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(54) **CONFIGURABLE MOUNTING BRACKET**

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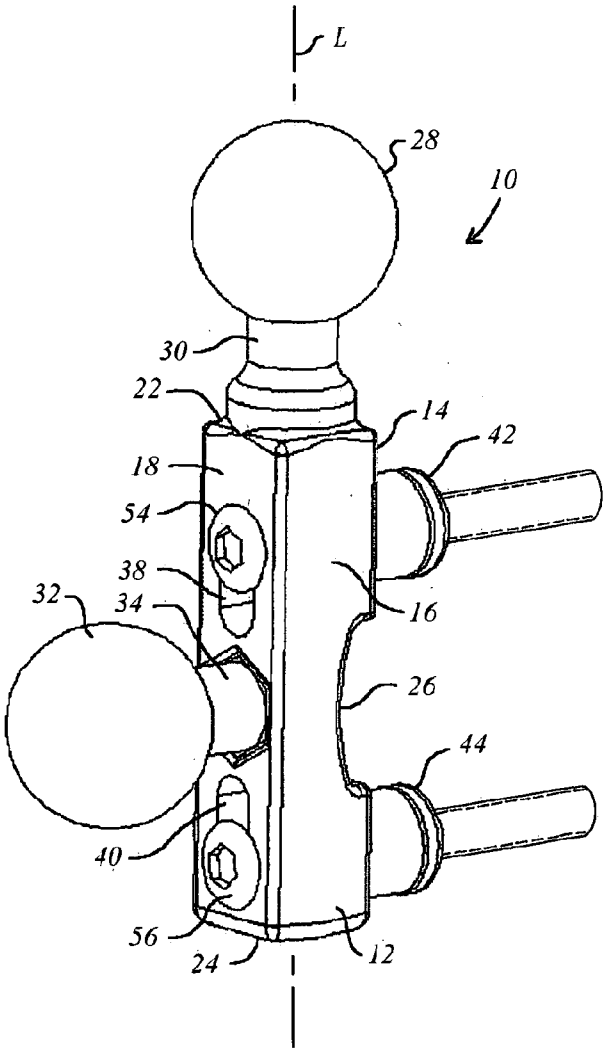
(57) **ABSTRACT**

A multiply configurable bracket formed of a substantially rigid elongated body having a groove oriented crosswise of the elongated body and formed partway therethrough, and a pair of fastener clearance passages formed through the body straddling the groove and oriented crosswise of both the elongated body and the groove. A first part-spherical ball mount is coupled to one end of the elongated body and is aligned substantially along a longitudinal axis thereof. A second part-spherical ball mount is coupled to the body opposite from the groove and oriented substantially crosswise to the longitudinal axis thereof. Both the first and second part-spherical ball mounts are formed of a resiliently deformable material with a substantially smooth outer surface.



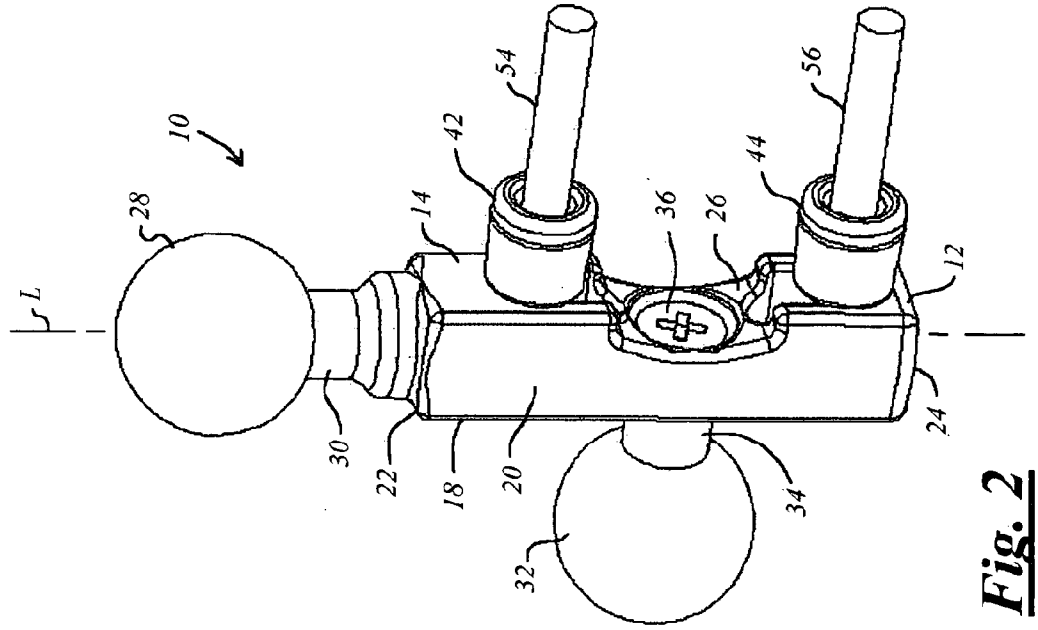

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Fig. 2

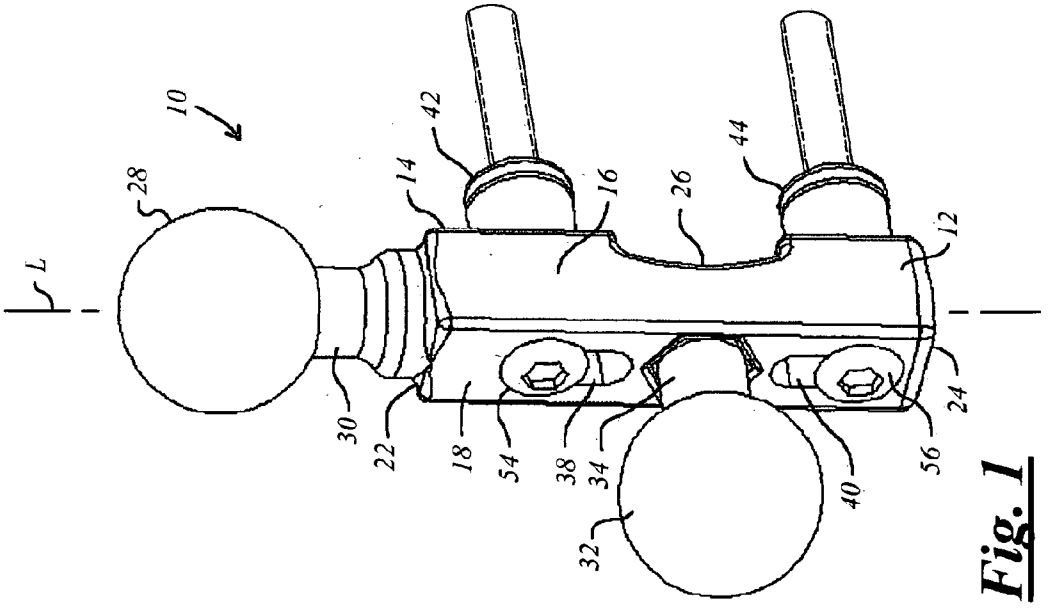
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Fig. 1

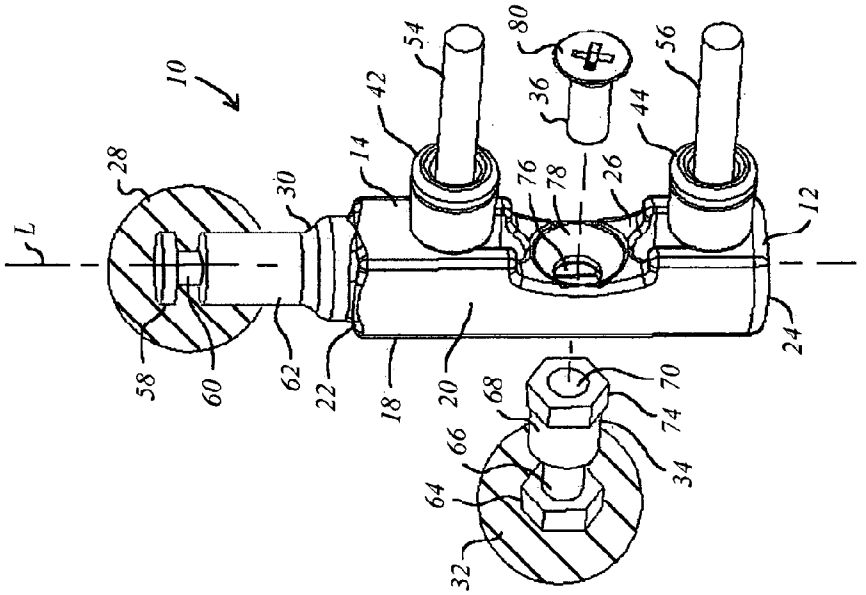
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Fig. 3

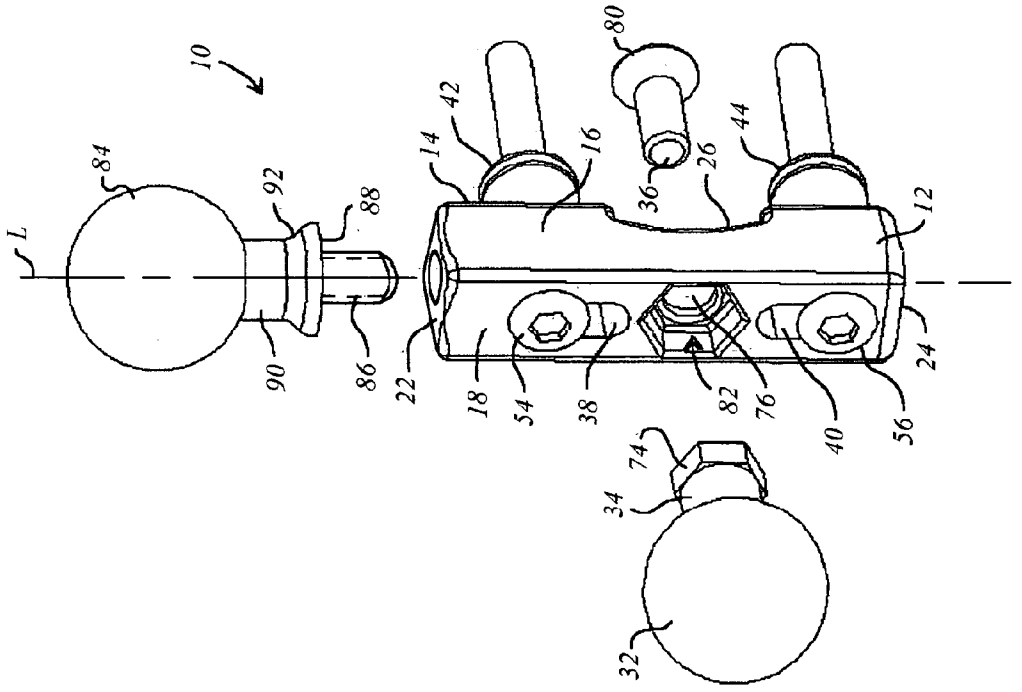
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Fig. 4

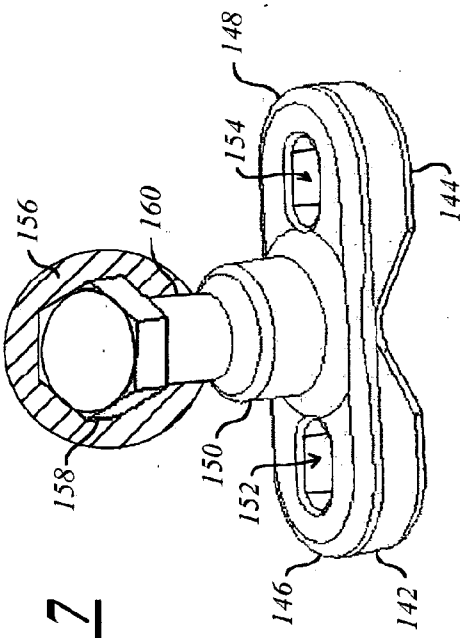

Fig. 7

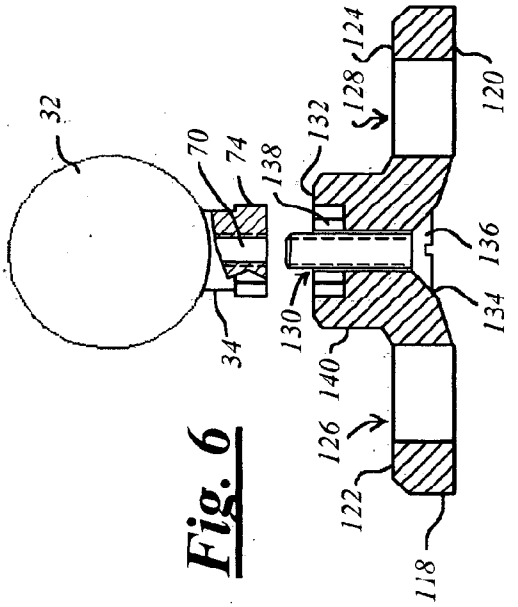

Fig. 6

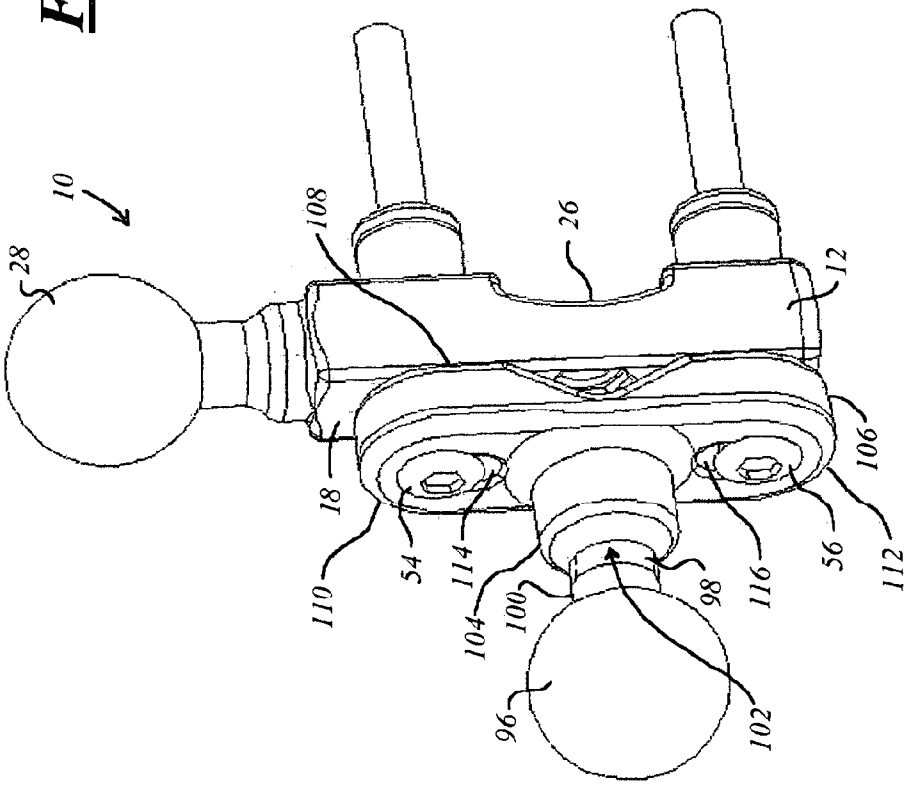

Fig. 5

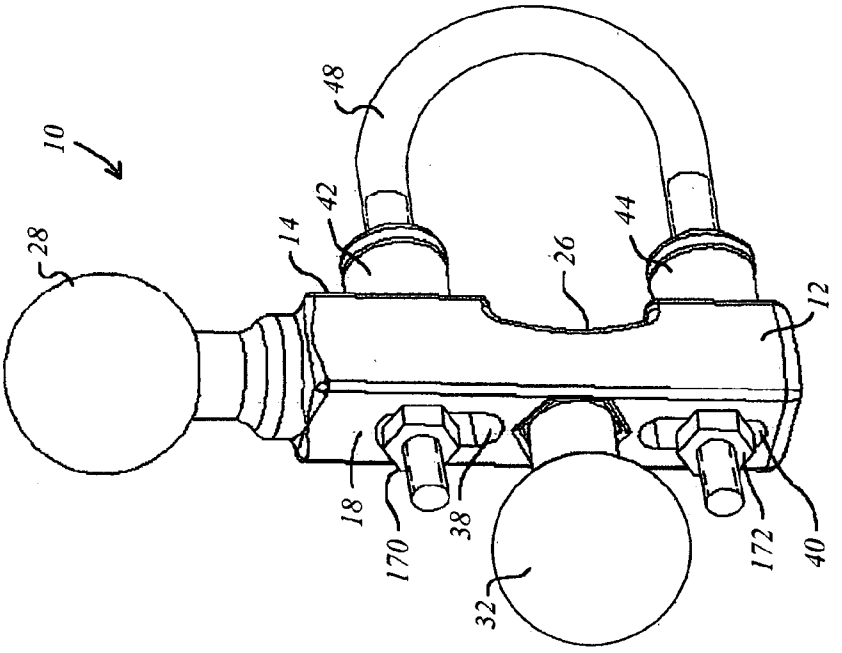
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Fig. 9

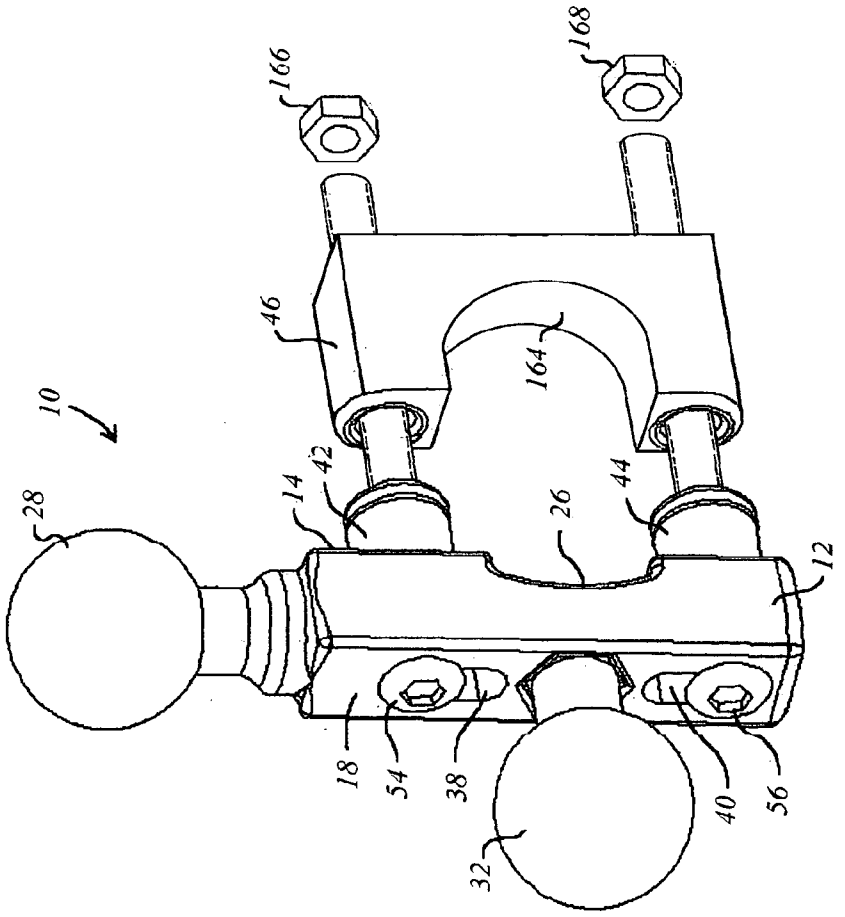
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Fig. 8

CONFIGURABLE MOUNTING BRACKET

FIELD OF THE INVENTION

[0001] The present invention relates to a configurable mounting bracket, and in particular to a vehicle-mountable multiply configurable mounting bracket structured for clamping to a handlebar of a bicycle, motorcycle, all terrain vehicle or the like.

BACKGROUND OF THE INVENTION

[0002] Mounting brackets structured for clamping to a handlebar of a bicycle, motorcycle, all terrain vehicle or the like are generally well-known. Some of these known handlebar-mountable brackets are configurable to provide mounting apparatus at different positions relative to the vehicle handlebar. However, these known handlebar-mountable brackets have various limitations that limit their usefulness.

SUMMARY OF THE INVENTION

[0003] The present invention is a handlebar-mountable multiply configurable mounting bracket that overcomes limitations of the prior art for mounting insturments and other devices on a vehicle handlebar or another suitable portion of a vehicle.

[0004] The multiply configurable mounting bracket of the invention is provided by a substantially rigid elongated body having an arcuate groove formed in one longitudinal surface thereof and oriented crosswise to a longitudinal axis of the elongated body. A pair of elongated passages is formed through the body straddling the groove. An integral part-spherical ball mount is integrally formed with the body and projected from one end thereof, the first part-spherical ball mount being formed of a resiliently deformable material with a substantially smooth outer surface. A discrete part-spherical ball mount is coupled to the body opposite from the groove and oriented substantially crosswise to a longitudinal axis of the body, the discrete part-spherical ball mount being formed of a resiliently deformable material with a substantially smooth outer surface.

[0005] According to one aspect of the invention, the multiply configurable mounting bracket also includes a pair of spacers each structured with an elongated passage formed therethrough and mounted between the pair of elongated passages of the body and the handlebar on which the aparatus is mounted.

[0006] According to another aspect of the invention, the multiply configurable mounting bracket also includes an integral stem projected from the end of the elongated body. The integral stem is aligned substantially along a longitudinal axis thereof and has the resiliently deformable material of the first part-spherical ball mount molded thereon.

[0007] According to another aspect of the invention, the discrete second part-spherical ball mount is threadedly secured to the body. By example and without limitation, the the body is formed with a passage therethrough between the arcuate groove and a surface of the body opposite from the groove. The discrete part-spherical ball mount has a threaded bore formed therein; and a threaded fastener resides in the passage formed through the body between the arcuate groove and a surface of the body opposite from the groove, the threaded fastener is threadedly engaged with the threaded bore formed in the discrete part-spherical ball mount. Alternatively, a discrete frame is interposed between the discrete part-spherical ball mount and the body. According to one example, the discrete part-spherical ball mount is threadedly coupled to the discrete frame.

[0008] Other aspects of the invention are detailed herein.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The foregoing aspects and many of the attendant advantages of this invention will become more readily appreciated as the same becomes better understood by reference to the following detailed description, when taken in conjunction with the accompanying drawings, wherein:

[0010] **FIG. 1** is a front pictorial view that illustrates the invention embodied as a rigid multiply configurable vehicle handlebar-mounting bracket apparatus;

[0011] **FIG. 2** is a rear pictorial view that illustrates the invention embodied as a rigid multiply configurable vehicle handlebar-mounting bracket apparatus;

[0012] **FIG. 3** is a rear exploded pictorial view that illustrates the invention embodied as a rigid multiply configurable vehicle handlebar-mounting bracket apparatus;

[0013] **FIG. 4** is a front exploded pictorial view that illustrates the invention embodied as a rigid multiply configurable vehicle handlebar-mounting bracket apparatus wherein a discrete non-integral part-spherical ball mount is optionally substituted for the integral part-spherical ball mount illustrated in **FIG. 1**;

[0014] **FIG. 5** is a front pictorial view that illustrates one alternative embodiment of the rigid multiply configurable vehicle handlebar-mounting bracket apparatus of the invention wherein a discrete non-integral part-spherical ball mount is optionally substituted for the discrete non-integral part-spherical ball mount illustrated in **FIG. 1**;

[0015] **FIG. 6** illustrates one alternative embodiment of the discrete non-integral ball mount of the invention illustrated in **FIG. 5**;

[0016] **FIG. 7** illustrates another alternative embodiment of the discrete non-integral ball mount of the invention illustrated in **FIG. 5**;

[0017] **FIG. 8** is a front pictorial view that illustrates one alternative embodiment of the rigid multiply configurable vehicle handlebar-mounting bracket apparatus of the invention wherein the apparatus body is mounted to the vehicle handlebar directly by means of a U-clamp, a pair of threaded fasteners, and mating nuts; and

[0018] **FIG. 9** is a front pictorial view that illustrates one alternative embodiment of the rigid multiply configurable vehicle handlebar-mounting bracket apparatus of the invention wherein the apparatus body is mounted to the vehicle handlebar directly by means of a threaded U-bolt and a pair of nuts.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

[0019] In the Figures, like numerals indicate like elements.

[0020] The present invention is a handlebar-mounting bracket embodied, by example and without limitation, as a

rigid multiply configurable mounting bracket for securely and fixedly mounting accessories within easy reach of the vehicle rider. The bracket is provided by a substantially rigid elongated body that is formed of a substantially rectangular body formed with substantially orthogonal side faces and opposing end faces oriented substantially orthogonal to the side faces. An arcuate groove is formed partway through the body and oriented substantially crosswise of the elongated body with an opening in a first side face of the body. A pair of fastener clearance passages is formed through the body straddling the groove and is oriented substantially crosswise of both the elongated body and the groove. A first part-spherical ball mount is projected from one end face of the elongated body and is aligned substantially along a longitudinal axis of the body, the first part-spherical ball mount is formed of a resiliently deformable material with a substantially smooth outer surface. A second part-spherical ball mount is projected from a second side face of the body opposite from the first side face having the groove opening formed therein, and is oriented substantially crosswise to the longitudinal. axis of the body. The second part-spherical ball mount is also formed of a resiliently deformable material with a substantially smooth outer surface.

[0021] According to one embodiment of the invention, the first part-spherical ball mount includes a stem integrally formed with the elongated body and projected from the end face thereof, and the resiliently deformable material is coupled to an end portion of the stem distal from the end face of the body.

[0022] According to another embodiment of the invention, the handlebar-mounting bracket includes a threaded joint between the end face of the elongated body and the first part-spherical ball mount projected therefrom, such that the first part-spherical ball mount is threadedly assembled to the elongated body.

[0023] According to another embodiment of the invention, the handlebar-mounting bracket includes a threaded joint between the second side face of the elongated body and the second part-spherical ball mount projected therefrom, such that the second part-spherical ball mount is threadedly assembled to the elongated body. According to one embodiment of the invention, the threaded joint between the second side face of the elongated body and the second part-spherical ball mount optionally includes a frame member interposed between the resiliently deformable material of the second part-spherical ball mount and the elongated body, wherein the frame is formed with a pair of fastener clearance passages that symmetrically straddle the resiliently deformable material of the second part-spherical ball mount and are substantially aligned with the pair of fastener clearance passages formed through the elongated body.

[0024] According to another embodiment of the invention, the handlebar-mounting bracket includes a pair of spacers each structured with a fastener clearance passage formed therethrough, the spacers being interposed between the pair of fastener clearance passages in the elongated body straddling the groove and a pre-existing instrument or other device on the handlebar.

[0025] According to another embodiment of the invention, the handlebar-mounting bracket includes a pair of bolts sized to pass through the pair of fastener clearance passages formed through the body and the fastener clearance passage formed the pair of spacers and extend at least a short distance therebeyond to engage pre-existing threaded holes on the handlebar. Alternatively, the bolts pass through matching holes in a U-clamp and are engaged by suitable threaded nuts.

[0026] FIFG. **1** is a front pictorial view and **FIG. 2** is a rear pictorial view that together illustrate the invention embodied, by example and without limitation, as a vehicle handlebar-mounting bracket apparatus **10**O embodied as a rigid multiply configurable mounting bracket for securely and fixedly mounting accessories within easy reach of the vehicle rider. The handlebar-mounting bracket **10** is formed at its core by a substantially rigid body **12** having an elongated substantially rectangular form structured with four orthogonal sides or faces **14**, **16**, **18**, **20** that are squared-off at opposite ends **22**, **24**. The edges and corners of the intersecting faces **14**, **16**, **18**, **20** and ends **22**, **24** are optionally broken, either by chamfers or fillets, to smooth the overall effect. Alternatively, the body **12** is cylindrical or another shape, and the ends **22**, **24** are alternatively rounded, pointed, or another shape. The elongated rigid body **12** is optionally formed of hard plastic, aluminum, steel or another substantially rigid metallic or non-metallic material. An arcuate handlebar cutout or groove **26** is formed at or near the middle of one side or "mounting face"**14** thereof and is oriented crosswise of the elongated body **12**. The arcuate structure renders the handlebar groove **26** suitable for either engaging a round or otherwise curved bar, such as a handlebar, or a for clearing a pre-existing instrument.

[0027] A first part-spherical ball mount **28** is projected from one end surface **22** of the elongated rigid body **12** substantially along a longitudinal axis thereof The first part-spherical ball mount **28** is formed of a resiliently deformable material with a substantially smooth outer surface, as described by Carnevali in U.S. Pat. No. 5,845,885, the complete disclosure of which is incorporated herein by reference. The first ball mount **28** is optionally integrally formed with the elongated body **12** by casting or overmolding the resiliently deformable material onto a short substantially rigid stem **30** integrally formed with the body **12** along its longitudinal axis L and extended from the end **22**, as illustrated and described in detail in **FIG. 3**.

[0028] A second discrete non-integral part-spherical ball mount **32** that is also formed of the resiliently deformable material with a substantially smooth outer surface of the type described by Carnevali in U.S. Pat. No. 5,845,885 is provided on a second short substantially rigid internally-threaded stem **34** that is structured to be fastened to the apparatus body **12** to project from the face **18** opposite from the arcuate handlebar groove **26** that is formed in the mounting face **14**. The stem **34** is secured to the body face **18** in a manner that resists rotation of the second ball mount **32** relative to the elongated body **12**. For example, the second ball mount **32** is secured to the body face **18** by means of a threaded fastener or screw **36** through the body **12**, as discussed in detail herein.

[0029] A pair of bolt clearance holes or slots **38**, **40** (shown) are formed through the body **12** between the mounting face **14** and the opposite face **18** from which the second ball mount **32** is projected. In order to facilitate both engaging a round or otherwise curved bar, such as a handlebar, and clearing a pre-existing instrument mounted on the

handlebar, the bolt clearance holes or slots **38**, **40** are provided in positions symmetrically straddling the handlebar groove **26** and are oriented crosswise of both the longitudinal axis L of the elongated body **12** and the bore of the handlebar groove **26**.

[**0030**] According to one embodiment of the invention, a pair of spacers **42**, **44** are provided, one for each of the two bolt clearance holes or slots **38**, **40**. The spacers **42**, **44** are long enough to hold the body **12** away from the handlebar when another instrument or device is pre-existing on the handlebar, or to operate between the body **12** and a U-clamp **46** (shown in **FIG. 8**) or with a U-bolt **48** (shown in **FIG. 9**) for securing the handlebar-mounting bracket apparatus **10** against slipping and shifting. The spacers **42**, **44** are small enough in cross-section to avoid interference both with pre-existing instruments or devices on the vehicle handlebar and straddled by the handlebar groove **26**, and pre-existing objects surrounding the bracket apparatus **10**. By example and without limitation, the spacers **42**, **44** are each embodied as a short, thick-walled cylinder structured with a respective bolt clearance hole **50**, **52** formed longitudinally therethrough. The spacers **42**, **44** are optionally formed either integral with or separate from the body **12**. When formed as discrete parts separate from the body **12**, the spacers **42**, **44** are optionally formed of a vibration damping material such as a soft rubber or a synthetic elastomeric material such as a low-durometer silicone or polyurethane material.

[**0031**] A pair of threaded fasteners **54**, **56** are used to secure the body **12** of the bracket apparatus **10** to the vehicle handlebar. For example, the threaded fasteners **54**, **56** are pre-existing mounting screws or bolts used to secure a pre-existing instrument or device on the vehicle handlebar, where the pre-existing instrument or device has a low profile in the vicinity of the mounting fasteners **54**, **56**. For example, the bolt clearance holes or slots **38**, **40** are sized to straddle the pre-existing instrument or device while permitting the threaded fasteners **54**, **56** to align with mounting holes in the pre-existing instrument or device. Alternatively, the threaded fasteners **54**, **56** may be longer screws or bolts sized to replace shorter pre-existing mounting screws or bolts such that the replacement threaded fasteners **54**, **56** secure the body **12** of the bracket apparatus **10** to the vehicle handlebar while simultaneously securing the pre-existing instrument or device.

[**0032**] **FIG. 3** is a rear exploded pictorial view and **FIG. 4** is a front exploded pictorial view that together illustrate the first part-spherical ball mount **28** formed by casting or overmolding the resiliently deformable material onto the short substantially rigid stem **30** embodied as an integral part of the body **12** and projected along its longitudinal axis L from the end face **22**. The integral stem **30** is provided with means for retaining the cast or overmolded resiliently deformable material forming the first part-spherical ball mount **28**. By example and without limitation, the retaining means is provided by a button head portion **58** coupled by a necked-down portion **60** to a main shaft portion **62** of the stem **30**. The button head **58** may be square or hex shaped, as shown for stem **34** of the second ball mount **32**, or may have a knurled or roughened surface texture, any of which is sufficient to resist rotation of the resiliently deformable material relative to the stem **30**.

[**0033**] **FIGS. 3 and 4** also illustrate the second ball mount **32** as a discrete non-integral part-spherical ball mount that is provided on the second stem **34**. The stem **34** is provided with a hex-shaped button head **64** for retaining the cast or overmolded resiliently deformable material. A neck-down portion **66** couples the button head **64** to the main shaft **68** which includes a threaded internal longitudinal bore **70** structured to accept the threaded fastener **36** which is, for example, a conventional flat head screw. The main shaft **68** includes means for fixing the stem shaft **68** against rotation relative to the apparatus body **12** during assembly of the threaded fastener **36**. By example and without limitation, the means for fixing the stem shaft **68** against rotation is embodied in a hex-shaped lip **74** provided adjacent to the threaded bore **70**.

[**0034**] As further illustrated in **FIG. 3**, a screw clearance hole **76** is formed through the apparatus body **12** substantially at the center of the handlebar groove **26** and is oriented crosswise of both the elongated apparatus body **12** and the bore of the handlebar groove **26**, (i.e., crosswise of the face **14** of the body **12** having the handlebar groove **26** formed therein. The screw clearance hole **76** is structured with a first internal screw-head clearance relief **78** formed substantially concentric with the hole **76** within the handlebar groove **26**. The screw-head clearance relief **78** is structured such that a flat head portion **80** of the screw **36** is flush or below the internal arcuate surface of the handlebar groove **26** so that it does not interfere with mounting the apparatus **10** onto a vehicle handlebar. The internal screw-head clearance relief **78** is formed as a conventional conical countersink when the screw **36** is a conventional flat head screw, or as a cylindrical counter-bore when the screw **36** is a pan, round, fillister, oval, hex, socket head or other conventional screw head.

[**0035**] As best illustrated in **FIG. 4**, the apparatus body **12** is structured with means for rotationally fixing the stem **34** of the second discrete non-integral ball mount **32** relative to the face **18** from which it is projected. By example and without limitation, the lip portion **74** of the stem main shaft **68** is structured to occupy a second external female stem-capture relief **82** formed in the elongated body **12** opposite from the handlebar groove **26** in a manner that resists rotation relative to the elongated body. The means for rotationally fixing the stem **34** is thus embodied by the second external female stem-capture relief **82** formed substantially concentric with the screw clearance hole **76** within the side surface or face **18** of the elongated body **12** opposite from the handlebar groove **26**, i.e., the face **18** of the body **12** opposite from the face **14** having the handlebar groove **26** formed therein. The second external stem-capture relief **82** is formed with means for resisting rotation of the internally threaded shaft **68** secured therein by the threaded fastener **36** operating through the clearance hole **76**. The means for resisting rotation of the shaft **68** is provided by the second external female stem-capture relief **82** embodied as a cooperating hexagonal female relief when the stem shaft **68** is embodied in the hex-shaped lip **74** adjacent to the threaded bore **70**. Alternatively, the means for resisting rotation of the shaft **68** is provided by the second external female stem-capture relief **82** embodied as a cooperating square female relief when the stem shaft **68** is embodied in a square-shaped lip **74**. The shaft **68** and second external stem-capture relief **82** may alternatively be structured as cooperating male and female star shapes, or other cooperating male and female shapes. According to one embodiment of the invention, the cooperating male and female shapes of the shaft **68** and second external stem-capture relief **82** are a cylindrical male

shaft **68** and cooperating cylindrical female counter-bore **82** with a knurled or otherwise suitably roughened seating surface in the floor thereof According to yet another embodiment of the invention, a suitable lock washer is provided between the lip **74** of the male stem shaft **68** and the floor of the female counter-bore **82** for resisting rotation of the stem shaft **68** relative to the female stem-capture relief **82** and the face **18** of the elongated body **12**.

[**0036**] As illustrated in **FIG. 4**, another discrete non-integral part-spherical ball mount **84** is optionally substituted for the first part-spherical ball mount **28**. The discrete non-integral part-spherical ball mount **84** is secured to the end surface **22** of the elongated rigid body **12** by a threaded joint. For example, the discrete non-integral ball mount **84** is structured with a male threaded shaft **86** extended from a bottom face **88** of a shaft **90** of a stem **92** upon which the resiliently deformable material of the part-spherical ball mount **84** is cast or overmolded, as described herein. The male threaded shaft **86** is threadedly engaged with a cooperating female thread **94** formed in the end surface **22** of the apparatus body **12**. Mechanical means, such as a suitable lock washer, are provided between the bottom face **88** of a shaft **90** and the body end surface **22** to resist relative rotation between the ball mount **84** and the apparatus body **12**. Alternatively, chemical means thread-locking means are provided between the male and female threads **86**, **94**.

[**0037**] **FIG. 5** illustrates one alternative embodiment of the invention wherein another discrete non-integral part-spherical ball mount **96** is optionally substituted for the second part-spherical ball mount **32**. The discrete non-integral part-spherical ball mount **96** is structured with a male threaded shaft **98** extended from a stem **100** upon which the resiliently deformable material of the part-spherical ball mount **96** is cast or overmolded, as described herein. The male threaded shaft **98** is threadedly engaged with a cooperating female thread **102** formed within a boss portion **104** of a discrete frame **106**. The frame **106** is formed with a substantially flat mounting surface **108** for mounting to the substantially flat side face **18** of the body **12**. A pair of shoulders **110**, **112** symmetrically straddle the threaded boss **108**, the shoulders **110**, **112** being formed with symmetrical bolt clearance holes or slots **114**, **116** positioned to match the pair of bolt clearance holes or slots **38**, **40** provided in the body **12**. The pair of threaded fasteners **54**, **56** are passed through the symmetrical bolt clearance holes or slots **114**, **116** and **38**, **40** to simultaneously secure both the discrete ball mount **96** and the body **12** of the apparatus **10** to the vehicle handlebar, as described herein. Accordingly, the screw clearance hole **76** through the apparatus body **12** with the screw-head clearance relief **78** and the second external female stem-capture relief **82** can be eliminated along with the threaded fastener or screw **36** through the body **12**, as discussed herein.

[**0038**] **FIG. 6** illustrates one alternative embodiment of the discrete non-integral ball mount **96** and frame **106** illustrated in **FIG. 5**. In **FIG. 6** the second discrete non-integral part-spherical ball mount **32** is substituted for the discrete non-integral ball mount **96**, and a different discrete frame **118** is substituted for the frame **106**. The discrete frame **118** is similar to the frame **106** by being formed with a substantially flat mounting surface **120** for mounting to the substantially flat side face **18** of the body **12**, and a pair of shoulders **122**, **124** are formed with symmetrical bolt clearance holes or slots **126**, **128** positioned to match the pair of bolt clearance holes or slots **38**, **40** provided in the body **12**. The pair of threaded fasteners **54**, **56** are similarly passed through the symmetrical bolt clearance holes or slots **126**, **128** and **38**, **40** to simultaneously secure both the discrete frame **118** and the body **12** of the apparatus **10** to the vehicle handlebar, as described herein. Accordingly, the screw clearance hole **76** in the apparatus body **12** can be eliminated along with the threaded fastener **36**, as discussed herein.

[**0039**] Mounting of the second discrete ball mount **32** to the discrete frame **118** is modeled after the apparatus body **12** as illustrated in **FIGS. 1-4**. Accordingly, a screw clearance hole **130** is formed through the frame **118** between the mounting surface **120** and a ball mount mounting surface **132** formed opposite from the mounting surface **120** and includes a screw-head clearance relief **134** structured similarly to the screw-head clearance relief **78** for clearance of a flathead screw or another suitable fastener **136**. The threaded fastener or screw **136** is passed through the clearance hole **130** and threadedly engaged to the threaded internal longitudinal bore **70** of the second discrete ball mount **32** for securing the ball mount **32** to the frame **118**. The frame **118** includes an external female stem-capture relief **138** similar to the stem-capture relief **82** formed in the elongated body **12**, whereby the lip portion **74** of the ball mount stem main shaft **68** is engaged to restrict rotation relative to the frame **118** and, in turn, relative to the apparatus body **12**. The frame **118** is optionally formed with a boss **140** situated symmetrically between shoulders **122**, **124** and the clearance holes or slots **126**, **128**. When the frame **118** is formed with boss **140**, the female stem-capture relief **138** is formed therein with the ball mount mounting surface **132** formed at the end thereof.

[**0040**] **FIG. 7** illustrates yet another alternative embodiment of the discrete non-integral ball mount **96** and frame **106** illustrated in **FIG. 5**. In **FIG. 7 a** different discrete frame **142** is substituted for the frame **106**. The discrete frame **142** is similar to the frame **106** by being formed with a substantially flat mounting surface **144** for mounting to the substantially flat side face **18** of the body **12**, and a pair of shoulders **146**, **148** symmetrically straddle a stem **150**. The shoulders **146**, **148** are formed with symmetrical bolt clearance holes or slots **152**, **154** positioned to match the pair of bolt clearance holes or slots **38**, **40** provided in the body **12**. The pair of threaded fasteners **54**, **56** are similarly passed through the symmetrical bolt clearance holes or slots **126**, **128** and **38**, **40** to simultaneously secure both the discrete frame **142** and the body **12** of the apparatus **10** to the vehicle handlebar, as described herein. Accordingly, the screw clearance hole **76** in the apparatus body **12** can be eliminated along with the threaded fastener **36**, as discussed herein.

[**0041**] An alternative discrete non-integral ball mount **156** is formed on the stem **150** which may include means for retaining the cast or overmolded resiliently deformable material forming the alternative discrete ball mount **156**. By example and without limitation, the retaining means is provided by a button head **158** for retaining the cast or overmolded resiliently deformable material. The button head **158**, shown by example and without limitation as having a hexagonal shape, is coupled to a necked-down shaft portion **160** of the stem **150**.

[**0042**] **FIG. 8** illustrates another alternative embodiment of the invention wherein the apparatus body **12** is mounted

to the vehicle handlebar directly, rather than securing the body **12** through a pre-existing instrument or device, as described herein. In the embodiment of **FIG. 8**, the apparatus body **12** is positioned on the front of the vehicle handlebar with the handlebar groove **26** fitted against a front surface of the vehicle handlebar. The threaded fasteners **54**, **56** are passed through the symmetrical slots **38**, **40** and extended on opposite sides of the vehicle handlebar. The U-clamp **46** is fitted over the threaded fasteners **54**, **56** with a saddle portion **164** being fitted against a back surface of the vehicle handlebar opposite from the body **12** of the apparatus **10**. A pair of nuts **166**, **168** are threaded onto the respective threaded fasteners **54**, **56** to secure the apparatus **10** to the vehicle handlebar with the ball mounts **28**, **32** or the alternative ball mounts **84**, **96** positioned as desired on the vehicle handlebar.

[**0043**] **FIG. 9** illustrates another alternative embodiment of the invention wherein the apparatus body **12** is secured to the vehicle handlebar directly using the threaded U-bolt **48** and a pair of nuts **170**, **172** in place of the threaded fasteners **54**, **56**, U-clamp **46** and nuts **166**, **168** shown in **FIG. 8**.

[**0044**] While the preferred embodiment of the invention has been illustrated and described, it will be appreciated that various changes can be made therein without departing from the spirit and scope of the invention. For example, materials may be substituted for the different components of the apparatus of the invention without departing from the spirit and scope of the invention. Furthermore, as at least one embodiment of the invention is provided wherein the bracket is mounted using pre-existing bolt or screws **54**, **56** that secure a pre-existing instrument or other device, the apparatus **10** of the invention is not limited to mounting on a vehicle handlebar but is structured for mounting in any position on any ground, marine or airborne vehicle having a pre-existing instrument or device with a suitably arranged mounting bolt pattern wherein a pair of pre-existing mounting bolts is matched by the bolt clearance holes or slots **38**, **40** through the apparatus body **12**. Therefore, the inventor makes the following claims.

What is claimed is:

1. A multiply configurable bracket comprising:

a substantially rigid elongated body having an arcuate groove formed in one longitudinal surface thereof and a pair of elongated passages formed through the body straddling the groove;

an integral part-spherical ball mount integrally formed with the body and projected from one end thereof, the first part-spherical ball mount being formed of a resiliently deformable material with a substantially smooth outer surface;

a discrete part-spherical ball mount coupled to the body opposite from the groove and oriented substantially crosswise to a longitudinal axis of the body, the discrete part-spherical ball mount being formed of a resiliently deformable material with a substantially smooth outer surface.

2. The bracket of claim 1 wherein the arcuate groove is further oriented crosswise of the elongated body.

3. The bracket of claim 2, further comprising a pair of spacers each structured with an elongated passage formed therethrough.

4. The bracket of claim 2, further comprising an integral stem projected from the end of the elongated body and aligned substantially along a longitudinal axis thereof and having the resiliently deformable material of the first part-spherical ball mount molded thereon.

5. The bracket of claim 2 wherein the pair of elongated passages formed through the body straddling the groove further comprise a pair of elongated passages each aligned with the longitudinal axis of the elongated body.

6. The bracket of claim 2 wherein the discrete second part-spherical ball mount is threadedly secured to the body.

7. The bracket of claim 6 wherein:

the body is formed with a passage therethrough between the arcuate groove and a surface of the body opposite from the groove;

the discrete part-spherical ball mount further comprises a threaded bore formed therein; and

further comprising a threaded fastener resident in the passage formed through the body between the arcuate groove and a surface of the body opposite from the groove, the threaded fastener being threadedly engaged with the threaded bore formed in the discrete part-spherical ball mount.

8. The bracket of claim 6, further comprising a discrete frame interposed between the discrete part-spherical ball mount and the body.

9. The bracket of claim 8 wherein the discrete part-spherical ball mount is threadedly coupled to the discrete frame.

10. A multiply configurable bracket comprising:

a substantially rigid elongated body having a groove oriented crosswise of the elongated body and formed partway therethrough, and a pair of fastener clearance passages formed through the body straddling the groove and oriented crosswise of both the elongated body and the groove;

a first part-spherical ball mount coupled to one end of the elongated body and aligned substantially along a longitudinal axis thereof, the first part-spherical ball mount being formed of a resiliently deformable material with a substantially smooth outer surface;

a second part-spherical ball mount coupled to the body opposite from the groove and oriented substantially crosswise to the longitudinal axis thereof, the second part-spherical ball mount being formed of a resiliently deformable material with a substantially smooth outer surface; and

a pair of spacers each structured with a fastener clearance passage formed therethrough.

11. The bracket of claim 10 wherein the first part-spherical ball mount is integrally formed with the body and is projected from the end thereof.

12. The bracket of claim 11 wherein the second part-spherical ball mount is discrete from the body.

13. The bracket of claim 12 wherein the discrete second part-spherical ball mount is threadedly secured to the body.

14. The bracket of claim 13 wherein the discrete second part-spherical ball mount further comprises a stem formed with a female thread;

the body further comprises a fastener clearance passage therethrough between the groove and a portion of the body opposite from the groove; and

further comprising a threaded fastener within the fastener clearance passage through the body between the groove and a portion of the body opposite from the groove and being threadedly engaged with the female thread within the stem of the discrete second part-spherical ball mount.

15. The bracket of claim 11, further comprising a frame having the second part-spherical ball mount secured thereto, the frame being coupled to the body opposite from the groove with the second part-spherical ball mount oriented substantially crosswise to the longitudinal axis of the body.

16. A multiply configurable bracket comprising:

a substantially rigid elongated body formed of:

a substantially rectangular body formed with substantially orthogonal side faces and opposing end faces oriented substantially orthogonal to the side faces,

an arcuate groove formed partway through the body and oriented substantially crosswise of the elongated body with an opening in a first side face of the body, and

a pair of fastener clearance passages formed through the body straddling the groove and oriented substantially crosswise of both the elongated body and the groove;

a first part-spherical ball mount projected from one end face of the elongated body and aligned substantially along a longitudinal axis of the body, the first part-spherical ball mount being formed of a resiliently deformable material with a substantially smooth outer surface; and

a second part-spherical ball mount projected from a second side face of the body opposite from the first side face having the groove opening formed therein and oriented substantially crosswise to the longitudinal axis of the body, the second part-spherical ball mount being formed of a resiliently deformable material with a substantially smooth outer surface.

17. The bracket of claim 16 wherein the first part-spherical ball mount further comprises a stem integrally formed with the elongated body and projected from the end face thereof, and the resiliently deformable material being coupled to an end portion of the stem distal from the end face of the body.

18. The bracket of claim 16, further comprising a threaded joint between the end face of the elongated body and the first part-spherical ball mount projected therefrom.

19. The bracket of claim 16, further comprising a threaded joint between the second side face of the elongated body and the second part-spherical ball mount projected therefrom.

20. The bracket of claim 19 wherein the threaded joint between the second side face of the elongated body and the second part-spherical ball mount further comprises:

a fastener clearance passage formed through the body between the arcuate groove and the second side face of the elongated body,

a rigid stem having the resiliently deformable material of the second part-spherical ball mount molded on a first end thereof and a female thread formed in. a second end opposite from the resiliently deformable material, and

a threaded fastener passing through the fastener clearance passage and being threadedly coupled to the female thread formed in the stem.

21. The bracket of claim 19 wherein the threaded joint between the second side face of the elongated body and the second part-spherical ball mount further comprises a frame member interposed between the resiliently deformable material of the second part-spherical ball mount and the elongated body, the frame comprising a pair of fastener clearance passages formed therethrough symmetrically straddling the resiliently deformable material of the second part-spherical ball mount and being substantially aligned with the pair of fastener clearance passages formed through the body.

22. The bracket of claim 19, further comprising a pair of spacers each structured with a fastener clearance passage formed therethrough.

23. The bracket of claim 22, further comprising a pair of bolts sized to pass through the pair of fastener clearance passages formed through the body and the fastener clearance passage formed the pair of spacers and extend at least a short distance therebeyond.

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