"Coupling for mounting an accessory to a pole"

Cross-reference

[0001] The present application is related to Australian Patent Application No. 2018253613 filed on 26 October 2018, the contents of which are incorporated herein by reference.

Technical Field

[0002] Disclosed herein is a coupling for mounting an accessory to a pole. The coupling has been developed primarily for attaching accessories, such as luminaires, traffic signals, pedestrian signals and pedestrian “call” buttons, street signs, advertising signs and banners, traffic monitoring devices including traffic speed recorders and “red light” cameras. However, it will be appreciated that it is not limited to these particular uses.

Background

[0003] Light poles and traffic signal poles typically comprise a structural mast and one or more mounting members extending therefrom in a cantilevered fashion. Typically, each mounting member has one end fixedly connected to the mast either by being bolted or welded to a flange extending from the mast, with the other end of each mounting member being free to receive an accessory for attachment to the pole.

[0004] A disadvantage of many known poles is that the height of each cantilevered mounting member is not adjustable. To address this disadvantage, some poles comprise tracks along which brackets for mounting the cantilevered mounting members are slidably moveable, with each bracket being securable to the tracks at a desired location of the respective mounting member. Such poles are generally referred to as “smart poles” or “multifunction poles”. Australian Patent Application No 70041/98 (Publication No. AU-A-70041/98) discloses a known multifunction pole. However, known multifunction poles suffer from various disadvantages, including:

- the brackets being somewhat difficult to connect to the track, for example due to comprising multiple parts that can be fiddly to connect;

- the brackets being especially difficult, or in some cases impossible, to connect to the track and/or to adjust in longitudinal position on the track whilst an accessory or accessory mounting member is attached to the bracket;
- the connection between the bracket and the track being unreliable or placing undue stress on the bracket, the mast or both; and
- the track reducing the space available inside the pole for housing of equipment, such as electrical and telecommunications cabling.

[0005] Any discussion of documents, acts, materials, devices, articles or the like which has been included in the present specification is not to be taken as an admission that any or all of these matters form part of the prior art base or were common general knowledge in the field relevant to the present disclosure as it existed before the priority date of each of the appended claims.

Summary

[0006] Throughout this specification the words "comprise", “include”, “have”, and variations such as "comprises", “includes”, “has”, and "comprising", “including” and “having”, will be understood to imply the inclusion of a stated element, integer or step, or group of elements, integers or steps, but not the exclusion of any other element, integer or step, or group of elements, integers or steps.

[0007] Disclosed herein is a coupling for mounting an accessory to a pole, the coupling comprising:

an elongate track defining a longitudinal axis, the track comprising:

a base having a first end and a second end at opposite ends of the track along the longitudinal axis, and a first side and a second side at opposite sides of the track in a direction perpendicular to the longitudinal axis,

a pair of opposed sidewalls extending from the base, each of the sidewalls having a first end connected to a respective one of the first and second sides of the base and an opposite second end distal from the base, and

an elongate channel defined by the base and sidewalls, an opening into the channel being defined between the second ends of the sidewalls,

wherein, over at least a portion of the depth of the channel from the second end

to the first end of the sidewalls, a width of the channel between the sidewalls increases to define a zone of greater channel width and a zone of lesser channel width, the zone of greater channel width being further from the opening into the channel than the zone of lesser channel width;

an accessory mounting unit comprising:

a pair of spaced apart and substantially parallel locking flanges on one side thereof, the locking flanges being receivable in the channel, and

an accessory mounting formation on an opposite side thereof to facilitate mounting of an accessory to the accessory mounting unit and thereby to the elongate track,

the accessory mounting unit having:

a first configuration in which the locking flanges are disengaged from the sidewalls for longitudinal movement of the accessory mounting unit along the track, and

a second configuration in which the locking flanges are lockingly engaged with the sidewalls at a location closer to the base than an outer extremity of the at least a portion of the depth of the channel over which the width of the channel increases to lock the accessory mounting unit to the track at a desired longitudinal position.

[0008] In the second configuration, a dovetail joint may exist between the locking flanges and the base and sidewalls of the track.

[0009] The locking flanges may move outwardly, with respect to the longitudinal axis, when the accessory mounting unit moves from the first configuration into the second configuration. The width of the channel may comprise a gradual taper between the zone of lesser channel width and the zone of greater channel width, such that engagement of the locking flanges with the gradual taper causes the locking flanges to be drawn deeper into the channel during said outward movement of the locking flanges.

[0010] The locking flanges may be movable relative to one another, being closer together in the first configuration of the accessory mounting unit and further apart in the second configuration of the accessory mounting unit. The locking flanges may be configured for insertion into the channel without requiring access to a longitudinal end of the channel. For example, the locking flanges may be so configured by being moveable toward one another into a configuration in which they define a width that is less than that of the zone of lesser channel width. Alternatively, the locking flanges may be separable from one another and each

have a width that is less than that of the zone of lesser channel width, such that each of the locking flanges can be individually inserted into the channel past the zone of lesser channel width for subsequent assembly together of the locking flanges in the zone of greater channel width. The locking flanges may comprise a first locking flange on a first part of the accessory mounting unit and a second locking flange on a second part of the accessory mounting unit, the first and second parts of the accessory mounting unit being moveable relative to one another. The first part of the accessory mounting unit may have a projection engageable in a recess of the second part of the accessory mounting unit. The first and second parts of the accessory mounting unit may have corresponding guide surfaces, wherein engagement of the guide surface of the first part with the guide surface of the second part guides relative movement of the first and second parts as the accessory mounting unit moves between the first configuration and the second configuration. The first and second parts of the accessory mounting unit may comprise corresponding abutment surfaces, engagement of the abutment surfaces with one another limiting outward movement of the first and second parts away from one another. The abutment surfaces may be oriented transversely to the guide surfaces. The first and second parts of the accessory mounting unit may interlock in the second configuration. The interlock may be facilitated by the guide surfaces and abutment surfaces meeting at an acute angle to define a projection on the first part and a corresponding recess on the second part, the projection engaging the recess in the second configuration. The accessory mounting unit may comprise an actuator for urging the first and second parts away from one another to facilitate the accessory mounting unit moving from the first configuration into the second configuration. The actuator may be accessible for actuation when the locking flanges are received in the channel. The actuator may comprise one of the first and second parts of the accessory mounting unit having a female threaded bore extending therethrough and a male threaded member may be threadedly engaged in the female threaded bore, rotation of the male threaded member in the female threaded bore causing an end of the male threaded member to extend from said one of the first and second parts to engage the other of the first and second parts and urge the first and second parts away from one another to facilitate the accessory mounting unit moving from the first configuration into the second configuration. When the locking flanges are received in the channel, the female threaded bore may be located outside of the channel. The female threaded bore may be oriented substantially parallel to the guide surfaces. The female threaded bore may be oriented substantially parallel to an imaginary plane that intersects both of the locking flanges. A second female threaded bore may extend through one of the first and second parts and a second male threaded member may be

threadedly engaged in the second female threaded bore, rotation of the second male threaded member in the second female threaded bore causing an end of the male threaded member to extend from the associated said one of the first and second parts to engage the other of the first and second parts and urge the first and second parts away from one another to facilitate the accessory mounting unit moving from the first configuration into the second configuration. The second female threaded bore may be oriented substantially parallel to the guide surfaces. The second female threaded bore may be oriented substantially parallel to an imaginary plane that intersects both of the locking flanges. The first and second female threaded bores may be spaced apart, along the longitudinal axis and may both be provided in the same one of the first and second parts.

[0011] Alternatively, the locking flanges may be provided on a locking head of fixed geometry, the locking head having a greater width measured along a first axis and a lesser width measured along a second axis transverse to the first axis, the locking flanges being at opposite ends of the locking head along the first axis, wherein the accessory mounting unit adopts the first configuration when oriented with the first axis extending between the sidewalls and adopts the second configuration when oriented with the second axis extending between the sidewalls. The locking head may comprise camming surfaces extending from the locking flanges, the camming surfaces cammingly engaging the sidewalls during movement of the accessory mounting unit from the first configuration to the second configuration. A non-circular projection, such as a polygonal projection, may extend from the locking head, the projection being engageable by a torque applying tool to facilitate angular movement of the accessory mounting unit between the first and second configurations.

[0012] The base may extend substantially in an arc between the sidewalls. A substantially arcuate surface may extend from and between the locking flanges. The substantially arcuate surface and the arc may be correspondingly shaped. In other words, a radius of the substantially arcuate surface may be substantially equal to a radius of the arc.

[0013] The track may be provided in a tubular wall of the pole. The tubular wall may surround a structural core, or mast, of the pole. An annular space may be defined between the tubular wall and the structural core. The annular space may house electrical and/or telecommunications cabling and/or or other equipment.

Brief Description of Drawings

[0014] Embodiments of the concepts disclosed herein will now be described, by way of example only, with reference to the accompanying drawings, in which:

Fig. 1 is a perspective view of a first embodiment of a coupling for mounting an accessory to a pole;

Fig. 2 is an exploded perspective view of first and second parts of an accessory mounting unit of the coupling of Fig. 1;

Fig. 3 is an assembled perspective view of the accessory mounting unit of the coupling of Fig. 1, shown in a first (disengaged) configuration;

Fig. 4 is a top view of the coupling of Fig. 1, with the accessory mounting unit in the first (disengaged) configuration;

Fig. 5 is an assembled perspective view of the accessory mounting unit of the coupling of Fig. 1, shown in a second (engaged) configuration;

Fig. 6 is a top view of the coupling of Fig. 1, with the accessory mounting unit in the second (engaged) configuration;

Fig. 7 is a perspective view of a second embodiment of a coupling for mounting an accessory to a pole, shown with an accessory mounting arm mounted thereto;

Fig. 8 is a perspective view of a first part of an accessory mounting unit of the coupling of Fig. 7, a second part of the accessory mounting unit being identical thereto;

Fig. 9 is an assembled perspective view of the accessory mounting unit of the coupling of Fig. 7, shown in a first (disengaged) configuration;

Fig. 10 is a top view of the coupling of Fig. 7, with the accessory mounting unit in the first (disengaged) configuration;

Fig. 11 is an assembled perspective view of the accessory mounting unit of the coupling of Fig. 7, shown in a second (engaged) configuration;

Fig. 12 is a top view of the coupling of Fig. 7, with the accessory mounting unit in the second (engaged) configuration;

Fig. 13 is a perspective view of a third embodiment of a coupling for mounting an accessory to a pole;

Fig. 14 is a perspective view of an accessory mounting unit of the coupling of Fig. 13;

Fig. 15 is a front view of the accessory mounting unit of Fig. 14;

Fig. 16 is a side view of the accessory mounting unit of Fig. 14;

Fig. 17 is a top view of the accessory mounting unit of Fig. 14;

Fig. 18 is a front view of the coupling of Fig. 13, shown in a first (disengaged) configuration;

Fig. 19 is a cross sectional view taken along line 19-19 of Fig. 18;

Fig. 20 is a front view of the coupling of Fig. 13, shown in a second (engaged) configuration; and

Fig. 21 is a cross sectional view taken along line 21-21 of Fig. 20.

Description of Embodiments

[0015] Referring to the drawings, and initially to Figs. 1-6, there is shown a first embodiment of a coupling 10 for mounting an accessory to a pole 300.

[0016] The coupling 10 comprises an elongate track 100 defining a longitudinal axis Y. The track 100 comprises a base 102 having a first end 104 and a second end 106 at opposite ends of the track along the longitudinal axis Y, and a first side 108 and a second side 110 at opposite sides of the track in a direction X perpendicular to the longitudinal axis Y. A pair of opposed sidewalls 112 extend from the base 102. Each of the sidewalls 112 has a first end 114 connected to a respective one of the first and second sides 108, 110 of the base and an opposite second end 116 distal from the base in a direction Z. An elongate channel 118 is defined by the base 102 and sidewalls 112, an opening into the channel being defined between the second ends 116 of the sidewalls. Over a portion of the depth of the channel 118 from the second end 116 to the first end 114 of the sidewalls, a width of the channel between the sidewalls increases to define a zone of greater channel width X_1 and a zone of lesser channel width X_2. The zone of greater channel width X_1 is further from the opening into the channel than the zone of lesser channel width X_2.

[0017] The coupling 10 also comprises an accessory mounting unit 200 comprising a pair of spaced apart and substantially parallel locking flanges 202, 204 on one side thereof, the locking flanges being receivable in the channel 118. One or more accessory mounting formation 207 is provided on an opposite side of the accessory mounting unit 200 from the locking flanges 202, 204 to facilitate mounting of an accessory to the accessory mounting unit and thereby to the elongate track 100. The accessory mounting unit 200 has a first configuration, as shown in Figs. 1, 3 and 4, in which the locking flanges 202, 204 are

disengaged from the sidewalls 112 for longitudinal movement of the accessory mounting unit along the track 100. The accessory mounting unit 200 has a second configuration, as shown in Figs. 5 and 6, in which the locking flanges 202, 204 are lockingly engaged with the sidewalls 112 at a location closer to the base 102 than an outer extremity of the portion of the depth of the channel 118 over which the width of the channel increases to lock the accessory mounting unit to the track 100 at a desired longitudinal position. In the second configuration, a dovetail joint exists between the locking flanges 202, 204 and the base 102 and sidewalls 112 of the track, as shown in Fig. 6.

[0018] The locking flanges 202, 204 move outwardly away from each other, and with respect to the longitudinal axis Y, when the accessory mounting unit 200 moves from the first configuration into the second configuration. The width of the channel 118 comprises a gradual taper between the zone of lesser channel width X_2 and the zone of greater channel width X_1, such that engagement of the locking flanges 202, 204 with the gradual taper causes the locking flanges to be drawn deeper into the channel 118 as the locking flanges move outwardly away from one another during adoption of the second configuration.

[0019] The locking flanges 202, 204 are configured for insertion into the channel 118 without requiring access to a longitudinal end of the channel. In some embodiments, the locking flanges 202, 204 are so configured by being moveable toward one another into a configuration in which they define a width that is less than that of the zone of lesser channel width X_2. In other embodiments, the locking flanges 202, 204 are separable from one another and each have a width that is less than that of the zone of lesser channel width X_2, such that each of the locking flanges can be individually inserted into the channel past the zone of lesser channel width for subsequent assembly together of the locking flanges in the zone of greater channel width X_1. Locking flange 202 is provided on a first part 206 of the accessory mounting unit and locking flange 204 on a second part 208 thereof.

[0020] The first and second parts 206, 208 of the accessory mounting unit 200 are moveable relative to one another. The first part 206 has a projection 206a engageable in a recess 208a of the second part 208. The first and second parts 206, 208 have corresponding guide surfaces 206b, 208b, wherein engagement of guide surfaces 206b with guide surfaces 208b guides relative movement of the first and second parts as the accessory mounting unit 200 moves between the first configuration and the second configuration. The first and second parts 206,

208 comprise corresponding abutment surfaces 206c, 208c, engagement of the abutment surfaces with one another limiting outward movement of the first and second parts away from one another. The abutment surfaces 206c, 208c are oriented transversely to the guide surfaces 206b, 208b. The first and second parts 206, 208 interlock in the second configuration. In the illustrated embodiment, the interlock is facilitated by the guide surfaces 206b, 208b and abutment surfaces 206c, 208c defining an acute angle therebetween to define projections 206d, 208d and corresponding recesses 206e, 208e, the projections engaging the recesses when the second configuration is adopted.

[0021] The accessory mounting unit 200 comprises an actuator for urging the first and second parts 206, 208 away from one another to facilitate the accessory mounting unit moving from the first configuration into the second configuration. The actuator comprises the first part 206 having a female threaded bore 210 extending therethrough and a male threaded member 212 threadedly engaged in the female threaded bore. Rotation of the male threaded member 212 in the female threaded bore 210 causes an end of the male threaded member to extend from the first part 206 to engage the second part 208 and urge the first and second parts away from one another to facilitate the accessory mounting unit moving from the first configuration into the second configuration. When the locking flanges 202, 204 are received in the channel 118, the female threaded bore 210 is located outside of the channel, which facilitates access to the male threaded member 212 by a torque applying tool, such as a screwdriver or wrench. The female threaded bore 210 is oriented substantially parallel to the guide surfaces 206b, 208b and to an imaginary plane that intersects both of the locking flanges 202, 204 and that is parallel to axis Y. In the embodiment of Figs. 1-6, two of the female threaded bores 210, and corresponding male threaded members 212, are provided in the first part 206 at spaced apart locations along the longitudinal axis Y.

[0022] The base 102 extends substantially in an arc between the sidewalls 112. A substantially arcuate surface 214 extends from and between the locking flanges 204, 204. The substantially arcuate surface 214 and the arc of the base 102 are correspondingly shaped. In other words, a radius of the substantially arcuate surface 214 is substantially equal to a radius of the arc of the base 102, as can be seen in Figs. 4 and 6.

[0023] The track 100 is provided in a tubular wall 302 of the pole 300. The tubular wall 302 surrounds a structural core or mast (not shown) of the pole 300. An annular space is defined

between the tubular wall 302 and the structural core or mast. The annular space can house electrical and/or telecommunications cabling and/or or other equipment.

[0024] Figs. 7-12 show a second embodiment of a coupling 10’ for mounting an accessory to a pole, such as pole 300. The second embodiment has many features in common with the first embodiment, where corresponding reference numerals indicate corresponding features with corresponding functionality. In the second embodiment, one of the female threaded bores 210 is provided in the first part 206 and the other in the second part 208. In the second embodiment, the first end second parts 206, 208 are identical to one another and are hingedly connected to one another at a distal end of the accessory mounting formation 207. In the illustrated embodiment, the hinged connection is provided by a bolt 216, which also functions to connect an accessory mounting arm 400 to the accessory mounting formation 207. The accessory mounting formation 207 has a cylindrical outer surface and the accessory mounting arm 400 has a correspondingly shaped cylindrical inner surface, such that an end of the accessory mounting arm 400 can be sleevably installed on the accessory mounting formation 207 and secured thereto by the bolt 216 and an associated nut 218. Accessories, such as luminaires, traffic signals, pedestrian signals, advertising signs and banners, and traffic monitoring devices including traffic speed recorders and “red light cameras, can be mounted on the mounting arm 400.

[0025] Figs. 13-21 show a third embodiment of a coupling 10’’ for mounting an accessory to a pole, such as pole 300. The third embodiment has some features in common with the first embodiment, where corresponding reference numerals indicate corresponding features with corresponding functionality. In the third embodiment, the locking flanges 202, 204 are provided on a locking head 218 of fixed geometry. The locking head 218 has a greater width measured along a first axis A and a lesser width measured along a second axis B that is transverse to the first axis A. The locking flanges 202, 204 are at opposite ends of the locking head 218 along the first axis A. The accessory mounting unit 200 adopts the first configuration when oriented with the first axis A extending between the sidewalls 112, as shown in Figs. 18 and 19, and adopts the second configuration when oriented with the second axis B extending between the sidewalls, as shown in Figs. 13, 20 and 21. The locking head 218 comprises camming surfaces 220 extending from the locking flanges 202, 204. The camming surfaces 220 cammingly engage the sidewalls 112 during movement of the accessory mounting unit 200 from the first configuration to the second configuration. A non-

circular projection, which in the illustrated embodiment is a polygonal projection 222, extends from the locking head 218 for engagement by a torque applying tool, such as a wrench, to facilitate angular movement of the accessory mounting unit 200 between the first and second configurations. In other embodiments, the locking head 218 may comprise a different form of drive formation, such as a screwdriver slot or a non-circular recess, for engagement by a correspondingly configured drive tool, such as a screwdriver or a hex wrench. The locking flanges 202, 204 move outwardly, with respect to the longitudinal axis Y, when the accessory mounting unit 200 moves from the first configuration into the second configuration. During rotation of the accessory mounting unit 200 into the second configuration, engagement of the camming surfaces with the sidewalls 112 causes the locking flanges 202, 204 to be drawn deeper into the channel 118 and to move outwardly, with respect to axis Y, into engagement with the sidewalls 112. The locking head 218 has an accessory mounting formation 207 in the form of a female threaded bore. Accessories, such as street signs, can be mounted to the accessory mounting unit 200 and fastened in place by installing a male threaded fastener in the female threaded bore 206.

[0026] It will be appreciated that the illustrated embodiments provide various advantages. For example:

- the accessory mounting units 200 can be inserted in the channel 118 and mounted to the track 100 without requiring access to a longitudinal end of the channel/track;
- the accessory mounting units 200 have a configuration, for example in terms of geometry and number of components, that facilitates ease of manufacture, assembly and installation;
- the dovetailing of the locking flanges 202, 204 of the accessory mounting units 200 with the track 100 over the entire length of the flanges along axis Y facilitates a reliable connection between the accessory mounting units and the track even with a track of reduced depth;
- the reliability of the connection between the accessory mounting units 200 and the track 100 allows the track to have a shallower depth, thereby increasing the annular space available between the tubular wall 302 of pole 300 and the internal structural core/mast, allowing more room for the housing of equipment in the annular space; and
- the recessing of the track 100 in the pole 300 reduces the risk of objects snagging on the pole exterior.

[0027] It will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the above-described embodiments, without departing from the broad general scope of the present disclosure. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive. Examples modifications and/or variations include but are not limited to the track having a different cross-sectional profile to that illustrated in the accompanying drawings, such as having sidewalls that extend substantially radially outwardly from the base, with the locking flanges extending, from an outer end of the sidewalls, inwardly toward each other in a direction substantially perpendicular to the sidewalls.

CLAIMS:

1. A coupling for mounting an accessory to a pole, the coupling comprising:

an elongate track defining a longitudinal axis, the track comprising:

a base having a first end and a second end at opposite ends of the track along the longitudinal axis, and a first side and a second side at opposite sides of the track in a direction perpendicular to the longitudinal axis,

a pair of opposed sidewalls extending from the base, each of the sidewalls having a first end connected to a respective one of the first and second sides of the base and an opposite second end distal from the base, and

an elongate channel defined by the base and sidewalls, an opening into the channel being defined between the second ends of the sidewalls,

wherein, over at least a portion of the depth of the channel from the second end to the first end of the sidewalls, a width of the channel between the sidewalls increases to define a zone of greater channel width and a zone of lesser channel width, the zone of greater channel width being further from the opening into the channel than the zone of lesser channel width;

an accessory mounting unit comprising:

a pair of spaced apart and substantially parallel locking flanges on one side thereof, the locking flanges being receivable in the channel, and

an accessory mounting formation on an opposite side thereof to facilitate mounting of an accessory to the accessory mounting unit and thereby to the elongate track,

the accessory mounting unit having:

a first configuration in which the locking flanges are disengaged from the sidewalls for longitudinal movement of the accessory mounting unit along the track, and

a second configuration in which the locking flanges are lockingly engaged with the sidewalls at a location closer to the base than an outer extremity of the at least a portion of the depth of the channel over which the width of the channel increases to lock the accessory mounting unit to the track at a desired longitudinal position,

wherein:

the locking flanges and accessory mounting formation are parts of f a locking head of fixed geometry, the locking head having a greater width measured along a first axis and a lesser width measured along a second axis transverse to the first axis, the locking flanges being at opposite ends of the locking head along the first axis, wherein the accessory

mounting unit adopts the first configuration when oriented with the first axis located between the sidewalls and extending in a direction parallel to the sidewalls and adopts the second configuration when oriented with the second axis located between the sidewalls and extending in a direction parallel to the sidewalls,

the locking head comprises camming surfaces extending from the locking flanges, the camming surfaces cammingly engaging the sidewalls during movement of the accessory mounting unit from the first configuration to the second configuration,

the locking flanges move outwardly, away from the longitudinal axis and toward the sidewalls, when the accessory mounting unit moves from the first configuration into the second configuration, and

the width of the channel comprises a gradual taper between the zone of lesser channel width and the zone of greater channel width, such that engagement of the camming surfaces of the locking flanges with the gradual taper causes the locking flanges to be drawn deeper into the channel during said outward movement of the locking flanges to wedge the locking head between the base and the sidewalls of the track in the second configuration.

2. The coupling of claim 1, wherein, in the second configuration, a dovetail joint exists between the locking flanges and the base and sidewalls of the track.

3. The coupling of claim 1 or claim 2, wherein the locking flanges are configured for insertion into the channel without requiring access to a longitudinal end of the channel.

4. The coupling of any one of claims 1 to 3, further comprising a non-circular projection extending from the locking head, the projection being engageable by a torque applying tool to facilitate angular movement of the accessory mounting unit between the first and second configurations.

5. The coupling of claim 4, wherein the non-circular projection is a polygonal projection.

6. The coupling of any one of the preceding claims, wherein the base extends substantially in an arc between the sidewalls.

7. The coupling of any one of the preceding claims, comprising a substantially arcuate surface extending from and between the locking flanges, the substantially arcuate surface facing toward the base, in use.

8. The coupling of claim 7 when dependent on claim 6, wherein the substantially arcuate surface and the arc are correspondingly shaped.

9. The coupling of any one of the preceding claims, wherein the track is provided in a tubular wall of the pole.

10. The coupling of claim 9, wherein the tubular wall surrounds a structural core of the pole, an annular space being defined between the tubular wall and the structural core.

11. The coupling of any one of the preceding claims, wherein the accessory mounting formation comprises a female threaded bore in the locking head.

12. A pole comprising the coupling according to any one of the preceding claims.