a second surface of said connector housing, each of said brackets having a neck portion provided with integral opposed jaw portions in registration within a corresponding first or second recessed portion of said connector housing, thereby restraining said connector housing from motion in a first orthogonal direction relative to a corresponding bracket, said brackets being fabricated from a dielectric material which is resiliently deformable to permit relative separation of corresponding jaw portions upon resilient flexing of said neck portions of said brackets in order to receive removably said connector housing between said corresponding jaw portions, each end portion of said connector housing having a third recessed portion provided in an end wall of said connector housing, each of said brackets being provided with an integral projection in registration within a corresponding third recessed portion, thereby restraining said connector housing from motion in a second orthogonal direction relative to a corresponding bracket, and card guide means on each said brackets projecting outwardly of said connector housing and projecting outwardly of said card receiving opening of said connector housing externally of said connector housing to provide a card support which projects outwardly of said connector housing opening.

2. The structure as recited in claim **1,** wherein, said card guide means includes a projecting portion on each said bracket, said projecting portion on each said bracket having a bearing surface thereon to provide a card support which projects outwardly of said connector housing opening.

3. The structure as recited in claim **1,** wherein, each bracket has said integral projection thereon elongated along said neck portion and in a direction extending generally between said corresponding jaw portions, said integral projection being flexibly deformable together with said neck portion to permit said separation of said corresponding jaw portions of each bracket.

4. The structure as recited in claim **1,** wherein, said first surface is a first rim encircling said connector housing opening, said second surface is an outside sur-

face of said connector housing, each end wall of said connector housing extending between said first surface and said second surface, and said third recessed portion in each end wall being elongated in a direction generally extending between said first surface and said second surface.

5. The structure as recited in claim 4, wherein, said integral projection of each said bracket is elongated in a direction extending generally between said opposed jaws of a corresponding bracket, at least one of said jaws on a corresponding bracket being offset with respect to the integral projection and at least a portion of the other of said jaws.

6. The structure as recited in claim 4, wherein, said second surface includes a recessed rim portion provided with said second recessed portion therein.

7. The structure as recited in claim 4, wherein, each said card guide means includes a channel means projecting from said connector housing, each said channel means having a slot therein in alignment with said connector housing opening whereby a card may be received in the slot of a corresponding channel means upon receipt of the card within the connector housing opening.

8. The structure as recited in claim 1, wherein, each of said brackets has one jaw portion offset with respect to the longitudinal axis of a corresponding neck portion, said one jaw portion of each bracket having a planar bearing surface defining the offset jaw portion of each bracket and providing a card guide support adjacent said connector housing opening.

9. The structure as recited in claim 8, wherein, said one jaw portion of each bracket which is offset from the longitudinal axis of said neck portion is in registration with only a portion of said first recessed portion provided in said connector housing.

10. The structure as recited in claim 4, wherein, each of said brackets has one jaw portion offset with respect to the longitudinal axis of a corresponding neck portion, said one jaw portion of each bracket having a planar bearing surface defining the offset jaw portion of each bracket and providing a card guide support adjacent said connector housing opening.

11. The structure as recited in claim 10, wherein, said one jaw portion of each bracket which is offset from the longitudinal axis of said neck portion is in registration with only a portion of said first recessed portion provided in said connector housing.

12. The structure as recited in claim 1, wherein, each said card guide means includes a channel portion projecting outwardly of said card guide means and being in alignment with said connector housing opening, whereby a card may be received in each said channel portion when received in said connector housing opening.

13. The structure as recited in claim 12, wherein, each said channel portion is integral with and also bifurcates one of said jaw portions of a corresponding mounting bracket.

14. The structure as recited in claim 12, wherein, each said channel portion is integral with one of said jaw portions of a corresponding bracket and is also offset from one of said jaw portions, thereby rendering one of said jaw portions with a generally L-shaped configuration.

15. The structure as recited in claim 1, wherein, said first and said second surfaces are sidewalls of said connector housing, and said integral projection on each said neck portions is located outwardly of rather than between said jaw portions.

16. In the combination of a connector housing having an opening within which is received a plurality of electrical contacts for electrically engaging selected conductor paths provided on a card for receipt in the connector housing, and a pair of mounting brackets removably secured to said connector housing to support a card received in the connector housing, the improvemnt comprising: a rim on said connector housing encircling said opening in said connector housing, each said brackets having a pair of opposed jaws, a resilient neck portion connecting said jaws and being resiliently deformable to permit relative separation of said jaws to receive therebetween a corresponding end portion of said connector housing, said jaws of each bracket engaging a corresponding end portion of said connector housing and restraining said connector housing from movement in one orthogonal direction relative to a corresponding bracket, a card guide portion integral with each bracket, each card guide portion having an end engageable on said rim, and a projection on each of said jaw portions, said connector housing being received between an end of a card guide portion and said projections on the jaw portions of a corresponding mounting bracket to restrain said connector housing from motion in a second orthogonal direction relative to a corresponding bracket.

17. The structure as recited in claim 16, wherein, a slot is provided in each said card guide portion which bifurcates the card guide end which is engageable on said connector housing rim.

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