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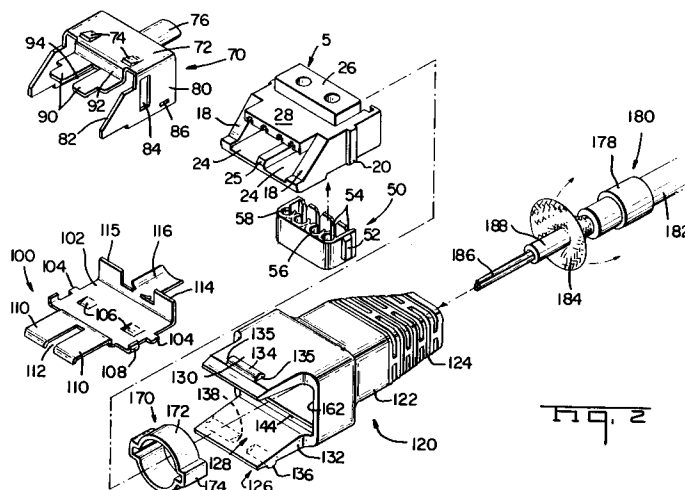
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(54) **Shielded data connector.**

(57) An electrical connector (4) includes a plurality of electrical terminals situated in an insulating housing (5), and the housing (5) is surrounded by shielding means to form a shielded subassembly. The latter is housed within a premolded boot (120) to form the electrical connector (4) which is interconnectable to shielded cable (180). The shielding means com-

prises first and second shield members (70,100) assembled to the insulating housing (5) and retained in position by windows (84) in the first shield member (70) engaging with ribs (20) on the housing, in conjunction with tabs (104,108) on the second shield member (100) engaging with the first shield member.

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The invention relates to electrical connectors for use in terminating shielded multiconductor cables and more specifically to shielded local area network electrical connectors.

U.S. Patent 4,501,459 discloses a local area network connector specifically intended for use in the data communications industry. These connectors can be employed in a closed loop data communications link in which various equipment such as computer terminals can be interconnected in a system. These connectors are specifically adapted for use in interconnecting numerous micro or mini computers in a computer network in an office environment. Connectors of this type have standard interface dimensions and configurations. These connectors must also be shielded to prevent spurious electrical signals and noise from affecting the signals in the network. These connectors also require a shunting capability since the conductors are part of a network and can be connected in series with other similar connectors. This shunting capability is necessary to prevent disruption of the network when an individual plug is not connected to external equipment.

The structure and components of local area network connectors of this type is represented by the structure of the connector shown in U.S. Patent 4,501,459. These connectors include a plurality of spring metal terminals having insulation displacement wire barrels for establishing electrical connection with the individual conductors forming the multiconductor shielded cable. Terminals are positioned on a support housing and upper and lower shields can be positioned in surrounding relationship to the terminals and the support housing. Shield members are permanently attached to upper and lower cover members and the cover members are mated to both encapsulate the conductor and to common the upper and lower shields to the cable shielding.

Similar data connectors of this type are shown in U. S. Patents 4,449,778; 4,508,415; 4,582,376; 4,602,833; 4,619,494; 4,653,825; 4,641,906; 4,671,599. U.S. Patent 4,653,825 in particular relates to a data connector which utilizes a housing slidably receivable over the internal housing subassembly. Although the data connector shown in U.S. Patent 4,653,825 provides an excellent interconnection for a shielded multiconductor cable in a local area network, the data connector is designed for assembly in a harness assembly plant. As the post molded grommet must be molded after the assembly thereof, the data connector cannot be field assembled, and the cable must be cut to specific lengths in the harness assembly plant.

There exists within the industry a need for a low cost local area network connector of this general type which can be easily hand assembled at the end user's facility. The instant invention fills

that need for a relatively lower cost, by providing a hand assembled connector which is suitable for use in a local area network in combination with prior art connectors of the type described herein.

The invention consists in an electrical connector for interconnection to multiconductor data cable comprising an insulative housing including a terminal support platform and two side walls upstanding from the platform and forming an open upper face of the platform, a plurality of electrical terminals positioned along and supported by the terminal support platform, each of the terminals including a resilient contact portion for interconnection to like contact portions in a complementary electrical connector, and shielding means including first and second shield members assembled to the insulative housing, said first shield member including a base wall disposed adjacent the exterior of the terminal support floor, two sidewalls upstanding from the base wall and having upper edges which upstand higher than the sidewalls of the housing, and two contact portions extending from the front edge thereof which lie adjacent to the terminal support floor, and said second shield member including a plate portion having two shield contact portions extending from a front edge of the plate portion, the plate portion of the second shield member including at least one first tab member extending from each side edge of the plate portion, the first tab members engaging the upper edges of the first shield member sidewalls, thereby limiting the downward movement of the second shield member.

In order that the present invention may be more readily understood, reference will now be made to the accompanying drawings, in which:-

Figure 1 is an isometric view of the data connector embodying the instant invention,

Figure 2 is an isometric view of the data connector of Figure 1 showing the components exploded,

Figure 3 is an isometric view similar to Figure 1 showing the shielded subassembly partially exploded from the premolded boot,

Figure 4 is an isometric view of the housing subassembly,

Figure 5 is a cross-sectional view of the insulative housing with the lower shield in place,

Figure 6A is a cross-sectional view of the premolded boot,

Figure 6B is a cross-sectional view, similar to that of Figure 6A, showing the assembled data connector of Figure 1,

Figure 7 is an isometric view showing the data connector of the instant invention poised for receipt in a data connector having a T-bar and a T-slot,

Figure 8 is a view similar to that of Figure 7 showing the latchability of the T-bar with the two raised detents,

Figure 9 is an isometric view of the components of an outlet assembly for use with the instant invention, the components being shown exploded away from the wall plate,

Figure 10 is an enlarged front plan view of the data connector interface of the wallplate shown in Figure 9,

Figure 11 is a cross-sectional view taken through lines 11-11 of Figure 10,

Figure 12 is a cross-sectional view taken through lines 12-12 of Figure 10,

Figure 13 is a cross-sectional view of the modular jack interface taken through lines 13-13 of Figure 9,

Figure 14 is a view showing the shielded sub-assembly inserted from the rear of the wall plate disposed within the data connector interface,

Figure 15 is a cross-sectional view taken through lines 15-15 of Figure 10 showing the shielded subassembly also in cross-section inserted through the rear of the wall plate disposed within the data connector interface,

Figure 16 is a view similar to that of Figure 15 showing the shielded subassembly poised for receipt of a data connector comprising a shielded subassembly and a premolded boot,

Figure 17 is similar to that of Figure 16 showing the two shielded subassemblies electrically connected with the premolded boot latchably attached within the data connector interface of the wallplate,

Figure 18 shows the shielded subassembly within the data connector interface as shown in Figure 8 poised for receipt of a data connector including a T-bar and a T-slot for latching to the wallplate.

Referring first to Figures 1 and 3, the data connector 4 of the instant invention generally comprises a shielded subassembly 2 and a premolded boot 120, the shielded subassembly 2 being slidably receivable into and out of the premolded boot 120 and being latchably attached therein. Referring now to Figure 2, the shielded subassembly 2 generally includes a housing member 5, a stuffer cap 50, and shield members 70 and 100. The data connector housing 5 will be described in greater detail, with reference to Figures 2 and 4.

With reference first to Figure 4, the housing 5 generally comprises a terminal support floor 10 having a plurality of channels 12 therein for receiving terminals 30. Extending upwardly from the terminal support floor are sidewalls 14 having internal grooves 22 and external ribs 20. A bridge portion 6 extends across the two sidewalls to define a front mating face for the data connector. Extending be-

low the bridge 6 is a rib 25 which extends from the rear edge of the bridge (Figure 4) to the forward edge of the bridge (Figure 2). The rib 25 defines two windows 8 which also extend from the rear edge of the bridge to the forward edge of the bridge to define two shield receiving surfaces 24 (Figure 2). The sidewalls 14 extend from the rear of the data connector 4 to the front mating face of the data connector to define two 45 degree surfaces at the front mating face, referred to generally as 18.

Terminals 30 include insulation displacement wire barrels 32, a blade portion 34, a resilient contact portion 36 and a commoning foot 38. The resilient contact portion 36 is looped back upon itself and spaced above the terminal support floor. The resilient contact portion 36 is disposed at the front mating face of the housing 5 for overlapping interconnection with like terminals, the two resilient contact portions of mating connectors contacting each other to deflect respective resilient contact portions towards the blade portion of respective terminals. Stuffer cap 50 includes alignment ribs 52 along the sides, wire receiving slots 54 and stuffer cylinders 56, the stuffer cylinders 56 having an inside diameter larger than the outside diameter of the barrels 32 of the terminals 30.

Referring now to Figure 2 only, the shield member 70 includes a plate member 72 with continuous shield members 90 extending from the plate member 72 through a bent portion 92, the two shield members 90 defining a slot 94 therebetween. The plate member 72 further includes two locking lances 74. The shield member 70 is shown in Figure 5 as including a rear wall 78 extending from the plate member 72 with a semicircular shielding tail 76 extending from the rear wall 78. With reference again to Figure 2, the shield member 70 further includes integral sidewalls 80 having windows 84 and 86 stamped therefrom. The forward edges of the sidewalls 80 are defined by two 45 degree surfaces 82.

Shield member 100 is shown as including a plate member 102 with integral shielding portions 110 extending from the front edge thereof, the two shielding portions 110 defining a slot 112 therebetween. The shield member 100 further includes a rear wall portion 114 having a semicircular shield tail 116 extending from the rear wall 114. Plate member 102 further comprises locking lances 106, and tabs 104 and 108 extending from the side edges thereof.

With reference still to Figure 2, the premolded boot 120 includes a central body portion 122, a flexible portion 124 and a latching portion 126. Referring now to Figure 6A, the internal structure of the premolded boot generally includes a cable receiving bore 158, a cavity 156 and a connector receiving cavity 128. The cavity 156 is defined by

an inner bore 160, while the connector receiving cavity 128 is defined by an upper surface 148, a lower surface 150 and sidewalls 162 (Figure 2). The upper surface 148 includes a transversely extending channel 140 therein having a forward edge 142 while the lower surface 150 has a transversely extending channel 144 therein with a forward edge 146. The latching mechanism 126 generally comprises a latching extension 130 and a latching extension 132. The latching extension 130 includes a single latching projection 134 having end surfaces 135 (Figure 2). The latching extension 132 includes two latching projections 136, the latching projections being spaced apart to define a slot 138 therebetween. The latching projections 134, 136 are defined as raised detents, the use and functioning of which will be described in greater detail herein.

With reference to Figure 2, the assembly further includes a ferrule 170 having semicircular portions 172 and collapsible portions 174. The data connector 4, as shown in Figure 2, is for interconnection to a shielded cable shown generally as 180. The shielded cable 180 includes outer insulation 182, a shielding braid 184, inner insulation 188 and individual insulated conductors 186. An inner metallic ferrule 178 is profiled to be slidably received over the outer insulation 182.

To interconnect the shielded cable 180 to the data connector of the instant invention, the housing portion 5, of Figure 4, is first assembled. With the shorting bars 60 removed, the terminals 30 are slidably received in respective channels 12 until latched in place. The shorting bars 60 are then inserted in respective grooves 23, the shorting bars 60 contacting the commoning foot 38 on alternate terminals to common alternate terminals when the data connector 4 is in an unmated condition. It should be understood that to insert the shielded cable through the bore 158 of the premolded boot 120, the shielded cable must be in an unprepared condition, whereas the cable 180, as shown in Figure 2, is shown in a prepared condition. Said another way, the cable must be left unstripped so that the blunt end alone is inserted into the bore 158, similar to threading a needle. With the shielded cable 180 inserted through the bore 158 of the boot 120, the boot can be pulled back on the cable to allow room for preparation of the cable end. Prior to preparing the end of the shielded cable but subsequent to placing the premolded boot 120 onto the cable, the metal ferrule 178 having an inner diameter substantially the same as the outer diameter of the insulation 182 is slidably received over the cable 180. Also a collapsible ferrule 170 is slid over the end of the cable and is placed back upon the cable with the premolded boot for later use.

The end of the shielded cable can then be prepared by stripping a portion of the outer insulation from the end of the cable to expose a portion of the shield 184. The ferrule 178 is then placed adjacent to the end of the stripped insulation and the exposed shielding braid 184 is dressed over the ferrule 178, as shown in Figure 2. The inner insulation 188 is then stripped to expose the insulated conductors 186 and each individual wire 186 is placed in the stuffer cap through a respective slot 54, with the ends of the wire 186 extending into the barrels 56 through the slot 58. The stuffer cap 50 and the individual wire 186 are then placed over the insulative housing 5 such that ribs 52 on the stuffer cap 50 are aligned with channels 22 in the insulative housing 5, which in turn aligns the stuffer cap barrels 56 with the insulation displacement wire barrels 32 on the terminals 30. The stuffer cap 50 is then pushed downwardly until each of the individual conductors 186 is terminated within respective wire barrels 32 of terminals 30.

The shielded subassembly 2 is completed by installing the shield members 70 and 100 to the insulative housing 5. The shield member 70 is first inserted over the housing 5 such that windows 84 in the shield 70 overlie the ribs 20 of the housing 5. This places plate member 72 adjacent to the surface 26 of the housing and shield members 90 adjacent to surface 28 of the housing. Furthermore, and as shown in Figure 5, as installed, the rear wall 78 of the shield member lies adjacent to the rear of the connector housing 5 to substantially shield the housing member 5. This also places semicircular shielding tail 76 in an overlying relationship with the dressed braid 184, trapping the braid between the ferrule 178 and semicircular portion 76. The shield member 100 is next installed by placing forward shield members 110 through the windows 8 of the connector housing 5 such that the forward shield members 110 lie flush against the forward surfaces 24 and between the rib 25. The shield member 100 is latched in place by locking the tabs 104 into the windows 86 of the shield member 70. As shown in Figure 3, the tabs 108 overlap the shield sidewalls 80 to keep the tabs 104 and the windows 86 in a latched condition.

As installed, the plate member 102 of the shield member 100 overlies the terminals 30 within the connector housing 5. The rear wall 114 of the shield member 100 encloses the rear edge of the connector housing 5 with edge 115 of the rear wall 174 substantially adjacent to edge 79 (Figure 5) of rear wall 78 to totally enclose the connector housing. Also as installed, the semicircular shield tail 116 overlies and is substantially adjacent to the dressed braid and the backup ferrule 178. The previously installed ferrule 170 can then be slid forwardly to overlie the semicircular shield tails 76

and 116, and the ferrule 170 can be crimped to a configuration as shown in Figure 3. The collapsible ferrule provides for a permanent electrical connection between the shielding components, that is, the shielding braid 184 is trapped between the metal backup ferrule 178 and between the metallic shield tails 76 and 116.

With the individual conductors 186 terminated to the respective terminals 30, and with the shielded braid 184 commoned to the shielded subassembly 2, the shielded boot 120 can now be slid forwardly to encapsulate and insulate the shielded subassembly 2. The premolded boot 120 and the shielded subassembly 2 are pulled together until the rear walls 78, 114 of the shield members 70 and 100, respectively, abut the shoulders 152 and 154, respectively, within the premolded boot 120, as shown in Figure 6B. This disposes the crimp assembly of the collapsible ferrule within the cavity 156 and the shielded subassembly within the cavity 128. The cavity 128 is closely toleranced to receive the shielded subassembly 2, that is shield plate members 72 and 102 lie substantially flush with surfaces 148 and 150, respectively. Furthermore, the sidewalls 80 of the shield member 70 lie substantially flush with the inner sidewalls 162 of the premolded boot. As installed, the locking lances 74 and 106 are disposed within the transverse channels 140 and 144, respectfully, and are latched against surfaces 142 and 146, respectfully.

It should be understood that the assembly as previously described can be installed within the user's facility without any assembly equipment. At most, a pocket knife is required to strip the cable and a pair of pliers is required to push the stuffer cap down to terminate the insulated conductors. Data communication lines are installed within office buildings, or the like, much like the installation electrical power wiring, or telephone wire. Often new offices are modularly formed or new terminals are needed to compliment existing computer terminals. It is advantageous to have the ability to wire the data connectors at the facility without regard to the lengths of runs required in the cable lengths. When a new shielded cable is installed, the desired method is to run the cable through the walls or through channels in the flooring to dispose the ends of the shielded cable at the required locations. The ends of the shielded cables are then prepared and the data connectors installed.

A first advantage of the present invention is that the premolded one piece boot provides an economic advantage to the user, over previous prior art connectors. Second, the user can stock gross lengths of unprepared shielded cable, typically bought in rolls of hundreds of feet, and only terminate the shielded cable to data connectors when necessary. This method of stocking compo-

nents is much easier and cost effective than stocking a large quantity of lengths of cable with preterminated data connectors at each end thereof. Third, the present invention allows the unprepared cable to be fed through small openings in the flooring or the walls which is an imperative requirement for the new installation of any type of wiring. Feeding the cable through openings would not be possible with a cable preterminated to a data connector.

Further advantages relate to the intermatatability of the presently designed data connector. As assembled, the data connector 4 is matable with a hermaphroditic data connector 300, as shown in Figures 7 and 8. The data connector 300 shown in Figure 9 is generally of the type disclosed in U. S. Patents 4,449,778; 4,501,459; 4,508,415; 4,582,376; and 4,602,833; and in U.S. Patent Application Serial Numbers 773,730; 830,904; and 823,134; the disclosures of which are incorporated herein by reference.

As shown in Figure 7, the data connector is also interconnectable with a data connector 300. The latching mechanism of the data connector 300 includes a latch plate 320 and a latch plate 322. The forward end of the latch plate 320 includes a T-slot 302 defined by edges 304 and edges 306 defining a slot therebetween. A latching surface 308 is also defined within the T-slot 302. The latching projection 134 on the premolded boot 120 has end edges 135. The premolded boot 120 is profiled such that, upon mating of the data connector of the instant invention with the data connector 300, the latching extension 130 is slidably received under the latching plate 320 of the data connector 300. This disposes the latching projection 134 within the T-slot 302 with the edges 135 of the latching projection 134 between the end surfaces 304 of the T-slot 302 and the latching projection 134 behind latching surface 308 of the T-slot 302.

Referring now to Figure 8, the T-bar 310 is shown in greater detail. The T-bar 310 of the data connector 300 generally includes a bar portion 312 and an arm portion 314 interconnected to the plate portion 322. The bar portion 312 and the arm portion 314 defines a latching surface 316 on the back side of the bar portion 312. The latching projections 136 on the data connector of the instant invention define a slot 138 therebetween. When in the mated position, the T-bar 310 of the data connector 300 is latched with the projections 136, such that the arm portion 314 is disposed within the slot 138 with the latching surface 316 of the bar portion 312 behind the latching projections 136.

Furthermore, identical shielded subassemblies 2 can either be used with a communication outlet 200, such as that shown in Figure 9, or can be used with the premolded boot 120 previously de-

scribed. A typical installation of the preferred embodiment of the invention would include an outlet 200 connected to the outside of a wall, within an office building, with data communication cable similar to the shielded cable 180 within the wall or under the floor, and terminated, as previously described, to a shielded subassembly 2. The shielded subassembly 2 would then be latchably received to the back of the communication outlet 200, as shown in Figure 9. The data connector 4, having an identical shielded subassembly 2 as in the communication outlet 200, is then matably received with the front face of the outlet 200 to interconnect resilient contact portions 36 of like terminals 30. Given that identical shielded subassemblies are required for either the data connector or the communication outlet 200, the component parts for the shielded subassembly can be easily stocked without a predetermined end to their use. Furthermore, the identical shielded subassemblies allow retrofitting of a previously assembled data connector into a communication outlet, or vice versa, a previously assembled communication outlet into a data connector.

Referring now to Figure 9, the outlet assembly of the instant invention, generally comprises a shielded subassembly 2, an unshielded connector 290 and an outlet wallplate 200, the shielded subassembly 2 and the unshielded connector 290 each being receivable into and out of the outlet wallplate 200 and being latchably attached therein. It should be noted that the shielded subassembly 2 is identical to that above described.

Referring again to Figure 9, the wallplate 200 is shown as including a data connector interface 202 and a modular plug interface 280. The wall outlet 200 is a one-piece molded housing and is used for interconnecting from the rear a shielded subassembly 2 and a modular jack 290. With reference now to Figure 10, the data connector interface 202 is shown in greater detail.

The interface 202 generally comprises a shroud member 204 forming a peripheral wall surrounding the data connection opening to partially insulate the electrical connection between the two mating electrical components. The shroud member 204 defines an internal upper surface 212, a lower surface 214 and side surfaces 210 and 208. Also within the periphery of the shroud 204 are back wall sections 216, 250 and 218 each of which is planar with the wallplate face 206. In between the wall portion 216 and 250 is an opening defined by edges 266 of rear wall 216, edge 268 of rear wall 250 and the upper 212 and lower 214 surfaces. This opening is defined to allow the entry from the rear of the shielded subassembly 2 as will be described in more detail subsequently. Extending from the upper 212 and lower 214 surfaces are

latching edges 260 which extend into the opening.

Also within the periphery of the shroud member 204 is a T-bar member 220 and a T-slot member 240. The T-bar 220 and the T-slot 240 are profiled to simulate the T-bar and T-slot of the data connectors as previously described, for example in U. S. Patent 4,501,459. Referring first to the T-bar member 220, the member generally includes a bar member 224 interconnected to the internal surface 210 and to the rear wall 216 via an integral molded web 222, as shown in Figures 10 and 11. As best shown in Figure 11, the rear surface of the bar 224 defines a latching surface 226 while the ends of the bar 224 form end walls 228. As best shown in Figure 10, directly behind the latching surfaces 226 of the bar 224 and defined in the rear wall 216 is a pair of apertures 230 which extend through the wall and are generally defined by the retractable pins which define the latching surfaces 226 during the molding process.

Referring now to Figures 10 and 11, the detail of the T-slot will be described in greater detail. Referring first to Figure 12, the T-slot extends between upper surface 212 and lower surface 214 and is integrally molded therein via webs 254. The rear portion of the T-slot is integrally molded with the back wall portion 250 via integral portions 249. The integral web portions 254 define internal sidewalls 246 which extend from the outer edge of the web to the rear wall 250. The integral web portions 249 each have an arm 242 extending therefrom towards the center of the interface. Each of the arms is spaced from each other as defined by end surfaces 244 which also define a slot therebetween. The rear edge of the arms 242 each define a latching surface 252.

Referring again to Figure 9, the assembly there shown further includes a latchable modular jack 290 which generally includes a latching structure 292 having a latching surface 296, a modular plug interface 294 and an insulation displacement stuffer cap 298. The wallplate 200, in turn, includes a modular plug interface 280 having an opening 282 which is normally covered by a spring loaded door 286. Referring now to Figure 13, the cross-sectional view through the modular jack interface clearly depicts the latching surfaces 284 disposed at the rear side of the wallplate behind the opening 282.

With the shielded subassembly assembled as previously described, the shielded subassembly 2 is interconnectable into the opening from the rear side of the data communication interface 202. Referring first to Figure 14, as installed the latches 88 of the shield side walls 80 lock behind the latching surfaces 260 within the opening. Also as shown in Figure 15, as installed the latches 74 and 106 cooperatively abut rear surfaces 272 and 270 respectively maintaining the shielded subassembly in

a fixed position within the wallplate. In this configuration, the shielded subassembly is disposed relative to the T-slot and T-bar for matability with a data connector of the type having a T-bar and T-slot, such as the data connector 4, as illustrated in Figures 16 and 17.

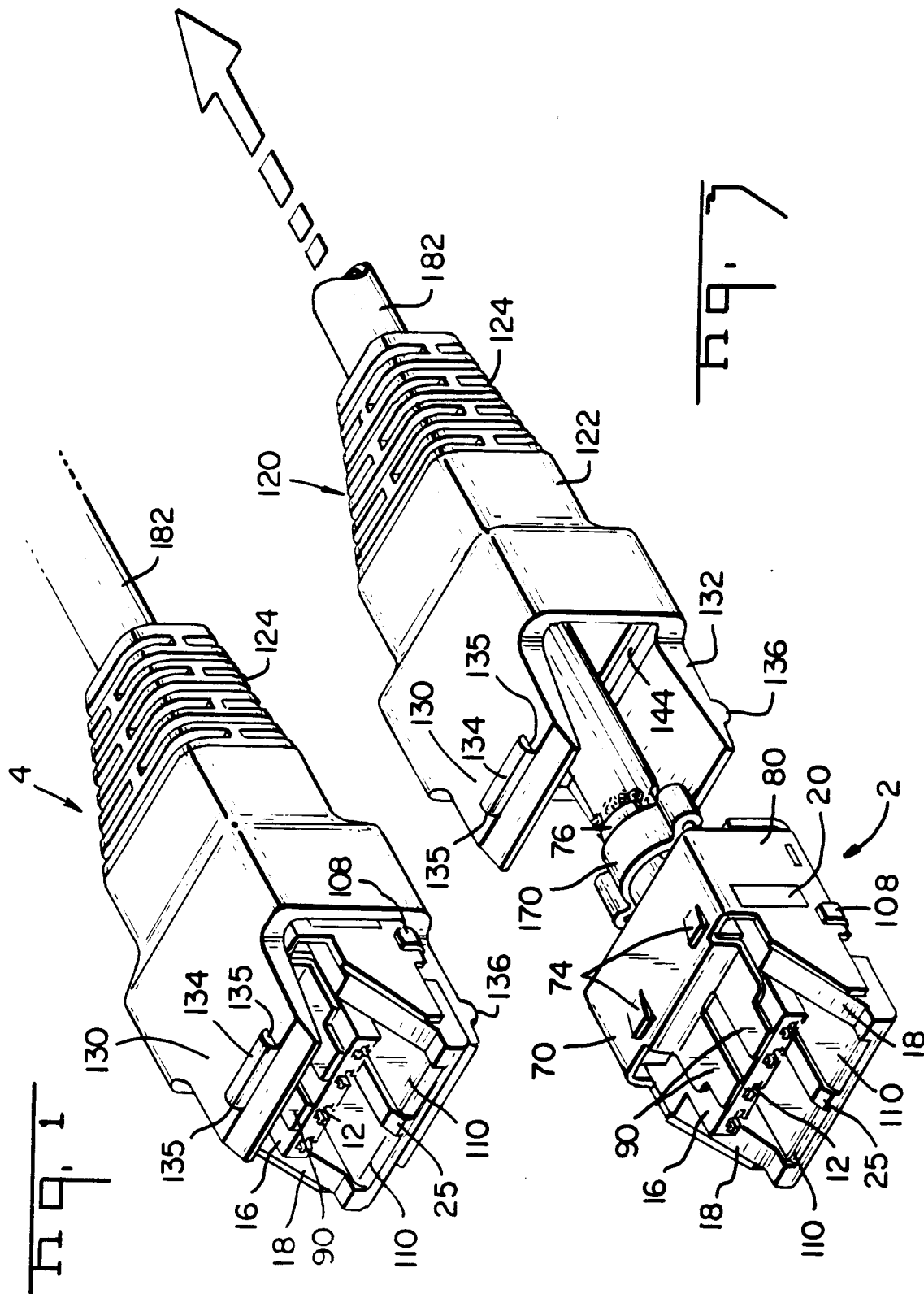
As shown in Figure 18, the outlet 200 is also interconnectable with a data connector 300. The latching mechanism of the data connector 300 includes latch plates 320 and 322. The forward end of the latch plate 320 includes a T-bar 310 having latching surfaces 316 while the forward end of the latch plate 322 includes a T-slot 302 having latching surfaces 308. As shown in Figure 18, the latch plates 320 and 322 are interconnected to the insulative housing portions via web portions 330 and 332, such that the plates may be squeezed at the outer end thereof to move the respective plates away from the insulative housing. In this manner, the data connector can be inserted into the outlet interface such that the T-bar 310 is placed over the T-slot 240 and the T-slot 302 is placed under the T-bar 220.

Claims

1. An electrical connector for interconnection to multiconductor data cable comprising:
 - an insulative housing (5) including a terminal support platform (10) and two side walls (14) upstanding from the platform (10) and forming an open upper face of the platform (10),
 - a plurality of electrical terminals (30) positioned along and supported by the terminal support platform (10), each of the terminals (30) including a resilient contact portion (36) for interconnection to like contact portions in a complementary electrical connector, and
 - shielding means including first (70) and second (100) shield members assembled to the insulative housing (5),
 - said first shield member (70) including a base wall (72) disposed adjacent the exterior of the terminal support floor (10), two sidewalls (80) upstanding from the base wall (72) and having upper edges which upstand higher than the sidewalls (14) of the housing, and two contact portions (90) extending from the front edge thereof which lie adjacent to the terminal support floor (10), and
 - said second shield member (100) including a plate portion (102) having two shield contact portions (110) extending from a front edge of the plate portion (102), the plate portion (102) of the second shield member (200) including at least one first tab member (108) extending from each side edge of the plate portion (102),

the first tab members (108) engaging the upper edges of the first shield member sidewalls (80), thereby limiting the downward movement of the second shield member (100).

2. The connector of claim 1, wherein the side edges of the second shield member (100) include second tab members (104) and the sidewalls (80) of the first shield member (70) include apertures (86) therethrough receiving the second tab members (104).
3. The connector of claim 1 or 2, wherein the first tab members (108) are bent over to lie adjacent to the sidewalls (80) of the first shield member (70).
4. The connector of claim 1,2 or 3, including an outlet means (200) which comprises an opening for receiving the housing (5) and shielding means (70,100) from the rear, and means for attaching the latch means of a matable data connector (4,300) thereto, the attaching means maintaining the respective terminals of the data connector (4,300) and the housing (5) in an electrically interconnected configuration.
5. The electrical connector of claim 1,2,3 or 4, wherein the outlet means (200) performs as a local area network interface which receives a matable hermaphroditic data connector (300) from the front thereof, the data connector (300) having a latching profile including a T-bar (310) and a T-slot (302), and a plurality of hermaphroditic electrical terminals therein including resilient contact portions, and the outlet means (200) receives from the rear, the housing (5) and shielding means (70,100) which are latchable to the outlet means (200) and includes a like plurality of terminals, the outlet means (200) comprising a one piece molded body including latching means for the housing (5) and shielding means (70,100) and an integrally molded T-bar (220) and T-slot (240) interconnectable with the respective T-slot (302) and T-bar (310) of the data connector (300), the molded body being profiled to position the electrical terminals (30) of the housing (5) in an overlapping and mating relationship with like terminals in the data connector (300) when the T-bar (220) of the outlet means (200) is in a latched configuration with the T-slot (302) of the data connector (300), and when the T-slot (240) of the outlet means (200) is in a latched configuration with the T-bar (310) of the data connector (300).



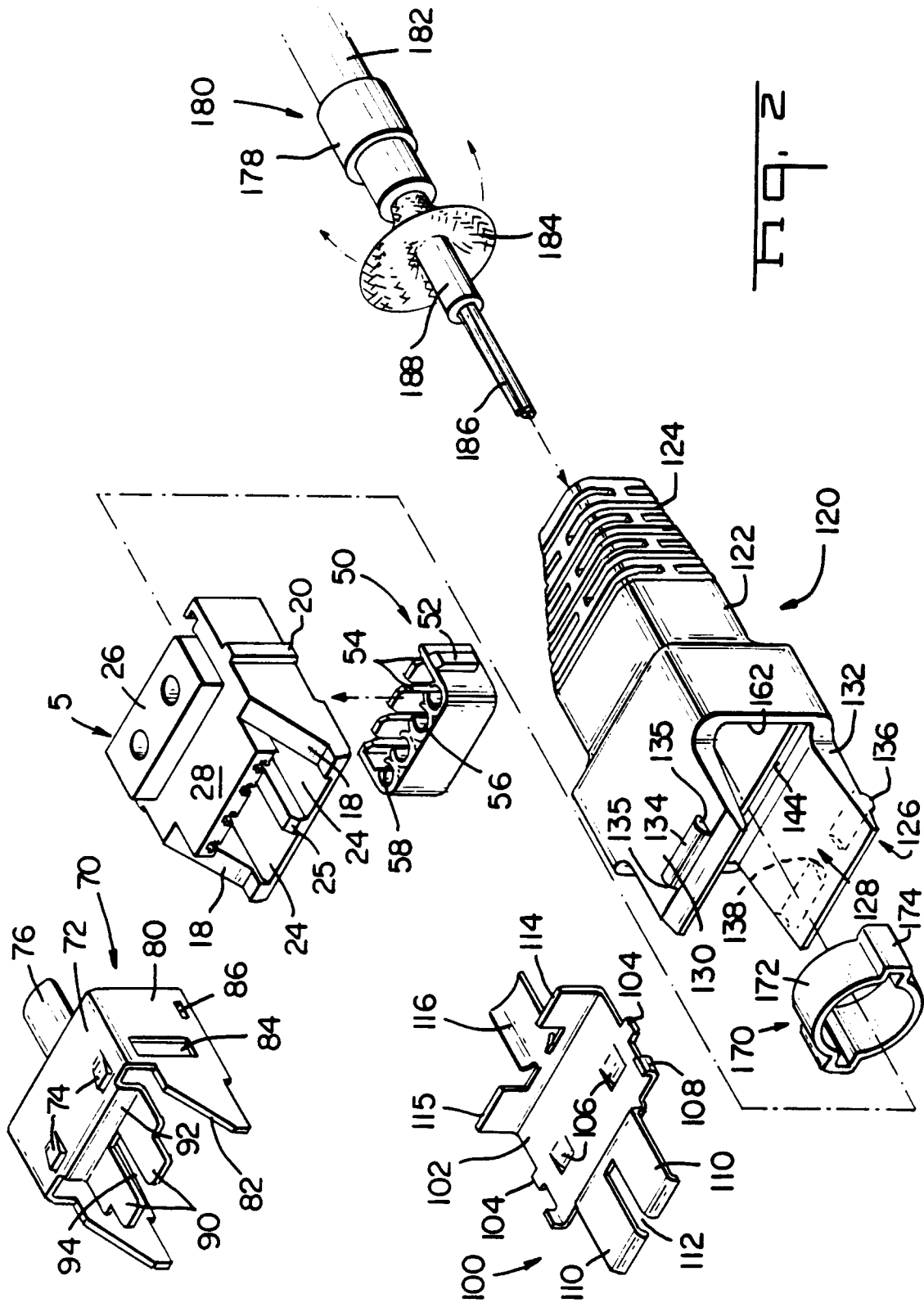
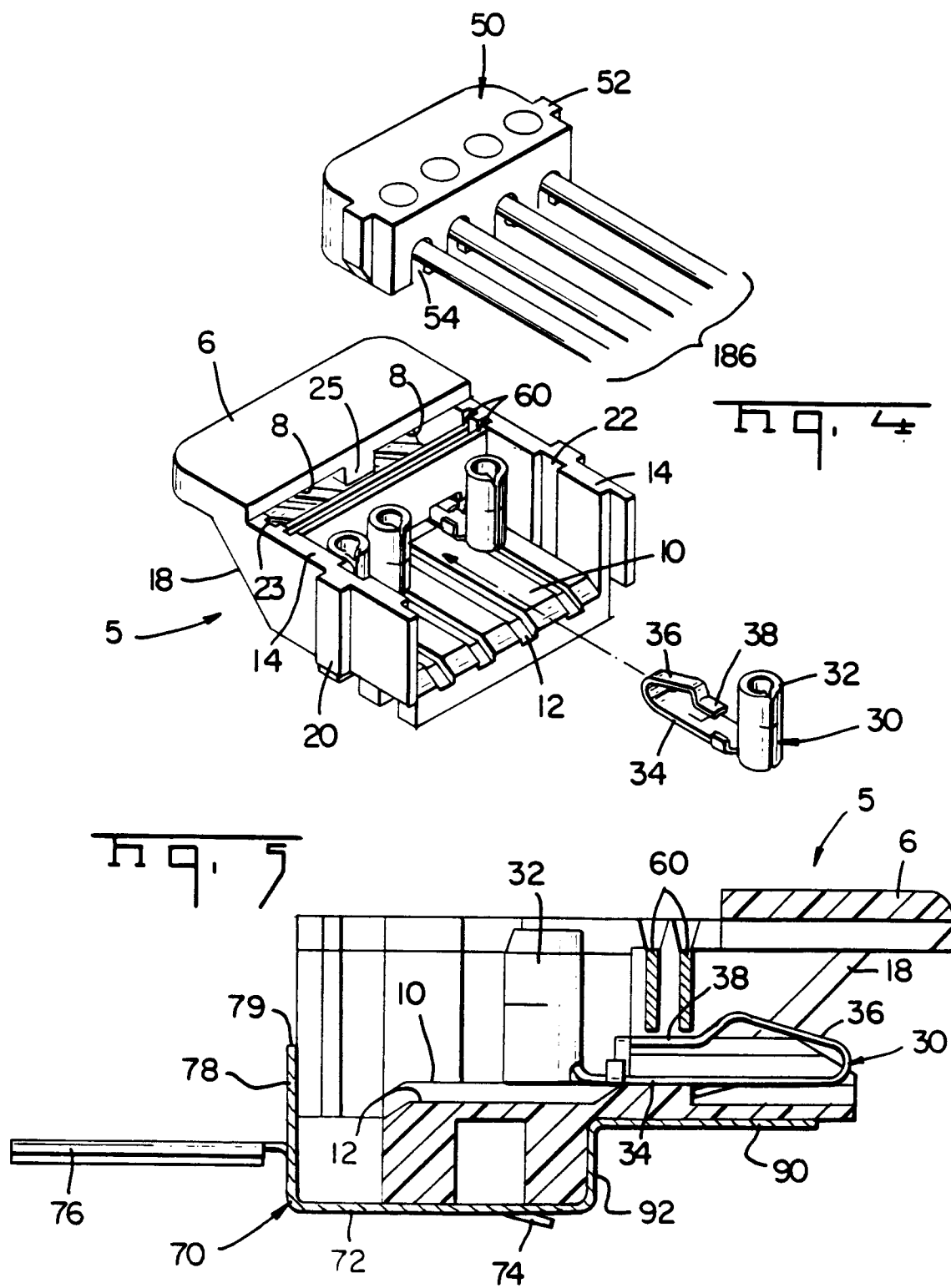
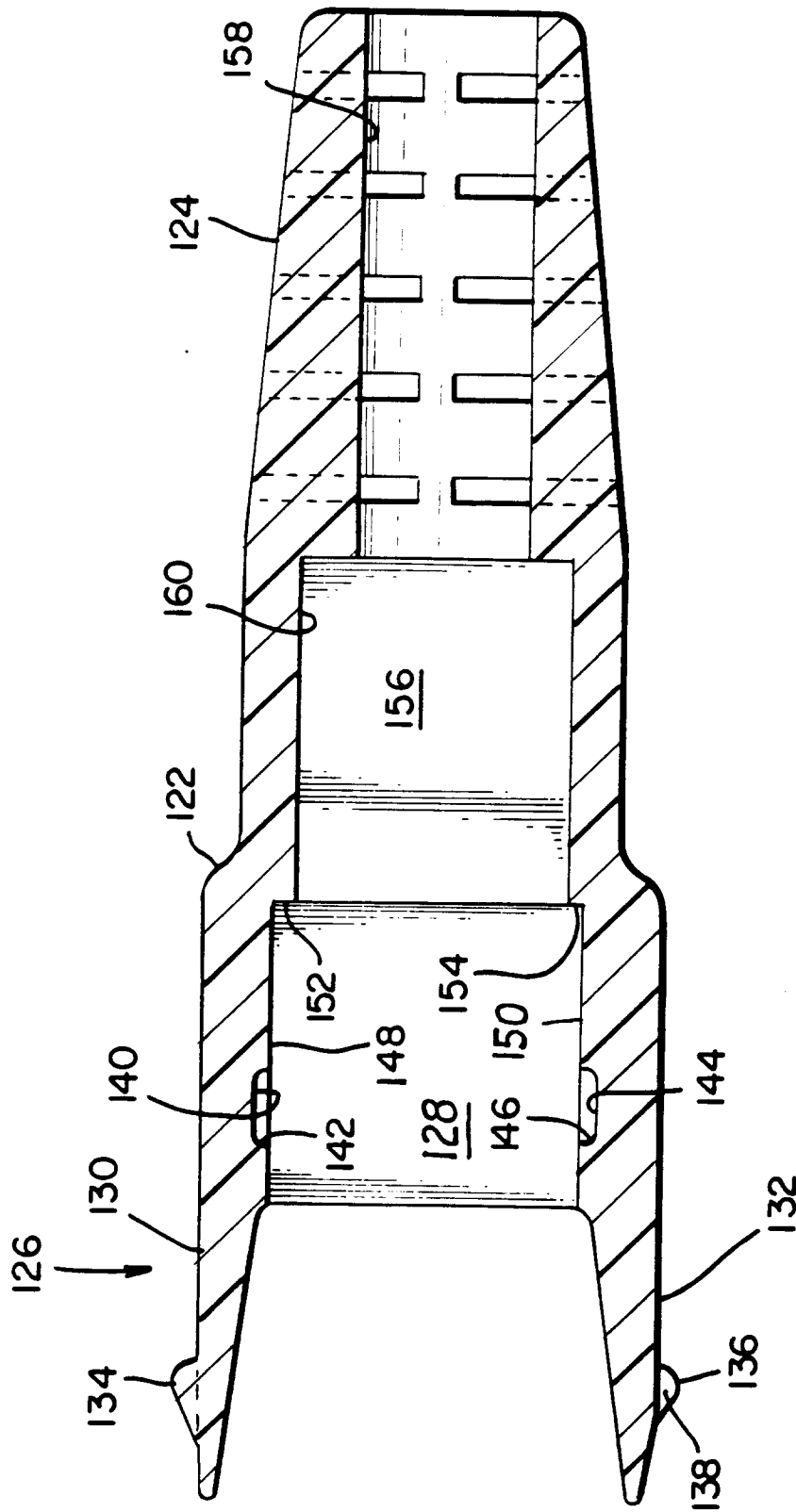
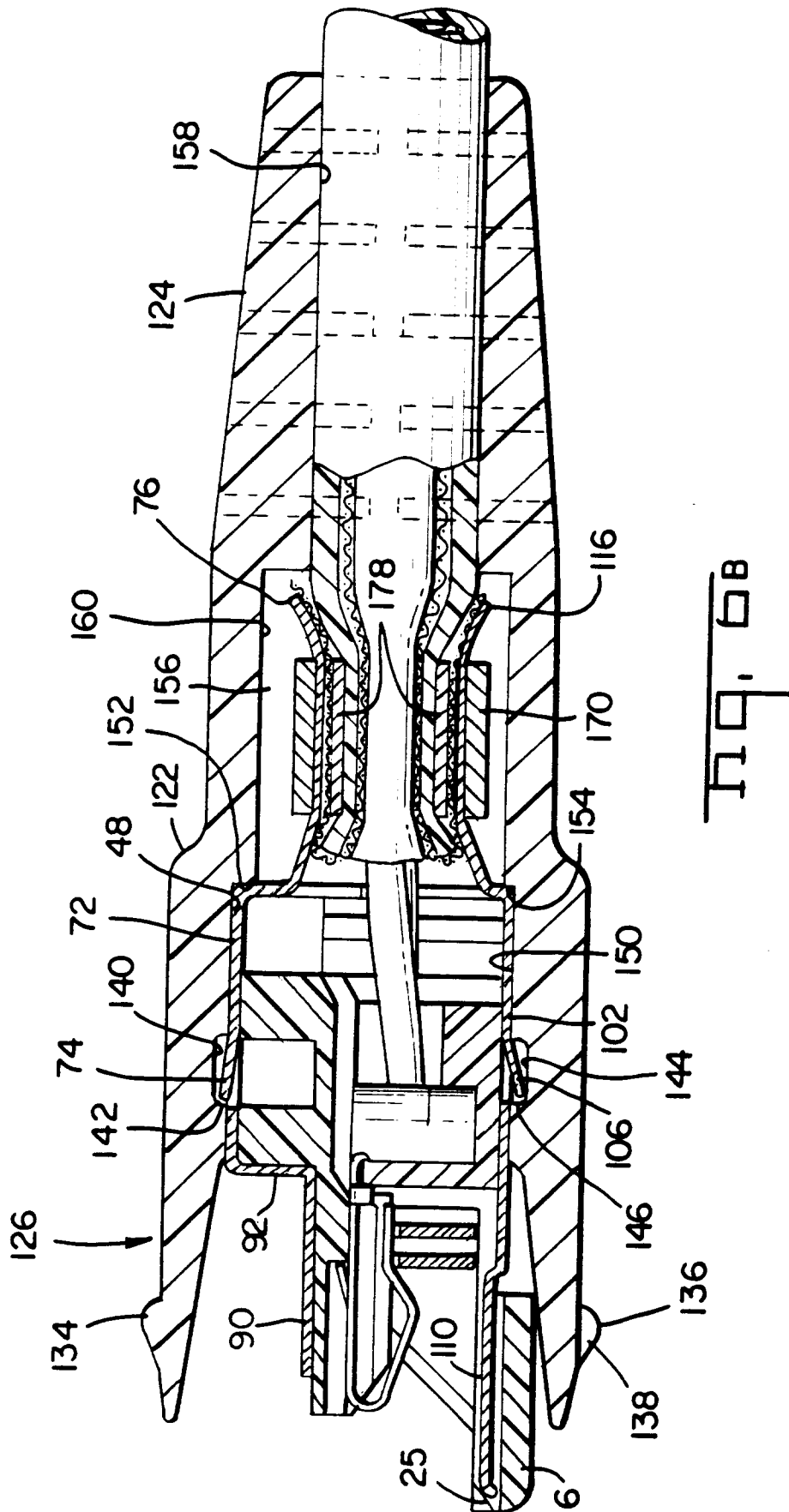


Fig. 2







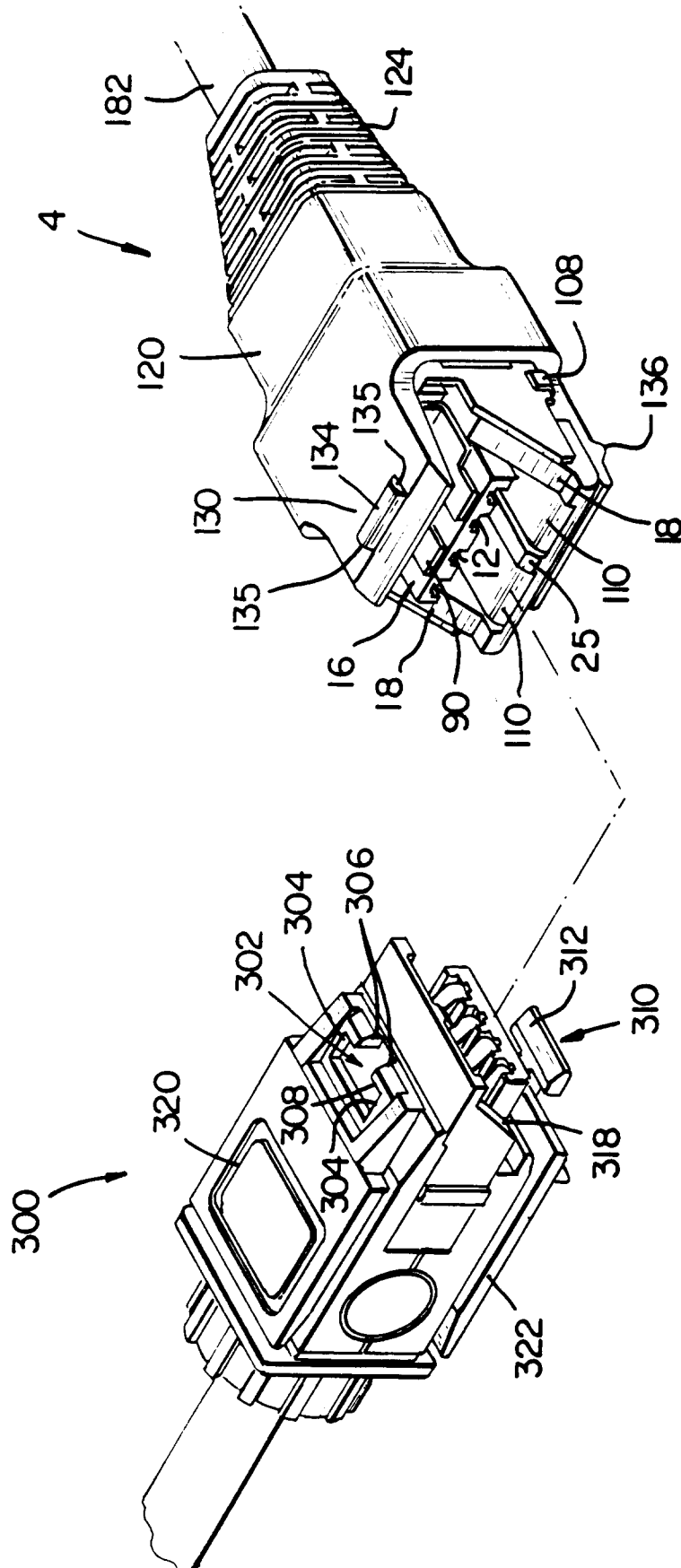
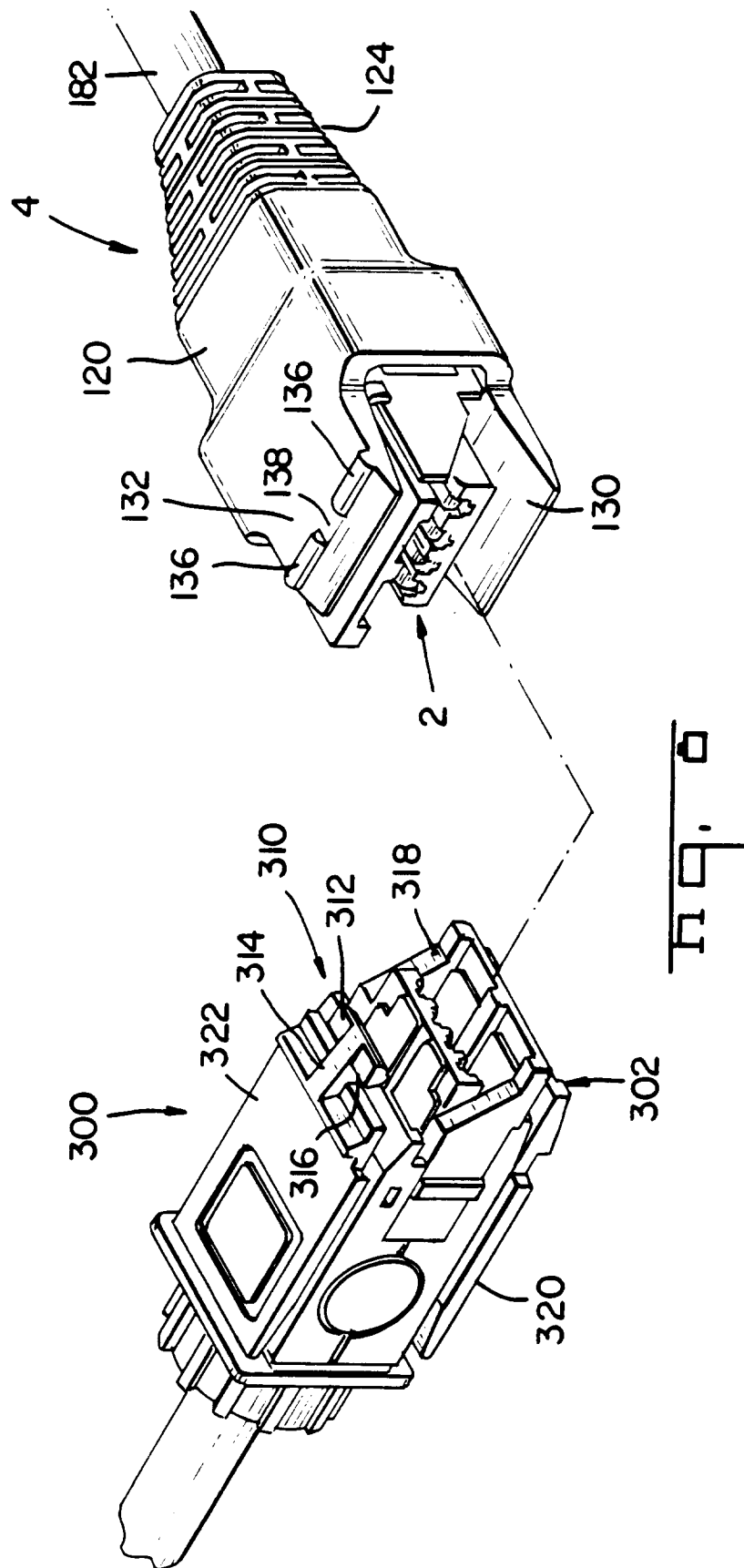
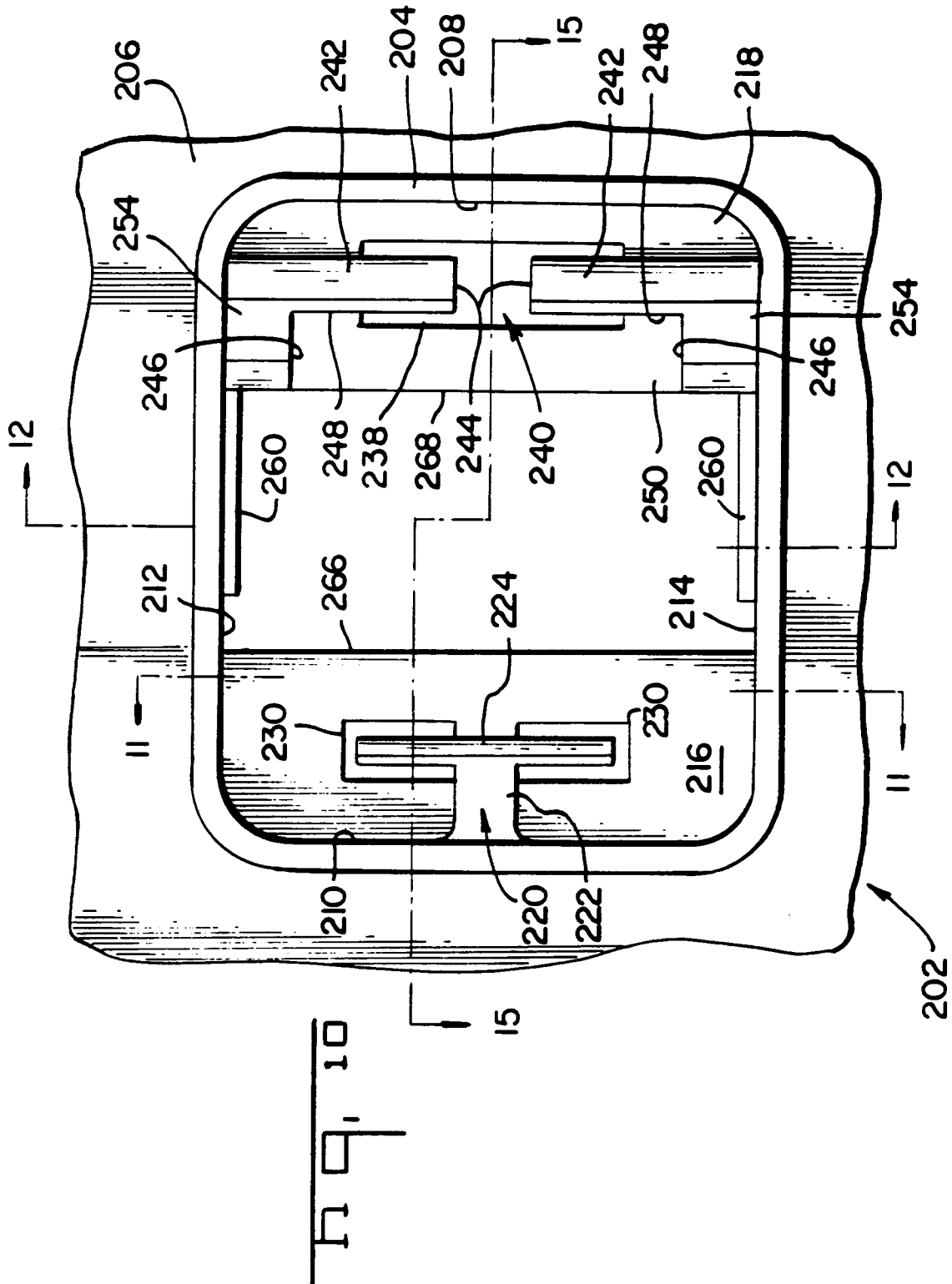
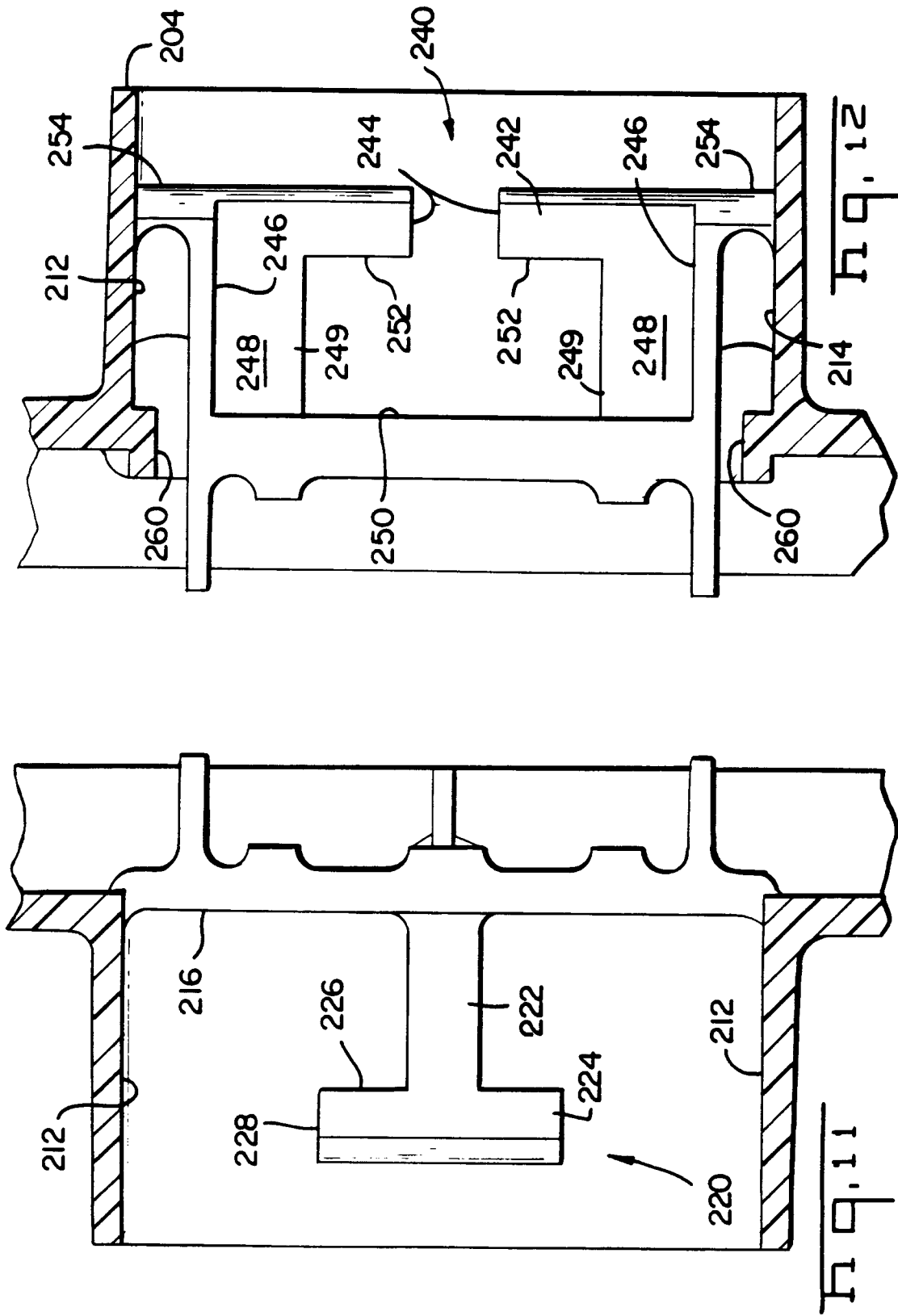
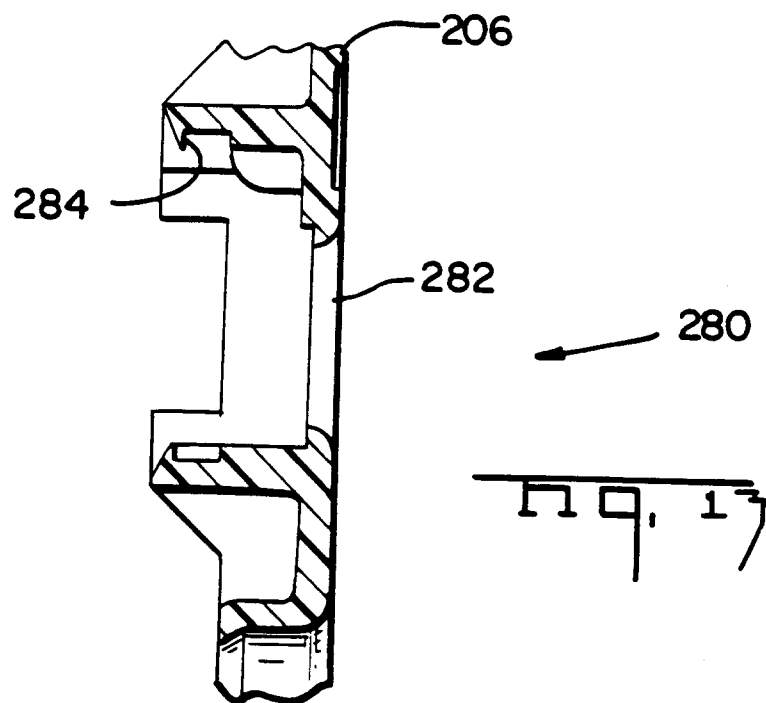


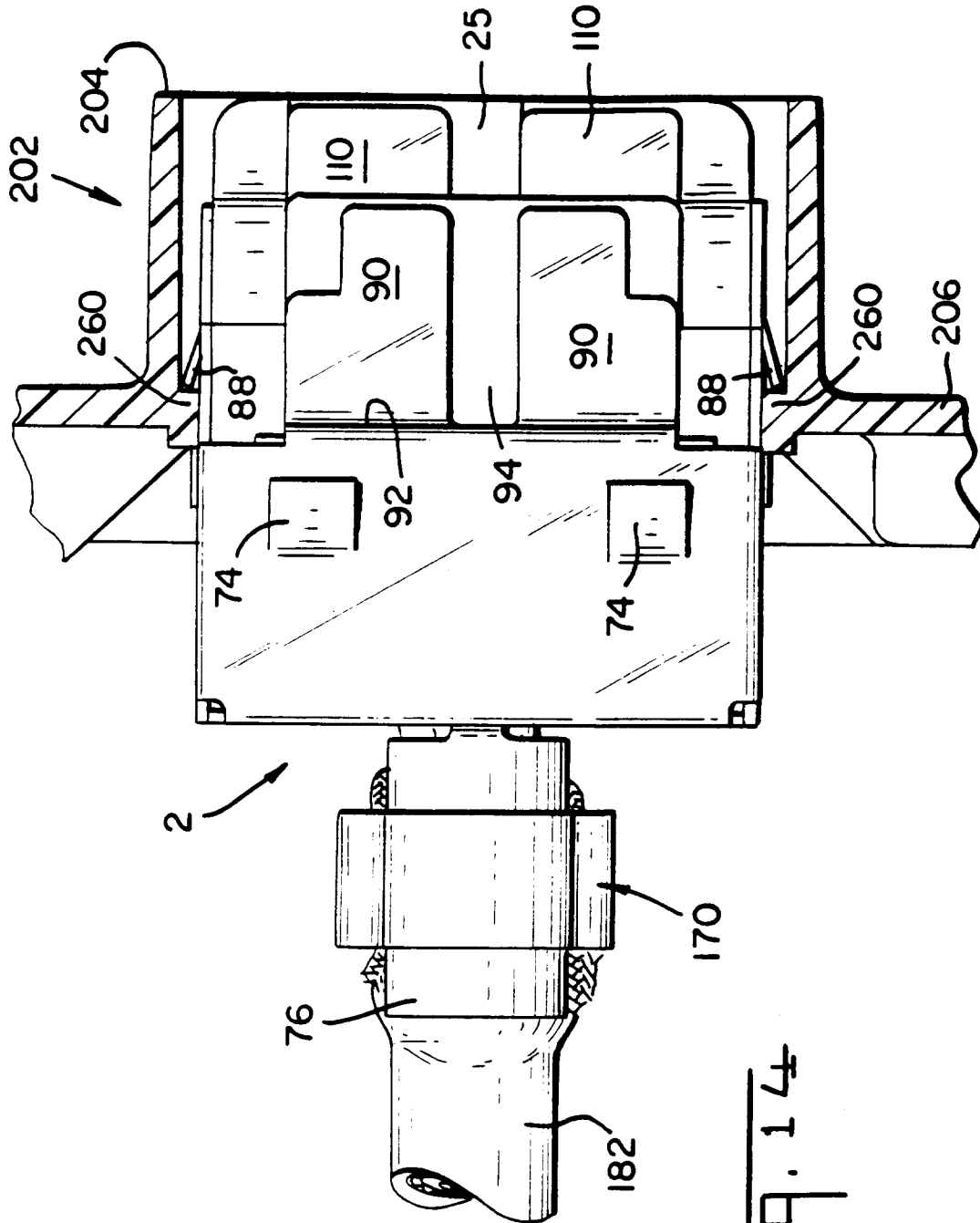
Fig. 7











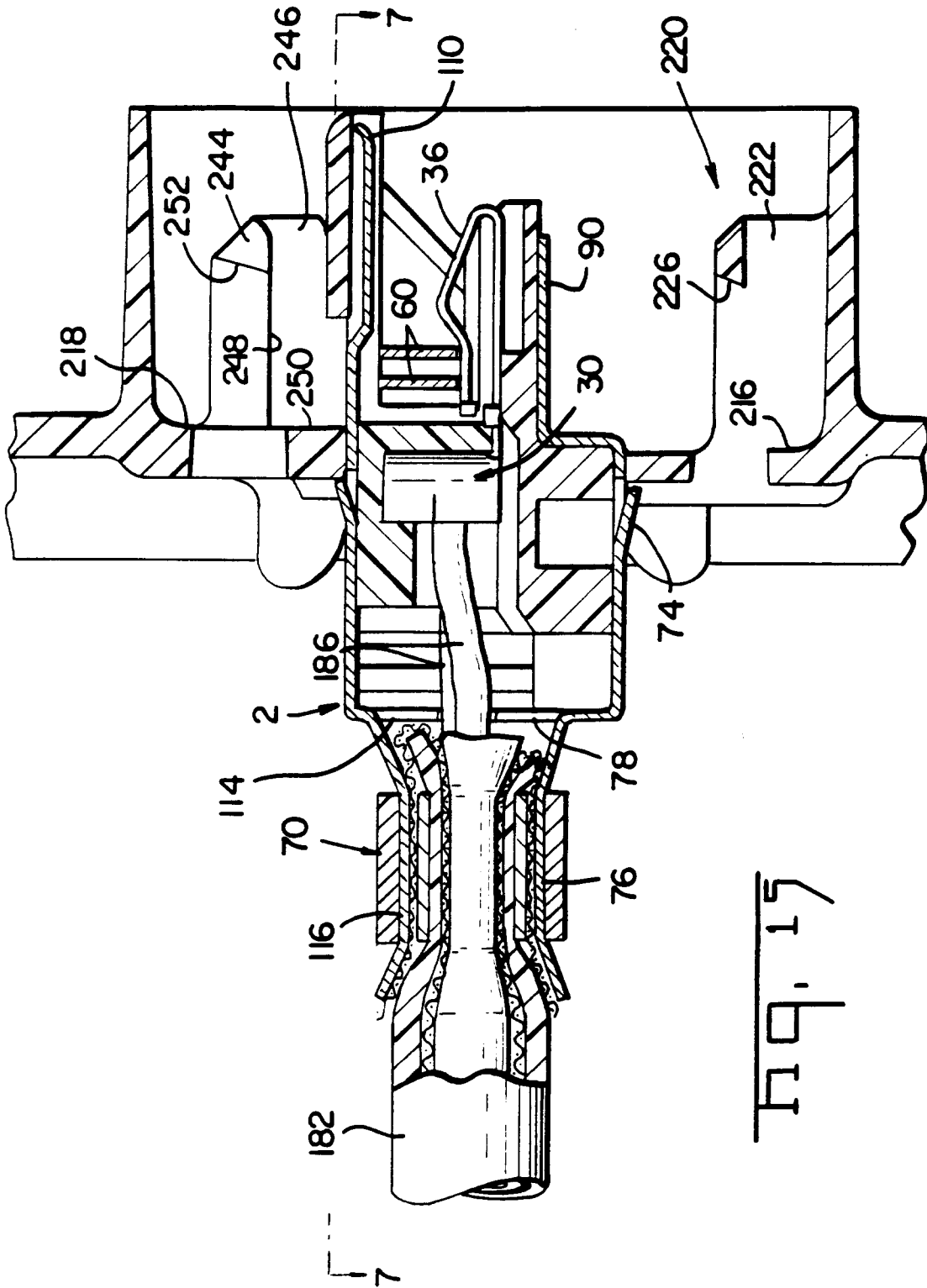


Fig. 15

